Board Committee Structures, Ownership, and Firm Performance[1]

Rachel Hayes,[a] Hamid Mehran,[b] and Scott Schaefer[c]

[a] Graduate School of Business, University of Chicago, 5807 South Woodlawn Avenue, Chicago IL 60637 Phone: 773-834-4489; Fax: 773-702-0458; email: rachel.hayes@ChicagoGSB.edu

[b] Federal Reserve Bank of New York, Research, 33 Liberty Street, New York, NY 10045 Phone: 212-720-6215; Fax: 212-720-1582; email: hamid.mehran@ny.frb.org

[c] Kellogg School of Management, Northwestern University, Evanston, IL 60208 Phone: 847-491-467-6598; Fax: 847-467-1777; email: s-schaefer@kellogg.northwestern.edu

Current draft: October 2004

Abstract:

We examine cross-sectional variations in the committee structure of boards of directors for S&P firms during 1997 and 1998. We document that there is a significant amount of variation in the number of committees and the presence of each committee. Number of committees is positively related to the number of directors, and the number of committees is also positively related to firm size. Firms with a higher CEO ownership have fewer committee functions performed by the board. On the other hand, firms with larger boards, more assets, and more board meetings have more committees and committee functions. Dividend-paying firms have more committee functions. Firms with a higher CEO ownership assign fewer tasks to each committee. Firm performance, measured by market to book ratio, is negatively related to the percentage shares held by outside directors on the acquisition committee, ethics committee, succession committee, and technology committee, but is positively related to the percentage of shares held by the outside directors serving on the finance & investment committee as well as on the strategy committee. Consistent with a number of other studies, firm performance is positively related to the percentage of the shares held by the CEOs. Finally, firms with older boards have lower market to book ratios. We do not find that performance is related to the presence of committee or to the fraction of outside directors serving on each committee.

[1] An earlier version of this paper was presented at the Federal Reserve Bank of New York, finance seminar series at New York University, and at the BSI GAMMA Foundation conference at the London Business School. The authors would like to thank the conference and seminar participants. Special thanks to Kose John, Anil Shivdasani, and David Yermack for their valuable advice, and to Alexis Iwanisziw for her valuable research assistance.

Board Committee Structures, Ownership, and Firm Performance

Abstract:

We examine cross-sectional variations in the committee structure of boards of directors for S&P firms during 1997 and 1998. We document that there is a significant amount of variation in the number of committees and the presence of each committee. Number of committees is positively related to the number of directors, and the number of committees is also positively related to firm size. Firms with a higher CEO ownership have fewer committee functions performed by the board. On the other hand, firms with larger boards, more assets, and more board meetings have more committees and committee functions. Dividend-paying firms have more committee functions. Firms with a higher CEO ownership assign fewer tasks to each committee. Firm performance, measured by market to book ratio, is negatively related to the percentage shares held by outside directors on the acquisition committee, ethics committee, succession committee, and technology committee, but is positively related to the percentage of shares held by the outside directors serving on the finance & investment committee as well as on the strategy committee. Consistent with a number of other studies, firm performance is positively related to the percentage of the shares held by the CEOs. Finally, firms with older boards have lower market to book ratios. We do not find that performance is related to the presence of committee or to the fraction of outside directors serving on each committee.

Board Committee Structures, Ownership, and Firm Performance

1. Introduction

The corporate form of organization has emerged as the basic organizing principle for virtually all private-sector business activities in the U.S. Since the inception of the corporate model of organization, the board of directors has served as one of the key tools of corporate governance. Acting as an agent for the shareholders, boards typically approve overall policies, determine senior managers' compensation, ensure compliance with laws and regulations, and establish the overall framework within which management operates. While corporate power has attracted criticism for many decades, only more recently has particular attention been paid to the means by which corporations are governed. While there has been research on some aspects of the board of directors, little research exists on board committee structure. Specifically, why do firms have certain committees and what functions are performed in each committee?

The main purpose of this paper is to enhance our understanding of boards' committee structures. Firms establish committees for a number of reasons. For example, some committees are formed to evaluate and reward top management (e.g., compensation committee). Others exist in order to advise the CEO in his/her decisions (e.g., finance and investment committees). Another group of committees exists to ensure that the firm is in compliance with regulations and external factors (e.g., audit and environmental committees). Firms typically choose individuals with expertise to serve on one or more of the committees to support their top management (Agrawal and Knoeber, 1999).

However, despite widespread public attention and a surge in research interest in corporate governance, the relationships among board committee structures, board composition, board size, ownership structure, and firm performance are still little understood. We study a cross-sectional data-set on the committee structures of boards of large, publicly traded firms in the United States. We document that there is a significant amount of variation across firms in our sample in the number of committees and the presence of each committee. We examine the determinants of the number of committees and committee functions. In addition, we examine the relationship between outside directors' ownership in each committee function and a firm's overall performance measured by the market to book ratio. It should be noted that our study is exploratory in that board size, board composition, board committee structures, and ownership structure are ultimately part of a simultaneous system that determines the corporation's value and the allocation of such value among various claimants. Nevertheless, empirical regularities in the committee structures should guide future theoretical and empirical research.

It has been documented that the nature of the asset of the firm affects many corporate decisions (e.g., Smith and Watts, 1992). In addition, it has been documented that characteristics of the agent who manages the asset of the firm also influences corporate policies, including its governance structure. It is reasonable to assume that CEOs, with some exceptions, can decide which committee should be a board committee and how many functions should be assigned to a particular committee. Therefore, the link between CEOs characteristics and board committee structures becomes an empirical question.

Our research is motivated in part by the fact that blockholders such as CalPERS and the American Law Institute (1982) have called for presence of more outside directors on the board. Despite the widely held view that the presence of outside directors enhances the board's ability to monitor management, the market reaction to the announcement of the appointment of outside directors has been shown to be small (e.g., Rosenstein and Wyatt, 1990). One potential explanation for this fact may be that self-interested CEOs, in response to pressures to add outside directors, simply create additional committees for new directors. A CEO who cleverly "partitions" outside directors into separate committees may limit opportunities for communication among directors, which may then lead to less effective monitoring of managerial actions by the board. While our sample does not allow us to speak directly to the issue of creation of new committees when directors are added, we do provide new evidence as to the allocation of outside directors to committees.

In a related paper, Klein (1998) examines the relationship among audit, compensation, nominating, investment, and finance committees and firm performance. She finds firm performance is positively related to fraction of inside directors serving on finance and investment committee. Our work is different from hers since we not only examine the relationship between firm performance and the ratio of outside directors in 19 committees but we also examine the link between firm performance and stock ownership by outside directors in each of the committee functions.

Our data consist of comparative board data on 1997 and 1998 S&P 500 firms provided by a compensation-consulting firm. We augment this data through proxy statements that outline the firms' board members and board committee structures. Our data collection procedures yield 5,915 different directorships and 2,264 separate committees. We classify these committees into 19 categories based on each committee's function. To do this, we performed keyword searches of the description of the committee's duties to develop initial categorizations. All initial categorizations were then checked manually by the authors.

We find that the number of committees is positively related to the number of directors. The number of committees is also positively related to firm size. Firms that pay dividends have more committees. Firms with higher CEO ownership have fewer committee functions performed by the board. On the other hand, firms with larger boards, more assets, and firms with more board meetings have more committee functions. In addition, dividend-paying firms have more committee functions. Neither the number of committees nor the number of committee functions are related to business segments (SICs) and firms' age since their IPOs. Firms with a higher CEO ownership assign fewer tasks to each committee.

Firm performance, measured by market to book ratio, is negatively related to the percentage of shares held by outside directors on the acquisition committee, ethics committee, succession committee, and technology committee, but is positively related to the percentage of shares held by the outside directors serving on the finance & investment committee as well as on the strategy committee. Consistent with a number of other studies, firm performance is positively related to the percentage of the shares held by the CEOs. Finally, firms with older boards have lower market to book ratios. We do not find that performance is related to the presence of committees or to the fraction of outside directors serving on each committee.

The rest of the paper is organized as follows. The evolution of committee structure is presented in section 2. Section 3 describes the data and presents descriptive analysis. The empirical results and their interpretation are presented in section 4. Section 5 summarizes the key findings.

2. Evolution of committee structure

Perhaps not surprisingly, committee structures are shaped in part by factors external to the board such as regulatory bodies, interest groups, labor unions, and shareholders. An example of how explicit regulation affects committee structure is the SEC requirement that firms have board committees performing the "audit" function. Such committees are required of all firms whose shares are listed on the New York Stock Exchange.[2] Other forms of governmental oversight encourage, but do not mandate, the formation of certain types of committees. The Community Reinvestment Act (CRA) of 1977, for example, requires federal banking agencies to encourage banks and thrifts to meet the credit needs of local low and moderate-income neighborhoods. Regulators take account of community reinvestment performance when banks apply to open new branches or make acquisitions. Among the many assessment criteria is the "extent of participation by the institution's board of directors" in overseeing the bank's CRA compliance program. While relatively few branch and merger applications are turned down due to CRA noncompliance, banks can help insure compliance by forming a board committee. Many of the committees performing a "public policy" function for financial institutions are primarily directed at monitoring CRA compliance.

Pressure from shareholders, unions, and interest groups can also induce formation of certain committees. For example, pressure from trustees of public pension funds in California and New York City led some major oil companies to institute "environment" or "public policy" committees in the wake of the 1989 Exxon Valdez oil spill. Unions and shareholder groups unsuccessfully pressured Eastman Kodak and Echlin to form health and environment committees after the firms were fined for rules violations in the late 1980s. Therefore, the existence of these committees is to ensure the firm is in compliance with regulations and external factors. Committees also exist to help/advise the CEO on his/her decision (e.g., finance, investment, and strategy committees). Finally, some committees are formed to evaluate and reward top management (e.g., compensation committee) and find future CEOs (e.g., succession committee).

To sum up, what is clear is that board committees are evolving over time. For example, over half of the S&P 500 firms voluntarily reported the presence of compensation committees and adoption of stock option plans in the 1950s, but their reporting became a SEC requirement in the mid-1990s. Firms also adopt committees subsequent to crises (e.g., labor dispute; environmental problems; and race, gender, religious harassments and discriminations).[3] As firms grow over time, it is more likely that some crisis will emerge and a natural response by firms is

---

[2] Audit committees were "recommended" for firms listed on the NASDAQ Small Cap exchange until 1997, but are now required. See Pincus, Rusbarsky and Wong (1989) for an analysis of voluntary formation of audit committees by NASDAQ firms prior to this change.

[3] For example, the Financial Times (June 3, 2004) reported that the New York State Authorny General, Eliot Spitzer, has sued Fed Ex on behalf of workers who were denied religious freedom. Regulatory intervention aimed at changing the behavior of one company, in general, may also lead to establishment of a new committee at the company but an addition of a new task to exisiting committees at similar firms.

to manage the crisis by establishing new committees or assign new tasks to existing committees. The severity of a crisis may impact which of the two approaches the firm will choose, at least initially. One of the consequences is that firms will have larger boards as the number of their committees increase.

3. Data and descriptive analysis

3.1. Data

Our data comes from two main sources. First, we obtain comparative board data on 1997 and 1998 S&P 500 firms from a compensation-consulting firm. Information provided by this source includes the number of directors, number of outside directors, length of board term, average age of directors, mandatory retirement age (if any), number of board meetings per year, retainer paid to directors, meeting attendance fee paid to directors, and whether the firm has a deferred compensation or retirement plan for directors. As the composition of the S&P 500 varies somewhat from year to year, this source yields information on a total of 509 firms.

Second, we augment our data by using proxy statements to obtain information on these firms' board members and board committee structures. In each case, we examine a firm's most recent proxy statement as of July 1998. From these proxy statements, we build a database consisting of the date of the proxy statement, the name of each director, whether the director is a current or former employee of the firm, the number of shares owned by each director, the number of board committees, the name of each committee as listed in the proxy statement, the complete description of each committee's duties taken from the proxy statement, and the directors assigned to each committee.[4] Our data collection procedures yield 5,915 different

[4]Our data collection process takes information on committees of the board of the parent company only. Some S&P 500 firms (notably banks and utilities) have subsidiaries with boards of

directorships and 2,264 separate committees. We list the number of "directorships" rather than the number of "directors" because a number of individuals in our sample are directors of more than one firm.

3.2. Descriptive analysis of financial and corporate governance variables

In Table 1, we offer summary statistics for the financial characteristics of the sample. An average firm in the sample has about $19.5 billion in book value of assets. About 19% of an average firm's assets are long-term debt and its average market/book ratio is 2.17.[5] Seventy percent of sample firms (380) pay dividends. An average firm, using CRSP data, is 29.5 years old since their IPO. Older firms may have more committees and committee functions. Firms in the sample, on average, have 2.6 lines of business segments or SICs (median of 2).[6]

Table 2 provides summary statistics on the corporate governance variables for the sample. On average, 11.68 individuals serve on the board (median of 11.00) and 78% of directors are outsiders. An outside director in our sample is defined as neither a current nor a former employee of the firm. We do not have information on gray directors (e.g., Weisbach, 1988), and, therefore, most are likely considered outside directors in our sample. The number of directors is related to SIC classifications (not shown in the table). For example, financial firms have much larger boards, with an average of 14 directors. The minimum number of committees in the sample is 1 and the maximum is 10, with mean of 4.37 committees (median of 4.00). The

---

directors that overlap with the board of the parent company. In some cases, these subsidiaries have committees that are not committees of the board of the parent company. Such committees are excluded from our analysis.

[5] A number of firms in the sample are bank holding companies. In the calculation of the leverage ratio, we ignored deposits.

[6] Ideally, we want to use the number of subsidiaries. Adams and Mehran (1993) document that the number of subsidiaries is positively related to the board size in the banking industry. However, we do not have that data.

average length of term to serve on the board is 2.24 years (median of 3.00) and the range is one to three years.

Boards meet an average of 7.26 times per year (median of 7.00) with a range of 3 to 18 board meetings per year. Financial firms typically have more board meetings as many states regulate the number of board meetings. For example, in New York State the minimum number of board meetings for financial firms was 10 during the sample period. Board fee, on average, amounts to $39,426 per year. Twenty-one percent of the firms have deferred compensation for their board members and only 2% of the companies paid their board fee in stock. The average age of each director is 60 and directors have to step down when become 70 years old in only 24% of the firms. CEOs own, on average, 1.84% of the stock of their companies (median = 0.43%) and officers and directors together own 4.43% (median = 1.13%). Firms with dual-class securities appear in 3.1% of the sample (16). Finally, nine percent (44) of the sample firms are companies run by their founders.

3.3. Descriptive analysis of board committees

Table 3 displays the distribution of the number of committees per firm in our sample. For the full sample, the median and modal number of committees is four, while the mean is 4.45. From the table, it is apparent that financial firms tend to have relatively more committees, while mining and construction firms tend to have fewer. This difference accords with board size, since (as we shall discuss) financial firms tend to have somewhat larger boards than average and mining and construction firms somewhat smaller.

We classify these committees into 19 categories based on the committee's function by performing a keyword search of the description of the committee's duties to develop initial categorizations. For example, if the description contains the string "nominat" (for example, nominates, nominated, or nominating), the committee was initially classified as performing the function of nominating new members to the firm's board of directors. All initial categorizations were then checked manually by the authors. For most committees, the keyword searches were, by themselves, insufficient to capture all of the committee's functions. The results of the initial categorization were adjusted by hand, either by adding categories that were missed or by removing incorrect categories.

It should be noted that is possible that committees may be charged with duties that are not listed by the firm in its proxy statement. Our analysis relies solely on those functions voluntarily disclosed by the firm in its proxy statement. However, we can argue that firms provide a reasonable disclosure in their proxies. The first argument is based on *supply side* considerations, as disclosure of some committees is required by the SEC. The annual election of directors for a company whose common stock is registered under the Exchange Act normally gives rise to an obligation to file and use a proxy statement in connection with the solicitation of proxies. A proxy statement must include whether the company has audit, nominating and compensation committees, or committees performing similar functions. If the company has such committees, it must identify each committee member, state the number of committee meetings held by each such committee during the last fiscal year and describe briefly the functions performed by such committees. The following are examples of required disclosures:

(a) Nominating Committee: (1) If the committee has one, the availability of its charter; (2) Whether members meet certain independence standards; (3) Whether there is a policy with regard to the consideration of any director candidates recommended by security holders; (4) The minimum qualifications necessary to serve on the nominating committee; (5) The process for identifying and evaluating nominees for director.

(b) Audit Committee: (1) Whether the board has adopted a written charter for the audit committee; (2) If there is a written charter, it must be included as an appendix to the proxy statement, unless it appeared in the company's proxy statement in the company's past three fiscal years; (3) Whether the members meet certain independence standards; (4) Whether the committee has reviewed and discussed the audited financial statements with management.

(c) Compensation Committee: (1) The committee must disclose its compensation policies applicable to the company's executive officers, including the relationship of corporate performance to executive compensation; (2) It must disclose the reasons for the CEO's compensation; (3) Required disclosures must be made over the name of each member of the compensation committee.

The *demand side* argument, on the other hand, suggests that directors' expect a transparent presentation of their duties and responsibilities in public documents. A clear presentation is likely to reduce the litigation costs and reputation losses for every director in the event of certain problems. Better disclosure also reduces the costs associated with directors' insurance. [7] Therefore, it is reasonable to conclude that companies do not fail to disclose their committees and committee members.

Overall, the firm lists no description other than the committee name for less than 5% of committees; in these cases, we categorize the committee based on the name only. It should be noted that the process by which we developed categorizations for committees was inherently *subjective*. While an ideal classification procedure would be immune to concerns as to the effects of any biases on the part of the researchers, we were unable to devise a system offering both a concise summary of committee duties and less subjectivity. Hence, we proceed with the categorization described here, but caution the reader to interpret the findings with this caveat in mind.

Table 4 lists the 19 categories and shows how many firms have committees performing each function. In the appendix, we offer detailed descriptions for each of the 19 categories and present examples of firms' discussions of the roles of each committee. The most common committee functions are overseeing relations with auditors (100% of the sample), determining top management compensation (99%), awarding stock options to employees (99%), nominating new members to the board (85%) and holding the power to act on behalf of the board when the board cannot be convened (executive committee - 62%). Other functions carried out by committees of more than one-quarter of our sample include monitoring the firm's corporate financial decisions, overseeing investment of the firm's employee pension funds, evaluating public policy and legal issues that come before the board, and planning executive succession.

Note that our categorization is not a partition of the set of committees; that is, our 19 categories are not mutually exclusive. As Table 5 shows, nearly 40% of the committees perform two or more listed functions. While 61% of the committees perform one function, 7% of committees perform four to seven functions. The fact that the directors of some committees perform multiple tasks may generate questions about their effectiveness. The concept is similar to directors that serve on the boards of several corporations. On the other hand, directors who

[7] For example, in the case of Enron, directors in the audit committee faced much more scrutiny than other directors. In the absence of disclosure of who serves on the audit committee, all directors would be equally likely to be affected.

perform multiple tasks may oversee more activities, and thus do a better job of monitoring the firm.

It is also interesting to note which functions tend to be grouped together in the same committee. In Table 6, we present counts of committees that perform each possible pair of functions. The on-diagonal elements in this table list the number of committees in our sample that perform the listed function only. For example, of the 2,218 committees that perform one of the 19 functions, 57 perform the pension function but do not perform any of the other 18 functions. The off-diagonal elements list how many committees perform the two functions shown in that row and column. For example, 62 of the 2,218 committees perform both the pension and finance/investment functions. Firms that perform three or more functions will appear in more than one off-diagonal count. For example, Campbell Soup's "Compensation and Organization" committee (see appendix for a description of this committee) is categorized as a compensation, options and organization committee. Hence, it is counted among the 486 compensation and options committees, among the 51 options and organization committees, and among the 53 compensation and organization committees.

From this table, several patterns emerge. First, compensation committees are commonly assigned multiple functions. While 99% of our sample has a compensation committee, only 15 firms have a committee whose sole function is to determine compensation amounts for top executives. In most firms, compensation and option amounts are determined jointly. These committees commonly oversee top management succession, human resources policies, pension investment, or organizational changes. Conversely, 81% (or 414) of audit committees are assigned that function only. When other functions are grouped with the audit committee, these functions tend to be compliance or oversight roles in which the committee is charged with monitoring whether the firm attains some non-financial objectives. Common combinations with the audit function are ethics, public policy/legal, pension, and environment. The third and fourth most common functions, nominating and executive respectively, also tend to be addressed by a committee handling this function exclusively. Other notable patters include a number of committees handling finance/investment and pension roles, finance/investment and acquisition roles, and health, safety and environment roles.

3.4. Allocation of directors to board committees

We next examine the allocation of directors to committees. Of the 509 firms studied in the previous section, ten do not list the members of each board committee on their proxy statements. Hence, we restrict analysis to the 499 firms that list complete committee rosters. This sample contains 2,219 committees, 5,798 directorships, and 9,982 director-committee matches.

We begin by describing characteristics of the boards of directors of our sample firms. Table 7 lists the number of committees on which directors serve and the ownership of the directors. The median number of committee memberships is between 1.5 and 2.0 and is fairly constant across industry groups. Outside directors serve on more committees than do inside directors and, on average, hold 0.15% of their company's stock with the market value of 1.12 million dollars (median = $540,000).

Next, we examine the characteristics of the members of particular committees. In Table 8, we list for each committee category the mean and median number of members, the mean and median fraction of committee members who are outside directors, and the mean and median percent ownership of the outside members. Average committee sizes range from four to five, with no particular pattern evident. Executive, finance/investment, acquisition and strategy are the committees with the most insiders, on average, while compensation, option, human resources and audit have the least. As stock exchange and SEC rules limit the participation of current employees on audit and compensation committees, it is not surprising that there are relatively few insiders on these committees. Perhaps the most interesting result from Table 8 comes from the calculation of the average percent ownership share of outside members of each type of committee. Consider a partition of committee categories into two groups: the nine categories with the highest average ownership share of outside members, and the ten categories with the lowest average ownership share of outside members. The nine categories with high shares are audit, compensation, finance/investment, organization, nominating, options, acquisition, strategy, and executive. The ten categories with low shares are charitable, ethics, health, public policy/legal, pension, human resources, technology, environment, safety, and succession. Interestingly, the functional categories with low outside director ownership appear to be primarily those that oversee the firm's progress on non-financial objectives.

4. **Regression results**

The regression estimates for committee structures appear in Table 9 and 10. Table 9 presents Poisson (columns 1 and 2) and OLS (columns 3 and 4) estimates of determinants of the number of committees. In the Poisson regressions, the dependent variable is the number of committees while in OLS regressions, it is the log of the number of committees. The models are estimated with and without the log of number of directors as an independent variable. The inclusion of board size on the right hand side, however, may be problematic since committee structure most likely determines the board size.

The number of committees is positively related to the log of the number of directors in all of the specifications. The number of committees is also positively related to firm size, although it is not statistically significant in the Poisson regression when log number of directors is added as an independent variable. Dividend-paying firms have a larger number of committees in three specifications. If dividend payment is a sign of maturity, then one can argue that mature firms have more committees. It is also possible that the significance of dividend payment may be due to omitted variables highly correlated with dividend payments. For example, dividend paying firms' stocks may be held by institutional investors, and firms with higher institutional holdings, all-else equal, may have more committees. CEO ownership, the founder dummy, and log number of board meetings are all positively related to the log of the number of committees only in OLS regressions. The larger the number of outside directors on the board, the greater the number of committees (not shown in the table).

Table 10 presents estimates of the number of functions with similar specification to that of Table 9. Firms with higher CEO ownership have fewer committee functions. Similarly, founder firms have fewer committee functions except in specification (4). Firms with larger boards and more committee meetings have more committee functions. Larger firms and dividend paying firms also have more committee functions. We tried the number of business segments (SICs), the age of the firm, and the standard deviation of the monthly stock return during 1997 in all of the specifications in Tables 9 and 10, but they were not significant.[8]

Table 11 provides OLS estimate of number of functions or tasks to number of committees. In both specifications, firms with higher CEO ownership assign fewer tasks to each committee.

[8] We also compared the number of committees and committee functions of eleven firms in the sample that went public in 1990-1992 and compared them with their committee structure in the sample period. There were no changes in the committee structures in the two time periods. This suggests that, at least based on limited observations, committees do not change over time.

This finding plus the earlier results that the firms with higher CEO ownership have fewer committees and fewer committee functions is consistent with the idea that CEOs with block ownership do not, or have no reason to, delegate tasks to outsiders.[9]

Finally, we examined factors affecting the likelihood that the 17 committees exist by estimating logistic regressions. Firm size (as measured by the book value of assets), board size, and board composition are significant in most regression equations.

Table 12 presents the results of regressing market to book ratio, as a proxy for firm performance, on subsets as well as on all of the corporate governance and financial variables.[10] Column 1 presents the regression result on percentage of CEO ownership. The coefficient on CEO ownership is positive and statistically significant. The regression of percentage of board ownership is presented in column 2. Board ownership is also positively and significantly related to the market to book ratio. The regression of differences between board ownership and CEO ownership, however, is not significant. Thus, it is reasonable to conclude that the correlation between board ownership and market to book is mainly driven by CEO ownership. Column (4) presents the regression of CEO ownership and other governance variables on market to book. In addition to percentage of CEO ownership, the deferred compensation dummy is also positive and significant. On the other hand, log of board size, outside director ratio, and log of board age are all significant and negatively related to market to book ratio. Column (5) presents the result of regression variables in Column (4) plus controls. Percent CEO ownership is positive and significant. Log of average director age is negative and significant (at the 10% level). Neither the log of committees nor the log of functions (not presented in the table) are significant.

---

[9] Another finding is that firms with a higher percentage of outside directors have more functions per committee. It is difficult to interpret the finding as the the number of outside directors includes gray directors as well.

The regression of all of the variables in column (5) of Table 12 plus committee structures are presented in Panel A of Table 13. The specification includes dummies for the presence of each committee function and the director ownership in that committee. Firms with a human resource committee have a lower market to book ratio. The market to book ratio is negatively related to the percentage shares held by outside directors on the acquisition committee, ethics committee, succession committee, and technology committee, but is positively related to the percentage of shares held by the outside directors serving on the finance & investment committee as well as the strategy committee. Consistent with earlier results, market to book ratio is positively related to the percentage of the shares held by the CEOs. Finally, we find that having an older board is negatively related to the market to book ratio of the firm. We replaced percent shares held by directors in each 19 committee functions with fraction of outside directors in each function and re-estimated the model and the results are presented in Panel B of Table 13. We do not find evidence that fraction of outside directors in each committee is related to market to book. Moreover, the inverse relationship between the presence of human resource committee and market to book become insignificant while the CEO ownership and the log of director age remain significant.

5. **Summary and conclusions**

The main purpose of this paper is to enhance our understanding of boards' committee structures. We examine cross-sectional variations on the committee structure of boards of directors for S&P firms during 1997 and 1998. We document that there is a significant amount of variation in the sample on the number of committees and the presence of each committee.

---

[10] What is the correct measure of performance is a subject of debate in the literature (see Mehran, (1995) for a discussion).

Number of committees is positively related to the number of directors. Number of committees is also positively related to firm size. Firms that pay dividends have more committees. Firms with a higher CEO ownership have fewer committee functions performed by the board. On the other hand, firms with larger boards, more assets, and more board meetings have more committee functions. In addition, dividend-paying firms have more committee functions. Firms with higher CEO ownership assign fewer tasks to each committee.

Firms that have a human resource committee have lower performance measured by market to book ratio than those without. Firm performance is negatively related to the percentage of shares held by outside directors on the acquisition committee, ethics committee, succession committee, and technology committee, but it positively related to the percentage of shares held by the outside directors serving on the finance & investment committee as well as on the strategy committee. Consistent with a number of other studies, firm performance is positively related to the percentage of the shares held by the CEOs. Finally, firms with older boards have a lower market to book ratio. We do not find that performance is related to the fraction of outside directors serving on each committee.

Further research is needed on why firms with higher CEO ownership (and founder firms) have fewer committee functions. Research is also needed on how committees and committee functions evolve over time. Examination of director compensation in different committees is also an important area for research, given the fact that outside director ownership varies across committee functions. Finally, since disclosure of detailed committee information (beyond audit, compensation, and nominating committees) is somewhat voluntary, the questions why firms provide the information and whether or not better disclosure is priced remain unanswered.

Appendix

In this appendix, we provide a detailed description of the 19 committee categories used in this study. The categories are Audit, Compensation, Charitable, Ethics, Finance/Investment, Organization, Health, Public Policy/Legal, Nominating, Options, Pension, Acquisition, Human Resources, Strategy, Technology, Environment, Executive, Safety, and Succession.

- **Audit.** A committee that performs the “audit” function oversees the work of independent public accountants that audit the firm's financial statements. The March 24, 1998 proxy statement of Allegheny Teledyne describes this committee's functions as follows:

  - Makes recommendations to the Board of Directors regarding the appointment of the independent accountants for the coming year.

  - Reviews the scope, general extent and proposed fees of the annual audit plan and other activities of the independent accountants and the audit plan of the internal auditors.

  - Reviews with management and the independent accountants, upon completion of the annual audit, the financial statements and related reports for their adequacy and compliance with generally accepted accounting, reporting and disclosure standards.

  - Evaluates the effectiveness of the Company’s internal and external audit efforts, accounting and financial controls, policies and procedures and business ethics policies and practices through a review of reports by, and at regular meetings with, the internal and external auditors and with management, as appropriate.

- **Compensation.** A committee that performs the “compensation” function oversees the setting of salary and bonus amounts for top executives. Note that we distinguish between a compensation committee and a stock option committee - while these functions both reside with a single committee in most firms, some firms do have separate committees to set bonus amounts and make stock option awards. A typical description is offered by Goodyear's March 2, 1998 statement:

  - The Compensation Committee has primary responsibility for establishing and administering the compensation programs of the Company for its executive officers and other key personnel. The Compensation Committee consults with the chief executive officer of the Company regarding executive compensation policies, practices and plans, and undertakes such special studies regarding compensation as he or the Board may request. The Compensation Committee also administers the Company’s 1997 Performance Incentive Plan, the 1989 Goodyear Performance and Equity Incentive Plan, the Company's Performance Recognition Plan, the Company’s 1987 Employees' Stock Option Plan, the Company’s Deferred Compensation Plan For Executives and the Company's Outside Directors' Equity Participation Plan.

▪ **Succession or Management Development.** A committee with the “succession or management development” function is charged with overseeing succession planning. The April 3, 1997 statement of Motorola is typical:

- The Management Oversight Committee has responsibility for evaluating the performance of the Chief Executive Officer of the Company; reviewing succession plans for senior management of the Company and its major operating groups; and reviewing other internal matters of broad corporate significance.

▪ **Ethics.** A committee performing the “ethics” function typically oversees compliance with the firm's statement of ethical business practices. An example is given by Avery Dennison's March 9, 1998 statement:

- The Ethics and Conflict of Interest Committee, which is composed of the following directors: Joan T. Bok (Chairman), John B. Slaughter and Philip M. Neal, did not meet during 1997. The functions of the Ethics and Conflict of Interest Committee are to survey, monitor and provide counsel on an ongoing basis as to the business relationships, affiliations and financial transactions of directors, officers and key employees, as they may relate to possible conflicts of interest or violations of the Company's Legal and Ethical Conduct Policy; to monitor compliance with the Foreign Corrupt Practices Act in connection with the Company’s relationship to domestic and foreign governments, political parties and the agencies, instrumentalities and officials of each; and to report and make recommendations to the full Board in all instances where it is believed that possible violations of Company policy or that Act could exist.

▪ **Finance/ Investment.** A committee performing the “finance/investment” function typically oversees the firm’s corporate finance decisions. Honeywell's March 8, 1998 disclosure reads:

- The Finance Committee met four times in 1997. The primary responsibilities of the Finance Committee are to review the financial structure, policies and future plans of the Company as developed and presented by management and to make recommendations concerning them to the Board. In carrying out these functions the Committee periodically reviews:

*The financial constraints within which the Company will operate, such as debt-equity ratio, coverage of fixed charges, and other financial ratios;

*Proposed acquisitions, divestitures and other investments that exceed a certain financial threshold;

*Company debt and credit arrangements;

*Proposals for obtaining additional capital funds or other changes in the capitalization of the Company;

*Dividend and tax policy;

*Foreign exchange exposure and risks;

*The Company's various retirement and pension plans; and

*Investment banker relationships and investor relations.

- **Human Resources or Personnel.** Committees performing the “human resource” function typically deal with employment matters for employees other than the top management team. Home Depot's April 20, 1998 disclosure reads:

  - The Human Resources Committee is comprised of Dr. Cole, Mr. Langone and Ms. Wilson. This Committee reviews and recommends policies, practices and procedures for the Company concerning any and all employment related matters.

- **Organization.** Committees performing the “organization” function typically oversee the firm’s internal organizational structure.

In an October 10, 1997 disclosure, Campbell Soup states:

- COMPENSATION AND ORGANIZATION COMMITTEE - 7 meetings in fiscal 1997

*Reviews and recommends to the Board salary and incentive compensation, including bonus, stock options and restricted stock, for the Chief Executive Officer;

*Reviews and approves the salaries and incentive compensation for all corporate officers and senior executives;

*Reviews and approves the short-term and long-term incentive compensation programs, including the performance goals;

*Reviews the salary structure and the apportionment of compensation among salary and short-term and long-term incentive compensation;

*Reviews and approves the incentive compensation to be allocated to employees;

*Reviews, prior to becoming effective, any major organization change that the Chief Executive Officer intends to implement

Note that Campbell’s disclosure also provides an example of a committee that is assigned to more than one category. As suggested by the description, this committee is also placed in the “compensation” and “option” category.

- **Acquisition.** Committees performing the “acquisition” function typically review possible acquisition or divestiture decisions. The March 20, 1998 statement of EMC Corp reads:

  - The Mergers and Acquisitions Committee, which held two meetings in 1997, reviews with management of EMC potential acquisitions.

- **Nominating.** Committees performing the “nominating” function suggest and screen candidates for election to the firm's board of directors. On May 7, 1998, Times Mirror reported

  - The Nominating Committee considers and recommends to the Board nominees for possible election to the Board of Directors and considers other matters pertaining to the size and composition of the Board of Directors and its committees.

- **Strategy.** Committees performing the “strategy” function oversee strategic decisions affecting the firm’s output markets (as opposed to strategic review of human resource, financial, or acquisition decisions). On May 14, 1997, Caliber System reported

  - The members of the Planning Committee are G. B. Beitzel, N. C. Harbert, D. J. Sullivan and H. M. Watson, Jr. The Committee reviews plans developed by management for the strategic direction of the Company.

- **Stock or Stock Option Grant.** Committees performing the “stock option” function administer programs awarding stock or stock options to executive and non-executive employees. On March 5, 1998, the New York Times reported

  - The ESPP Committee oversees the administration of the Employee Stock Purchase Plan for eligible employees of the Company and its subsidiaries. In that connection, the Committee has authority to adopt, administer and interpret such rules and regulations concerning the ESPP and offerings thereunder as it may deem advisable. The current members of the ESPP Committee are George L. Shinn, Chairman, Charles H. Price II and Judith P. Sulzberger. The Committee held one meeting in 1997.

- **Technology.** Committees performing the “technology” function oversee development of the firm's technology or consider how external technological developments may affect the firm. Rockwell International’s December 30, 1997 disclosure is typical.

  - The principal function of the Science and Technology Committee, which is composed of five non-employee directors, is to review and monitor science and technological activities of the Corporation. The Committee met twice during the 1997 fiscal year.

- **Public Policy or Legal Issues.** Committees performing a "public policy/legal" function review the firm's responses to governmental, legal or social developments. On February 25, 1998, Caterpillar reported

  - The Public Policy Committee makes recommendations to the Board on public and social policy issues impacting Caterpillar. The Committee also oversees Caterpillar's compliance programs and reviews major litigation, legislation and stockholder matters not within the responsibilities of another Board committee. Present members of the Committee are Ms. Lilyan H. Affinito and Messrs. Clayton K. Yeutter, (chairman), John T. Dillon, Donald V. Fites, Peter A. Magowan, and Joshua I. Smith. During 1997, the Committee held three meetings.

- **Environmental.** Committees performing an "environmental" function are charged with overseeing the environmental impact of the firm's activities and monitoring compliance with environmental rules. Westvaco reported on December 30, 1998 that

  - The Committee oil the Environment, Safety and Health, which met three times in fiscal year 1997, has as its members Samuel W. Bodman III, Chair; Dr. Thomas W. Cole, Jr., Douglas S. Luke, John A. Luke, John A. Luke, Jr., William R. Miller, Katherine G. Peden, and Jane L. Warner. The Committee on the Environment, Safety and Health oversees the stewardship of the corporation with respect to conservation of the natural resources and its ability to protect the natural environment. It also oversees implementation of the company's workplace safety and health program. The committee receives regular reports from management, reviews environmental, safety and health matters with management, and makes recommendations as needed.

- **Executive.** Committees performing the "executive" function are charged with acting on behalf of the board of directors at times when the full board cannot be convened to act. State incorporation statutes typically limit the powers of executive committees, reserving some decisions for the full board. Union Pacific's March 12, 1998 disclosure is typical:

  - The Committee has all the powers of the Board, when the Board is not in session, to direct and manage all of the business and affairs of the Company in all cases in which specific directions have not been given by the Board. The Committee did not meet in 1997.

- **Pension or Benefit Funds.** Committees charged with the "pension" function monitor the administration and investment of funds related to the firm's employee benefit, pension and retirement plans. Oil September 23, 1997, Parker Hannifin reported

  - The Pension Committee, which met once during the fiscal year ended June 30, 1997, is responsible for reviewing with the Corporation's management the funding and investment policies for defined benefit plans and defined contribution plans sponsored by the Corporation.

- **Health.** Committees performing a "health" function are charged with overseeing the impact of the firm's activities on health of employees. International Paper disclosed on March 30, 1998 that

  - The Environment, Health and Technology Committee reviews environmental, safety, health and technological policies and programs throughout the Company; it assures that they are appropriate to the short- and long- term objectives of the Company in terms of industry leadership, compliance with federal and state laws and regulations and social responsibility; it advises the Board of the effectiveness of these policies and programs; and it reviews the performance of the Committee.

- **Safety.** Committees performing a "safety" function are charged with overseeing the impact of the firm's activities on worker safety and monitoring compliance with safety rules and regulations. On March 18, 1998, Occidental Petroleum reported

  - The Environmental, Health and Safety Committee, consisting of Miss Tomich, as Chairperson, and Messrs. Nolley and Segovia, reviews and discusses with management the status of health, environment and safety issues, including compliance with applicable laws and regulations, the results of internal compliance reviews and remediation projects; and reports periodically to the Board on environmental, health and safety matters affecting the Corporation and its subsidiaries. The Environmental, Health and Safety Committee held six meetings in 1997.

- **Charitable.** Committees with a "charitable" function oversee the firm's donations to charitable and philanthropic organizations. Exxon's March 19, 1998 disclosure reads

  - The Board Advisory Committee oil Contributions reviews the level of Exxon's support for education and other public service programs, including the company's contributions to the Exxon Education Foundation. The Foundation works to improve the quality of education in America at all levels, with special emphasis on math and science.

References

Agrawal, Anup and Charles R. Knoeber, 1999, Outside directors, politics, and firm performance, working paper, University of Alabama.

Klein, April, 1998, Firm performance and board committee structure, Journal of Law and Economics XLI, 275-303.

Mehran, Hamid, 1995, Executive compensation structure, ownership, and firm performance, Journal of Financial Economics 38, 163-184.

Pincus, K., Rusbarsky, M. and Wong, J., 1989, Voluntary formation of corporate audit committees among NASDAQ firms, Journal of Accounting and Public Policy 8, 239-265.

Rosenstein, Stuart and Jeffrey Wyatt, 1990, Outside directors, board independence, and shareholder wealth, Journal of Financial Economics 26, 175-191.

Smith, C., Watts, R., 1992. The investment opportunity set and corporate financing, dividend and compensation policies. Journal of Financial Economics 32, 263-292.

Table 1
Summary Statistics of Financial Variables

Variables	Mean	Median	Minimum	Maximum
Total assets (in millions of dollar)	19,579	5,823	14.5	386,555
(Long-term debt)/(total assets)	0.19	0.18	0.00	0.89
(Market value)/(book value)	2.17	1.68	0.60	11.14
Dividend payment (dummy)	0.74	1.00	0.00	1.00
Firm age (in years)	29.5	28	0	46+
Number of business segments	2.61	2	1	13

Table 2
Summary Statistics of Corporate Governance Variables

Variables	Mean	Median	Minimum	Maximum
Number of directors	11.68	11.00	5.00	22.00
Number of committees	4.37	4.00	1.00	10.00
(Outside dirs.)/(total dirs.)	0.78	0.80	0.17	0.95
Length of term	2.24	3.00	1.00	3.00
Meetings per year	7.26	7.00	3.00	18.00
Outside directors' retirement age under 70 (dummy)	0.24	0.00	0.00	1.00
Average age of directors	60.03	60.00	48.00	72.00
Board fee ($)	39,426	37,800	6,000	100,000
Deferred compensation plan (dummy)	0.21	0.00	0.00	1.00
Board fee paid in stock (dummy)	0.02	0.00	0.00	1.00
Shares owned by CEO (%)	1.84	0.43	0.00	94.23
Shares owned by Board (%)	4.43	1.13	0.02	95.85
Dual-class (dummy)	0.03	0.00	0.00	1.00
Founder company (dummy)	0.09	0.00	0.00	1.00

Table 3
Distribution of Number of Board Committees per Firm

Number of Committees	Full Sample	(%)	Mining & Construction	Manufacturing	Financial	Other
1	2	0.4	0	1	0	1
2	28	5.5	2	16	2	8
3	102	20.0	5	44	16	37
4	134	26.3	6	72	16	40
5	133	26.1	11	62	24	36
6	78	15.3	2	37	13	26
7	27	5.3	1	14	6	6
8	4	0.8	0	3	0	1
9	0	0	0	0	0	0
10	1	0.2	0	0	1	0
Number of Firms	509		27	249	78	155
Mean Number of Committees per Firm	4.45		4.33	4.45	4.69	4.35

Table 4
Number of Firms with Committees Assigned to Particular Categories

Functional Category	Full Sample	(%)	Mining & Construction	Manufacturing	Financial	Other
Acquisition	49	9.6	1	33	7	8
Audit	509	100.0	27	249	78	155
Charitable	34	6.7	1	20	9	4
Compensation	504	99.0	27	248	77	152
Environment	83	16.3	5	58	4	16
Ethics	89	17.5	1	50	11	27
Executive	318	62.5	18	144	61	95
Finance/Investment	233	45.8	8	114	45	66
Health	43	8.4	5	35	0	3
Human Resources	89	17.5	3	34	25	27
Nominating	433	85.1	24	214	64	131
Options	502	98.6	27	246	77	152
Organization	66	13.0	1	38	12	15
Pension	238	46.8	11	122	46	59
Public Policy/Legal	140	27.5	5	81	20	34
Safety	50	9.8	5	40	0	5
Strategy	37	7.3	2	16	7	12
Succession	172	33.8	7	93	31	41
Technology	19	3.7	0	16	1	2
Other	41	8.1	1	11	7	22
Number of Firms	509		27	249	78	155

Table 5
Distribution of Committees Performing Multiple Functions

Number of Functions	Count of Committees Performing this Number of Functions	Percent of Committees Performing this Number of Functions
1	1364	61.0
2	465	21.0
3	232	11.0
4	101	4.5
5	35	1.5
6	16	0.7
7	5	0.3
Total Number of Committees	2218	

Table 6
Distribution of Committees Sharing Particular Functions

	Audit	Compensation	Charitable	Ethics	Finance/Investment	Organization	Health	Public Policy/Legal	Nominating	Options	Pension	Acquisitions	Human Resources	Strategy	Technology	Environment	Executive	Safety	Succession
Audit	414																		
Compensation	2	15																	
Charitable	0	1	4																
Ethics	62	1	6	7															
Finance/Investment	16	0	1	5	139														
Organization	0	53	1	2	2	0													
Health	3	0	7	9	1	1	0												
Public Policy/Legal	20	1	27	29	3	3	31	40											
Nominating	0	39	5	0	0	16	2	12	323										
Options	2	486	1	1	0	51	0	1	39	27									
Pension	13	149	1	3	62	15	0	2	19	146	57								
Acquisition	0	1	1	1	37	2	0	0	0	1	15	6							
Human Resources	0	80	1	3	0	11	2	5	13	80	39	1	3						
Strategy	0	2	0	1	9	3	0	2	2	2	2	9	2	11					
Technology	0	0	0	0	0	0	1	2	0	0	0	0	0	4	15				
Environment	15	0	14	19	1	1	42	54	4	0	1	0	2	1	2	6			
Executive	0	3	1	0	6	1	0	1	11	2	2	1	0	4	0	0	293		
Safety	4	0	9	11	1	1	43	35	2	0	0	0	2	0	1	48	0	1	
Succession	0	122	0	0	1	35	0	5	60	119	47	1	35	4	0	1	3	0	3

Table 7
Committee Memberships and Ownership

	Full Sample	Mining & Construction	Manufacturing	Financial	Other
Committee Assignments per Director					
Mean	1.72	1.68	1.78	1.63	1.69
Median	2	2	2	2	2
Committee Assignments – Outside Directors					
Mean	1.96	1.87	2.03	1.79	1.97
Median	2	2	2	2	2
Ownership – Outside Directors (%)					
Mean	0.1502	0.1221	0.1755	0.1159	0.1358
Median	0.0053	0.0056	0.0053	0.0069	0.0040
Ownership—Outside Directors ($ millions)					
Mean	1.12	1.19	1.16	0.89	1.14
Median	0.54	0.43	0.54	0.57	0.48
Number of Firms	499	26	244	76	153

Table 8
Committee Characteristics by Functional Category

		Number of Members		Outside Director Ratio		Ownership of Outside Directors (%)	
Functional Category	N	Mean	Median	Mean	Median	Mean	Median
Audit	499	4.37	4	0.863	1	0.105	0.010
Compensation	498	4.19	4	0.872	1	0.140	0.010
Charitable	34	4.68	5	0.055	0	0.040	0.004
Ethics	92	4.73	5	0.146	0	0.043	0.004
Finance/Investment	243	5.18	5	0.335	0	0.178	0.009
Organization	66	5.12	5	0.115	0	0.110	0.010
Health	42	5.02	5	0.069	0	0.014	0.004
Public Policy/Legal	145	5.05	5	0.234	0	0.048	0.006
Nominating	425	4.56	4	0.679	1	0.178	0.009
Options	497	4.12	4	0.863	1	0.182	0.010
Pension	272	4.55	5	0.388	0	0.084	0.008
Acquisitions	50	5.28	5	0.074	0	0.272	0.009
Human Resources	87	4.44	4	0.150	0	0.093	0.010
Strategy	37	5.35	5	0.056	0	0.195	0.011
Technology	20	4.45	5	0.030	0	0.032	0.004
Environment	83	4.96	5	0.132	0	0.014	0.003
Executive	313	4.57	4	0.318	0	0.326	0.015
Safety	49	5.06	5	0.081	0	0.012	0.003
Succession	170	4.52	4	0.289	0	0.089	0.007

Table 9
Determinants of Number of Committees
(P-values in parenthesis)

	Poisson Estimates		OLS Estimates	
	Number of committees		Log number of committees	
Independent Variables	(1)	(2)	(3)	(4)
Constant	0.710 (0.001)	0.326 (0.271)	0.638 (0.000)	-0.041 (0.219)
CEO ownership (%)	-0.004 (0.270)	-0.004 (0.231)	-0.004 (0.052)	-0.005 (0.036)
Dual-class (dummy)	0.060 (0.754)	0.057 (0.763)	0.084 (0.510)	0.077 (0.540)
Founder (dummy)	-0.152 (0.138)	-0.100 (0.344)	-0.156 (0.010)	-0.101 (0.103)
Log number of directors	--	0.227 (0.052)	--	0.241 (0.001)
Log number of meetings	0.115 (0.136)	0.115 (0.136)	0.104 (0.036)	0.104 (0.035)
Log assets	0.047 (0.029)	0.030 (0.184)	0.051 (0.000)	0.034 (0.022)
(Long term debt)/(assets)	0.144 (0.456)	0.129 (0.506)	0.180 (0.147)	0.163 (0.185)
Dividend (dummy)	0.137 (0.064)	0.115 (0.124)	0.149 (0.001)	0.125 (0.006)
SIC controls	Yes	Yes	Yes	Yes
Sample Size	419	419	419	419
Pseudo R-squared (%)	1.8	3.0	--	--
Adjusted R-squared (%)	--	--	14.7	16.6

Table 10
Determinants of Number of Functions
(P-values in parenthesis)

	Poisson Estimates		OLS Estimates	
	Number of functions		Log number of functions	
Independent Variables	(1)	(2)	(3)	(4)
Constant	0.917 (0.000)	0.181 (.0519)	0.830 (0.000)	0.830 (0.000)
CEO ownership (%)	-0.008 (0.008)	-0.006 (0.037)	-0.008 (0.001)	-0.006 (0.015)
Dual-class (dummy)	-0.120 (0.464)	-0.075 (0.047)	-0.047 (0.737)	-0.006 (0.963)
Founder (dummy)	-0.189 (0.025)	-0.120 (0.156)	-0.160 (0.016)	-0.079 (0.238)
Log number of directors	--	0.204 (0.029)	--	0.254 (0.002)
Log number of meetings	0.155 (0.011)	0.136 (0.027)	0.131 (0.017)	0.107 (0.044)
Log assets	0.058 (0.001)	0.046 (0.012)	0.068 (0.000)	0.052 (0.001)
(Long term debt)/(assets)	0.205 (0.180)	0.156 (0.311)	0.233 (0.087)	0.167 (0.207)
Dividend (dummy)	0.186 (0.002)	0.154 (0.011)	0.182 (0.000)	0.056 (0.004)
SIC controls	Yes	Yes	Yes	Yes
Sample Size	419	419	419	419
Pseudo R-squared (%)	4.7	5.3	--	--
Adjusted R-squared (%)	--	--	21.2	25.8

Table 11
OLS Estimate of Number of Functions/Number of Committees

(P-values in parenthesis)

Independent Variables	(1)	(2)
Constant	1.305 (0.000)	1.027 (0.000)
CEO ownership (%)	-0.007 (0.016)	-0.006 (0.049)
Dual-class (dummy)	-0.221 (0.198)	-0.198 (0.248)
Founder (dummy)	0.008 (0.924)	0.024 (0.762)
Log number of directors	-0.003 (0.820)	---
Outside directors/total directors	---	0.325 (0.097)
Log number of meetings	0.036 (0.584)	0.025 (0.704)
Log assets	0.021 (0.289)	0.022 (0.261)
Long-term debt/assets	0.111 (0.501)	0.086 (0.600)
Dividend (dummy)	0.060 (0.328)	0.050 (0.401)
SIC controls	Yes	Yes
Sample Size	419	419
Adjusted R-squared (%)	3.9	4.1

Table 12
Determinants of Market Value/Book Value
(P-values in parenthesis)

Independent Variables	(1)	(2)	(3)	(4)	(5)
Constant	2.068	2.056	2.129	15.36	12.14
	(0.000)	(0.000)	(0.000)	(0.006)	(0.014)
CEO ownership (%)	0.670			0.043	0.059
	(0.000)			(0.087)	(0.008)
Board ownership (%)		0.027			
		(0.004)			
Board – CEO ownership (%)			0.0164		
			(0.178)		
Dual-class (dummy)				0.171	0.066
				(0.781)	(0.905)
Founder (dummy)				-0.112	0.096
				(0.740)	(0.754)
Log number of directors				-0.566	0.396
				(0.083)	(0.236)
Log number of meetings				-0.243	-0.139
				(0.296)	(0.519)
Log number of committees				0.087	0.181
				(0.721)	(0.411)
Log length of term				-0.021	-0.014
				(0.881)	(0.910)
Retirement < 70 (dummy)				0.124	0.084
				(0.470)	(0.581)
Log average age of directors				-2.601	-2.207
				(0.053)	(0.066)
Deferred compensation (dummy)				0.423	0.152
				(0.025)	(0.390)
Board fee paid in stock (dummy)				-0.022	0.201
				(0.962)	(0.625)
(Outside directors)/(total directors)				-1.242	-0.662
				(0.090)	(0.313)
Log assets					-0.055
					(0.411)
(Long term debt)/(assets)					-3.836
					(0.000)
Dividend (dummy)					-0.312
					(0.142)
SIC controls					Yes
Sample	444	444	416	416	414
Adjusted R-squared (%)	2.5	1.6	0.41	5.5	23.2

Table 13 – Panel A
Determinants of Market Value/Book Value
(P-values in parenthesis)

Independent Variable	
Constant	10.75
	(0.046)
CEO ownership (%)	0.055
	(0.015)
Dual-class (dummy)	0.320
	(0.585)
Founder (dummy)	0.190
	(0.541)
Log number of directors	0.233
	(0.496)
(Outside directors)/(total directors)	-0.901
	(0.199)
Log number of meetings	-0.188
	(0.420)
Log number of committees	-0.062
	(0.872)
Log length of term	-0.023
	(0.862)
Retirement < 70 (dummy)	-0.001
	(0.996)
Log average age of directors	-2.701
	(0.030)
Deferred compensation (dummy)	0.121
	(0.508)
Board fee paid in stock (dummy)	0.863
	(0.135)
Log assets	-0.058
	(0.422)
(Long term debt)/(assets)	-3.824
	(0.000)
Dividend (dummy)	-0.325
	(0.127)
SIC controls	Yes
Committee Presence (dummy):	
Acquisition	0.102
	(0.688)
Ethics	0.169
	(0.376)
Finance and Investment	0.251
	(0.147)
Human Resources	-0.353
	(0.064)
Strategy	-0.306
	(0.283)
Succession	0.082
	(0.582)
Technology	0.643
	(0.107)
Charitable	-0.189
	(0.533)

Compensation	0.790
	(0.264)
Environmental	-0.450
	(0.116)
Executive	0.036
	(0.840)
Health	-0.127
	(0.867)
Nominating	0.102
	(0.677)
Organization	-0.203
	(0.327)
Public Policy/Legal	0.262
	(0.154)
Safety	-0.225
	(0.770)
Committee Ownership (%):	
Acquisition	-0.756
	(0.085)
Ethics	-2.762
	(0.005)
Finance and Investment	1.182
	(0.001)
Human Resources	-0.374
	(0.728)
Strategy	3.629
	(0.000)
Succession	-2.456
	(0.006)
Technology	-10.138
	(0.073)
Charitable	0.528
	(0.848)
Compensation	2.279
	(0.301)
Environmental	-4.071
	(0.488)
Executive	-0.061
	(0.585)
Health	-52.865
	(0.849)
Nominating	-0.352
	(0.185)
Options	-2.124
	(0.332)
Organization	-0.105
	(0.874)
Public Policy/Legal	0.367
	(0.599)
Safety	67.593
	(0.807)
Sample	411
Adjusted R-squared (%)	27.2

Table 13 – Panel B
Determinants of Market Value/Book Value
(P-values in parenthesis)

Independent Variable	
Constant	11.086 (0.032)
CEO ownership (%)	0.059 (0.010)
Dual-class (dummy)	0.108 (0.850)
Founder (dummy)	0.164 (0.605)
Log number of directors	0.336 (0.340)
(Outside directors)/(total directors)	-0.969 (0.198)
Log number of meetings	-0.003 (0.989)
Log number of committees	-0.054 (0.892)
Log length of term	0.018 (0.893)
Retirement < 70 (dummy)	0.105 (0.512)
Log average age of directors	-2.051 (0.104)
Deferred compensation (dummy)	0.143 (0.451)
Board fee paid in stock (dummy)	0.240 (0.573)
Log assets	-0.051 (0.473)
(Long term debt)/(assets)	-3.925 (0.000)
Dividend (dummy)	-0.277 (0.213)
SIC controls	Yes
Committee Presence (dummy):	
Acquisition	0.512 (0.578)
Ethics	-0.125 (0.853)
Finance and Investment	-0.168 (0.658)
Human Resources	-0.116 (0.893)
Strategy	-0.299 (0.759)
Succession	-0.211 (0.667)
Technology	-1.012 (0.319)
Charitable	-0.138 (0.926)

Compensation	0.872
	(0.335)
Environmental	-0.259
	(0.803)
Executive	0.015
	(0.948)
Health	-0.797
	(0.602)
Nominating	0.266
	(0.545)
Organization	-0.529
	(0.682)
Public Policy/Legal	0.412
	(0.579)
Safety	0.237
	(0.878)
(Outside directors)/(total directors):	
Acquisition	-0.329
	(0.765)
Ethics	0.247
	(0.733)
Finance and Investment	0.575
	(0.174)
Human Resources	-0.334
	(0.708)
Strategy	0.217
	(0.851)
Succession	0.313
	(0.547)
Technology	1.643
	(0.141)
Charitable	0.021
	(0.990)
Compensation	0.494
	(0.585)
Environmental	-0.420
	(0.716)
Executive	0.183
	(0.545)
Health	1.051
	(0.554)
Nominating	-0.147
	(0.744)
Options	-0.383
	(0.597)
Organization	0.335
	(0.801)
Public Policy/Legal	-0.118
	(0.882)
Safety	-0.391
	(0.823)
Sample	414
Adjusted R-squared (%)	21.3