

# What do Boards do? Evidence from Board Committee and Director Compensation Data

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<sup>1</sup> Federal Reserve Bank of New York. The views in this paper are my own and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

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# What do Boards do? Evidence from Board Committee and Director Compensation Data

## Abstract:

This paper uses data on 1542 board committees and director compensation in a sample of 352 Fortune 500 companies in 1998 to analyze variation in board behavior. I use this data to quantify the amount of effort boards devote to their three different functions: monitoring, dealing with strategic issues and considering the interests of stakeholders. I show that boards appear to take their traditional oversight role seriously, since on average boards devote effort primarily to monitoring. However, there is a fair amount of variation across firms in the amount of effort boards devote to their different functions. In particular boards of larger firms and firms that face more uncertainty devote relatively less effort to monitoring, while boards of diversified firms devote relatively more effort to monitoring. Boards of larger, growing and older firms devote more effort to stakeholder interests on both an absolute and a relative basis. Finally, boards of growing firms devote relatively more effort to strategic issues.

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## 1 Introduction

Although boards of directors have been at the center of public attention recently, little is actually known about what boards do on a routine basis. Part of the difficulty in describing board behavior is the lack of access researchers have to boards. Thus Lorsch and MacIver's (1989) survey-based study of how boards operate remains one of the most influential depictions to date. Another problem is that board structure is complex: boards may differ in their size, composition, numbers and composition of committees, number of meetings of various committees, compensation of directors as well as in various other aspects. Thus it is difficult to compare boards of different firms along more than a few dimensions. In this study I use a novel measurement approach to circumvent both of these problems. First, I use publicly available data to construct measures of board behavior that can easily be used in cross-sectional comparisons. I then use them to examine variation in board behavior across firms.

I describe board behavior by developing measures of the effort the board devotes to its activities. I base the construction of these measures on two ideas. The first is that the aggregate amount of compensation the firm pays for the tasks of the board is a measure of how much effort the board exerts while carrying out those tasks. By using aggregate compensation I can account for the fact that the numbers of directors carrying out different tasks, the amount of meetings they devote to different tasks and the quality of effort devoted to different tasks, or the value of that task to the firm, may vary across tasks. My second assumption is that the set of committees the board has indicates the tasks the board performs on a regular basis.

I assume that committee work reflects the board's day-by-day activities because committee structure appears to be fairly stable over time. Thus the work of committees is likely to be routine work that the board feels comfortable delegating. In accordance with this view, a director interviewed by Lorsch and MacIver (1989, p. 59) remarked: "In my experience, I have observed that the work of the board is done in committees." Similarly a director of Sears, Roebuck and Company remarked in 1999: "A company is run by and large by its committees. The full board only deals with exceptional

circumstances.<sup>2</sup> Furthermore, the American Bar Association's Corporate Director's Guidebook (1994) emphasizes that the audit, compensation and nominating committees are the main committees in which directors carry out their oversight duties (see also the Committee on Corporate Laws, 1979).

With these assumptions and data on 1542 board committees and director compensation in a sample of 352 Fortune 500 companies in fiscal 1998, I construct 4 measures of board effort. The first is a measure of the total effort level of the board. Next I construct measures of how much effort boards devote to what the literature broadly identifies as the three main functions of corporate boards (see e.g. Zahra and Pearce, 1989; the American Bar Association, 1994; Dallas, 1996; Johnson, et al., 1996 and Langevoort, 2000). The first of these functions is the monitoring function of the board, which has been treated extensively in the governance literature. The second function is assisting management in formulating strategy. The final function is considering the interests of stakeholders in the firm, such as employees, customers, the government, communities, etc.. Jensen (2001), for example, argues that firms cannot maximize value if they ignore the interests of their stakeholders. Similar arguments have been put forth in the sociological literature where the ability of firms to secure external resources is emphasized (e.g. Pfeffer and Salancik, 1978).

I find that consistent with the relative importance accorded their functions in the literature, on average boards devote effort primarily to monitoring, then to strategic issues and finally to considering the interests of stakeholders. However, there is a fair amount of variation across firms in the amount of effort boards devote to these functions. Thus I also examine how board effort varies with firm characteristics. I find that boards of larger firms and firms that face more uncertainty devote relatively less effort to monitoring, while boards of diversified firms devote relatively more effort to monitoring. Boards of larger, growing and older firms devote more effort to stakeholder interests on both an absolute and a relative basis. Finally, boards of growing firms devote relatively more effort to strategic issues.

After decomposing my measure of director effort into a measure of the quantity and the quality of effort, I also find that the complexity of the work required of directors seems to vary across firms. In

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<sup>2</sup> Private conversation with Warren Batts.

particular the quality of director effort in older firms appears to be lower, consistent with the idea that board work in older firms is more bureaucratic.

Previous literature has focused primarily on the proportion of outside directors on the board as a proxy for its monitoring intensity. To date it is not clear how well board composition proxies for the monitoring intensity of the board, since as, for example, Holmström (1999) points out, wanting to be seen to be doing the right thing and doing the right thing are not always the same thing. Since I attempt to actually quantify the amount of effort boards devote to monitoring as well as to their other duties, regardless of board composition, I believe my paper extends the previous literature in several ways.<sup>3</sup>

This paper is constructed as follows: in Section 2, I describe the data. In Section 3, I discuss how I quantify the effort boards devote to their functions. In Section 4, I use these effort proxies to analyze variation in board behavior across firms. Section 6 contains some robustness checks of my results. Section 7 concludes.

## **2 Data**

I collected board committee and director compensation data for all publicly traded Fortune 500 companies during fiscal 1998 for which I could obtain proxy statements filed by each firm at the beginning of the 1999 fiscal year.<sup>4</sup> Following previous studies on board structure I exclude regulated financial and utility companies. My final sample consists of 352 firms.

From the proxy statements for each firm I collected the following information about its committee structure: the number and types of committees, the number of meetings of each committee and size and membership of each committee during fiscal 1998. I end up with data on 1542 committees. I also collected data on director compensation, paying particular attention to compensation for board committee

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<sup>3</sup> This paper is also related to the governance literature that studies variation in director compensation (e.g. Brick, Palmon and Wald, 2002; Ryan and Wiggins 2002; Becher, Campbell and Frye, 2002). However, it differs in its use of compensation as a proxy for effort and in its emphasis on compensation for committee work.

<sup>4</sup> Committee structure in private firms is likely to be different because a listing requirement is the existence of an audit committee.

duties. Finally I collected board size<sup>5</sup> and meeting data for 1998. I obtain financial data from Compustat and CRSP. Data on the number of years since the date of incorporation is from Moody's manuals.

Table 1 shows descriptive statistics for selected financial and board characteristics. My measure of stock return volatility is the standard deviation of monthly stock returns from CRSP from 1993 to 1998. The number of segments is the number of different 4 digit SIC code segments listed in Compustat in fiscal 1998.

Average board size in my sample firms is 11.3 which is close to the number reported for S&P 500 firms in 1997 and 1998 in Hayes, Mehran and Schaefer 2000 (11.68). Similar to the number reported for Vafeas' (1999) sample (7.45), the boards of my sample firms hold on average 7.6 regular board meetings.<sup>6</sup>

Even though the audit and compensation committees are the only committees that are almost mandatory because of listing requirements, 92% of the firms in my sample have more than 2 committees. Overall my sample firms have an average of 4.4 committees. On average these committees have 4.5 members and 3.3 regular meetings.<sup>7</sup>

In general boards pay their directors annual retainers for their service on the board as well as meeting fees to attend board meetings. The average annual retainer paid in cash is \$25,466. The average meeting fee for regular board meetings is \$1023. The majority of firms (90.1%) also provide their directors with some annual stock-based compensation in the form of restricted shares or options.<sup>8</sup> In addition, 88.9 % (313) of the sample firms pay their directors additional compensation for work they do

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<sup>5</sup> Since the 1999 proxy lists the nominees for 1999 only, I calculate board size in 1998 as the number of nominees in 1999 minus the number of directors newly nominated in 1999 plus the number of directors that were described as having left the board during the previous fiscal year or who were not standing for reelection.

<sup>6</sup> To avoid losing too many observations when just one component of my effort measures is missing, I fill in board meeting, committee meeting and committee size data with the sample mean of that variable (where the mean depends on committee type for committees) when it is missing. Overall 2 firms did not disclose board meetings and 81 committee meetings and 10 committee sizes were not reported in proxies.

<sup>7</sup> The committee size does not include ex officio members-directors who sit on the committee but are not allowed to vote. Ex officio members are not compensated for committee service.

<sup>8</sup> Although restrictions vary across firms, a typical restriction is that directors cannot sell their shares until they leave the firm. Options usually come with vesting requirements and they may or may not be exercisable if the director leaves the firm. For example, the American Home Products Corporation's proxy statement, p. 8, says "the options become exercisable at the date of the next annual meeting or earlier in the event of the director's termination of service, provided that the optionee has completed at least 2 years of service as a director at the time of exercise or termination."

on committees. Such compensation may consist of meeting fees paid for attendance at committee meetings and/or additional retainers paid to be a member or to chair a committee. Of the firms that pay for committee work 6.4% provide committee compensation with a stock or option based component,<sup>9</sup> 23.6% have committee compensation that varies by committee type and 77% pay committee chairs additional compensation.

In addition to varying by committee type, meeting fees (at both the board and committee level) may vary depending on whether meetings are regular, special, telephonic or held by written consent. In 44 firms committee and board meeting fees also vary depending on whether multiple meetings are held on the same day. For simplicity in constructing my effort measures, I assume that meetings in these firms are generally held on different days. I examine how sensitive my results are to this assumption in Section 6. Finally, instead of paying meeting attendance fees, 4 firms penalize their directors for not attending meetings. While I use detailed information on all types of meetings and meeting and membership fees to construct my effort measures, I do not summarize them further here for the sake of brevity.

In order to construct my effort measures I need to estimate the firm's cost of the shares and options granted to directors whenever this is not provided in the proxy. I assume that the opportunity costs of the shares and options are the amounts the company would receive if it were to sell tradable shares and options to an outside investor. Thus I choose to value director options using a procedure that is as close as possible to ExecuComp's procedure for valuing options for the top 5 executives in each firm. To price the options I use the Black-Scholes formula, assuming continuously paid dividends. Estimates of firm volatility, dividend-yield and the risk-free rate are from ExecuComp. Expiration of director options usually occurs in ten years; I use seven years to be consistent with ExecuComp.

In most firms the exercise price of an option is the stock price on the date of grant. Since directors are generally elected at the annual meeting of the shareholders, the majority of firms grant directors shares and options at the annual meetings. Thus I use the market price of shares at the end of the month of

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<sup>9</sup> Most firms (200) allow directors to defer their cash-based fees into stock accounts and/or to elect to receive them in the form of stock or options (75 firms), thus the actual portion of stock-based compensation for a given director may be larger than disclosed in proxies.

each firm's annual meeting at the beginning of the 1998 fiscal year as the exercise price of the options as well as the price of the stock.<sup>10</sup>

### **3 Measuring Director Effort**

My proxy for the total effort level of the board during fiscal 1998 is simply the amount of compensation the firm paid the entire board during the year, TOTAL COMPENSATION. Since I am interested in measuring effort, I do not make a distinction between inside and outside directors when calculating total board compensation, although in practice inside directors are generally not paid for board service.<sup>11</sup> I assume that inside directors will be implicitly compensated for board service through their regular compensation, thus the compensation schedule for outside directors can be used to construct a proxy for the effort insiders devote to the board.<sup>12</sup>

The reason I use TOTAL COMPENSATION as a proxy for effort is that it captures not only the meeting intensity of the entire board during the year (quantity), which, for example, Vafeas (1999) argues proxies for the activity of the board, but also how much the firm values the work (quality). Consistent with the idea that director compensation is linked to the effort directors exert, Compaq Computer Corporation's fiscal 1998 proxy (p. 8) states: "In acknowledgement of the increasing time devoted to Committee matters, effective in April 1999, directors serving on the Audit committee will receive a retainer of \$10,000 and the Committee chair will receive an additional retainer of \$10,000." This quote suggests that when board duties vary in their difficulty, firms will pay more for the difficult task than the easy task. Consistent with this idea is also the fact that 77% of firms that pay for committee work pay

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<sup>10</sup> Most papers on director compensation use the stock price at the end of the fiscal year to value directors' shares and options. However, directors are generally not elected (and hence paid) until the annual meeting. In addition, by using the stock price at the end of the month of the annual meeting I ensure that I do not introduce outliers in the value of options and stock due to stock splits that go into effect between the end of fiscal year and the annual meeting.

<sup>11</sup> Only 7 sample firms compensated inside directors, however the compensation for inside directors is generally smaller than that for non-inside directors. Nike is an exception since it compensates both types of directors the same way.

<sup>12</sup> I do not include additional compensation that may be paid to the chairman of the board in my calculations, since these amounts are generally not disclosed when the chairman is an insider. Thus my total compensation measure understates the total amount paid to the board (if insiders were also paid) for each firm. However, I do not expect this simplification to bias the cross-sectional regressions in Sections 4 and 5, since additional compensation paid (outside) chairmen is generally in the form of an additional annual retainer and will therefore not affect the amounts paid for function-specific effort of the board.

committee chairs additional amounts. It is plausible that committee chairs have more responsibility than committee members do, which implies that they should be paid more than committee members should. Vice versa directors should also exert more effort when compensation is higher. Consistent with this idea, Adams and Ferreira (2003) find that director's attendance at board meetings improves when board meeting fees increase.<sup>13</sup> Thus effort and compensation should be correlated.

Gertner and Kaplan (1996, p. 12) also point out: "Informal and formal procedures are likely to be substitutes. If this interpretation is correct counting board and committee meetings does not capture how hard the board works and may in fact proxy the exact opposite." Regardless of how directors carry out their duties, through formal or informal meetings, I expect the relative value of these activities to the firm to be reflected in the way directors are compensated. Thus in firms whose committees rely heavily on informal procedures, I expect committee members and chairs to be compensated with annual retainers rather than meeting fees and vice versa. The amount that the firm pays for all the work the board does is thus a general measure of the total effort of the board.

In order to gain further insight into the workings of the board, I also decompose my aggregate effort measure into the amount of effort boards expend while carrying out their three main functions: *monitoring, providing strategic direction and representing stakeholder interests*. In order to do this I first develop a proxy for the amount of effort the board expends on different tasks. Then I aggregate the amount of effort spent on different tasks according to whether they are tasks carried out for the purpose of monitoring, providing strategic direction or representing stakeholder interests.

I use the set of committees the board has as a proxy for the set of tasks the board carries out on a regular basis. Since committee duties are described in the proxy statements, their functions are fairly well defined, unlike the work of the full board. Committee structure also appears to be fairly stable over time,<sup>14</sup> thus committees represent tasks that boards carry out every year and not just in emergency situations. To construct task-specific measures of day-to-day director effort, I assume that the amount of effort the board

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<sup>13</sup> Of course, other factors will influence directors' incentives to exert effort, such as reputational concerns. However, compensation can still provide incentives on the margin and thus should be correlated with effort.

<sup>14</sup> 33 of the sample firms revealed the dates that they established committees. Of these firms' committees 40% were established prior to 1990.

invests in carrying out the work of a committee is equal to the total amount of effort it invests in that task. As above I assume that the board's effort devoted to the work of a committee can be proxied by the total amount of compensation the firm pays for the work of that committee. If the board does not have a committee of a given type or does not pay for the work of a given committee, I assume it puts no effort into that task or, alternatively, that the value of that effort is zero to the firm. Thus if  $E_j^i$  is a proxy for the amount of compensation the board of firm  $j$  pays for the work of committee  $i$ , I define the level of effort it puts into task  $t$ ,  $ET_j^t$ , to be:

$$ET_j^t = \begin{cases} E_j^t & \text{if committee } t \text{ exists in the firm,} \\ 0 & \text{if committee } t \text{ does not exist in the firm.} \end{cases}$$

Since there is a large amount of variation in how firms name their committees, I read each committee description in order to classify it according to what its main task appears to be. The appendix gives a list of committees and their relative frequency by task.<sup>15</sup> Next I classify committees according to their function. I define monitoring committees to be the audit, compensation, corporate governance, nominating, non-management, succession and stock option committees. I consider strategy committees to be the executive, strategy, technology, finance, acquisition and international committees. Finally, I classify the public policy, environment, contributions, human resources, proxy, employee investment and employee stock option committees as stakeholder interest committees.

I define the amount of effort boards expend fulfilling their three functions, MONITORING COMPENSATION, STRATEGY COMPENSATION and STAKEHOLDER INTEREST COMPENSATION, respectively, to be the aggregate amount of compensation the firm pays for the work of the committees belonging to that category. While it might also be interesting to examine how much effort the board spends on the component committee tasks, the effort spent on individual committee duties is likely to be measured with error since committees generally share tasks (see also the analysis in Hayes,

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<sup>15</sup> This list differs slightly from the list of 19 committees Hayes, Mehran and Schaefer (2000) provide for S&P 500 firms during 1997 and 1998, since any classification of committees is inherently subjective. For example, some firms call the committee that primarily nominates directors, the nominating committee. In other firms the committee that nominates directors may be called the corporate governance committee, because the primary function of the corporate governance committee is to monitor compliance with governance standards and decide director compensation, committee structure, etc. Depending on the classification scheme these two committees could be classified differently or both could be classified as the nominating committee.

Mehran and Schaefer 2000). Since committees within a certain category are more likely to share tasks, e.g. the nominating and the corporate governance committees may share tasks or the environment and the public policy committee may share tasks, I avoid this problem by considering aggregate effort devoted to a function rather than individual committee effort. However, in Section 6 I also briefly examine effort devoted to two specific committees, the strategy and the public policy committee.

To the extent that the full board devotes effort to monitoring, strategic issues and stakeholder interests, my proxies will understate the true amount of effort that boards spend on these issues.<sup>16</sup> Lorsch and MacIver (1989) describe that boards are most comfortable delegating monitoring tasks, such as audit and compensation matters, to committees, but that because of their importance they may be less likely to want to delegate strategic issues to a committee. Thus my proxy for the monitoring effort of the board may be the most accurate, whereas my proxies for the strategy and stakeholder interest effort should be considered to be lower bounds on the effort boards devote to those functions.

Table 2 shows summary statistics on the aggregate effort level as well as the effort devoted to monitoring, strategic direction and stakeholder interests. The mean level of TOTAL COMPENSATION in the sample is \$1,116,684.00. Of the sample firms, 89.5% pay their boards for monitoring duties, 60.8% pay for strategic direction and 34.1% pay for stakeholder interest activities. On average MONITORING COMPENSATION, STRATEGY COMPENSATION and STAKEHOLDER COMPENSATION comprise 8.0%, 2.7% and 0.9% of TOTAL COMPENSATION. For firms that pay for these activities, these sample means are 8.9%, 4.4% and 2.6%, respectively.

These numbers appear small relative to TOTAL COMPENSATION because TOTAL COMPENSATION includes compensation for board meetings, annual retainers and the value of annual stock and option grants which comprise a large portion of directors' annual compensation, but which I cannot classify as compensation for any specific task. Nevertheless, I believe that the summary statistics

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<sup>16</sup> In addition, since the SEC formally requires companies to disclose information only about their audit, nominating and compensation committees, the extent to which boards devote effort to strategic and stakeholder issues may be understated. However, firms generally appear to disclose more information than required which suggests that they disclose information about all of their committees. For example, in my sample 19% of firms disclosed information about 4 or more committees. Thus the extent to which strategic and stakeholder effort is understated because of lack of disclosure may not be large.

of my proxies for director effort are suggestive. They indicate first that the board devotes more effort to monitoring than to strategy and stakeholder interests. This is perhaps not surprising given the attention the governance literature focuses on the monitoring duties represented in the work of the audit and compensation committees. However, in some sense it is surprising since most regulations and policy recommendations concerning monitoring activities focus on the composition of monitoring committees, not on compensation for the committees or the levels of their activity. The measure I present here indicates that boards do take their monitoring duties seriously by allocating most of their effort to them.

The second conclusion that can be drawn from Table 2 is that boards do more than just monitor. In fact 67.3% of sample firms pay their boards for strategic direction or for considering stakeholder interests. In the 315 firms that pay for monitoring activities, the average ratio of the sum of STRATEGY COMPENSATION and STAKEHOLDER INTEREST COMPENSATION to MONITORING COMPENSATION is approximately 0.55. Furthermore, there is a fair amount of variation in the amount of effort boards devote to their different functions. Thus, boards also appear to take their non-monitoring roles seriously, although these roles appear to be more important in some firms than in others.

My final observation is that the relative ranking of how much effort boards devote to their different functions on average is consistent with the relative importance accorded these functions in the literature. In particular, the extent to which boards should consider the interests of stakeholders has been debated, since their primary purpose is to represent shareholders. Consistent with the idea that monitoring is the most important function of the board and stakeholder representation the least, in my sample boards devote their effort on average primarily to monitoring, then to providing strategic direction then to considering stakeholder interests. These differences between the means of MONITORING COMPENSATION, STRATEGY COMPENSATION and STAKEHOLDER COMPENSATION are all highly statistically significant.

#### **4 Examining Variation in Board Effort Across Firms**

While the descriptive statistics in the previous section are consistent with the idea that on average boards consider their monitoring duties to be of primary importance, they also suggest that firms value the

work of their boards differently and that the importance boards place on their different functions varies across firms. Thus the standard deviation in total compensation is fairly high (\$1,257,546) relative to the mean (\$1,166,684) and, at the extreme, one firm (Ingram Micro) does not pay its board *any* annual compensation.<sup>17</sup> In addition the maximum amount a firm paid for strategic direction (\$600,000) is nearly as much as the maximum a firm paid for monitoring (\$602,647). Thus in this section, I investigate whether and how board behavior varies across firms by examining determinants of my measures of the effort boards devote to their different functions. I first focus on examining how total effort levels, TOTAL COMPENSATION, vary in Section 4.1. I then examine how MONITORING COMPENSATION, STRATEGY COMPENSATION and STAKEHOLDER INTEREST COMPENSATION vary in Section 4.2.

#### **4.1 Variation in Total Board Effort**

I follow an approach similar to Vafeas' (1999) examination of the determinants of board meeting frequency as a function of firm and governance characteristics. However, my analysis differs from Vafeas (1999) in that my measures of board activity are constructed using information about multiple governance characteristics of the board such as board and committee size, the number of committees, the number of board and committee meetings and detailed data on director compensation. Thus, unlike Vafeas (1999), I do not include governance variables in the regressions whose effect on the dependent variables may be mechanical. In addition, since my focus is on examining inter-firm variation in board behavior, I only include a select set of firm-level variables in my regression analysis that are arguably exogenous factors influencing the board's effort choice. These regressions can be interpreted as reduced form regressions of board effort levels on firm characteristics.

In this section my dependent variable is the natural logarithm of TOTAL COMPENSATION measured in thousands of dollars.<sup>18</sup> The firm-specific characteristics I include in the regressions are the

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<sup>17</sup> It provides directors with a lump-sum grant of options when they are first appointed to the board.

<sup>18</sup> Since Ingram Micro pays no annual compensation to directors, I lose this firm from my sample when I use the logarithm of TOTAL COMPENSATION as my dependent variable. OLS regressions using TOTAL COMPENSATION as my dependent variable provide similar results and are available upon request.

natural logarithm of the book value of assets as a proxy for firm-size, the ratio of capital expenditure to sales as a proxy for firm growth, the age of the firm (the number of years since the firm's original incorporation), stock price volatility as a proxy for uncertainty and the number of business segments at the 4-digit SIC level as a proxy for diversification. Gertner and Kaplan (1996, p. 7) argue that "the optimal amount of monitoring and advice may vary by industry," thus I also include industry dummy variables in certain specifications. Since I have no strong prior for how board effort should vary across different industries, I use 1-digit SIC codes to construct industry dummies.<sup>19</sup> In addition, while I include the estimated coefficients on the industry dummies in the tables, I do not discuss them in detail for the sake of brevity. The standard errors in all regressions are adjusted for potential heteroskedasticity.

Since larger and more diversified firms appear more complex, I would expect director effort to increase in  $\ln(\text{assets})$  and number of segments. I would also expect boards in growing firms and more uncertain environments to exert more effort. On the other hand board procedures in older firms may be more bureaucratic, thus boards in older firms may exert less effort. I examine whether the data appears consistent with these predictions below.

Column I of Table 3 presents the results of the OLS regression of total board effort on firm characteristics. In Column II, I include industry dummies. The excluded industry is Agriculture, Forestry and Fishing.<sup>20</sup> Across both columns  $\ln(\text{assets})$  and stock volatility are positively and significantly related to  $\text{LN}(\text{TOTAL COMPENSATION})$  at greater than the 1% and 5% level, respectively. The number of segments is negatively related to total board effort, although it is only significant at greater than the 10% level in Column II.

Overall these results are consistent with the intuition that board effort should be higher in bigger firms and more uncertain environments. Perhaps more surprising is the fact that boards in more diversified firms may exert less effort and that firm age and firm growth have no effect on effort levels.

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<sup>19</sup> The number of sample firms in A. Agriculture, Forestry and Fishing, B. Mining, C. Construction, D. Manufacturing, E. Transportation and Public Utilities, F. Wholesale Trade, G. Retail Trade, H. Finance, Insurance and Real Estate, and I. Services are 1, 2, 4, 188, 39, 33, 51, 9, 25 respectively.

<sup>20</sup> Since there are few sample firms in A. Agriculture, Forestry and Fishing and B. Mining, I also replicated my results excluding both of these industries. The results are qualitatively similar and are available upon request.

One reason for this may be that boards in older and growing firms change how they allocate their effort to different functions without increasing total effort. I investigate this issue in the next section.

## 4.2 Variation in Task-Specific Effort

To examine whether firms with different characteristics emphasize different functions of their boards, I repeat the analysis of the previous section using MONITORING COMPENSATION, STRATEGIC COMPENSATION and STAKEHOLDER COMPENSATION as my dependent variables. I use the same right-hand side variables as before, however I need to adjust my estimation technique to account for the fact that all three of my dependent variables take on the value zero with a positive probability but are otherwise continuous random variables with strictly positive values. I assume that firms are choosing the amount of effort devoted to each type of task, so that a value of zero reflects a corner solution outcome. I therefore apply the Tobit model to MONITORING COMPENSATION, STRATEGY COMPENSATION and STAKEHOLDER COMPENSATION. In all cases, I use the same explanatory variables as before and adjust all standard errors for potential heteroskedasticity.

In Table 4, I present Tobit regressions of MONITORING COMPENSATION, STRATEGY COMPENSATION and STAKEHOLDER COMPENSATION on firm characteristics in Columns I, II and III, respectively.<sup>21</sup> In Columns IV-VI, I include industry dummies. The estimated marginal effects on the conditional expectation, calculated at the means of the explanatory variables, are reported in square brackets beneath the coefficient estimates. The marginal effects on the industry dummies are calculated as the discrete change in the conditional expectation as the dummy changes from 0 to 1. To avoid collinearity problems I drop the firm in Agriculture and exclude a dummy for firms in Mining from the regressions in Columns IV-VI. The results indicate that firm size has a positive and significant effect (at the 5% level) on both monitoring and stakeholder interest representation. This latter fact is consistent with Agrawal and Knoeber's (2001) finding that directors with political or legal expertise, who they argue may be useful for lobbying or complying with environmental regulation, are more prevalent in large firms. The

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<sup>21</sup> Since my dependent variables take on the value zero with positive probability, I do not use the logarithm of MONITORING COMPENSATION, STRATEGY COMPENSATION or STAKEHOLDER COMPENSATION as my dependent variables as I did with TOTAL COMPENSATION.

positive effect of firm size on monitoring is also consistent with studies in the governance literature that use the proportion of outside directors as a proxy for the monitoring intensity of the board. Hermalin and Weisbach (2003) describe that these studies have generally found that larger and older firms tend to have a higher proportion of outsiders on the board.

In contrast, my results for firm age are not consistent with these latter studies, since I find no significant effect of firm age on total monitoring effort by the board. However, firm age has a positive and highly significant effect on total stakeholder interest representation. This suggests that outsiders in older firms may be devoting their effort to activities other than monitoring, so that the proportion of outside directors is not a clean proxy for monitoring effort in older firms.

It seems intuitive that the boards of growing firms would devote more effort to non-monitoring activities than other types of firms. Consistent with this idea capital expenditures/sales has a significantly positive effect (at greater than the 5% level) on STAKEHOLDER COMPENSATION. This suggests that growing firms that are expanding their product lines or expanding geographically, for example, need to consider the effects of their growth on communities, the environment and their relations with the government more than other types of firms. Finally, diversification has a positive and significant effect on monitoring effort by boards, but it does not significantly affect the effort boards devote to their other functions.

The fact that several firm characteristics, such as firm age and growth, affect individual board functions without affecting total board effort, TOTAL COMPENSATION, suggests that firm characteristics may affect not only the levels of board effort but also the relative allocation of board effort to different functions. To examine this I present Tobit regressions of the ratio of MONITORING COMPENSATION, STRATEGY COMPENSATION and STAKEHOLDER COMPENSATION to TOTAL COMPENSATION in Table 5. In Columns IV-VI, I add industry dummies, with Mining the excluded industry as in Table 4. It is important to point out again here the three functions I examine do not add up to total board effort. TOTAL COMPENSATION includes the effort devoted to board work as well as stock- and option-based compensation that cannot be attributed to an individual function, thus the sum of the three dependent variables in Table 5 does not equal one.

Overall the results are consistent with the idea that firm characteristics affect how boards allocate their effort. For example, while monitoring effort levels increase in larger firms, Column I of Table 5 suggests the boards of larger firms devote relatively less effort to monitoring, although this effect is not significant once I include industry dummies in Column IV. In contrast, Tables 4 and 5 suggest that boards of larger firms devote more effort to stakeholder interests on both an absolute and a relative basis. While the effect of capital expenditures/sales on STRATEGY COMPENSATION levels was not significant in Table 4, Table 5 suggests that boards of growing firms devote relatively more effort to strategic issues as well as to stakeholder interests. In fact the only firm characteristic that is significant in Column II is capital expenditures/sales, although this effect is not significant in Column V.

Consistent with the level regressions in Table 4, Table 5 also shows that older firms devote relatively more effort to stakeholder interests and that diversified firms devote relatively more effort to monitoring. Overall, the effects of firm age and capital expenditures/sales show that even though these variables have no effect on total board effort in Table 3, they still affect the effort boards devote to different functions.

Finally, Column I and IV show that boards of firms in uncertain environments devote relatively less effort to monitoring. Since volatility has no effect on the allocation of board effort to strategic or stakeholder issues, this result suggests further that when volatility increases the effort the board devotes to committee work decreases relative to full board work, i.e. the board is less likely to delegate.

## **5 The Quantity versus the Quality of Board Effort**

In the previous section my focus was on examining the levels and allocation of board effort using proxies for effort that capture not only the time devoted to board duties (e.g. the meeting intensity), but also the quality of the board work. In this section I attempt to provide further insight into the workings of the board by decomposing my proxies into separate measures of the quantity and quality of director effort and examining how these components vary with firm characteristics. In Section 5.1 I examine the quantity and quality of total board effort, in Section 5.2 I examine the quantity and quality of effort boards devote to their specific functions.

## 5.1 The Quantity and Quality of Total Board Effort

In this section I decompose TOTAL COMPENSATION into separate measures of the quantity and the quality of total director effort. I measure the quantity of director effort, MEETING UNITS, by the sum over all directors of the meetings they attended.<sup>22</sup> I define the meeting units the board of firm  $j$  devotes to committee  $i$  to be  $E_j^i = s_j^i \cdot m_j^i$ , where  $s_j^i$  is the number of members on committee  $i$  and  $m_j^i$  is the number of meetings of committee  $i$ . Similarly, the number of meeting units of the full board are  $E_j^B = s_j^B \cdot m_j^B$ , where  $s_j^B$  is the size of the board in firm  $j$  and  $m_j^B$  is the number of board meetings in firm  $j$ . MEETING UNITS for firm  $j$  is then defined to be  $E_j^B + \sum_{i=1}^{I_j} E_j^i$ , where  $I_j$  is the number of committees in firm  $j$ .

I measure the quality of director effort, COMP PER MEETING UNIT, by the ratio between TOTAL COMPENSATION and MEETING UNITS.

Columns I and II of Table 6 present the results of OLS regressions of LN(MEETING UNITS) and LN(COMP PER MEETING UNIT) on firm characteristics. In Columns III and IV, I replicate these regressions with industry dummies. The results suggest that the increase in TOTAL COMPENSATION in bigger firms is driven both by an increase in the quantity of board effort (MEETING UNITS) in bigger firms, as well as by an increase in the quality of director effort (COMP PER MEETING UNIT), since the coefficients on ln(assets) are positive and significant at greater than the 5% level in all columns. This is broadly consistent with the labor literature that finds that wages are positively related to firm size and that argues that an explanation for this finding is that larger firms require more effort for which they must pay a higher wage (see the survey by Oi and Idson, 1999).

The increase in TOTAL COMPENSATION in more uncertain environments appears to be driven entirely by an increase in the quality of effort. However, since I cannot measure informal board activities with MEETING UNITS, an alternative explanation for the positive and significant coefficient on stock

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<sup>22</sup> I do not take into account that some directors may have missed meetings. Proxies generally disclose only enough information to enable me to calculate the number of scheduled meetings, not the exact attendance of directors for each type of committee.

volatility in the COMP PER MEETING UNIT regressions is that firms value informal board activities more in uncertain environments.

In contrast to the previous variables, the coefficients on firm age and number of segments display opposite signs in the LN(MEETING UNITS) and LN(COMP PER MEETING UNIT) regressions. In older and more diversified firms the quantity of board effort appears to be higher, however the quality of effort appears to be lower, with the net effect on TOTAL COMPENSATION balancing out for firm age but the quality effect dominating for diversification. In general these results are not inconsistent with the idea that board work in older firms is more bureaucratic, so that the quality of board effort is lower. It is also possible that boards in more diversified firms delegate active decision-making to heads (or boards of) subsidiaries (see e.g. Adams and Mehran, 2003). This may be one reason why board work in more diversified firms appears to be of lower quality. Finally, while the pattern of signs on the coefficients of capital expenditure/sales are the same as for firm age and number of segments, they are not significant.

## **5.2 The Quantity and Quality of Task-Specific Effort**

In Tables 7-9, I examine the quantity of effort boards devote to their different functions as well as the quality of their effort. As I did for total board effort, I define the quantity of effort boards devote to a given function to be the number of meeting units devoted to that function. Similarly, the quality of effort is defined to be the compensation devoted to that function divided by the corresponding number of meeting units. Although function-specific meeting units and compensation per meeting unit generally take on the value zero with a positive probability and are thus corner-solution outcomes, I use OLS as my estimation method since I am primarily interested in signs, not magnitudes, of coefficients in this section.<sup>23</sup> In addition, it is easier to avoid collinearity problems in the specifications with industry dummies when I use OLS. Results of Tobit regressions yield similar qualitative results and are available upon request.

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<sup>23</sup> The exception is MONITORING MEETING UNITS, which is never zero since all firms in my sample have at least one monitoring committee that has some meetings.

In each of Tables 7-9, I include OLS regressions with MONITORING COMPENSATION, STRATEGY COMPENSATION and STAKEHOLDER COMPENSATION as my dependent variables, respectively in Columns I and IV. This makes it easier to compare the effect of the quantity and quality of effort on total function-specific effort and also serves as a robustness check that my choice of estimation methodology is not driving my previous results in Table 4. Perhaps the most interesting finding in Table 7 is that all variation in MONITORING COMPENSATION appears to be driven by MONITORING MEETING UNITS. In fact none of the firm characteristics or industry dummies has a significant effect on COMP PER MONITORING MEETING UNIT. This may be a reflection of the fact that almost all sample firms have an audit committee and generally also have a compensation or corporate governance/nominating committee. Thus directors' monitoring duties are likely to be fairly standardized across firms.

As is evident in Table 8, firm characteristics do not explain much of the variation in STRATEGY COMPENSATION, STRATEGY MEETING UNITS or COMP PER STRATEGY MEETING UNIT.<sup>24</sup> Instead, the industry dummies appear to have better explanatory power. They indicate that the quantity of effort boards devoted to strategic issues is highest for firms in Finance, Insurance and Real Estate and Transportation and Public Utilities. On the other hand, the quality of effort is highest in Construction and Manufacturing.

In contrast to the effort devoted to strategic issues, several firm characteristics significantly affect the effort devoted to stakeholder interests. In particular, firm size and age appear to increase both the quantity and the quality of effort boards devote to stakeholder interests, although the effect of firm size is not significant in Column II. In contrast capital expenditures/sales affects only the quantity, but not the quality of effort devoted to stakeholder interests.

Finally, although firm age significantly increases the quantity of effort boards devote to their different functions in all three of Tables 7-9, it ultimately has a significant effect on the total and the relative amount of function-specific effort only for stakeholder interests in Tables 4 and 5. This is because

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<sup>24</sup> The number of observations in Columns III and VI are less than in the other columns, since several firms paid committee chair fees or other compensation for newly established strategic committees that had no formal meetings. Thus a measure of quality could not be calculated in those cases.

the value firms place on the effort boards in older firms devote to monitoring and strategic issues is relatively low as compared to the value they place on stakeholder issues. This suggests that further insight into the workings of the board can be gained by examining the quantity/quality decomposition of function-specific total effort levels.

## **6 Robustness checks**

In this section I first examine whether my results are sensitive to including firms whose compensation structure differs because meeting fees vary depending on the number of meetings in the day or who penalize directors for not attending meetings. Then I examine whether my results are sensitive to how I classified committees into functions.

To examine whether my results are sensitive to assuming that meetings are all held on different days for firms whose meeting fees vary depending on the number of meetings a day, I replicate Table 5 after excluding these firms. I also exclude firms who penalize directors for not attending meetings. Overall I exclude 46 firms. The results (not reported but available upon request) are very similar to the previous results, however some of the results are even stronger. Most noticeably, I find that  $\ln(\text{assets})$  has a significant (at greater than the 10% level) negative effect on MONITORING COMPENSATION/TOTAL COMPENSATION even after including industry dummies. In addition the significance of the positive coefficient on capital expenditures/sales in the STRATEGY COMPENSATION/TOTAL COMPENSATION regressions is greater and also persists after including industry dummies. Overall, I conclude that my uniform treatment of firms with differing compensation structures is not driving my results.

I believe that one of the most surprising findings of the previous sections is that there is significant variation across firms in the amount of effort boards devote to stakeholder interests. This variation also appears to be economically significant. For example at the means of the data, a one standard deviation increase in capital expenditures/sales (0.061) or firm age (35.63) in Table 4 increases STAKEHOLDER COMPENSATION by \$2126 or \$2387, respectively. If STAKEHOLDER COMPENSATION is at its mean (\$7830) then this represents an increase of 27.2% or 30.5%

respectively. In addition, the results reported above and in Section 4.2 also suggest that boards of growing firms devote relatively more effort to strategic issues. To ensure that these results are not an artifact of how I divided non-monitoring tasks into strategic versus stakeholder interest tasks, I examine whether my classification of committees is driving these results. Since it is reasonable that any classification of strategy committees should include the strategy committee and any classification of stakeholder interest committees should include the public policy committee, I examine whether the results are similar when I use the amounts paid for these committees as my dependent variables instead of STRATEGY COMPENSATION and STAKEHOLDER COMPENSATION.

In Table 10 I report Tobits of STRATEGY COMMITTEE COMPENSATION (in Column I) and PUBLIC POLICY COMMITTEE COMPENSATION (in Column II) on firm characteristics. I do not include industry dummies since at the committee level the frequency of zero values for the dependent variables exacerbates collinearity problems. The coefficient on capital expenditures/sales in Column I is significant at the 10.1% level suggesting that boards of growing firms devote more effort to strategy committee issues. This appears consistent with my previous finding that boards devote relatively more effort to what I defined to be strategic issues.<sup>25</sup> In contrast to the previous results volatility has a positive and significant effect on STRATEGY COMMITTEE COMPENSATION. Since this effect has intuitive appeal, it suggests there may be some gain to generating a finer classification of board tasks in future research.

The results for PUBLIC POLICY COMPENSATION are more directly in line with the STAKEHOLDER COMPENSATION results. As they did on STAKEHOLDER COMPENSATION, firm size, firm growth and firm age all have positive and significant effects on PUBLIC POLICY COMMITTEE COMPENSATION. I conclude that overall my previous results do not appear to be too sensitive to how I classified committees.<sup>26</sup> Furthermore, the fact that firm characteristics appear to have different effects on STRATEGY COMMITTEE COMPENSATION and PUBLIC POLICY

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<sup>25</sup> In addition, Tobits of compensation paid for each component committee of STRATEGY COMPENSATION show that the coefficient on capital expenditures/sales is largest when STRATEGY COMMITTEE COMPENSATION is the dependent variable.

<sup>26</sup> Results are also similar if I exclude the 46 firms with different compensation structures from the regressions in Table 10.

COMPENSATION reinforces the idea that dealing with strategic issues and stakeholder interests are qualitatively different functions of the board.

## **7 Conclusion**

In this paper I use a novel measurement approach to quantify board effort. I document that boards appear to take their oversight role seriously, but also that boards devote effort to tasks that can be considered to be advisory in nature, such as dealing with strategic direction and representing stakeholder interests. Cross-sectional variation in the effort boards allocate to their different functions suggests that firms have different monitoring and advising requirements.

I believe the results I present here represent a necessary first step in the development of a comprehensive theory of board behavior and a deeper understanding of the role of corporate boards. Furthermore, I would argue that the variation in board effort I document is fairly intuitive and generally consistent with results in the literature where comparisons can be made. Thus these proxies may be useful measures of board behavior that have the potential to be used in many interesting applications. While collecting the data to construct these proxies involves a substantial amount of work, the increasing availability of data on boards in electronic form should reduce the costs of constructing these proxies in the future.

## **Appendix: Description of committees and committee frequency**

This appendix describes the most common tasks assigned to different committees in 352 Fortune 500 companies in alphabetical order. The descriptions were compiled by reading descriptions in the sample firm's proxy statements for fiscal 1998. The function each committee was assigned to in order to calculate board effort (monitoring, strategy, stakeholder interest) is listed in brackets next to the name of the committee. Appendix Table 1 lists the proportion of sample firms that have a committee of a given type from the most frequent committee to the least frequent.

The *Acquisition Committee* (strategy) generally examines proposed acquisitions and similar new ventures. It also advises management with regard to expansion or disposition of company's businesses through mergers, acquisitions, sales and similar transactions.

The *Audit Committee* (monitoring) generally recommends the appointment of independent auditors. It is responsible for reviewing the scope of proposed audits and internal audit reports. It periodically consults with auditors on matters relating to internal financial controls and procedures. In some cases the Audit Committee is also reported as being responsible for overseeing business ethics and conduct and monitoring compliance with the corporation's code of ethics. Such activities might entail reviewing related party transactions, overseeing executive expenses, overseeing health, safety and environmental audit functions (e.g. environmental disclosure) as well as monitoring compliance with laws and regulation, monitoring internal legal practice and policy and reviewing significant litigation and regulatory proceedings company is involved in with management.

The *Compensation Committee* (monitoring) generally reviews, approves and administers compensation of employees above a certain salary level, and it reviews management proposals relating to incentive compensation and benefit plans. In some cases the Compensation Committee deals with management succession, management structure, and promotions. It also may administer benefit plans, review and make recommendations concerning director compensation and may oversee the hiring of consultants.

The *Contributions Committee* (stakeholder interest) manages corporate charitable contributions.

The *Corporate Governance Committee* (monitoring) considers corporate governance matters, which may include any policies and practices with respect to the functioning of the board such as nominating directors or setting director compensation.

The *Employee Investment or Pension Committee* (stakeholder interest) generally manages the finances of the corporation's pension plan. This includes approving the overall investment policy relating to assets of the pension plan, monitoring the actuarial soundness of those plans and reviewing the performance of the pension portfolio and the investment advisors to the pension plan.

The *Employee Stock Purchase Plan Committee* (stakeholder interest) is responsible for overseeing employee stock purchase plans.

The *Environmental Policy Committee* (stakeholder interest) is generally responsible for dealing with any environmental issues, which may include monitoring compliance with laws and regulation.

The *Executive Committee* (strategy) generally has the authority to act on behalf of the full board between meetings. It has the full power and authority of the board to the extent permitted by law, including the power and authority to declare dividends and to authorize the issuance of common stock. However, it cannot amend the certificate of incorporation or the company's by-laws, adopt agreements of merger/consolidation or propose the sale or other disposition of substantially all of company's assets or the dissolution of the company. It is not allowed to fill vacancies on the board, but it can recommend nominees. In some cases the Executive Committee is responsible for reviewing the strategic planning process.

The *Finance Committee* (strategy) generally reviews and makes recommendations on current and long-range financial strategy and planning (also for subsidiaries), including capital structure issues, dividend policies, investment and debt policies, asset and portfolio management and financial transactions.

The *Human Resource Committee* (stakeholder interest) generally reviews and recommends policies concerning employment-related matters. In some cases it may deal with CEO succession.

The *International Committee* (strategy) deals with international issues pertaining to company affairs.

The *Nominating Committee* (monitoring) generally considers the size and composition of the board. It reviews and recommends candidates for election as directors. It reviews criteria for selecting directors and may consult with management regarding committee assignments. The Nominating Committee may or may not have a formal submission process for nominations by shareholders.

The *Non-Managing Director Committee* (monitoring) is a committee that is set up to enable outside directors to discuss the affairs of the board without the presence of inside directors.

The *Proxy Committee* (stakeholder interest) votes the proxies at the annual shareholder meeting.

The *Public Policy Committee* (stakeholder interest) generally reviews corporate contributions, employee safety and health and environmental issues. It may also review pertinent international social and political issues.

The *Stock Option Committee* (monitoring) administers stock option plans for employees, in particular management.

The *Strategy Committee* (strategy) generally reviews long-term strategic objectives and goals of the firm and external and internal issues related to these goals. It may, for example, review acquisitions. It may also consider the relationship between company strategy and issues pertaining to economics, the government, regulation, sustainable development, community affairs and stockholder relations.

The *Succession Committee* (monitoring) deals with CEO succession planning.

The *Technology Committee* (strategy) generally reviews the technology strategies and initiatives of the company and its subsidiaries. It also identifies and assesses significant technological issues and needs affecting the company.

**Appendix Table 1: % of sample firms with a committee of a given type**

The fact that not all companies have audit committees is partially a result of naming conventions and task sharing amongst committees. For example, Monsanto had no audit committee but it had a finance committee that also performed the functions of the audit committee. On the other hand, although it disclosed information on other committees, Sysco Corp did not disclose that it had an audit committee.

Committee Type	Frequency
Audit (monitoring)	99.43%
Compensation (monitoring)	99.15%
Executive (strategy)	57.67%
Nominating (monitoring)	51.42%
Finance (strategy)	35.51%
Public Policy (strategy)	24.72%
Corporate Governance (monitoring)	24.43%
Employee Investment/Pension (stakeholder interest)	13.64%
Strategy (strategy)	8.81%
Stock Option (monitoring)	3.98%
Technology (strategy)	3.41%
Acquisition (strategy)	2.56%
Environment (stakeholder interest)	2.56%
Non-Managing Director (monitoring)	1.99%
Proxy (stakeholder interest)	1.14%
Human Resources (stakeholder interest)	1.14%
Succession (monitoring)	0.85%
International (strategy)	0.85%
Contributions (stakeholder interest)	0.57%
Employee Stock Purchase (stakeholder interest)	0.28%

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**Table 1: Summary statistics for select firm and board characteristics of 352 Fortune 500 Firms in 1998**

The sample consists of data for fiscal 1998 on Fortune 500 firms (excluding financial firms and utilities) for which proxy statements for the 1999 proxy season could be obtained. Financial data is from Compustat and CRSP. Data on year of incorporation was taken from Moody's Manual. Volatility is the standard deviation of monthly stock returns from 1993-1998. The number of business segments is from Compustat and is equal to the number of 4-digit SIC code segments the firm operates in. All governance characteristics were collected from proxies. Board size is the number of directors sitting on the board at the beginning of fiscal 1998, which I calculate as the number of directors standing for election in 1999, plus the number of directors that were described as having left the board during the year or who were not standing for reelection, minus the number of directors that were newly nominated in 1999. The number of observations varies because of missing data.

<b>Variable</b>	<b>Obs</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
<i>Firm Characteristics</i>					
Assets in millions	350	12,701	28,562	717.770	355,935
Ln(Assets)	350	8.786	1.029	6.576	12.783
Capital Expenditures/Sales	341	0.068	0.061	0	0.345
Firm age in years	352	54.969	35.630	0	146
Volatility	350	0.273	0.111	0	0.795
Number of Segments	349	2.696	1.768	1	10
<i>Board Characteristics</i>					
Board size	352	11.301	2.777	4	22
# Board meetings	352	7.574	3.002	2	22
# Committees	352	4.369	1.388	1	9
<i>Committee Characteristics</i>					
Committee Size	1542	4.534	1.689	1	14
# Committee Meetings	1542	3.315	2.318	0	20
<i>Director Compensation</i>					
Annual Cash Retainer in \$	352	25,466	13,281	0	85,000
Cash Meeting Fee for Scheduled Board Meetings in \$	352	1,023	764	0	5,000

**Table 2: Summary statistics for director compensation devoted to different board functions**

Compensation and committee data is taken from proxy statements for the 1999 proxy season. The value of option grants to directors in firms who do not disclose their value is calculated using Black-Scholes, assuming continuously paid dividends, a term of 7 years and using estimates of firm volatility, dividend-yield and the risk-free rate from ExecuComp 2000. Since directors are elected at the annual meeting I use the market price of the company's stock at the end of the month of the company's annual meeting as the exercise price of the option as well as the price at which stock is granted to directors. I assume that insiders are implicitly compensated for their work on the board and include them in the calculation of compensation paid for board work. All compensation measures are listed in thousands of \$. TOTAL COMPENSATION is the total amount the company paid for board work during fiscal 1998 and is the sum of all committee compensation and the value of annual retainers and board meeting fees. MONITORING COMPENSATION is the amount the firm paid for the work of the audit, compensation, corporate governance, nominating, non-management director, succession and stock option committees. STRATEGY COMPENSATION is the amount the firm paid for the work of the executive, strategy, technology, finance, acquisition and international committees. STAKEHOLDER COMPENSATION is the amount the firm paid for the work of the public policy, environment, contributions, human resource, proxy, employee investment and employee stock option committees. Two firms paid no compensation on an annual basis.

Variable	Obs	Mean	Std. Dev.	Min	Max
LN(TOTAL COMP.)	350	6.77	0.75	3.89	9.64
TOTAL COMP.	351	1,166.68	1,257.55	0.00	15,391.68
Fraction of Firms that pay MONITORING COMP.	352	0.89	0.31	0.00	1.00
MONITORING COMP.	352	63.90	64.14	0.00	602.65
MONITORING COMP./TOTAL COMP.	350	0.08	0.08	0.00	1.00
<i>if MONITORING COMP. &gt; 0</i>					
MONITORING COMP.	315	71.41	63.72	4.50	602.65
MONITORING COMP./TOTAL COMP.	315	0.09	0.08	0.00	1.00
Fraction of Firms that pay STRATEGY COMP.	352	0.61	0.49	0.00	1.00
STRATEGY COMP.	352	25.01	52.88	0.00	600.00
STRATEGY COMP./TOTAL COMP.	350	0.03	0.05	0.00	0.33
<i>if STRATEGY COMP. &gt; 0</i>					
STRATEGY COMP.	214	41.14	62.78	1.00	600.00
STRATEGY COMP./TOTAL COMP.	214	0.04	0.05	0.00	0.33
Fraction of Firms that pay STAKEHOLDER COMP.	352	0.34	0.47	0.00	1.00
STAKEHOLDER COMP.	352	7.83	16.30	0.00	120.00
STAKEHOLDER COMP./TOTAL COMP.	350	0.01	0.02	0.00	0.11
<i>if STAKEHOLDER COMP. &gt; 0</i>					
STAKEHOLDER COMP.	120	22.97	20.80	2.00	120.00
STAKEHOLDER COMP./TOTAL COMP.	120	0.03	0.02	0.00	0.11

**Table 3: OLS regressions of LN(TOTAL COMPENSATION) on firm characteristics and industry dummies**

The dependent variable is the natural logarithm of TOTAL COMPENSATION, measured in thousands of \$, which is a proxy for the total effort level of the board. Firm characteristics are the natural logarithm of the book value of assets, measured in millions, as a proxy for firm size, capital expenditure over sales as a proxy for firm growth, the number of years since the firm's incorporation as a proxy for firm age, volatility, calculated as the standard deviation of monthly stock returns from 1993-1998, as a proxy for uncertainty, and the number of 4-digit SIC segments the firm operates in as a proxy for diversification. Column II includes dummy variables for the firms' 1-digit SIC codes. The excluded industry is Agriculture. Robust t-statistics are in parentheses. Asterisks indicate significance at 0.01 (\*\*\*) , 0.05 (\*\*), and 0.10 (\*) levels.

Independent Variables	Dependent Variables	
	LN(TOTAL COMPENSATION)	LN(TOTAL COMPENSATION)
	I	II
Ln(assets)	0.305*** (6.76)	0.292*** (6.33)
Capital Expenditures/Sales	0.072 (0.11)	-0.024 (-0.03)
Firm age	-0.001 (-0.61)	-0.001 (-0.57)
Volatility	1.151** (2.57)	1.211*** (2.63)
Number of Segments	-0.030 (-1.35)	-0.042* (-1.93)
Constant	3.887*** (9.54)	3.473*** (9.02)
Mining Industry Dummy		0.207 (0.90)
Construction Industry Dummy		1.307** (2.51)
Manufacturing Industry Dummy		0.604*** (7.76)
Transportation & Public Utilities Industry Dummy		0.548*** (3.51)
Wholesale Trade Industry Dummy		0.340** (2.31)
Retail Trade Industry Dummy		0.385** (2.44)
Finance, Insurance & Real Estate Industry Dummy		0.506** (2.38)
Services Industry Dummy		0.749*** (3.67)
Number of obs	337	337
F-statistic	12.22	.
R-squared	0.1510	0.1834

**Table 4: Tobit regressions of compensation the firm paid the board for its different functions on firm characteristics and industry dummies**

MONITORING COMPENSATION, STRATEGY COMPENSATION and STAKEHOLDER COMPENSATION (in thousands of \$) are proxies for the effort the board devoted to monitoring, strategic issues and stakeholder interests in 1998. Firm characteristics are as in Table 3. Columns IV-VI replicate Columns I-III with 1-digit SIC industry dummies. The firm in Agriculture was dropped and the dummy for Mining excluded. Robust z-statistics are in parentheses. Marginal effects are in square brackets. Asterisks indicate significance at 0.01 (\*\*\*), 0.05 (\*\*), and 0.10 (\*) levels.

Independent Variables	Dependent Variables					
	MONITORING COMP.	STRATEGY COMP.	STAKEHOLDER COMP.	MONITORING COMP.	STRATEGY COMP.	STAKEHOLDER COMP.
	I	II	III	IV	V	VI
Ln(assets)	10.328** [8.416] (2.34)	6.534 [3.375] (1.24)	6.921** [2.205] (2.55)	9.063** [7.426] (2.06)	7.033 [3.643] (1.32)	7.319*** [2.306] (2.63)
Capital Expenditures/Sales	3.403 [2.773] (0.06)	149.573 [77.256] (1.24)	77.417** [24.662] (2.01)	-27.262 [-22.338] (-0.41)	174.024 [90.140] (1.09)	110.648*** [34.858] (2.70)
Firm age	0.041 [0.034] (0.33)	0.13 [0.067] (0.99)	0.259*** [0.082] (3.88)	0.051 [0.042] (0.40)	0.129 [0.067] (1.07)	0.213*** [0.067] (3.21)
Volatility	-16.880 [-13.755] (-0.45)	-35.012 [-18.084] (-0.92)	-27.491 [-8.757] (-1.11)	-12.928 [-10.593] (-0.34)	-33.898 [-17.558] (-0.86)	-25.882 [-8.154] (-1.15)
Number of Segments	4.800** [3.912] (2.12)	2.908 [1.502] (1.20)	0.885 [0.282] (0.57)	4.179* [3.424] (1.79)	1.886 [0.977] (0.74)	0.277 [0.087] (0.18)
Constant	-40.647 (-1.16)	-70.044 (-1.59)	-90.231*** (-3.46)	58.068 (0.99)	-118.116* (-1.92)	-69.392** (-2.49)
Construction Industry Dummy				-61.253 [-41.206] (-0.99)	107.343** [81.694] (2.49)	-9.685 [-2.552] (-0.39)
Manufacturing Industry Dummy				-82.649* [-67.585] (-1.81)	46.539 [23.605] (1.23)	-17.842*** [-5.813] (-2.80)
Transportation & Public Utilities Industry Dummy				-79.278* [-52.783] (-1.71)	38.13 [22.781] (1.07)	-35.449*** [-6.739] (-3.98)
Wholesale Trade Industry Dummy				-90.838** [-57.383] (-1.96)	46.945 [29.064] (1.17)	-21.266** [-4.849] (-2.14)
Retail Trade Industry Dummy				-111.384** [-68.130] (-2.41)	36.712 [21.618] (0.94)	-31.699*** [-6.600] (-3.66)
Finance, Insurance & Real Estate Industry Dummy				-58.36 [-39.930] (-1.13)	47.375 [30.244] (1.07)	-6.326 [-1.781] (-0.48)
Services Industry Dummy				-74.612 [-49.340] (-1.45)	49.466 [31.135] (1.13)	-33.478*** [-6.174] (-2.72)
Number of obs	339	339	339	338	338	338
Uncensored obs	305	210	115	304	210	115
Left-censored obs at 0	34	129	224	34	128	225
Wald Chi-Squared	29.13	12.90	38.09	52.64	34.62	69.84

**Table 5: Tobit regressions using the fraction of total compensation the firm paid the board for its different functions**

Firm characteristics are as in Table 3. Columns IV-VI replicate Columns I-III with 1-digit SIC industry dummies as in Table 4. Robust z-statistics are in parentheses. Marginal effects are in square brackets. Asterisks indicate significance at 0.01 (\*\*\*), 0.05 (\*\*), and 0.10 (\*) levels.

Independent Variables	Dependent Variables					
	MONIT. COMP./ TOTAL COMP.	STRATEGY COMP./ TOTAL COMP.	STAKEH. COMP./ TOTAL COMP.	MONIT. COMP./ TOTAL COMP.	STRATEGY COMP./ TOTAL COMP.	STAKEH. COMP./ TOTAL COMP.
	I	II	III	IV	V	VI
Ln(assets)	-0.011** [-0.008] (-2.07)	0.003 [0.002] (0.63)	0.005* [0.002] (1.87)	-0.008 [-0.006] (-1.50)	0.004 [0.002] (0.77)	0.006** [0.002] (2.02)
Capital Expenditures/Sales	0.010 [0.008] (0.11)	0.131* [0.073] (1.73)	0.114*** [0.037] (2.69)	0.018 [0.015] (0.17)	0.152 [0.084] (1.51)	0.154*** [0.050] (3.48)
Firm age	-2.400E-05 [-1.920E-05] (-0.13)	1.519E-04 [8.440E-05] (1.29)	2.751E-04*** [9.010E-05] (3.68)	-2.430E-05 [-1.96E-05] (-0.13)	1.304E-04 [7.270E-05] (1.12)	2.155E-04*** [7.000E-05] (2.89)
Volatility	-0.105* [-0.084] (-1.71)	-0.005 [-0.003] (-0.1)	-0.019 [-0.006] (-0.57)	-0.109* [-0.088] (-1.76)	-0.005 [-0.003] (-0.08)	-0.017 [-0.006] (-0.54)
Number of Segments	0.007*** [0.006] (2.66)	0.004 [0.002] (1.49)	0.001 [4.019E-04] (0.72)	0.007** [0.005] (2.32)	0.003 [0.002] (1.08)	4.788E-04 [1.566E-04] (0.28)
Constant	0.178*** (3.47)	-0.044 (-0.92)	-0.085*** (-2.88)	0.284*** (5.17)	-0.08 (-1.21)	-0.054* (-1.75)
Construction Industry Dummy				-0.106* [-0.064] (-1.64)	0.071 [0.053] (1.60)	-0.018 [-0.004] (-0.65)
Manufacturing Industry Dummy				-0.128*** [-0.102] (-4.37)	0.032 [0.018] (0.85)	-0.028*** [-0.010] (-7.08)
Transportation & Public Utilities Industry Dummy				-0.124*** [-0.076] (-3.96)	0.024 [0.015] (0.64)	-0.049*** [-0.009] (-5.92)
Wholesale Trade Industry Dummy				-0.079* [-0.054] (-1.87)	0.038 [0.025] (0.95)	-0.029*** [-0.006] (-2.96)
Retail Trade Industry Dummy				-0.147*** [-0.087] (-4.77)	0.021 [0.013] (0.55)	-0.044*** [-0.009] (-5.75)
Finance, Insurance & Real Estate Industry Dummy				-0.092** [-0.058] (-2.06)	0.029 [0.019] (0.67)	-0.018 [-0.004] (-1.31)
Services Industry Dummy				-0.142*** [-0.080] (-4.38)	0.020 [0.012] (0.49)	-0.048*** [-0.008] (-3.89)
Number of obs	337	337	337	336	336	336
Uncensored obs	305	210	115	304	210	115
Left-censored obs at 0	32	127	222	32	126	221
Wald Chi-Squared	17.14	11.34	39.82	43.84	17.67	230.78

**Table 6: OLS regressions of MEETING UNITS and COMP. PER MEETING UNIT on firm characteristics and industry dummies**

The dependent variables are the natural logarithm of MEETING UNITS, which is a proxy for the total quantity of the effort the board devoted to its activities during 1998, and the natural logarithm of COMP. PER MEETING UNIT, measured in thousands of \$ per meeting unit, which is a proxy for the quality of the board's effort. Firm characteristics are as in Table 3. Columns III-IV include dummy variables for the firms' 1-digit SIC codes. The excluded industry is Agriculture. Robust t-statistics are in parentheses. Asterisks indicate significance at 0.01 (\*\*\*), 0.05 (\*\*), and 0.10 (\*) levels.

Independent Variables	Dependent Variables			
	LN(MEETING UNITS)	LN(COMP. PER MEETING UNIT)	LN(MEETING UNITS)	LN(COMP. PER MEETING UNIT)
	I	II	III	IV
Ln(assets)	0.169*** (6.54)	0.135*** (2.66)	0.162*** (6.32)	0.128** (2.51)
Capital Expenditures/Sales	0.463 (1.20)	-0.398 (-0.58)	0.109 (0.28)	-0.134 (-0.18)
Firm age	0.002*** (3.37)	-0.003** (-2.51)	0.003*** (4.25)	-0.004*** (-2.78)
Volatility	0.064 (0.28)	1.054** (1.97)	0.029 (0.14)	1.153** (2.21)
Number of Segments	0.026* (1.84)	-0.057** (-2.11)	0.027* (1.89)	-0.069*** (-2.75)
Constant	3.243*** (12.85)	0.670 (1.46)	2.423*** (10.52)	1.081** (2.51)
Mining Industry Dummy			0.943*** (8.39)	-0.735*** (-4.84)
Construction Industry Dummy			0.908*** (3.02)	0.399 (0.49)
Manufacturing Industry Dummy			0.866*** (17.21)	-0.260*** (-3.05)
Transportation & Public Utilities Industry Dummy			1.040*** (11.30)	-0.493*** (-3.15)
Wholesale Trade Industry Dummy			1.005*** (15.30)	-0.672*** (-4.75)
Retail Trade Industry Dummy			0.696*** (9.14)	-0.311* (-1.95)
Finance, Insurance & Real Estate Industry Dummy			1.501*** (13.57)	-0.996*** (-4.34)
Services Industry Dummy			0.818*** (7.63)	-0.071 (-0.31)
Number of obs	339	337	339	337
F-Statistic	21.64	4.65	.	.
R-squared	0.2748	0.0794	0.3623	0.1383

**Table 7: OLS regressions of MONITORING COMP., MONITORING MEETING UNITS and COMP. PER MONITORING MEETING UNIT on firm characteristics and industry dummies**

The dependent variables are MONITORING COMP, which is a proxy for the total effort the board devotes to monitoring, MONITORING MEETING UNITS, which is a proxy for the total quantity of effort the board devoted to monitoring, and COMP. PER MONITORING MEETING UNIT, measured in thousands of \$ per monitoring meeting unit, which is a proxy for the quality of the board's effort. Firm characteristics are as in Table 3. Columns IV-VI include dummy variables for the firms' 1-digit SIC codes. The excluded industry is Agriculture. Robust t-statistics are in parentheses. Asterisks indicate significance at 0.01 (\*\*\*), 0.05 (\*\*), and 0.10 (\*) levels.

Independent Variables	Dependent Variables					
	MONITORING COMP.	MONITORING MEETING UNITS	COMP. PER MONIT. MEET. UNIT	MONITORING COMP.	MONITORING MEETING UNITS	COMP. PER MONIT. MEET. UNIT
	I	II	III	IV	V	VI
Ln(assets)	11.757*** (2.86)	9.757*** (5.95)	0.011 (0.11)	10.609*** (2.59)	9.208*** (5.68)	-4.964E-4 (-0.01)
Capital Expenditures/Sales	-16.454 (-0.31)	-21.076 (-0.84)	-0.021 (-0.02)	-40.683 (-0.66)	-44.849* (-1.67)	-0.417 (-0.29)
Firm age	0.003 (0.02)	0.082** (1.98)	-0.002 (-0.49)	0.005 (0.04)	0.111*** (2.67)	-0.001 (-0.45)
Volatility	-7.013 (-0.22)	11.284 (0.88)	-0.641 (-0.92)	-2.221 (-0.07)	7.755 (0.63)	-0.376 (-0.49)
Number of Segments	4.485** (2.13)	0.865 (0.95)	0.050 (1.03)	3.876* (1.78)	1.190 (1.27)	0.029 (0.54)
Constant	-47.809 (-1.53)	-45.790*** (-3.38)	1.382** (1.99)	-72.721** (-2.44)	-69.222*** (-5.49)	1.370** (2.19)
Mining Industry Dummy				119.335** (2.56)	61.107*** (5.11)	0.449 (1.24)
Construction Industry Dummy				58.709 (1.40)	32.078* (1.94)	0.150 (0.48)
Manufacturing Industry Dummy				39.809*** (4.52)	26.181*** (9.76)	0.183 (0.91)
Transportation & Public Utilities Industry Dummy				40.865*** (2.69)	38.064*** (6.45)	0.113 (0.30)
Wholesale Trade Industry Dummy				31.311*** (3.17)	31.557*** (6.50)	0.022 (0.07)
Retail Trade Industry Dummy				13.852 (1.25)	23.425*** (5.23)	-0.408 (-1.42)
Finance, Insurance & Real Estate Industry Dummy				56.600** (2.08)	61.342*** (3.61)	-0.322 (-0.78)
Services Industry Dummy				47.208** (2.03)	24.167*** (4.62)	0.835 (0.99)
Number of obs	339	339	339	339	339	339
F-Statistic	6.70	17.44	0.78	.	.	.
R-squared	0.0654	0.1778	0.0050	0.0987	0.2459	0.0331

**Table 8: OLS regressions of STRATEGY COMP., STRATEGY MEETING UNITS and COMP. PER STRATEGY MEETING UNIT on firm characteristics and industry dummies**

The dependent variables are STRATEGY COMP, which is a proxy for the total effort the board devoted to strategy, STRATEGY MEETING UNITS, which is a proxy for the total quantity of effort the board devoted to strategy, and COMP. PER STRATEGY MEETING UNIT, measured in thousands of \$ per strategy meeting unit, which is a proxy for the quality of the board's effort. Firm characteristics are as in Table 3. Columns IV-VI include dummy variables for the firms' 1-digit SIC codes. The excluded industry is Agriculture. Robust t-statistics are in parentheses. Asterisks indicate significance at 0.01 (\*\*\*) , 0.05 (\*\*), and 0.10 (\*) levels.

Independent Variables	Dependent Variables					
	STRATEGY COMP.	STRATEGY MEETING UNITS	COMP. PER STRATEGY MEETING UNIT	STRATEGY COMP.	STRATEGY MEETING UNITS	COMP. PER STRATEGY MEETING UNIT
	I	II	III	IV	V	VI
Ln(assets)	4.215 (1.06)	1.985 (1.62)	-0.064 (-0.32)	4.640 (1.15)	1.960 (1.37)	-0.028 (-0.15)
Capital Expenditures/Sales	76.805 (0.81)	1.118 (0.05)	8.595 (1.29)	108.016 (0.83)	-11.533 (-0.54)	10.100 (1.13)
Firm age	0.029 (0.34)	0.072** (2.24)	0.002 (0.30)	0.029 (0.40)	0.089*** (2.86)	-0.001 (-0.21)
Volatility	-6.401 (-0.37)	-0.628 (-0.06)	-0.961 (-1.10)	-5.041 (-0.27)	-0.537 (-0.05)	-1.015 (-1.16)
Number of Segments	1.846 (1.21)	1.070 (1.21)	0.091 (0.93)	1.197 (0.74)	1.041 (1.13)	0.022 (0.28)
Constant	-21.398 (-0.68)	-9.933 (-0.91)	1.217 (0.83)	-47.180 (-1.52)	-28.543** (-2.27)	0.163 (0.12)
Mining Industry Dummy				-1.932 (-0.20)	6.968 (1.40)	0.325 (0.51)
Construction Industry Dummy				60.567*** (4.70)	22.730*** (3.15)	5.910* (1.69)
Manufacturing Industry Dummy				22.431*** (4.36)	17.895*** (6.43)	1.197*** (4.72)
Transportation & Public Utilities Industry Dummy				11.168 (0.72)	23.871*** (4.16)	0.516 (0.45)
Wholesale Trade Industry Dummy				22.571*** (2.77)	21.927*** (4.28)	0.823*** (2.60)
Retail Trade Industry Dummy				18.040* (1.92)	14.949*** (5.08)	0.746* (1.93)
Finance, Insurance & Real Estate Industry Dummy				18.955 (1.54)	25.275*** (3.42)	0.628 (1.12)
Services Industry Dummy				31.175* (1.76)	20.547*** (3.62)	0.237 (0.54)
Number of obs	339	339	320	339	339	320
F-Statistic	1.95	3.50	1.93	.	.	.
R-squared	0.0330	0.0562	0.0337	0.0451	0.0771	0.0640

**Table 9: OLS regressions of STAKEHOLDER COMP., STAKEHOLDER MEETING UNITS and COMP. PER STAKEHOLDER MEETING UNIT on firm characteristics and industry dummies**

The dependent variables are STAKEHOLDER COMP, which is a proxy for the total effort the board devoted to stakeholder interests, STAKEHOLDER MEETING UNITS, which is a proxy for the total quantity of effort the board devoted to stakeholder interests, and COMP. PER STAKEHOLDER MEETING UNIT, measured in thousands of \$ per stakeholder meeting unit, which is a proxy for the quality of the board's effort. Firm characteristics are as in Table 3. Columns IV-VI include dummy variables for the firms' 1-digit SIC codes. The excluded industry is Agriculture. Robust t-statistics are in parentheses. Asterisks indicate significance at 0.01 (\*\*\*), 0.05 (\*\*), and 0.10 (\*) levels.

Independent Variables	Dependent Variables					
	STAKEHOLDER COMP.	STAKEHOLDER MEETING UNITS	COMP PER STAKEHOLDER MEETING UNIT	STAKEHOLDER COMP.	STAKEHOLDER MEETING UNITS	COMP PER STAKEHOLDER MEETING UNIT
	I	II	III	IV	V	VI
Ln(assets)	2.734** (2.09)	1.054 (1.52)	0.200** (2.56)	2.942** (2.24)	1.116* (1.65)	0.199** (2.47)
Capital Expenditures/Sales	31.324 (1.61)	20.124* (1.66)	1.212 (1.07)	52.077** (2.27)	29.675** (2.09)	1.702 (1.37)
Firm age	0.089*** (3.73)	0.056*** (3.59)	0.005*** (3.30)	0.075*** (3.17)	0.050*** (3.13)	0.004*** (2.61)
Volatility	-5.951 (-1.07)	-3.949 (-1.09)	-0.576 (-1.42)	-5.740 (-1.05)	-4.080 (-1.16)	-0.509 (-1.27)
Number of Segments	0.887 (1.13)	0.454 (1.19)	-0.015 (-0.45)	0.640 (0.80)	0.334 (0.87)	-0.029 (-0.82)
Constant	-23.934** (-2.15)	-8.630 (-1.54)	-1.341** (-2.11)	-34.087*** (-3.08)	-15.358*** (-2.91)	-1.793*** (-2.90)
Mining Industry Dummy				17.421*** (5.37)	11.929*** (6.04)	1.382*** (3.00)
Construction Industry Dummy				14.472 (1.34)	11.124 (1.39)	0.530 (1.52)
Manufacturing Industry Dummy				9.948*** (4.34)	7.032*** (5.80)	0.634*** (5.31)
Transportation & Public Utilities Industry Dummy				1.337 (0.36)	3.111 (1.57)	0.289 (1.06)
Wholesale Trade Industry Dummy				10.164*** (3.76)	6.957*** (4.02)	0.491*** (3.88)
Retail Trade Industry Dummy				6.690*** (2.76)	5.164*** (3.97)	0.280** (2.22)
Finance, Insurance & Real Estate Industry Dummy				10.446** (2.54)	9.223*** (3.52)	0.510** (2.12)
Services Industry Dummy				5.707* (1.66)	4.620** (2.27)	0.268 (1.26)
Number of obs	339	339	339	339	339	339
F-Statistic	7.23	9.28	8.17	.	.	.
R-squared	0.1606	0.1523	0.1170	0.1867	0.1776	0.1438

**Table 10: Tobit Regressions of STRATEGY COMMITTEE COMPENSATION and PUBLIC POLICY COMMITTEE COMPENSATION on firm characteristics**

The dependent variables are STRATEGY COMMITTEE COMPENSATION, which is a proxy for the total effort the board devoted to the work of the strategy committee, and PUBLIC POLICY COMMITTEE COMPENSATION which is a proxy for the total effort the board devoted to the work of the public policy committee, both measured in thousands of \$. Firm characteristics are as in Table 3. Robust z-statistics are in parentheses. Marginal effects are in square brackets. Asterisks indicate significance at 0.01 (\*\*\*), 0.05 (\*\*), and 0.10 (\*) levels.

Independent Variables	Dependent Variables	
	STRATEGY COMMITTEE COMPENSATION	PUBLIC POLICY COMMITTEE COMPENSATION
	I	II
Ln(assets)	2.985 [0.203] (0.44)	7.319*** [1.519] (3.30)
Capital Expenditures/Sales	170.92 [11.649] (1.64)	66.415** [13.786] (2.06)
Firm age	-0.084 [-0.006] (-0.6)	0.180*** [0.037] (3.06)
Volatility	68.920* [4.697] (1.65)	-5.882 [-1.221] (-0.23)
Number of Segments	-4.657 [-0.317] (-1.24)	0.621 [0.129] (0.47)
Constant	-118.088* (-1.84)	-100.679*** (-4.49)
Number of obs	339	339
Uncensored obs	26	77
Left-censored obs at 0	313	262
Wald Chi-Squared	7.15	40.31