

Managerial Ownership, Dividend and Debt Policy in the US Banking Industry

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Abstract

This study examines a sample of 136 US bank holding companies (BHCs) to determine the relation between insider holdings, dividend and debt policy. While these three variables have been examined as alternative signals of firm quality - prior research has generally excluded regulated firms from such analysis. It has been assumed that regulators, through their oversight duties, perform the job of informing the market about firm quality. Thus these variables should have no significant relation with each other. For the sample examined, there is no significant relation between insider holdings and debt - which confirms prior expectations. However, contrary to expectations, a strong negative relation is found between insider holdings and dividends. This finding could arise due to several factors. One is that insider holdings serve as a substitute signal for dividends in signaling firm quality. Alternately, BHCs with higher levels of insider holdings are consciously choosing a lower level of dividends to avoid the impact of double taxation. It is also possible that higher levels of insider holdings may be driving BHCs to allocate cashflow to other purposes rather than dividend payout.

I. Introduction

Berle and Means (1932) were among the earliest researchers to refer to what is currently termed 'agency theory', namely the fact that managers may be regarded as agents managing a firm for the true owners, that is, shareholders. Jensen and Meckling (1976) develop a theory of the firm incorporating the effects of agency costs. Since the Jensen and Meckling study, the literature on agency theory has been developed and enriched through several research streams. For instance, Fama and Jensen (1983) develop a theory of the organization as a nexus of contracts, both written and unwritten, and explore the optimal ways to control agency problems within different organizational forms. Subsequent research has focused on two issues as the prime sources of agency costs to shareholders: (1) management's decisions regarding capital structure, and (2) allocation of cash flow [Jensen (1986)].

Evidence shows that corporations differ greatly in their choice of financing and dividend policies. Researchers have examined these two issues, the dividend and financing policies of firms, under several different hypotheses. One well-developed hypothesis regarding observed choices is based on the concept of asymmetric information. The managers of a firm are privy to inside information regarding current (short-term) profitability, as well as future (long-term) prospects of the firm. Thus, they can convey this information to the market through the judicious use of dividend and financing policy choices.

Under the agency theory hypothesis, managers are assumed to be rational, utility maximizing individuals, who determine corporate policy based on self-serving desires. Hence, actions that maximize managerial utility do not necessarily maximize shareholder wealth. If the managers of a firm also have an ownership stake in their firm ("insider holdings"), however, they are more likely to maximize shareholder wealth. In addition, individual shareholders who are not involved in the day-to-day operations of a firm are unlikely to

influence corporate policies, unless they own sufficient stock to guarantee some degree of control over management [Shleifer and Vishny (1986)].

While earlier studies examine the relation between ownership structure and corporate policy for industrial firms, none examines the effect of the level of managerial ownership of banks on their debt structure and dividend policy. In fact, prior research on corporate policy usually truncates the sample by deleting all firms from regulated industries such as banks and utilities [Bradley, Jarrell and Kim (1984)]. The logic for exempting banks and utilities often revolves around the historical levels of regulation associated with each entity type - and the concomitantly low levels of managerial discretion. For utilities, the reasoning further suggests that shareholdings are routinely atomistic, even among insiders. On the other hand, banks - or more correctly, bank holding companies (BHCs) - now frequently possess groups of insiders with significant shareholdings, particularly among regional BHCs.¹ Furthermore, BHCs have experienced growth in product, market and service offerings, yielding a much higher level of managerial discretion than previously existed.² For the most recent period, 1994 to 1997, this study examines whether any relation exists between managerial ownership of equity in U.S. BHCs and their choice of corporate policies - namely their dividend and debt decisions.

Outline of the rest of the paper

The paper is structured as follows. Section II presents a review of the relevant literature. Section III discusses the data and methodology. Section IV contains a discussion of the results and findings of this study. I summarize and conclude the paper in Section V.

II. Literature Review

Agency theory states that managers of firms are likely to engage in non-value maximizing (NVM) behavior. Jensen and Meckling (1976) theorized that the value of the firm would be decreased by the agency costs incurred due to NVM managers. However, if a manager's personal wealth were linked to the price of the firm's common equity, these agency costs could be reduced. Thus, managerial ownership of equity (insider holdings) could serve as an agency-cost reducing mechanism, increasing the value of the firm.

The relation between insider holdings and the market value of a firm is not a linear relationship, as seen by Morck, Shleifer and Vishny (1988) (MSV) in examining a sample of Fortune 500 firms. For example, they find that the market value of the firm first increases as insider holdings increase from 0 to 5%. Then, as insider holdings increase from 5 to 25%, the market value of the firm decreases. Finally, as insider holdings increase beyond 25%, the market value of the firms again increases. The authors explain their results as evidence of managerial entrenchment.³ While lower and higher levels of insider holdings support the notion of insider holdings leading to lower agency costs, the middle level of ownership is a range over which the benefits of NVM behavior on the part of managers exceeds the costs incurred by the lower market price of their equity holdings.

The nature of this non-linearity may be sample and/or time dependent. Wruck (1989) finds that for a sample of firms announcing a private equity sale, firm value increases significantly for firms with low and high levels of insider holdings. In a middle range of insider holdings, firm value decreases significantly. The author confirms the range of "entrenchment" reported by MSV. However, McConnell and Servaes (1990) in an extension of MSV report a curvilinear relation between insider holdings and firm value, as opposed to the

piece-wise linear relation documented by MSV. Also, Cho (1998) reports results that do not support MSV. These studies, though, do not include any regulated firms in their respective samples.

Healy and Palepu (1989) suggest that managers formulate corporate policy changes when they foresee changes in their companies' business risks or earnings levels. Sophisticated investors then incorporate such implied managerial forecasts into their own forecasts of a firm's future performance. As Healy and Palepu outline, the two decisions of managers that generally have a significant impact on stock price are: (1) Choice of how much debt to hold in the firms' capital structure, and (2) Choice of how much of earnings to pay out as dividends, if any.

Thus, researchers have also argued that debt and dividend policies serve as signals of firm quality or convey information about firms to the market. Insider holdings, by decreasing NVM behavior of managers, has been looked on as a substitute signal of firm quality. In fact, researchers have examined the relation between these three variables - insider holdings, dividends and debt to determine whether they serve as substitute or complementary signals.

Rozeff (1982) is one of the earliest studies to report that insider holdings acts as a substitute for dividends as an agency cost reducing benefit. Kim and Sorenson (1986) tested for the existence of agency costs of debt [Jensen and Meckling (1976)], and the effects of insider holdings on the debt policy of a firm. The authors found that for their sample, high insider holdings was associated with greater levels of debt. This result was interpreted as signifying that firms with higher levels of insider holdings have lower agency costs of debt - or alternately, higher agency costs of equity. Crutchley and Hansen (1989) tested whether insider holdings lead to lower agency costs by analyzing the relation between leverage, dividend policy and insider holdings. From their results the authors conclude that managers do control agency costs through financial policy trade-offs. Jensen, Solberg and Zorn (1992) report a negative relation between insider holdings and debt, and a similar negative relation between insider holdings and dividends.⁴ This result implies that insider holdings serves as a substitute for both policy choices.

All these above studies excluded regulated firms from their sample. Traditionally, it has been assumed that regulators in the banking industry perform the role that corporate policy would serve in unregulated firms. This monitoring proxy would imply that for banks none of these variables, namely insider holdings, debt and dividends, need serve as signals of firm quality. The dealings of regulators with individual banks would convey sufficient information to the market for determining the quality of each bank.

However, Gorton and Rosen (1995), in examining the decline of banking in the United States, present a model that illustrates how managerial ownership of banks can lead to entrenchment - which then results in management taking second-best actions (i.e. engaging in NVM behavior). In an empirical test of the model with a sample of 458 BHCs, the authors find a non-linear relation between insider shareholdings and risk-taking in lending activity. This relation is similar to the non-linear relation between insider holdings and firm value reported by Morck, Shleifer and Vishny (1988) for their sample of Fortune 500 industrial firms.

This paper examines a sample of 136 BHCs to determine whether there exists a relation between the BHCs level of insider holdings, dividends and debt. Prior research demonstrates the simultaneity of the decisions which management makes regarding debt and dividend policy [Ravid and Sarig (1991)], and the jointness of the relationship between insider holdings, dividend and debt policy [Jensen, Solberg and Zorn (1992) (JSZ)]. This paper extends the work of these earlier studies by examining the relation between insider ownership and corporate policy for a sample of U.S. BHCs in a simultaneous equations regression framework.

III. Data and Methods

Insider holdings data for a sample of BHCs over the period 1994 to 1997 is collected from Disclosure's CD-ROM files. Each is required to have insider holdings data available for at least three of the four years of the study period. This screen results in an initial sample of 240 BHCs. The financial variables data were also collected from the Disclosure database. All firms are required to have at least three years of data for each of the variables used in the empirical analysis. This additional screen reduces the final sample to 136 BHCs.

First, I review the descriptive statistics of the sample. Then, I examine the relation between insider ownership and corporate policy, namely dividend and debt decisions, in a simultaneous equations regression framework.

Data

Dependent Variables

I define three endogenous variables, insider holdings, dividends and debt. Insider holdings (I-HOLDINGS) is the fraction of shares held by managers and directors relative to total shares outstanding. Dividends (DIVIDENDS) is the annual indicated dividends per share, while debt (DEBT) is total liabilities as a fraction of total assets.

Explanatory variables

The two explanatory variables are net income and selling and general administration expenses. Net income (NET INC) is defined as net income relative to net sales. Selling and general administration expenses (SGA EXP) are also scaled by net sales.

Methodology

Ravid and Sarig (1991) make a theoretical case that managers simultaneously allocate cash flows towards debt and dividend decisions, where levels of either or both serve as signals of firm quality. Jensen, Solberg and Zorn (1992) contend that insider holdings is itself determined as an endogenous variable by the same factors that help determine corporate policy. This study examines the relation between insider holdings, dividends, and debt in a simultaneous equations regression framework.

Hence, as per prior theoretical and empirical research, I examine the relation between insider holdings, dividends and debt for my sample of U.S. BHCs using simultaneous equations regression analysis - namely, two-stage least squares (2SLS).

2SLS System of Equations

The 2SLS procedure for simultaneous equations analysis has been attributed to Theil (1958) and Basman (1957). If a researcher wishes to examine the relation across a set of variables of interest, but knows that each dependent (endogenous) variable is also serving as an explanatory (exogenous) variable for determining the other dependent variables - single equation OLS regression analysis may lead to erroneous conclusions. This technique (2SLS) first finds the least-squares estimated values of the endogenous variables in the equations specified (first-stage). Next, these estimated values are used in place of the observed values of these endogenous values for the second-stage least-squares estimation.

Agarwal and Knoeber (1996) is a recent study using 2SLS that provides support for the rationale of using simultaneous equation regression analysis for this study. In examining seven alternate mechanisms to control agency problems, the authors report that cross-sectional OLS regression of firm performance against single mechanisms show four mechanisms having a significant relation with firm performance, namely insider holdings, outside directors, debt and corporate control activity. However, in a simultaneous systems framework, it is seen that three of the four no longer have any relation with firm performance - only outside directors is seen to be a significant factor.

I model the simultaneity of decisions regarding ownership, dividend policy and debt, using a sample of U.S. BHCs.

The model uses two-stage least squares (2SLS) regression analysis with the three aforementioned endogenous variables. Using indicated dividend instead of dividend payout is one difference between my model endogenous variables and the ones used by JSZ. The other is using total liabilities for debt instead of long-term debt. Both these differences were necessitated by data availability considerations. The simultaneous system of equations is modeled as:

$$\begin{aligned} \text{Insider holdings} &= f(\text{Dividends, Debt, SGA Expense, Net Income}) \\ \text{Dividends} &= f(\text{Insider holdings, Debt, SGA Expense, Net Income}) \\ \text{Debt} &= f(\text{Insider holdings, Dividends, SGA Expense, Net Income}) \end{aligned}$$

The 2SLS model is a parsimonious one. Each equation has the two other endogenous variables as explanatory variables. The other explanatory variables (common to all three) are net income and selling and general administration expenses (both scaled by net sales).

Expected relation/signs

Equation 1

Insider holdings should have no relation with either dividends or debt, given that it is not serving as a signal of firm value for regulated banking firms. However, given insider holdings, I expect a positive relation with net income and a negative relation with SGA expenses.

Equation 2

Dividends should have no relation with insider holdings. With debt, given that BHCs behave like unregulated firms in their allocation of cash flows, we would expect a positive relation. There should be a positive relation with net income, and a negative relation with SGA expenses.

Equation 3

Debt should have no relation with insider holdings and a positive relation with dividends (see above). There should be a negative relation with net income and a positive relation with SGA expenses.

IV. Results

Descriptive Statistics

The sample consists of 136 U.S. BHCs with average total assets worth \$16.67 billion (median \$2.89 billion). Average insider holdings for the sample is 14.2% (median 7.9%), with average indicated dividends of 86 cents/year (median 77 cents/year). Debt (defined as total liabilities over total assets) is on average 91.8% (median 92.0%). Though the sample is skewed with respect to size and insider holdings - it seems less so when looking at net income, SGA expenses and debt.

Regression results

In the equation with insider holdings as the dependent variable, the only significant relation is with dividends - strongly negative. This is contrary to expectations, as the result implies that firms with higher dividend payout policy would lead to lower levels of insider holdings. No relation is seen to exist between insider holdings and debt, net income or SGA expenses.

In the equation with dividends as the dependent variable, the relation with debt is seen to be positive (expected) and a strong negative relation with insider holdings. Also, a weak positive relation with net income (expected), and a weak positive relation with SGA expenses (contrary to expectations) is found.

In the equation with debt as the dependent variable, there is a positive relation with dividends and no relation with insider holdings (both expected). Also, a strong negative relation with net income (expected) and a strong negative relation with SGA expenses (contrary to expectations) are seen.

On performing the simultaneous regression analysis, this sample of U.S. BHCs is found to show no relation between the level of insider holdings and the debt ratio of the firm. This is as per expectations, that the presence of regulation eliminates the need for insider holdings to substitute for debt as a means of informing the market about firm value. However, a strong negative relation is found between the level of dividends and the level of insider holdings. This is contrary to expectations. The result implies that in spite of the presence of regulation, insider holdings and dividend policy may act as substitute signals of firm quality.

V. Summary and Conclusions

This study examines a sample of US bank holding companies to determine whether there exists any relation between the level of insider holdings and corporate policy. The two corporate policy choices studied are the level of dividends to be paid and the level of debt to hold. Prior research documents that these two decisions of management have a significant impact on firm value. It is theorized that dividends and debt decisions convey information about firm quality to the market. Insider holdings, as an alternate signal of firm quality, has been seen to act as a substitute signal for unregulated firms. It was expected that given the presence of regulation, no relation should be found between insider holdings and dividends and debt. The relation between debt and insider holdings is found to be insignificant, as expected. However, contrary to expectations, a strong negative relation is found between insider holdings and dividends. This may be interpreted in different ways. First, in spite of regulation, insider holdings still serves as a substitute signal for dividends. Alternately, banks with higher levels of managerial equity ownership may be systematically choosing to pay lower levels of dividends - as managers wish to avoid incurring the penalty of double taxation. It is also possible that higher levels of insider holdings may lead banks to retain more cash flow for other purposes. I intend to further examine the relation that is seen to exist between insider holdings and dividends for U.S. BHCs - to determine the exact nature of this relation.

Endnotes

The author expresses appreciation to The Disclosure Corporation for providing data and M. Cary Collins for his criticism and comments that have helped improve the paper. All errors and omissions, as always, remain my own. The Samuel J. Silberman College of Business Administration provided support for this research through a Summer 1998 Research Grant.

1. See Collins, Blackwell and Sinkey (1995).
2. See Collins, Blackwell and Sinkey (1994).
3. Shleifer and Vishny (1989) develop a model of managerial entrenchment.
4. Dutta, Collins and Wansley (1998) is a recent extension of the Jensen et al. study.

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Table 1: Descriptive Statistics

Variable	Mean	Median	Lower Quartile	Upper Quartile
I-HOLDINGS	0.142	0.079	0.041	0.191
DIVIDENDS (\$)	0.861	0.768	0.388	1.172
DEBT	0.918	0.920	0.910	0.928
NET INC (\$ 000)	0.136	0.138	0.115	0.157
SGA EXP	0.418	0.423	0.368	0.462
TOTAL ASTS (\$ 000)	16,676,145	2,893,185	798,702	14,602,368
MKT VALUE (\$ 000)	2,306,675	410,327	106,923	2,481,806
EPS (\$)	2.429	2.220	1.225	2.973

I-HOLDINGS = SHARES HELD BY MANAGERS & DIRECTORS/TOTAL SHARES OUTSTANDING
 DIVIDEND = ANNUAL INDICATED DIVIDENDS PER SHARE
 DEBT = TOTAL LIABILITIES/TOTAL ASSETS
 NET INC = NET INCOME/NET SALES
 SGA EXP = SELLING, GENERAL & ADMIN. EXPENSES/NET SALES
 TOTAL ASTS = TOTAL ASSETS
 MKT VALUE = MARKET VALUE
 EPS = EARNINGS PER SHARE

Given above are descriptive statistics for a sample of 136 US bank holding companies. The data are averages over the period 1994-1997.

Table 2: 2SLS Regression Analysis

Variable	Coeff.	T-Stat
PANEL A: DEPENDENT VARIABLE - INSIDER HOLDINGS		
CONSTANT	1.18	0.80
DIVIDENDS	-0.09	-5.02
DEBT	-0.77	-0.59
NET INC	-0.29	-0.99
SGA EXP	-0.50	-0.65
ADJUSTED R-SQUARE = .1698		
PANEL B: DEPENDENT VARIABLE - DIVIDENDS		
CONSTANT	-14.66	-2.13
I-HOLDINGS	-2.45	-5.08
DEBT	14.04	2.26
NET INC	2.62	<i>1.81</i>
SGA EXP	6.27	<i>1.76</i>
ADJUSTED R-SQUARE = .1682		
PANEL C: DEPENDENT VARIABLE - DEBT		
CONSTANT	0.98	36.13
I-HOLDINGS	0.01	0.90
DIVIDENDS	0.01	2.05
NET INC	-0.13	-4.92
SGA EXP	-0.14	-2.51
ADJUSTED R-SQUARE = .1585		
<p>Given above are the results of two-stage least square regression analysis. The model is a three equation system, with insider holdings, dividends and debt as the three endogenous variables. Bold indicates significance at the five percent level or better. Italics indicate significance at the ten percent level or better.</p>		