

**The Managerial, Regulatory, and Financial Determinants of Bank Merger Premiums**



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## THE MANAGERIAL, REGULATORY, AND FINANCIAL DETERMINANTS OF BANK MERGER PREMIUMS\*

DARIUS PALIA

This paper analyzes the managerial, regulatory, and financial determinants of US bank merger premiums. We use both individual acquirer and target bank characteristics. We also examine state regulation of acquirer and target banks from a geographically dispersed population, allowing us specifically to test the effect of a varied state regulatory menu. The study finds merger premiums to be related to the characteristics of *both* acquirer and target banks and the regulatory environments in *both* acquirer and target bank states. We also find evidence that the separation of ownership and control in acquirer and target banks has a significant effect on merger premiums.

### I. INTRODUCTION

IN THE last decade the pace of mergers in the US banking industry has been impressive. This growth in the number of bank mergers has largely been due to the changing economic and regulatory environment. With the reduction in the severity of enforcing strict antitrust guidelines by the Reagan administration and, more importantly, the gradual removal of geographical restrictions by individual states on bank expansion, the environment for bank mergers has never been so conducive. Since the regulatory restrictions are likely to be further relaxed, with an increasing number of states permitting interstate banking in the early 1990s, the number and dollar value of bank mergers is certain to accelerate. Accordingly, it is important to improve our understanding of bank mergers.

This paper examines the financial, regulatory, and managerial determinants of bank merger premiums.<sup>1</sup> In examining the *financial* determinants of the merger premiums, we include the financial characteristics of the target banks and the "franchise" value of its banking market. Because bank mergers are carefully regulated by state laws, we also analyze the *regulation* in the banks' states. We examine the state regulation of acquirer and target banks

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<sup>1</sup> In this paper we use merger premiums, bid premiums, and premiums interchangeably to describe the excess of purchase price over book value.

from a geographically-dispersed, representative sample of bank mergers. Our sample consists of target banks from thirty-three different states and the District of Columbia and acquirer banks from twenty-seven different states. This also allows us specifically to test the effect of a varied state regulatory menu on merger premiums. Lastly, we analyze if the separation of ownership and control has any effect on the merger premiums. Given that *managerial ownership* tends to align the interests of managers and shareholders, we examine its relationship with the merger premiums. The conflict between managers and shareholders is of special interest to the riskiness and structure of the banking industry. With respect to risk, even though the fixed rate deposit insurance system coupled with the relaxing of bank regulation has created an environment for more risk-taking by shareholders, bank managers often have lower incentives to exploit the mispriced deposit insurance contract.<sup>2</sup> With respect to structure, there are a number of possible sources for the agency conflict to arise regarding bank mergers and acquisitions. For example, low managerial ownership levels cause managers to have a high proportion of their wealth invested in their nondiversifiable human capital. In order to diversify this risk they may attempt to merge with another bank. On the other side of the spectrum, a high managerial ownership level results in managers having a large undiversified financial portfolio. This may be better diversified by a merger. Therefore, both human and financial managerial wealth may have different effects on managerial merger motivations. Hence, we examine the specific relationship between managerial ownership and the bank merger premiums.

In Section II we give a brief review of the literature. Section III explains the determinants of bank merger premiums. In Section IV we provide a description of the data and present our empirical results. Section V presents our conclusions.

## II. LITERATURE REVIEW

There have been several studies that review the size of the merger premium (defined as the ratio of the price paid to the book value of the target bank) in the bank merger literature. Cheng, Gup, and Wall [1989] analyzed 135 mergers in the Southeast for the period 1981 to July 1986 and related the merger premiums to the characteristics of both acquirers and targets. They found that merger premiums were positively related to the asset growth and

<sup>2</sup> See Kane [1985] and Saunders, Strock, and Travlos [1990]. Under the present FDIC deposit insurance contract, the insurance premium paid by the bank is a flat rate of 23 cents per \$100 of deposits. Merton [1977], Marcus and Shaked [1984], and Ronn and Verma [1986] show that debt guarantees (which disregard the financing and operating risks of the bank) imply a subsidy to the bank's shareholders. This subsidy increases with an increase in the bank's leverage and the variability of its asset value. Hence, bank shareholders have a greater incentive to take on risk than when the deposit insurance is "actuarially fair." The FDIC has proposed a system of risk-based insurance.

profitability of targets and to the growth of core deposits of acquirers and negatively related to the return on assets and the asset growth of acquirers. Rhoades [1987] examined 1,835 bank mergers for the period 1973 to 1983. He found that merger premiums were positively related to high growth target banks and target banks located in high growth markets. Variables that capture the profitability of target banks were found to be insignificant or carried mixed results. No acquirer variables were significant.

Beatty, Santomero, and Smirlock [1987] regressed the merger premiums against a target bank's financial variables, for 264 target banks, beginning 1984 and ending September 1985. They found that acquirer banks paid a high premium for well-managed target banks. Also banks in less competitive environments attracted a high premium. They also found that acquirer banks attempted to restructure the portfolio composition of target banks to a riskier portfolio. The market share of the target and the means of payment were negatively related to the merger premiums. Fraser and Kolari [1987] analyzed 132 bank mergers in 1985. They found that small banks attracted higher premiums, earned higher profits, had lower loan losses, had larger equity positions, and funded a larger fraction of their assets with demand deposits. In addition, market characteristics were less significant than the target bank's financial characteristics. In contrast, market conditions were found to be significant for large banks. Rogowski and Simonson [1987] analyzed 168 bank mergers for the period 1984 to June 1987. They found that interstate mergers, the target-acquirer asset size differential, the target's loans to earning assets ratio, and the target's ratio of bonds over five years in maturity to total assets were positively related to the merger premium, whereas the target's capital-to-asset ratio was negatively related to the merger premium.

### III. DETERMINANTS OF BANK MERGER PREMIUMS

We define bank merger premiums as the ratio of the price paid for the target bank to the (accounting) book value of the target bank's equity. The use of book value is a shortcoming, as it may not accurately reflect the market value of a bank. Nonetheless, this measure is used by regulators and is an industry standard for evaluating the premiums paid for banks. Further, all the previous studies cited have also used this measure. In our sample of 137 mergers the merger premium varies from a minimum value of 0.7 to a maximum value of 4.9, with a mean of 1.89 and a standard deviation of 0.64.

What causes merger premiums to differ across banks? We group the determinants of merger premiums into four broad categories.

#### III(i). *"Inherent" value of target bank*

A target bank receives bids that are based on the merger market's assessment

of the target's value. Hence, we classify the determinants of the value of a target bank into two sub-categories. The first sub-category includes variables that capture the value of a target bank due to the condition of its balance sheet. The second sub-category includes variables that capture the value of a target bank created by the attractiveness of its market-arena or "franchise," not explicitly due to restrictive state regulation.<sup>3</sup>

We propose that the target's balance sheet value is captured by its profitability, growth, capital, and loan quality. To capture the profitability of a target bank, we include the return on assets variable (*TROA*) in the year preceding the merger year. We expect the sign on this variable to be positive, as higher profits are more attractive. It has been suggested by a number of authors (e.g. Baumol [1962]) that managers tend to maximize growth. One possible reason for growth-maximization is that bank size is the largest determinant of a manager's compensation package. Fredericks and Arata [1987] find no correlation between the compensation paid to a bank's top five managers and the return performance of the bank, but do find that bank size is the largest determinant of managerial compensation. We include the growth in size of assets variable (*TGRASS*) for target banks, as measured by the five year growth in assets for the five years preceding the year of acquisition. Rose [1987] finds growth to be the motivating factor for 64.3% of banks deciding to merge. Hence, a positive relationship is posited between the merger premium and *TGRASS*.

Banks, by regulation, are required to maintain a minimum primary capital-to-asset ratio. This regulation is aimed at reducing the risk-taking incentives of bank shareholders; i.e. it is a form of co-insurance with regulators. We include the capital-to-asset ratio (*TEQASS*) in the year preceding the merger year. The expected sign on *TEQASS* is negative. A high capital-to-asset ratio may be an indication that the target bank is using capital inefficiently. This argument is consistent with the suggestions of Rogowski and Simonson [1987], Fraser and Kolari [1987], and Beatty, Santomero, and Smirlock [1987]. Acquirers may use the excess capital (above the minimum) as an inexpensive source of equity to leverage growth.

To capture the quality of a target's loan portfolio we include three variables. The first is the ratio of chargeoffs to total assets (*TCOASS*) in the year preceding the acquisition year. The sign on *TCOASS* is ambiguous. Higher chargeoffs might signal that the remaining loan portfolio is of dubious quality, making the expected sign negative. On the other hand, higher chargeoffs might indicate a conservative policy towards problem loans, suggesting a positive sign. The second variable is the ratio of nonperforming loans to total assets (*TNPERF*) in the year preceding the year of acquisition. We expect the sign to be negative as a high ratio suggests potential problems

<sup>3</sup> See Section III(ii) for variables that capture the attractiveness of the target's market specifically due to state regulation.

in the bank's loan portfolio. The third variable is the ratio of provision for loan losses to total assets (*TPROV*) in the year preceding the year of acquisition. The expected sign on this variable is ambiguous. Higher provisions might signal that the loan portfolio is of questionable quality, making the expected sign negative. The expected sign can also be positive as a high ratio suggests that the bank is being conservatively managed with a large provision for possible future losses.

To capture the target's "franchise" value we include the four-bank concentration ratio (*TCONC*) of the state in which the target bank is located. We expect the sign to be positive, as markets that are more concentrated are likely to be more profitable due to reduced competition.

### III(ii). *Value in specific acquirer-target combinations*

We now examine the special value that a specific target might have to a specific acquirer. We include the relative size variable *RELSIZE*, defined as the ratio of the target's asset size to the acquirer's asset size in the year preceding the year of the merger. As in Cheng, Gup, and Wall [1989] and Rogowski and Simonson [1987], we expect a negative sign on *RELSIZE*—the variable captures the ability of the acquirer to provide new services and to invest in technical change. Further, we include a dummy variable to indicate whether the merger was an interstate ( $I = 1$ ) or intrastate merger. An acquirer might be willing to pay a premium to be able to enter new (interstate) markets (see below).

### III(iii). *Regulatory restrictions*

The geographical market for a bank has historically been constrained to state lines or even smaller areas, but some of these restrictions were being removed during the 1980s. To capture the impact of state regulation on merger premiums we include two dummy variables. The first dummy variable indicates whether branching is restricted ( $TB = 1$ ) in the target bank's state. We expect the sign on *TB* to be positive, as acquirers prefer markets where potential competition is limited. The second dummy variable indicates whether multi-bank holding companies are allowed ( $TC = 1$ ) in the target bank's state. We expect a positive sign on this second variable as it indicates an increase in the number of potential bidders.

### III(iv). *Managerial ownership*

There have been a number of theories relating the value of a firm to its managerial ownership. Managerial ownership is represented by the percentage of stock owned by managers in the acquirer bank (*M*) in the year

preceding the year of acquisition and the percentage of stock owned by managers in the target bank ( $D$ ) in the year preceding the year of acquisition. For exposition we group the empirical hypotheses into two simple categories:

*Monotonic relationship.* According to the congruent-interest hypothesis, managers who are not significant shareholders in the bank have less to lose from non-value-maximizing activities. Hence, managers tend to indulge in risk-reduction activities at low levels of managerial ownership.<sup>4</sup> Managerial ownership serves only in aligning the interests of managers and shareholders and does not assist the managers in gaining control of the bank. Managers of a bank generally have limited financial wealth and a stock of human wealth that is often industry specific and nondiversifiable. Reflecting this managerial risk aversion is the manager's preference for low risk investments.<sup>5</sup> Therefore, at low managerial ownership levels, the manager of an *acquirer* bank is willing to offer a high merger premium to acquire other banks, so as to diversify better his career-risk through greater product and geographic diversification.<sup>6</sup> Such diversification would produce more stable earnings over time and lower the probability of insolvency. Thus banks in which managers hold a low ownership stake are more willing to pay a high premium for career-risk diversification. Each increase in managerial ownership aligns the interests of managers with shareholder interests. At higher levels of ownership, the manager's financial interest in the bank dominates the manager's diversification interest, which causes the merger premium to decrease with each increase in  $M$ . Similarly, the manager of a *target* bank with low managerial ownership is more motivated to diversify his career risk through product and geographic diversification, as long as the acquirer assures the target manager of continued employment. Hence, he would be more willing to accept a lower bid than a manager with a large stake in the bank (who is more concerned with his financial stake and would consequently want a higher premium). This suggests a positive relationship between the merger premium and  $D$ .

*Nonmonotonic relationship.* In the case of *acquirer* banks, we propose the diversification-control hypothesis. We note that under this hypothesis, managerial ownership has two functions: to align the interests of managers and shareholders and to control the bank. Acquirer banks in which managers

<sup>4</sup> Saunders, Strock, and Travlos [1990], although not explicitly focusing on mergers, found that risk is higher in banks where managers are owners.

<sup>5</sup> Amihud and Lev [1981] argue that conglomerate mergers are a means of reducing managerial risk. In our context however, it is hard to justify banks as conglomerates.

<sup>6</sup> We can view this hypothesis in the context of Mayers' [1972] capital market equilibrium with non-marketable assets. A manager's risk can be decomposed into two components: the covariance of the bank's returns with the market, and the covariance of the non-marketable asset (human capital) with the bank's returns. In a bank where the managerial stake is low, this second component is relatively large, given that the manager's compensation depends largely on the bank's future.

do not initially possess a significant ownership stake indulge in non-value-maximizing activities, and are hence willing to pay a high premium for a merger. With each increase in managerial ownership, the interests of managers become more aligned with shareholders, resulting in a negative relationship between the merger premium and  $M$ . However at sufficiently high levels of managerial ownership, the managers (who could now be classified as significant shareholders) begin to hold a large undiversified financial portfolio in the bank. To reduce the risk of their undiversified financial portfolio the managers engage in mergers. The managers do not sell their stake in the financial markets as they do want to retain the benefit of controlling the bank.<sup>7</sup> If managers do value control,<sup>8</sup> their incentive to diversify their undiversified financial portfolio increases as their managerial stake increases, resulting in a higher merger premium. We note that as the managerial equity stake increases, not only do the manager's incentives change, but the extent to which his financial portfolio is diversified also changes. Therefore, the decreasing region is due to a reduction in agency costs and the rising region a reflection of the manager's desire to diversify his idiosyncratic risk without loss of control. Thus, under this hypothesis a U-shaped relationship between  $M$  and the merger premium is expected. To test this relationship we include  $M^2$ , the square of the acquirer's managerial ownership level.

Similarly, in the case of *target* banks, managerial ownership is not beneficial at all levels. At low levels of  $D$  (similar to the congruent-interest hypothesis) increases in  $D$  align the interests of managers and shareholders. However, at a certain level of  $D$  the managers own a large undiversified portfolio in the bank. The managers would be willing to accept a lower premium, so as to diversify their financial risk in the bank by "cashing out" on their large ownership stake. Thus, under this hypothesis the merger premium initially rises with each increase in  $D$ , and then falls with each increase in  $D$ . To test this relationship we include  $D^2$ , the square of the target's managerial ownership level.

Table I gives a summary of the independent variables and shows their expected relationship to the merger premium.

<sup>7</sup> Harris and Raviv [1988], in modeling control contests and capital structure, use the similar concept of benefits of control being separate from the firm's cashflows. They argue that the market value of the firm reflects only the firm's cashflows as the "competition among passive investors will drive the price to the present value of the cashflows net of the benefits of control". The incumbent management team receives the benefits of control which is terminated in the event of a takeover or bankruptcy.

<sup>8</sup> Lease, McConnell, and Mikkelsen [1983] examine 30 firms having dual-class stock and show that voting stock trades at a 1% to 7% premium. DeAngelo and DeAngelo [1985] examine 45 firms with dual-class stock and find that management and family insiders control 57% of the voting rights and only 24% of the common stock cashflows. These empirical studies indicate that voting rights are valuable and that dual-class structures often confer substantial voting powers on incumbent management.



TABLE I  
INDEPENDENT VARIABLES, THEIR EXPECTED RELATIONSHIP TO MERGER PREMIUMS, MEANS, AND  
STANDARD DEVIATIONS

<i>Variable definition</i>	<i>Variable name</i>	<i>Expected sign(s)</i>	<i>Mean</i>	<i>Standard Deviation</i>
<i>Merger premiums: Ratio of price paid to book value of the target bank</i>	<i>PREM</i>		1.89	0.64
<i>Target's return on assets (%)</i>	<i>TROA</i>	+	0.91	0.48
<i>Target's five-year growth in assets (%)</i>	<i>TGRASS</i>	+	12.82	11.58
<i>Target's equity capital to assets (%)</i>	<i>TEQASS</i>	-	7.44	5.10
<i>Target's chargeoffs to assets (%)</i>	<i>TCOASS</i>	+, -	0.36	0.38
<i>Target's nonperforming loans to assets (%)</i>	<i>TNPERF</i>	-	0.93	1.00
<i>Target's provision for loan losses to total assets (%)</i>	<i>TPROV</i>	+, -	0.46	0.88
<i>Four-bank concentration ratio in the target bank's state (%)</i>	<i>TCONC</i>	+	47.48	15.94
<i>Ratio of target's assets to acquirer's assets</i>	<i>RELSIZE</i>	-	0.26	0.34
<i>Dummy for interstate mergers (I = 1)</i>	<i>I</i>	+	0.48	0.50
<i>Dummy for restrictive branching laws in the target bank's state (TB = 1)</i>	<i>TB</i>	+	0.79	0.41
<i>Dummy for allowance of multi-bank holding company expansion in the target bank's state (TC = 1)</i>	<i>TC</i>	+	0.50	0.50
<i>Percentage of stock owned by the managers of an acquirer bank</i>	<i>M</i>	- <sup>a</sup>	7.47	9.56
<i>Percentage of stock owned by the managers of a target bank</i>	<i>D</i>	+ <sup>a</sup>	14.92	15.38

<sup>a</sup> For the nonmonotonic relationship, we expect a U-shape between M and the merger premiums and an inverted U-shape between D and the merger premiums.

#### IV. DATA DESCRIPTION AND EMPIRICAL TESTS

##### IV(i). *Data description*

The list of all bank mergers for the period 1984 to 1987 was obtained from Cates Consulting Analysts' MergerWatch reports, which list all mergers where the target bank is of an asset size of \$25 million or greater and the acquirer bank is of an asset size of \$100 million or greater. The required financial data for the above stated companies were extracted from Moody's Bank and Finance Manual and Cates' BancCompare and MergerWatch reports. The data for the percentage of stock owned by managers were obtained from the proxy statements filed with the SEC. The final sample includes 137 bank mergers, consisting of 137 acquirer banks and their matching 137 target banks.

TABLE II  
REGRESSION RESULTS

	Coefficients	t- Statistics
<i>constant</i>	0.831*	2.75
<i>TROA</i>	0.393*	3.00
<i>TGRASS</i>	$0.581 \times 10^{-2}$	1.31
<i>TEQASS</i>	-0.015	-1.57
<i>TCOASS</i>	$0.091 \times 10^{-3}$	0.05
<i>TNPERF</i>	-0.140**	-2.41
<i>TPROV</i>	0.024	0.39
<i>TCONC</i>	0.013*	2.83
<i>RELSIZE</i>	-0.240*	-2.59
<i>I</i>	0.409*	4.03
<i>TB</i>	0.446**	2.52
<i>TC</i>	0.184***	1.67
<i>M</i>	$-0.932 \times 10^{-3**}$	-1.96
<i>D</i>	$0.692 \times 10^{-2**}$	2.03
<i>M</i> <sup>2</sup>	$0.790 \times 10^{-4*}$	2.61
<i>D</i> <sup>2</sup>	$-0.716 \times 10^{-4**}$	-2.08
<i>R</i> <sup>2</sup>	0.363	
<i>F</i>	4.601	

\* Indicates significance at the 0.01 level.

\*\* Indicates significance at the 0.05 level.

\*\*\* Indicates significance at the 0.10 level.

#### IV(ii). Empirical results

The results of the merger premium regression<sup>9</sup> are given in Table II. We begin by examining the variables associated with the target's balance sheet. We find that *TROA* is very significant and has the expected positive sign. This result is consistent with the results of Cheng, Gup and Wall [1989] and Beatty, Santomero and Smirlock [1987], who find the premiums to be positively related to the target's profitability. We also find that the target's capital-to-asset ratio has the expected negative sign (although it is significant at the 12% level only), as per the results of Rogowski and Simonson [1987], Beatty, Santomero and Smirlock [1987] and Fraser and Kolari [1987]. We do not

<sup>9</sup>Initially we ran three separate regressions because of the correlation between the concentration variables and the restrictive regulation variables. For example, the correlation coefficient between *TCONC* and *TB* is 0.68. The first regression is the one described in Table II, which includes all the independent variables. The second regression includes all the independent variables except for the concentration variable. The third regression includes all the independent variables while excluding the restrictive regulation variables only. None of the results in Table II changed significantly in the different specifications.

find that fast growing target banks command high merger premiums. On examining the quality of loan variables, we find that *TCOASS* and *TPROV* are insignificant and positive. The variable for nonperforming loans is negative and very significant, indicating that targets with large amounts of nonperforming loans are unattractive to potential bidders. We also find that *TCOAS* is positive and significant, suggesting that acquirers are attracted to concentrated markets. Thus, the higher a target's "franchise" value the higher the premium it attracts.

Turning to the variables that capture the value in the specific acquirer-target combinations, we find that the *RELSIZE* variable is negative and significant, indicating that large acquirers offer high premiums to invest in technical change; an acquirer's ability to provide new services may be related to the relative size of the two banks. This result is consistent with the findings of Rogowski and Simonson [1987] and Cheng, Gup, and Wall [1989]. The interstate variable *I* is positive and very significant, indicating higher premiums in mergers when the two banks are from different states.

We find *TB* to be positive and significant, suggesting that targets in states with restrictive branching laws command high premiums. We also find that the multi-bank holding company variable in the target's state to be positive and significant. Therefore, banks in states that increase the number of potential bidders—by allowing multi-bank holding companies to enter their banking markets through the purchase of target banks—attract high premiums.

We now examine the managerial ownership variables *M* and *D* and their respective squared terms  $M^2$  and  $D^2$ . All four variables are significant. In the case of *acquirers* we define the marginal effect of *M* on the merger premium as

$dLM = \frac{\partial \text{merger premium}}{\partial M}$  We find that the relationship between *M* and

$dLM$  is initially negative and then turns positive, suggesting the U-shaped relationship proposed by the diversification-control hypothesis. The turning point for the level of managerial ownership is 5.90%. Given that we have both a linear and nonlinear term, an F-test on the restriction that both coefficients are equal to zero was conducted. The null is rejected at the 1% level, confirming the diversification-control hypothesis.

In the case of *targets*, we define the marginal effect of *D* on the merger premium as  $dLD = \frac{\partial \text{merger premium}}{\partial D}$ . We find that the relationship between

*D* and  $dLD$  is initially positive and then negative, suggesting the shape proposed by the entrenchment hypothesis. The turning point for the level of managerial ownership is 48.32%. We ran an F-test on the restriction that both coefficients are equal to zero, to test whether the managerial ownership variable is significantly related to the merger premium. The null is rejected at the 1% significance level, confirming the nonmonotonic relationship.

## IV. CONCLUSIONS

Given the rapid removal of state regulatory barriers to geographical expansion by banks in the US, mergers are likely to continue at a rapid pace in the 1990s. In this deregulated environment, a better understanding of the determinants of bank merger premiums is worthwhile. Specifically, we examine the financial, regulatory, and managerial determinants of bank merger premiums. The results of this study suggest that bank merger premiums are related to the characteristics of both acquirer and target banks and their regulatory environments. Some of the other factors that may be considered for future research are method of payment (whether the medium of exchange was cash or stock or a combination of both), management turnover (whether the premiums are higher in takeovers that involve the removal of a target's chief executive officer), and the contagion effects between the merger premiums of two consecutive bank mergers.

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## REFERENCES

- AMIHUD, Y. and LEV, B., 1981, 'Risk Reduction as a Managerial Motive for Conglomerate Mergers', *Bell Journal of Economics*, 12, pp. 604–617.
- BAUMOL, W. J., 1962, 'On the Theory of Expansion of the Firm', *American Economic Review*, 52, pp. 1078–1087.
- BEATTY, R., SANTOMERO, A. and SMIRLOCK, M., 1987, 'Bank Merger Premiums: Analysis and Evidence', Solomon Brothers Center for the Study of Financial Institutions Monograph Series in Finance and Economics, Monograph 1987–3.
- CHENG, D., GUP, B. and WALL, L., 1989, 'Financial Determinants of Bank Takeovers', *Journal of Money Credit and Banking*, pp. 424–536.
- DEANGELO, H. and DEANGELO, L., 1985, 'Managerial Ownership of Voting Rights: A Study of Public Corporations with Dual Classes of Stock', *Journal of Financial Economics*, pp. 33–69.
- FRASER, D. and KOLARI, J., 1987, 'Determinants of Small Bank Acquisition Premiums', Paper presented at the Federal Reserve Bank of Chicago Conference on Bank Structure and Competition.
- FREDERICKS, R. and ARATA, J., 1987, 'Annual Banking Industry Compensation Review,' Montgomery Securities.
- HARRIS, M. and RAVIV, A., 1988, 'Corporate Control Contests and Capital Structure', *Journal of Financial Economics*, 20, pp. 55–86.
- KANE, E. J., 1985, *The Gathering Crisis in Federal Deposit Insurance* (MIT Press, Cambridge).
- LEASE, R., MCCONNELL, J. and MIKKELSON, W., 1983, 'The Market Value of Control in Publicly Traded Corporations', *Journal of Financial Economics*, 11, pp. 439–472.

- MARCUS, A. and SHAKED, I., 1984, 'The Valuation of FDIC Deposit Insurance Using Option Pricing Estimates', *Journal of Money, Credit and Banking*, 16, pp. 446-460.
- MAYERS, D., 1972, 'Nonmarketable Assets and Capital Market Equilibrium under Uncertainty', in JENSEN, M. C. (eds.), *Studies in Theory of Capital Markets* (Praeger, New York).
- MERTON, R. C., 1977, 'Analytic Derivation of the Cost of Deposit Insurance and Loan Guarantees', *Journal of Banking and Finance*, 1, pp. 3-11.
- RHOADES, S. A., 1987, 'Determinants of Premiums Paid in Bank Acquisitions', *Atlanta Economics Journal*, 15, pp. 20-30.
- ROGOWSKI, R. and SIMONSON, D., 1987, 'Bank Merger Pricing Premiums and Interstate Bidding', Paper presented at the Financial Management Meetings in Las Vegas.
- RONN, E. and VERMA, A., 1986, 'Pricing Risk Adjusted Deposit Insurance: An Option Based Model', *Journal of Finance*, 4, pp. 871-896.
- ROSE, P., 1987, 'Improving Regulatory Policy for Mergers: An Assessment of Bank Merger Motivations and Performance Effects', *Issues in Bank Regulation*, pp. 32-39.
- SAUNDERS, A., STROCK, E. and TRAVLOS, N., 1990, 'Ownership Structure, Deregulation and Bank Risk Taking', *Journal of Finance*, 45, pp. 643-654.