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S&L MERGERS, 1980-82

BY
FREDERICK E. BALDERSTON

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AN ANALYSIS OF S&L MERGERS, 1980-82

By

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The Number of Mergers and Disappearing Firms, 1980-82

The pace of mergers in the S&L industry had averaged less than fifty per year in 1978 and 1979, but mergers accelerated remarkably in the period 1980-82. Table 1 shows the annual number of FHLBB merger approvals.

Table 1: FHLBB Merger Approvals, 1980-82.

	Voluntary	Supervisory	FSLIC-assisted
1980	85	20	10
1981	215	53	24
1982	215	166	44

Source: FHLBB, Annual Report to Congress, 1982, printed in the Federal Home Loan Bank Board Journal, April, 1983, Chart 6, p.16.

The number of regulatory approvals for mergers is not necessarily equal to the number of disappearing S&L firms, because more than one firm can be merged into the surviving firm as the result of one complex merger instance. In 1982, there were 425 approvals, and these resulted in the disappearance of 483 associations, as compared with 296 mergers and 328 disappearing associations in 1981.

According to an article in American Banker, August 13, 1982, 224 S&L's, or 5.6% of the industry's total of about 4,000 firms, were merged into other firms in the first half of 1982 alone. The merged S&L's in the first half of 1981 were 83 in number. Clearly, the pace accelerated sharply from 1980 to 1981, and again from 1981 to 1982.

Severe economic pressures on these institutions and continuing operating losses were no doubt the main cause of this

accelerating merger rate and consolidation of the industry. The total number of S&L's, according to figures presented in the same article, fell from 4,368 at 12/31/80 to 4,144 at 6/30/82. Some continuing new entry served as a partial offset to the shrinkage in number of firms through merger.

A "voluntary" merger, as shown in Table 1, is accomplished for business reasons on both sides; while it requires regulatory approval, it is not undertaken as a direct result of regulatory pressure or involvement. A "supervisory" merger, on the other hand, does reflect the concern of the regulatory authorities and often is in some way sponsored or facilitated by them, although it does not directly involve commitments of financial resources. An FSLIC-assisted merger, on the other hand, does entail just such commitments of money and backing from the Insurance Corporation.

One way to postpone definitive attention to a troubled institution is to eliminate the regulatory "trigger" to action. The Garn-St. Germain Act, passed by Congress in October, 1982, includes provisions for capital assistance note issue by the Federal Home Loan Bank Board. At the same time, the existing statutory requirement of a minimum net worth for insured institutions is eliminated. Taken together, these two provisions effectively give the FHLBB discretion as to the timing of intervention, though the Board may very well set some new regulations to guide its potential actions.

The capital assistance notes may be issued by FHLBB in the following amounts: 50% of actual losses for S&L's having less than 1% book net worth; 40% of losses for those having between 1%

and 2% net worth; and 30% of losses for those having between 2% and 3% net worth. To qualify to receive these notes, an institution must have sustained losses in the two previous quarters; be solvent for six months ahead; and have 20% or more of its assets in residential mortgages or mortgage-backed securities. Since the FHLBB would not actually be providing cash infusion, and since there would be no increase in earning assets or decrease in expenses, the capital assistance notes have no other effect than to enable the institution and the regulators to postpone some form of intervention. Postponing intervention may either increase or decrease the eventual cost to the public and to the FSLIC of coping with the troubled institution. If the environment suddenly improves and the institution recovers health, the gamble represented by postponement is won, and both the institution and the Insurance Corporation are better off. If, on the other hand, the situation of the troubled institution deteriorates further, net costs of the intervention may increase: large depositors over the insured limit may meanwhile have increased in number; the S&L management may, meanwhile, have sold off "good assets", even at somewhat discounted prices, in order to obtain cash to meet operating expenses; and, by the time a postponed intervention occurs, the shell of the institution may be less salable to a stronger institution, while the Insurance Corporation faces heavier costs of assisted merger or even of liquidation.

Other provisions of Garn-St. Germain -- important as they are for sounder and more flexible S&L operations -- are not

immediately pertinent to the merger issue. But the Bill does make explicit a required bidding procedure for determining what firm may take over the troubled institution in an assisted merger, as well as strengthening the FHLBB's authority for providing assistance to troubled institutions.

That this authority may indeed be subject to challenge is illustrated by the U.S. District Court decision in the case of Fidelity S&LA of California, which was "seized" by FSLIC in 1982. That decision, now on appeal, held that the FSLIC exceeded its authority and acted arbitrarily in taking control of the institution in question. Also pending is a damage suit by the previous controlling interest of Fidelity S&LA asking damages totalling more than \$62 million from the Federal Home Loan Bank Board and the Federal Home Loan Bank of San Francisco.

FHLBB has ordinarily assumed that, if it was necessary to have a Federally-chartered mutual S&L absorbed by another Federally-chartered mutual, its supervisory agent in the FHLB District in question could successfully force the issue with little or no likelihood of resistance. A stock association, however, has specific and explicit stockholder equities in the outcome of a forced merger or of other interventions short of merger. The courts may well react as they did in the Fidelity case and hold the FHLBB to standards of both procedural and substantive fairness that may delay, and make more costly and cumbersome, the disposition of the affairs of a troubled institution. The ideal solution, from the standpoint of the financial regulator, is to bring about a discreet, smooth, unpublic merger that will not cost the FSLIC very much money.

This ideal can easily run into conflict with the preferences and interests of the incumbent management and of key stockholders.

Triggers to Intervention

Beesley described three stages of FSLIC attention to the beleaguered S&L: (I) an advisory phase, with the aid of the FHLB supervisory agent; (II) an effort to attract new equity capital into the troubled institution, especially from "non-traditional" sources, so that its prospects of survival will be improved; and (III) the marginally-assisted merger, if the prior stages don't work. (Beesley, American Banker, 1982)

Beesley also observes that the first category of acquiring firm examined consists of strong S&L's. Within this category, according to a commentary by FHLBB General Counsel Thomas Vartanian concerning the new branching and acquisition policy of FHLBB, effective 9/3/82, a totally in-state acquisition by another S&L would have first preference, and only then would inter-state merger by a state-chartered or a Federally-chartered S&L be considered.

Beesley, quite naturally, gives weight in his discussion to the objective of minimizing FSLIC's costs of assistance. While inter-state and inter-industry mergers are non-traditional, he points out that they should be actively considered if in-state merger efforts fail.

Beesley concludes his discussion with some trenchant comments about the nearly-failing institution: that, in desperation, it may gamble with high-cost deposits and high-risk assets, for if it wins the gamble it may save itself, and if it

loses, the FSLIC really picks up the residual losses. (Professor Edward Kane made this point in a very strong analysis. See Kane, 1981.)

To sum up: unassisted merger may be a graceful way out for the S&L that cannot see a favorable future but that is in markets attractive to take-over candidates and is not afflicted with severe balance-sheet damage. Passage of the Garn-St. Germain Bill provided the authorities with more room for discretion. To offset operating losses, FSLIC-insured institutions can now obtain FSLIC promissory notes and issue net worth certificates, to conform to the 3 percent minimum net worth requirement. Other cosmetic improvements of net worth accounting will also enable incumbent managements and the regulatory authorities to achieve postponement of interventions. Whether this will turn out to be in the public interest depends in part upon the market environment that the future holds (if it is an environment of reduced short-term rates, many S&L's may survive that would not survive in a continuation of the environment of the first half of 1982). In part, also, it depends upon what the dynamics of the nearly failing firm are: postponing intervention may raise the eventual cost of the intervention, as Beesley observes.

FSLIC is sensitive to the cost of assistance in terms of the claim on its limited reserve position. The Reagan administration has opposed an increase in the guaranteed backup to FSLIC and FDIC from the U.S. Treasury, and the actual strategies of intervention are thus affected greatly by the effort to conserve these agencies' reserve positions.

Motives of the Acquiring and the Acquired Firm

A firm that seeks voluntarily to be acquired may do so because it anticipates future regulatory pressure or because it does not look on its own future prospects favorably. For example, in the 1980-82 period, many S&L managements and controlling interests were pessimistic about the implicit portfolio writedowns that they had already sustained and were equally pessimistic about the future course of interest rates and housing finance. In addition, managements observed that operating economies -- for example, automation of savings account services and of portfolio servicing -- would require a larger scale of operation than they had in prospect. For all of these reasons, managements and controlling stock interests of many firms were willing to contemplate the possibility of selling out.

The majority of S&L firms, however, were of the mutual form. For them, there was not as clear a basis for voluntary merger as there could be for the firm controlled by stockholders, because the valuation of the equity interest was not ordinarily as clear-cut and because the incumbent management -- usually controlling the proxy -- was ordinarily interested in protecting its own position in any possible merger.

Potential acquiring firms in voluntary mergers have had strikingly different motives depending on whether they were in the S&L industry, or not, and depending on whether they were local or non-local in their existing operations.

The non-local S&L firm would ordinarily see the acquisition as opportunity to enter the local sub-markets of the to-be-

acquired firm. To the extent that the acquired firm's branch system was non-duplicating of its own, a firm having some local operations would see possible local economies of scale in advertising or other conventional advantages associated with expansion of its branch network. (As the impact of ATM's and other electronic technology becomes more evident, however, these motivations for acquisition are likely to weaken.)

The S&L firm already operating partially in the local markets of the firm to be acquired might also have a defensive motive -- against non-local S&L's to keep them from entering the local markets; or, even more strongly, against other types of financial firms that might use an S&L acquisition to gain a foothold in a market area formerly foreclosed to them. This defensive motivation was undoubtedly present in the vigorous efforts of California-based S&L's to outbid and otherwise to oppose Citicorp's acquisition of Fidelity S&LA of California.

Interpenetration of financial markets and industries under the impetus of deregulation and new technologies has given rise, at least temporarily, to bidding interest in S&L's by banks, insurance companies, and other would-be entrants. This bidding interest is strongest, however, for S&L's that are based in the preferred markets -- chiefly, California, Florida, and Texas. The predictable interest-group defenses against this include pressure on the regulatory authorities to deny permission for such mergers. Non-financial firms that chose to seek entry into the S&L business through acquisition of an existing firm were not generally opposed with the same vigor, and, in fact, there was a

long history of such entry: Sears, Roebuck and Co., Jim Walter, Inc., and, more recently, National Steel Corp. each purchased majority control of a California S&L.

Priority schemes for merger approval

To understand the rationale, or the rationalizations, for some of the priority schemes for merger approval, one must first recall the strong tradition in both banking and the S&L industry of localization and protection of local market position against "outsiders". In commercial banking, this had led to passage of the McFadden Act (1928) providing that, if a state restricted intra-state branching, the Comptroller of the Currency would be bound by that state's restrictions -- a remarkable inversion of the more usual approach of Federal pre-emption of a field in which a Federal concern was to be expressed. Inter-state branching and banking was prohibited. Although the S&L industry did not have categorical restraints against intra-state or inter-state branching, both state and Federal regulators were traditionally circumspect about crossing boundaries that would arouse the defenders of localization.

As the S&L industry fell under increasingly severe balance-sheet pressure and sustained heavy operating losses in 1980, the FHLBB's desire to shore up the industry's reserve base and conserve the FSLIC's capital reserves led for a time to a preference for new entrants, and infusions of new capital, from sources external to the S&L industry and to a willingness to approve inter-state mergers whereby strong S&L firms would be allowed to enter regional markets new to them if they would absorb "problem" cases.

Dominant emphasis on considerations of reserve strength and capital infusion would imply the following priority scheme under the circumstances of the 1980-82 period, in descending order of preference: heavily-capitalized non-financial firms that would make significant infusions of new capital into the acquired firm; strong non-S&L financial firms that would pay heavily, by making capital infusions and by absorbing weak assets, for the privilege of entry; S&L firms that were non-local and that would pay for entry into the acquired firm's local markets; and, finally, local S&L firms strong enough to take over the problems, whatever they might be, of the firm to be acquired.

In this situation, many elements of bargaining and trade-off were present, and the willingness to cross traditional barriers gave the FHLBB/FSLIC negotiators added strength.

The Garn - St. Germain Act, passed in October, 1982, modified the rules of the game in several important ways. First, it gave broader business powers to Federal associations, and it also provided encouragement to Federal mutual S&L's to convert to stock status. These two developments made Federal stock charter attractive and, inferentially, expanded the set of potential acquiring firms to include a number of large Federal associations that became stock institutions and thus had far more leverage in merger negotiations. The ordering scheme that FHLBB was instructed to use in Garn-St. Germain gave procedural preference to local, and intra-industry, acquirers. Beesley, however, said in the 1982 FHLBB annual report: "If the [FSLI] Corporation cannot find an acceptable partner for a marginally assisted

intrastate merger, it then looks to other available options including interstate mergers and acquisitions by savings and loans, acquisitions by banks or bank holding companies, or acquisitions by any individual, group, or organization capable of acquiring an S&L." (Annual Report, p. 14). It is apparent that the objective of minimizing the cost to FSLIC of problem cases remained uppermost in Mr. Beesley's mind.

As of mid-1983, there remained important questions as to both the substance of public policy regarding mergers in the financial industries and the procedural details of the priority scheme for arranging mergers. The Chairman of the Federal Reserve Board, the Secretary of the Treasury, the Chairman of FDIC, and various industry groups all had proposals for new legislation that would regulate, or in some cases prohibit, various types of merger. As the sense of crisis that had obtained in mid-1982 receded, so too did the willingness to contemplate rapid and uncontrolled structural change.

Costs of Assisted Mergers to FSLIC

H. Brent Beesley, Director of FSLIC, and a co-author reviewed the record of assisted S&L mergers in an article in American Banker (August 13, 1982, p.11 ff.). For the period from 1934-1980, Beesley said, FSLIC resolved 169 cases at a total cost of \$2.6 billion. From 1/1/81 through 7/31/82, FSLIC handled 47 cases. The total assets of these S&L's amounted to \$38.6 billion. According to Beesley, this was accomplished at a cost, in present value terms, of \$1.8 billion. The present value cost of FSLIC assistance, as a percentage of liquidation value, was 66.7% in 1978, 75.8% in 1979, 63.3% in 1980, and 74.8% in January -

May, 1981. In the second half of 1981 it was 18.0% and in the first seven months of 1982, 13.7%. While Beesley did not disclose the discount rate used for his present value calculations, we may assume that it was close to the FHLB borrowing rate or the current mortgage rate in 1981-82 -- 15% to 17%. If multi-year contracts to backstop the acquiring institution are used, and if the estimated portfolio losses are regarded as pushed off in part into distant future years, the present value of the FSLIC obligation is indeed much lower. Furthermore, this strategy of intervention conserves the FSLIC's ready reserves -- in effect, enabling it to "keep more of its powder dry".

The 47 assisted mergers amounted to just ten percent of the 474 reported mergers in the same 1 1/2 year interval.

In the 1982 FHLBB Annual Report, Beesley also reported that, in 1982, FSLIC assisted the completion of 35 intra-state mergers, 11 inter-state mergers, and two inter-state acquisitions (one of these involving an inter-state, inter-industry merger, presumably, Citicorp's acquisition of Fidelity S&LA of California). Beesley also cited FSLIC's handling of 47 new cases involving 75 disappearing associations in 1982 (not necessarily the same 47 as discussed above, since a case may start in one year and finish in another), for which the FSLIC's initial cash outlay upon settlement was only \$201.6 million, although the total assets of these institutions were more than \$27 billion. Finally, Beesley cited FSLIC's experience in actually closing an association (in contrast to an arranged merger) with the transfer

to an acquiring association of \$30 million in savings accounts, for which the acquiring institution paid a premium.

Predicting Serious Trouble in the S&L Firm

FHLBB staff has developed over a period of time an elaborate simulation model that permits projection and interpretation of the future condition of an individual institution. Dr. Charlotte Chamberlain, then Director of the Office of Policy and Economic Research, referred in the 1982 Annual Report to "...firm-specific accounting models". Beesley, in the same report, referred to computer analysis capabilities of the FSLIC staff.

The simplified projection models used in my program of research relied on accounting data and, in some of the work, on estimates of the discount in an S&L's mortgage portfolio. While these models were sufficient for our analytical purposes, it would require more detailed model structure and more data to make possible accurate predictions of the timing of insolvency. It is fair to assume that FHLBB and FSLIC have constructed just such models.

In this research program, we undertook another type of investigation: namely, to determine whether standard accounting ratios could predict the weakness of S&L firms resulting in supervisory or assisted merger. Linda Blume carried out the detailed analysis, based on the computer projections from data files of this research program.

The record of voluntary, supervisory and assisted mergers in the U.S. during the first half of 1982 was available, and we received the docket numbers of the firms involved through the cooperation of FHLBB. This file included 250 approved mergers

involving 287 disappearing S&L firms, with \$37.6 billion in total assets. Twelve mergers involving 22 disappearing firms were deleted from the working file (in most cases, because the disappearing firm had no assets prior to 1982). Thus, the final sample of merger cases was:

	Number of mergers	Number of Disappearing S&L's
Voluntary	127	130
Supervisory	96	109
Sup.-assisted	15	26
Total	238	265

For each disappearing S&L, we searched the file to find a matching S&L that survived the period, matching upon asset size, location, and type of S&L (that is, whether mutual or stock).

The intent of the investigation was to predict, from the values of a number of accounting ratios, which firms would be survivors and which firms would disappear. The ratios used were:

Net Income/ Total Assets, averaged for 1980 and 1981.

Net Worth to Total Liabilities

Net Worth to Total Assets

Revised Net Worth to Total Assets, including the discount of loan portfolio for each firm, as performed in earlier research in this program.

Spread: Yield on Earning Assets Minus Cost of Funds

Spread: Yield on Mortgage Portfolio Minus Cost of Savings

Savings Liability/Total Liabilities.

Before examining these ratios, we note that the group of firms involved in supervisory-assisted merger had average total assets

of \$438 million in 1981, whereas the supervisory merger group had \$98 million, and the voluntary merger group had average assets of \$94 million. (Average assets of all S&L's in 1981 were, for comparison, \$152.7 million.)

The results of the ratio analysis are reproduced as Table 2 from Linda Blume's unpublished paper, p. 33. In all cases, the deterioration from 1980, a bad year, to 1981, a worse one, is evident. In the ratio of Net Worth to Total Assets (NWT/A), the voluntary merger group shows a 1980 value of 5.86% compared with 6.17% for the control group and the values are not significantly different; but the supervisory and assisted groups have 1.97% and 3.7%. In 1981 the ratio deteriorates still further for these two groups, and goes negative for the supervisory-assisted group. Despite the inadequacies of book net worth as a signal of balance sheet health for S&L firms, this ratio already provides one predictor of the difference between the control group and the two groups of distressed cases. When the mortgage portfolio discount is used to produce the Revised Net Worth to Total Assets ratio, negative values for both the merged groups and the control group signal the general malaise of this industry. However, the merged groups show deeper negative values and greater deterioration from 1980 to 1981, with the supervisory assisted group worst off.

The two spread ratios also show the most marked disadvantage to the supervisory-assisted group. Finally, the ratio of savings to total liabilities was expected to show that, if the S&L firm was in serious trouble, it would begin to lose savings accounts and would have to replace these with FHLB borrowings. This indeed

Table 2

**Mean Ratio Values
1980 and 1981
(In Basis Points: 100 Basis Points = 1%)**

1980						1981					
	Standard			Standard			Standard			Standard	
	Mean	Deviation		Mean	Deviation		Mean	Deviation		Mean	Deviation
NET INCOME TO TOTAL ASSETS (NITA)											
<u>M</u>	-10.3	60.2	<u>R</u>	27.4	43.6	<u>M</u>	-127.4	105.5	<u>R</u>	-50.5	70.2
<u>MSA</u>	-84.5	125.0	<u>RSA</u>	35.4	75.1	<u>MSA</u>	-279.4	216.8	<u>RSA</u>	-33.6	85.4
<u>MS</u>	-20.23	37.4	<u>RS</u>	24.27	37.6	<u>MS</u>	-141.08	63.9	<u>RS</u>	-53.96	75.9
<u>MV</u>	12.93	38.6	<u>RV</u>	28.36	40.0	<u>MV</u>	-85.49	60.5	<u>RV</u>	-50.91	61.7
NET WORTH TO TOTAL LIABILITIES (NWTL)											
<u>M</u>	487.4	257.3	<u>R</u>	672.9	446.9	<u>M</u>	350.0	299.6	<u>R</u>	578.6	378.8
<u>MSA</u>	204.6	206.6	<u>RSA</u>	815.6	1,038.4	<u>MSA</u>	-50.9	275.0	<u>RSA</u>	617.6	576.7
<u>MS</u>	385.48	112.8	<u>RS</u>	651.6	297.0	<u>MS</u>	233.06	118.7	<u>RS</u>	564.36	341.3
<u>MV</u>	629.35	267.2	<u>RV</u>	662.32	348.2	<u>MV</u>	528.18	285.3	<u>RV</u>	582.64	362.2
NET WORTH TO TOTAL ASSETS (NWA)											
<u>M</u>	459.1	228.7	<u>R</u>	617.3	321.9	<u>M</u>	330.2	275.0	<u>R</u>	536.0	308.4
<u>MSA</u>	196.5	208.3	<u>RSA</u>	695.4	638.7	<u>MSA</u>	-58.8	286.0	<u>RSA</u>	559.3	430.1
<u>MS</u>	370.04	104.6	<u>RS</u>	604.88	248.8	<u>MS</u>	226.45	112.8	<u>RS</u>	525.03	287.6
<u>MV</u>	586.38	229.2	<u>RV</u>	612.87	282.4	<u>MV</u>	495.03	247.6	<u>RV</u>	540.06	298.9
REVISED NET WORTH TO TOTAL ASSETS (RNWTA)											
<u>M</u>	-1361.5	276.5	<u>R</u>	-1164.4	415.0	<u>M</u>	-1500.1	329.1	<u>R</u>	-1224.7	403.0
<u>MSA</u>	-1591.7	255.0	<u>RSA</u>	-1034.9	895.6	<u>MSA</u>	-1885.2	367.7	<u>RSA</u>	-1115.9	695.7
<u>MS</u>	-1463.48	209.0	<u>RS</u>	-1184.76	292.1	<u>MS</u>	-1615.91	223.6	<u>RS</u>	-1247.13	332.9
<u>MV</u>	-1229.91	265.3	<u>RV</u>	-1173.15	349.2	<u>MV</u>	-1326.07	286.0	<u>RV</u>	-1227.15	378.0
SPREAD: EARNINGS/FUNDS (SEF)											
<u>M</u>	35.9	54.8	<u>R</u>	64.1	55.2	<u>M</u>	-82.3	74.9	<u>R</u>	-28.6	78.8
<u>MSA</u>	-23.3	89.1	<u>RSA</u>	52.1	83.3	<u>MSA</u>	-165.1	131.4	<u>RSA</u>	-43.5	85.0
<u>MS</u>	31.91	45.0	<u>RS</u>	64.65	48.4	<u>MS</u>	-91.13	56.8	<u>RS</u>	-27.82	77.5
<u>MV</u>	51.05	44.2	<u>RV</u>	66.03	53.9	<u>MV</u>	-58.33	60.9	<u>RV</u>	-26.21	78.8
SPREAD: MORTGAGES/SAVINGS (SMS)											
<u>M</u>	49.0	66.9	<u>R</u>	67.8	60.9	<u>M</u>	-102.0	122.2	<u>R</u>	-56.7	84.5
<u>MSA</u>	-7.1	112.3	<u>RSA</u>	33.1	63.5	<u>MSA</u>	-244.7	290.2	<u>RSA</u>	-82.8	79.0
<u>MS</u>	46.12	51.5	<u>RS</u>	67.54	55.1	<u>MS</u>	-99.15	70.1	<u>RS</u>	-56.08	87.5
<u>MV</u>	62.73	60.6	<u>RV</u>	74.89	63.0	<u>MV</u>	-75.8	73.0	<u>RV</u>	-51.97	82.7
SAVINGS TO TOTAL LIABILITIES (STL)											
<u>M</u>	8976.7	748.6	<u>R</u>	9257.2	672.6	<u>M</u>	8761.8	1040.3	<u>R</u>	9096.3	859.0
<u>MSA</u>	8094.7	1007.2	<u>RSA</u>	8816.0	983.2	<u>MSA</u>	7417.0	1837.3	<u>RSA</u>	8517.8	1286.5
<u>MS</u>	8871.65	716.1	<u>RS</u>	9339.74	629.4	<u>MS</u>	8671.65	860.9	<u>RS</u>	9178.55	775.9
<u>MV</u>	9241.18	533.2	<u>RV</u>	9276.2	601.3	<u>MV</u>	9106.46	670.0	<u>RV</u>	9142.98	797.3

Key: S&L groups

- Merged group as a whole: M
- Merged: supervisory-assisted MSA
- Merged: supervisory MS
- Matched group as a whole R
- Matched to MSA RSA
- Matched to MS RS
- Matched to MV RV

Source: Blume, Linda, "Ratio Analysis: Saviggs and Loan Association Mergers"
(June, 1983), Appendix 2.

shows up in the marked deterioration from 1980 to 1981 for the supervisory-assisted group of merged S&L firms.

In Table 3, we reproduce from Linda Blume a table of the changes in these ratio values, from 1980 to 1981. Again, the differences between the two groups of distress mergers and the control group is quite marked, whereas the voluntary merger cases show little or no difference from the control group.

While the average of each ratio, and the change in that average, provides a very helpful descriptive indication of the difference between the supervisory and assisted merger groups, on the one hand, and the rest of the matched sample of firms on the other, the regulatory authorities are interested in predicting the future status of each individual firm -- if possible, by an examination of financial ratios. (Other decision-makers, such as large depositors or investors, may also be interested for their own private purposes.)

The first predictive test followed the approach of Beaver (1966;1968) and applied a dichotomous classification analysis to the data. The entire sample of merged firms and control firms was first pooled together. Then, the pooled sample was split by random selection into two halves, the first to be used for estimation purposes, and the second, for validation purposes; each half was subdivided into the six sub-classes of merged and control firms.

A dichotomous classification program then selected an appropriate interval value for each of six ratios (the ratio of Net Worth to Total Liabilities was not included because it was felt to be redundant) and plotted histograms of the estimation

Table 3

Mean Ratio Changes: December 31, 1980 to December 31, 1981
In Rank Order
(In Basis Points: 100 Basis Points = 1%)

M	Rank	Change 1980 to 1981	Significance Tests Against Zero		R	Rank	Change 1980 to 1981	Significance Tests Against Zero	
			t	PR> t				t	PR> t
	1	-214.9	-6.34	.0001		1	-160.9	-6.00	.0001
	2	-151.0	-23.72	.0001		2	-124.4	-29.10	.0001
	3	-138.7	-18.03	.0001		3	-94.4	-9.11	.0001
	4	-137.4	-21.84	.0001		4	-92.7	-30.50	.0001
	5	-128.9	-20.64	.0001		5	-81.3	-13.61	.0001
	6	-118.2	-40.95	.0001		6	-77.8	-22.85	.0001
	7	-117.1	-26.27	.0001		7	-60.4	-8.04	.0001
					<u>RSA</u>				
	1	-677.7	-2.92	.0073		1	-298.2	-2.11	.0448
	2	-293.5	-6.49	.0001		2	-198.0	-2.10	.0457
	3	-255.6	-6.86	.0001		3	-136.2	-3.06	.0052
	4	-255.3	-6.45	.0001		4	-115.9	-9.36	.0001
	5	-237.6	-4.87	.0001		5	-95.6	-10.75	.0001
	6	-194.9	-6.51	.0001		6	-81.0	-1.80	.0846
	7	-141.8	-8.78	.0001		7	-69.1	-6.68	.0001
					<u>RS</u>				
	1	-200.09	-4.68	.0001		1	-161.19	-4.14	.0001
	2	-152.43	-16.85	.0001		2	-123.62	-17.39	.0001
	3	-152.42	-22.16	.0001		3	-92.47	-18.95	.0001
	4	-145.27	-23.03	.0001		4	-87.24	-11.19	.0001
	5	-143.59	-21.85	.0001		5	-79.85	-11.52	.0001
	6	-123.04	-29.41	.0001		6	-78.23	-13.59	.0001
	7	-120.84	-23.84	.0001		7	-62.38	-6.24	.0001
					<u>RV</u>				
	1	-138.53	-23.15	.0001		1	-133.22	-3.96	.0001
	2	-134.72	-4.17	.0001		2	-126.86	-21.53	.0001
	3	-109.37	-33.40	.0001		3	-92.24	-21.32	.0001
	4	-101.18	-15.10	.0001		4	-79.68	-12.19	.0001
	5	-98.42	-23.23	.0001		5	-79.27	-17.36	.0001
	6	-96.16	-12.66	.0001		6	-71.61	-12.40	.0001
	7	-91.35	-15.55	.0001		7	-54.53	-5.91	.0001

Source: Blume, Linda, "Ratio Analysis: Savings and Loan Association Mergers" (June, 1983), Appendix 3.

and validation samples. Linda Blume selected manually a cutoff point from each ratio's histogram from the estimation sample. Then she used this cutoff point on the validation half of the pooled sample and found, for each sub-class of firms, how many were correctly classified and how many were misclassified. The resulting misclassification rates for the six ratios in 1980 and in 1981 are shown in Linda Blume's Appendix 6 and are reproduced here as Table 4. In that Table, a Type I error would misclassify as a survivor an institution that actually had to be merged; a Type II error would classify as an institution that had to be merged one that actually survived beyond 6/30/82. The cutoff criterion was selected so as to balance these two risks of misclassification as nearly as possible. As Blume points out, "...a rigorous Type I error minimizationwould correctly classify more of the troubled institutions,[but] there would be so many solvent S&Ls misclassified as troubled that regulators wanting to focus on the distressed firms would be hampered." (Blume, 1983, p. 25)

The second predictive test for the individual firm employed discriminant analysis. Starting from a model containing no variables, the procedure was to add in sequence that variable which contributed most to the model's power of discrimination. This approach was used for three analyses: I., to distinguish between the members of the entire Merged group and the entire Control group; II., to discriminate between four groups (the supervisory-assisted merged firms; the supervisory mergers; the voluntary mergers; and the entire control group); and III., to

Table 4

Misclassification Rates of Six Ratios
for 1980 and 1981 on Validation Group
Using Histograms with Split Sample

	<u>Type I</u>	<u>Type II</u>	<u>Total</u>
NITA: 1980 (CP = 0)	.20	.24	.23
1981 (CP = -100)	.19	.25	.24
NWTA: 1980 (CP = 400)	.32	.16	.20
1981 (CP = 300)	.20	.17	.18
RNWTa: 1980 (CP = -1250)	.15	.50	.41
1981 (CP = -1500)	.21	.23	.23
SEF: 1980 (CP = 50)	.28	.47	.42
1981 (CP = -70)	.25	.33	.31
SMS: 1980 (CP = 70)	.28	.53	.46
1981 (CP = -70)	.29	.48	.43
STL: 1980 (CP = 9200)	.38	.38	.38
1981 (CP = 9100)	.40	.41	.41

CP = Cutoff Point. S&Ls with ratios below the cutoff points were classified as being either merged-supervisory-assisted or merged-supervisory. Cutoff points are shown in basis points.

Source: Blume, Linda, "Ratio Analysis: Savings and Loan Association Mergers", June, 1983, Appendix 6.

discriminate between all six groups. The results, in Blume's Appendix 7, are reproduced here as Table 5. Case I correctly classified 70.2 percent of the firms; cases II and III were not as successful.

However, one can make further inferences from the data of Table 5. From case II, for example, one can add subclasses to obtain the following:

Groups:	Number of Cases Classified into:		
	MSA+MS	MV+R	Total
MSA+MS	119	16	135
MV+R	81	314	395
Total	200	330	530

In other words, if a firm was really a supervisory problem, and thus should bein the combined category (MSA+MS), the discriminant function would classify it correctly 88% of the time (119 out of a total of 135 cases). However, the regulatory decision-maker would, once again, find some noise in the classification effort, for of the firms classified as troubled, numbering 200 altogether, 119 are indeed troubled and 81 are really all right (as of the time period 1980-81), in the sense that they did not go through supervisory or assisted merger in the first half of 1982.

The discriminant function for Case II relied upon five variables, and these are also shown in Table 5. For Case III, a somewhat different ordering of variables entered the discriminant function.

One can conclude from this analysis that the accounting data of S&L firms employed as standard financial ratios,

Table 5

Stepwise Discriminant Analysis

I. Discriminate Between Surviving (R) and Merged (M) S&Ls: Two Groups

<u>Step</u>	<u>Variable Entered</u>	<u>F Value to Enter or Remove</u>	<u>Approximate F Statistic</u>
1	NITA 81	97.64	97.64
2	RNWTa 81	13.52	56.74
3	RNWTa (Dif. 81-80)	4.08	39.4

Classification Matrix

<u>Group</u>	<u>Percent Correct</u>	<u>Number of Cases Classified Into</u>	
		<u>M</u>	<u>R</u>
M	68.3	181	84
R	72.1	74	191
Total	70.2	255	275

II. Discriminate Between MSA, MS, MV, R: Four Groups

<u>Step</u>	<u>Variable Entered</u>	<u>F Value to Enter or Remove</u>	<u>Approximate F Statistic</u>
1	NITA 81	218.52	218.52
2	STL 80	27.02	128.18
3	NWTA 81	11.36	90.92
4	RNWTa (Dif. 81-80)	11.35	72.38
5	NITA (Dif. 81-80)	4.15	59.08

Classification Matrix

<u>Group</u>	<u>Percent Correct</u>	<u>Number of Cases Classified into</u>			
		<u>MSA</u>	<u>MS</u>	<u>MV</u>	<u>R</u>
MSA	57.7	15	10	0	1
MS	75.2	12	82	10	5
MV	37.7	2	31	49	48
R	56.6	2	46	67	150
Total	55.8	31	169	126	204

III. Discriminate Between M and R by SA, S, V: Six Groups

<u>Step</u>	<u>Variable Entered</u>	<u>F Value to Enter or Remove</u>	<u>Approximate F Statistic</u>
1	NITA 81	189.15	189.15
2	RNWTa 81	19.86	107.91
3	STL 80	5.34	74.31
4	RNWTa (Dif. 81-80)	5.0	57.41
5	NWTA (Dif. 81-80)	5.16	47.33

Classification Matrix

<u>Group</u>	<u>Percent Correct</u>	<u>Number of Cases Classified into</u>					
		<u>MSA</u>	<u>MS</u>	<u>MV</u>	<u>RSA</u>	<u>RS</u>	<u>RV</u>
MSA	57.7	15	9	0	1	1	0
MS	62.4	12	68	16	7	4	2
MV	36.2	4	24	47	6	30	19
RSA	42.3	0	3	5	11	7	0
RS	34.9	3	15	21	12	38	20
RV	27.7	1	14	29	19	31	36
Total	40.6	35	133	118	56	111	77

Source: Blume, Linda, "Ratio Analysis: Savings and Loan Association Mergers", June, 1983, Appendix 7.

contained quite worthwhile predictive information as to impending financial distress. The only ratio that involved the use of adjusted data was the ratio of Revised Net Worth to Total Assets (RNWTA), which included the adjustment for discount of the firm's mortgage portfolio, taken from Balderston's earlier research. This was also useful in the dichotomous classification exercise, and it demonstrates the wisdom of adjusting book values by marking earning assets to market.

The Future of Consolidation Through Merger

The Federal Reserve Board engineered an abrupt change in the money markets in August, 1982, and this led to rapid declines in short-term interest rates. Then, Garn-St. Germain was enacted and signed into law in October, 1982. These two events brought about "the rescue of the thrift industry", as Andrew Carron characterized it in his Brookings staff paper of that title (Carron, 1983). The business expectations of many S&L managements and stockholders turned more optimistic, increasing their reservation price for selling out. Still, some firms had already sustained such heavy balance-sheet damage that their survival prospects remained dim. Chamberlain stated in the FHLBB Annual Report that approximately 400 S&L firms would be eligible for capital assistance through FSLIC purchase of net worth certificates. (FHLBB 1982 Annual Report, p. 19).

The industry will continue to be very sensitive to upward movements in interest-rates for several years to come, despite the wider business authority conferred by Garn-St. Germain and the efforts of many firms to emphasize adjustable-rate loans and otherwise to restructure loan portfolios. A recurrence of tight-

money conditions could well cause another spate of distress mergers.

There promise to be other continuing incentives toward merger: changing payments technologies are likely to reduce the value of branches; more complex conditions of operation will increase the value of expert financial management; and inter-penetration of the financial industries will create new opportunities and risks. At the same time, there has been a renewal of interest in new entry, with an upsurge in charter applications. (We defer this topic to later treatment.)

Public Policies toward Merger: Some Suggestions

1. Reduce S&L industry localization.

Management methods now in place at numerous institutions appear more than adequate to cope with problems of effective asset- and liability management over extended geographical areas. Thus, one traditional defense of localization, that it would promote risk control, has lost persuasive force.

Portfolio diversification among geographical mortgage markets can actually reduce some risk exposures. So also can diversification into non-mortgage financial operations.

"Keeping the money at home" has been a second traditional defense of S&L localization; however, improved secondary market institutions have now tied together much more effectively the geographical sub-markets for housing finance. A local market containing lending opportunities that can earn competitive rates will find ready attention from lending institutions.

For these reasons, inter-state mergers of S&L with S&L have

a positive basis in public policy and should not be discouraged.

2. Allow "external" capital sources to enter the S&L industry, subject to certain public policy standards.

It is desirable to promote infusions of reserve capital into the S&L industry from other sources, and "external" sources of capital should thus not be discouraged. If the external entrant has other business activities that could produce conflicts of interest, however, there should be austere safeguards against cross-lending or other non-arms-length financial transactions.

3. Allow mergers between S&L's and other types of financial institutions, subject to public policy safeguards.

If Glass-Steagall is not dead, it has slipped into a coma. Cross-penetration of financial industries has already gone quite far. There is merit to the view that experimentation in the organization and structure of financial industries should be encouraged so that the most effective new patterns can be allowed to evolve.

At the same time, there are evident management risks in these new combinations of business activities. In the complex new financial firms that may emerge, the deposit-insuring agencies will bear the residual risks of the manifold activities that are conducted within the firm that, as just one of its many functions, has insured deposit liabilities. If experimentation is to be encouraged, an inescapable concomitant is to have some means of adjusting the costs of the deposit-insurance privilege for differential risks. One suggested approach, fraught with practical problems, is the risk-adjusted insurance premium. Another would be to demand different levels of required net worth

reserves against different activities. Unless the question of differential risks is properly addressed, the only sensible public policy approach is to restrain experimentation and change.

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