Federal Home Loan Bank Board

OFFICE OF POLICY AND ECONOMIC RESEARCH

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MORAL HAZARD AND THE THRIFT CRISIS: AN ANALYSIS OF 1988 RESOLUTIONS

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by

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INTRODUCTION

Not since the Great Depression has the thrift industry experienced such turmoil and uncertainty as in recent years. The Federal Savings and Loan Insurance Corporation (FSLIC) took action against more than 800 troubled thrift institutions from 1980 through 1988 at an estimated present-value cost of nearly $50 billion. In addition, another 578 institutions were identified in March 1989 as requiring future action at a cost just under $40 billion. The thrift crisis of the 1980s was therefore estimated by the Federal Home Loan Bank Board (Bank Board) to cost roughly $90 billion. Even if this estimate eventually proves to be too low, the costs already exceed those experienced by thrifts during the 1930s.

As a result of the enormous cost of resolving the thrift crisis, it will be borne by not only healthy thrifts, but also taxpayers. Honoring the federal government's guarantee to make whole all insured deposits has proven to be more costly and to require a more broadly based source of funds than anticipated when the FSLIC was established in 1934. The Congress is reacting to this situation by passing legislation specifying who will bear the cost and requiring regulatory and structural reforms to prevent a similar situation from ever again occurring.

The purpose of this paper is threefold. First, the nature and magnitude of the thrift crisis will be documented. Only with appropriate data can one comprehend exactly what happened, where it happened, and when it happened. Second, the causes of the crisis will be identified and discussed. Only through such an exercise can one properly assess any legislative changes to be sure a similar problem will not occur again. Third, and most important, an attempt will be made to identify the way that federal deposit insurance itself contributed to the crisis. Although many studies have analyzed the "moral hazard" problem arising from deposit insurance [see, for example, Meltzer (1967), Scott and Mayer (1971), Kareken and Wallace (1978), Sharpe (1978), Merton (1978), Dothan and Williams (1980), Buser, Chen, and Kane (1981), McCulloch (1981), Kane (1981), Guttentag and Herring (1982), Pyle (1983), and Kareken (1983)], to our knowledge, none has assessed its empirical importance. This is done here by using time-series data for all 205 thrift institutions resolved in 1988 to examine the changing "riskiness" of thrift portfolios as capital deteriorates.

THE 1980s IN PERSPECTIVE

The thrift industry has undergone tremendous change in recent years. To understand the reason for all of the attention and controversy that surrounds this industry, we have documented some of the more important changes that have occurred.

An Overview of the Thrift Industry

In Table 1 and Charts 1 and 2, we present information about the thrift industry from 1980 through 1988. Based upon this information, one can discern the following facts. First, the industry has been undergoing consolidation since 1980. In that year, there were nearly 4,000 thrifts, whereas the number declined to just under 3,000 by the end of 1988. Total assets, however, increased to $1.4 trillion from $604 billion over the same period. Second, the industry has increasingly become dominated by stock rather than mutual institutions. At the beginning of the decade, only 20 percent of all thrifts were stock with 27 percent of total industry assets. However, by year-end 1988, such thrifts accounted for 44 percent of all thrifts with 74 percent of all assets. Third, even though the percentage of federally chartered thrifts increased only 8 percentage points to 58 percent from 1980 to 1988, the share of assets controlled by these institutions rose to 71 percent from 56 percent. Fourth, thrifts have diversified into new activities during this period. The share of assets devoted to home mortgages declined to 39 percent in 1988 from 67 percent in 1980. At the same time, the growing importance of securitization is evident. Whereas thrifts held only 4 percent of their assets in mortgage-backed securities in 1980, the share increased to 15 percent by 1988. Fifth, the industry lost a record $12 billion in 1988. All of this loss was due to nonoperating factors (i.e., asset write-downs and additions to

Table 1
U.S. Thrift Industry: 1980-1988

	1980	1981	1982	1983	1984	1985	1986	1987	1988
Number of Institutions	3,993	3,751	3,287	3,146	3,136	3,246	3,220	3,147	2,949
Total Assets ($ Billions)	604	640	686	814	978	1,070	1,164	1,251	1,352
GAAP Net Worth ($Billions)	32	27	20	25	27	34	39	34	46
Tangible Net Worth ($ Billions)	32	25	4	4	3	9	15	9	23
Net Income ($ Millions)	781	(4,631)	(4,142)	1,945	1,022	3,728	131	(7,779)	(12,057)
Net Operating Income ($ Millions)	790	(7,114)	(8,761)	(46)	990	3,601	4,562	2,850	907
Net Nonoperating Income ($ Millions)	398	964	3,041	2,567	796	2,215	(1,290)	(7,930)	(11,012)
Taxes ($ Millions)	407	(1,519)	(1,578)	576	764	2,087	3,141	2,699	1,952
Percent of Home Mortgages to Total Assets	66.5	65.0	56.3	49.8	44.9	42.4	38.9	37.8	38.6
Percent of Mortgage Backed Securities to Total Assets	4.4	5.0	8.6	10.9	11.1	10.4	13.1	15.6	15.4
Percent of Mortgage Assets to Total Assets	70.8	70.1	64.9	60.7	56.0	52.8	52.0	53.4	53.9
Stock Institutions									
(% of Number of Institutions)	20.0	21.0	23.0	24.0	30.0	33.0	37.0	40.0	44.0
(% of Total Assets)	27.0	29.0	30.0	40.0	52.0	56.0	62.0	70.0	74.0
Federally-Chartered									
(% of Number of Institutions)	50.0	51.0	51.0	51.0	54.0	53.0	54.0	56.0	58.0
(% of Total Assets)	56.0	63.0	70.0	66.0	64.0	64.0	64.0	65.0	71.0
GAAP Capital-to-Asset Ratio									
< 0%									
Number	43	87	237	293	445	470	471	520	364
Total Assets ($ Billions)	0.4	14	64	79	110	131	126	183	114
Tangible Net Worth ($ Billions)	0	(0.35)	(5)	(6)	(6)	(9)	(13)	(24)	(16)
0% to 3%									
Number	287	690	929	933	911	719	544	434	392
Total Assets ($ Billions)	38	146	241	263	380	293	367	230	316
Tangible Net Worth ($ Billions)	1	3	(3)	(3)	(3)	(1)	(1)	(1)	1
3% to 6%									
Number	1,959	1,801	1,315	1,222	1,092	1,173	1,150	1,002	968
Total Assets ($ Billions)	383	379	319	382	399	507	541	537	639
Tangible Net Worth ($ Billions)	18	15	6	7	7	9	12	14	18
> 6%									
Number	1,704	1,173	806	698	688	884	1,055	1,191	1,225
Total Assets ($ Billions)	182	101	62	90	88	139	229	300	282
Tangible Net Worth ($ Billions)	14	8	5	5	6	9	17	20	20
Resolutions									
Number	11	28	63	36	22	30	46	47	205
Total Assets ($ Billions)	1,458	13,908	17,662	4,631	5,080	5,601	12,455	10,660	100,660
Estimated Present-Value Cost ($ Millions)	167	759	803	275	743	979	3,065	3,704	31,180

Note: Resolutions do not include 18 "stabilizations" in 1988 that had assets of $7,463 million and tangible net worth of negative $3,348 million, and an estimated present value resolution cost of $6,838 million.

Chart 1

GAAP-Solvent & GAAP-Insolvent Thrifts
(1980 - 1988)

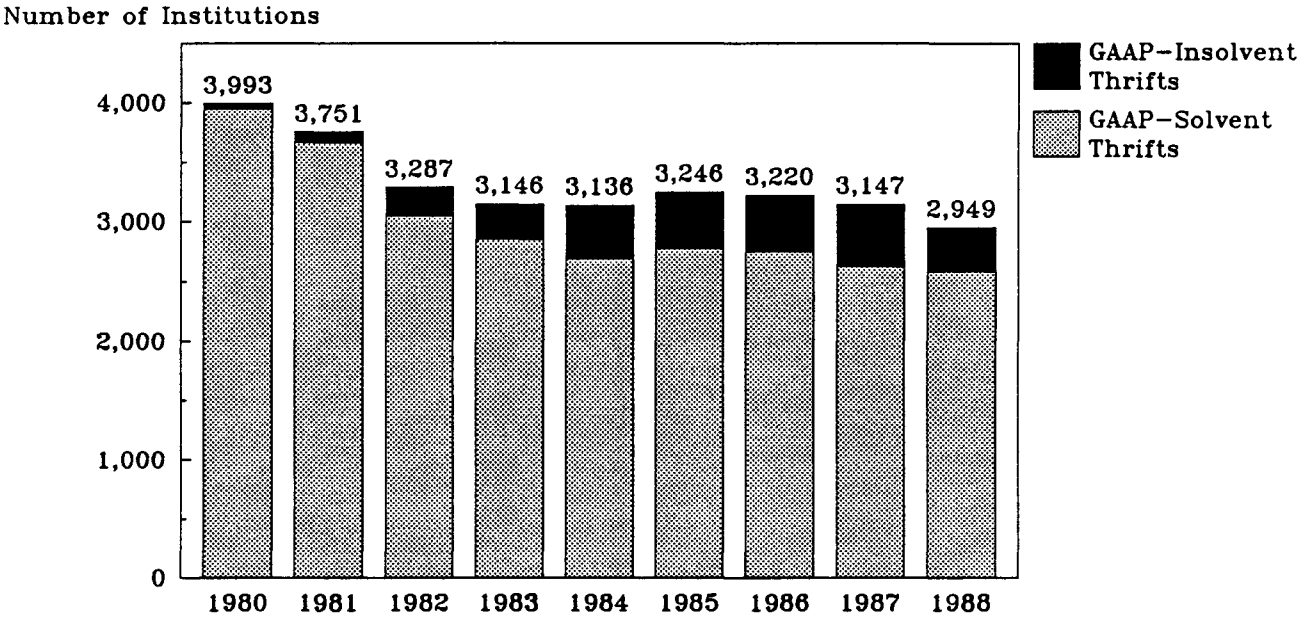
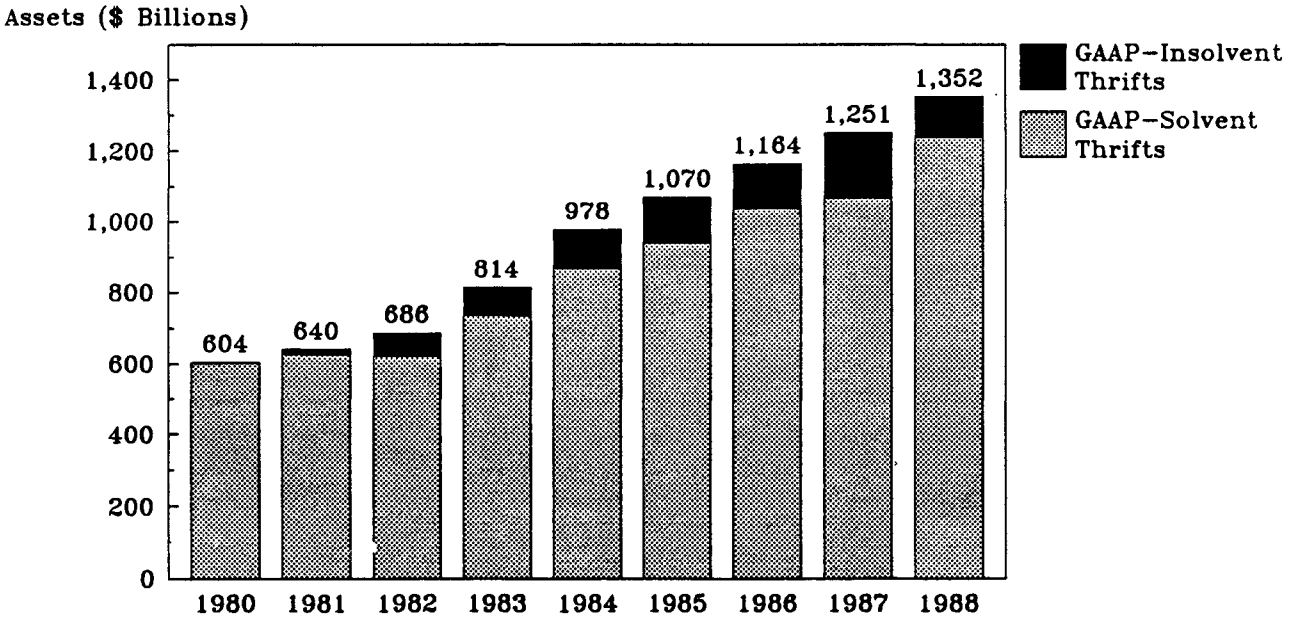


Chart 2

Assets of GAAP-Solvent & GAAP-Insolvent Thrifts
(1980 - 1988)



loan loss reserves) and taxes. In contrast, the huge losses in 1981 and 1982 were entirely due to operating factors (i.e., a negative interest rate spread). Sixth, the number of GAAP-insolvent thrifts increased each year until 1988. Despite the decline, there were still 364 insolvent institutions operating with $114 billion in assets at year-end. The existence of these institutions as well as hundreds of others that were "marginally" solvent explains why more remains to be done to resolve the thrift crisis. Finally, the number of well-capitalized thrift institutions (i.e., those with GAAP capital-to-asset ratios exceeding 6 percent) has actually been increasing since 1984. At year-end 1988, there were 1,225 such thrifts with $282 billion in assets and $20 billion in tangible capital.

Thrift Failures and Resolutions

It has been widely reported that hundreds of thrift institutions have failed and have been resolved by the FSLIC in recent years. It is not always clear, however, what the terms "failure" and "resolution" mean. A reasonable definition of failure is when the market value of a thrift is no longer positive. Measuring the market value of a thrift is typically a difficult and controversial task, however.

Despite the lack of information available to accurately determine the market value of individual thrift institutions, information regarding book values is readily available. Onc knows, for example, the number of thrifts that are GAAP

insolvent. One also knows when the FSLIC has taken an action against an institution and whether the action required an expenditure of funds. An approximation to the number of failures is therefore the institutions against which the FSLIC has already taken action plus open but GAAP-insolvent institutions. Table 1 and Charts 3 and 4 contain such information.

During the 1980s, the FSLIC has taken five different types of actions against troubled thrift institutions: (1) liquidation, (2) assisted merger, (3) stabilization, (4) management consignment program (MCP), and (5) supervisory merger. Actions (1) and (2) are meant to be final and impose costs upon the FSLIC. These are referred to as resolutions. Action (5) is also meant to be final but imposes no cost upon the FSLIC. Actions (3) and (4) are temporary actions that will eventually lead to liquidations or mergers.

From 1980 through 1988, the FSLIC liquidated 77 institutions, engaged in 411 assisted mergers, 77 MCPs, 18 stabilizations, and 333 supervisory mergers. The estimated present-value cost of the liquidations, assisted mergers, and stabilizations is nearly $50 billion. These institutions held $180 billion in assets. In 1988 alone, 223 thrifts were resolved or stabilized at an estimated cost of $38 billion. Although the FSLIC took action against a greater number of troubled thrifts in 1982, most were supervisory mergers and the cost was only $803 million.

Chart 3
Thrift Failures
(1980 - 1988)

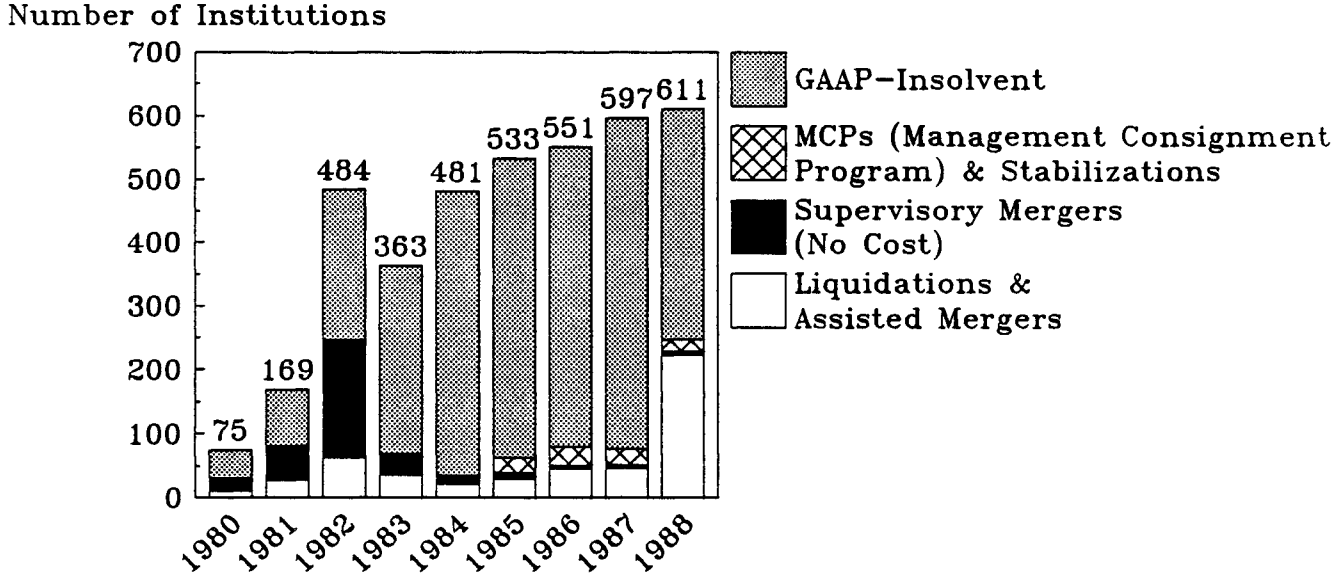
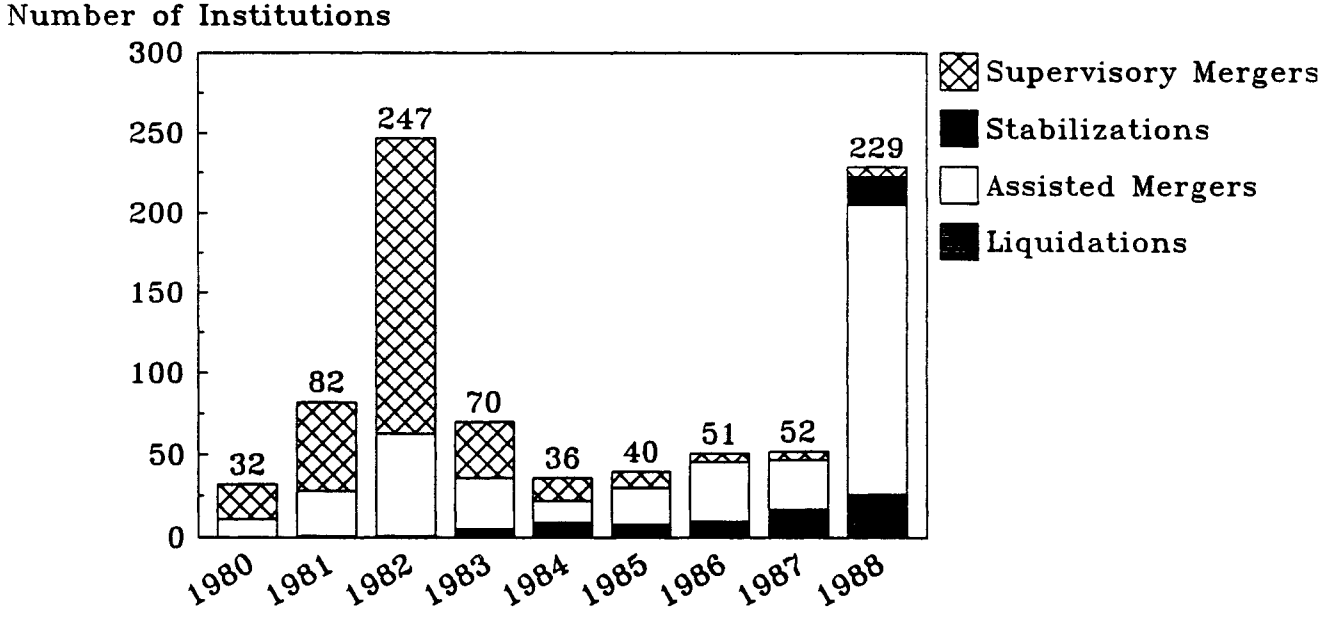


Chart 4
Actions Taken by the FSLIC
(1980 - 1988)



Mainly as a result of all the actions taken in 1988, the number of GAAP-insolvent institutions declined to 364 from 520 in the previous year. These institutions held $114 billion in assets. Adding together GAAP insolvent and other nearly insolvent institutions, the Bank Board on March 1, 1989 identified 578 thrifts that would likely require future action at an estimated cost of $38 billion [see Wall (1989)]. Without prompt action, however, this cost was expected to be pushed still higher.

Regional Distribution of Thrift Resolution Costs

Table 2 shows that the distribution of thrift resolution costs, both across the country and over time, has been quite uneven. The cost figures include only liquidations and assisted mergers, omitting the $7 billion cost of the 18 stabilizations in 1988. Clearly, Texas has accounted by far for the largest share--about half--of the total cost of all resolutions from 1980 through 1988. California, Florida, and Illinois account for about another one-fourth of the total cost. This information has led some to argue that the tax burden of resolving the thrift crisis should reflect the regional distribution of the resolution cost.

The extent to which the huge costs incurred in 1988 are embedded losses from actions taken by thrifts years earlier will be discussed below. This discussion will demonstrate that one

Table 2
Estimated Resolution Cost of FSLIC-Resolutions by State
($ Millions)

State	1980	1981	1982	1983	1984	1985	1986	1987	1988	State Total
Alaska	0	3	0	0	0	0	4	2	0	9
Alabama	0	0	0	3	0	0	0	0	13	16
Arkansas	0	0	0	0	0	82	657	90	28	858
California	0	0	3	0	330	8	159	715	5,439	6,654
Colorado	0	0	0	0	0	22	36	0	515	573
District of Columbia	0	3	0	0	0	62	0	0	0	65
Florida	15	33	16	0	0	15	701	0	1,315	2,095
Georgia	0	0	2	0	0	0	0	0	5	7
Hawaii	1	0	0	0	0	3	0	0	0	4
Iowa	3	0	0	9	0	10	0	102	327	451
Idaho	0	0	0	0	0	0	0	121	2	123
Illinois	17	76	354	32	37	3	16	173	1,379	2,087
Indiana	0	0	0	38	0	0	0	0	152	190
Kansas	0	0	3	0	0	8	7	20	20	58
Kentucky	0	0	8	0	0	16	93	0	84	201
Louisiana	0	0	3	21	4	65	418	539	177	1,226
Massachusetts	0	0	51	0	0	0	0	0	0	51
Maryland	0	24	10	0	21	0	0	69	0	125
Michigan	11	0	0	16	0	0	13	14	175	229
Minnesota	0	95	0	1	0	0	0	0	205	301
Missouri	0	51	1	77	0	0	75	100	0	303
Mississippi	0	0	1	0	8	3	0	0	0	12
Montana	0	0	5	0	0	5	0	0	11	21
North Carolina	0	5	0	0	0	0	0	0	34	39
North Dakota	0	13	4	0	39	0	0	0	0	56
Nebraska	0	0	0	0	0	0	0	5	0	5
New Jersey	10	9	21	0	16	0	0	55	233	345
New Mexico	2	0	2	6	0	5	2	0	84	100
Nevada	0	0	0	0	0	0	0	0	0	0
New York	0	361	211	13	4	0	59	0	0	648
Ohio	104	0	0	27	28	2	222	22	478	884
Oklahoma	0	0	0	0	0	0	71	41	744	857
Oregon	0	0	0	0	0	146	21	27	362	556
Pennsylvania	0	0	11	13	0	0	0	0	0	23
Puerto Rico	0	84	7	0	1	0	0	0	0	92
Rhode Island	3	0	0	0	10	0	0	0	0	13
South Carolina	0	0	0	0	0	0	0	0	0	0
South Dakota	0	0	0	4	0	0	0	0	8	12
Tennessee	0	0	0	0	80	17	0	0	34	131
Texas	0	1	78	0	164	155	493	1,504	18,614	21,010
Utah	0	0	0	0	0	163	0	46	0	209
Virginia	0	0	14	12	1	18	0	35	136	215
Washington	0	0	0	0	0	174	(13)	22	92	274
Wisconsin	0	0	0	3	0	0	0	0	0	3
West Virginia	0	0	0	0	0	0	0	0	81	81
Wyoming	0	0	0	0	0	0	30	0	147	177
Year Total	167	759	803	275	743	979	3,065	3,704	30,894	41,388

cannot conclude that because roughly 80 percent of the costs were incurred in 1988, the thrift problem is a very recent problem.

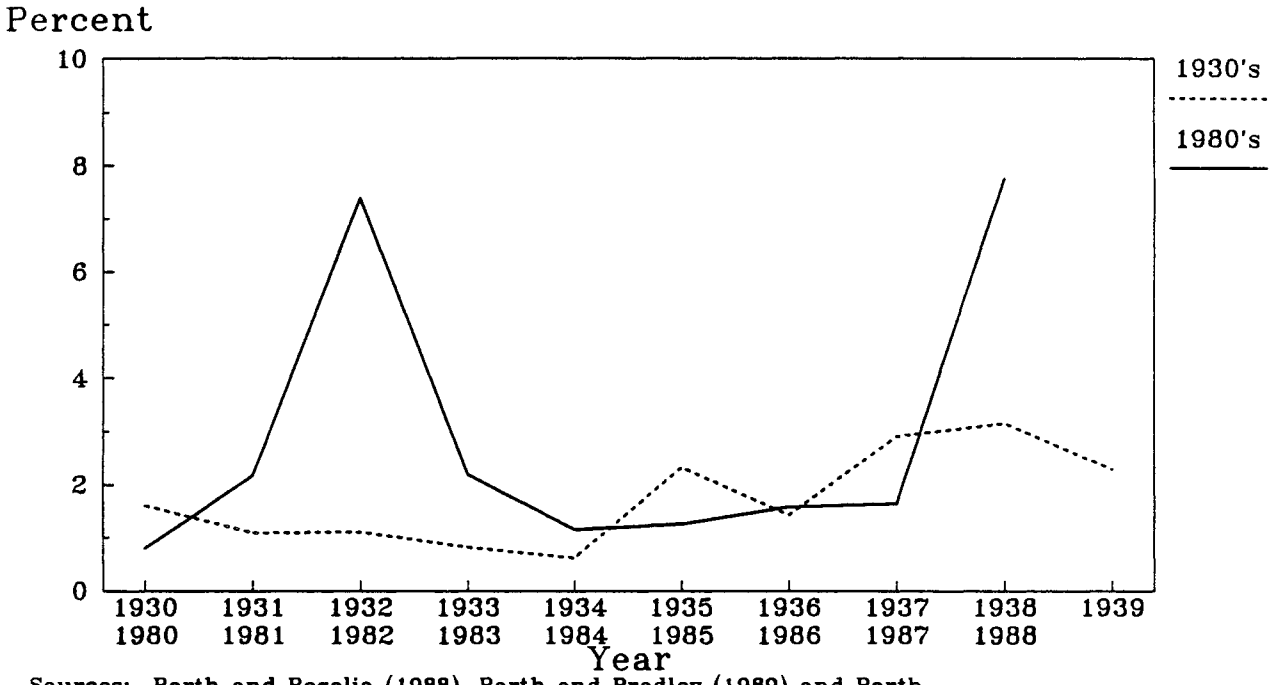
Comparison of Thrift Failures of the 1930s and 1980s

It is useful to compare the thrift crisis of the 1980s with the problems experienced by thrifts during the Great Depression. Charts 5 and 6 do this by comparing the rate of thrift failures for the two periods as well as the costs associated with the failures. As Chart 5 shows, the failure rate for thrifts in recent years has exceeded that for thrifts during the 1930s. Chart 6 shows that FSLIC's losses relative to total industry assets in 1988 were far greater than in any year during the 1930s. The crisis in the 1980s, in other words, has already generated relatively greater failures and failure costs with federal deposit insurance than without it during the Great Depression.

CAUSES OF THE THRIFT CRISIS

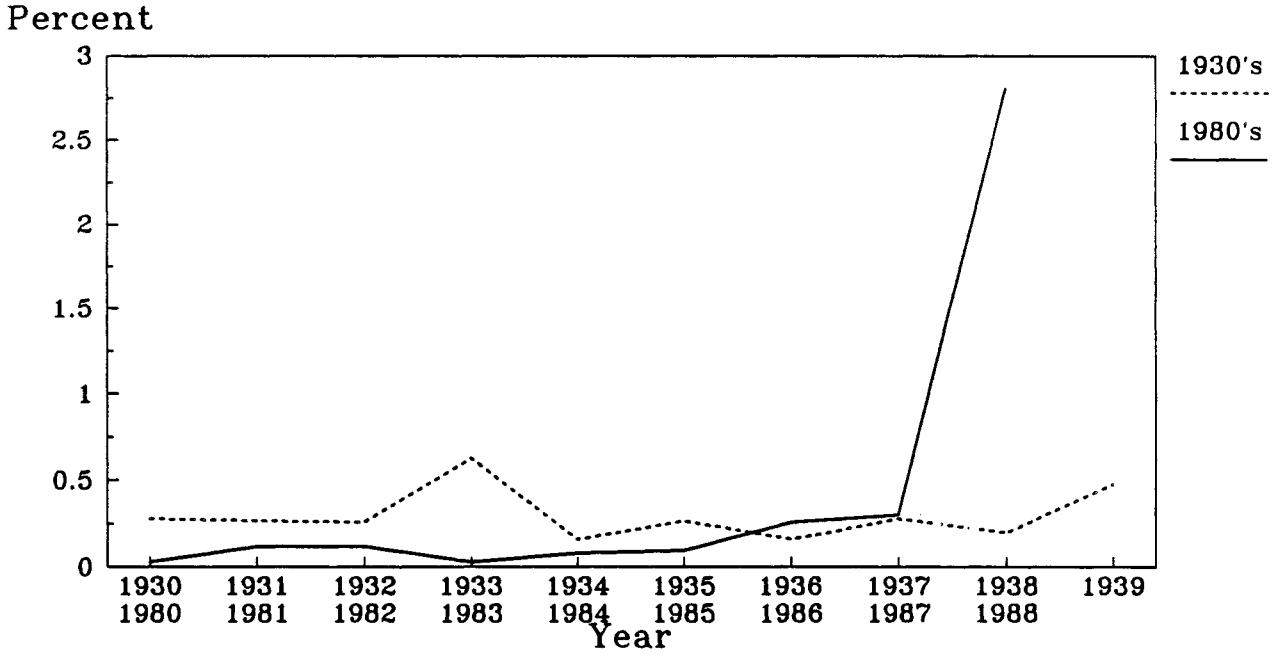
In this section we identify six factors that have caused the thrift crisis. Only by identifying and understanding the causes can one properly determine the reforms necessary to be sure a similar situation never again occurs [also, see Barth and Bradley (1989), Brumbaugh (1988), Carron (1988) Horvitz (1989), Kane (1989), Scott (1988) and Strunk and Case (1988)].

Chart 5
Ratio of Thrift Failures to All Thrifts



Sources: Barth and Regalia (1988), Barth and Bradley (1989) and Barth, Feid, Reidel, and Tunis (1989).

Chart 6
Ratio of Losses of Failed Thrifts to Total Assets



Sources: Barth and Regalia (1988), Barth and Bradley (1989) and Barth, Feid, Reidel, and Tunis (1989).

A Rigid Institutional Design

Since their origin in 1831, thrifts have concentrated on gathering savings deposits and providing home mortgage loans. Information on the composition of assets and liabilities over the period 1979 to 1988 is provided in Table 3. Until very recently, thrifts relied heavily on savings deposits and invested a large share of their assets in traditional home mortgages [see Weicher (1988)]. But these portfolio decisions have not been entirely voluntary, for thrifts have been subjected to numerous regulatory constraints on their asset and liability holdings. Furthermore, thrifts have been subjected to regulations regarding the types of mortgages (e.g., fixed vs. flexible rate) they could provide, the areas in which they could branch, the rate of interest they could offer on deposits, and the extent to which they could engage in options and futures activities.

Prior to the 1980s, thrift institutions specialized in gathering deposits to fund home mortgages. Regulatory and tax factors encouraged if not required such specialization. Thrift income was, therefore, based mainly on the amount by which the interest rate on home mortgages exceeded the interest rate on deposits, net of general and administrative expenses. Add a fixed mortgage rate and a variable deposit rate and the stage is set for a crisis in an unexpectedly high and volatile interest rate environment. Thus, a cause of the current thrift crisis is a rigid institutional design.

TABLE 3
THRIFT INDUSTRY
COMPOSITION OF GROSS ASSETS, LIABILITIES, AND CAPITAL OF ALL THRIFTS
(PERCENT OF ASSETS)

	December									
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
ASSETS										
Mortgage-Backed Securities	3.5	4.4	5.0	8.6	10.9	11.1	10.4	13.1	15.6	15.4
Home Mortgages	68.0	66.5	65.0	56.3	49.8	44.9	42.4	38.9	37.8	38.6
Subtotal	71.5	70.8	70.1	64.9	60.7	56.0	52.8	52.0	53.4	53.9
Multifamily	6.4	6.0	5.6	5.6	6.0	6.4	6.9	6.8	6.6	6.2
Mortgages on Commercial Real Estate	6.6	6.3	6.2	6.4	7.3	8.4	9.2	8.7	8.3	7.7
Mortgages for Land & Land Development	0.9	0.9	0.9	1.0	1.5	2.3	2.9	2.6	2.1	1.8
Nonmortgage Commercial Loans	0.2	0.3	0.1	0.1	0.4	1.2	1.5	1.9	1.8	2.4
Nonmortgage Consumer Loans	2.6	2.7	2.7	2.8	3.0	3.4	4.1	4.2	4.4	4.4
Repossessed Assets	0.1	0.2	0.2	0.4	0.5	0.5	0.9	1.3	2.0	2.1
Investment Real Estate	0.2	0.2	0.3	0.4	0.5	0.5	0.6	0.7	0.7	0.5
Cash, Deposits and Securities	8.1	9.1	9.4	11.4	12.9	13.4	12.9	13.7	13.1	13.5
Fixed Assets	1.3	1.3	1.4	1.3	1.2	1.1	1.1	1.1	1.1	1.0
Equity in Service Corps./Subsidiaries	0.4	0.5	0.6	0.8	1.0	1.6	1.9	1.7	1.7	1.7
Goodwill	0.0	0.0	0.3	2.3	2.6	2.3	2.2	2.0	1.9	1.7
Other	1.7	1.7	2.1	2.7	2.5	2.8	3.0	3.1	2.9	3.1
LIABILITIES										
Deposits -- Total	81.1	81.1	78.8	77.6	78.6	77.1	75.9	73.9	71.9	69.8
More than $100,000	10.1	6.6	7.4	8.3	10.4	11.1	9.8	9.7	9.6	9.3
$100,000 or Less	71.0	74.5	71.4	69.4	68.2	65.9	66.2	64.2	62.3	60.5
Broker Originated Deposits (included in total)	0.3	0.6	0.5	1.1	3.5	4.2	3.7	3.7	4.9	5.1
FHLBank Advances	7.1	7.6	9.6	9.0	6.7	7.0	7.6	8.3	9.0	9.6
Other Borrowed Money -- Total	2.6	2.8	4.1	4.8	4.8	6.5	6.6	8.0	10.3	11.9
Reverse Repurchases	1.1	1.4	1.4	1.7	2.7	4.5	4.0	4.9	6.5	7.1
Mortgage Backed Securities Issued	0.6	0.6	0.5	0.5	0.4	0.5	0.8	1.0	1.2	1.3
Other Borrowings	0.9	0.8	2.2	2.7	1.7	1.5	1.8	2.1	2.5	3.5
Other Liabilities	3.6	3.2	3.2	5.0	6.0	5.7	5.7	5.4	4.9	4.3
CAPITAL										
Regulatory Capital	5.6	5.3	4.3	3.6	3.9	3.7	4.2	4.4	3.9	4.4
GAAP Capital	5.6	5.3	4.2	2.9	3.0	2.6	3.0	3.2	2.6	3.3
Tangible Capital	5.6	5.2	3.9	0.5	0.4	0.3	0.7	1.2	0.7	1.7
Total Assets (Billions of Dollars)	567	604	640	686	814	978	1,070	1,164	1,251	1,352
Number of Institutions	4,038	3,993	3,751	3,287	3,146	3,136	3,246	3,220	3,147	2,949

High and Volatile Interest Rates

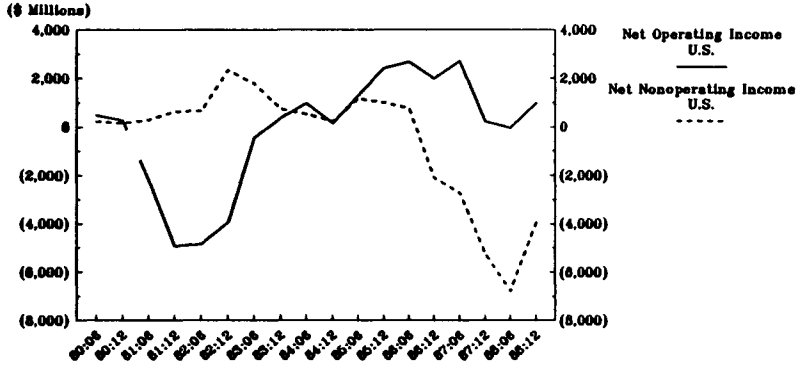
In the late 1970s and early 1980s interest rates rose to unexpectedly high levels and became extremely volatile. Contributing to the fluctuations in nominal interest rates were inflationary expectations and actions taken by the Federal Reserve Board. These movements in interest rates severely affected thrift institutions. Chart 7 shows that as interest rates peaked in the early 1980s, the net operating income of thrifts plummeted. Indeed, 85 percent of all thrifts were unprofitable in 1981 and most were insolvent if one had "marked-to-market" their fixed-rate mortgage loan portfolios. As interest rates declined, net operating income and "market values" improved. With liabilities repricing more quickly than assets, sharp and prolonged increases in interest rates can clearly devastate thrifts. Thus, a cause of the current thrift crisis is high and volatile interest rates.

Deterioration in Asset Quality

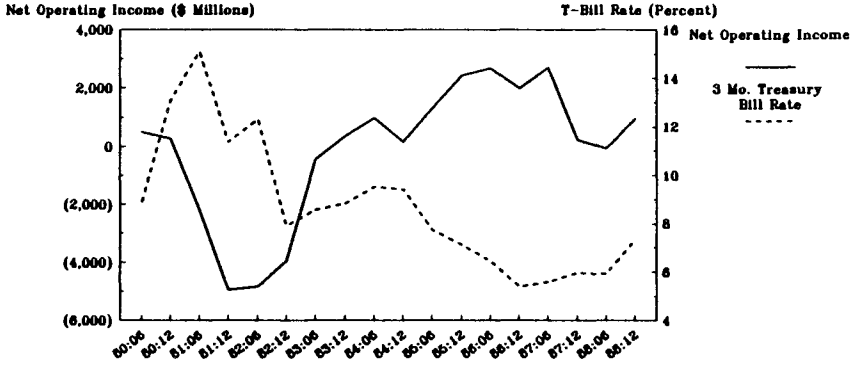
Whereas problems in the early 1980s were mainly interest-rate related, the problems in more recent years were mainly asset quality. Since Texas accounts for such a large share of the resolution costs in 1988, it is useful to examine net nonoperating income for thrifts in this state. Chart 7 shows that net nonoperating losses for thrifts in both Texas and the U.S. track one another quite closely from 1985 onwards. Not surprisingly, there has been a heavy concentration of total

Chart 7

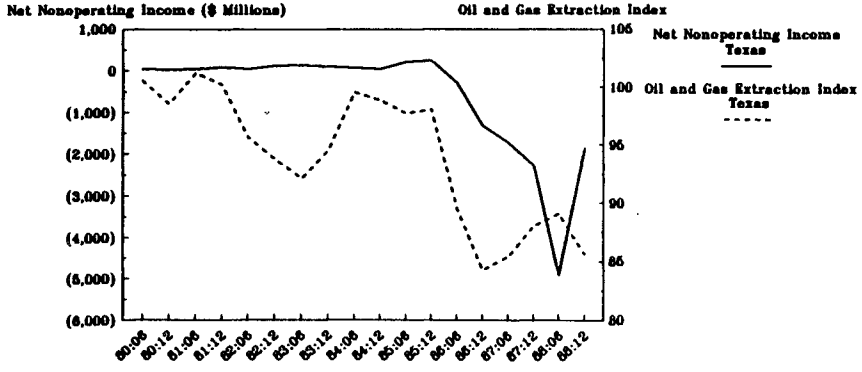
Net Operating Income vs. Net Nonoperating Income
(1980 – 1988)



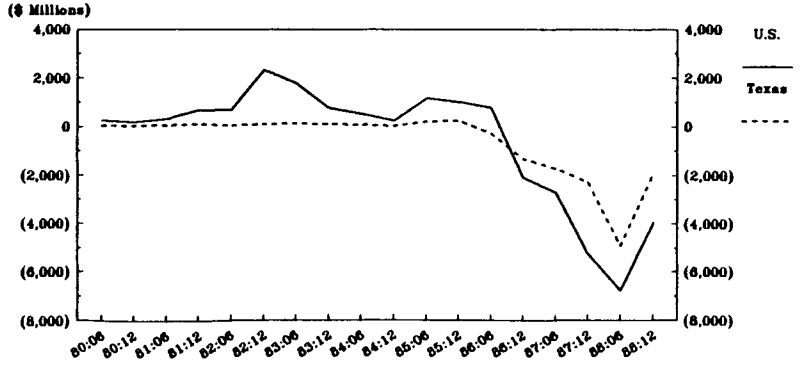
Net Operating Income vs. 3 Month Treasury Bill Rate
(1980 – 1988)



Texas Net Nonoperating Income vs. Texas Oil and Gas Extraction
(1980 – 1988)



Net Nonoperating Income: U.S. vs. Texas
(1980 – 1988)



industry losses among thrifts in Texas in recent years, and most of these losses have been due to asset write-downs and additions to loan loss reserves. Plunging oil prices and real estate values contributed to the sharp deterioration in asset quality at Texas thrifts. Thus, a cause of the current thrift crisis is a deterioration in asset quality.

Federal and State Deregulation

Thrift institutions have been heavily regulated for years. Such regulation undoubtedly generated monopoly rents and thus enhanced the market value of thrifts. But it also made thrifts, with their rigid institutional design, vulnerable to unanticipated changes in economic conditions and to technological developments. Being both federally and state-chartered, thrifts are subject to both federal and state regulation. The Congress can legislate required rules of behavior for thrifts as well as the federal regulator of thrifts--the Bank Board. Within the guidelines established by the Congress, the Bank Board can then vary the regulatory treatment of thrifts with respect to certain activities. Thus, regulation of thrifts is the responsibility of the Congress, the Bank Board, and the states that charter thrift institutions.

In 1980 and then again in 1982, the Congress passed major legislation that gave federally chartered thrift institutions new and expanded powers. State authorities generally granted similar or even broader powers to state-chartered thrifts, if such powers had not already been granted. Table 4 presents

Table 4
Restrictions on Thrift Asset Powers
As of December 1987 and December 1988
(Percent of Assets)

	Federal Restrictions	All Thrifts Actual Holdings Federally Chartered		All Thrifts Actual Holdings State-Chartered		California Restrictions	California Actual Holdings State-Chartered		Texas Restrictions	Texas Actual Holdings State-Chartered		Florida Restrictions	Florida Actual Holdings State-Chartered	
		1987	1988	1987	1988		1987	1988		1987	1988		1987	1988
Consumer Non-Mortgage Loans	30	4.6	4.4	3.5	3.9	30	2.4	2.8	Unlimited	3.0	2.9	b/	4.7	6.1
Commercial Non-Mortgage Loans	10	1.8	2.5	2.0	2.3	10	2.2	2.9	Unlimited	2.3	2.8	b/	3.0	2.9
Commercial Real Estate Loans	40	8.4	7.8	9.0	8.0	40	9.2	8.8	Unlimited	10.1	8.3	b/	8.8	6.8
Education Loans	5	0.4	0.3	0.2	0.2	a/	0.0	0.0	Unlimited	0.1	0.2	b/	0.7	0.5
Service Corporations	3	1.2	1.2	3.0	3.0	c/	3.0	4.1	d/	5.1	4.4	20	4.5	2.9
Equity Risk Investment	e/	0.2	0.3	1.3	1.0	e/	1.2	0.8	e/	3.3	2.9	e/	0.3	0.3
Total Number of Thrifts		1,768	1,720	1,379	1,229		137	127		211	147		58	53
Total Assets ($ billions)		814	965	437	389		144	119		82	58		29	33

a/ Included in consumer non-mortgage loan limit.
b/ Any association may make a secured or unsecured loan to any person subject to the requirement that 60% of assets be invested in residential real estate loans.
c/ All service corporation activity requires prior approval from the respective state banking authority.
d/ This limitation may be exceeded with the approval of the respective state banking authority.
e/ Equity risk investment limitations apply to all federally insured thrifts. For thrifts that are in compliance with capital requirements (i.e., tangible capital to assets > 6%), equity risk investments may be made to a limit of 3 times tangible capital. If the thrift is in compliance with minimum capital requirements and less than 6%, the limitation is the greater of 3% of assets or 2.5 times tangible capital. If the thrift does not meet minimum capital requirements, all equity risk investments require prior approval from the supervisory agent.

information on some of the powers available to federally chartered thrifts as well as state-chartered thrifts in selected states. Information regarding the extent to which these powers have been used is also presented. Although these expanded powers enable thrifts to seek additional sources of profit and greater risk diversification, they also enable thrifts to seek higher profits through riskier activities.

One would expect deregulation to lead to greater competition among thrift institutions and other financial service firms. The legislation passed in 1980 and 1982 should, therefore, have led to additional thrift failures. To the extent that the casualties of the deregulation were inefficient institutions, one should not argue against deregulation. To make matters worse, the rigid institutional design of thrifts was inadequate to cope with the greater competition fostered by securitization and, more generally, the rapidly evolving information technologies.

By permitting more competition, deregulation can, therefore, lead to an increase in thrift failures. However, it can also provide thrifts with more opportunities to engage in riskier activities in search of higher profits. If pursued, these riskier activities can lead to still more failures. This means that when federally insured deposits--under a flat-rate premium structure--are being used to fund new activities, the regulator must monitor and supervise these activities. If inappropriate practices are detected, corrective steps must be taken by regulators.

The Bank Board did indeed take corrective steps against a number of thrifts during the 1980s. As Chart 8 indicates, the number of formal enforcement actions increased dramatically between 1980 and 1988. The number of supervisory agreements and consent-merger resolutions started to decline after 1986 as troubled thrifts were placed in the management consignment program or resolved. In addition, a number of "informal" actions were also taken during the period. While moral suasion has been the traditional supervisory tool of the Bank Board, the need for supervisory action is illustrated by the number of formal enforcement actions that were taken against troubled thrifts.

While the need for examination and supervision is increased in an increasingly competitive and deregulated environment, Chart 9 shows that the examination staff and budget failed to keep pace with the growth in total industry assets and the entry into new activities. Highly trained and well-paid examiners are not made obsolete by deregulation, but rather become indispensable as competition heats up and capital is eroded away--which is the buffer to protect the insurer and the funds at risk by the owners to contain their proclivity toward risk. In sum, without adequate safeguards, federal and state deregulation is a cause of the current thrift crisis.

Fraudulent Practices

Thrift institutions can fail through fraud and mismanagement by the management or owners. Although difficult

Chart 8

Enforcement Actions of the Federal Home Loan Bank Board in the 1980s.

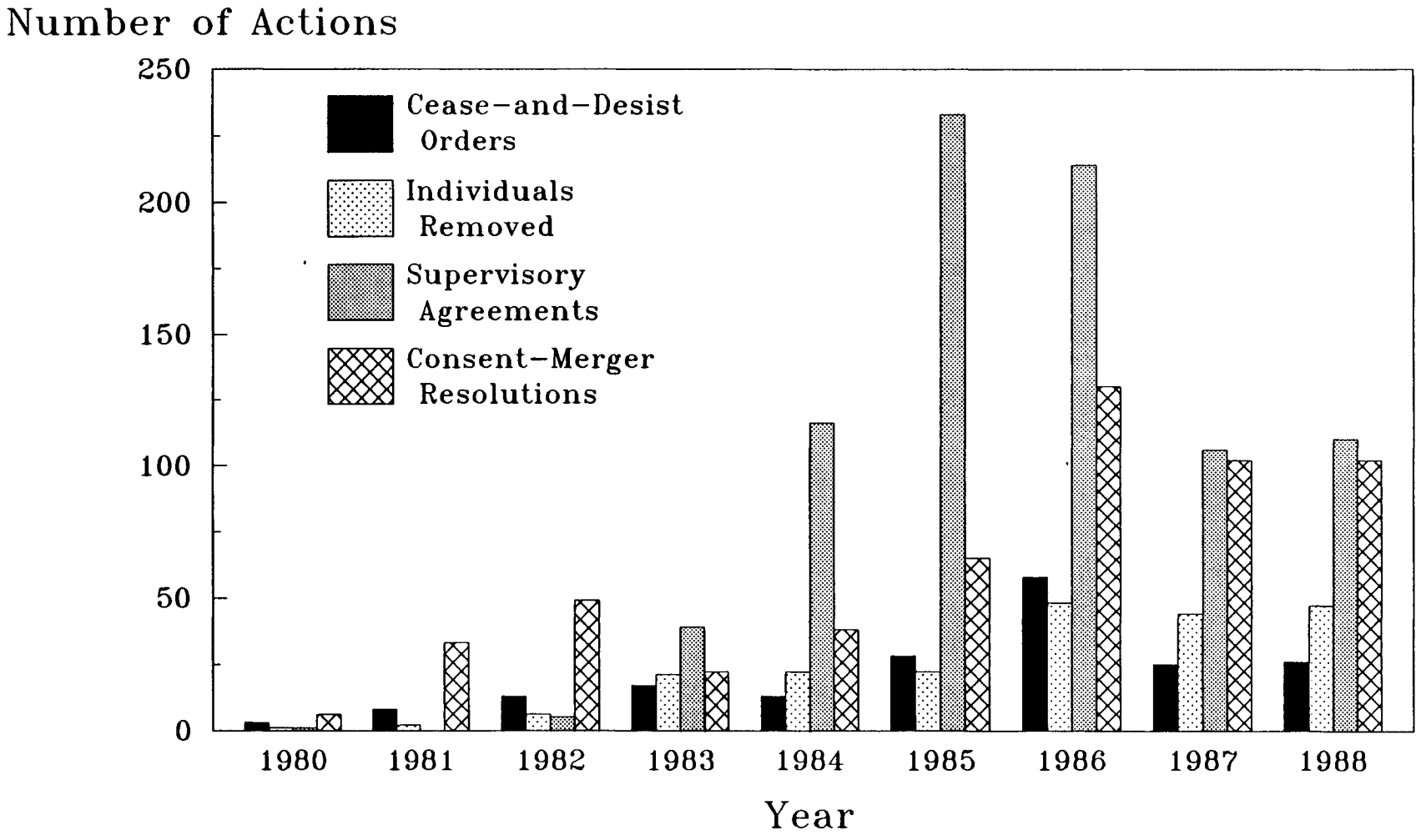
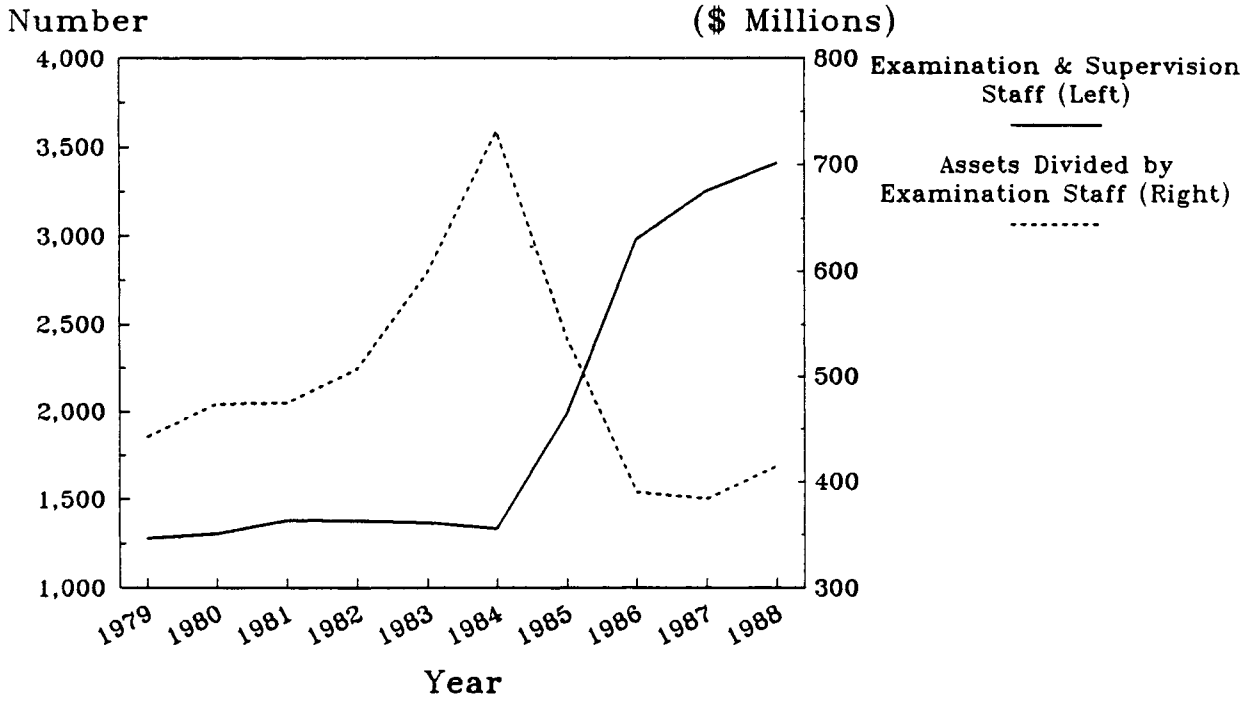
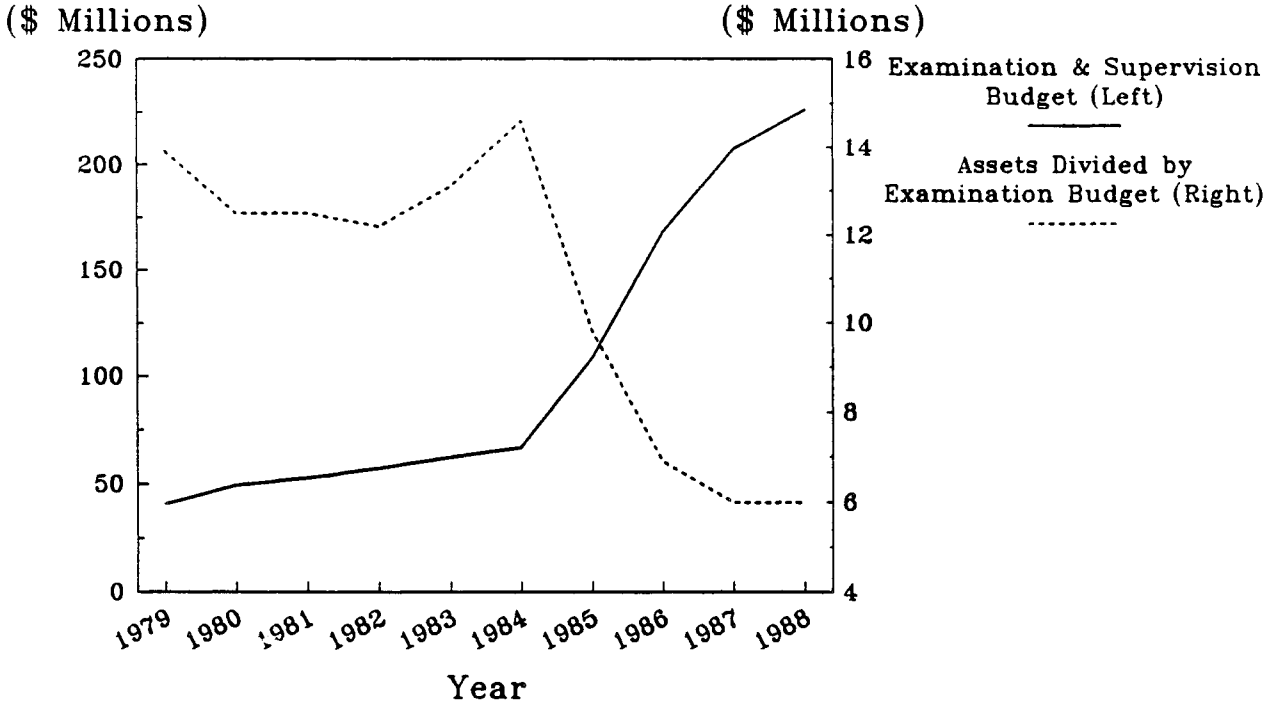


Chart 9

Examination Staff vs. Industry Assets



Examination Budget vs. Industry Assets

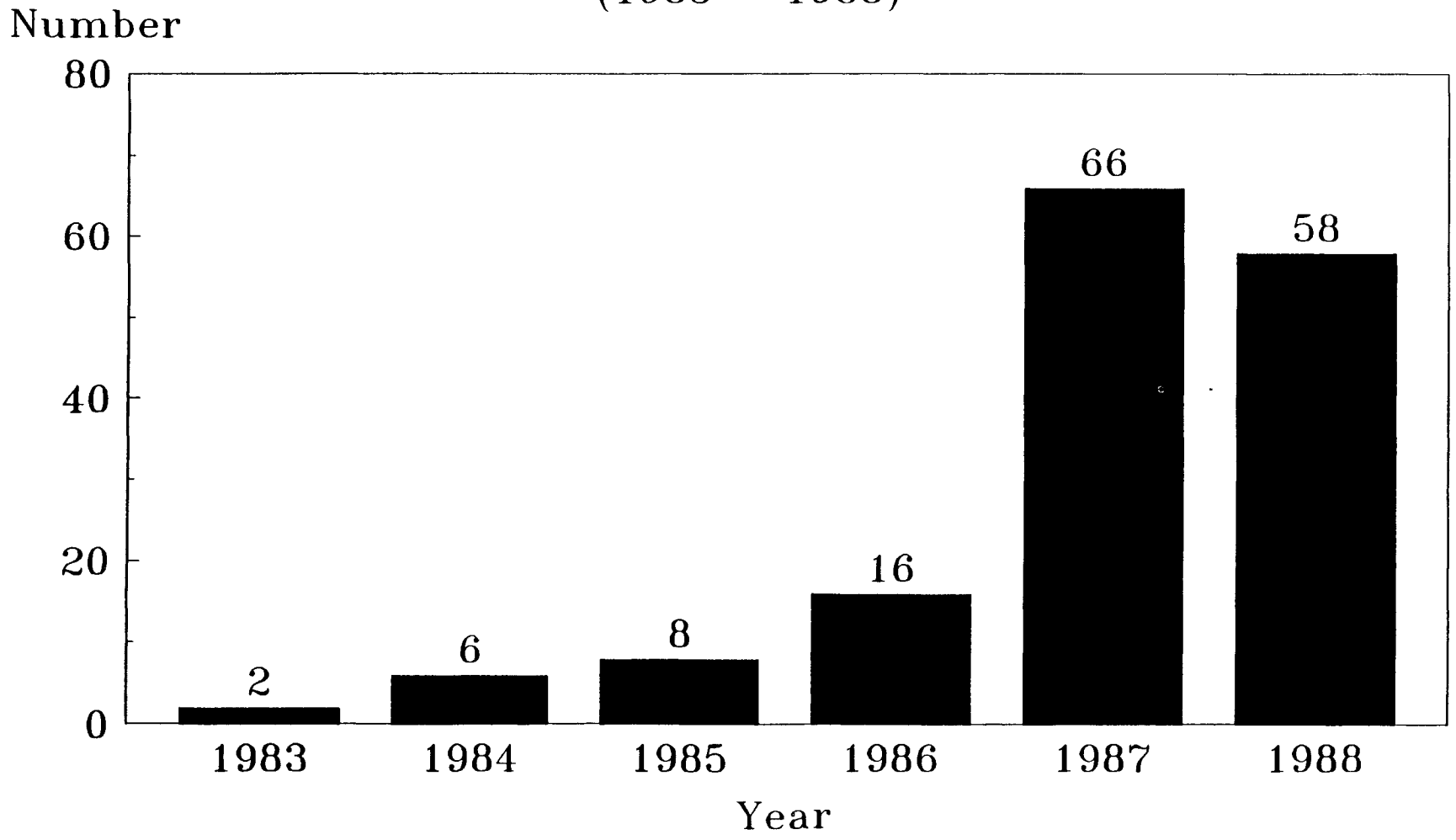


to detect ex ante, these factors are a source of trouble. Chart 10 presents information on significant criminal convictions associated with failed thrifts. As may be seen, fraudulent practices have increasingly played a role in thrifts resolved by the FSLIC [also, see Bartholomew (1989)]. It is for this reason that fraudulent practices are considered to be a cause of the current thrift crisis.

Federal Deposit Insurance: Moral Hazard

Federal deposit insurance was established in response to the widespread failure of banks and thrifts during the Great Depression. Without insurance, depositors will attempt to withdraw their funds whenever they believe a bank or thrift is insolvent. Such withdrawals, however, might not be restricted to insolvent institutions but instead spread to solvent institutions (i.e., a contagion). The benefit of federal deposit insurance is that, if successful, it provides sufficient confidence so that depositors will never engage in a "widespread run" on depository institutions [see, however, Ely (1989) and England (1989)]. However, this benefit comes at a cost. Since depositor funds are safe and sound, depositors do not have any incentive to impose discipline on the use of their funds. The institution, therefore, can use the deposits to engage in riskier activities than would otherwise be possible. The role of the insurer or regulator is to contain this "moral hazard" problem by mimicking the market (i.e., doing what depositors at risk would do). To the extent that the regulator does not

Chart 10
Significant Criminal Convictions Associated With Thrift Institutions
(1983 - 1988)



properly control the increased risk-taking behavior of institutions, there can be more failures and greater failure costs than would be possible without deposit insurance. Furthermore, as shown most recently by Keeley and Furlong (forthcoming) and Furlong and Keeley (forthcoming), the value of the insurance to the thrift institution and hence its proclivity toward risk-taking behavior varies inversely with the amount of capital at risk. This means that even if other factors cause thrifts to became insolvent or nearly insolvent, deposit insurance will permit such thrifts to retain access to funds and thus remain open. The regulators' "closure rule," therefore, is crucial, as Benston and Kaufman (1988) have most forcibly argued, in ensuring that institutions do not "gamble for resurrection" with insured depositor funds. Without timely closure, the outcome may be even greater negative net worth. As Horvitz and Pettit (1981, p. 56) pointed out in an early but still relevant article, "the longer an institution losing money is allowed to continue in operation, the greater the ultimate cost to the insurance fund." In sum, federal deposit insurance is a cause of the current thrift crisis.

SORTING THROUGH THE EVIDENCE

All of the factors identified in the previous section, in one way or another, caused the thrift crisis of the 1980s. This section focuses on the specific role played by federal deposit insurance. As already noted, depositor discipline is absent with federal insurance, which was raised by the Congress to

$100,000 from $40,000 per account in 1980. The insurer or regulator must therefore impose any needed discipline on thrifts. An attempt will be made to assess the extent to which insufficient discipline by the regulator--the Bank Board, the Congress, and the states--caused the crisis to be worse than otherwise.

Required Capital Levels

Table 1 and Chart 11 present information on the number of thrifts and their assets for various levels of capitalization as well as information on alternative measures of capital for all thrifts. Regardless of the measure used, there was an erosion of capital during the early 1980s. Despite this situation, required capital levels were reduced--from 5 to 4 percent in November 1980 and then further reduced to 3 percent in January 1982--and the items counting as capital were broadened through the use of regulatory accounting practices (RAP). However, with less capital at risk, a thrift has a greater incentive to engage in riskier activities funded by insured deposits, especially with a flat-rate insurance premium and a relatively risk-insensitive capital requirement.

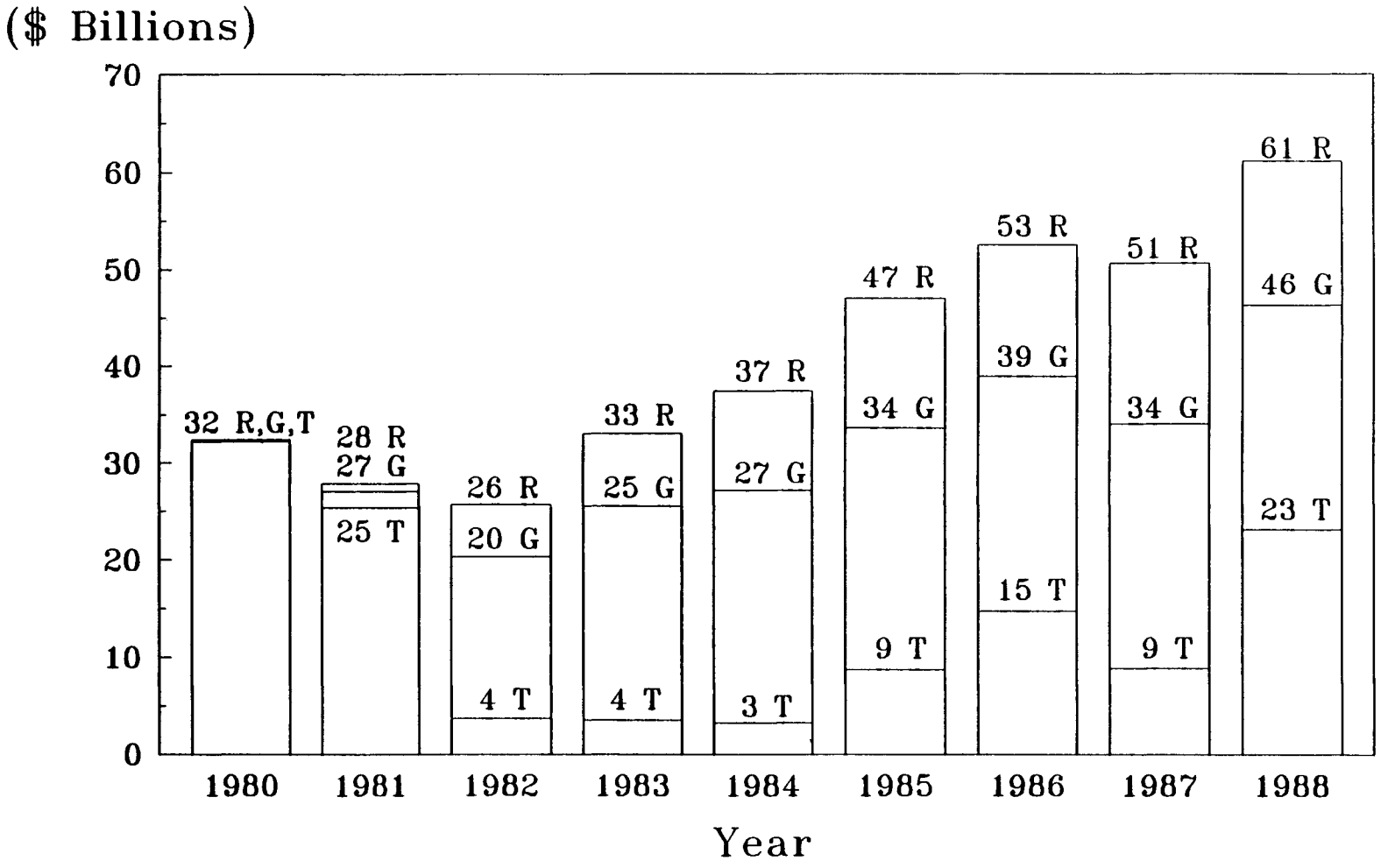
Delay in Closing Insolvent Thrifts

When thrifts are insolvent they should be closed (i.e., liquidated or merged). Yet, 364 thrifts were insolvent at year-end 1988 but still open. Furthermore, as Chart 12 shows, many of these thrifts had been insolvent for years. Indeed,

Chart 11

Amount of Thrift Capital Using Alternative Measures

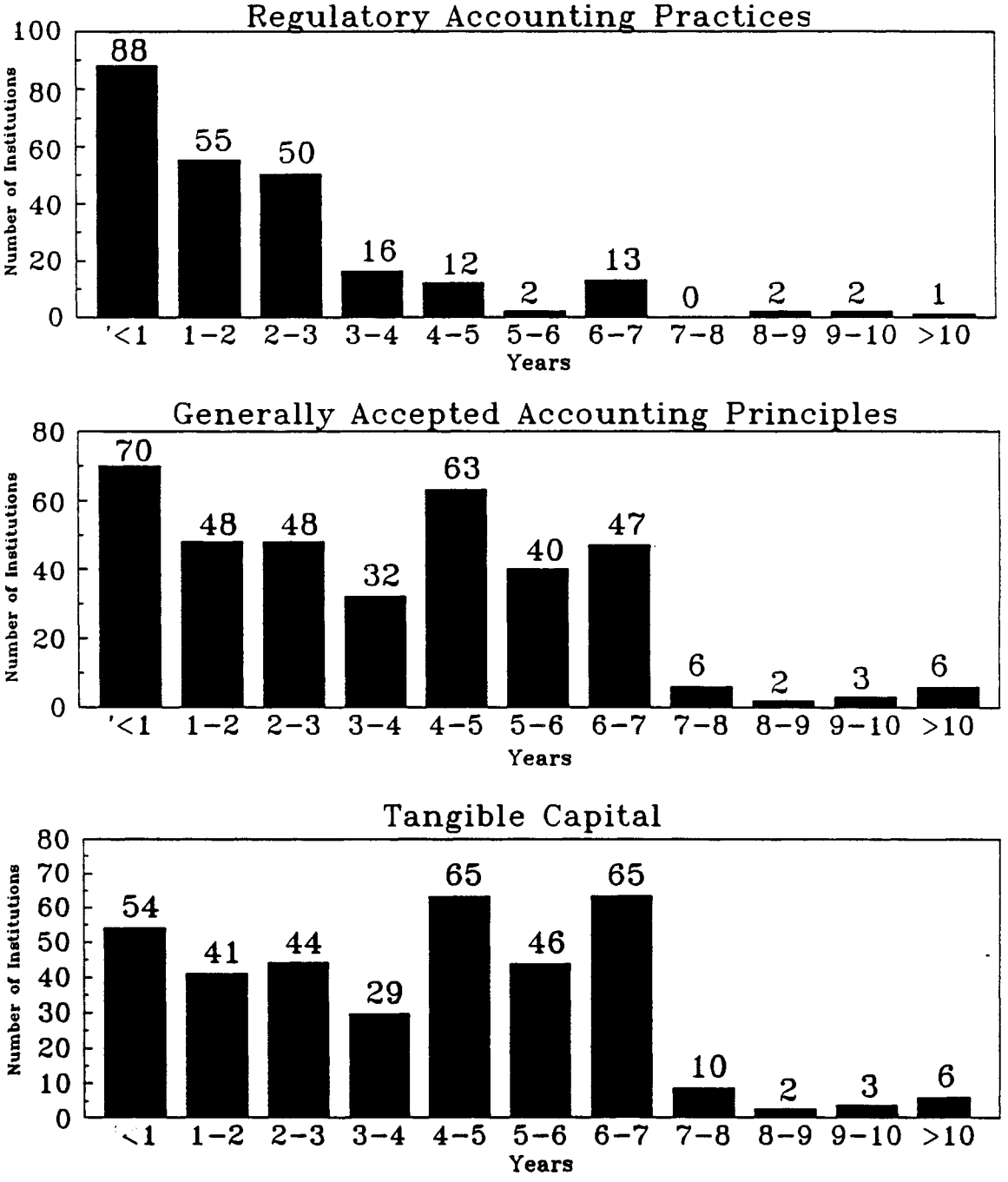
(1980 - 1988)



Note: R = Regulatory Accounting Practices
G = Generally Accepted Accounting Principles
T = Tangible Capital

Chart 12

Length of Insolvency of GAAP-Insolvent Thrifts as of December 1988



some had been insolvent more than 10 years. Although not "market value" estimates of insolvency, these book value measures were in most cases still good indicators of "true" insolvency. This point is reinforced in Chart 13, which shows the length of insolvency for different accounting measures for all 205 thrift resolutions in 1988. A substantial number of the resolved thrifts had been insolvent since the early 1980s. Had these institutions been closed much earlier, one can only ask how much less costly than $31 billion they would have been.

Interest Rates Offered by Thrifts as Signals of Trouble

Once in trouble, thrifts can offer relatively high rates on their deposits to both retain and attract new deposits [see, for example, Hirschhorn (1989)]. Chart 14 presents information on deposit rates offered in December 1987 by the 205 thrifts resolved in 1988, the 50 costliest resolutions, and all thrifts open at year-end 1988. Across all maturities, the most troubled thrifts were offering substantially higher rates than all other thrifts. Such high rates can adversely affect competing institutions as well as enable a thrift to obtain the funds necessary to "gamble for resurrection." Offering higher rates to retain funds also enables a thrift to avoid selling assets at prices below book value, thereby not having to report losses and lower capital levels.

Chart 13
1988 Thrift Resolutions
Length of Insolvency

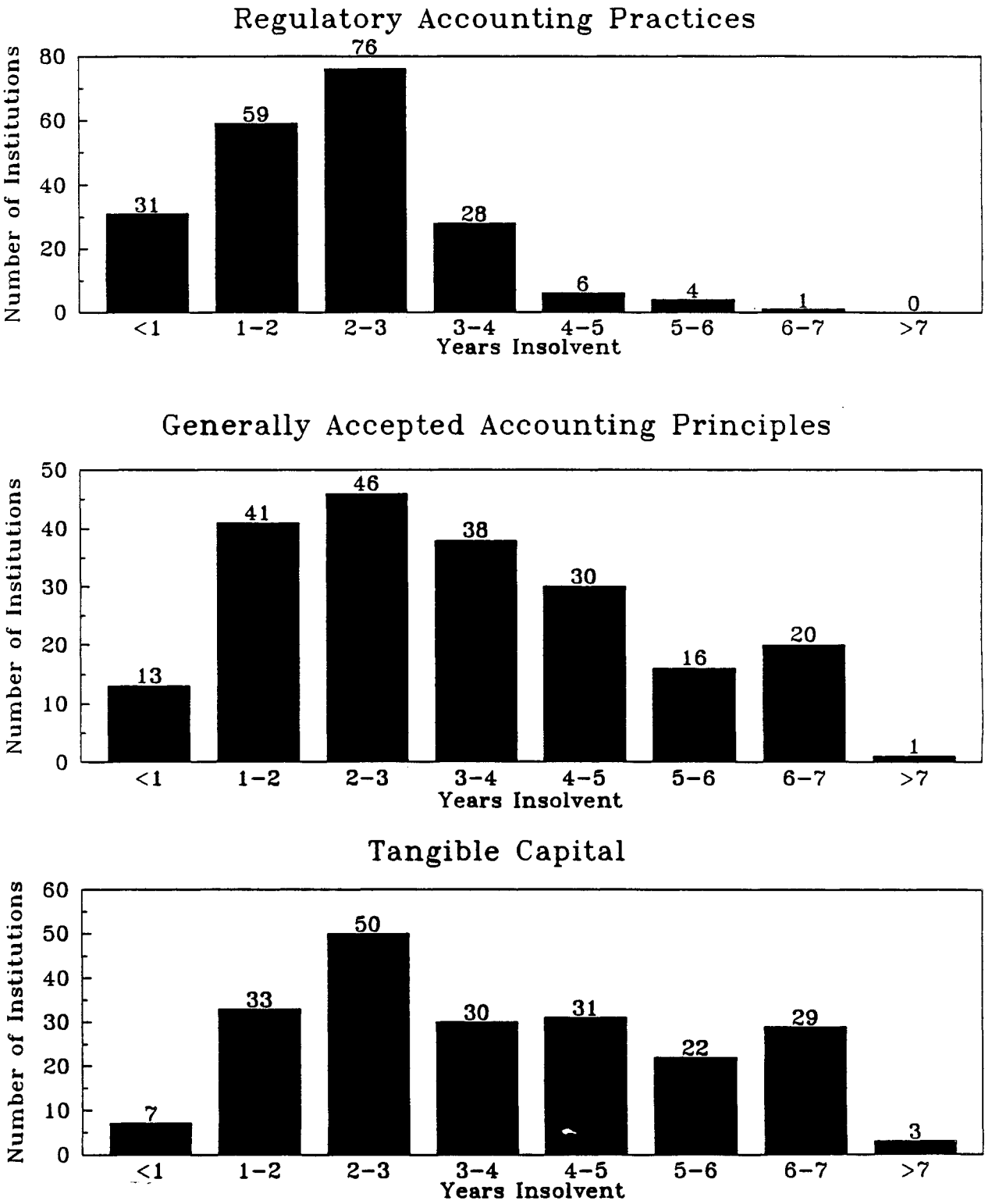
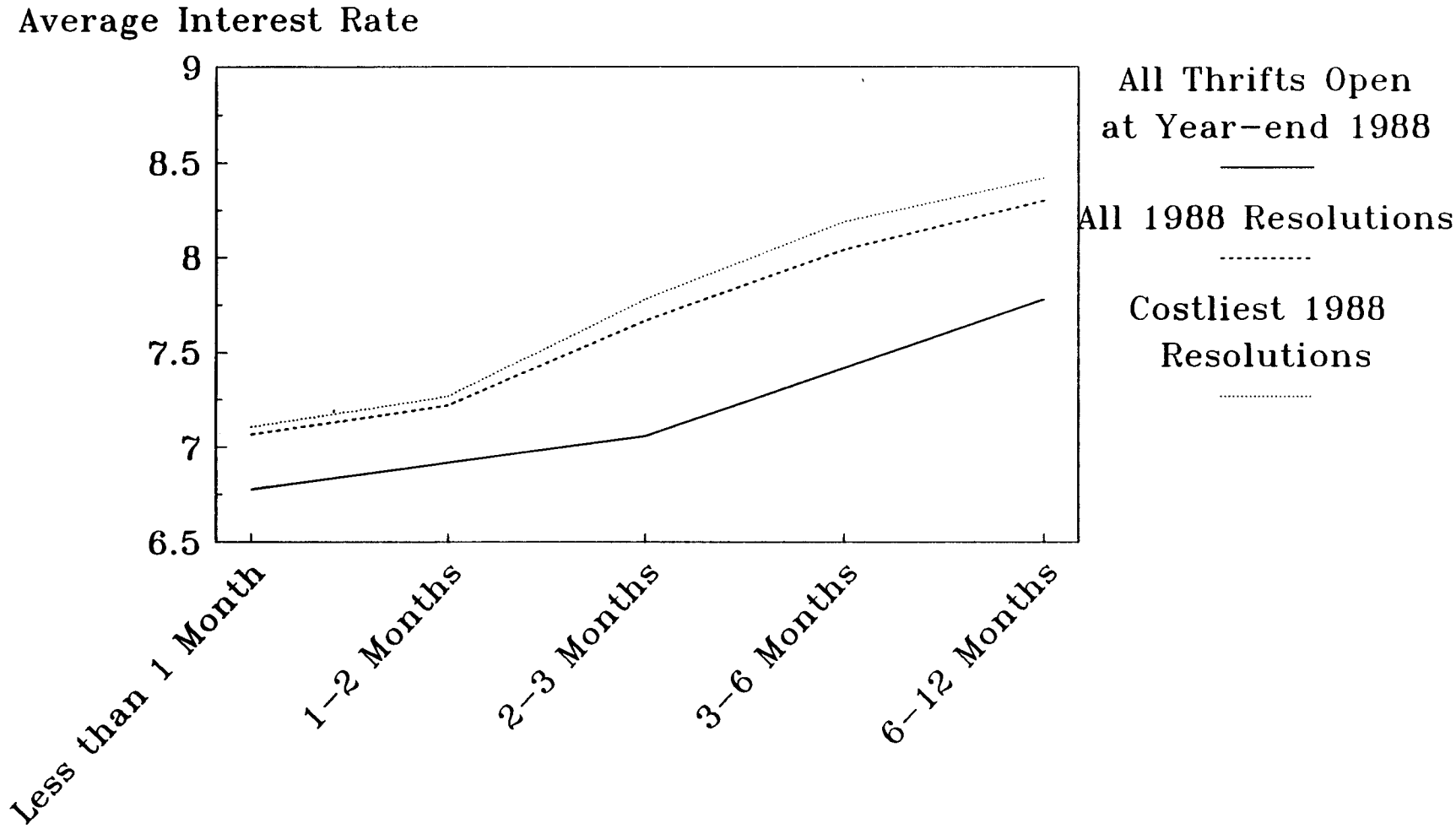


Chart 14
Deposit Rates for Fixed-Term Accounts
Balances Greater than $100,000
(December 1987)



Selected Characteristics of 1988 Thrift Resolutions

Chart 15 presents selected characteristics of all 205 thrift resolutions in 1988 as well as the 50 costliest. Since half or more of these institutions were insolvent on a tangible net worth basis 3 or more years prior to resolution, one has to be careful when determining whether the identified characteristic contributed to the failure or whether the lack of timely closure permitted the institution to change its portfolio composition. If the latter, the thrift had time to pursue an end-game strategy that may have increased the failure costs. The prevalence of the identified characteristics may, therefore, not indicate the actual causes of failure, but rather the causes of higher failure costs.

Resolution Costs of State and Federally Chartered Thrifts

Chart 16 presents information on the resolution costs over the period 1980 through 1988 for both state-and federally chartered thrift institutions at the time of insolvency. Clearly, state-chartered institutions have imposed greater costs upon the FSLIC than federally chartered institutions. If nothing else, this fact suggests that all regulators--the Bank Board, the Congress, and the state authorities--must accept some of the blame for the thrift crisis of the 1980s.

Chart 15
Selected Characteristics of 1988 Thrift Resolutions

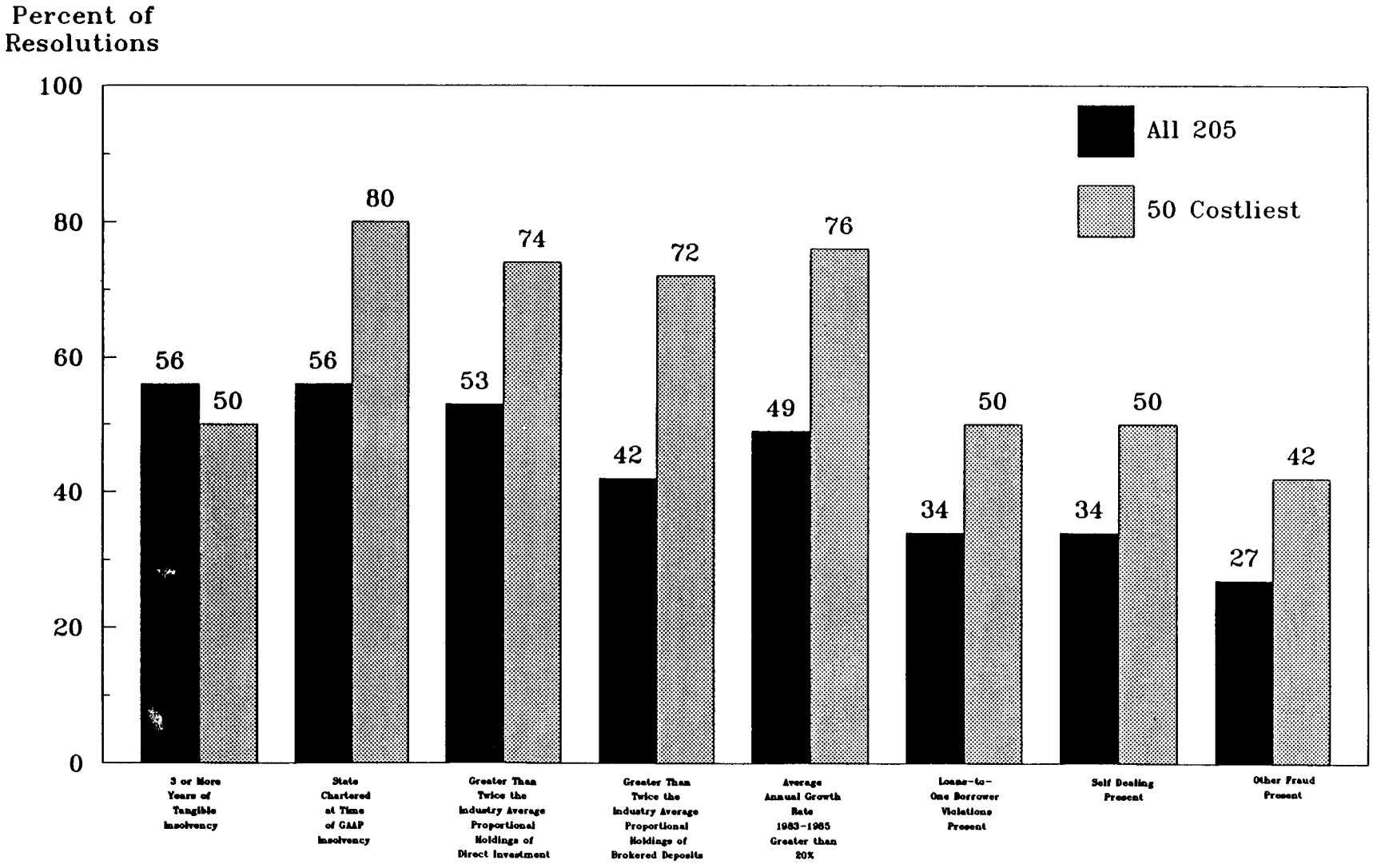
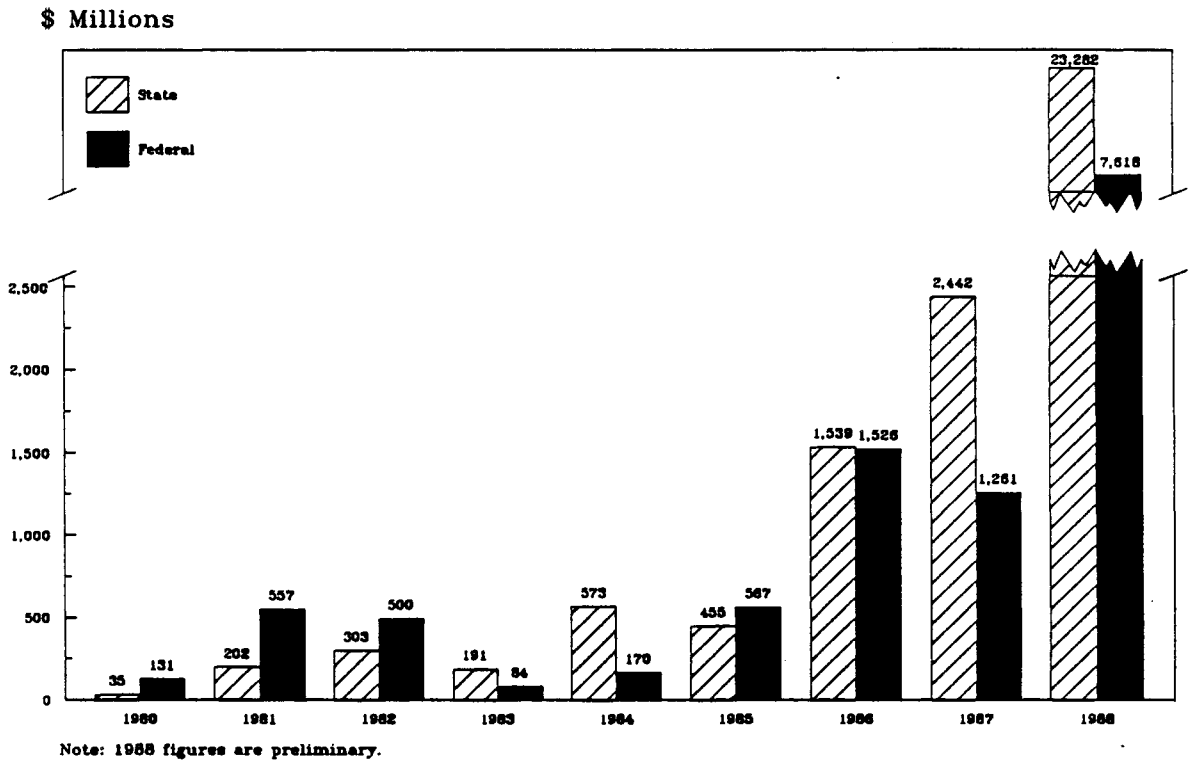
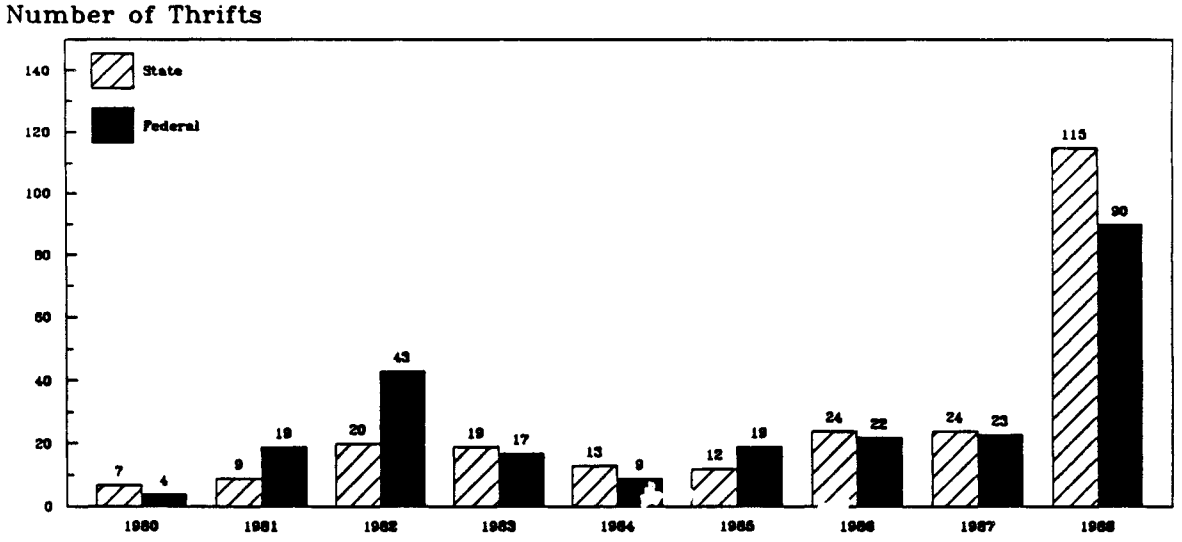


Chart 16
Resolution Costs of State and Federally Chartered Thrifts



Note: 1988 figures are preliminary.

State and Federally Chartered Thrift Resolutions



Changing Portfolio Composition of 1988 Resolutions: 1979-1988

Insolvent and marginally solvent thrift institutions remained open for years during the 1980s. Insufficient monetary and human resources are part of the reason for the failure to resolve (i.e., liquidate or merge) many of these institutions. However, there are undoubtedly other factors as well. The way in which federal deposit insurance can create problems is best understood by examining the relationship between a market-based measure of risk and the capital level of a thrift. Since such a risk measure is not available here, an examination of the changing portfolio composition of thrifts resolved in 1988 is conducted. The results are reported in Table 5 and Chart 17, where the portfolio composition is provided for 1979:IV, then when the GAAP capital-to-asset ratio equals 1.5 percent, and finally at the time of resolution. As capital deteriorates, the incentive to gamble with insured deposits increases. The incentive is greater when there is no capital and yet the institution is left open with the same management and/or ownership. To our knowledge, no one has yet provided empirical evidence that this indeed happened during the thrift crisis in the 1980s.

According to Table 5 and Chart 17, the thrifts that were resolved in 1988 did indeed move heavily into direct investment and acquisition and development loans as their capital declined. Furthermore, the costliest resolutions moved much more heavily into these assets. To the extent that these types of

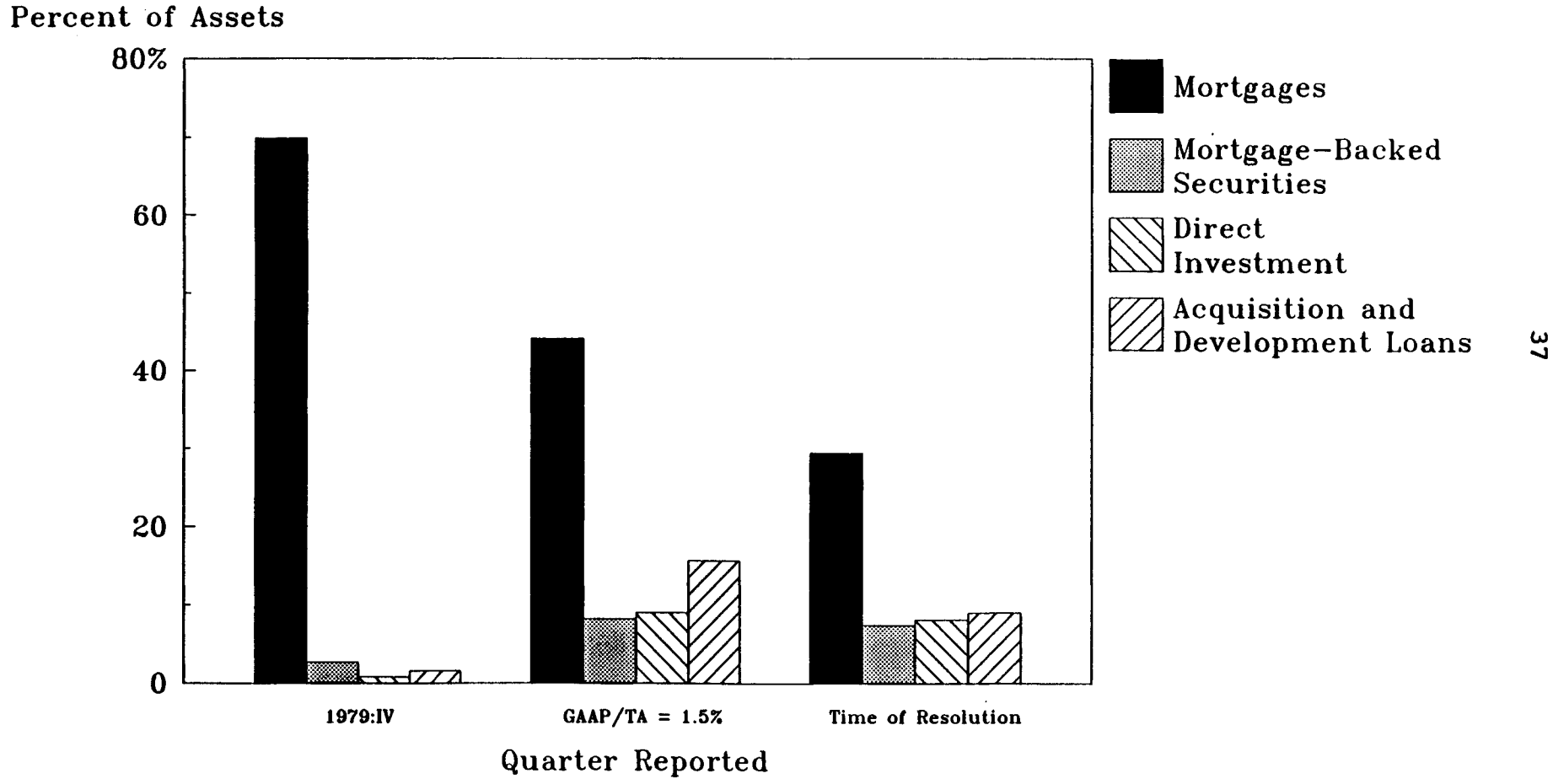
TABLE 5

CHANGING PORTFOLIO COMPOSITION OF 1988 RESOLUTIONS: 1979-1988
(PERCENT OF ASSETS)

Quarter Reported	Number of Institutions	Mortgages	Mortgage-Backed Securities	Direct Investment	Acquisition & Development Loans	Other Assets
1979:IV	All-170	71.9	2.2	0.7	1.2	23.9
	Costliest-37	69.9	2.7	0.8	1.6	24.9
GAAP/TA = 1.5%	All-205	48.3	9.1	4.4	8.6	29.5
	Costliest-50	44.2	8.2	9.0	15.6	23.1
Time of Resolution	All-205	43.8	7.8	4.3	5.6	38.0
	Costliest-50	29.4	7.4	8.1	9.0	46.1

Note: Some institutions resolved in 1988 were not in existence in 1979.

Chart 17
Portfolio Composition of Costliest 1988 Resolutions



Note: Some Institutions resolved in 1988 were not in existence in 1979.

investments substantially increased overall portfolio risk, this is evidence that moral hazard contributed to the failures and failure costs. This type of evidence is, however, certainly subject to dispute and thus should be viewed as preliminary at best. Nonetheless, it is empirical information regarding the way in which deposit insurance may enable an institution to alter its portfolio as its capital erodes away.

ASSESSING THE SIGNIFICANCE OF RESOLVED THRIFT CHARACTERISTICS

It has been shown that thrift institutions do indeed change the composition of their portfolios as capital deteriorates. Furthermore, it has been shown that the 205 thrifts that were resolved in 1988 were generally insolvent years earlier. These institutions, therefore, had ample time to take advantage of the insured status of their deposits to "gamble for resurrection." The depleted funds of the FSLIC and inadequate examination and supervision in the early 1980s, moreover, helped provide the opportunity for many thrifts to take the gamble. There is evidence that, by-and-large, the resolved thrifts in 1988 engaged in just this type of behavior. It has been found that their portfolios changed significantly away from traditional mortgages and toward direct investment and acquisition and development loans. Yet, whether these particular assets were associated with increased portfolio risk is still a debatable issue.

In an attempt to deal more directly with this issue, the individual thrift resolution costs in 1988 were regressed on direct investment and acquisition and development loans [also, see Barth, Brumbaugh, Sauerhaft, and Wang (1985), and Barth, Brumbaugh, and Sauerhaft (1986)]. If these assets did increase overall risk, one would expect them to be statistically significant determinants of the costs imposed upon the FSLIC. More generally, one can use such resolution cost data in an attempt to detect the effect of moral hazard on the federal insurer and to address other issues [see, for example, Kormendi, Bernard, Pirrong, and Snyder (1989)].

Table 6 presents the empirical results of such an exercise. As may be seen, both direct investment and acquisition and development loans have a positive and statistically significant effect on resolution costs. When the 1988 resolved thrifts moved heavily into these assets, this change in portfolio composition did indeed prove to be quite costly to the FSLIC [see, however, Benston (1989), and Benston and Brumbaugh (1988)]. Furthermore, the empirical results show that the less tangible capital a thrift had, the more costly was the resolution. At the same time, the longer the period of insolvency, the greater the resolution costs. It is, therefore, not surprising that higher capital requirements and more timely closure policies are mentioned as ways to prevent a recurrence of the thrift crisis of the 1980s. Of course, appropriate information and the legal authority are necessary to impose such requirements and implement such policies. It is also seen that

TABLE 6

THE EFFECT OF MORAL HAZARD
ON THRIFT RESOLUTION COSTS

Variable to be explained: Cost of Resolution (millions of dollars)

Variable Description	All Resolutions for which Complete Information Available Coefficients (Standard Errors) [t-statistics]
Constant	-24.3 (12.5) [-1.9]
Tangible Net Worth: Last Quarter Reported	-1.0 (0.1) [-13.9]
Months of Tangible Insolvency	0.4 (0.2) [2.2]
Dummy Variable: If Fraud Present, DFRAUD = 1	16.3 (8.0) [2.0]
Direct Investment: Last Quarter Reported	1.0 (0.1) [7.4]
Acquisition & Development Loans: Last Quarter Reported	0.4 (0.2) [2.7]
Brokered Deposits: Last Quarter Reported	-0.4 (0.1) [-3.5]
Average Annual Growth Rate: 1983-1985	-0.1 (0.1) [-0.6]
Dummy Variable: If in Management Consignment Program, DMCP = 1	-9.4 (9.3) [-1.0]
Dummy Variable: If Closely Held Stock Institution, DCLOSE = 1	15.9 (12.2) [1.3]
Tax Benefits Granted to Acquirer	0.6 (0.4) [1.3]
Tax Benefits Rebated to FSLIC	0.1 (0.1) [0.7]
Dummy Variable: If Resolution Came Under Southwest Plan, SWP = 1	21.5 (9.2) [2.3]
Dummy Variable: If Resolved in December, DEC = 1	5.4 (9.5) [0.6]
N	120
R^2	.957
F-statistic	205.6

the presence of fraud significantly increased resolution costs. Beyond these factors, only two other factors are significant determinants of costs. Southwest Plan resolutions were, on average, more costly and thrifts with higher levels of brokered deposits were, on average, less costly.

Although still preliminary, these results are consistent with the view that federal deposit insurance created a moral hazard problem that was insufficiently contained in the 1980s. As a result, one should have expected more failures and, perhaps more importantly, far greater failure costs than would have otherwise been the case. As Edward Kane has been arguing for years--quoting from one of his more recent articles--"In an economic environment in which deposit institutions are highly levered and entering new businesses every day and in which interest rates are highly volatile, systematically mispricing deposit-insurance guarantees encourages deposit-institution managers to position their firms on the edge of financial disaster" [Kane (1986), p. 100]. Much work remains to be done to confirm or disconfirm these findings.

Based upon the theoretical and empirical work to date, it appears that insufficient capital and the lack of a timely closure rule were major causes of the thrift crisis. The Bank Board responded to this situation in late 1988 by putting out for comment a proposal for a new and higher capital requirement that is risk-adjusted as well as a proposal for early intervention. For without capital and yet left open to operate with insured deposits, thrifts had strong incentives to move

into riskier activities. At the time of resolution, of course, one would find the riskier assets on the books of thrifts and be strongly tempted to blame those assets--or deregulation--for the problem. However, the obvious conclusion is not always the correct one.

SUMMARY AND CONCLUSIONS

Thrifts developed in the United States more than 150 years ago. They grew and prospered by offering financial services not generally available elsewhere. It is usually overlooked that this was done in an essentially unregulated environment [see Barth and Regalia (1988)]. Thrifts structured their balance sheets and established a type of ownership that was designed to produce minimum disruption. Despite this, there were disruptions: in the 1890s, the 1930s, and again in the 1980s. Although there were only three widespread disruptions, their severity was enough to bring about major legislative and associated regulatory action. This action undoubtedly corrected some of the problems and prevented still more problems from developing. The issue, of course, is whether the government action also set the stage for still further problems in the future.

This paper has attempted to address this issue by focusing on the moral hazard problem created by federal deposit insurance. Many factors contributed to the thrift crisis of the 1980s. This fact is well known. But empirical evidence pertaining to the way in which the existence of deposit

insurance itself exacerbated, if not actually caused, the crisis is to our knowledge nonexistent. In an attempt to fill this void, evidence has been presented that shows that capital-deficient thrifts not only have an incentive to engage in riskier activities with insured funds, but appear to have done so. It has also been found that the assets that troubled thrifts moved more heavily into imposed higher costs upon the insurer once they were resolved. Certainly much more empirical work needs to be performed in this area, but for now it appears that federal deposit insurance itself is a major culprit in the 1980s thrift crisis. Even so, against this cost must be weighed the benefit of having insurance in place to prevent a complete loss of confidence in our nation's depository institutions and thus widespread depositor runs that can severely disrupt an economy. And, according to George Kaufman (1987, p.24), "Although the incentive-for-risk-taking problem arises from federal deposit insurance, abolition of federal insurance is not the solution."

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