Safeguarding the Banking System from Financial Cycles

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Throughout the 1980s and into the early 1990s, the effects of several financial cycles severely battered the banking system of the United States. As used here, the term "cycle" does not imply a recurring phenomenon, but rather a cycle through various phases—as in a boom and bust cycle. Most of these cycles began with a prolonged period of extraordinary growth centered in a particularly risky type of asset. Typically, banks developed abnormal asset risk concentrations and, in the later portion of the growth phase, acquired many assets at a time of market euphoria and reduced credit standards. The economic underpinnings of the assets eventually deteriorated, the market psychology turned pessimistic, and substantial losses to important segments of the banking system proved unavoidable.

This paper catalogs the more destructive of these financial cycles, noting the timing and nature of successive phases, the influence of underlying economic factors, and the extent of the damage inflicted on the banking system. The underlying cause of failure is determined for large institutions, and the assets of failed banks are allocated to one or another of the financial cycles where appropriate. For convenience in exposition, institutions formerly insured by the Federal Savings and Loan Insurance Corporation (FSLIC) are referred to as thrifts and collectively as the thrift industry, while those insured by the Bank Insurance Fund (BIF) are referred to as banks and collectively as the banking industry. The term "banking system" is used more broadly to encompass all depository institutions.

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Summary of Findings and Conclusions

Financial cycles were the major source of damage to the banking system during the 1980s. These cycles were not necessarily tied to macro business cycles but generally were driven by developments in one segment of the economy, such as extraordinary changes in the shape of the yield curve or the price of oil, or demand–supply imbalances in various real estate markets. The cycles generally involved a prolonged period of growth leading to a high concentration of risk, although in the case of the interest rate risk cycle, the exposure was of long standing. Considering the level of damage to the banking system resulting from financial cycles, which extended well beyond the banks that actually failed, it should be clear that this country's banking system will remain vulnerable to potentially destabilizing losses if we do not learn to moderate future financial cycles.

The evidence shows that, to be effective, action to avoid or greatly mitigate the damage such cycles can do to banks must be taken well before the end of the risk-taking phase of the cycle. Market forces, however, have shown no inclination to act against cyclical risk-taking until close to the turning point where actual banking problems begin to appear. At that point, it is too late to materially improve the outcome, and actions to make banks more vulnerable to market discipline are likely to adversely affect both the banking system and the economy during the depressed phase of the cycle. The appropriate approach to supervising banks in a world of financial cycles is to establish the clear responsibility of supervisors to act forcefully against excessive risk concentrations, before the potential for severe damage to the banking system is built in. This new level of responsibility would require a change in the recent tendency of supervisors, so evident in the financial cycles of the 1980s, to defer aggressive intervention until actual loan problems emerge.

Growing risk concentrations in banks and thrifts, such as those seen in the 1980s, are relatively easy to identify. A more challenging task is to evaluate, during the growth phase, the likelihood that economic forces will turn these risks into losses. This would require new techniques for risk delineation and the interaction of supervisory and analytical disciplines. Institutional checks to prevent abuses of the necessary supervisory intervention with bank management would also be required. But these are tasks well within the capabilities of the current supervisory agencies, once they accept this responsibility.

The first change must be in the recent perception that while supervisors should act promptly and vigorously at the first sign of unusual credit problems, they need not concern themselves with excessive risk concentrations. The nature of financial cycles is such that supervisors must, to borrow from William McChesney Martin, "take

away the punch bowl just when the party gets going." Former Federal Reserve Chairman Martin was referring to the responsibilities of the central bank with respect to monetary policy, but bank supervisors must bear a similar responsibility if they are to safeguard the banking system.

Despite some blurring of the distinction between banks and other financial institutions and the increased competitiveness of nonbanks for traditional banking products, the banking system remains at the core of the domestic and international payment systems and the main source of short-term business credit. We have recently seen how constrained bank credit availability in the aftermath of boom and bust cycles can deepen and prolong economic recessions. Attempts to convince the public that the United States government would not stand behind the banking system in a crisis, made in an effort to enhance the effectiveness of market discipline, are both unnecessary and dangerous. The evidence presented in this paper suggests that our banking system remains vulnerable to overwhelming losses, should several large banks be allowed to become overexposed to similar risks.

Recent changes in the bank/nonbank competitive picture may suggest the need to broaden the federal safety net beyond the banking system to other types of financial institutions in some circumstances. They certainly do not provide any rationale for curtailing the ability of the government to act to assure the safety of the banking system. The proposal made here, for increased supervisory responsibility, in no way suggests that individual banks must be protected from failure, but it does have implications for the way in which failures are allowed to happen.

Much of the recent debate over bank reform has focused on protecting the taxpayers from having to backstop the deposit insurance funds. The taxpayers are vulnerable only if the banking industry as a whole becomes so damaged that it cannot cover the collective losses of the industry. The appropriate focus should be on safeguarding the health of the banking industry, not the deposit insurance funds per se. Since so-called "narrow bank" proposals are aimed at protecting the insurance funds and not the banking industry, they do not address the real problem.

The proposed plan for supervisory action against excessive risk concentrations, even if imperfectly administered, should at a minimum moderate future problems from financial cycles. It also presents no increased risk to the banking system. In contrast, proposals to enhance the role of market discipline greatly increase the vulnerability of the banking system to destabilizing funding problems and loss of confidence. Instead, our supervisory approach should be reoriented to play a countercyclical role, not only by moving aggressively against dangerous risk concentrations in boom times, but by making it easier for

seriously damaged banks to survive a crash and for nonviable banks to be resolved without destabilizing effects on our financial system.

The Incidence of Banking Problems

The Great Depression of the early 1930s produced thousands of bank failures. Following the banking holiday of 1933 and the introduction of federal deposit insurance, the number of failures dropped off sharply but still exceeded 70 per year in the late 1930s, if uninsured banks are included.

The 30-year period from 1943 to 1972 was exceptional: fewer than 10 banks failed each year, annual losses to the Federal Deposit Insurance Corporation (FDIC) never exceeded $2 million, and assets of failed banks never exceeded $200 million in any year. The next eight years, 1973 to 1980, produced three unrelated large bank failures, U.S. National, Franklin National, and First Pennsylvania,[1] and higher losses to the FDIC (over $67 million in 1973), but still relatively few failures (the high was 17 in 1976). At least one major financial cycle posed a threat to the larger banks, the real estate investment trust (REIT) crisis of the mid 1970s. While no bank failures have been attributed to this cycle, it caused severe distress in financial markets and more serious consequences were narrowly averted.[2]

The pattern of bank failures over the 12 years from 1981 to 1992 was quite different. The number and size of failures soared, and the preponderance of failures were associated with one or another of a few major economic events. Figure 1 shows the assets of failed banks from 1973 through 1992.[3] Failed banks are slotted into seven groups, one for each of four financial cycles that caused significant failures (in terms of bank assets), a fifth group for banks that failed as a result of commercial real estate problems in other sections of the country, a sixth group for those that had a different or more complex story, and the final group for those where the cause of failure was undetermined. A lag of a few years often occurs between the time when a bank is damaged by a change in economic circumstances and its failure, so that the primary cause of failure must be traced back for each bank. This was done for each New England failed bank and for other failed banks with assets of $500 million or more.

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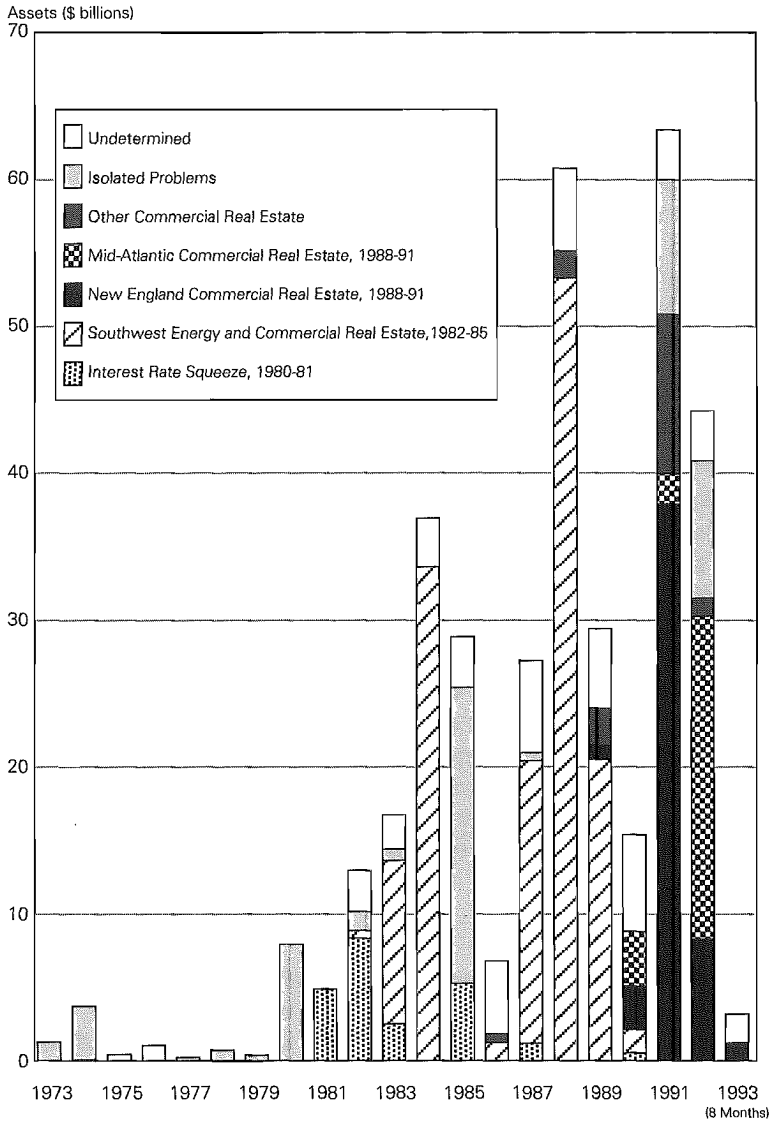
[1] See the Appendix for location, full name, assets, and cause of failure of these and other large failed banks.

[2] For a general discussion of bank involvement in the REIT crisis, see Robertson (1975).

[3] Failed banks include those receiving FDIC assistance. They also include six relatively large banks, identified in the Appendix, judged by the author to be de facto failures. Each was acquired on an unassisted basis, but proved to be costly to the acquiring institution and, in retrospect, had essentially failed.

Figure 1

Assets of Failed FDIC-Insured Banks, by Cause of Failure, 1973 to 1993



Source: FDIC *Annual Reports*; FDIC, *Historical Statistics on Banking*; Randall (1989 and 1993); news reports, articles, annual reports, and bank stock analysts' reports for individual large banks.

Figure 2 presents the corresponding picture for FSLIC-insured thrift institutions. The concept of failure was less clear-cut with the thrifts, and most available data are presented in terms of completed resolutions of failed institutions. For the purpose of this paper, however, a thrift was considered to have failed when it received assistance or was placed in liquidation or in the management consignment program. But because of deficiencies in data availability, 1988 failures are based on resolutions, excluding those known to have been accounted for in earlier years, and failures in 1989 and subsequent years are based on institutions placed in Resolution Trust Corporation (RTC) conservatorships. Because of these inconsistencies, some assets of failed thrifts may be shown in a later year, duplicated, or even omitted. Nonetheless, errors of this type should be small relative to the overall total. More significant is the delayed recognition of failures of institutions until long after insolvency.

The grouping of failed thrifts by cause of failure is also partly estimated. Federal Home Loan Bank Board (FHLBB) annual reports in the early 1980s indicate the percentage of failed bank assets related to interest rate sensitivity. Beyond this, each failed thrift with assets of $800 million or more was researched individually to determine the cause of failure. In a few cases, the information was insufficient to make a determination. In cases where two factors appeared to play about equal roles, total assets were divided evenly between the two.

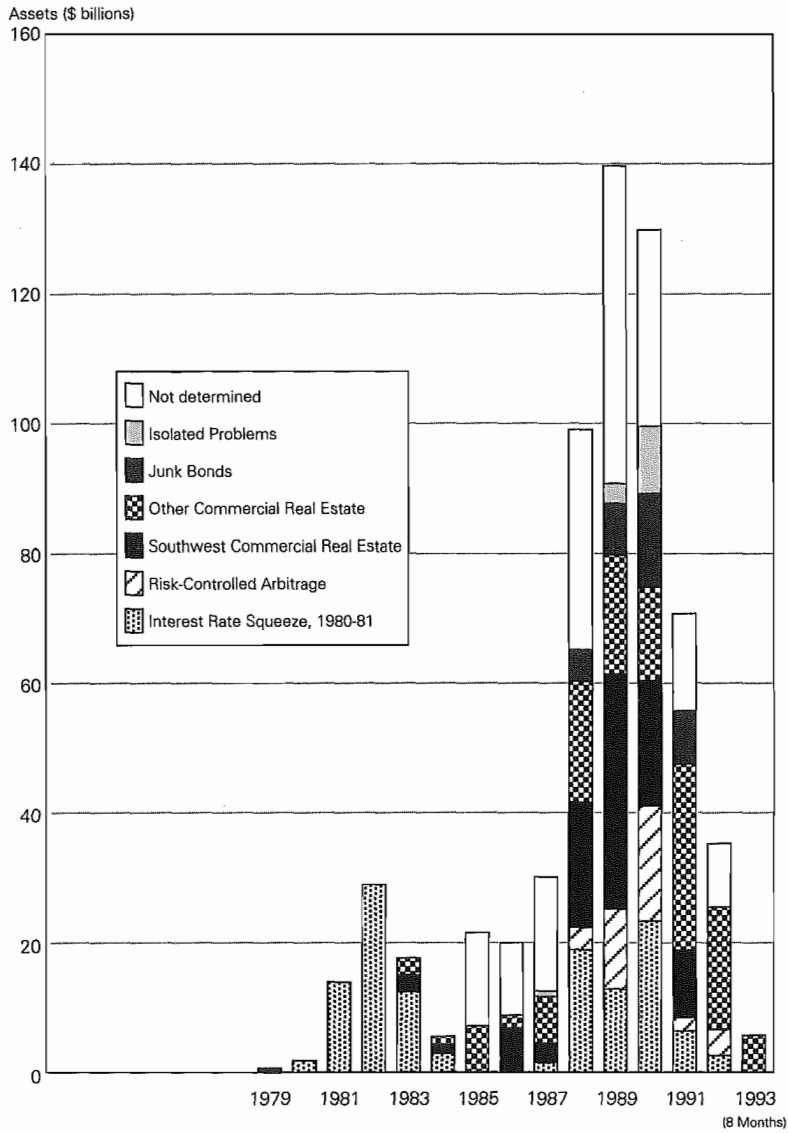
The categories in Figure 2 are not identical to those in Figure 1. In addition to thrifts that failed as a result of the 1980–81 interest rate spike, some large thrifts created interest rate risk by buying large volumes of mortgage-backed securities funded with brokered certificates of deposit (CDs). They then attempted to hedge the risk with interest rate swaps. Such schemes, some quite complex, were known as risk-controlled arbitrage. They were a major cause of failure for several large thrifts and are shown in a separate category. New England and Mid-Atlantic thrift failures due to commercial real estate lending have not been separately identified, but a new category has been established for the several thrifts destroyed by their holdings of junk bonds.

Interest Rate Sensitivity

The extremely high interest rates of 1980 and 1981 caused heavy losses at many liability-sensitive savings institutions. The traditional practice of savings banks and savings and loans was to fund fixed-rate mortgage lending with relatively rate-sensitive consumer deposits and, increasingly, with even more rate-sensitive "large" CDs. The loss experience of savings institutions in different areas varied significantly, depending on their degree of net liability sensitivity. Three large New York City savings banks failed in 1981 as a result of negative operating earnings, and eventually eight of the 10 largest savings banks in that city

Figure 2

Assets of Failed FSLIC-Insured Thrift Institutions, by Cause of Failure, 1973 to August 1993



Source: Federal Home Loan Bank Board, *Annual Reports*, 1979 - 1988; Resolution Trust Corporation, *Annual Reports* 1989-1991; Barth (1985); data provided by the RTC; news reports, articles, annual reports, and bank stock analysts' reports for individual large thrifts.

failed along with several other large savings banks in the Northeast (Figure 1). In contrast, the large New England savings banks survived, although severely damaged by rate sensitivity, and by 1984 had largely put this problem behind them.

Like the banks, the savings and loan industry experienced few failures in the 1970s. When the number and size of failures began to increase in the early 1980s, nearly all could be attributed to the effect of the spike in interest rates on their liability-sensitive funding positions. Most large savings and loan failures that resulted from the 1980–81 surge in interest rates occurred between 1981 and 1983 (Figure 2). A more modest increase in rates in 1988 was responsible for the failed hedges of the risk-controlled arbitrage thrifts, mainly in 1989 and 1990.

Energy and Real Estate Problems in the Southwest[4]

The credit problems of Southwestern banks and savings and loans attracted national attention with the shocking failure of the relatively small Penn Square Bank in Oklahoma City (assets $517 million) in July 1982. It was soon apparent that giant Continental Illinois (assets $33.6 billion), as well as Seafirst in Seattle (assets $9.7 billion) and a few other large banks outside the Southwest, were in serious trouble because of their purchases of energy loans from Penn Square, along with other energy loans. Seafirst effectively failed in July 1983, while Continental Illinois held on for another year. First National Bank of Midland, Texas, failed in late 1983 and two relatively large Oklahoma bank holding companies failed in 1986, all primarily because of energy loan losses and the negative effects of the energy price drop on the Southwest economy.

The energy boom of the late 1970s and early 1980s had sparked a real estate development boom in several Southwestern cities that continued even after the energy boom collapsed. The larger Texas banks financed much of the commercial real estate boom in their state, and all of the large Texas bank holding companies but one (Cullen Frost) failed (de facto if not de jure) as a result of losses on energy and real estate loans, with the latter the greater contributor. These large Texas bank failures due to energy and real estate loans dominate the failures between 1987 and 1989 (Figure 1), but 217 smaller Texas banks also failed in this same three-year period.

Problems in energy and commercial real estate lending, similar to those that so damaged banks in the Southwest, also occurred in the energy-producing Mountain states. Most of the larger banks in the region were severely damaged, although they eventually recovered. The

[4] For this purpose the Southwest was defined to include Texas, Oklahoma, Louisiana, Arizona, and New Mexico.

larger thrifts in the Southwest and Mountain states also were heavy commercial real estate lenders in the mid 1980s, and failures were still occurring among them in the early 1990s (Figure 2).

Other Commercial Real Estate Problems

Just as the Penn Square failure thrust the danger in the Southwest before the eyes of the public in 1982, the announcement in late 1989 of a major loan loss provision by Bank of New England focused public attention on another regional banking disaster. Bank failures in New England between 1989 and 1992 totaled 108, including commercial, savings, and cooperative banks plus savings and loans (but excluding some privately insured institutions in Rhode Island that failed during this period). The predominant cause of failure was aggressive lending to finance the construction of commercial and residential structures or the ownership of income-producing property.[5] Numerous other New England banks were severely damaged by such lending, and more than a few additional banks would probably have failed except for a fortuitous improvement in interest rate spreads in 1991 and 1992.

Commercial real estate problems also showed up in some relatively large banks in the Mid-Atlantic states.[6] Large savings banks failed in 1992 in Pennsylvania, New Jersey, and New York, along with some relatively large commercial banks in New Jersey and Washington, D.C. (Figure 1). Other troubled large banks in the region appear to have substantially recovered from their loan problems with a boost from favorable interest rate spreads. Southern California is currently undergoing a significant real estate adjustment, which has damaged a number of banks and is making it very difficult for struggling thrifts to survive.

Agricultural Loans

High interest rates, low commodity prices, and declining land values produced a surge in the number of problem agricultural banks in the early 1980s.[7] In the last four months of 1984, agricultural banks accounted for 71 percent of failed banks, and in 1985, 1986, and 1987, they continued to account for high percentages of the number of failed banks—52, 41, and 30 percent, respectively. These banks are generally relatively small, and it is estimated that the total assets of the many failed agricultural banks aggregated to only $4 billion to $6 billion for the

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[5] See Randall (1993) for an analysis of the causes of failure of the New England banks.

[6] Defined here to include New York, New Jersey, Pennsylvania, Delaware, Maryland, Washington, D.C., and Virginia.

[7] An agricultural bank is defined as one in which agricultural loans account for 25 percent or more of total loans.

1984–87 period, although precise data were not obtained. Assets of these banks are included in the "undetermined" category of Figure 1.

It should be noted that agricultural problems undoubtedly contributed to the failures of some less concentrated banks located in agricultural areas. They also contributed to the magnitude of losses in some failures of large banks, including Continental Illinois and Crocker, although they were not a major cause of these failures.

Leveraged Buyouts and Junk Bonds

In the 1960s, a wave of mergers and acquisitions occurred as large companies grew and diversified into conglomerates. Acquired companies were often kept intact as subsidiaries. Beginning in the early 1980s, the practice developed of spinning off subsidiaries or taking whole companies private by debt-financed transactions known as leveraged buyouts (LBOs). This activity was made attractive by arbitrage opportunities and tax incentives. Another phenomenon of the early 1980s was the rapid development of a market for new-issue bonds of less than investment grade, greatly expanding the volume of junk bonds outstanding. LBOs and junk bonds became tools for replacing equity with debt in corporate structures, and both practices grew rapidly until late in the decade.

Commercial banks were major lenders in LBOs, and while most loans were generated by large banks or consortiums of such banks, much of the loan volume was participated downstream among smaller institutions. As early as 1984, supervisors and market observers were warning of the dangers inherent in lending with so little equity involved. But the arbitrage opportunities between equity and asset values were so great that the banks could structure highly profitable loan agreements, and often they were taken out of the loan fairly early through junk bond refinancing or strong corporate cash flows. Thus, experience continued to be generally favorable until the junk bond market began to dry up in 1987 and the competition among banks produced less profitable deals, less selectivity in credits extended, and slower payouts.

The diminished marketability of junk bonds in late 1987 opened up an opportunity for commercial banks in mezzanine financing, a riskier type of funding with elements of both subordinated debt and equity. Continued expressions of supervisory concern in 1989 and 1990, together with the approach of the time when the burden of deferred debt service would fall on the debtors, led to a pullback by the banks from what had by then come to be called highly leveraged transactions (HLTs).

While it is not clear that such loans were the primary cause of any bank failures, certainly they contributed to some failures, including Bank of New England and First City in Houston (its second failure, in

1992). More important, they caused considerable concern and much tangible damage to a number of the country's largest banks at a time when it was not clear whether the banking system had the strength to overcome its problems. It may be that some potential damage was averted by reactions to the frequent warnings given by supervisors, however.

State-chartered thrifts, particularly those of California, along with a few life insurance companies, became major investors in the newly established junk bond market, often buying from the principal market-maker Drexel Burnham Lambert. (Federally chartered thrifts were limited in holdings of such securities, but some still managed to become overexposed.) While a number of thrifts acquired significant junk bond portfolios, extremely heavy concentrations in a few did most of the damage. Columbia Savings and Loan of Beverly Hills, California, held as much as $4.1 billion or 32.3 percent of its assets in junk bonds at one point. Columbia and several other thrift holders of such securities failed in the 1988–91 period and their aggregate assets of $36 billion have been allocated to junk bonds (Figure 2).

Loans to Less Developed Countries (LDCs)

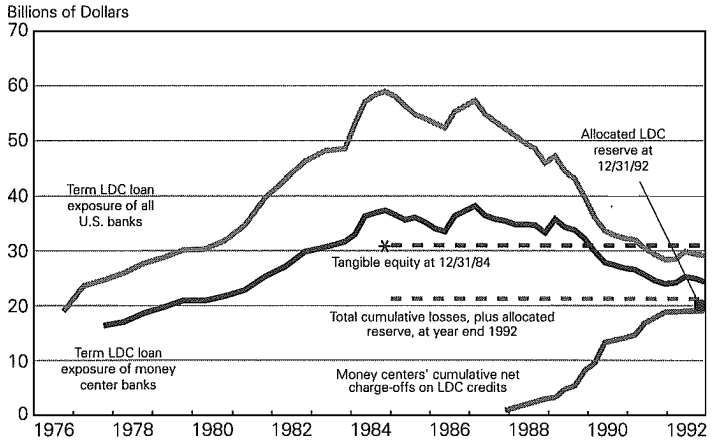
Following the first oil price shock in 1973, the oil-importing developing countries began to increase bank borrowing substantially. The larger United States banks steadily increased their lending to LDCs, particularly those in Latin America, where the banks had participated earlier in financing major infrastructure projects. Loan growth continued even after the Mexican payment crisis in August 1982, and outstanding term loans (one year or more) peaked about the end of 1984 at nearly $60 billion (Figure 3).

Despite growing evidence that several countries could not continue to service their debt, including some debt restructurings, U.S. banks made no specific accounting provisions for potential losses until Citicorp broke the ice with a substantial loan loss provision in May 1987. Other banks quickly followed, and total LDC loan provisions of about $16 billion nearly offset the earnings of all U.S. banks for the year. In the years since 1987, outstanding LDC loans have been worked down through various devices including loan sales, exchanges for equity positions in privatized companies, and, beginning in 1990, "Brady Plan" initiatives such as exchanges for securities collateralized by U.S. securities, after a debt write-down. At the same time, the ability of the countries to service the remaining debt has generally improved. Nonetheless, American banks have incurred a substantial loss of loan principal, although not as much as was expected in the 1988–89 period.

The LDC term loan exposure and cumulative net losses on LDC loans of nine money center banks are charted in Figure 3. The current allocated reserve for such loans plus the cumulative loss total $21.4

Figure 3

Exposure of U.S. Banks to Term Loans to Less Developed Countries



Note: Term exposure is the total of loans with a maturity of greater than one year. LDC countries here include Venezuela as well as the non-oil-exporting developing countries of Latin America and the Caribbean, Asia, and Africa.
Source: Board of Governors of the Federal Reserve System, "Country Exposure Lending Survey" (release E. 16); Keefe Bruyette and Woods, *Money Center Banks Statistical Review*; annual reports of the money center banks.

billion, an amount equal to 57.4 percent of the peak term loan exposure and 72 percent of their year-end 1984 equity capital. Had these future losses been fully recognized in 1984, the composite equity-to-assets ratio of these banks would have been only 1.2 percent. One of the nine money center banks would have been insolvent, seven below the 2 percent capital-to-asset threshold for critically undercapitalized banks, and the remaining bank just over the 2 percent capital threshold.[8]

This analysis demonstrates two important points. One is that risk concentrations in a few very large banks could potentially produce

[8] Others have made similar analyses to show, with hindsight, how close the U.S. money center banks came to being insolvent in the early 1980s. See Fieleke (1988, pp. 68–71); Guttentag and Herring (1989, pp. 29–34); and Kenen (1985, pp. 500–501).

The continued growth in term LDC loans after problems became evident in 1982 was not inappropriate, or even completely voluntary. Officials of the United States and other creditor countries encouraged banks to provide new money in conjunction with International Monetary Fund-supported refinancings, in the belief that this was necessary to preserve the stability of the financial system and in the best long-term interests of all parties. See Cline (1983, pp. 36–44) and Volcker and Gyohten (1992, pp. 202–203).

Table 1
Total Assets of Failed FDIC-Insured Banks, 1973 to 1992, by Cause of Failure

Cause of Failure	Assets	
	$ Billions	Percent of Total
Interest rate squeeze, 1980–81	$ 23	6
Southwestern energy and commercial real estate, 1982–85	141	38
Agricultural loan problems	5	1
New England commercial real estate, 1988–92	51	14
Mid-Atlantic commercial real estate, 1988–92	28	8
Subtotal, financial cycles	$ 248	67
Other commercial real estate	17	5
Isolated problems	55	15
Cause not determined	47	13
Total	$ 367	100
Memo: Assets of eight money center banks damaged by LDC loans, as of year end 1984:	$ 630	
Total assets of all FDIC-insured banks, year end:		
1984	$2,001	
1985	2,207	
1988	2,699	

failures of great consequence to the soundness of the U.S. banking system, with significant international implications as well. Secondly, each of the money center banks survived a very serious LDC loan problem (Continental Illinois failed for other reasons) and very gradually returned to health. The experience supports the argument that viable banks with sound management and adequate earnings capacity be allowed to work through their problems despite greatly diminished capital.

The Importance of Financial Cycles Relative to Isolated Failures

Table 1 summarizes the assets of failed banks by cause of failure for the 20 years ending in 1992. It also shows the assets of eight money center banks that, as a group, would have had unacceptable capital levels in the early 1980s, had full knowledge of future losses from existing loans been available.[9] The five financial cycles (excluding the LDC loan cycle) account for $248 billion in assets of failed banks, or 67 percent of the total. Commercial real estate outside of the Southwest,

[9] The group excludes Continental Illinois, which failed in 1984 because of Southwestern energy loans, to avoid double counting.

New England, and Mid-Atlantic regions accounts for an additional 5 percent, and much of this was related to these or other financial cycles. Included are real estate problems sparked by energy booms in the Mountain states and Alaska and residential construction booms in Florida and California.

The remaining 28 percent of failed bank assets is about evenly divided between a few large banks that failed for isolated reasons not attributed to financial cycles, and the many smaller banks for which no cause was determined.[10] Considering location and timing, many of the failures in the latter group were also related to financial cycles. Thus, it is probably fair to say that about three-quarters of the bank failures during those years (as measured by assets) relate to financial cycles, and only about one-quarter to isolated mismanagement situations.

The assets of the money center banks severely damaged by the LDC lending cycle overshadowed the assets of the banks that failed (Table 1). The combined assets of the two groups totaled about $1 trillion, an amount equal to 50 percent of year-end 1984 assets of all FDIC-insured banks.

Table 2 summarizes the distribution by cause of failure for thrifts, as presented in Figure 2. The interest rate squeeze of 1980–81, and the real estate lending problems in the Southwest of 1982–85, correspond to cycles affecting banks identified in Table 1. The risk-controlled arbitrage and junk bond problems relate to financial cycles that affected the thrifts but did not produce significant bank failures.

Failures of thrifts outside the Southwest attributable to commercial real estate problems represent 20 percent of total failures, but have not been allocated to financial cycles. The assets attributable to the New England real estate problem were too few to be meaningful for this analysis, and no attempt was made to identify those thrifts that failed because of the Mid-Atlantic real estate problem. Some of the larger thrifts in the other commercial real estate problem category did much of their more aggressive lending out of their home territory, so that allocating them to a particular financial cycle would be difficult.

About 49 percent of the failed thrift assets can be tied to a few financial cycles, and additional amounts in the real estate and undetermined categories undoubtedly relate to these and other financial cycles. Assets of all thrift failures through August 1993 amounted to $622

[10] Some large failures attributed to isolated factors might also have been attributed to one of the cycles. For example, First Pennsylvania (assets $10 billion) experienced severe credit problems due to poor lending practices, and attempted to recover by concentrating in long-term government securities. The interest rate spike of 1980 and 1981 was the immediate cause of failure, but this is considered to be more an egregious mismanagement situation than a long-standing interest rate vulnerability situation of the savings-type institutions.

Table 2
Total Assets of Failed FSLIC-Insured Thrifts, 1973 to August 1993, by Cause of Failure

Cause of Failure	Assets	
	$ Billions	Percent of Total
Interest rate squeeze, 1980–81	$ 126	20
Risk-controlled arbitrage	40	7
Southwestern commercial real estate, 1982–85	99	16
Junk bonds	36	6
Subtotal, financial cycles	$ 301	49
Other commercial real estate problems	125	20
Isolated problems	14	2
Cause not determined	182	29
Total	$ 622	100
Memo: Total assets of FSLIC-insured thrifts, year end:		
1985	$1,058	
1988	1,360	
1992	836	

billion, almost 59 percent of total thrift assets at the end of 1985 when, it is estimated, most of the large thrifts were already de facto insolvent. If year-end 1988 is used, after essentially all of the damage had been done, assets of failed thrifts would have been just under 46 percent of the total, because of continued growth in thrift assets.

The Thrift Disease

The political and regulatory environment in which the thrift industry operated was radically different from that of the banks, throughout the period studied. Most of the thrifts that failed because of the interest rate squeeze of the early 1980s, and some of the early failures in the Southwest in the mid 1980s, are directly comparable to failed banks that got caught up in the same economic environment. But for many other failed thrifts a significant additional environmental factor was at work, regardless of which economic factors were involved.

The environment of the thrifts was unique in the following respects:

1. The thrift regulators and the thrift industry had a credit allocation mandate toward housing that sometimes conflicted with sound banking principles.
2. Congress granted the thrifts broader powers for risk-taking, but thrift regulators did not adopt controls to limit or even detect unwarranted risk-taking.

3. Unqualified or unethical individuals were not prevented from acquiring control of thrifts, even after the broadening of powers enhanced the value of thrift charters.
4. Thrift regulators were highly sensitive to the demands of the industry and to political pressures on behalf of the industry and individual thrifts.
5. The thrift regulators' approach emphasized voluminous, detailed regulation of traditional thrift operations, and failed to develop bank-style supervisory activities relating to loan evaluation and detection of insider abuse.
6. When serious problems developed, they were obscured by misleading accounting innovations, and thrift regulators tolerated, even encouraged, further growth and risk-taking in an effort to recoup or diminish the significance of losses.

As a consequence of this environment and specific shortcomings in regulation and supervision, a number of thrifts were grossly and abusively mismanaged, took major gambles even after becoming de facto insolvent, and sustained heavy losses due to fraud.[11] This study did not attribute any of the failures of large thrifts to fraud, because it appeared that few if any of the failed thrifts would have survived even in the absence of fraud, considering the accompanying degree of mismanagement and the magnitude of the ultimate losses to the deposit insurance fund. But the author believes that the six factors above resulted in many failures that would not have occurred in a bank-type regulatory environment, even given the temptations and stresses of the various financial cycles. Quantifying this assertion would be difficult, however.

This study's allocation of failed institutions to particular financial cycles or to isolated factors was necessarily judgmental, and particularly imprecise with respect to thrifts, but the overwhelming importance of financial cycles seems clear. Moreover, the peculiar thrift regulatory environment no longer exists, and any moves to change the present system to decrease the likelihood and consequences of future failures should be based on an understanding of the nature of financial cycles and how they affect the banking industry. Unfortunately, nearly all of the input into policy formulation and legislative action so far has focused on the special circumstances of the "thrift problem"—the importance of

[11] Among the many descriptions of the thrift regulatory environment are those found in Kane (1989) and National Commission on Financial Institution Reform, Recovery and Enforcement (1993).

the various financial cycles to recent bank failures has been ignored by all but a few writers and commentators.[12]

The Nature and Timing of Recent Financial Cycles Affecting the Banking System

Each of the financial cycles affecting the banking system between 1970 and 1992 had in common a high level of risk exposure to potential economic events that could do significant damage to a sizable portion of the banking system. In the case of sensitivity to high interest rates in savings banks and thrifts, and to some extent in the case of credit problems in agricultural banks, the exposure had long been built into the structure of these institutions. In the other cycles, the institutions themselves engaged in a flurry of lending or investing activity in which the risk was embedded. In all cases, once the economic environment changed, either because of exogenous factors or because the boom had sown the seeds of its own destruction, it was too late to avoid or even to significantly mitigate the damage to the exposed institutions. These generalities will be illustrated by briefly reviewing some of the economic changes of the 1970s and 1980s that most influenced the financial cycles and led to banking losses. While the cycle of risk buildup, problem recognition, and eventual failure is fairly distinct in most cases, the economic factors that turned exposure into losses were sometimes quite convoluted.

1973 to 1982: Oil, Shipping, LDCs, and Interest Rates

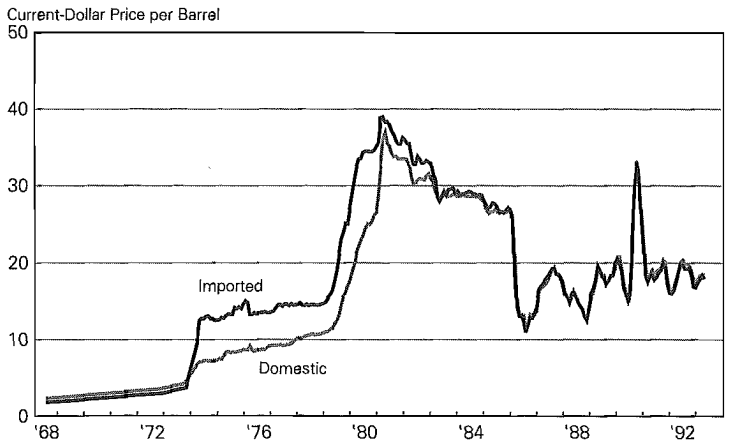
Oil and shipping. In late 1973, war in the Near East resulted in an Arab oil embargo against the United States and other nations sympathetic to Israel. This produced the sharp increase in world oil prices known as the first oil shock (Figure 4). Beginning in 1974, oil-dependent LDCs borrowed from large banks in the United States, Japan, and Europe to fund balance-of-payment needs in addition to already extensive infrastructure borrowing. The shipping industry experienced a series of wild swings in the demand for crude oil carriers in the mid 1970s. The demand for dry cargo ships fell, and then grew again in 1976 as commodity values rose. Shipbuilding and scrappage were affected by the demand for more fuel-efficient ships.

The second oil shock began in late 1978, as the Organization of

[12] A major exception is the work of Guttentag and Herring (1986 and 1988). They deal with prolonged increases in bank exposure to shocks that may affect many institutions, and argue for prudential supervision that monitors and controls systemic vulnerability. Ely (1993, pp. 9–11) discusses recent speculative bubbles.

Figure 4

U.S. Refiners' Acquisition Costs of Crude Oil, 1968 to 1993



Note: Data for 1968 to 1973 are annual figures and are plotted at mid-year; data for 1974 on are monthly figures.
Source: Energy Information Administration, *Annual Energy Review*; Board of Governors of the Federal Reserve System, FAME Data Base.

Petroleum Exporting Countries (OPEC) rapidly increased prices over a two-year period. One effect was a drop in the demand for supertankers, as extremely high prices curtailed energy demand. Also, development of new capacity in the North Sea, Mexico, and Alaska reduced the distances over which oil needed to be transported. Between 1982 and 1985, 30 percent of the world's tankers were scrapped and bays and fjords were filled with idle supertankers.

Colonial Bancorp in Waterbury, Connecticut (assets $1 billion) suffered heavy losses on its high concentration (225 percent of capital) in ship mortgages, mostly on old, dry cargo ships, when the scrap value of such ships fell well below loan values. While the bank was acquired on an unassisted basis, it is treated here as a de facto failure. Colonial was not large enough to be of significance to the banking system, but its problem illustrates the way economic factors worked to produce serious problems for overconcentrated banks. Of greater concern at the time were the substantial shipping exposures in several larger U.S. banking institutions, including equity positions in ships held by holding company subsidiaries. Most losses on such loans and equity holdings were

not recognized in accounting statements until the mid 1980s, however, at a time of deep concern for the viability of several large U.S. banks.

LDC loans. The major American banks continued to lend large amounts to LDCs for a time after the second oil shock, even though the soaring interest rates of the 1979–81 period had diminished the ability of some debtor nations to service their loans (Figure 3). But high inflation in the industrial nations held down debt service in dollars, and the strong demand for the raw material exports of several countries apparently moderated the problem enough to make continued lending attractive. The most rapid growth in term lending to LDCs by American banks took place in the 1981–84 period.[13]

The seriousness of the Latin American debt problem became unmistakable in mid 1982 when Mexico was in urgent need of debt restructuring.[14] But in order to keep these economies from collapsing, some additional funding was provided by U.S. banks over the next two years. The concentration in term LDC loans in the nine money center banks at the end of 1984 was 5.6 percent of assets and 121 percent of equity capital. This proved to be a very high concentration when ultimate losses exceeded 57 percent of peak exposure. A significant portion of the LDC loans in the 1981–84 period was participated or sold by money center banks to other U.S. banks. Over the next several years the smaller bank creditors gradually disentangled themselves from LDC credit exposure. It is only in the past year or two, however, that the money center banks have been able to put this problem largely behind them.

Interest rate spike, 1980–81. Savings banks and thrifts have long been vulnerable to high interest rates as a natural result of their specialization in funding home lending with savings type deposits. Customer preferences for long-term, fixed-rate home mortgages and readily available savings funds made these a natural, if risky, combination. The relative freedom of home owners to refinance mortgages in periods of low rates seemed to stack the deck against the lenders, but as long as rates did not stray too far from their historic range the specialized savings institutions were profitable. In the late 1970s, ample warnings were given by various observers that the industry was highly vulnerable to an upward swing in interest rates, and that the possibility of such a swing was increasing as a result of changes in rate regulations, in the way monetary policy was implemented, and in international factors.

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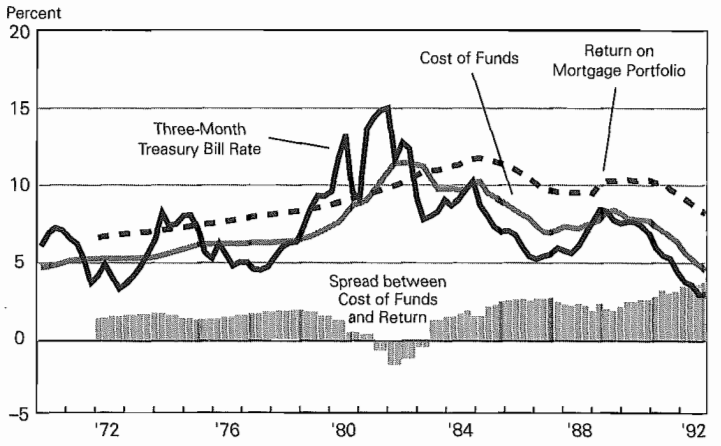
[13] While the banks continued to lend, the authorities were becoming concerned and were considering possible responses. Paul Volcker writes, "We had sensed the possibility of a Mexican debt crisis for some time before it materialized in August of 1982." Also, "The debt crisis was on an express train of its own, and by late 1981 or 1982 there was not much anyone could do to head it off." Volcker and Gyohten (1992, pp. 179–80).

[14] For an analysis of the response of the authorities to the Mexican crisis, see Volcker and Gyohten (1992, pp. 195–207).

Figure 5

Return on Mortgage Portfolio, Average Cost of Funds, and Spread for FSLIC-Insured Thrifts[a], and Three-Month Treasury Bill Rate[b], 1971 to 1992



[a] Prior to 1984, data are only available semi-annually; for 1984 and on, data are quarterly.
[b] Secondary market rate quoted on bank-discount basis.
Source: Federal Home Loan Bank Board, *Savings & Home Financing Source Book*; Office of Thrift Supervision staff; Board of Governors of the Federal Reserve System, FAME database.

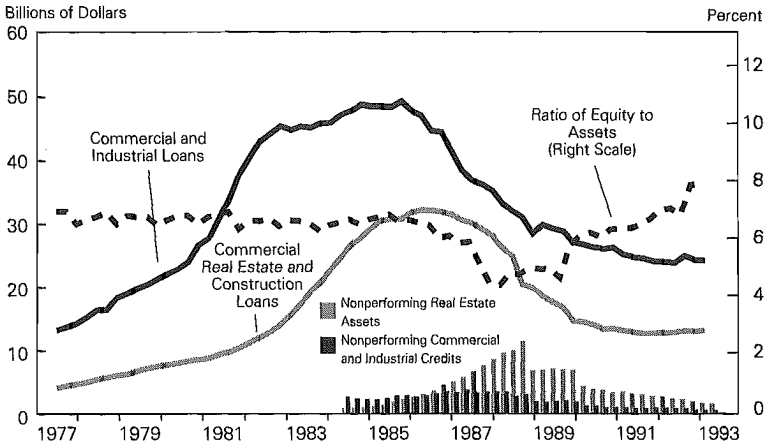
The 1970s was a decade of relatively high interest rates (Figure 5), but the sharp spikes in short-term rates in the 1969–70 period and again in 1973–74 did not severely damage depository institutions. However, the extremely high short-term rates of the 1980–81 period overwhelmed many of the thrifts and savings banks, including some of the largest. They also contributed to the strain on LDC debtors.

Even though a number of large savings institutions failed, most survived, and commercial banks generally were not seriously damaged. Much has been learned in recent years about measuring interest rate sensitivity, and new instruments are now available that, used properly, can greatly mitigate risk. While interest rate risk remains an area of considerable concern, the industry, the markets, and bank supervisors appear to be actively working to better measure and deal with it.

Energy boom. The price of Texas oil more than tripled in the years from 1971 to 1978 and then tripled again between 1978 and 1981. Even though oil production in Texas actually declined during this period as returns from old fields diminished, oil exploration and development produced a major economic boom in Texas, Oklahoma, and some

Figure 6

Texas Commercial Banks: Outstanding and Nonperforming Commercial Loans and Commercial Real Estate Loans, and Ratio of Equity Capital to Assets, 1977 to 1993



Note: Data for nonperforming loans were not available prior to 1984.
Source: Board of Governors of the Federal Reserve System.

Mountain states, with full employment, in-migration of workers, and rapidly rising bank lending for both energy activities and housing. (Energy loans are included with commercial and industrial loans in Figure 6.) By 1982, energy had been replaced by construction and development as the driving force of the boom.

The early boom atmosphere for banks is perhaps best represented by the "shopping center" bank in Oklahoma, Penn Square, which threw together oil industry loans for sale to some of the largest banks in the country. The energy loan problems that ruined Continental Illinois and Seafirst, and damaged some other large banks, were not the result of a collapsing boom but of the banks' overeagerness in the competition to participate in the boom itself. The loans purchased from Penn Square were problematic in mid 1982, well before the boom faded and crashed.

By 1982, the largest U.S. banks were suffering from problem LDC loans and in some cases from shipping and energy loans. The thrift industry and savings banks were in severe distress after three years of heavy losses due to an interest rate spike. The unusually wide movements of oil prices and interest rates had played major roles, but their

effects were magnified in each case by extensive risk concentrations in many of the larger banks and thrifts.[15]

1983 to 1992: Oil, Real Estate, LBOs, and Junk Bonds

Southwestern real estate. Commercial real estate loans, including construction loans, rose very rapidly in Texas banks in 1983 and 1984 (Figure 6). Growth in such loans slowed in the second quarter of 1985 and by late 1986 the volume was declining rapidly. Texas cities had a higher office vacancy rate than the United States generally as early as 1984, and over the next three years Dallas and Houston, along with Denver, Colorado, became noted for their "see-through" buildings.

The huge drop in oil prices in early 1986 threw the economies of the major oil-producing states into a deep contraction, and the deterioration of real estate credits accelerated. The failures of the large Texas banking and thrift institutions followed in the 1987–89 period (later for some large thrifts).

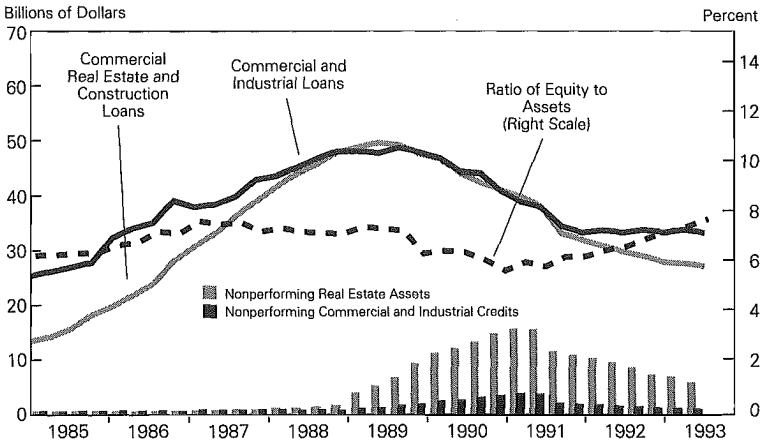
New England real estate. Between 1986 and 1988, despite almost daily reports in the financial press of the agony of the failing Texas banks, New England bankers aggressively fed the insatiable appetite of developers. Figure 7 shows the timing of the growth in commercial real estate loans (including construction and development loans) and the generally satisfactory performance of real estate credit until near the turning point in the cycle. The boom finally drowned in its own excesses in 1989, and a large number of the New England banks struggled to survive over the next two years. Many failed, and others may have been saved only by the low interest rates and the steeply sloped yield curve of 1992 and 1993.

The harsh criticism of bank supervisors in the early 1990s, and the enactment of the FDIC Improvement Act of 1991 (FDICIA), were both inspired by the thrift industry collapse and the need for massive taxpayer funding of thrift deposit insurance obligations. One result was a supervisory posture of applying very tough capital and credit quality standards to damaged banks as well as thrifts. Many New England banks were already seriously weakened, and the effects of the enforced tough standards fell heavily on this region. Forced shrinkage of bank assets to meet the especially high capital standards applied to damaged banks, and a general risk aversion on the part of bank managements, engendered in part by the FDICIA-created environment, helped to

[15] While not documented in this paper, data on such concentrations were one of the factors examined in slotting large institutions by cause of failure for Figures 1 and 2. Risk concentrations were documented for certain large troubled bank holding companies and for failed New England banks in Randall (1989) and (1993).

Figure 7

New England Commercial and Savings Banks: Outstanding and Nonperforming Commercial Loans and Commercial Real Estate Loans, and Ratio of Equity Capital to Assets, 1985 to 1993



Source: Board of Governors of the Federal Reserve System.

produce a credit crunch that hurt small business and the overall recovery by squeezing out marginal credits.[16]

Rolling real estate cycles? Roughly coinciding with the New England boom and bust cycle was the somewhat similar commercial real estate cycle in the Mid-Atlantic region. Lagging by a few years is the real estate cycle currently damaging Southern California. There has also been evidence of cyclical activity in commercial real estate in individual cities in the United States and Canada, as well as more general problems involving particular types of property, hotels for instance.

While it is natural to think of these real estate cycles as somehow related, a connection is not obvious. The Texas real estate boom was initiated by the preceding energy boom, although the change in the tax laws relating to real estate in 1981 probably also played a role. The subsequent crash can be attributed to the fading of the energy stimulus in the 1982 to 1985 period, the final collapse of oil prices in early 1986,

[16] See Syron and Randall (1992) and Peek and Rosengren (1992).

the more stringent income tax rules of 1986, and the inevitable correction of gross overbuilding.

In contrast, the New England economy had no such obvious external stimuli to explain how its real estate boom became overheated. The region had largely missed the 1981–82 recession, and its electronics and defense industries had grown strongly throughout the early and mid 1980s without the type of abrupt change that can produce major shortages. The more inhibiting tax structure after 1986 should have been a constraining influence.

It is not clear what transformed solid, steady growth into an irrational feeding frenzy. One partial explanation might be unusually strong competitive pressures on banks to acquire market share and prestige. In the mid 1980s, the expectation was widespread that full interstate banking was coming soon. The perception was that the money center banks would be acquiring large New England bank holding companies, and that only the largest and most aggressive would maintain their independence. This belief could have driven bank managements to compete more aggressively for growth in the hottest fad at the time—commercial real estate.

In any case, the Texas and New England real estate cycles do not appear to stem from similar factors, and nothing in the origins of the current Southern California cycle, which is more oriented toward residential construction, suggests a common cause with either.[17] Some have suggested a global propensity to overinvest in property in recent years. Even if true, this would not explain why normally conservative bank lenders suddenly lost perspective and showered funds on overeager developers.

Caught in a Trap

In many cases of isolated failures due to mismanagement, bank problems increase gradually, and corrective action can often reverse the process, saving the bank. With financial cycles, the risk concentration builds, but actual problems remain largely absent. At some hard-to-predict point, the economic factors affecting a particular risk may turn sour, trapping those banks with heavy exposure. Some loans become uncollectible and risk positions unsaleable. Banks caught in the trap can do little or nothing to avoid heavy losses.

This was apparent when banks became trapped in LDC loans in the early 1980s and found it necessary to advance more funds in an effort to minimize ultimate losses. The sudden and severe interest rate spikes of

[17] The writer did not investigate possible causes of the Mid-Atlantic real estate cycle, which appears to have more in common with the New England cycle.

1980–81 caught many savings banks and thrifts with long-standing exposure. The various real estate cycles caught those banks that had heavily financed construction and development, and over a period of two or three quarters many went from very low levels of nonperforming assets to very high levels.[18] Thus, a key consideration with financial cycles is that corrective action must be initiated well before turning points.

Comparison of Failed and Surviving Banks

The author's recent study of failed New England banks found that nearly all failures were linked to concentrations in commercial real estate loans, including construction and development loans. (Most exceptions were newly chartered banks.) That study also reviewed all non-failed banks and determined that only a few surviving banks had high concentrations of commercial real estate in the late 1980s without also becoming supervisory problems (CAMEL rating 4 or 5).[19] Of those few that did not become problems, most had avoided construction and development loans, and their concentration in commercial real estate involved a relatively steady volume of loans on existing buildings.

Systematic analysis of non-failed banks exposed to other cycles was not conducted, although all large Texas banks and all money center banks were studied. No significant instances were noted where banks heavily concentrated in troubled areas survived without serious problems, although the possibility cannot be ruled out.

Alternatives for Safeguarding Banks

In recent years the U.S. financial system has been plagued by a series of financial cycles affecting important groups of both banks and thrifts. Thrift industry problems were compounded by its peculiar supervisory/regulatory environment, which influenced not only the volume of the failures, as measured by total thrift assets, but the depth of the failures, as measured by the size of the losses to the thrifts' deposit insurance fund. The magnitude of insurance fund losses relative to assets was far greater for thrift failures than for banks.

Most of that earlier thrift supervisory/regulatory environment is gone now, however, replaced by one similar to the environment for the banks. Therefore, despite the magnitude of the thrift disaster, it is

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[18] Randall (1993, pp. 20, 24, 27).

[19] Banks are rated by supervisors on five factors: *C*apital, *A*sset quality, *M*anagement, *E*arnings, and *L*iquidity, giving rise to the acronym CAMEL. Each individual component, as well as a composite rating of all five factors, is assigned a score from 1 (strong) to 5 (likely to fail).

important to focus on what went wrong with the banks in designing improvements to the supervisory/regulatory environment.

Earlier sections of this paper demonstrated the dominant position of financial cycles in causing bank failures, particularly the "boom and bust" cycles stimulated by excessive bank lending. A few relatively large banks failed in the 1970s and 1980s as a result of isolated instances of mismanagement or fraud, but the impact of these failures on the banking system as a whole would have been unimportant in the absence of the many failures attributable to financial cycles. These large, isolated failures represented only 15 percent of the total assets of "failed" banks (Table 1).

By focusing particularly on the credit-related boom and bust cycles, and excluding agriculture, a typical pattern can be discerned: First, a period of exceptional growth occurred in a category of assets vulnerable to changes in economic factors. This growth period typically continued for three or four years, tending to become overheated and euphoric.[20] In time the boom faded, owing to some combination of exogenous and boom-induced changes in economic circumstances, and euphoria was replaced by pessimism. Loan nonperformance climbed, asset values tumbled, and bankruptcies and foreclosures increased.

In such cycles, little can be done to improve the circumstances of an overexposed bank, once the cycle begins to turn. Supervisors can force a bank to stop making things worse by continuing to lend into an overbuilt market. But nearly all New England banks, for example, promptly ceased such lending at the first sign of an emerging loan problem and without the need for a supervisory warning.[21] A less rigorous review of large bank failures elsewhere suggests that this is typical behavior for bank management generally. As troubles mount, supervisors can force a change of management, discontinuation of dividends, and stronger action in dealing with problems. But neither supervisors nor bank officials can materially decrease the problem; at best they can only manage their way through it.

It would be desirable to avoid or greatly mitigate such problems by discouraging the development of excessive concentrations in potentially risky assets, particularly at times when significant numbers of banks are making similar bets. To be timely, however, pressure on bank management to curtail lending or other actions that are building an excessive risk concentration must be effective at least a year or two before the turning point of the cycle. Generally, it is too late to shed a major risk concentration about the time the market starts to become nervous, and certainly most cannot squeeze through the exit once the rush begins.

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[20] Randall (1989, pp. 5–6) and (1993, pp. 17, 22, 27, 32).
[21] Randall (1993, p. 15).

Additionally, the pressure on management will have to be forceful, since it will have to be applied at a time when the bank is riding a wave—on the cutting edge of the hottest trend, expanding rapidly, highly profitable, able to tap capital markets, and benefiting from favorable press coverage.

Conceivably such pressure could come from sophisticated market forces, although evidence suggests that the bank stock analysts and debt rating services did not downgrade bank stock and bond ratings because of risk concentrations in the 1980s.[22] And even if these market forces do become more attuned to budding financial cycles, a question remains as to whether they will downgrade soon enough, or drastically enough, to force timely actions on the part of bank managements. Clients of these firms do not need two years' lead time to escape, and they might miss a good run-up in values if cautioned too early. Furthermore, one can question whether even significant downgrades would have sufficient influence on bank managements, or full credibility with the market, in a time of broad-based euphoria.

It is unclear if proponents of reduced deposit insurance would argue that depositors would pull funds from highly successful banks just because they appear to be developing heavy concentrations in energy or construction loans, at times when most people are enjoying full employment and soaring home values and "the experts" are saying that real estate always goes up. A more likely scenario is that depositor pressure would come only after the cycle has turned and has exposed serious problems in a significant segment of the banking industry. Depositor runs would then force hasty and costly resolutions of a number of troubled banks at about the same time, adding to the atmosphere of uncertainty and gloom, shrinking credit availability, and raising the danger of broader systemic problems.

A Supervisory Approach to Limiting Risk Concentrations

A safer and more promising approach would give responsibility to bank supervisors to take direct action to restrain excessive risk concentrations. In structuring a proposal to accomplish this, three basic questions must be addressed:

1. Can supervisors recognize and evaluate dangerous risk concentrations sufficiently in advance of cyclical turning points to materially alter the outcome?

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[22] Randall (1989, pp. 10–13) and (1993, p. 38). The review of bank analysts and rating services was not exhaustive but did include output of several of the better-known firms.

2. Will supervisors have the courage to force meaningful changes in bank behavior in the face of a boom psychology? Do they possess the means to do so within the legal and political framework in which supervision currently operates?
3. Can the process be controlled so as to prevent overzealous supervisory actions that impinge unnecessarily on management prerogatives, retard desirable economic activity, or introduce some credit allocation bias?

Recognition and Evaluation of Risk Concentrations

Early recognition of the major risk concentrations in banks was not particularly difficult in the 1970s and 1980s. Much was published in the late 1970s about the interest sensitivity of savings-type institutions and supervisors were generally aware of the risks, even though they lacked the tools to properly measure exposures. The authorities also were well aware of the buildup in LDC loans at an early stage, and it received intermittent press attention as well. While the risks of sovereign default were sometimes downplayed, concerns were also expressed at an early stage.[23]

Energy loan totals were not identified in bank call report data, but information about this type of concentration would usually have been developed as a part of bank examinations and presumably would have been hard to overlook in a large Texas bank. Normally such industry concentrations would also be identified in internal management reports, although the full energy loan exposure of Continental Illinois apparently came as a surprise to both senior management and the supervisors in June 1982. In any event, it is not difficult for examiners at least to roughly estimate industry concentrations, and it would not have been unusual at that time to request that management track such concentrations and make the information available to supervisors on a regular basis.[24]

Bank call reports in the early 1980s permitted supervisors to track, for each bank, growth and concentrations in construction loans and

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[23] See Kindleberger (1977) for a pre-crisis evaluation of LDC borrowers and their shift in the use of proceeds to finance consumption. Also see Neikirk (1987, p. 177), regarding Federal Reserve Chairman Volcker's concern about an LDC loan crisis in 1979.

One might question why the supervisors did not act against the growing concentration in term LDC loans in large banks in the 1981–82 period. Was it overconfidence in sovereign risk, broader concerns about the balance of payments distortions stemming from the second oil shock, or a general reluctance to intervene against risk concentrations? For one explanation, see Volcker and Gyohten (1992, pp. 195–96).

[24] Keefe, Bruyette & Woods, and probably other bank stock analysts, obtained and published energy lending data from large Texas bank holding companies intermittently throughout the buildup of such loans.

loans on commercial properties, although not all supervisors had surveillance systems that did so. Thus the growth in construction and development loans in the large Texas and Oklahoma banks could have been continuously monitored.

The increasing concentrations in such loans in New England banks were evaluated by the Boston Reserve Bank quarterly throughout 1985 and 1986. Some banks had construction loans in excess of 20 percent of total loans (one 57 percent), whereas such loans had generally been 5 percent of loans or less in the past. In the second half of 1986, a phone survey was made of 12 commercial banks and five savings institutions selected as heavy construction lenders, either in total dollars or as a percentage of total loans. This survey provided data on subconcentrations within the construction loan category in terms of location and type of property, as well as general information on lending terms and practices. A survey is an unreliable way to collect such information, particularly on lending practices, but at that time examination reports of the banks surveyed contained almost no information on construction and commercial real estate lending. In conjunction with the survey, data were collected on the condition of the real estate markets considered most sensitive, and market observers were interviewed. Since this survey took place three years before Bank of New England shocked the region with its massive loan loss provision, and much of the growth was yet to come, it demonstrates that emerging concentrations can be recognized at a sufficiently early stage. Unfortunately, supervisors were not inclined to act against heavily concentrated banks because their loans were performing well, and they continued to do so for another two to three years.

Identification of risk concentrations of the type experienced in the 1970s and 1980s is not difficult, but categorizing and measuring concentrations can be quite complex and future risk concentrations may not be so obvious. Thus, supervisors need more sophisticated tools for identifying and delineating concentration risk. A good place to start would be a comprehensive study of past concentrations in banks and other financial institutions, both those that had serious consequences and those that did not. But such analysis of concentrations should be linked to a study of the economic environment relevant to these risk exposures.[25]

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[25] Some have suggested that the focus of anticyclical supervision should be on any liberalization of lending terms and underwriting standards, rather than concentrations in risky categories of loans. While there may be complexities in identifying and evaluating some dangerous concentrations, the task of controlling booms by either regulation or selective criticism of terms, practices, and credit standards would be far more difficult.

Examiners should criticize clear outliers in lending terms, but the relevant measures of terms and typical lending standards differ by region, type of loan, and industry.

The evaluation of the danger in the construction loan concentrations in New England banks would have been facilitated by access to expertise in real estate cycles. This points up the need to bring together the supervisor's identification of risk concentrations with the insights of industry analysts and specialized economists, in order to evaluate the potential for changes in the relevant economic environment. A recommendation for supervisory action should take into account the nature and degree of concentration, whether or not a number of banks had similar concentrations, growth factors, the inherent risk of the activity, and how current and prospective economic factors might alter the risk. Particular attention should be paid to large banks because of the greater threat they present to the health of the banking system.

Supervisory Responsibility and Authority

The key to ensuring that bank supervisors will act in a timely manner to deal with truly dangerous concentrations of risk is to make this clearly their most important responsibility, and one on which the success of their performance will be measured. The supervisory agencies collectively should assume this role, rather than waiting for direction from Congress. It would be a subtle change in the supervisory role, even though a critical one, marking perhaps a return to a more traditional supervisory role of steering banks away from potential dangers.[26] The current tendency to take a hands-off approach until problems emerge, and then to enforce strict standards on damaged banks, is of fairly recent vintage, and could be reversed quickly, should the supervisory agencies agree to do so.[27] If the agencies adopt a clear policy stating their intent to deal with excessive risk-taking on a timely basis, develop the expertise and techniques to evaluate concentrations, and make clear to supervisory officials at all levels that they will be called to account for any failure to recognize and act firmly against dangerous concentrations, professional supervisors will not be deterred by intimidation from outside the agencies in carrying out their mission.

Furthermore, standards change with industry cycles and with structural evolution. Few data are available on business lending terms and practices at the level of disaggregation needed, and even the characterization of loan terms and standards in a particular bank by an examiner may not be easy. Accordingly, it is proposed that the primary focus be excessive concentrations in risky assets.

[26] The author spent the first 31 years of his career in some phase of bank supervision, from field examiner to surveillance officer to regional supervisor, laboring under the impression that the object was to prevent banks from getting in serious trouble, and to guide their recovery when they do.

[27] The bank supervisory agencies have recently focused considerable energies toward the evaluation of some types of risk, interest rate risk and financial derivatives being examples. But there is no evidence that the agencies have addressed the general problem of identifying and acting against dangerous risk concentrations.

In the great majority of cases, supervisory persuasion or firm pressure coming from an appropriate level in the agency will be successful in convincing a bank's board of directors, if not the chief executive, to back away from an excessive concentration. It will be particularly important that agencies reinforce each other in areas of multiple jurisdiction. Because an agency may have to resort to a cease and desist order to limit risk-taking, a clear interagency policy statement, defining unsafe and unsound banking to include excessive concentration in risky asset categories, should be presented to the appropriate members of the Administration and Congress and widely publicized. Because of the nature of risk concentrations and financial cycles, it would be inappropriate to set fixed limits or rigid definitions in attempting to delineate unsafe risk concentrations. This is a problem better dealt with through agency guidelines, expertise, and judgment than by legislation.

Controlling the Supervisory Process

The federal bank supervisory agencies have a high degree of professionalism and well-established control mechanisms that ensure a reasonable degree of consistency among regions and conformance to policy directives. They also have a tradition of avoiding actions that could be considered credit allocation. Even within this environment, it would be desirable to set up a mechanism to ensure that significant actions against risk concentrations are approved at an appropriate level and are well documented as to both the nature of the concentration and the economic factors governing the risk of loss.[28]

An interchange of information will be needed, between regions and between agencies, on potentially risky concentrations in banks and on cyclical factors that could affect those concentrations. It may be desirable to establish an interagency clearing house on such information and on techniques for evaluating risks and dealing with them. An important side benefit of such an information clearing house would be better control of the integrity of the process.

Type of Supervisory Action

In most cases, action should be brought against banks on an individual case basis. Those few banks that have gone the furthest in terms of taking excessive risks should be required to reduce their

[28] It is important to note that this is a proposal for countercyclical action with respect to financial cycles, particularly those involving banks, but not for using the supervisory apparatus to counter the general business cycle.

exposure. As additional banks reach a comparable level of exposure, considering qualitative as well as quantitative factors, they should receive similar requests.

An alternative is to issue general warnings about overconcentrations in the particular type of assets in question. This can cause the cautious lenders to back away while the more aggressive continue to lend, however. It also compounds the damage if supervisors later decide that they have overreacted to a risk situation. Even if supervisors take action too late and find that a "bubble" situation already exists, they may still elect to proceed on a bank-by-bank basis, but as expeditiously as possible, in an effort to engineer a more orderly transition to the recovery phase without suddenly bursting the bubble.

Safeguarding the Banking System

The focal point of much of the debate on banking reform has been deposit insurance and protection for the taxpayer from deposit insurance "bailouts." This is an inappropriate focus, which has led to dubious policy prescriptions. The cost to the deposit insurance fund when banks fail is borne by the industry, not by the taxpayer. Abnormal costs result in higher deposit insurance premiums. The taxpayer becomes involved only if the industry as a whole becomes so weakened that the remaining healthy banks cannot absorb the losses of the failing banks.

A few years ago one might have argued that such a contingency was unimaginable, absent a 1930s-type depression or an unprecedented natural disaster. But we have witnessed the collapse of much of the thrift industry to the point where it was overwhelmed with losses, and the taxpayer is now having to pay heavily. Even more to the point, we have seen risk concentrations in some of our larger banks lead to losses so severe that for a while they appeared to threaten the ability of that industry to self-insure—and this under general economic conditions no more severe than those in other postwar recessions.

The appropriate response, however, is not to insulate the government's (taxpayer's) backstop role in deposit insurance from the destiny of the banking system as a whole, as is the intent of the various narrow bank proposals. Reorganizing banks so as to link insured deposits to relatively safe assets may protect the deposit insurance fund, but it does nothing to protect the "broad" banks (what is left over after creating the narrow banks) from their potential for widespread failures should a popular area of asset concentration turn sour. Had the narrow bank concept been in effect in the 1980s, most of the large bank failures and near failures would still have occurred, but much of the implicit government commitment to an orderly resolution of problems would

have been missing. Considering the uncertainties when a number of banks are in trouble in the aftermath of a financial cycle, the danger of systemic runs would have been significantly greater. In addition, the narrow bank concept requires a major restructuring of sources and uses of funds in the industry, with unknown consequences for the allocation and pricing of credit and the security and earnings power of savings and checkable balances, including those funds induced to forgo deposit insurance. Some proposals would even eliminate intraday credit, thereby materially decreasing the efficiency of the payments mechanism.

Until the mid 1980s, it was generally accepted in this country that the government must ensure the safety of the banking system. Individual banks were allowed to fail when they become nonviable, but their demise was controlled, particularly in the case of large institutions, so as to reduce the dangers of a general lack of confidence in banks and potential systemic runs on deposits.

It is still the practice in nearly all developed countries for the government to back the banking system (although some go much further in protecting individual troubled banks, with less disclosure, more flexible accounting, and informal pressures for absorption of failing institutions by stronger ones). Some foreign countries have found it necessary to seize major portions of their banking systems in recent years because of insolvencies stemming from cyclical problems similar to those affecting U.S. banks. They are now facing the difficult task of reprivatizing some of their largest banks.[29]

In the United States we appear to be moving toward a position where the government will no longer back the banking system in a crisis. Recent banking law has intentionally limited the authorities' discretion in handling distressed banks in ways that allow them to recover gradually, or to fail in a manner that is least damaging to public confidence. Discount window flexibility, to give supervisors time to determine viability or arrange orderly transitions, has been curtailed. Rather than allow capital to absorb losses and gradually be rebuilt, we now impose short-term capital targets that are actually higher than the industry norm, reflecting the problem status of the bank;[30] we impose higher deposit insurance premiums on damaged banks, reflecting not the buildup of risk concentrations in their assets, but the fact that the cycle has turned against them; often we rigorously force effective write-downs of assets (through provisions to the reserve for bad debts or otherwise) to depressed values in the aftermath of an adverse cyclical movement; and we appear to be moving toward full market value

[29] See Berg (1993).
[30] Syron and Randall (1992, pp. 8, 11).

accounting, which will likely add to the procyclical pressures.[31] To enhance market discipline or to limit the cost of failures, the vulnerability of our banking system to runs has been increased by reducing deposit insurance coverage and giving the FDIC preference in liquidations.

The "prompt corrective action" provisions of FDICIA, which require specific actions by supervisors as capital ratios are eroded, are "end game" strategies for closing weakened banks sooner. Because capital ratios decline some time after serious loan problems emerge, and long after risk exposures are built in, actions tied to capital declines cannot materially decrease the ultimate losses stemming from the effects of financial cycles.[32] They do have the effect of shifting some losses from the industry-supported insurance fund to uninsured creditors of banks, however. And in doing so, they increase the vulnerability of the banking system to disorderly closures and potentially to systemic runs. They may also force the failure of severely damaged banks that have the potential to recover (shooting the wounded?), thereby increasing losses to the insurance fund.[33]

In the context of the series of "boom and bust" cyclical problems affecting a number of our larger banks over the past few years, it would be hard to argue that our banking system is immune to disasters. The price of oil remains vulnerable to wide gyrations, and we have no guarantee against future interest rate spikes. We do not fully understand how real estate booms get out of hand, much less know how to control them. Future calamities may involve still different risk concentrations and economic distortions.

It would be unwise to argue that permitting a collapse of our banking system without intervention by the government would be sound public policy. Many have supported the concept that no bank is too big to fail, but they err if they extend this point to argue that the near simultaneous failure of several of our largest banks would be tolerable.

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[31] There is no evidence that the increased risk in bank assets tied to a euphoric boom would be reflected in lower market values, and it is more likely that the opposite would be true. The pessimism of the loss recognition phase would drive market values of such assets to levels well below long-term values, increasing the likelihood of insolvency. Thus, market value accounting will do nothing to moderate boom and bust cycles, and very likely will aggravate them.

[32] Randall (1993, p. 33).

[33] Some argue that potential bank runs are not a major problem because withdrawn funds would probably be deposited in another bank rather than being held in currency or gold. But the main concern with widespread bank runs is not a diminishment of the money supply, but the potential for chaotic effects on the payments mechanism and on banks' ability to survive, as well as the curtailment of credit availability. In a banking crisis, redeposited funds are unlikely to be used for loan expansion to offset the reduced capacity of the banks losing deposits.

Given the financial cycles of the past 20 years, this is clearly a possibility that must be taken into account in banking reform.

When a boom turns sour and severe credit problems arise in one bank after another, neither the markets nor the supervisors are going to be sure which troubled banks will ultimately survive and which seemingly healthy banks will become troubled next week. In such a period of uncertainty, the danger of runs on banks is high, whether for valid reasons or based on misinformation, and the ability of supervisory and discount window officials to deal with runs is diminished. In very large banks, both domestic and international, clearing and settlement mechanisms could break down, broadening the confusion and dragging down additional banks with similar or different weaknesses.

In the aftermath of a banking crisis, the diminished availability of credit to small and mid-size businesses and others can materially damage the economy over a prolonged period. As we have seen on a regional basis in New England and some other parts of the country, such a credit crunch can be caused by both the direct effect of failures and a shift to risk aversion on the part of both banks and supervisors. In a crisis involving very large banks, these credit crunch effects would apply to larger borrowers over a broader area. While the focus of this discussion has been banks, much of it would apply to some degree to certain large nonbank firms that act as major providers of short-term business credit or are important participants in the payments mechanism (even though they must settle through a bank).

This is not an argument for government funds protecting all creditors of large failing institutions from losses, and certainly not for preserving nonviable financial institutions. But it is an argument that the government has an interest in preventing a situation that could threaten the banking system, broadly defined, and in managing any such crisis that does develop. Unfortunately, by trying to convince the world that the U.S. government will not intervene, and putting in place legal impediments to such action, we create a danger that action will come too late and be so ineffective that it will not avert a domestic and international crisis involving funds settlements, liquidity, and credit availability, with widespread implications for the economic and social structure of the country.[34]

Instead of taking steps that will make it more difficult to work our way through a period of recovery from a cyclical disaster, we should be focusing on steps to moderate the vulnerability of the banking industry to such cycles. The time for firm supervisory action is when the banks are taking extraordinary risks, not when they are struggling with extraordinary problems.

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[34] See Randall (1990) for a more extended discussion.

Appendix Table
Date and Cause of Failure of Large Banks and Thrifts

Name of Institution	Location	Date of Failure	Assets ($ billions)	Principal Cause of Failure
BIF-Insured Banks (assets of $500 milion or more)				
1973–81				
United States National Bank	San Diego, CA	Oct-73	1.3	Isolated or more complex problems
Franklin National Bank	New York, NY	Oct-74	3.7	Isolated or more complex problems
Banco Credito y Ahorro Ponceno	Ponce, PR	Mar-78	.7	Isolated or more complex problems
First Pennsylvania Bank, N.A.[1]	Philadelphia, PA	Apr-80	8.0	Isolated or more complex problems
Greenwich Savings Bank	New York, NY	Nov-81	2.5	Interest rate squeeze
Central Savings Bank	New York, NY	Dec-81	.9	Interest rate squeeze
Union Dime Savings Bank	New York, NY	Dec-81	1.4	Interest rate squeeze
1982–83				
Western New York Savings Bank	Buffalo, NY	Jan-82	1.0	Interest rate squeeze
Farmers and Mechanics Savings Bank of Minneapolis	Minneapolis, MN	Feb-82	1.0	Interest rate squeeze
Fidelity Mutual Savings Bank	Spokane, WA	Mar-82	.7	Cause not determined
United States Savings Bank of Newark	Newark, NJ	Mar-82	.7	Cause not determined
New York Bank of Savings	New York, NY	Mar-82	3.4	Interest rate squeeze
Western Saving Fund Society of Philadelphia	Haverford, PA	Apr-82	2.1	Interest rate squeeze
Penn Square Bank, N.A.	Oklahoma City, OK	Jul-82	.5	Southwestern energy and commercial real estate
United Mutual Savings Bank of New York	New York, NY	Sep-82	.8	Interest rate squeeze
Colonial Bancorp[1]	Waterbury, CT	Dec-82	1.3	Isolated or more complex problems
Dry Dock Savings Bank	New York, NY	Feb-83	2.5	Interest rate squeeze
United American Bank in Knoxville	Knoxville, TN	Feb-83	.8	Isolated or more complex problems
Seafirst Corporation[1]	Seattle, WA	Jul-83	9.7	Southwestern energy and commercial real estate
First National Bank of Midland	Midland, TX	Oct-83	1.4	Southwestern energy and commercial real estate

[1]De facto failure: the date of failure is the date the institution was acquired, in most cases.

Appendix Table continued
Date and Cause of Failure of Large Banks and Thrifts

Name of Institution	Location	Date of Failure	Assets ($ billions)	Principal Cause of Failure
1984–85				
Continental Illinois National Bk & TC	Chicago, IL	Jul-84	33.6	Southwestern energy and commercial real estate
Orange Savings Bank	Livingston, NJ	Sep-84	.5	Cause not determined
Crocker National[1]	San Francisco, CA	Jan-85	22.1	Isolated or more complex problems
Bowery Savings Bank	New York, NY	Oct-85	5.3	Interest rate squeeze
1986–87				
Park Bank of Florida	St. Petersburg, FL	Feb-86	.6	Other commercial real estate
First National Bank and Trust Company of Oklahoma City	Oklahoma City, OK	Jul-86	.8	Southwestern energy and commercial real estate
Texas Commerce Bancshares[1]	Houston, TX	May-87	18.0	Southwestern energy and commercial real estate
Syracuse Savings Bank	Syracuse, NY	May-87	1.2	Interest rate squeeze
BancTexas, Dallas (and affiliates)	Dallas, TX	Jul-87	1.2	Southwestern energy and commercial real estate
1988				
United Bank Alaska and Alaska Mutual Bank	Anchorage, AK	Jan-88	1.3	Other commercial real estate
Allied Bancshares[1]	Houston, TX	Feb-88	8.1	Southwestern energy and commercial real estate
McAllen State Bank	McAllen, TX	Apr-88	.6	Southwestern energy and commercial real estate
First City Bancorporation	Houston, TX	Apr-88	11.2	Southwestern energy and commercial real estate
First Republic Bank—Dallas, N.A. (and affiliates)	Dallas, TX	Jul-88	33.4	Southwestern energy and commercial real estate
Caribank	Dania, FL	Dec-88	.5	Other commercial real estate

[1]De facto failure: the date of failure is the date the institution was acquired in most cases.

Appendix Table continued
Date and Cause of Failure of Large Banks and Thrifts

Name of Institution	Location	Date of Failure	Assets ($ billions)	Principal Cause of Failure
1989				
MBank Dallas, N.A. (and affiliates)	Dallas, TX	Mar-89	15.8	Southwestern energy and commercial real estate
First Service Bank For Savings	Leominster, MA	Mar-89	.9	New England commercial real estate
Alliance Bank	Anchorage, AK	Apr-89	.8	Other commercial real estate
Texas American Bank/Fort Worth, N.A. (and affiliates)	Fort Worth, TX	Jul-89	4.8	Southwestern energy and commercial real estate
First American Bank and Trust	North Palm Beach, FL	Dec-89	1.7	Other commercial real estate
1990				
Monroe Savings Bank, FSB	Rochester, NY	Jan-90	.5	Interest rate squeeze
Seamen's Bank for Savings, FSB	New York, NY	Apr-90	2.1	Mid Atlantic commercial real estate
NBC Bank—San Antonio, N.A. (and affiliates)	San Antonio, TX	Jun-90	1.6	Southwestern energy and commercial real estate
National Bank of Washington	Washington, DC	Aug-90	1.7	Mid Atlantic commercial real estate
First American Bank for Savings	Boston, MA	Oct-90	.6	New England commercial real estate
1991				
Bank of New England, N.A. (and affiliates)	Boston, MA	Jan-91	21.8	New England commercial real estate
Maine Savings Bank	Portland, ME	Feb-91	1.2	New England commercial real estate
Madison National Bank (and affiliate)	Washington, DC	May-91	.7	Mid Atlantic commercial real estate
First National Bank of Toms River	Toms River, NJ	May-91	1.4	Mid Atlantic commercial real estate
Goldome	Buffalo, NY	May-91	9.2	Isolated or more complex problems
First Mutual Bank for Savings	Boston, MA	Jun-91	1.2	New England commercial real estate
Citytrust	Bridgeport, CT	Aug-91	2.0	New England commercial real estate
Mechanics and Farmers Savings Bank, FSB	Bridgeport, CT	Aug-91	1.1	New England commercial real estate
Southeast Bank, N.A. (and affiliate)	Miami, FL	Sep-91	10.9	Other commercial real estate
Amoskeag Bank	Manchester, NH	Oct-91	.8	New England commercial real estate

Appendix Table continued
Date and Cause of Failure of Large Banks and Thrifts

Name of Institution	Location	Date of Failure	Assets ($ billions)	Principal Cause of Failure
1991 continued				
BankEast	Manchester, NH	Oct-91	.7	New England commercial real estate
New Hampshire Savings Bank	Concord, NH	Oct-91	1.0	New England commercial real estate
Dartmouth Bank	Manchester, NH	Oct-91	.8	New England commercial real estate
Central Bank	Meriden, CT	Oct-91	.7	New England commercial real estate
Connecticut Savings Bank	New Haven, CT	Nov-91	1.1	New England commercial real estate
Bank Mart	Bridgeport, CT	Dec-91	.5	New England commercial real estate
1992				
CrossLand Savings, FSB	Brooklyn, NY	Jan-92	7.2	Mid Atlantic commercial real estate
Independence Bank	Encino, CA	Jan-92	.6	Isolated or more complex problems
Dollar Dry Dock Bank	White Plains, NY	Feb-92	3.8	Mid Atlantic commercial real estate
American Savings Bank (and affiliate)	White Plains, NY	Jun-92	3.5	Mid Atlantic commercial real estate
Attleboro-Pawtucket Savings Bank	Attleboro, MA	Aug-92	.6	New England commercial real estate
Union Savings Bank	Patchogue, NY	Aug-92	.5	Mid Atlantic commercial real estate
Howard Savings Bank	Newark, NJ	Oct-92	3.3	Mid Atlantic commercial real estate
First Constitution Bank	New Haven, CT	Oct-92	1.5	New England commercial real estate
First City, Texas-Houston, N.A. (and affiliates)	Houston, TX	Oct-92	8.8	Isolated or more complex problems
Merchants Bank	Kansas City, MO	Nov-92	1.2	Other commercial real estate
Burritt InterFinancial Bancorporation	New Britain, CT	Dec-92	.5	New England commercial real estate
Heritage Bank for Savings	Holyoke, MA	Dec-92	1.3	New England commercial real estate
Meritor Savings Bank	Philadelphia, PA	Dec-92	3.6	Mid Atlantic commercial real estate
Eastland Savings Bank (and affiliate)	Woonsocket, RI	Dec-92	.6	New England commercial real estate
1993				
New England Savings Bank	New London, CT	May-93	.9	New England commercial real estate

Appendix Table continued
Date and Cause of Failure of Large Banks and Thrifts

Name of Institution	Location	Date of Failure	Assets ($ billions)	Principal Cause of Failure
FSLIC-Insured Thrifts (assets of $800 million or more)				
1984				
San Marino S&LA	Tustin, CA	Dec-84	.8	Cause not determined
1985				
Sunrise S&LA	Lake Worth, FL	Jul-85	1.5	Commercial real estate
Beverly Hills Savings	Beverly Hills, CA	Dec-85	2.5	Commercial real estate
Southern California S&LA, a FSB	Beverly Hills, CA	Dec-85	1.3	Commercial real estate
Bell Savings, FSLA	San Mateo, CA	Dec-85	1.0	Commercial real estate
1986				
Mainland Savings Association	Houston, TX	Apr-86	1.0	Southwestern commercial real estate
Western FSA	Dallas, TX	Sep-86	1.6	Southwestern commercial real estate
FirstSouth S&LA	Little Rock, AR	Dec-86	1.6	Commercial real estate
1987				
Central S&LA	San Diego, CA	Apr-87	1.7	Commercial real estate
Vernon S&LA	Dallas, TX	Mar-87	1.2	Southwestern commercial real estate
Independent American S&LA	Irving, TX	May-87	1.0	Southwestern commercial real estate
Eureka FS&LA	San Carlos, CA	May-87	1.7	Commercial real estate
American Diversified Savings Bank	Lodi, CA	Jun-87	.8	Isolated or more complex problems
Alamo Savings Association of Texas	San Antonio, TX	Jun-87	.6	Southwestern commercial real estate
Freedom S&L	Tampa, FL	Jul-87	1.9	Commercial real estate
Lyons Federal Trust and Savings Bank	Countryside, IL	Sep-87	1.9	Commercial real estate
Pelican Homestead and SA[2]	Metairie, LA	Dec-87	1.5	Interest rate squeeze

[2]At this date Pelican Homestead Savings Association acquired four failed thrifts, which later led to the failure of the consolidated institution.

Appendix Table continued
Date and Cause of Failure of Large Banks and Thrifts

Name of Institution	Location	Date of Failure	Assets ($ billions)	Principal Cause of Failure
1988				
Lamar Savings	Austin, TX	May-88	1.9	Southwestern commercial real estate
Briercroft Savings	Austin, TX	May-88	.9	Southwestern commercial real estate
Sunbelt Savings	Dallas, TX	Aug-88	2.2	Southwestern commercial real estate
Frontier Fed	Ponca City, OK	Aug-88	1.1	Cause not determined
American Savings	Stockton, CA	Sep-88	30.2	Commercial real estate and interest rate squeeze
First Fed	Austin, TX	Sep-88	1.0	Southwestern commercial real estate
Guaranty Fed	Dallas, TX	Sep-88	2.0	Risk-controlled arbitrage
Olney Savings	Olney, TX	Oct-88	1.4	Southwestern commercial real estate
Lincoln Fed	Westfield, NJ	Nov-88	1.3	Interest rate squeeze
Gibraltar Savings	Houston, TX	Dec-88	6.3	Southwestern commercial real estate
First Texas	Dallas, TX	Dec-88	3.2	Southwestern commercial real estate
Monfort	Dallas, TX	Dec-88	1.2	Southwestern commercial real estate
American Savings	Springfield, IL	Dec-88	1.0	Interest rate squeeze
First Fed	Jacksonville, FL	Dec-88	1.3	Commercial real estate
Mile High Fed	Denver, CO	Dec-88	2.3	Commercial real estate
Columbia Savings	Englewood, CO	Dec-88	3.1	Interest rate squeeze and risk-controlled arbitrage
Pathway Fin	Chicago, IL	Dec-88	1.4	Cause not determined
Cardinal Fed	Cleveland, OH	Dec-88	1.5	Cause not determined
United Savings	Houston, TX	Dec-88	4.9	Junk bonds
1989				
Gill SA	Hondo, TX	Feb-89	1.4	Southwestern commercial real estate
Freedom S&LA, A FS&LA	Tampa, FL	Feb-89	1.5	Commercial real estate
Baltimore Federal Financial FSA	Baltimore, MD	Feb-89	1.6	Southwestern commercial real estate

Appendix Table continued
Date and Cause of Failure of Large Banks and Thrifts

Name of Institution	Location	Date of Failure	Assets ($ billions)	Principal Cause of Failure
1989 continued				
Pacific Savings Bank	Costa Mesa, CA	Feb-89	1.1	Interest rate squeeze
Bright Banc SA	Dallas, TX	Feb-89	4.5	Southwestern commercial real estate
First Federal of Arkansas, FA	Little Rock, AR	Feb-89	1.9	Interest rate squeeze
Sandia FS&LA	Albuquerque, NM	Feb-89	.9	Southwestern commercial real estate
Savers FS&LA	Little Rock, AR	Feb-89	.9	Commercial real estate and interest rate squeeze
Midwest FS&LA of Minneapolis	Minneapolis, MN	Feb-89	3.1	Other or more complex problems
University SA	Houston, TX	Feb-89	4.9	Southwestern commercial real estate
American S&LA, A FA	Salt Lake City, UT	Feb-89	2.2	Commercial real estate
Southwest S&LA	Phoenix, AZ	Feb-89	2.3	Southwestern commercial real estate
Anchor SA	Kansas City, KS	Feb-89	.9	Interest rate squeeze
Commerce SA	San Antonio, TX	Mar-89	.8	Southwestern commercial real estate
San Antonio SA	San Antonio, TX	Mar-89	2.8	Southwestern commercial real estate
Bexar Savings Association	San Antonio, TX	Mar-89	.9	Southwestern commercial real estate
Commonwealth SA	Houston, TX	Mar-89	1.8	Southwestern commercial real estate
Hill Financial S&LA	Red Hill, PA	Mar-89	3.2	Interest rate squeeze
Benjamin Franklin SA	Houston, TX	Mar-89	2.7	Southwestern commercial real estate and junk bonds
Skokie FS&LA	Skokie, IL	Mar-89	1.0	Commercial real estate and interest rate squeeze
Broadview Savings Bank	Cleveland, OH	Mar-89	1.7	Interest rate squeeze
Gibraltar Savings	Simi Valley, CA	Mar-89	12.3	Risk-controlled arbitrage
Murray Savings Association	Dallas, TX	Apr-89	1.5	Southwestern commercial real estate
American FS&LA of Colorado	Colorado Springs, CO	Apr-89	.9	Commercial real estate
Lincoln S&LA	Irvine, CA	Apr-89	5.1	Commercial real estate
Horizon Financial FA	Southampton, PA	Jun-89	2.6	Interest rate squeeze

Appendix Table continued
Date and Cause of Failure of Large Banks and Thrifts

Name of Institution	Location	Date of Failure	Assets ($ billions)	Principal Cause of Failure
1989 continued				
Sun State S&LA	Phoeniz, AZ	Jun-89	1.1	Southwestern commercial real estate
Western S&LA	Phoenix, AZ	Jun-89	6.1	Southwestern commercial real estate
Great Southern FSB	Savannah, GA	Jun-89	.9	Commercial real estate and interest rate squeeze
Victoria SA	Victoria, TX	Jun-89	1.0	Southwestern commercial real estate
Commonwealth S&LA	Margate, FL	Jul-89	1.7	Junk bonds
Peoples Heritage FS&LA	Salina, KS	Aug-89	1.9	Commercial real estate
Metropolitan Financial S&L	Dallas, TX	Aug-89	.8	Southwestern commercial real estate
Sooner FS&LA	Tulsa, OK	Nov-89	1.6	Southwestern commercial real estate
City Federal Savings Bank	Bedminster, NJ	Dec-89	9.7	Commercial real estate and junk bonds
1990				
Midwest FSB of Minot	Minot, ND	Jan-90	1.0	Interest rate squeeze
Atlantic Financial Savings, FA	Bala Cynwyd, PA	Jan-90	5.4	Other or more complex problems
Horizon Savings Bank, F.S.B.	Wilmette, IL	Jan-90	1.2	Interest rate squeeze
Duval FSA	Jacksonville, FL	Jan-90	1.0	Interest rate squeeze
Empire of America FSB	Buffalo, NY	Jan-90	8.5	Interest rate squeeze
Merabank Federal Savings Bank	Phoenix, AZ	Jan-90	6.5	Southwestern commercial real estate
Centrust Federal Savings Bank	Miami, FL	Feb-90	8.3	Junk bonds
Pioneer Federal Savings Bank	Clearwater, FL	Feb-90	2.0	Commercial real estate
Albuquerque FSB	Albuquerque, NM	Feb-90	2.1	Southwestern commercial real estate and junk bonds
American FSA of Iowa	Des Moines, IA	Feb-90	.9	Interest rate squeeze
Franklin SA	Ottawa, KS	Feb-90	9.4	Risk-controlled arbitrage
Great American S&LA, FA	Oak Park, IL	Feb-90	1.0	Interest rate squeeze
The Benjamin Franklin FS&LA	Portland, OR	Feb-90	4.8	Risk-controlled arbitrage
First Atlantic FSA	Plainfield, NJ	Feb-90	1.3	Interest rate squeeze

Appendix Table continued
Date and Cause of Failure of Large Banks and Thrifts

Name of Institution	Location	Date of Failure	Assets ($ billions)	Principal Cause of Failure
1990 continued				
Imperial FSA	San Diego, CA	Feb-90	10.0	Junk bonds and other or more complex problems
Mercury FS&LA	Huntington Beach, CA	Feb-90	2.2	Commercial real estate and interest rate squeeze
Pima FS&LA	Tucson, AZ	Mar-90	2.8	Southwestern commercial real estate
Pacific Coast FSA of America	San Francisco, CA	Mar-90	1.1	Interest rate squeeze
Home Owners Savings Bank F.S.B.	Boston, MA	Apr-90	3.5	Risk-controlled arbitrage
Santa Barbara FS&LA	Santa Barbara, CA	Apr-90	4.2	Interest rate squeeze
Capitol FS&LA	Aurora, CO	May-90	1.0	Commercial real estate
Southwest FSA	Dallas, TX	May-90	5.5	Southwestern commercial real estate
American Pioneer FSB	Orlando, FL	May-90	1.6	Commercial real estate
Caguas-Central FSB of Puerto Rico	Caguas, PR	May-90	1.7	Cause not determined
Ensign FSB	New York, NY	Aug-90	1.8	Commercial real estate
Heritage FSB	Richmond, VA	Oct-90	.9	Commercial real estate
Florida FSB, FSB	St Petersburg, FL	Nov-90	4.2	Commercial real estate
San Jacinto SA, FA	Bellaire, TX	Nov-90	3.5	Southwestern commercial real estate
Central FSB	Long Beach, NY	Dec-90	.9	Cause not determined
Comfed SB, FA	Lowell, MA	Dec-90	1.5	Commercial real estate and interest rate squeeze
Olympic FSA	Berwyn, IL	Dec-90	1.1	Interest rate squeeze
1991				
Fulton FSA	Atlanta, GA	Jan-91	2.0	Interest rate squeeze
Far West S&LA, FA	Newport Beach, CA	Jan-91	3.9	Junk bonds
Columbia S&LA, FA	Beverly Hills, CA	Jan-91	6.2	Commercial real estate and junk bonds
Coreast FSB	Richmond, VA	Feb-91	1.3	Commercial real estate

Appendix Table continued
Date and Cause of Failure of Large Banks and Thrifts

Name of Institution	Location	Date of Failure	Assets ($ billions)	Principal Cause of Failure
1991 continued				
First FS&LA of Toledo	Toledo, OH	Feb-91	1.1	Commercial real estate
Hollywood FB, a FSB	Hollywood, FL	Feb-91	1.6	Commercial real estate
Amerifirst FSB	Miami, FL	Mar-91	3.7	Commercial real estate and interest rate squeeze
Bell FSB	Upper Darby, PA	Mar-91	.9	Commercial real estate
Home SA of Kansas City	Kansas City, MO	Mar-91	3.0	Commercial real estate
County Bank, FSB	Santa Barbara, CA	Mar-91	1.2	Commercial real estate
Cimarron FSA	Muskogee, OK	Apr-91	.8	Southwestern commercial real estate
Metropolitan FS&LA, FA	Nashville, TN	Apr-91	1.0	Commercial real estate
John Hanson SB	Beltsville, MD	Apr-91	.9	Commercial real estate
Sunbelt FS, FSB	Dallas, TX	Apr-91	6.1	Southwestern commercial real estate
Altus FSB	Mobile, AL	May-91	2.0	Interest rate squeeze
Far West FSB	Portland, OR	May-91	2.1	Risk-controlled arbitrage
Goldome FSB	St Petersburg, FL	May-91	1.5	Junk bonds
New Merabank Texas, FSB	El Paso, TX	May-91	1.2	Southwestern commercial real estate
Great American FSA	San Diego, CA	Aug-91	9.9	Commercial real estate
Oak Tree FSB	New Orleans, LA	Oct-91	2.3	Southwestern commercial real estate
First FS&LA	Pontiac, MI	Oct-91	.9	Commercial real estate and interest rate squeeze
Investors FSB	Richmond, VA	Dec-91	2.1	Commercial real estate
1992				
First American FSB	Greensboro, NC	Jun-92	.9	Cause not determined
Columbia Bank FSA	Rochester, NY	Jun-92	1.5	Cause not determined
Homefed Bank, FA	San Diego, CA	Jul-92	13.0	Commercial real estate
TransOhio FSB	Cleveland, OH	Jul-92	4.0	Risk-controlled arbitrage

Appendix Table continued
Date and Cause of Failure of Large Banks and Thrifts

Name of Institution	Location	Date of Failure	Assets ($ billions)	Principal Cause of Failure
1992 continued				
Standard FSA	Gaithersburg, MD	Oct-92	1.8	Cause not determined
Homestead Savings, FS&LA	San Francisco, CA	Oct-92	1.6	Commercial real estate
Carteret FSB	Newark, NJ	Dec-92	5.2	Commercial real estate and interest rate squeeze
Second National FSA	Salisbury, MD	Dec-92	1.6	Commercial real estate
Security FSB	Vineland, NJ	Dec-92	1.2	Cause not determined
1993				
Old Stone FSB	Providence, RI	Jan-93	1.9	Commercial real estate
Western FSB	Marina del Ray, CA	Jun-93	3.8	Commercial real estate

Source: Federal Deposit Insurance Corporation, *Annual Reports* and *Historical Statistics on Banking*; Federal Home Loan Bank Board, *Annual Reports* 1977–1988; Resolution Trust Corporation, *Annual Reports* 1979 to 1991 and additional data; Barth (1985); Randall (1989, 1993); news reports, articles, annual reports, and bank stock analysts' reports for individual large institutions.

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