

## Regulatory Policies and Financial Stability

---

*Robert A. Eisenbeis*

The U.S. economy is in the midst of one of the most prolonged recoveries it has ever experienced? Truly impressive gains have been registered over the past three years as real gross national product (GNP) grew at a 4.5 percent annual rate, more than 10 million new jobs have been added to the economy, and unemployment has dropped dramatically. Equally important, this recovery has not been accompanied by inflationary pressures that were typical of the past two decades. Indeed, in the two months marking the end of the first half of 1986, prices actually declined slightly for the first time in many years.

Despite this generally positive economic performance, there is evidence that the U.S. financial system is showing signs of stress and that it may be more vulnerable than it has been for decades. The close correlation between the appearance of these supposed cracks in the financial system and the deregulation of deposit rate ceilings and other **financial** reforms contained in the Monetary Control Act of 1980 and the **Garn-St Germain** Act of 1982 led some analysts to question whether deregulation is consistent with a safe and sound banking system. Are these perceived problems of financial instability due to deregulation? What should public policy be to ensure financial stability? This paper investigates these questions and explores the links between deregulation and financial system safety. It is argued that many of the problems being **attributed** to deregulation are in fact legacies of past and present flaws in financial regulatory policies and the deposit insurance

---

<sup>1</sup> See Fryd (1985).

systems. Finally, some basic suggestions are made to revise these policies to ensure that the financial system is less vulnerable to crisis.

### Signs of financial stress and fragility

Almost daily the financial press reports new problems in depository and other financial institutions that heighten concern about the viability of the financial system. What is particularly interesting is the diversity of these problems. Some **are** obvious, while others **are** more subtle.

The most obvious sign of difficulty is the dramatic increase in the rate of bank failures. Kane (1986) reports that during the **1970s**, an average of eight banks and four savings and loans (**S&L's**) failed or were merged out of existence to resolve an impending collapse every year. In this period, the Federal Deposit Insurance Corporation (FDIC) classified fewer than 2 percent of the nation's banks as problem institutions. During the last 18 months, however, an average of 2.1 banks and 1.5 **S&L's** failed every week, and almost 10 percent of all banks and 20 percent of all **S&L's** were on the agencies' problem lists. Failures in 1986 are proceeding at an all time record pace. William Siedman, the present chairman of the FDIC, has projected that more U.S. banks will fail this year than any time since the Great Depression and will result in a net cost to the FDIC of more than \$1 billion. This dramatic increase in the number of bank failures comes after the phase out of deposit rate ceilings, raising the question whether deregulation is compatible with bank soundness.

Of even greater concern is the funding deficit of the Federal Savings and Loan Insurance Corporation (FSLIC), which would be \$18 to \$40 billion if market value insolvent **S&L's** were to be closed? Last year, 20 percent of all **S&L's** were making losses at the rate of \$10 million a day and approximately 450 **S&L's** were insolvent using generally accepted accounting principles? Close behind increased concern about the rate of failures are problems with the overall quality of assets in financial institutions. Loan delinquencies and defaults are running on average at about 1.4 percent of loans, which is **substan-**

---

<sup>2</sup> Kane (1985) has provided estimates that suggested that up through 1983 these losses might be substantially greater.

<sup>3</sup> Ely (1986).

tially ahead of historical **experience**.<sup>4</sup> There are well-publicized credit quality problems in several major credit areas in both banks and thrifts, including oil-related lending, commercial real estate, agriculture, and Third World debt, particularly loans to Mexico, Venezuela, Nigeria, and **Ecuador**.<sup>5</sup> Problems in agriculture have already resulted in the near collapse of the Farm Credit System. These **problems** raise fundamental questions about lending policies in general. Financial markets have been especially mindful of these difficulties, which help explain why many bank stocks continue to trade below their book values.

These credit quality problems have heightened federal banking agencies' concern over the capital positions of the industry, and of major money center banks, in particular. They have instituted policies to increase significantly the capital of these banks. Most recently, growth of off-balance sheet activities at major money center banks has been attributed by the agencies to attempts to circumvent the new capital requirements and lies behind recent proposals to base capital adequacy standards on risks represented by both balance sheet and offbalance sheet activities. **These** new funding devices involve credit and interest rate risks that are not reflected on bank balance sheets and may not be correctly priced. As a result, they may be a major problem in the future. The banking agencies have recently met informally to discuss such new off-balance sheet activities as note issuance facilities (**NIF's**) and revolving underwriting facilities (**RUF's**) and have sent a memo to banks with the greatest amount of off-balance sheet liabilities in conjunction with the "Cooke Committee" about the need for greater internal controls. The memo also indicates that the significant increase in such activities represents "a significant additional risk to banks' funding strategies. Banks may wish to assess [and set limits on] their total volume of commitments in terms of their perceived funding capacity, perhaps assess this on a 'worst case' basis..."<sup>6</sup>

The increase in reported problems of fraudulent activities in both securities activities and depository institutions and in deficiencies in

---

<sup>4</sup> Recent data from Salomon Brothers indicates that for their composite of major money center banks, net charge offs in 1985 were 0.68 percent of loans as compared with 0.26 percent in 1981.

<sup>5</sup> See excerpts of semiannual report of Chairman Volcker to the Congress before the Senate Banking Committee, July 23, 1986.

<sup>6</sup> Source *Bank Letter*, July 14, 1986, pg. 3.

internal controls lead one to question the basic underlying motives and ability of management to control their activities effectively. For example, fraudulent activities by the management of **Penn Square** Bank in originating and placing oil-related loans led to the failure of that bank. More important than the failure of this small Oklahoma bank were the spillovers of this failure that exposed imprudent management policies and significant weaknesses in **credit** quality control in several major banks. These problems resulted in funding difficulties culminating in the **de facto** failure and subsequent rescue of Continental Illinois Bank by the FDIC.

Even the form of the rescue of Continental was noteworthy. Out of fear for the impact that the closing of **Continental** would have on its correspondents and public confidence in the banking system, the federal banking agencies went to great lengths to avoid closing the bank. This included extending a 100 percent guarantee of all the liabilities of the bank.

Fraudulent activities and excesses in the repurchase agreement (**RP**)/**government** securities market exposed problems in not only securities firms but also in both money center institutions and thrift institutions. These led to the failure of not only some government securities dealers but also many non-federally insured thrift institutions in Ohio and Maryland. For example, the failure of ESM Securities in Florida and **Bevill**, Bresler, and **Schulman** in New Jersey caused massive losses to one large Ohio **S&L** and loss of confidence in thrift institutions insured by the state-sponsored insurance fund in Ohio and resulted in the collapse of the Ohio fund. **Similar** problems of dealings with two failed dealing firms by Maryland thrifts was followed by collapse of the Maryland insurance fund. A major element in these problems were weaknesses in the operational procedures of many inexperienced participants in the RP market as they reached for higher returns and failed to take possession of the underlying collateral for their transactions.

A number of questions about recent developments in financial markets pose potentially large and unknown **risks** to the financial system. The large growth in financial transactions has increased both the volume and complexity of completing payments transactions. In some instances, these payments have taxed the capacity of the operations systems and their ability to handle these transactions. The recent overload of the computer system of the Bank of New York for transfers of government securities resulted in a \$22.6 billion

overnight loan from the Federal Reserve to enable the bank to complete transactions. Similar concerns about the volume of intra-day credit extended by the Federal Reserve to banks using **Fedwire** and what might happen in case of a major default has led to pressures to limit the volume of daylight overdrafts by individual banks in both the Fed's clearing system and in the private systems. In some instances, **banks** had intra-day borrowings in the form of overdrafts in excess of three times their equity. Failure to honor these overdrafts could place the entire payments system under great stress and result in a pyramiding of defaults if transactions could not be completed? An example of this type of problem was when **Bankhaus I.D. Herstatt** failed and transactions were truncated in **midstream**.

These problems reflect perceived crises of management, credit risk, interest rate risk, and liquidity within our depository institutions. They represent major sources of concern to the regulatory agencies, Congress, and to the consuming public.

In the face of numerous signs that the U.S. financial system has become unduly vulnerable to shocks and cyclical variations in interest rate, increasing attention has begun to be given to ways of improving the safety and soundness of the banking system. In some respects we have moved through a full circle. It began more than a century and a half ago when entry and exit into banking were unrestricted, moved through a period of heavy regulation and government involvement, to one in which we began to deregulate, and to one in which we are again attributing the present failures and fragility of the financial system to a failure of regulation and the regulators that could be addressed by redesigning the regulatory system. Many are calling for more regulation as the means to ensure the safety and soundness of the banking system.

It can be argued, however, that many of the present problems depository institutions find themselves in are rooted in past regulatory policies. While often well intended responses to short run problems in the banking industry, these policies may have unwittingly weakened the very system they sought to protect. To understand how this can be the case, it is first necessary to explore how regulation has impacted financial intermediaries and may have contributed to financial instability.

---

<sup>7</sup> Federal Reserve System (1985).

## Regulation, innovation, and financial system fragility

There are many reasons **why** the U.S. financial system is heavily regulated. A principal rationale has been to ensure the safety and soundness of the banking system? Loss of confidence led to periodic panics as runs on individual commercial **banks** often spread to other institutions. The resulting contractions in the money supply, while now understood not to be the cause, certainly served to exacerbate recessions and depressions? To keep these problems from reoccurring, depository institutions were regulated. Entry was controlled to prevent ruinous competition. Asset and liability composition was restricted, and capital limitations were imposed. In addition, rules were prescribed to limit self-dealing and other abusive practices by managers and owners, which had often resulted in loss of confidence and triggered inconvertibility of currency into specie and which remain today as one of the major causes of individual bank **failures**.<sup>10</sup> Besides placing limits on the activities of individual institutions, Congress also created the Federal **Reserve** System to protect the payments system and serve as provider of liquidity when **banks** faced temporary liquidity problems. Finally, the federal deposit insurance system was established to protect small depositors.

Since the Great Depression, other important reasons have emerged for constraining depository institutions. Particularly important have been the desire to reallocate credit, especially into "socially desirable purposes," such as home ownership, to facilitate the conduct of monetary policy, and to prevent discrimination and fairness in the functioning of financial **markets**.<sup>11</sup>

These regulatory responses to perceived problems have been important elements in affecting change in the U.S. financial system. Kane (1981) describes how regulation closes off arbitrage opportunities

---

<sup>8</sup> Benston (1986) reviews the historical reasons for regulating financial institutions, which include taxation of banks as monopoly suppliers of money, prevention of **centralized** power, safety and soundness, provision of adequate banking services, support of housing and other credit allocation objectives, and prevention of invidious discrimination and other unfair practices. See Harris, Scott, and **Sinkey** (1986) or Benston, Eisenbeis, **Horvitz**, Kane, and Kaufman (1986).

<sup>9</sup> See **Meltzer** (1986), **Cagan** (1965), Benston and Kaufman (1986), and **Rolnick and Weber** (1985).

<sup>10</sup> See Benston and Kaufman (1986) and Peterson and Scott (1985).

<sup>11</sup> See Benston (1986) for a discussion of the historical reasons for regulating financial institutions and evaluation of their continued validity.

and prevents banks from raising funds in some markets and intermediating them by acquiring certain assets. This imposes costs and reduces profits, which limit returns to the shareholders of regulated institutions and provide economic opportunities for less-regulated competitors.

The costs associated with these regulations were heightened by the persistent inflationary rises in interest rates during the 1970s and induced significant financial innovations to avoid those costs. For example, commercial banks responded to binding deposit rate ceilings and member bank reserve requirements by devising new **reserve-free** and **ceiling-free** accounts, by funding themselves in the **Fed Funds/RP** and Eurodollar markets and through commercial paper issued through bank holding company subsidiaries and parents. Similarly, to compensate for funds disintermediated into the open market and lost to other institutions, thrift institutions found ways of augmenting the returns on existing account offerings to more closely approximate market rates. They also sought to tap into transaction account markets by offering automatic transfer accounts, NOW accounts, and share drafts. Equally important, less regulated firms were quick to jump at profitable opportunities foreclosed to traditional depository institutions by regulation and public policy and offered instruments and services, such as cash management accounts and money market accounts. Brokerage firms, in particular, have augmented their services to so-called higher income, or up-scale customers, and have increased their market share by offering packages of services that eliminate the need for their customers to deal with both a commercial bank (or thrift institution) for transactions and related financial services and with a brokerage firm for investment **services**.<sup>12</sup> They have also exploited the **nonbank** bank loophole in the Bank Holding Company Act of 1970 and have aggressively begun to offer traditional banking services and federally insured deposits to consumers.

These innovations have been made possible because of the **fungibility** of funds, the flexibility of financial markets, creative interpretation of existing law, and changes in technology. The expansion of **com-**

---

<sup>12</sup> Eisenbeis (1985), Kane (1981), Cargill and Garcia (1985), and Cooper and Frazer (1984) have described and documented both the nature of these changes and their effects on the financial system.

puters, in particular, has facilitated the chaining together of accounts and transferring funds between regulated and unregulated accounts at the same and different institutions. It has made possible new methods for delivering financial services through automatic teller machines, automatic transfer accounts, cash management services, and money market funds. Similarly, computer technology has permitted the centralization of accounts and the creation of combined statement accounts that open up potential scope economies in bundling accounts and services.

Kane (1981) points out one aspect of these innovations that is particularly important. Innovations in nonfinancial areas have typically been economically productive because they improve product quality, reduce costs, or make possible the production of goods or services not previously possible. For example, the transistor and micro chips revolutionized electronics and made possible a whole new array of products both because of the speed at which they operate and their small size. The jet engine cost-effectively increased several fold the practical speed of both military and commercial air travel. Most new financial innovations, on the other hand, have been pursued and have prospered, not because they necessarily improved efficiency in providing financial services, but rather, because of their productivity in regulatory avoidance. They were simply ways of providing traditional lending, savings, and transactions services at or near market rates that had been precluded by regulation. In effect, they represented second-best, and not necessarily cost-reducing, solutions to deregulation and regulatory reform.

During the 1970s and early 1980s, successful innovation has often been accompanied by demands for reregulation from those that have experienced declines in market share or profits or who perceive that they might be competitively disadvantaged. These demands are not usually for a relaxation of all regulation. Rather, injured parties seek to restore competitive equilibrium in a market by equalizing regulatory burdens, and hence the tax that regulation imposes. The cries for a "level playing field" usually mean extending to less-regulated competitors the same regulations that prevented the disadvantaged from offering the new service rather than relaxing regulatory burdens.<sup>13</sup>

---

<sup>13</sup> The regulators have not always realized that many of their actions were merely to ratify events that had already occurred in the marketplace. See, for example, Martin and Higgins (1986).

Sympathetic regulators and legislators usually have responded by realigning the competitive balance through selective modification of the regulatory constraints, often times shutting down the new innovation completely or imposing regulations that make it too costly to be offered profitably.

The end result is an interactive and dynamic process. Cost-imposing regulations spawn avoidance innovations, which lead to additional regulations being added or existing regulations being modified. This, in turn, changes the underlying economic incentives and brings forth the potential for a new round of financial innovations.

### *The consequences of financial innovation*

Nowhere has this regulatory dialectic process been more clear than in the banking agencies' responses to the innovations by depository institutions made to avoid Regulation Q.<sup>14</sup> Almost as quickly as one activity was shut down, another took its place. Interestingly, the financial regulatory agencies' short-run responses to deal with the nuisance of particular innovations have had long-run consequences that have dominated the short-run concerns about particular innovations and have seriously impacted the health of the financial system.

This interplay between regulation and financial innovation has had far reaching effects on the structure of U.S. financial markets and its institutions. For example, the traditional compartmentalization of financial service markets into commercial banking, thrift banking, and investment banking has virtually disappeared. Thrifts now offer checking accounts and can make commercial loans. Commercial banks are important sources of credit for housing, and they compete aggressively for consumer savings. At the same time, traditional bank corporate borrowers no longer find it necessary to depend on financial intermediaries for funds. They can float their own securities in the open market at rates that commercial banks can no longer meet.<sup>15</sup> Finally, investment banks are actively seeking to provide a wide array of bank

---

<sup>14</sup> Table 3.2 and 3.3 in Eisenbeis (1985) document the sequence of innovations and regulatory responses as the agencies tried to keep depository institutions from paying market rates for funds.

<sup>15</sup> Sanford (1986) indicates that money center banks are finding it increasingly difficult to compete in the wholesale market. Newly syndicated Eurobank loans dropped by a factor of almost five times (from \$97 billion to \$22 billion) since 1981 while corporate issuance of international bonds increased from \$44 billion to \$163 billion. Domestically, the volume of nonfinancial commercial tripled and the number of issuers has doubled since 1978. Bank's shares of total short-term credit to businesses dropped from 49 percent to 26 percent.

and thrift-like services and commercial banks, in turn, are arguing for a repeal of Glass-Steagall.

Similarly, the process also has important implications for the formulation and conduct of monetary policy during the 1970s and into the 1980s. Financial innovation to avoid deposit rate ceilings clearly had important effects on the channels of monetary policy. When deposit rate ceilings were truly effective, tight money and high interest rates reduced the availability of credit from depository institutions. The incidence of restrictive policies was greatest on sectors that did not have quick or easy access to alternative sources of funds. In particular, credit restraint policies fell most heavily on the housing industry as flows of funds to thrifts were cut off. With the advent of new unregulated instruments and, finally, deposit rate deregulation, the incidence of tight money policies were spread more widely over the entire economy. From an equity point of view, this had the virtue of spreading the costs of policies across **all** sectors. But it also contributed to short-run policy formulation problem.

The proliferation of near-money substitutes, the expansion of cash management techniques, the growth and increased reliance by commercial banks on the Fed **Funds/RP** market for funding, the blurring of the distinctions between checking accounts and other **financial** liabilities at banks, thrifts, and nondepository institutions have also confounded the measurement of the money supply. Furthermore, because the functions of these near-money substitutes are not identical to traditional checking accounts or savings accounts, changes in interest rates have different effects on peoples' decisions, to hold money, near-money, and other financial and nonfinancial assets. For example, a series of regulatory decisions designed to accommodate bank liquidity needs and stimulate growth of the government securities markets stimulated and paved the way for growth and expansion of the Fed **Funds/RP market**.<sup>16</sup> These decisions clearly had far reaching

---

<sup>16</sup> In **1963**, the Comptroller of the **Currency** exempted national banks' federal funds transactions from statutory **borrowing** and lending limits. **A** year later, the Federal Reserve exempted the borrowings of interbank deposits from Regulations Q and D. This effectively meant the federal funds included both deposits held at Federal Reserve Banks and other banks. Finally, the Federal **Reserve's** switch to lagged reserve accounting in **1968** **provided** additional incentives for banks to manage their reserve accounts and engage in large temporary purchases and sales of idle balances. Finally, in **1970**, while attempting to reduce the **flow** of idle corporate balances into the federal funds market on an overnight basis (because such transactions were exempt **from** Regulations Q and D) the Fed also expanded the potential suppliers of **funds** to the market by redefining a bank to include **S&L's**, cooperative banks, mutual savings banks, federal agencies (including the Home Loan **Bank** System), and government securities dealers.

unintended effects. In particular, they accommodated a temporary shift of funds from holders of otherwise temporarily idle transactions balances into the market and thus contributed significantly to the measurement and prediction problems of **M1** and the other monetary aggregates. The redefinition of the monetary aggregates in 1980 were the direct result of changes that had taken place in financial markets as the result of financial innovation."

Similarly, low member bank reserve requirements on time deposits relative to demand deposits and the high opportunity cost to corporate treasurers and others of holding temporarily idle funds in noninterest bearing checking accounts provided incentives for banks to develop methods to enable their depositors to shift these transactions funds into interest bearing **nonreservable** liabilities. This further contributed to the blurring of the distinction between transaction and other liabilities.

These changes in the holdings of financial assets and patterns of financial intermediation affected previous estimated relationships between the monetary aggregates, interest rates, bank reserves, and economic activity. Moreover, these behavioral relationships have continually changed as a consequence of the interplay between regulation and financial innovation. Thus, reliance on data from previous periods to estimate parameters to use in policy formation for future periods must be biased and subject to error, making effective formulation of monetary policy difficult.

### *Regulatory induced financial innovation and system stability*

The consequences of the regulatory dialectic have gone beyond affecting the structure of financial markets, increasing competition, and frustrating the conduct of monetary policy. There are also important implications for the safety and soundness of individual institutions and for entire industry segments. **For** example, many factors suggest that both **banks** and thrifts became more vulnerable to exogenous shocks and increases in the variability of interest rates, and many of the present signs of system vulnerability are the direct consequence of past legislative and regulatory policies.

**Interest rate risk.** One clear pattern was that Regulation Q and Regulation D-related innovations resulted in increased dependence

---

<sup>17</sup> See *Federal Reserve Bulletin*, February 1980, also Porter, Simpson, and Muskopf (1979) and Tinsley, Garrett, and Frier (1978).

by depository institutions on shorter and shorter term **liabilities**.<sup>18</sup> As depository institutions turned increasingly to the Fed Funds market, the commercial paper markets, the Eurodollar, and short-term large CD market for funding, this resulted in an effective shortening of the effective maturity of the liability structures of depository institutions, especially for thrift institutions, and widened the maturity gap between their assets and liabilities. If interest rates were to rise, the resulting increases in costs as liabilities matured meant that interest rate risk had increased and that the potential for short-term liquidity problems **heightened**.<sup>19</sup>

The extent of this vulnerability became especially obvious when **the** Federal Reserve modified its operating procedures in October 1979 to focus on controlling the monetary aggregates rather than interest rates. The subsequent run up of market interest rates—to levels as high as 20 to 23 percent in the case of the prime rate—meant that institutions, like the thrifts, that borrowed short and lent long would be especially vulnerable. The squeeze on thrift institutions during this period has been well **documented**.<sup>20</sup> Following October 1979, there also was a significant increase in the variability of interest rates, which suggest that there had been a likely **permanent** increase in an exogenous source of financial system risk.

Foreign **risks**. Several regulatory and legislative incentives spurred the expansion of major U.S. banks abroad. First, rate ceilings on domestic sources of **funds** induced money center **banks** to look abroad in their search for lower cost funds.

United States tax policy also provided an incentive to conduct more and more business abroad. In particular, if bank holding companies were properly **organized** and foreign activities were conducted through

---

<sup>18</sup> While interest rate risk exposure **may** have increased without the **innovations, disintermediation** would likely have become so severe during the early 1980s as market rates rose into the high teens that the thrift industry and many other regulated depository institutions would surely have failed.

<sup>19</sup> Martin and **Higgins** (1986) incorrectly argue that deregulation of deposit rate ceilings increased interest rate risk exposure. In fact, **the opposite** is more likely the case. The selective relaxation of the ceilings in only the shorter maturity segments, meant that the main way to respond to disintermediation was to widen the maturity gap. With ceilings deregulated and institutions given more **freedom** to fund themselves over the entire maturity spectrum, interest rate risk exposure is likely to be reduced.

<sup>20</sup> See **Kane** (1986) and **Carron** (1978, 19) for a most comprehensive discussion.

subsidiaries, then income earned abroad would not be treated as taxable income until it was repatriated. This meant that a bank holding company could raise funds abroad, say in the Eurodollar market or by issuing commercial paper, and then acquire foreign denominated assets. United States taxes would not have to be paid until the funds were brought back into the United States for domestic purposes. This feature of the tax law helps partially to explain the explosive growth of foreign subsidiary activities of major U.S. banks in the Cayman Islands and Bermuda, both of which are low-tax countries. This policy may have also stimulated the proliferation of foreign operations that would not have been profitable had it not been for the tax consequences. For example, until March 1978, banks could claim full foreign tax credits for a 25 percent tax that Brazil imposed on interest that banks earned in that country. Brazilian authorities typically rebated 85 percent of the tax to the borrowers, but banks still received a full tax credit for the taxes paid in the United States.

So powerful were these incentives to expand abroad, that many major U.S. banks earned more income and had more assets abroad than they did in the United States. The consequence was that the U.S. financial system, and especially its money center banks, were becoming increasingly intertwined with the rest of the world. Most recent data show that U.S. money center banks now have about 43.3 percent of their loans in foreign offices?'

This internationalization of U.S. money center banks' business suggests increased vulnerability to foreign exchange risks, to political risks such as the Iranian crisis, and to credit risks. However, even when these risks surfaced after oil prices fell radically, the banking agencies pursued damage control policies designed to minimize the short-run effects of an immediate crisis rather than to deal with the long-run incentive problems. For example, accounting rules were manipulated to avoid forcing large banks to recognize large declines in asset values in the case of troubled foreign credits.<sup>22</sup> In addition, special bridge loans have been arranged by the United States and other governments to allow Mexico, Argentina, and Brazil to continue meeting their interest obligations and not force the recognition of

---

<sup>21</sup> Salomon Brothers (1986). This foreign exposure is down from 50 percent in 1982 and 1983.

<sup>22</sup> See Mussa (1986).

declining asset values and impending losses on the balance sheets of major banks. Moreover, public officials have repeatedly stressed that the long-term viability of these countries' economies require continued extensions of credit from private **banks**.<sup>23</sup> In part, the continued efforts of **U.S.** government officials **to** expand the credit exposure of **U.S.** banks represents **an** indirect way of subsidizing foreign governments instead of providing direct government-to-government loans and aid. The short-run cost is hidden in the implicit guarantees that the **U.S.** government provides to banks increasing their exposure. The **long-**run costs may be even larger if these guarantees are not appropriately priced and significant defaults occur that require nationalization of particular institutions.

*Capital adequacy problems.* **In** the mid-1970s, following a secular decline in bank capital ratios, the **banking** agencies took steps to modify the definition of capital for capital adequacy purposes rather than to tighten standards and force weaker institutions to increase their equity. In particular, the Comptroller of the Currency modified the definition of unimpaired surplus to include subordinated debt with a **maturity** of more than three years and **all** the agencies began counting such debt **as** capital for capital adequacy purposes. In effect, since many institutions could not meet the old capital standards, the agencies modified and relaxed the **standards**.<sup>24</sup> In part, these changes were in response to increased competition from less-regulated competitors and the resulting push for greater leverage by money center banks to bolster lagging equity returns due to a decline in return on assets.

In the case of bank holding companies, regulatory policy was designed to enable banking organizations to compete with the unregulated portions of the financial service market while maintaining the integrity of commercial banking subsidiaries. This policy was based on the premise that a bank holding company could be divided into two parts, a regulated component and an unregulated component. The regulated segment consisted of the bank subsidiaries while the unregulated segment was comprised of the parent holding company and its **nonbanking** subsidiaries. The aim was to isolate insured

---

<sup>23</sup> See for example, the Baker proposal and Volcker (1986).

<sup>24</sup> Most recently, the Federal Reserve has proposed that perpetual debt, which does not exist to any extent in the United States but is becoming increasingly prevalent in other countries, be counted as capital for capital adequacy purposes.

bank subsidiaries from the rest of the organization and permit the less regulated segments to compete without the fetters of bank-type regulations. However, these policies, had the effect of contributing to the further decline in the capital ratios of banking organizations by encouraging double leverage. With double leverage, the proceeds from debt issued by parent bank holding companies was **downstreamed** as equity in subsidiary banks to improve the capital adequacy of subsidiary **banks**. As long as the insured banking subsidiaries were isolated from risk taking at the parent level or in nonbank subsidiaries, the insurance fund would be protected.

However, profit-making incentives make it neither practical nor possible to isolate bank subsidiaries effectively from the rest of the organization without reducing the potential to achieve the benefits of economies of production and **scope**.<sup>25</sup> This was recognized by the banking agencies when they published numerical capital adequacy standards in 1981.<sup>26</sup> In the case of bank holding companies, the numerical standard applied to the consolidated entity that restricted the practice of double leverage to avoid capital adequacy requirements.

Banking organizations have responded to these new capital adequacy guidelines by shifting more and more of their activities off their balance sheets. The growth of off-balance sheet financing, with its contingent risks, are only now beginning to be fully understood. It was because of these risks that the banking agencies attempted in their recently published risk-based capital adequacy standards to apply capital requirements to these off-balance sheet liabilities. As the Shadow Financial Regulatory Committee (1986) has pointed out, however, these proposed capital standards exclude significant dimensions of off-balance sheet financing, thereby making the excluded activities more attractive than regulated activities.

Tougher capital standards have also provided an additional impetus to the securitization of assets of depository institutions. Securitization increases asset turnover potential. Thus, a given level of capital

---

<sup>25</sup> For discussions of how bank holding companies organize their activities, see Murray (1978), Rose (1978), and Whalen (1982a, 1982b). In addition, see the discussions in Benston, Eisenbeis, Horvitz, Kane, and Kaufman (1986); Cornyn, Hanweck, Rhoades, and Rose (1986); Flannery (1986); and Volcker (1986). For a contrary view, see Chase and Waage (1983).

<sup>26</sup> These standards were extended to multinational banking companies in June 1983. The International Supervision Act gave the agencies authority to impose binding capital requirements on banking organizations.

supports a greater volume of activity than if the underlying assets had remained on the books. Moreover, fee income is increased since a fee for forming the pool and servicing the underlying assets is usually retained as an income generating activity by the originating institution. In addition, securitization provides a relatively cheap source of funds and enables the institution to avoid reserve requirements and deposit insurance **premiums**.<sup>27</sup>

Pavel (1986) argues that securitization **facilitates risk taking**.<sup>28</sup> Regulations, like reserve and capital adequacy requirements, function as a tax by increasing the cost and lowering the net returns from holding lower yielding, less risky assets, as compared with the returns earned by less regulated competitors that might hold the same assets. Securitization enables an institution to package and sell off **low**-yielding, low-risk assets to add higher yielding, higher risk assets to its portfolio in an effort to increase net returns. Of even greater concern, however, is the fact that institutions often guarantee the payment of principal and interest. Thus, even though such securitized assets do not appear on the depository institution's balance sheet, it does retain both the interest rate and credit risk. To the extent that deposit insurance is **mispriced** and the federal deposit insurance agencies implicitly guarantee these contingent liabilities, this risk is ultimately shifted to the government. Pavel (1986) states, "Indeed, some bankers have even suggested that securitization would dry up if capital requirements and deposit insurance were correctly priced."

***Geographical and product diversification problems.*** Public policies restricting geographic and product expansion have also had an important impact on financial system safety and soundness. State statutes providing home office protection and state and federal limitations on branching were instituted to limit entry into local markets and restrict **competition**.<sup>29</sup> One justification for these restrictions was to limit ruinous competition. Thus, one rationale for these policies was to promote safety and soundness.

---

<sup>27</sup> See Pavel (1986).

<sup>28</sup> Securitization clearly has facilitated risk shifting as well. Thrifts have been able to employ securitization to remove long-term illiquid assets off their books and shift some of the credit and interest rate risk to the market.

<sup>29</sup> See Gilbert and Longbrake (1972), U.S. Senate (1972).

Historically, these restrictions have had just the opposite effect. Institutions that were mainly dependent on business derived from a relatively small geographic area had portfolios that were undiversified on both the deposit and loan sides of their balance sheets. Moreover, they often tended to depend on relatively few customers as both suppliers of funds and users of credit. This lack of geographical diversification meant that unit banking firms, and those whose branching areas were confined to a narrow area, were particularly vulnerable to general declines in economic activity and resulting credit quality problems that might hit their local markets. Indeed, during times of economic distress, geographically undiversified institutions suffered more than those operating widely disbursed branching and bank holding company networks.<sup>30</sup> During the Great Depression, bank failures were not uniformly distributed over the country.<sup>31</sup> Rather, they tended to be concentrated in agricultural areas in the Midwest and other states that restricted branching. In fact, even in states that permitted branching and bank holding company activity, the failure rates for more diversified institutions were significantly less than for unit banking institutions. Often, troubled unit banks were taken over by stronger branch banks and bank holding companies.

This same pattern is holding up today. The banks that are having the most difficulty as the result of the crisis in oil and agriculture are those institutions whose activities are not geographically diversified. And these tend to be in states in the central and western portions of the country whose economies have been based on agriculture and oil and that have historically had the more restrictive policies toward branching.<sup>32</sup> Most recent data on bank performance through

---

<sup>30</sup> If geographic restrictions were so important to ensuring diversification, then one might ask how the multinationals could experience problems due to lack of diversification in their foreign loan portfolios. While much of the foreign lending problems in the major multinationals' portfolios are geographically dispersed, the soundness of many of these loans was dependent on prices prevailing in energy markets. The drop in oil prices affected all of these credits, and in this sense these loans were not diversified at all.

<sup>31</sup> See Gilbert and Longbrake (1972) and Warburton (1966), or Benston and Kaufman (1986), or Kaufman (1985).

<sup>32</sup> See Nejezchleb (1986). There are tradeoffs between the cost-reducing advantages of specialization and the risk-reducing benefits of diversification. But there is certainly evidence that the likelihood of catastrophic consequences are increased when institutions tend to specialize in particular industries, as illustrated by the problems in the thrift industry, the high failure rates of banks in Oregon specializing in timber (see Bovenzi and Nejezchleb (1985)), and the problems in Texas and Oklahoma with oil-related specialties.

1985 clearly shows that asset quality problems were the dominant cause of financial difficulties at both large and small banks. Both Wall (1986) and Nejezchleb (1986) show that profitability, as measured by return on assets, declined for all banks through 1985. However, net interest margins have been maintained at all but new **banks**.<sup>33</sup> On the other hand, loan-loss provisions have increased substantially, especially at small banks. For banks under **\$100** million, the increase in loan loss provisions accounted for all of the decline in return on assets. Only gains in net interest margins and reductions in tax liabilities kept the declines in return on assets from being even greater. Based on this evidence, they conclude that asset quality problems, especially in new and undiversified institutions, and not interest rate deregulation, is at the root of the present bank soundness problem. And this problem, in turn, is largely exogenous to the financial system, except to the extent that institutions have been prevented by regulation from diversifying sufficiently.

Limitations on product diversification have also adversely affected the soundness of many depository institutions. Nowhere is this better illustrated than in the case with **S&L's** and mutual saving banks, whose portfolios were restricted primarily to long-term housing and real estate-related assets funded with shorter term liabilities. Restricted portfolios, especially in combination with deposit rate ceilings, proved particularly vulnerable to the secular rises in interest rates in the late 1960s and in the 1970s. Rather than permit needed portfolio restructuring to reduce the maturity gap of their assets and liabilities, as had been urged early on by the Hunt Commission (1971), Congress clung stubbornly to the idea that these institutions needed to remain specialized lenders to help achieve the nation's housing goals. Policies, which included modifying accounting rules to **avoid** having to recognize declines in the net worth of thrifts and selective relaxation of Regulation Q ceilings to provide short-term funding at the margin, were followed to enable these institutions to limp along. The present problems of the thrift industry and the serious funding problems of the FSLIC are the long-run consequences of these short-sighted and **short-run** policies and not related significantly to the diversification that has been **permitted**.<sup>34</sup>

---

<sup>33</sup> In fact, net interest margins increased, on average, for banks under \$100 million between 1984 and 1985.

<sup>34</sup> See Benston (1986).

Interestingly, there is evidence that the kinds of diversification that would have been helpful to thrifts would not have necessarily resulted in thrift institutions giving up their role as specialized lenders. Credit unions, for example, did not have the extreme mismatch in the maturities of their assets and liabilities. Deposit rate ceilings were substantially removed for these institutions before their repeal by the Monetary Control Act of 1980. **As** a result, they had a chance to adapt to lower interest rates before other institutions, and they have done so reasonably successfully without changing their traditional roles as lenders. Similarly, Massachusetts mutual savings banks had somewhat wider Ewers than other thrifts, and they have not suffered comparably with more restricted institutions in other **states**.<sup>35</sup> On the other hand, New York mutual savings banks, which labored under a 10-percent usury ceiling on mortgage interest rates, did significantly worse and have resulted in the greatest losses to the FDIC.

### *Present regulatory policies contributing to financial instability*

Some of the more troublesome regulatory restrictions that contributed to the present signs of vulnerability have been eliminated or reduced significantly in their impact on depository institutions. Deposit rate and usury ceilings have been phased out pursuant to the Monetary Control Act of 1980 and the Garn-St **Germain** Act of 1982. Reserve requirements, although extended to all institutions issuing transaction accounts, have been substantially reduced in their level, blunting but not eliminating them as sources of competitive disadvantage to banks and thrifts. Thrifts have received expanded powers and can now issue transaction deposits, make commercial loans, and engage in a wider range of consumer **lending**.<sup>36</sup>

On the other hand, other regulations and policies continue to play important roles in constraining depository institutions and providing

---

<sup>35</sup> See Kopcke (1981), Eisenbeis (1982), and Cruckett and King (1982). Eisenbeis and Kwast (1982) have also shown that commercial banks voluntarily chose to specialize in real estate activities significantly outperformed **S&L's** and did as well or better than many more diversified commercial banks. The key seems to be portfolio balance rather than the types of activities engaged in per se.

<sup>36</sup> The evidence is, however, that they have not moved very far in taking advantage of these powers, especially in the commercial lending area. Presumably, this failure is related to their present financial condition as well as the inability to issue corporate demand deposits. See Baker (1982), Crockett and King (1982), Dunham (1982), and McCall and Peterson (1980).

incentives to further innovation and risk taking. Foremost, are the incentives provided by policies for dealing with troubled and failing banks. These include the present flat rate deposit insurance and a host of related policies, such as accounting and capital forbearance policies, which defer recognition of losses and do not impose costs on the managers and owners of troubled and failing depository institutions according to the risks posed to the insurance funds. Other policies that also have important systemwide risk implications include the Federal Reserve's daylight overdraft procedures and the subsidies in float. Some of these issues have already been discussed in reviewing past risk enhancing policies and will not be discussed **again**.<sup>37</sup>

### *Deposit insurance and failure resolution policies*

There are numerous ways the present deposit insurance structure tends to subsidized and encourage risk taking. **Most** discussed is the system of flat-rate premiums, which levies charges for insurance based on total deposits of the insured rather than on the risks imposed to the insurance **funds**.<sup>38</sup>

Such a system encourages risk taking in several ways. With **flat**-rate premiums, there is no incentive for managers to be concerned about costs increasing as they acquire more risky assets to obtain higher returns. This is especially important for weak institutions, whose only hope for survival may be to gamble by taking on higher yielding and more risky assets in a last gasp effort to get out of their difficulties. Their ability to issue federally insured deposits enables these institutions to raise funds without having to pay a risk **premium**. If the same volume of funds were to be raised through uninsured means, the institutions would have to compensate the suppliers of funds for the risks that their money would not be returned. With government insurance, the supplier of funds need worry only about the credibility **of** the insurer, assuming that transactions costs are **low**.<sup>39</sup> A risky

---

<sup>37</sup> Time and space limitations mean that this list cannot be exhaustive.

<sup>38</sup> See Kane (1985, 1986).

<sup>39</sup> Failure of the insurer to issue creditable guarantees can lead to loss of confidence in the system. This is precisely what happened when the losses imposed by Home Saving on the state-sponsored insurance fund in Ohio raised questions in the public's mind about the ability of the fund to make good on its liabilities. The resulting run on the non-federally insured institutions was fueled further by the failure of the state to provide supplemental funding.

depository institution purchasing such funds need only offer a slightly higher rate for the federally insured deposits, which are not otherwise differentiated from the federally insured liabilities of sound institutions, to be assured of ample resources. The risks in such instances are borne by the government insurance funds, which we have already established are not fully compensated for the risks to which they are **exposed**.<sup>40</sup> Least one doubt that such policies are pursued, recent hearings document the extreme rates of growth of **financially** troubled thrifts as they issued federally insured deposits in an effort to "grow out of their **problems**".<sup>41</sup> The hearings also showed that these rapidly growing institutions did not increase their equity to support this growth, suggesting that they became even more risky in attempting to solve their problems. Making matters worse was the failure of the FSLIC to monitor and attempt to limit the increase in its risk exposure that resulted from these go-for-broke strategies.

The incentives for weak institutions to engage in such gambles are heightened by the policy of limited liability. Limited liability creates an asymmetry in the way losses of failed institutions are borne relative to the how returns are distributed to owners. Should a weak institution fail, limited liability means that losses are imposed only up to the amounts invested, where there are no limits to the distribution of earnings to the owners of a successful firm, including those weak ones whose gambles pay off. This means that the closer weak institutions come to insolvency, the greater the value of the subsidies inherent in government guarantees.

One might hope that the uninsured creditors of risky institutions would become concerned about especially risky gambles and exert market discipline on such institutions. However, this has not usually worked for several reasons. In the case of many thrift institutions, there simply are not large amounts or large numbers of uninsured depositors and creditors, and thus there is little potential for such discipline to operate.

---

<sup>40</sup> The banking agencies', especially the FDIC, had argued that deposit brokerage activities were a significant element in the failures of many smaller banks. A recent study by the Government Operations Committee concluded that brokered deposits were not a major cause of the failure of troubled S&L's.

<sup>41</sup> See "Financial Conditions of the Bank and Thrift Industries," Hearings before the Subcommittee on Financial Institutions, Supervision, Regulation and Insurance of the Committee on Banking, Housing and Urban Affairs, U.S. House of Representatives, 99th Congress, First Session, Part I, September 11, 12, 18, 19, 1985.

For large banks, a different problem arises. Regulatory agencies are often reluctant to close large institutions because of concern about the ripple effects to other institutions and financial markets. This has led to a number of different policies, all designed to prevent or limit losses to uninsured creditors.

First, the Federal Reserve will typically provide temporary liquidity by purchasing assets and extending discount window loans to troubled institutions. This gives uninsured creditors the opportunity to get out whole. Such loans often involve no penalty rate, and when they do, the rate is not especially high.<sup>42</sup> **Meltzer (1986)** makes the telling point that without a penalty rate, this policy for administration of the discount window subsidizes risk seeking behavior, such as the speculation on asset prices engaged in by Franklin National and First Pennsylvania, and increases, rather than reduces, overall system risk and the risks borne by the taxpayer.

Second, in the case of Continental Illinois Bank, concerns for system safety and soundness led the agencies to guarantee all the liabilities of the bank. Thus, de facto 100 percent liability insurance was extended far beyond the \$100,000 provided by law.

To make matters worse, the Federal Reserve first arranged for a group of money center banks to extend credit to Continental. Instead of acting to making the likely failure of a large bank an isolated event with no system implications—as the Fed clearly could have done through use of the discount window—other institutions were induced to accept a share of the risk of loss. This institutionalized—and communicated to the rest of the world—the interdependence among money center institutions, even if none had existed before. **Meltzer (1986)** concludes that this confuses the health of the system with the health of individual institutions and suggests other ways in which this policy could have reduced rather than increased confidence in the system. In particular, the Fed's reluctance to provide discount window loans to Continental raised questions about the soundness of the collateral in Continental's portfolio. Moreover, it suggests the Federal Reserve may not have fully understood its function as lender of last resort.

Third, if a failure does occur, the agencies have a propensity to

---

<sup>42</sup> Penalty rates were instituted following the failure of Franklin National Bank, to which large volumes of subsidized discount window loans were extended.

arrange a purchase and assumption transaction by another institution that acquires the assets and assumes all the liabilities of the failing **firms**. Relying on purchase and assumption transactions to avoid temporary, and possibly large, disruptions that might be caused by the failure of an institution also eliminates any tendency for the uninsured creditors to be concerned about their own risk exposure. Should a failure occur, the purchase and assumption transaction results in their uninsured claims being assumed by a healthy institution with no losses being imposed. The entire risk, and cost of the failure, is imposed on the equity holders and the FDIC. The FDIC must often compensate the acquiring institution by buying loans for cash from the failed bank's portfolio or by indemnifying the acquiring **institution** for losses that might occur in the future. This enables all the creditors except the equity holders to get out whole with de facto 100 percent liability insurance.

Policies preventing costs from being incurred by uninsured creditors have been administered unevenly. During 1983 and 1984, the FDIC began a policy of paying out only a portion of the claims to uninsured creditors with its so-called modified payout program, notably when Penn Square Bank failed. But this policy was abandoned in the case of Continental Illinois, reflecting the propensity to protect the creditors of large institutions more than small **institutions**.<sup>43</sup> This not only removes an important source of market discipline on the **risk-taking** propensities of management, but also institutes a system of differential guarantees in which large institutions are favored over smaller institutions. Such differential coverage conveys a subsidy to larger institutions, since their costs are not increased to cover their increased coverage. This policy also raises a fairness issue since large institutions are given a competitive advantage over small firms by virtue of their better guarantees.

The deposit insurance problems are heightened by closure and related policies, such as the use of regulatory accounting principles (RAP) and capital forbearance, which tend to postpone the closure of insolvent institutions. The present funding problems in the FSLIC are the direct result of improper closure policies that have permitted insolvent **S&L's** to continue in operation long after their net worth

---

<sup>43</sup> In the arrangements for Continental Bank, the Comptroller of the Currency indicated that the top 11 banks were too large to let fail.

had gone to zero. Moreover, the longer these institutions are permitted to continue in operation, the more valuable mispriced deposit insurance becomes and the greater the incentives are to engage in go-for-broke strategies. This increases the probability of even greater losses for the government and taxpayer.

**Kaufman** (1985) correctly points out that when a sick institution is closed at the instant the market value of its net worth goes to zero, there are virtually no risks to the insurance fund and, thus, no need for an insurance fund at all. With such a policy, insurance risks exist only because continuous monitoring of the value of net worth may be so costly that they exceed the risks of loss when audits are performed at discrete intervals and because of the difficulties in valuing the **assets**.<sup>44</sup> Overvaluing assets might lead one to conclude that an institution's measured net worth was positive when its true net worth was negative.

## Summary and conclusions

### *Proposals to ensure financial stability*

In examining a number of the supposed signs of fragility causing concern in the U.S. financial system, this paper has concluded that deregulation had played a minor if insignificant role. Exogenous factors, on the other hand, such as the decline in oil prices or the collapse of the speculative real estate markets that caused a drop in the value of agricultural land values, were significant in impacting bank profitability and causing failures. Many of these problems, however, were exacerbated, directly or indirectly, by regulatory policies.

Understanding that many of the perceived weaknesses in the present financial flow from or have been exacerbated by the unintended **effects** of past regulatory policies provides an **important** clue to needed **financial** reforms. For example, unneeded regulations that impose costs and prevent portfolio diversification, either geographically or in products, should be eliminated, and regulatory policies that create incentives to increase risk should be modified.

---

<sup>44</sup> Pyle (1985) shows that when the insurance agency charges for audits and if audits are more costly the closer the institution is to insolvency, then the institution chooses the optimal level of capital to balance the costs of equity with the costs of being audited. In this model, capital adequacy becomes a decision variable for management that is related to examination costs and not portfolio risks.

Numerous proposals have been made recently to reform the structure of the deposit insurance system and improve the safety and soundness of the financial system.<sup>45</sup> Rather than propose a detailed set of alternatives, it would be useful to briefly summarize a few of the major areas where reform efforts should be directed and the basic elements that such reforms should encompass.

**Closure policies for failed institutions.** The present crisis in the deposit insurance system is rooted in closure policies that fail to close institutions when the market value of the net worth of insured institutions go to zero. Keeping insolvent institutions afloat, rather than closing them when the market value of their net worth goes to zero and imposing costs on uninsured creditors and shareholders, creates a set of perverse incentives that increase the risk exposure and potential losses to the insurance fund and eliminates the beneficial effects that market discipline can provide.

Implementation of a market value net worth closure rule, however, requires effective monitoring of the market value of net worth by the parties at risk, which include the insurance fund, the lender of last resort, uninsured creditors, and equity holders. Market value reporting and accounting to risk bearers are critical to effective **monitoring**.<sup>46</sup> It also means that both balance sheet and off-balance sheet risks be assessed.

**Deposit insurance.** Deposit insurance reform is needed in several areas. Pricing reform is needed to get rid of incentives for increased risk-taking in the flat-rate premium system. Moreover, both on and off-balance sheet risks should be valued and priced. Until these incentives are eliminated, moves to increase diversification of the industry and expand powers will be severely limited by incentives to shift risk to the government.

Pricing reform requires the introduction of market-based methods to price risk and enhance market discipline. This suggests modification of the insurance contract to place more creditors at risk. Increasing the liability of equity holders; reducing insurance coverage, providing for coinsurance, providing for deductibles, and increasing the amount

---

<sup>45</sup> See, for example, Benston, Eisenbeis, Horvitz, Kane, and Kaufman (1986) or the papers in Kaufman and Kormendi (1986).

<sup>46</sup> Kane (1985, 1986) has made numerous interesting suggestions on how to deal with the problems of assessing hard-to-value assets.

of uninsured subordinated debt holders have all been proposed to accomplish **this**.<sup>47</sup>

Risk charges for insurance coverage for should also be market based to prevent **governmental** credit allocation and to discipline the insurance agencies. This could encompass reliance on reinsurance **and/or** competition among federal agencies in pricing insurance coverage.

For the insurance guarantees to be credible in the market place, provisions should be made to provide backup funding **for** the insurance funds. Lack of a credible guarantee was the major reason that the Ohio insurance fund collapsed. The public and financial markets should also **know** exactly how problems will be resolved and that costs will be imposed when required.

**Lender of last resort reform.** The lender of last resort function is closely related to the insurance function. Provision of emergency liquidity is the principal tool for **dealing** with runs. The Federal Reserve should provide this emergency credit to market-value solvent institutions that might otherwise become insolvent if they were forced **to** liquidate assets in the market at fire sale prices to meet liquidity **needs**.<sup>48</sup> Effective functioning of the discount window and limiting the risk exposure of the insurance funds, however, requires that market-value insolvent institutions not be kept afloat. Furthermore, it implies that discount window borrowing should only be done at a penalty rates to enhance market discipline and reduce incentives for risk shifting to the lender of last resort.

---

<sup>47</sup> See Kane (1985, 1986) or Benston, Eisenbeis, Horvitz, Kane, and Kaufman (1986).

<sup>48</sup> See Benston, Eisenbeis, Horvitz, Kane, and Kaufman (1986) for a discussion.

## References

- Baker, Robert, "Florida S&Ls Use of Expanded Powers," *Economic Review*, Federal Reserve Bank of Atlanta, July 1982.
- Bank Letter*, July 14, 1986, pg.3.
- Benston, George J., "Federal Regulation of Banking: Historical Overview," in *Deregulating Financial Services: Public Policy in Flux*, edited by George G. Kaufman and Roger C. Kormendi, Ballinger Publishing Company, Cambridge, Mass., 1986.
- Benston, George J., *An Analysis of the Cause of Savings and Loan Failures*, New York University, Salomon Center, Graduate School of Business Administration, New York, 1986.
- Benston, George J., Robert A. Eisenbeis, Paul M. Horvitz, Edward J. Kane, and George G. Kaufman, *Perspectives on Safe and Sound Banking: Past, Present, and Future*, MIT Press and American Bankers Association, Cambridge, Mass., 1986.
- Benston, George J. and George G. Kaufman, "Risks and Failures in Banking: Overview, History, and Evaluation," in *Deregulating Financial Services: Public Policy in Flux*, edited by George G. Kaufman and Roger C. Kormendi, Ballinger Publishing Company, Cambridge, Mass., 1986.
- Cagan, Phillip, *Determinants and Effects of Changes in the Stock of Money, 1975-1960*, Columbia University Press, New York, for the National Bureau of Economic Research, 1965.
- Cargill, Thomas F. and Gillian G. Garcia, *Financial Reform in the 1980s*, Hoover Institution Press, Stanford University, Stanford, 1985.
- Carron, Andrew, "The Plight of Thrift Institutions," Studies in the Regulation of Economic Activity, The Brookings Institution, 1982.
- Carron, Andrew, "The Rescue of the Thrift Industry," Studies in the Regulation of Economic Activity, The Brookings Institution, 1983.
- Chase, Samuel and Donn L. Waage, "Corporate Separateness As A Tool of Bank Regulation," Samuel Chase and Company, for American Bankers Association, October 1983.
- Cooper, S. Kerry and Donald R. Fraser, *Banking Deregulation and the New Competition in Financial Services*, Harper & Row, Ballinger, Cambridge, Mass., 1984.
- Cornyn, Hanweck, Rhoades, and Rose, "An Analysis of the Concept of Corporate Separateness in BHC Regulation from an Economic Perspective," Appendix C., statement by Paul A. Volcker, Chairman, Board of Governors of the Federal Reserve System before the Subcommittee on Commerce, Consumer and Monetary Affairs of the Committee on Government Operations, House of Representatives, June 11, 1986.
- Crockett, John and Thomas King, "The Contribution of New Asset Powers to S&L Earnings: A Comparison of Federal and State Chartered Associations in Texas," Research Paper No. 110, Office of Policy and Economic Research, Federal Home Loan Bank Board, July 1982.
- Curry, Timothy J., "The Performance of Bank Holding Companies," in *The Bank Holding Company Movement to 1978: A Compendium*, Study by the Staff of the Board of Governors of the Federal Reserve System, 1978.
- Dunham, Constance, "Mutual Savings Banks: Are They Now or Will They Ever Be Commercial Banks?," *New England Economic Review*, Federal Reserve Bank of Boston, May/June 1982.

- Eisenbeis, Robert A., "Inflation and Regulation: Effects on Financial Institutions and Structure," in *Handbook for Banking Strategy*, edited by Richard C. Aspinwall and Robert A. Eisenbeis, John Wiley and Sons, New York, 1985.
- Eisenbeis, Robert A., "New Investment Powers: Diversification or Specialization," Proceedings of the Eighth Annual Conference on *Strategic Planning for Economic and Technological Change in the Financial Services Industry*, Federal Home Loan Bank of San Francisco, 1982.
- Eisenbeis, Robert A. and Myron Kwast, "The Implications of Expanded Portfolio Powers in S&L Institution Performance," presented at the Western Economic Association meetings, San Francisco, 1982.
- Ely, Bert, "This Savings and Loan Mess Won't Go Away," *Wall Street Journal*, July 17, 1986.
- Federal Reserve Bulletin*, February 1980.
- Federal Reserve System, "Policy Statement Regarding Risks on Large-Dollar Wire Transfer Systems," 1985.
- Flannery, Mark J., "Contagious Bank Runs, Financial Structure, and Corporate Separateness within a Bank Holding Company," Proceedings of a Conference on *Banking Structure and Competition*, Federal Reserve Bank of Chicago, 1986.
- Frydl, Edward J., "The Challenge of Financial Change," *75th Annual Report*, Federal Reserve Bank of New York, 1985.
- Gilbert, Gary G. and Willaim A. Longbrake, "The Effects of Branching by Financial Institutions on Competition, Productive Efficiency, and Stability—An Examination of the Evidence," *Journal of Bank Research*, Autumn 1973, 154-67 and Winter, 1974, 298-307.
- Harris, John M., Jr., James R. Scott, and Joseph F. Sinkey, Jr., "Evidence of Market Perceptions of a More Favorable Regulatory Environment for Large U.S. Banks/BHCs," presented at a Conference on Banking Structure and Competition, Federal Reserve Bank of Chicago, 1986.
- Kane, Edward J., *The Gathering Crisis in Federal Deposit Insurance*, MIT Press, Cambridge, Mass., 1985.
- Kane, Edward J., "No Room for Weak Links in the Chain of Deposit Insurance Reform," prepared for the National Center on Financial Services, University of California, Berkeley, June 23, 1986.
- Kane, Edward J., "Accelerating Inflation, Technological Innovation, and the Decreasing Effectiveness of Banking Regulation," *Journal of Finance*, May 1981.
- Kaufman, George G., "Implications of Large Bank Problems and Insolvencies for Banking System an Economic Policy," staff memorandum, Federal Reserve Bank of Chicago, 1985.
- Kopcke, Richard W., "The Condition of Massachusetts Savings Banks and California Savings and Loan Associations," Proceedings of a Conference on *Future of the Thrift Industry*, Conference Series No. 24, Federal Reserve Bank of Boston, October 1981.
- Martin, Preston and Bryon Higgins, "The World Financial Scene: Balancing Risks and Rewards," *Economic Review*, Federal Reserve Bank of Kansas City, June 1986.
- McCall, Alan and Manfred O. Peterson, "Changing Regulation in Retail Banking Services: The Evidence From Maine," *Journal of Retail Banking*, Vol. II, No. 3, September 1980.
- Meltzer, Alan H., "Financial Failures and Financial Policies," in *Deregulating Financial Services: Public Policy in Flux*, edited by George G. Kaufman and Roger C. Kormendi, Ballinger Publishing Company, Cambridge, Mass., 1986.

- Murray, William, "Bank Holding Company Centralization Policies," prepared for the Association of Bank Holding Companies, Golembe Associates, February 1978.
- Mussa, Michael, "Competition, Efficiency, and Fairness in the Financial Services Industry," in *Deregulating Financial Services: Public Policy in Flux*, edited by George G. Kaufman and Roger C. Kormendi, Ballinger Publishing Company, Cambridge, Mass., 1986.
- Nejezchleb, Lynn A., "Declining Profitability at Small Commercial Banks: A Temporary Development of a Secular Trend?," *Banking and Economic Review*, Federal Deposit Insurance Corporation, Vol. 4, No. 5, June 1986.
- Pavel, Christine, "Securitization," *Economic Perspectives*, Federal Reserve Bank of Chicago, July/August 1986.
- Peterson, Richard L. and William J. Scott, "Major Causes of Bank Failures," In Recent Bank Failures: Determinants and Consequences, *Proceedings of a Conference on Bank Structure and Competition*, Federal Reserve Bank of Chicago, 1985.
- Porter, Richard D., Thomas D. Simpson, and Eileen Muskopf, "Financial Innovation and the Monetary Aggregates," *Brookings Papers on Economic Activity*, 1979, pp. 213-229.
- President's Commission on Financial Structure and Regulation, *Report*, Government Printing Office, Washington, D.C., 1971.
- Rolnick, Arthur J. and Warren F. Weber, "Banking Instability and Regulation in the Free Banking Era," *Quarterly Review*, Federal Reserve Bank of Minneapolis, (Summer), 1985.
- Rose, John T., "Bank Holding Companies as Operational Single Entities," in *The Bank Holding Company Movement to 1978: A Compendium*, a study by the Staff of the Board of Governors of the Federal Reserve System, 1978.
- Salomon Brothers Inc., "Bank Weekly," Stock Research, Commercial Banks, July 7, 1986.
- Sanford, Charles S., "Banks Bound by Old Rules Losing Role as Credit Intermediators," *American Banker*, July 25, 1986.
- Shadow Financial Regulatory Committee—Statement on Risk Capital.
- Tinsley, P.S., B. Garrett, and M.E. Friar, "The Measurement of Money Demand," Special Studies Paper 133, Board of Governors of the Federal Reserve System, Washington, D.C., 1978.
- U.S. Senate, *Compendium of Issues Relating to Branching by Financial Institutions*, prepared by the Subcommittee on Financial Institutions of the Committee on Banking, Housing and Urban Affairs, October 1976.
- Volcker, Paul A., "Volcker Midyear Statement to Congress," *American Banker*, July 24, 1986.
- Whalen, Gary, "Multibank Holding Company Organizational Structure and Performance," Working Paper 8201, Federal Reserve Bank of Cleveland, March 1982a.
- Wall, Larry, "Profits in '85: Large Banks Gain, While Others Continue to Lag," *Economic Review*, Federal Reserve Bank of Atlanta, August/September 1986.
- Whalen, Gary, "Operational Policies of Multibank Holding Companies," *Economic Review*, Federal Reserve Bank of Cleveland, (Winter 1982b).
- Warburton, Clark, *Depression, Inflation, and Monetary Policy: Selected Papers, 1945-1983*, Johns Hopkins University Press, Baltimore, 1963.