

## CONTROL AND BANK PERFORMANCE

Lawrence Fogelberg<sup>\*</sup> and John M. Griffith<sup>\*\*</sup>

### Abstract

This study examines the relation between management ownership and firm performance for a sample of commercial bank holding companies. We find that, when an economic measure of performance is used, the relation between ownership and performance of commercial banks is not monotonic, but is significantly curvilinear. This differs from the results of Pi and Timme (1993). We also find that the question of whether or not the CEO also holds the title of chairman of the board has no impact on bank performance. We speculate that, in commercial banks, management entrenchment, as proposed in Morck, Shleifer and Vishny (1988), may offset the effects predicted by the convergence-of-interest hypothesis of Jensen and Meckling (1976).

### INTRODUCTION

This study examines the relation between management ownership and firm performance for a sample of commercial bank holding companies. To measure bank performance, we use an economic measure: Stern Stewart & Co.'s Economic Value Added (EVA). Prior studies of firm ownership and performance have traditionally used accounting measures of corporate performance (Berger, 1992; Demsetz and Lehn, 1985; Pi and Timme, 1993; Smirlock, 1985). Exceptions are Chen, Hexter, and Hu's (1993) and McConnell and Servaes (1990), which use Tobin's  $q$  as a measure of performance, but which do not focus upon commercial banks. We find that, when an economic measure of performance is used, the relation between ownership and performance of commercial banks is not monotonic, but is significantly curvilinear. This differs from the results of Pi and Timme (1993). We also find that the question of whether or not the CEO also holds the title of chairman of the board has no impact on bank performance. We speculate that, in commercial banks, management entrenchment, as proposed in Morck, Shleifer and Vishny (1988), may offset the effects predicted by the convergence-of-interest hypothesis of Jensen and Meckling (1976). Jensen and Meckling's hypothesis suggests a uniformly positive relation between management ownership and the value of the firm.

Jensen and Meckling (1976) propose that an inverse monotonic relation should exist between the owner-manager's control and agency costs, and that, as ownership increases, there is increased incentive for the owner-manager to maximize the value of the firm. Berle and Means (1932) show that as firm size increases, ownership becomes diffused, thus leading to conflicts of interest between owners and managers. Jensen and Meckling and Berle and Means assume that the owner-manager is a single owner who has reduced his or her equity position in the firm. We know that in most circumstances this is not the case with the modern public corporation and management. Therefore, it is this relation, the one between management ownership and bank performance that is examined. Principal/agent conflicts arise due to the separation of the ownership and the control of the corporation. Berle and Means emphasize that when control is distinct from ownership, those in control may deploy assets in ways that benefit those in control rather than owners.

Jensen and Meckling (1976) demonstrate that when the owner-manager sells equity in the firm to outsiders, and if both parties are utility maximizers, the owner-manager's interest will diverge from the new principals. Jensen and Meckling refer to this failure to maximize the welfare of the principal as residual loss, and feel it is likely to be the most important cost due to the principal/agent conflict.

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\*Troy State University

\*\*Old Dominion University

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Morck, Shleifer, and Vishny (1988) propose another model in which increased ownership by the management leads to entrenchment, where the manager will indulge in non-value-maximizing behavior. However, management's self-indulgence is expected to be less than if he or she has control but no claim on the firm's cash flows. The entrenchment hypothesis predicts that the value of the firm will be less when management is free from checks on their control, and suggests that firm performance will decline as management ownership increases.

Our findings of a significantly curvilinear relation between management ownership and firm value suggest that both the convergence-of-interest effect and the entrenchment effect are at work. Specifically, our results show that firm value increases, then declines, then increases with management ownership.

The issue of management ownership and performance has been addressed extensively in the corporate literature, but has received little attention in the banking literature. The corporate literature emphasizes the relation between management or insider ownership and the performance of the firm. These studies are important to this research because they indicate that a conflict exists as to whether control influences the performance of the firm.

One study that does address control and bank performance is that of Pi and Timme (1993). They investigate the principal/agent conflicts by examining variations in performance and the relations between performance, top management team and ownership structures, and the composition of the board of directors. Their sample consists of large publicly traded US commercial banks. Their results suggest that top management team structure affects performance, and internal monitoring devices may not be an effective control. They find that when the CEO is also chairman of the board, principal/agent conflicts may be exacerbated because of the consolidation of the decision control processes. Their results indicate that when the CEO is also chairman, cost efficiency and return on assets are lower. Conversely, cost efficiency and return on assets are positively related to non-chairman-CEO ownership, and unrelated to institutional and large blockholders' ownership, and the proportion of inside directors.

The next section explains the data and methodology. The third section presents the results, and the last section summarizes and concludes the study.

## DATA AND METHODOLOGY

### EVA

The sample consists of 100 bank holding companies obtained from the Stern Stewart & Co. 1997 database for year ending 1996. The EVA performance data were obtained from Stern Stewart & Co. The data required for calculating selected accounting measures were taken from COMPUSTAT, which was supplemented with information from the *Standard and Poor's Stock Guide*.

EVA is defined as the current-period after-tax economic earnings net of the charge for the use of capital (Stewart, 1992). The procedure for estimating EVA for each bank follows Uyemura, Kantor, and Pettit's (1996) methodology:

Equation 1

$$\text{EVA} = \text{NOPAT} - \text{Capital Charge}$$

where NOPAT represents "net operating profits after-tax" and "Capital Charge" is the amount of capital multiplied by the cost of capital.

EVA differs from conventional earnings in two important ways. First, NOPAT reflects operational profits adjusted to minimize accounting conventions that misrepresent economic flows or that distort the proper matching of revenues and expenses. Second, EVA assumes that management must generate sufficient revenues to cover operating expenses, interest charges, and provide the return that shareholders require as compensation for assuming risks.

Prior studies traditionally used net income (NI), earnings per share (EPS), return on equity (ROE), or return on assets (ROA); all are accounting measures of performance. None of these performance measures tells us how much management has increased shareholders wealth. EVA can lead to management decisions that are different from those based on traditional measures. Traditional measures do not reflect risk and therefore promote behavior that aims to maximize earnings or prevent the dilution of returns. Return or ratio measures do not accurately assess shareholder value creation; rather they only indicate average profitability. The advantage of EVA is that it is dollar-based and thus, EVA maximization correlates with wealth maximization. Uyemura, Kantor, and Pettit (1996) find that EVA has the strongest correlation with market value added (MVA).

To calculate EVA, we need NOPAT and the capital charge. NOPAT is the operational profits of the company restated in such a way that NI is adjusted to reflect the current economics of the business (Stewart, 1992). Loan loss provisions, taxes, non-recurring events, and securities accounting are the four major adjustments that are the most common adjustments that are made when calculating EVA for banks (Uyemura, Kantor, and Pettit; 1996).

Capital is composed of shareholders' equity (excluding F.A.S. 115 adjustments) plus the following: loan loss reserves (net of deferred tax debits), other net deferred tax credits, non-recurring events (example: restructuring charges after tax), and unamortized securities gains or losses after taxes. This ensures that if an item is not considered a component of current operations that it will be capitalized and will be assessed a capital charge.

## Ownership

Previous studies (Morck, Shleifer and Vishny, 1988; Demsetz and Lehn, 1985; Dyl, 1988; and Neun and Santerre, 1986) use Abrecht and Locker's (1981) *Corporate Data Exchange (CDE)*. This data set contains principal stockholder ownership information of *Fortune 500* companies for year-end 1980, and is updated through May 1981 for holders of 5 % or more. For this study, ownership data were obtained from proxy statements for the year-end 1996.

One of the problems with using current ownership data is availability. The *CDE Fortune 500* directory was published only once in 1981. However, ownership data is available from other sources. Anderson and Lee (1997) examine ownership data provided by four databases and proxy statements. They suggest that data collected from proxy statements are superior to data from other sources but can be expensive to acquire and time consuming to extract.

## Summary Statistics

Table 1 presents descriptive statistics for measures of bank performance, ownership, and various other variables thought to have a possible impact on performance. Table 1 shows that the mean EVA in our sample is \$66.39 million. The median EVA is \$21.82 million. The results in Table 1 show that the mean bank's market value

**TABLE 1**  
**Descriptive Statistics For CEOs, Ownership And Other Firm-Specific**  
**Variables For Stern & Stewart's 100 Largest Bank Holding Companies In 1996**

| Variable                             | Mean      | Median    | StdDev    | Minimum  | Maximum    |
|--------------------------------------|-----------|-----------|-----------|----------|------------|
| CEO Tenure(YRS)                      | 8.28      | 7         | 6.01      | 1        | 28         |
| CEO Age(YRS)                         | 56.40     | 55.50     | 6.07      | 42       | 77         |
| CEO Ownership(%)                     | 2.88      | 0.72      | 8.67      | 0.06     | 70.31      |
| Management Ownership(%)              | 9.72      | 4.67      | 14.9      | 0.48     | 94.98      |
| Inside Directors                     | 3.46      | 3         | 2.13      | 1        | 15         |
| Outside Directors                    | 12.76     | 12        | 4.42      | 2        | 25         |
| ROC 1996(%)                          | 13.28     | 12.80     | 3.17      | 6.01     | 28.6       |
| COC 1996(%)                          | 10.57     | 10.57     | 0.66      | 8.64     | 12.28      |
| Change in Market Value 1996(\$1,000) | 2,661,989 | 816,590   | 4,004,633 | 100,388  | 25,674,740 |
| EVA 1996(\$1,000)                    | 66,387    | 21,823    | 150,203   | -325,022 | 1,088,947  |
| Capital(\$1,000)                     | 3,818,811 | 1,084,351 | 6,571,609 | 173,704  | 32,489,799 |
| NOPAT 1996(\$1,000)                  | 432,752   | 140,954   | 726,308   | 24,286   | 4,421,120  |

ROC = Return on Capital.

COC = Cost of Capital.

EVA = Economic Value Added defined as the economic earnings net of a charge for the use of capital.

NOPAT = Net Operating Profits After Tax defined as operational profits adjusted to minimize accounting distortions that misrepresent economic flows.

increased by \$2.66 billion in 1996 and the median increase is \$816.59 million. These results indicate that both EVA and the increase in market value distributions are skewed towards the higher measures. The results in Table 1 show that the average bank had net operating profit after tax (NOPAT) in 1996 of \$432.75 million, a return on capital (ROC) of 13.28%, and a cost of capital (COC) of 10.57%. The mean statistics for total assets and capital show that the average bank has approximately \$34.5 billion in total assets and \$3.82 billion in capital.

The ownership structure for our sample presented in Table 1 shows that the mean ownership position for management is relatively small. The mean and median holdings of the management are 9.72% and 4.67% respectively, thus indicating that the distribution of management holdings is skewed towards the larger holdings. The average holdings of the two classes of management are not significantly different. The mean statistic for CEO ownership shows that the CEO owns 2.88% on average.

Table 1 shows that the average bank has three inside to 12 outside directors. Directors are classified as insiders if they are officers, ex-employees or related to an officer of the bank. These results indicate that the boards of these large bank holding companies are not packed with insiders. However, the average tenure of insiders on the board (12.70 years) when compared to the average tenure of outsiders on the board (9.83 years) does indicate entrenchment by insiders.

## METHODOLOGY

From the data described above, we sought to extract certain measures of performance, ownership and control, and to determine which of the ownership or control measures was statistically significant as a predictor of performance. Because EVA is a function of a bank's size, we standardized it using year-end capital. Therefore, for performance, we used standardized measures of EVA.

For measures of ownership and control, we constructed the following variables: CHM is a dummy variable, which takes on a value of 1 if the CEO is also the Chairman of the Board, and takes on a value of 0 otherwise. TEN is the natural log of CEO tenure, expressed in years. AGE is the log of the age of the CEO. INS-BD is the log of the ratio of inside directors to total board members. INSIDE is the log of the ratio of insider ownership to total ownership. Finally, MAN is the log of the ratio of management ownership to total ownership. In order to test for possible nonlinearity in the relation between management ownership and performance, we also constructed squared and cubed values of MAN.

After constructing these variables for ownership and control, we looked at the correlation matrix, presented as Table 2. Because of the high degree of collinearity between variables, we concluded that only CHM and MAN were sufficiently uncorrelated with the other variables to be included in our model. We therefore dropped all other variables, other than CHM and MAN, and included the squared and cubed values of MAN in order to test for possible nonlinearity.

## Testable Hypotheses

Within the constraints presented by our data, we were able to formulate the following testable hypotheses: The first testable hypothesis is that the identity of the CEO as Chairman of the Board (CHM) is significant, as a predictor of firm performance. This hypothesis is built on the belief that if the CEO is both the CEO and the Chairman of the Board that he or she has the power to have a greater impact on firm value, either positively and negatively, than if he or she is just the CEO. The second testable hypothesis, which is based on Jensen and Meckling's (1976) convergence of interest hypothesis, is that there is a significant positive relation between the percentage of stock owned by management and performance. The third testable hypothesis is that the relation between management ownership and performance is linear. The means by which we test this hypothesis is by including the squared and cubed terms of MAN in our regression model. If the relation between management ownership and performance is significant, and if either the squared or the cubed values of MAN are significant, we conclude that the relation is nonlinear. A fourth testable hypothesis that the relation between management ownership and firm performance is an increasing monotonic relation. This is based on the belief that the effects of entrenchment, if any, are not great enough to offset the effects of the convergence of interest that occurs as the management's ownership increases. It is, of course possible, to have a nonlinear but monotonic relation between management ownership and firm performance. While a graph of the resulting curve may be indicative of monotonicity or nonmonotonicity, it does not constitute an explicit test of the hypothesis. To test this hypothesis, we examine the rank correlation coefficient between management ownership and performance. Therefore, our testable hypotheses are as follows:

- H1: The relation between CHM and firm performance is significant.  
 H2: The relation between MAN and firm performance is significantly positive.  
 H3: The relation between MAN and firm performance is linear.  
 H4: The relation between MAN and firm performance is monotonically increasing.

**TABLE 2**  
**Correlation Of CEO Status, CEO Tenure, CEO Age, Percentage Inside Directors, Percentage Of Management Ownership And CEO Ownership**

| Variable | CHM             | TEN            | AGE            | INS-BD         | MAN            |
|----------|-----------------|----------------|----------------|----------------|----------------|
| TEN      | 0.185<br>0.066  |                |                |                |                |
| AGE      | 0.277<br>0.005  | 0.537<br>0.000 |                |                |                |
| INS-BD   | 0.134<br>0.183  | 0.154<br>0.126 | 0.165<br>0.101 |                |                |
| MAN      | -0.118<br>0.243 | 0.021<br>0.837 | 0.079<br>0.434 | 0.136<br>0.178 |                |
| CEO      | 0.069<br>0.498  | 0.045<br>0.654 | 0.162<br>0.108 | 0.316<br>0.001 | 0.614<br>0.000 |

Cell Contents: Correlation and *P*-Values. CHM is a dummy variable, which takes on a value of 1, when the CEO is also Chairman of the Board. TEN represents the natural log of the tenure of the CEO. AGE represents the natural log of the age of the CEO. INS-BD represents the natural log of the ratio of inside directors to total Board seats. MAN represents the natural log of the percentage of stock owned by management. CEO represents the natural log of the percentage of stock owned by the CEO.

## RESULTS

Table 3 contains our regression results. When standardized EVA is used as a measure of performance, we find that CHM is not a significant predictor of firm performance, but that only MAN is significant. However, we do find that the relation of MAN to EVA is an increasing one. Further tests lead us to believe that the relation is nonlinear and nonmonotonic. The results show that as MAN increases, performance first increases when management owns between 0% and 12%, then decreases until ownership reaches 67%, and then increases again (see Figure 1). Note that CHM has a *t*-value of -0.00089, and is not significant at the 5 % level. MAN has a *t*-value of 2.46, and is significant at the 5 % level. The squared term of MAN has a *t*-value of -2.45, and is significant at the 5 % level. Finally, the cubed term of MAN has a *t*-value of 2.11, and is significant at the 5 % level.

To test for monotonicity, we report a rank correlation coefficient of 0.075, which is not significant at the 5 percent level. Thus, we demonstrate a relation between management ownership and EVA is significant, but not monotonic.

## CONCLUSIONS

This paper examines the relation between bank performance, management ownership, and CEOs who are also Chairman of the Board for a sample of the 100 largest U.S. bank holding companies. The measure of bank performance that we use is EVA. It is an economic measure of performance and tells us how much management has increased shareholders' wealth.

We show no relation between when the CEO is also Chairman of the Board and bank performance. These results are contrary to those of Pi and Timme (1993), who find that cost efficiency and return on assets are negatively related to CEO-Chairmanship.

When an economic measure of performance (EVA) is used, we show a significantly positive nonlinear relation between management ownership and performance. Performance rises until the management's holdings reach approximately 12% and then declines until ownership reaches 67% of the firm. This differs from the results of Pi and Timme (1993), and suggests that management entrenchment, or some other mitigating factor, may be influencing our results. While Pi and Timme do not use a market-based measure of performance, our study is based on such a measure.

These results suggest that entrenchment may be influencing our results, but that the convergence of interest is the dominating influence. Using EVA as a measure of performance, our results confirm the findings of McConnell and Servaes (1990), Morck, Shleifer and Vishny (1988), Chen, Hexter, and Hu's (1993), and differ from those of Holderness and Sheehan (1988).

It appears that our results differ from the predictions of the "convergence of interest" model of Jensen and Meckling (1976). Our results suggest that "entrenchment," or some other mitigating factor, may also be influencing bank performance. This suggests that the "convergence of interest" model may be too simplistic to explain bank performance.

**TABLE 3**  
**Ordinary Least Squares Regressions Of Standardized EVA On**  
**Management Status And Management Ownership For 1996**

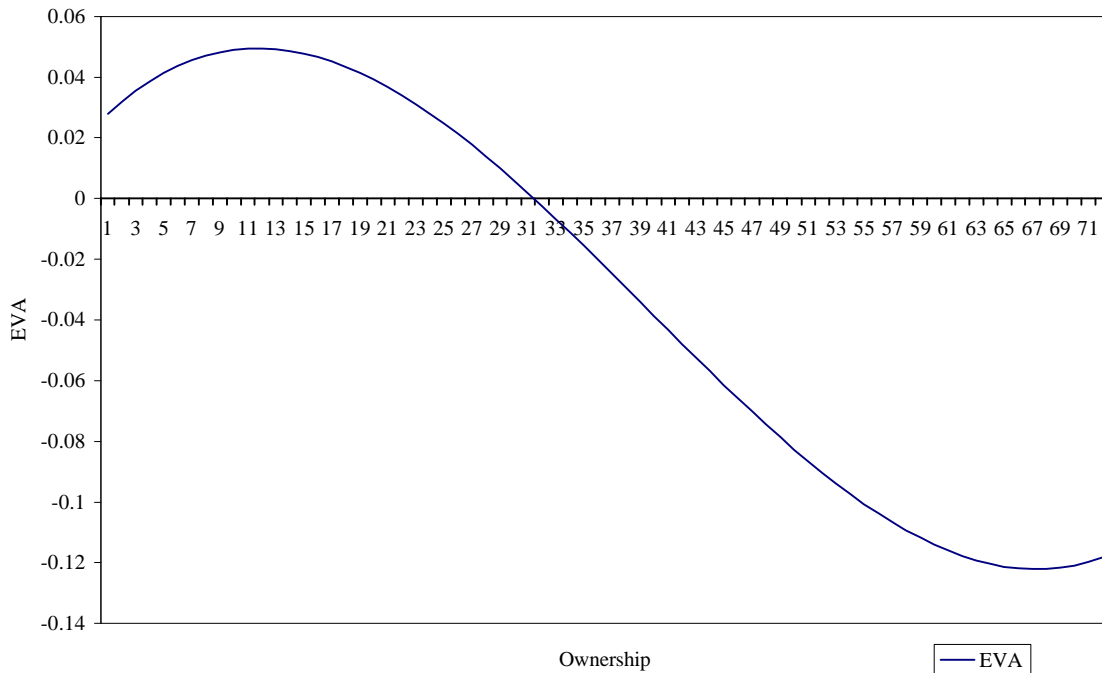
| Regression                        |                  | 1                  | 2                    | 2                    |
|-----------------------------------|------------------|--------------------|----------------------|----------------------|
| Dependent variable                |                  | EVA                | EVA                  | EVA                  |
| Intercept                         | $\hat{A}_0$      | 0.0309<br>(4.27)   | 0.028<br>(3.90)      | 0.0242<br>(3.30)     |
| $X_1=1$ if both CB and CEO        | CHM              | -0.0017<br>(-0.22) | -0.0017<br>(-0.22)   | -0.00089<br>(-0.12)  |
| Management Ownership              | MAN              | -0.0008<br>(-2.54) | 0.0012<br>(2.25)     | 0.00472<br>(2.46)    |
| Management Ownership <sup>2</sup> | MAN <sup>2</sup> |                    | -0.000035<br>(-2.27) | -0.000236<br>(-2.45) |
| Management Ownership <sup>3</sup> | MAN <sup>3</sup> |                    |                      | 0.000002<br>(2.11)   |
| R-square(adjusted) %              |                  | 3.5                | 7.5                  | 10.7                 |
| P-value for F-test                |                  | <0.05              | <0.05                | <0.01                |

CHM is a dummy variable, which takes on a value of 1, when the CEO is also Chairman of the Board. MAN represents the natural log of the percentage of stock owned by management. Cell contents include coefficients and *t*-values.

## REFERENCES

1. Abrecht, S. and Locker, M., *CDE Stock Ownership Directory No. 5-Fortune 500*, New York: Corporate Data Exchange, 1981.
2. Anderson, R.C., and Lee, D.S., "Ownership Studies: The Data Source Does Matter," *Journal of Financial and Quantitative Analysis*, Vol. 32 No. 3, Sep 1997, pp. 311-329.
3. Berger, A., "The Profit-Concentration Relationship in Banking," *Finance and Economics Discussion Series (FEDS)* No. 176, 1992, Board of Governors of the Federal Reserve System.
4. Berle, A., and Means, G., *The Modern Corporation and Private Property* (Macmillan, New York), 1932.
5. Chen, H., Hexter, J.L. and Hu, M.Y., "Management Ownership and Corporate Value," *Managerial and Decision Economics* 14, No. 4, Jul/Aug 1993, pp. 335-346.

**FIGURE 1**  
**Management Ownership and EVA**



6. Demsetz, H., and Lehn, K., "The Structure of Corporate Ownership: Causes and Consequences," *Journal of Political Economy* 93, 1985, pp. 1155-1177.
7. Dyl, E.A., "Corporate Control and Management Compensation: Evidence on the Agency Problem," *Managerial and Decision Economics* 9, No. 1, Mar. 1988, pp. 21-25.
8. Holderness, C.G., and Sheehan D.P., "The Role of Majority Shareholders in Publicly Held Corporations: An Exploratory Analysis," *Journal of Financial Economics* 20, No. 1,2, Jan/Mar 1988, pp. 317-346.
9. Jensen, M.C. and Meckling, W.H., "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure," *Journal of Financial Economics* 3, 1976, pp. 305-360.
10. McConnell, J., and H. Servaes, "Additional Evidence on Equity Ownership and Corporate Value," *Journal of Financial Economics* 27, No.2, Oct 1990, pp. 595-612.
11. Morck, R., Shleifer, A., and Vishny, R., "Management Ownership and Market Valuation: An Empirical Analysis," *Journal of Financial Economics* 20, No 1,2, Jan/Mar1988, pp. 293-315.
12. Pi, L., and Timme S.G., "Corporate Control and Bank Efficiency," *Journal of Banking and Finance* 20, No. 2,3, Apr 1993, pp. 515-530.
13. Neun, S.P., and Santerre, R.E., "Dominant Stockownership and Profitability," *Managerial and Decision Economics* 7, 1986, pp. 207-210.
14. Smirlock, M., "Evidence on the (Non) Relationship Between Concentration and Profitability," *Journal of Money, Credit and Banking* 17, No. 1, Feb 1985, pp. 69-83.
15. Stewart III, G.B., *The Quest for Value*, New York: Harper Collins, 1992.
16. Stulz, R., "Managerial Control of Voting Rights," *Journal of Financial Economics* 20, No. 1,2, Jan/Mar 1988, pp. 25-59.
17. Uyemura, D.G., Kantor, C.C., and J.M. Pettit, "EVA for Banks: Value Creation, Risk Management, and Profitability Measurement," *Journal of Applied Corporate Finance* 9, No. 2, Summer 1996, pp. 94-113.