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Price Premiums for Controlling Shares of Closely Held Bank Stock*

I. Introduction

Valuations of common stock take place for one of two reasons. First, in the more standard context, stock is valued by investors for its investment potential. Second, it is valued out of legal necessity for estate, gift tax, and litigation purposes. In any circumstance, if the shares are minority shares of a widely held, actively traded company's stock, the determination of market value is generally not controversial. However, if the shares are controlling shares and/or closely held,¹ the determination of market value becomes much more difficult. Where the valuation of closely held shares is for legal purposes, value is "determined first by appraising the value of the enterprise, and then by allocating some portion of that value to the shares in question" (Feld 1974, p. 934). Under certain circumstances,

This paper theoretically and empirically examines the relationship between controlling and minority share prices in closely held banks. For price premiums on controlling shares to exist, three conditions must be met: control must provide special benefits unavailable to minority shareholders; control group members, individually, must be able to exploit control benefits; and control shares must be effectively isolated from minority shares in the market. Empirical results confirm the existence of significant price premiums on controlling shares, averaging 50%-70%. Relatively small groups tend to dominate activity in the control shares market indicating that they value control more highly than larger groups.

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1. "Closely held" stock is usually defined as stock that is owned by a small number of persons and is not listed on an exchange or traded over the counter.

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however, the court-determined value of shares may deviate from their proportionate share of the value of the enterprise. One of those circumstances concerns the minority position of the recipient relative to other stockholders.

The purpose of this paper is to theoretically and empirically examine the relationship between controlling and minority share prices in closely held banks. Shares are defined as controlling shares when they give an individual, a group of individuals, or a bank holding company ownership in excess of 50% of a bank's outstanding common stock.² We refer to differences between minority and controlling share prices as "price premiums" on controlling shares.

The results of the empirical work confirm the existence of significant price premiums on controlling shares of bank stock. These premiums exhibit considerable variability, but average about 50%–70%.

II. Theoretical Considerations

We propose that, in equilibrium, controlling interest transactions in closely held banks would command price premiums relative to minority interest transactions. For this to occur, three conditions must be met: (1) control must provide special benefits not available to minority shareholders; (2) control group members must, individually, be able to exploit those benefits of control; and (3) control shares must be effectively isolated from minority shares in the market. Correspondingly, we discuss the benefits of control, controlling ownership structure, and equilibrium pricing.

Benefits of Control

The benefits of control of a bank may include both nonmonetary and monetary elements. In the former instance, we refer to the power and prestige associated with a control position, which ultimately may be translated into monetary benefits, but are important, regardless of whether such a translation occurs. In the latter, monetary benefits can be derived from economic rents and a differential allocation of firm resources benefiting controlling shareholders relatively more than minority shareholders. Neither of these monetary benefits, however, implies that minority shareholders do not obtain a competitive return. To the extent they anticipate differential allocations of firm resources, these differences will be reflected in the pricing of minority shares.

Banks potentially can produce economic rents from two sources: (1) entry and other regulatory restrictions, and (2) entrepreneurial activity. First, the regulation of banking provides a potential source of economic

2. It is possible, of course, that "effective" control may be attained with less than 50% ownership. We only are concerned here with the definition of control given in the text above.

rents. Competition in banking is limited by restrictive entry and expansion rules. Furthermore, the costs of deposits may be limited by the prohibition of payment of interest on demand deposits and Regulation Q ceilings on savings deposits. The combination of these factors may produce economic rents.

Second, banking provides opportunities for entrepreneurship, whose essence is the "new combination of means of production and credit" (Schumpeter 1949). The economic profit from entrepreneurship "reflects the difference between the productivity of . . . resources viewed solely as hired resources and their productivity when owned by . . . [one's] firm" (Friedman 1962, p. 95). Both Knight (1921) and Schumpeter (1949) recognized that only controlling shareholders have the opportunity to be entrepreneurs.

In the case of proprietorship banks, the claim to the entrepreneurial and/or economic rents is clearly established and provides an incentive for the formation and ownership of banks. When there are minority shareholders, however, the differential distribution of the bank's returns between controlling and minority shareholders becomes an important factor in share pricing. This necessitates disbursing returns in ways other than dividends or capital gains, which benefit all shareholders equally. The differential distribution issue is related both to expense preference theory (Edwards 1977) and agency theory (Jensen and Meckling 1976).

Controlling shareholders in banks have several means of obtaining benefits that are not generally available to minority shareholders. First, they can hire themselves into managerial positions at rates above their value as hired resources. Second, they can direct the use of bank resources to benefit themselves, friends, and business associates. Third, they can adjust the payment of dividends to meet their own investment and consumption needs. Fourth, controlling stockholders can often obtain financing of their stock ownership from correspondent banks and, in some instances, use bank resources to obtain more favorable loan terms (Meeker and Myers, *in press*). Fifth, there may be quasi-financial benefits in the form of expense accounts, overdraft privileges,³ plush offices, a company provided automobile, company paid trips to conferences, and so forth. Sixth, controlling shareholders can be expected to be better informed about their bank's current condition and future prospects than minority shareholders. This serves to reduce uncertainty, which is also an important investment parameter. Another potential benefit of controlling ownership is the access to information from and about bank customers. To the extent this information can be utilized on personal account, it too is a benefit of control.

3. This advantage existed during our study period but, as a result of the Financial Institutions Regulatory and Interest Rate Control Act of 1978 (Public Law 95-630), is severely restricted in the current banking environment.

Differentially allocating bank resources to benefit controlling shareholders raises the possibility of stockholder conflicts and, in some instances, conflicts with bank regulatory agencies. While law concerning fiduciary responsibilities of management would act as a restraint on such practices, it would not eliminate them. It is often difficult for minority shareholders to obtain financial information about the operations of small banks. Second, legal issues about applications of bank resources are not clear-cut. For example, the legitimacy of the banking activities of Bert Lance is yet to be decided at this writing. Given the cost of filing stockholder lawsuits and the uncertainty of their outcome, it is likely that many self-serving differential allocations of a bank's resources, even if known to minority shareholders, would go unchallenged unless they were of sufficient magnitude and of a nature that violated banking laws or threatened the soundness of the bank and attracted regulatory attention.

Controlling Ownership Structure

Data presented below indicate that many control positions are "shared" by groups of investors. This raises questions about the ability of individuals within these groups to exploit the benefits of control. In particular, the nature of many control rewards is such that an equitable division of rewards among control group members may be difficult. Furthermore, the costs of operating a group and making group decisions are a disadvantage not present in single-owner control. Both of these factors contribute to the crucial stability problem with groups.

Control group stability is a necessary condition for the existence of controlling share price premiums. Otherwise, a group of minority shareholders could entice some of the current control group shareholders to join a new control group or to sell their shares. The control-seeking coalition could justify paying up to an amount offsetting its increased benefits from becoming controlling shareholders. In a market characterized by rational expectations, such possibilities would tend, in equilibrium, to eliminate differences between controlling and minority share prices. Two factors would contribute to the elimination of the control share price premiums: buyer uncertainty about being able to realize the premiums when the shares were sold and competition among suppliers of shares. These pricing issues are discussed in detail in the next section.

In practice, there are many ways to achieve group stability. A common one in smaller firms is family ownership of controlling shares. Friendship and business associate ties are the binding fabric of many groups. More legally binding, and not infrequently used, are formal agreements restricting the rights of control coalition members to sell their shares. Buy-sell agreements, for example, force the potential seller to set a price at which he would be willing to either buy other

coalition members' shares or sell his own shares. First right of refusal agreements require that all proposed sales of shares by controlling coalition members to noncoalition members be offered first to other control coalition members at the agreed upon price with the noncoalition buyers. In addition, a variety of covenants restricting stock sales by controlling shareholders may be used. Collectively, these factors help bind selling groups together and provide group stability.⁴

An important consideration in assessing coalition stability is coalition size. Larger groups are more likely to be unstable than smaller groups for several reasons. First, they are more difficult to bind together: they are better targets for prospective control coalitions. Second, in larger controlling groups, it is more difficult for individual group members to partake of many of the controlling ownership rewards or for the rewards to be shared equitably. This division of rewards has led Becker to suggest that where entrepreneurial capacity is a factor in the ownership-management of a firm, "Even partners often do not have proper incentives because of the 'tax' on their diligence. (Why?) The larger the number of partners, the smaller the incentive provided each one" (Becker 1971, p. 123). Third, group formation and operation costs will increase with group size. Large groups would be more likely to necessitate complex and costly legal arrangements among members to achieve group stability. Ongoing "operating" costs would be greater for larger groups than for smaller groups.

All of these considerations suggest that controlling shares in small banks would be worth more to smaller coalitions. That is, smaller groups of buyers would be willing to pay more for shares and smaller groups of sellers would demand more. Two factors, however, may complicate the testing of this hypothesis—wealth and portfolio constraints. Wealth constraints may make some investments impossible for single individuals and relatively small coalitions. Larger group sizes may also be desirable for portfolio reasons. To the extent that investment in a control position in (even) a small bank causes investor portfolios to be too heavily weighted in a single asset or a single type of assets, ownership through a coalition may be advantageous.

Equilibrium Pricing

While the differential benefits of control imply that control-seeking coalitions would be willing to pay more for control shares than minority shares, and that existing controlling owners would have an incentive to demand more for their shares, they do not guarantee price premiums for controlling shares. Competition for controlling shares and among suppliers of controlling shares will determine equilibrium share prices.

4. During the collection of data for this study, we encountered several instances of buy-sell agreements, first right of refusal agreements, and restrictive covenant arrangements.

In that regard, we discuss equilibrium pricing considerations for three important and distinct types of control share transactions.

First are transactions involving the acquisition of absolute control from sellers having absolute control. These types of transactions are the focus of our empirical work. In these cases, we have previously argued that both potential buyers and current owners have incentives to pay and demand, respectively, price premiums for controlling bank shares. The buyers expect to reap control benefits, and the sellers are currently receiving those benefits. If control groups are stable, there is no possibility of *within*-bank share supply competition to furnish control to prospective buyers, so potential buyers must deal with the existing controlling owner(s) or seek control of another bank. Across banks, however, there is still little likelihood that buyers would be able to acquire absolute control of a bank from a single seller or stable coalition with no price premium. Competition from other buyers as well as the demands of the seller would prevent it. The only possibilities for acquiring absolute control at a lower cost would be if control groups were unstable, or if it were possible to assemble an absolute control block of shares in a bank where absolute control was not held by a clearly definable entity. The latter possibility is an important second type of control transaction: the acquisition of absolute control from dispersed minority shareholders.

In acquiring absolute control from dispersed minority interests, supply competition exists, by definition, within banks as well as across banks. Within a bank, absolute control shares can be acquired from many possible combinations of share purchases from minority shareholders. Providing none of the minority shareholders is receiving control benefits, they have no incentive from their current share ownership to demand higher than minority share prices for their shares. While competition among the minority shareholders to supply shares at any higher prices would tend to keep share prices at the minority share price level, competition among potential buyers would act to raise share prices. Given that control has a positive differential value relative to minority share ownership, there would be an incentive for existing minority shareholders to form a control coalition. For this to occur, the value of the control position would have to exceed the previously discussed costs associated with the formation and maintenance of a control coalition. Thus, outside buyer competition as well as inside competition to form a control coalition would cause share prices to be bid above minority share price levels. Since there is a risk in this type of control acquisition of having a control-gaining attempt thwarted by another competing group, the premiums paid in such acquisitions should be lower by an amount necessary to offset the risk involved. We do not empirically test this proposition in this paper.

The third type of control share transaction involves the acquisition of a "working" control interest, whereby the controlling owner controls

less than 50% of the bank's outstanding shares but a substantial enough block of shares to effectively control bank policies. As long as such a position carried greater benefits than a minority position, there would be an incentive for prospective working control shareholders to bid prices up for those shares. Similarly, as long as suppliers of large blocks of minority shares could clearly sell a working control position from which they were receiving control benefits, they would demand price premiums for their shares. The market would reflect working control share price premiums as long as the benefits of working control exceeded the costs of forming and maintaining control coalitions. Since working control involves a less secure control position than absolute control, the premiums for working control would be less than the premiums for absolute control. We do not, however, empirically test this proposition here.

III. Previous Research

There is very little prior empirical work regarding price premiums on controlling shares and those few studies have data limitations. A study by Van Horne and Helwig (1966) involving a questionnaire sample of 118 small Michigan banks reported that 11 of their observations involved the sale of controlling shares in the bank. Share prices in these 11 transactions were somewhat higher in relation to book value and dividends than for the other 107 transactions. Van Horne and Helwig were properly cautious in generalizing from their results because of the extremely small number of control sale observations in their sample and the lack of information about those sales. Three studies by Riggs (1960, 1964, 1968) were similarly questionnaire oriented and reported higher prices on controlling shares relative to minority shares. However, none of the studies had sufficient data for any structured statistical analysis.

In studying share prices and block size, Scholes recognized that those transactions where ownership control change is a factor reflect something different "than the more normal kind of investment demand . . ." (1972, pp. 184-85). However, he did not empirically examine the issue. Beyond these references to the valuation of controlling shares, one must look to the legal literature for further guidance on the subject. Unfortunately, the legal literature offers no empirical evidence.

IV. Data Sources and Demographics

Price data for this study were taken from two primary sources. These data were divided into two separate "sets" for statistical testing purposes. The rationale for this division will become apparent as we proceed.

Data Set A: Independent Control and Minority Observations

Data on controlling share ownership were taken from reports filed by banks in compliance with Public Law 88-593 passed by Congress on September 12, 1964. This law, recently superseded by the Change in Bank Control Act of 1978, required the reporting of a number of details concerning bank stock transactions that had the potential to produce changes in bank management or policies. However, it did not require acquisitions of bank stock by groups or individuals to be reported if the individuals or groups held less than 10% of the subject bank's outstanding common stock subsequent to the transaction.

The control share data source included virtually all such transactions reported in compliance with Public Law 88-593 in the Tenth Federal Reserve District since the law was enacted through 1975. Price data were supplemented with selected financial items from each bank's Report of Condition and Report of Income.

Reports filed in compliance with Public Law 88-593 usually described a single transaction involving one or more buyers and sellers, where all shares were traded at the *same* price.⁵ Unless there was evidence to the contrary, we assumed that all buyers listed on a single report form were affiliated; we made a similar assumption about the sellers. While information positively establishing this was not available in all cases, it was confirmed on many occasions in unsolicited letters and documents that often accompanied the reports. No evidence we have reviewed would suggest this assumption is consistently or significantly in error.

We defined a control change transaction to be one where the trade involved more than 50% of the bank's shares.

In total, there were 563 control observations in data set A for 1964-75. Observations were excluded for a variety of reasons, including erroneous reporting of data, discrepancies that could not be easily corrected, and a lack of sufficient information to determine that a bona fide control change occurred. The inability to accurately appraise market values of noncash types of consideration, such as land and common stock, also caused us to eliminate some transactions. Observations that involved sales to relatives, sales to companies owned by the sellers, and any other obvious non-arm's-length transactions were also eliminated. Finally, we excluded control observations from data set A that had identifiable minority transactions associated with them. These control observations were used with their companion minority transactions in data set B described below.

Our minority share price data were drawn from Federal Deposit

5. In those instances where *different* prices were paid for shares in the same bank, transactions were recorded separately because they raised doubts about group affiliation (see the data set B discussion below).

TABLE 1 Asset Size Distribution of Sample Banks

Asset Size (\$ Million)	Data Set A (%)		Data Set B (%)
	Control Transactions	Minority Transactions	
Less than 2	30	5	24
2-5	29	22	35
5-10	20	21	27
10-25	16	30	11
25-50	4	16	3
Greater than 50	1	6	0
Total	100	100	100

Insurance Corporation (FDIC) examination reports on banks in Kansas, Missouri, Colorado, Nebraska, and Oklahoma. While no circumstances surrounding the transactions were known, there was little reason to believe that most of the transactions were not arm's length. To limit the possibilities of a transaction being part of a control change in a bank, we eliminated transactions where the block of shares traded exceeded 5% of the bank's outstanding common shares. The resultant data consisted of 584 transactions spanning 1970-75.⁶

Data Set B: Matched Control-Minority Observations

Observations in this data collection also come from the Public Law 88-593 source. Data set B consists of transactions where there was a clearly identified control change sale and at least one associated concurrent or subsequent minority sale. Within this set are 37 matched pairs of prices that relate to 37 control transactions and 46 minority transactions occurring in 1965-75.⁷ Observations were excluded for reasons similar to those described in data set A. While data set B contains relatively few observations, its "matching" nature affords very strong inference possibilities.

Demographics

Tables 1-4 present distributions relating to asset size, location, market size, and transaction amount characteristics of the data. Data set B

6. In an earlier version of this paper, we obtained minority share prices from about 100 observations of the Public Law 88-593 data. These observations were deemed minority because they did not satisfy our definition of control. On more thorough investigation, we eliminated these observations because there was great uncertainty about their actual minority status (see n. 9 below).

7. There are more minority than control transactions in data set B because in some situations there were multiple minority transactions associated with a single control change trade. In such instances we averaged the multiple minority prices so that there would be one matched minority-control price pair for each control observation. This was done to facilitate the statistical analysis performed later.

TABLE 2 Locational Distribution of Sample Banks by State

State	Data Set A (%)		Data Set B (%)
	Control Transactions	Minority Transactions	
Colorado	10	15	8
Kansas	29	30	41
Missouri	10	18	5
Nebraska	25	23	24
New Mexico	1	0	0
Oklahoma	20	14	19
Wyoming	5	0	3
Total	100	100	100

control and minority demographics are reported together in the first three tables since all transactions in each "pair" occur in the same bank. In table 4, data set B control and minority transactions are separated.

To briefly summarize these tables, the preponderance of observations involve small banks from relatively small market areas, primarily in Colorado, Kansas, Missouri, Nebraska, and Oklahoma. These profiles are indicative of the rural economy and unit banking prevalent in the Tenth Federal Reserve District.

V. Statement of Hypotheses

The central contention of this paper is that controlling shares should bring price premiums relative to minority shares. An empirical finding of no significant premiums would imply one or more of the following: that the purported benefits of control do not exist or are not attainable,

TABLE 3 Distribution of Sample Banks by Market Population*

Market Population	Data Set A (%)		Data Set B (%)
	Control Transactions	Minority Transactions	
Less than 10,000	31	25	32
10,000-20,000	25	12	22
20,000-40,000	17	17	22
40,000-250,000	14	19	11
Greater than 250,000	13	27	13
Total	100	100	100

*Market population is defined as the county or as the Standard Metropolitan Statistical Area (SMSA) population where SMSAs are defined. All population numbers were taken from 1970 U.S. Census data.

TABLE 4
Distribution of Purchase Amounts for Controlling and Minority Share Transactions

Transaction Amount	Data Set A (%)		Data Set B (%)	
	Control Transactions	Minority Transactions	Control Transactions	Minority Transactions
Less than \$10,000	0	8	0	16
\$10,000-\$50,000	2	22	0	38
\$50,000-\$250,000	32	34	41	32
\$250,000-\$1 million	44	28	41	14
Over \$1 million	22	8	18	0
Total	100	100	100	100

that ownership structures are unstable, or that within bank share supply competition eliminates control premiums. Conversely, a finding of significant price premiums would indicate that control benefits exist and are attainable, that ownership structures are generally stable, and that controlling and minority shares can be effectively isolated in the market.

We present tests of two specific hypotheses:⁸ H_1 —prices for control shares exceed prices of minority shares; H_2 —control premiums vary inversely with the size of the ownership coalition. H_1 is a direct test of the control premium contention. H_2 is a test of an important implication of the control premium contention. We will refer to these as the "control premium" and "coalition-size" hypotheses, respectively.

VI. Empirical Testing

We first present evidence on the control premium hypothesis. This is done for both data sets, A and B. Then we present evidence on the coalition-size hypothesis.

Price Premium Analysis of Data Set A

Since we are comparing prices of different banks in this set, it is necessary to standardize the price measures. Scaling by book value has been commonly used (Durand 1957; Van Horne and Helwig 1966) and, as shown below, has a relevant interpretation in reference to minority share prices. Consequently, the price variable is price divided by the previous year's book value (P/B). The denominator does not include any reserve adjustments.

Table 5 shows sample sizes, means and standard deviations (σ) of P/B , and price premiums for data set A samples for several different

8. These are working hypotheses. In their statistical testing, they will be alternate hypothesis to the usual null hypotheses of no difference.

TABLE 5 P/B Ratios for Data Set A

Time	Control			Minority			Test of Difference between Means (Control - Minority) <i>t</i> -Score	Price Premiums $\left(\frac{\overline{P/B} \text{ Control}}{\overline{P/B} \text{ Minority}} \right)$
	<i>n</i>	$\overline{P/B}$	σ	<i>n</i>	$\overline{P/B}$	σ		
1964-66	102	1.48	.38	...	...	...	...	...
1967-69	159	1.56	.47	...	...	...	...	...
1970-72	149	1.63	.51	205	1.03	.38	12.9*	1.60
1973-75	153	1.88	.46	379	1.02	.46	19.5*	1.84
1964-69	261	1.53	.43	...	...	...	...	...
1970-75	302	1.77	.50	584	1.03	.43	23.1*	1.72

*Significant at the .001 level or better.

time intervals. The total time periods are not the same for control (1964-75) and minority (1970-75) samples, but in the statistical testing below we will use only 1970-75 data.

Before testing H_1 , it is worth comparing prices shown in table 5 with those of other data sources. With regard to control shares, the only early period evidence we are aware of comes from the 1960s surveys by Riggs (1960, 1964, 1968), whose data indicated mean P/B ratios of about 1.2 in the early 1960s, and about 1.4 in the mid-1960s. Swords's (1976) more recent survey reported a mean P/B ratio of almost 1.6 in the mid-1970s. Despite differences in screening criteria, our control prices appear to be reasonably in accordance with the limited evidence available from these other sources.

Some relevant minority share price data were reported in a 1964 Congressional study (U.S. Congress 1964), which found that approximately two-thirds of all minority bank shares sold for less than book value. This finding is consistent with that of Van Horne and Helwig (1966), who found that minority share prices for small Michigan banks averaged about 0.9 times book in 1964.

In another sample of minority share bank stock prices, we obtained questionnaire responses from 41 bankers who attended a 1977 Independent Bankers Association of America seminar in New Orleans on bank stock ownership. All of these banks had less than \$50 million in assets. The average reported price to book ratio of the most recent minority share transactions for those banks was 1.03.

Bankers often refer to control premiums on bank stock as premiums in excess of book value. An empirical justification of that practice is that minority bank shares have traditionally traded in ranges approximating book value. Data from table 5 and from the sources cited above roughly support the traditional practice, although there is considerable variability in minority P/B ratios in all the studies. More important, evidence cited above from other minority share studies indicate that the minority prices shown in table 5 are plausible.

Table 5 also shows the results of testing the control premium hypothesis, which is a one-sided test. Results in both 3-year subperiods and in the 6-year period 1970-75 indicated a highly significant premium for control shares that averaged 72%.⁹

These results are subject to several criticisms. First, we have not held other things constant in making the price comparisons, so it is possible that other factors influence the test results. There are also problems associated with the data, apart from possible transcription and transmission errors. As shown below, it is quite common for controlling shares of stock to be acquired from several individuals, and when the number of shares acquired exceed what is necessary to just gain control, it may not be evident if it were necessary to acquire those *additional* shares for control or if they were acquired subsequent to control. In the latter case, presumably they could have been acquired at a lower price. However, the reports may simply indicate a total amount paid for all shares. To the extent that such "aggregated" cases are present in sufficient numbers, it is possible that average control share prices shown in table 5 are biased downward.

With respect to minority shares, since we had no means of determining if transactions were arm's length, there may be a negative bias imparted to average minority prices reported in table 5. This could cause us to overstate the significance level associated with H_1 , as well as the average control premiums implied in table 5. However, our minority prices do not appear to be low in comparison to similar data from other studies.

Price Premium Analysis of Data Set B

In this analysis, direct price comparisons are made between prices of controlling and minority shares of stock that are traded at approximately the same time and in the same bank.¹⁰ This avoids the *ceteris paribus* problem in the previous analysis. Table 6 shows price premium ratios (control price $\div$ minority price) for data set B.

Average P/B ratios for control and minority shares were 1.64 and

9. We performed similar tests using about 100 "minority" transactions from the Public Law 88-593 source. These tests, which used price to earnings ratios as well as P/B ratios, generally gave significant results, but they were not nearly so conclusive as those of table 5. We believe these alternate tests to be seriously flawed, however, because a large portion of the minority transactions involved working control, which may be defined as effective control with less than 50% ownership (see n. 6 above).

10. The "equal price offer" guideline enforced by the Board of Governors of the Federal Reserve System until 1973 for acquisitions of bank shares by bank holding companies did not directly affect the data in data set B. No multibank holding company acquisitions are in the data set, and there are only three one-bank holding company acquisitions that occurred during the time the equal offer guideline was enforced. One was an illegal acquisition that the holding company later divested; another involved a joint purchase of shares by private individuals and a holding company that did not have to be registered with the Federal Reserve; and the third case was contested in court and resulted in the board's dropping the equal offer guidelines.

TABLE 6 Summary of Price Premium Ratio Distributions for Data Set B: 1965-75

Price Premiums*	
P_e/P_m †	Frequency
1.0	2
1.0-1.5	15
1.5-2.0	16
Over 2.0	4
Total	37

NOTE.—In terms of data set B, hypothesis H_1 is: $H_1: P_e/P_m > 1$, where P_e = control prices and P_m = minority prices. Average $P_e/P_m = 1.52$; $\sigma = .37$.

*Where more than one companion minority transaction was present and where prices for these transactions were different, a weighted average minority share price was computed.

†Price premium = control price/minority price = P_e/P_m .

1.08, respectively. Therefore, the average control price premium was 1.52, which was significantly greater than one, as evidenced by a t -score of 8.52. Thus, controlling shares commanded a significant (52%) premium over minority prices for data set B. These results are consistent with but lower than those from data set A. The different results are likely attributable to the different time periods covered. As can be seen in table 5, P/B values for control shares increased consistently from 1964 through 1975.

To put the data set B premiums into more meaningful perspective, it may be useful to consider their dollar magnitude, where dollar magnitude is defined as the difference between the per share control price and the per share minority price multiplied times the number of control shares traded. These premium magnitudes ranged from zero to \$1,240,000; the mean and median amounts were \$215,000 and \$102,000, respectively.

One of the major criticisms of the analysis of data set B relative to that of data set A is the small sample size, which brings into question the representativeness of the sample. However, tables 1-3 indicate no startling disparities between the characteristics of the two data sets. Moreover, data used in this section's analysis have the exemplary feature that all controlling and minority observations are perfectly matched with respect to bank characteristics and the time dimension.

Ancillary Evidence

There were five exchanges where a single seller received two different prices for stock—one price for controlling shares and another price for some additional minority shares. Since in each of these cases the same buyer(s) acquired both controlling and minority shares, these observations were eliminated because the price differences were not necessarily the product of *separate* arm's-length negotiations. A wide range of prices could be affixed to both controlling and minority shares to

achieve a given consideration for all shares exchanged. That is, the principal issue in such negotiations may be the *total* compensation, and component prices may be arbitrary. For that reason, we left those observations out of data set B. In spite of the potential arbitrariness in these cases, that different prices are reported provides additional evidence supporting the price premium hypothesis. Premiums on controlling shares in these five cases averaged 33% and ranged from 5% to 100%. This suggests, but certainly does not prove, that the premium is limited only to those shares that represent control and not to additional shares.

Control Prices and Buyer/Seller Coalitions

The coalition size hypothesis, H_2 , asserts that other things equal, control should be worth more to smaller groups than larger ones. In equilibrium, we would expect to see virtually all control positions taken by individual owners. Wealth and portfolio constraints, however, would act to mitigate this. If the group size hypothesis is correct and wealth and portfolio constraints are important, we would expect to see most control positions taken by relatively small coalitions, including many single-owner cases.

Figure 1 shows the number of buyers and sellers in control coalitions for a subset of our data. Observations in figure 1 were taken from both data sets A and B and were for cases involving noncorporate purchasers who did not own shares prior to the trade.¹¹ Transactions involving corporations were not used because the number of buyers and sellers is somewhat ambiguous, and we used only "new" purchasers, because "old" purchasers may already be members of existing coalitions.

The data in figure 1 show that the vast majority of the observations involved either small groups or single buyers and sellers. These data are consistent with H_2 , that control is more valuable to relatively smaller groups, as they indicate that relatively smaller groups are more successful in acquiring control. Since control is not exclusive to single owners, wealth and portfolio constraints apparently are important.

There are alternate ways to test H_2 . Consider the following regression model:

$$P/B = b_0 + b_1 \text{ size} + b_2 \text{ time} + b_3 \text{ sellkt},$$

where size = bank assets (millions of \$); time = year of sale; and sellkt = number of members in selling coalition. According to the coalition-size hypothesis, b_3 should be negative. We do not include a similar variable for number of members in the buying coalition for two rea-

11. In many of the transactions we were unable to clearly identify the numbers of people involved.

		Number of Buyers				
		1	2-5	6-10	> 10	Total
Number of Sellers	1	105 5	87 11	8 1	7 0	207 17
	2-5	73 6	104 3	13 0	8 0	198 9
	6-10	15 1	27 2	5 1	3 0	50 4
	> 10	9 0	21 0	2 0	3 0	35 0
	Total	202 12	239 16	28 2	21 0	490 30

Key

Data Set A
Data Set B

FIG. 1.—Number of buyers and sellers in control group

sons. First, the seller count variable is the only variable with any application value. Since one does not know buyer count until a transaction has occurred, it has no role in a priori valuation theory. Second, seller count is probably a better proxy for coalition costs and benefits since it reflects the established workings of a coalition. Results from the regression analysis are shown in table 7.

The coalition-size variable is significantly negative at the .10 level, which supports the coalition-size hypothesis, although the results are not overly impressive. Unfortunately, there are some measurement problems associated with the coalition-size variable. First, there are frequently unequal distributions of share ownership within coalitions

TABLE 7 Coalition-Size Hypothesis (H_2) Test

Variable	Size	Time	Sellkt
Coefficient	.018	.048	— .002
Standard error	.004	.007	.001
t-value	5.043**	6.581**	—1.435*

NOTE.— $n = 293$; $R^2 = .25$.

*Significant at the .10 level.

**Significant at the .05 level or better.

that may be important. The coalition-size variable does not account for any such discrepancies. Second, the coalition-size variable is defined as the number of *individuals* within a coalition. This may be an overstatement of the *effective* coalition size when spouses and children are included (presumably for tax reasons) who actually have a passive role in the coalition. Both effects would tend to bias the coalition-size coefficient toward zero. We performed a second regression where all sellkt observations between 2 and 9 were eliminated, and sellkt was transformed into a dummy variable, with similar results.¹²

Evidence in this subsection is consistent with the coalition size hypothesis that control is more valuable the smaller the coalition of investors. The strongest evidence appears to be that shown in figure 1—single owners and small coalitions are clearly the dominant entities in the control share market.

VII. Summary and Conclusions

The primary hypothesis tested in this paper was that controlling shares of closely held bank stock sell at price premiums relative to minority shares. This hypothesis was tested on two sets of data: first, a relatively large set of independent observations (data set A), and second, a relatively small set of matched sales (data set B). In both instances, controlling shares were shown to command premiums. On average, control premiums ranged from about 50% to 70%.

An important implication of the price premium hypothesis is that control would be more valuable to smaller groups of people than to larger groups. Empirical tests of this hypothesis lent further support to the price premium hypothesis in that relatively smaller groups—including single owners—tend to dominate buying and selling activity, and, on average, value control more highly than relatively larger groups.

References

- Becker, Gary S. 1971. *Economic Theory*. New York: Knopf.
Durand, David. 1957. Bank stock prices and the bank capital problem. Occasional Paper 54. New York: National Bureau of Economic Research.
Edwards, Franklin R. 1977. Managerial objectives in regulated industries: expense preference behavior in banking. *Journal of Political Economy* 85 (February): 147–62.
Feld, Alan L. 1974. The implications of minority interest and stock restrictions in valuing closely-held shares. *Pennsylvania Law Review* (April), pp. 934–53.
Friedman, Milton. 1962. *Price Theory: A Provisional Text*. Chicago: Aldine-Atherton.
Jensen, Michael C., and Meckling, William H. 1976. Theory of the firm: managerial

12. We also ran a regression with a dummy variable set equal to zero for a single buyer–single seller transaction, and set equal to one, otherwise. The dummy variable was negative, as the coalition-size hypothesis predicts, but its prob value was only 0.19. The same statistical problems noted above apply here.

- behavior, agency costs and ownership structure. *Journal of Financial Economics* 3 (October): 305-60.
- Knight, Frank H. 1921. *Risk, Uncertainty, and Profit*. Boston: Houghton Mifflin.
- Meeker, Larry G., and Myers, Forest E. In press. Financing bank stock ownership: a question of conflict of interest. *Journal of Banking and Finance*.
- Riggs, Lloyd C. 1960. How much are country banks worth? *Bank News* 60 (May 15): 20-39.
- Riggs, Lloyd C. 1964. How much are country banks worth now? *Bank News* 64 (May 15): 19-36.
- Riggs, Lloyd C. 1968. How much are country banks worth now? *Bank News* 68 (May 15): 31-46.
- Scholes, Myron S. 1972. The market for securities: substitution versus price pressure and the effects of information on share prices. *Journal of Business* 45 (April): 179-211.
- Schumpeter, Joseph A. 1949. *The Theory of Economic Development*. Translated by Redvers Opie. Cambridge, Mass.: Harvard University Press.
- Swords, M. J. 1976. What are community bank stocks worth? *Bank News* 76 (April 15): 13-24.
- U.S. Congress, House, Subcommittee on Domestic Finance, Committee on Banking and Currency. 1964. *The Market for Bank Stock*. 88th Cong., 2d sess.
- Van Horne, James, and Helwig, Raymond C. 1966. The valuation of small-bank stocks. Occasional Paper, Michigan State University, Bureau of Business and Economic Research, Division of Research, Graduate School of Business Administration.

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