

Commentary on "Regulatory Policies and Financial Stability"

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Introduction

I find it difficult to carry out the traditional role of a discussant. Discussants attempt to expose egregious errors, if possible, and trivial mistakes, if necessary. At the least, a discussant can disagree with the author about major points or, if one is sufficiently clever, minor ones that can be made to appear vital. But I agree almost entirely with Eisenbeis's paper. So, I am reduced to adding some supplementary remarks.

Systemic stability

I would have preferred that Eisenbeis had considered the stability of the financial system as a whole separately from the stability of individual financial institutions. Systemic stability is of greater concern because the collapse of the financial system often results in a depression, causing great waste in resources and personal distress to many people. System failures in the United States has generally included the failure of individual institutions. However, a depression can occur without bank failures; an example is the Canadian 1930s experience, when no bank failed. (See **Schwartz**, 1986, for an excellent discussion and analysis.)

Regulation and system failure

Regulation affects systemic stability primarily through the control of base money and the money supply by the central bank. As is well known, a fractional reserve banking system is particularly subject to exogenous changes in high powered money. When the country was

on the gold standard, specie could be exported or hoarded, with a resulting decrease in bank reserves and in the money supply. This occurred, for example, in 1893, when the London banking firm of Baring Brothers, which specialized in financing **U.S.** enterprises, failed. Its European creditors demanded that Americans pay their debts in gold. The outflow of gold resulted in a liquidity squeeze that led to the panic of 1893 and the suspension of 491 commercial banks.¹

The failure of individual banks also can lead to a reduction in base money. Should a bank fail and depositors decide that no bank is safe, they could hold their funds in currency, or gold if the country is on a convertible gold standard. This converts fractional reserve money to 100 percent reserve money, with the consequence that the money supply must decrease. The Panic of 1907 was due to such a situation. The Knickerbocker Trust Company was unable to meet nervous customers' demands for gold. The bank suspended operations until 1908 and other trust companies experienced **runs**.²

The failure of one or more banks also could result in a run on other solvent banks. The attempt by these banks to sell assets to meet their depositors' demands could result in lower "fire sale" asset prices. The losses incurred could be sufficient to result in these banks' insolvency.

The role of the Federal Reserve as a regulator

The Federal Reserve was established to prevent such systemic crises. It can produce as much high powered money as is necessary to offset any desires of the public to hoard or export base money. Further, as lender of last resort, the Fed can delay the legal insolvency of any institution and prevent fire sales losses. However, in exercising this power, it runs the risk of expanding the money supply beyond the growth of the economy, thus causing inflation with an attendant redistribution (and waste) of resources as people restructure relationships to deal with unexpected changes in the value of contracts.

¹ The situation was exacerbated by gold hoarding as a result of the fear, in 1892, that the United States would leave the gold standard.

² The successful prior campaign of the Secretary of the Treasury to stabilize interest rates set up the panic, for two reasons. First, banks were induced to hold lower levels of reserves. Second, the goal was accomplished with a stabilization fund of gold acquired with a Treasury-provided import subsidy. The Bank of England retaliated in 1906 by raising its discount rate and asking British banks not to renew American finance bills. (Cleveland and Huertas, 1985, Chapter 3, pp. 27-28).

The Fed's control of the money supply. It is not clear whether the Fed has, on balance, reduced or exacerbated financial instability. In its effort to reduce what was believed to be a destabilizing inflation of stock market prices, the Fed allowed and possibly caused the money supply to decline in the early 1930s. **As** people converted their deposits to currency and gold, the Fed could have used open market operations or a reduction in reserve requirements to replace the high powered money removed from the system. In part because it was legally constrained by its limited holdings of gold and the legal requirement for a gold reserve against Federal Reserve notes, and in part because it misjudged the situation and was more fearful of inflation than depression, it did not perform well during this period and the money supply declined by about a third. **As** an important consequence, over 9,000 banks failed. Another, perhaps as important, cause of the large number of failures was the banks' regulation-required inadequate diversification imposed by state-enacted anti-branching laws. (See White, 1983, for a good analysis.)

The Fed's control of interest rates. Until the late 1970s the United States experienced a very low rate of financial institution failure, in part because the Federal Reserve did not allow or create large decreases in base money. Regulations limiting entry also played an important role by increasing the value of bank charters, and hence of bank capital, thereby increasing bankers' incentives towards avoiding risks that might reduce the value of their charters. However, the Fed's 1979 shift from a policy of **stabilizing** and restraining nominal interest rates to one of allowing these rates to increase as the supply of money increased resulted in an unexpected sharp increase in rates. As a result, the market value of fixed-rate obligations declined sharply. Thrift institutions were particularly hard hit, because they specialized in **fixed-rate** mortgages while holding essentially **short-term** liabilities. Between January 1981 and August 1986, over 230 savings and loans associations (**S&L's**) officially failed, 6 percent of the number **operating** at the beginning of the period. Over 300 more were merged by arrangement of **the** authorities to avoid their being closed, and an additional 500 are probably economically insolvent, although they were allowed to remain open by the authorities. By far the most important reason for these failures is the effect of the unexpected increase in interest rates on the thrifts' duration-unbalanced portfolios (Benston, 1985).

It is possible that unexpected nominal interest rates could have gone up as much in the absence of central bank regulation. After all, the

Fed did keep interest rates very stable **during** most of the years following the Great Depression. It also is possible that the stability the Fed imposed was responsible for thrift associations' believing they could safely hold duration-unbalanced portfolios that were subject to interest-rate risk, because the risk was slight. Other regulatory factors, though, also played a role—in particular deposit insurance and regulations that constrained thrifts' portfolios. **All** these factors worked towards thrifts' holding interest-risk-sensitive portfolios.

The essential role of the Fed. Whether or not the regulation of the money supply and interest rates by the central bank caused or reduced financial system instability in the past, it is clear that such instability can be prevented by the Fed. There is no reason to believe that any contemporary event—short of nuclear war, which relegates concern for financial instability to insignificance—can result in financial collapse if the Fed takes the appropriate action.

The improbability of an exogenous event causing system failure

Consider, for example, the banking equivalent of a **nuclear war**—the default by Mexico or other countries of their debts, with the result that several banks, large and small, become insolvent. In the first instance, the stockholders and de facto uninsured creditors of these banks would lose some or all of the wealth they have invested in these banks. Losses also probably would be incurred by the Federal Deposit Insurance Corporation (FDIC). In effect, there is a shift of wealth from these persons and organizations to the taxpayers of the defaulting countries. Second, there would probably be a loss of wealth as banking relationships were disrupted—in particular, funds would not be available to the failed banks' customers as and when expected and some customers would have to establish new banking connections. **Third**, some additional wealth would be lost as lawyers were diverted from more productive pursuits, such as suing doctors and airlines, to suing auditors and bank directors, and as bank examiners and supervisors were shifted from preventing frauds to sorting out the mess. Fourth, there might be some foreign policy effects. But there is no reason to expect a systemic collapse.

There might be a loss of consumer confidence in the banking system. Depositors might fear that other banks were similarly subject to failure. However, this fear, even if contagious, should not result in a systemic collapse, as shown by the following description of what people who fear these other failures might do.

First, consider the options available to holders of large deposit balances. They can either shift their balances to presumably safe banks or use the balance to purchase securities or other assets they believe to be safe from default. Keeping the funds in currency is not an option except for those few who have large, secure vaults. Even then, these former depositors not only lose the use of their funds for transactions purposes—which, presumably, is the reason they were holding the balances—but they also lose interest earnings that, say, U.S. government bills could yield. If the funds are deposited in other banks, there is no decline in the money supply and no systemic liquidity problem, although transactions costs to the banking system are greater. If safe securities are purchased, it seems clear that the sellers of the securities would deposit the funds in some bank, thus returning the funds to the banking system. (If they did not trust any bank, they would not have sold the securities for cash.) This is not to say that there would be no effects on the financial system—interest **rates** would increase somewhat and costs would be incurred as securities were traded and bank accounts were changed. Velocity might change, but the Federal Reserve can offset the change with appropriate open market operations.

Second, consider the possible actions of holders of small deposits. They might convert their deposits into currency that is held in safes or mattresses. Or, as seems to have occurred during the Great Depression, **gold** could be hoarded, which could be a problem if gold were a part of the monetary **base**.³ Unless the central bank took offsetting actions, there could be a decline in the money supply, such as that which occurred during the Great Depression. But, even if the Fed does not do its job, there is little reason to fear such conversions of fractional-reserve to 100 percent-reserve money, because federal deposit insurance removes peoples' fear that their funds will be lost if an insured bank fails.

A similar analysis could be conducted for the effects of the failure of a large bank, such as the Continental Illinois Bank. Indeed, Continental Illinois did fail—its shareholders lost most of their investments and the officers lost their jobs (if not their pensions). But the bank went on. Had the interests of the depositors and other creditors not been protected, these people would have lost some or all of their funds to the benefit of the FDIC. There also might have been runs on some

³ See Wigmore, 1986, for some **evidence**.

banks. Had this occurred, these banks would have had to sell assets or borrow funds in the market or from the Fed. Some might have been found to be insolvent or would have become insolvent. (**However**, the cost of fire sale losses could, and should, be reduced to minor proportions if the Fed operates effectively as the lender of **last** resort.) As a result, their shareholders would have lost wealth and, possibly, their officers would have lost their jobs. There would have been some disruption in financial and employment relationships, perhaps a costly disruption, but the financial system would not have collapsed.

It should be noted that the insolvency even of **banks** that cannot be merged with another bank, sold, or transferred to creditors (such as a giant bank or one in a unit banking state that prohibits holding company acquisitions) need not be resolved by their dissolution. Instead, the FDIC could impose a modified trusteeship in which the claims of the shareholders were eliminated and a "haircut" was applied to the claims of uninsured depositors and other creditors equal to the expected loss plus a cushion for estimation error. The balance of their funds could be freely transferred. From past experience, the amount impounded should be no more than 10 to 20 percent of their claims, except in cases of fraud or massive mismanagement. The disruption in commerce, then, should not be very serious, even for those depositors who suffer losses.

Some concerned observers might argue that foreigners would nevertheless fear a collapse of the U.S. banking system. The result might be a run from the dollar. But unless foreigners feared that all banks would collapse, they would simply redeposit their funds in banks they considered safe. Even if foreign (or domestic) depositors distrusted all domestic banks, base money could not decline if the funds were redeposited in a foreign bank, since they would have to return to the U.S. banking system by way of the central bank. It is only if foreigners feared that the Federal Reserve would not maintain the level of base money that there would be a change in the relative value of the dollar. In that event, though, the fault would lie in the failure of the central bank to act appropriately, rather than in the failure of the banking system.

Finally, some might argue that there would be a chilling psychological effect on bankers and investors. Bankers **might** become overly cautious in making loans, and investors might take fewer chances or demand higher expected rates of return. Against this possibility one should consider the expectation that bankers and

investors would make excessively risky loans and investments on the assumption that no bank would be allowed to become insolvent. I believe that the recent record of banking operations and losses provides some evidence that excessive rather than insufficient risk taking is the more important concern.

Thus, systemic collapse is not a problem, assuming that the central bank does not sharply reduce base money. This is not to say, however, that regulatory actions to prevent the failure of individual financial institutions or to mitigate the effect of failures is not worthwhile in the sense that the benefits exceed the costs. At the same **time**, we should consider the ex ante benefit from banks operating at lower degrees of risk because they fear runs.

Payments system risk

Before considering the stability of individual institutions, the risk of payments system failure should be mentioned. Federal Reserve Chairman Volcker has emphasized that **banks** are special because they offer payments services to consumers and have access to the payments system and the Federal Reserve's discount window. In this regard, he argues for both too much and too little. It is true, as Eisenbeis points out, that the failure of a bank could disrupt the payments system. If this were a serious problem, the Fed should consider barring access to the system by all banks that do not meet stringent equity tests. It seems clear that some banks could add a significant amount of risky assets and operations and be safer than other **banks** that also have access to the system. Thus, Chairman Volcker is asking for less than he should. He argues for too much by emphasizing the special nature of commercial banks. An institution that specializes in loans rather than in bonds, equities, real estate, or another set or combination of assets is **not**, for that reason, less likely to fail suddenly, and it is sudden failure that characterizes the risk to the payments system. Indeed, the history of sudden bank failures is dominated by the failure of lending institutions that were too highly specialized or were subjected to loan-related fraud by top management rather than by those with other types of asset-value problems.

Individual institution stability

Regulation affects the stability of individual financial institutions by (1) constraining institutions from diversifying efficiently, (2) enhancing or reducing the profitability of regulated institutions, (3) providing

incentives to owners and managers towards risk taking or avoidance, and (4) monitoring, supervising, and preventing fraud and grossly incompetent management. Each of these effects of regulation are discussed briefly.

Diversification

It is not possible for people to predict events perfectly. Hence, diversification of assets, liabilities, and operations is generally recognized as an important means of ensuring financial stability.

Branching (geographic) restrictions. Eisenbeis identifies limits on branching as among the more important government regulations constraining institutions from diversifying efficiently. The insolvency of many banks that served agricultural and natural resource producers in the 1920s and the 1980s were due, in large measure, to their having served only these customers. Banks located exclusively in towns dominated by a few industries, such as steel producers, suffered similar problems when these industries failed or declined.

Asset-liability restrictions. Tax laws encouraged and regulations required thrifts to specialize in fixed-rate mortgages that were funded by short-term liabilities, thus subjecting them to interest rate risk. Until 1980, most thrifts were not allowed to make consumer or business loans, except those related to real estate or education. Federally-chartered and most state-chartered thrifts were not allowed to make variable-rate mortgages until 1981. Direct investments are restricted to 3 percent of assets for federally-chartered thrifts and to similarly small percentages for most state-chartered thrifts. Commercial banks are not allowed to hold corporate securities or direct investments.

As is discussed above, the potential interest-rate disaster to which thrifts were subject became a reality in the 1980s. Commercial banks, which could hold much better duration-balanced portfolios, suffered relatively little from the sharp increase in nominal interest rates. It is not clear how much the statutory and regulatory restraints on commercial bank assets has made them more subject to interest rate and other risks.

The liabilities of financial institutions were constrained by ceilings on the interest that could be paid on deposits. Regulation Q limits on time deposit interest below \$100,000 encouraged institutions to shift to larger deposits, which made them more subject to rapid outflows of funds. The prohibition of explicit interest payments on demand deposits also distorts bank portfolios, encouraging disintermediation

and making funds more sensitive to interest rate changes.

Regulated institutions' profits

Interest rate controls have both enhanced and reduced the profits of regulated institutions. The prohibition of interest on demand deposits initially enhanced profits, because **commercial banks** had a monopoly on third-party transactions accounts. However, as the opportunity value of unregulated substitutes, such as cash management by corporate treasurers and cash management accounts offered by brokerage firms, increased with increases in nominal interest rates and improvements in technology, this advantage was eroded severely.

Regulation Q ceilings on time deposits benefited institutions initially. But, as Eisenbeis points out, the consequence appears to have been a fatal delay, for many thrifts, at least, in adopting their operations to changing market conditions. Thus it is not clear whether on balance Regulation Q benefitted depository institutions.

The Glass-Steagall Act (Banking Act of 1933) prohibition against most security **transactions** and holdings appears to have been **detrimental** to bank profits. On the other hand, constraints on entry into banking benefited institutions. However, technology now has allowed brokers to enter the bankers' markets, while Glass-Steagall still constrains bankers from competing with brokers.

Incentives towards risk taking or avoidance

Deposit insurance. As Eisenbeis emphasizes, federal deposit insurance that is not priced according to risk has introduced a very serious problem of moral hazard. Depositors with less than \$100,000 per account have no reason to be concerned with how an insured institution operates as long as the deposit insurance fund is considered to be adequate. After the FDIC bailed out all of Continental Illinois' creditors, depositors, and perhaps all creditors, of similarly large banks appear to have little reason to be concerned about losing their funds because of the way their banks are operated. And, as Eisenbeis points out, as long as the authorities are slow in closing an insolvent institution, all uninsured depositors need to do is monitor rumors rather than analyze banks' portfolios and operations.

It is important to recall that deposit insurance was raised from \$40,000 to \$100,000 per account in 1980. I do not believe it is a coincidence that thrift and bank failures followed shortly thereafter. Deregulation of interest rates also played a role by allowing risk-seeking

owners and managers to offer higher rates of interest on federally insured funds. Hence, they could obtain large amounts of funds, either through brokers or directly, that could be placed at risk according to the banking rule of **riches**—"heads I win, tails the FDIC or FSLIC loses."

However, it might not be correct to ascribe too much to the moral hazard of deposit insurance. Even with a complete payoff of creditors by the FDIC and FSLIC, owners and managers, who are the owners in mutual thrifts, really lose their investments and positions. Indeed, in a study of the direct investments and growth of **S&L's** over the three years ended June 1984, I found little evidence of excessive risk taking (Benston, 1985) Almost all **S&L's** with more than small amounts of direct investments earned significantly positive net profits, often sufficiently great to offset losses on other operations, and virtually none of the failures were associated with direct investments. Higher net worth was associated with greater **proportions** of direct investments, indicating that direct investments increased net worth or that stronger **S&L's** tended to make direct investments. Growth also was associated with higher net profits and net worth and not with failure. The key variable with respect to failures and successful direct investments appears to be "net worth." (I would feel more secure about drawing conclusions, however, if net worth were measured in terms of markets rather than accounting variables.) In addition, commercial (nonreal estate business) and consumer loans were not associated with failures. Thus, this study does not support the belief that failures were the consequence of deregulation of thrifts' investment powers.

Capital. Eisenbeis also emphasizes the effect of deposit insurance that is not risk priced on the insured institutions' capital. The economic value of the insurance can be enhanced by an institution's reducing its capital to the minimum that the authorities will accept. The fact that most institutions have not reduced their capital to lower amounts (or, equivalently, increased their risk exposure more) is evidence either of the authorities' ability to constrain such behavior or of the institutions' owners and managers' risk aversion. It is not clear which explanation dominates.

I suspect that risk aversion is the most important determinant because there are few regulatory limits on the total amount of risk that institutions can take. (In this regard, it should be noted that the relevant metric is the total or portfolio risk of an institution, rather

than the risk accepted for individual products and services.) For example, commercial banks and thrifts can make loans with almost any degree of risk, taking payment in fees and points if they want to avoid recording very high nominal rates of interest. They also can invest in long-term fixed-interest government bonds and gamble that interest rates will **fall**. Thrifts also can buy high yield-high risk (junk) bonds. Both types of institutions can purchase and sell futures and options contracts. Thrifts can make direct investments and **equity-kicker** loans. Long-term fixed interest liabilities can be sold. **Off-balance sheet** guarantees can be sold. These and other products can be held and provided so as to give **risk-seeking** managers as much exposure as they want. It is doubtful that giving them additional powers, such as securities underwriting, could offer them opportunities to take risks that bring them beyond where they now want to be.

In general, I believe that most financial institution managers are risk averse, except where the equity of their institutions is so low that they **have little** to lose. Hence, I would suggest that the authorities try to limit **excessive risk taking** by requiring higher levels of capital to be held by depository institutions. In this regard, I do not understand why Eisenbeis characterized the Comptroller of the Currency's counting subordinated debt as part of capital as a "relaxing of standards." If the **debt** really is subordinated to the interests of the FDIC (as successor to the insured depositors), it serves as a means of introducing effective marketing monitoring. If insured depository institutions had sufficient subordinated debt outstanding with varying maturities, the authorities would be provided with a useful measure of the market's assessment of the institution's risk posture. A **higher-risk** institution's outstanding subordinated debt would sell at a higher rate of interest and its maturing debt would be either difficult to sell or would sell at a considerable discount, other things equal. Furthermore, the institution could not argue against increasing its capital on the grounds that additional issues of equity would cause the owners to lose control or that no one would buy stock in a closely-held corporation. It could not argue that increasing equity is costly because dividends are not a tax-deductible expense. Nor could it point to a lack of interest by stockbrokers and limited resources in the bank's community, or for an **S&L** or savings bank, to its status as a mutual. Subordinated debt issues can be sold to local people as can certificates of deposit. The only difference is that certificates of deposit below \$100,000 are insured while subordinated debentures are not. (See

Benston, et al. 1986, Chapter 7, especially pp. 192-95, for a further elaboration.)

Fraud and grossly incompetent management

A large part of the regulation and supervision of financial institutions is related to preventing fraud and excessively risky **behavior**—and appropriately so. The largest losses incurred by the FDIC and the FSLIC are the result of acts that were not detected or stopped quickly enough by the authorities. Because these government agencies bear much of the cost of fraud and gross mismanagement, they have a legitimate interest in preventing or reducing fraud and mismanagement.

Fraud is the most difficult to identify and stop because the perpetrators know that what they are doing is illegal. Hence, they have incentives and opportunities to alter the records to make detection difficult. Unfortunately, there are no simple regulatory answers. Almost any asset or liability is subject to a fraud. Therefore, limiting a financial institution's operations to a limited set of operations will not be successful. Indeed, mechanical supervision by regulation often makes frauds easier to perpetrate. Rather, evaluation of the quality of management, including a complete check on the managers' personal records in fiduciary capacities is required, along with testing of the system of internal controls and careful monitoring of institutions, particularly those with low levels of economic capital.

Gross mismanagement can be more easily discovered from analysis of financial statements and trends. While high rates of growth do not prove gross mismanagement, it often is associated with a breakdown of controls and with poor investment practices. Again, the level of economic capital is an important variable.

Deregulation

Deregulation has been blamed by some for the recently comparatively high level of failures and poor condition of many operating institutions. Eisenbeis states that his "paper has concluded that deregulation has played a minor if insignificant role" in this history. I agree with his conclusion, but I do not believe that he has demonstrated it.

He could have pointed out that deregulation has taken place in only three regards. First, interest rates on savings and time deposits were removed gradually from about 1980 through 1986. Second, most thrift institutions were given the power to make consumer cash loans and

some business loans and to offer **checking** accounts in 1982. (Some others previously had these powers.) Third, **S&L's** were given the power by some states to invest directly in assets.

As I noted above, the removal of Regulation Q restrictions did allow growth-oriented institutions to bid for deposits. But, in the absence of an increase in deposit insurance coverage from **\$40,000** to **\$100,000** per account, the riskier institutions could not have attracted the large volume of funds they obtained. Hence, it was not just deregulation that made their growth possible.

Consumer cash loans, business loans, and direct investments are not associated with **S&L** failures, as noted above, (Benston, 1985). Rather, the contrary is the case—these assets are associated with higher profit levels. Nor was growth, as such, associated with failure. The major cause of **S&L** failures was interest rate risk. Institutions that did not become sufficiently insolvent to be closed when interest rates increased, in effect, "bled to death" as the negative spreads they experienced used up their equity. Some others failed as a result of poor investments, but these tended to be bad loans rather than bad direct investments. Thus, regulations that required or induced **S&L's** to hold duration-unbalanced portfolios and deposit insurance that allowed institutions with low or negative levels of capital to continue holding depositors' funds were, and still are, a major cause of the massive number of failures experienced in the 1980s.

Similarly, most commercial bank failures appear due to traditional, pre-deregulation ways of failing. Banks specializing in farm, timber, and energy loans failed when their customers failed. Fraud continued to play an important role. And **Penn Square** gave new meaning to gross mismanagement. **Continental's** management was not quite as original, but was sufficiently incompetent.

Hence, deregulation had little to do with the present state of financial institutions. Rather, excessive regulation in the form of restrictions on branching and the overlong continuance (if not the imposition) of Regulation Q together with the increase in deposit insurance levels appear responsible, with one exception. Regulations that limited the entry of competitors to existing institutions, such as regulations forbidding thrifts from **offering** checking accounts and consumer loans, tended to make bank charters more valuable. The removal of these regulations reduced the value of their shareholders' equity measured in terms of economic market values. But the imposition of binding Regulation Q **ceilings** and **improvements** in technology probably played

a more important part in reducing the value of chartered financial institutions' charters. Brokers and other nonchartered providers of financial services entered banks' and thrifts' markets, eroding the value of their charters.

Conclusions

Eisenbeis's suggestion that insolvent institutions be closed promptly is a good one. But it is difficult to put into practice. As I mentioned above, requiring that the institutions have a greater amount of subordinated debt might be a useful way for the authorities to obtain the evidence of insolvency before the deposit insurance agencies incur losses. Perhaps **more** important, subordinated debt provides an incentive for market participants to act to monitor managers' and shareholders' actions and to remove those who risk the debenture* holders' investments.

Risk-based deposit insurance would be desirable. However, it would be nice someday, to read just how this could be accomplished. In this regard, I suggest that charging insured institutions for the full cost of examinations is one means of imposing risk-related insurance premiums. Eisenbeis's suggestions for improvements in the lender of last resort function are good. Market value accounting certainly would be an improvement, although it also would be difficult to implement.

To these suggestions, I would add more effective monitoring, particularly of low equity institutions. Statistical means of detecting potentially insolvent institutions can be **helpful** for this purpose. At the same time, increases in capital invested in financial institutions can lessen the need for supervision. The removal of regulations that impose costs on financial institutions and that constrain them from effectively diversifying their portfolios of assets, liabilities, and operations can serve to attract capital to institutions while reducing the risk to the insurance agencies.

References

- Benston, Gwrge J., 1985, *An Analysis of the Causes of Savings and Loan Association Failures*, Monograph Series in Finance and Economics No. 4/5. Salomon Brothers Center for the Study of **Financial** Institutions, New York University, New York.
- Benston, George J., Robert A. Eisenbeis, Paul M. **Horvitz**, Edward J. **Kane**, and Gwrge G. **Kaufman**, *Perspectives on Safe & Sound Banking, Past, Present and Future*. MIT Press, Cambridge, Mass., 1986.
- Cleveland, Harold van B. and Thomas **F. Huertas**, *Citibank. 1912-1970*. Harvard University Press, Cambridge, Mass., 1985.
- Schwartz, Anna J., "Real and Pseudo-financial Crises," in Forest Capie and Geoffrey E. Wood, *Financial Crises and the World Banking System*. MacMillan, London, 1986, pp. 11-31.
- White, Eugene N., *The Regulation and Reform of the American Banking System*. Princeton University Press, Princeton, J.D., 1983.
- Wigmore, Barrie A.**, "Was the Bank Holiday of 1933 a Run on the Dollar Rather than on the Banks?", unpublished paper, **Goldman, Sachs & Co.**, New York, 1986.