

# **An Examination of Board Meeting Frequency and CEO Characteristics: A Comparison of Dividend Paying and No-Dividend Firms**

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## **I. Introduction**

The monitoring role of corporate boards has been under close scrutiny by dissatisfied investors in recent years. The Institutional Shareholder Service, Inc., the Business Roundtable, and the National Association of Corporate Directors advocate many suggestions regarding how to improve corporate governance. In line with the proposed corporate governance reforms, the board meeting frequency has important implications for corporate governance because it is easier and cheaper for a firm to change its board meeting activities than to change the size, composition, or ownership structure of board of directors.

In this research, we investigate the relation between board monitoring activities, measured by board meeting frequency, and various firm and CEO characteristics under differential dividend payout policies. According to Jensen (1993), the board of directors should, in general, stay inactive. However, when problems arise, corporate boards are forced to be more active in response. Vafeas (1999) empirically studies the connection between board meeting frequency and firm performance. The results show weak evidence that board meeting frequency increases with the number of directorships held by independent directors; moreover, corporate boards that meet more frequently are valued less by the market. However, the association between the intensity of board meetings and characteristics of CEOs is not addressed in Vafeas (1999).

Overlooking the relation between board monitoring and CEO characteristics can lead to misspecification problem because board meeting agenda and coverage are usually proposed by CEOs. Hermalin and Weisbach's (1998) theory suggests that CEO influence over corporate boards increases with the CEO's tenure in the firm. Fluck and Khanna (2006) propose a model that active board monitoring can reduce executive compensation, and shareholders will be better off under an optimally compensated CEO with inactive corporate board. In a recent research, Boone et al. (2007) find that board independence is negatively related to the power of a CEO and is positively related to the constrains on the CEO's influence. In our research, we try to address the important association between board monitoring and firm and CEO characteristics explicitly for the era before the introduction of Sarbanes-Oxley in July 2002.

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Brick and Chidambaran (2005) document that board monitoring is negatively associated with firm risk. They conclude that the composition of corporate boards is endogenously determined as a function of firm characteristics. Using a different framework, we investigate the direct connection between the level of board monitoring and the CEO characteristics under managerial entrenchment hypothesis.

Due to costly shareholders' activism, managers can entrench themselves in many ways. Entrenched managers can only be disciplined or replaced at some cost to the shareholders. A growing literature examines the mechanisms through which managers entrench themselves (Stulz (1988) and Shleifer and Vishny (1989)), and also studies the implications of such entrenchment (e.g., Stulz (1990), Zwiebel (1996), and Fluck (1999)). As illustrations, Fluck (1999) shows that, in equilibrium, managers pay the minimal level of dividend payout that just forestalls "punishment" by shareholders through costly control challenges. Other things being equal, the minimal (or protection) level of payout is lower for highly entrenched managers, when the level of entrenchment is negatively related to the likelihood of successful control challenges.

As shown in Fama and French (2001), firms that have never paid dividends tend to have higher quality investment opportunity sets compared to dividend-paying firms. Moreover, Hu and Kumar (2004) find systematic differences between dividend-paying firms and non-dividend firms. In short, dividend-paying firms are larger and older; in addition, CEOs in dividend paying firms tend to be more entrenched and hence more likely to engage in empire-building behaviors. Incentive compensation contracts can reduce the nefarious consequences of entrenchment, *ceteris paribus* (Lewellen et al. (1987) and Zhou (2001)). Thus, ignoring incentive compensation and firm dividend policies in studying board activities could lead to a specification bias. We therefore extend the theoretical framework to include a negative relation between board meeting frequency and stock based managerial incentives. According to Raheja (2005), board structure will change along with a firm's life cycle. This may be due to the amount of public information of the firm or the verification cost of the firm's investment projects decreases as the firm matures. Hence in our research, we also study the effect of firm size and past performance.

We have several distinctive elements in this research. First, we provide evidence regarding the connection between corporate governance, and firm and CEO characteristics under the managerial entrenchment hypothesis. We find that board meeting frequency is significantly and negatively associated with the likelihood of non-value-maximizing behavior by top-management. Other things held equal, firms exhibiting greater CEO power attributes, such as longer CEO tenure and larger amount of compensation paid in cash salary and bonus — are significantly less likely to hold board meetings. Such firms are also larger, have better performance records and more intangible assets. Second, we test the effect of firm dividend policy with respect to board activities, measured by board meeting frequency, explicitly. Third, we also investigate the interaction between industry groups and dividend policies and their influence on board meeting frequency. Our evidence shows that board meeting frequency is significantly different between firms that pay dividends and those that do not pay dividends. In addition, annual board meetings held in different industry groups are different significantly.

Overall, our model of the basic board meeting frequency based on the corporate governance under managerial entrenchment perspective does remarkably well in addressing board activities in our sample of firms from 1992 through 2000. We also find that CEO duality does significantly affect the likelihood of board meeting frequency. This result suggests that the negative association between CEO duality and board meeting frequency (Vafeas (1999)) appears to be essentially a small-sample phenomenon. Meanwhile, CEO stock options and CEO long-term incentive plan are significant determinants of board meeting frequency for firms in traditional industries, but not significant determinants for high-tech firms – a phenomenon that has not been address by academic research.

Moreover, the firm past performance, tenure of a CEO and CEO stock-based compensation have a much weaker influence on the board meeting frequency for firms award CEO service credit. Thus, the negative relation of firm performance to board meeting frequency is not as general as suggested by the literature.

Our analysis extends and refines the growing literature on the topic of corporate board activities. We study the interaction between firm dividend policies and managerial incentive compensations and their direct relation to the board meeting frequency. We find that, along with firm size and firm performance, CEO tenure and stock-based incentive compensation affects the board meeting frequency. We also find that CEO stock options and long-term incentive plans have different effects for firms in high-tech industries than for firms in traditional industries in this research. Thus, the negative relation of executive incentive compensation and board meeting frequency documented in the literature (Vafeas (1999)) does not hold across industries. Finally, we examine the relative influence of executive stock options exercised on the board meeting frequency, an important factor generally not emphasized in the literature.

The rest of the paper is organized as follows. Section II sets up the empirical test design and testable hypotheses. Section III describes the data and the sample. Section IV presents the results of the Tobit regressions, and Section V concludes.

## **II. Empirical Test Design**

Consistent with the theoretical literature (e.g., Stulz (1988), Zwiebel (1996), Fluck (1999)), our empirical test design relates the number of board meetings to the notion of managerial-types. The manager's type is quantified as being proportional to the likelihood of value-maximizing behavior. More productive managers have a higher likelihood of taking value-maximizing investment decisions due to some combination of having better growth opportunities, being less entrenched, and having better incentive alignment with shareholder interests. Conversely, less productive managers are less likely to take value-maximizing investment decisions due to some combination of having inferior investment opportunities, being more entrenched, and having poor incentive alignment with shareholder interests.

We model the unobservable managerial type in a manner that facilitates econometric implementation of the entrenchment model. The unobservable managerial entrenchment is denoted by a real-valued parameter  $t^*$ . Higher  $t^*$ -values indicate more productive managers. The

managerial type  $t^*$  is readily related to the decision of proposing board meetings. The theoretical models predict a negative relation between the magnitude of board activities and the strength of the managerial type, conditional on the firm characteristics. Therefore, we estimate the following specification based on a Tobit model:

$$(1) \quad Y^* = \alpha_1 + \beta_1 t^* + \varepsilon_1$$

$$(2) \quad \log(\text{meetings}) = \begin{cases} Y^* & \text{if } Y^* > 0 \\ 0 & \text{if } Y^* \leq 0 \end{cases}$$

To accommodate non-linearity, we use logarithm of number of board meetings during a year as the dependent variable. We recognize Equation (1) as a univariate quantitative response model (see, e.g., Amemiya (1981)). It is appropriate for us to use Tobit model to conduct the empirical analysis, because of the censoring problem associated with the dependent variable. The hypothesis here is that the observed  $\log(\text{meetings})$  is a non-decreasing function of  $t^*$ .

To test the association between board meeting frequency and CEO incentive compensation, we have the empirical specification of the Tobit model based on the above two equations as:

$$(3) \quad \log(\text{meetings}) = \alpha_3 + \beta_3'X + \varepsilon_3$$

The vector  $X$  should include variables, taken to be exogenous in the short- to medium-run, that determine the strength of the managerial type. Since using end-of-the-period values are likely to overstate the explanatory power of the model in general, we take the beginning-of-the-year values for all independent variables introduced in this study. For both dividend-paying firms and no-dividend firms, we proxy the CEO's level of internal entrenchment and incentive compensation through the following five variables derived from the corporate governance literature.

*CEO Tenure:* This variable impacts managerial type in two ways. First, organizational theorists argue that tenure is positively related to the CEO's internal power (e.g., Finkelstein and Hambrick (1989)). Secondly, Murphy (1986, 1999) shows that CEOs nearing retirement have a shorter career horizon, relatively limited outside employment opportunity, and greater accumulated wealth tied to her equity interest in the firm. In addition, Berger et al. (1997) show that CEO tenure has significant effect on firm's debt policy. All these arguments suggest a positive association between tenure and the level of entrenchment. In our study, we calculate a CEO's tenure as the leaving date minus her inauguration date for a CEO who left her position during the sampling years. For continually serving CEOs, tenure is calculated as the difference between the end of the current reporting year and her inauguration date.

*logarithm of CEO salary and bonus:* Following Jensen and Murphy (1990), cash salary and bonus provide relatively low-powered incentives. Furthermore, recent evidence indicates that entrenched CEOs tend to have a large share of their compensation paid through non-contingent compensation (e.g., Core et al (1999)). Higher amount of a CEO's cash compensation (i.e., salary and bonus) in her annual compensation indicates the level of entrenchment of a manager.

*CEO stock ownership:* The CEO's personal stock ownership in the firm provides high-powered incentives. However, higher CEO stock ownership also appears to increase CEO power. For example, Denis et al. (1997) show that top-management ownership has a significant and negative impact on CEO replacement and turnover. In this study, we take the logarithm of market value of total shares owned by a CEO in the beginning of year  $t$  as a measure of top-management stock ownership.

*Executive stock options:* Executive stock options have become increasingly prominent means of delivering high-powered incentives to management. We consider the value of executive stock options awarded to the CEO in the beginning of year  $t$ <sup>1</sup>.

*Duality:* We include variables related to board structure that appear to enhance the CEO's internal power. We include a dummy variable to identify whether a CEO is also a chairman of the board (*Duality*). Jensen (1993) and Boyd (1994) argue that CEO "duality" diminishes the independence and effectiveness of the board in governing the CEO.

Since a manager's power in a firm is related to the characteristics of the firm, we also introduce firm attributes into our study. We use the logarithm of firm asset as a measure that indicates the stage of a firm's life cycle; we also calculate Return on Equity (ROE) in the previous two years as a proxy for the quality of investment opportunity set.

Next, we use the *asset structure*. This variable is introduced to control for differential structure of firms with different level of intangible assets. The measure is calculated as book value of property, plant and equipment divided by the book value of asset at the beginning of year  $t$ . Moreover, firm performance measures are introduced as return on equity (ROE) in previous two years (i.e., year  $t-1$  and year  $t-2$ ).

### III. Data and Sample Selection

#### A. Data

The data are taken from the 2001 S&P *ExecuComp* database. This database contains records of 3,746 top-managers from publicly traded companies that are included in various S&P indices, covering the period from 1992 to 2000. For each firm in the database, we take the annual board meeting frequency and compensation records for the CEO, and also obtain the firm's accounting and financial information from the S&P *Compustat* file. We include all firms in the *ExecuComp* database from 1992 through 2000, but exclude financial service (SIC code 4900 to 4999) corporations and utility (SIC code 6000 to 6999) corporations. The sample observations are separated into dividend-paying group and non-dividend group according to firms' ordinary dividend payment at the beginning of year  $t$ . Our final sample in this study consists of 6,330 firm-year records.

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<sup>1</sup> We use the method outlined in Murphy (1999) to calculate option values using the stated exercise price and year-end stock prices. Data required to execute calculations are typically disclosed, but for cases where details are omitted, vesting is assumed to occur two years after the grant, and the exercise period is assumed to be the same as that for the most recent option where an exercise period is provided.

## B. Sample Description

Panel A of Table 1 reports firm characteristics in terms of board meeting frequencies for both dividend-paying firms and non-dividend firms. Comparing to non-dividend firms, dividend-paying firms are larger, are more profitable, have more debts and tangible assets; meanwhile, firms holding board meetings more frequently are larger, more profitable, have more debt and tangible assets compared to firms holding board meetings less frequently. These findings are consistent with other studies (e.g., Vafeas(1999)). However, there is no linear relation between board meetings and the growth opportunities measured by market-to-book ratio.

Panel B of Table 1 reports CEO characteristics in terms of board meeting frequencies for both dividend-paying firms and non-dividend firms. On average, firms with more board meetings tend to have CEOs with shorter tenures, less cash compensation, more stock options, and owning more stocks. This fact is quite suggestive since the length of service in the firm is usually held to be positively associated with managerial entrenchment (e.g., Mace (1986) and Boyd (1994)). Meanwhile, CEOs with fewer board meetings have a compensation structure that is less sensitive to stock performance.

## IV. Results of Multivariate Analysis

To address the non-linear relationship in the model, we use logarithm of number of board meetings in year  $t$  as dependent variable. We estimate the Tobit model given in Equation (4) above, assuming a symmetric distribution of the random disturbance  $\varepsilon_3$ . We parameterize  $F(\varepsilon_3)$  as the cumulative distribution functions of the normal distributions. Note that Equation (4) gives the likelihood of board meeting frequencies. Examining the right hand of side of this equation, we see that if the estimate for the coefficient of  $\beta_j$  for any independent variable  $X_j$  is positive (negative), then that variable is positively (negatively) related to the likelihood of holding board meetings.

### A. Analysis of the Baseline Model

Table 2 reports the results of our basic model. For both dividend-paying firms and non-dividend firms, we find that the likelihood of board meetings is significantly related to firm and managerial characteristics, as predicted by the empirical framework. *Ceteris paribus*, the board meeting frequency decreases significantly with the length of CEO tenure, with the level of CEO total cash compensation (i.e., salary and bonus), and stock ownership. All of these factors are significant at the 1% level and are positively associated with the power of a CEO in the firm. These factors are indicators of managerial entrenchment. Conversely, for dividend-paying firms, the frequency of board meetings is positively associated with the level of executive stock options, the value of long-term incentive plans and CEO dualities (i.e., CEOs serve as chairpersons on the board). These effects are very different for non-dividend firms in our study. It is interesting to note that the level of executive stock options and the value of long-term incentive plans have a negative but insignificant connection to the board meeting frequency.

For both dividend-paying firms and non-dividend firms, we find that, board meeting frequency is positively related to firm size, measured by the book value of assets, and negatively related to firm performance, measured by return on equity (ROE), in the previous two years. These effects are consistent with results reported in Vafeas (1999). Interestingly, we also find that corporate boards tend to hold more meetings when CEOs exercise more stock options, and hold fewer meetings if firms hold less intangible assets though these effects are statistically insignificant.

Our new study shows that firm dividend policies have significant association with board activities, measured by board meeting frequency. It appears that dividend-paying firms tend to use performance based compensation plans more than non-dividend firms do. Our basic model is highly significant from the perspective of likelihood-ratio tests: the chi-square test-statistics have p-values less than 0.001, and McFadden pseudo- $R^2$  yields 26.2% for the pooled sample.

### **B. Effects of Industry Sectors**

For both dividend-paying firms and non-dividend firms, the most influential variables for the board meeting frequency in Table 2 are the size of firm, measured by book value of assets, CEO tenures, total cash compensations, and stock ownership of CEOs and recent firm performance, measured by ROE. We conjecture that these results are likely to be correlated with industry sectors of sample firms. Because of the impact of firm life cycle, firms in high-tech industries are more likely to have a greater proportion of asset value in growth opportunities. In addition, small firm CEOs have a significantly higher proportion of their compensation tied to firm performance in the form of executive option awards in our sample.

We test for the potential industry effects by estimating the baseline model of Table 2 separately for high-tech and traditional firm groups in the sample. The high-tech group is based on each observation's 4-digit NAICS code published by the Bureau of Censure. We identify 46 industry sectors as high-tech industries.

The results are reported in Table 3. In general, models for both high-tech firms and traditional firms perform at the same level as the baseline model. The most important finding here is that firm attributes and CEO compensation have different impacts on high-tech and traditional firms. The value of executive stock options can marginally increase the propensity of holding more board meetings for firms in traditional industries, this effect is significant at the 10% level. However, for high-tech firms, the effect of holding executive stock options is insignificant at all in our study. The differential impact of executive stock options awarded among high-tech firms and traditional firms has not been emphasized in existing literature, this effect needs further study.

In our analysis, CEOs that serve as chairpersons of corporate boards in traditional firms are likely to hold more meetings but this effect is not significant for corporations in high-tech industries. It is noteworthy that in contrast to traditional firms, high-tech firms that hold more physical assets tend to hold fewer board meetings (this effect is significant at the 10% level). This result has not been previously reported in the literature. One possible interpretation is that tangible assets can be an indicator of the firm's life cycle and managerial power in high-tech industries.

Corporate boards tend to play a more passive role in the relatively more mature high-tech firms, but this is not the case for firms in traditional industry sectors.

## V. Summary and Conclusions

The theoretical and empirical literature on corporate governance and managerial entrenchment makes a number of unambiguous predictions regarding corporate board activities. We examine these implications and differential characteristics between dividend-paying firms and non-dividend firms by considering firm attributes and managerial compensation contracts. The predictions are then that (*ceteris paribus*) the likelihood of board meeting frequency is negatively related to the level of managerial entrenchment and firm performance, but positively related to firm size set and the power of performance-based managerial incentives, regardless a firm's dividend policy. Since we generally face active managers in practice, we should consider the role of corporate board monitoring when managers are in control. In this case, our empirical framework under managerial entrenchment is distinct from traditional studies about board activities. In particular, we directly incorporate the strength of internal corporate governance mechanisms and firm characteristics in our study.

While our results support the theoretical predictions, we also find significant difference between dividend-paying firms and non-dividend firms regarding the board meeting frequency. In general, we find that factors related to managerial entrenchment levels have a significant explanatory power with respect to the propensity of holding board meetings for both dividend-paying firms and non-dividend firms, even controlling for the firm age, size, and the quality of investment opportunity set. However, performance-based managerial compensations have an opposite effect between the two groups of firms in our study. For non-dividend firms, the amount of executive stock options and long-term incentive plans show a negative but insignificant connection to board meeting frequency.

We also find that duality of CEOs can increase the likelihood of holding more board meetings and the weight of intangible assets do not significantly affect the likelihood of board meeting frequency. Our analysis extends and refines the growing literature on the relation of incentive compensation to corporate governance. Overall, our analysis confirms that corporate dividend policies are significant factors in the determination of the intensity of corporate board activities measured by board meeting frequency.

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**Table 1. Firm and CEO Attributes with respect to Board Meeting Frequencies, 1992~2000****Panel A. Firm Attributes and Board Meeting Frequency**

Variables	Observations	Dividend-Paying Firms			Observations	Non-dividend Firms		
		Mean	Median	Std. Dev		Mean	Median	Std. Dev
<b>Book value of assets (millions of dollars)</b>								
Less than 7 meetings	2170	2616.21	954.544	5124.04	1787	968.307	375.382	2711.19
7 to 12 meetings	1966	8034.02	2161.19	26495.8	1263	1659.51	540.080	3317.93
More than 12 meetings	171	11788.9	2475.15	23421.6	164	2384.14	651.536	4615.88
<b>Fraction of Tangible Assets</b>								
Less than 7 meetings	2170	0.627	0.588	0.348	1787	0.461	0.385	0.417
7 to 12 meetings	1966	0.689	0.623	0.370	1263	0.477	0.390	0.332
More than 12 meetings	171	0.695	0.654	0.409	164	0.429	0.311	0.320
<b>Return on Equity</b>								
Less than 7 meetings	2170	15.186	14.634	9.855	1787	4.149	12.160	103.578
7 to 12 meetings	1966	13.801	14.141	73.595	1263	-0.537	9.598	262.764
More than 12 meetings	171	8.385	10.188	19.972	164	27.668	7.122	390.083
<b>Debt-to-equity</b>								
Less than 7 meetings	2170	0.316	0.323	0.211	1787	0.251	0.191	0.252
7 to 12 meetings	1966	0.381	0.383	0.203	1263	0.297	0.251	0.545
More than 12 meetings	171	0.382	0.397	0.198	164	0.329	0.297	0.307
<b>Market-to-book value of equity</b>								
Less than 7 meetings	2170	3.269	2.445	4.107	1787	4.243	2.784	12.071
7 to 12 meetings	1966	3.722	2.436	6.113	1263	4.143	2.486	21.669
More than 12 meetings	171	3.028	2.247	2.611	164	3.781	2.631	4.269

**Table 1. Panel B. CEO Characteristics and Board Meeting Frequency**

Variables	Observations	Dividend-Paying Firms			Observations	Non-dividend Firms		
		Mean	Median	Std. Dev		Mean	Median	Std. Dev
<b>CEO Tenure (years)</b>								
Less than 7 meetings	2170	9.463	6.750	8.593	1787	9.346	7.583	7.286
7 to 12 meetings	1966	7.632	5.667	6.854	1263	7.854	6.000	6.376
More than 12 meetings	171	6.838	4.417	6.675	164	8.960	6.917	9.099
<b>Total Cash Compensation (thousands of dollars)</b>								
Less than 7 meetings	2170	1051.41	845.129	814.042	1787	803.251	602.967	820.586
7 to 12 meetings	1966	1325.97	1035.30	1217.03	1263	916.660	635.846	2620.99
More than 12 meetings	171	1179.80	828.677	1060.60	164	680.139	474.647	604.401
<b>Long-term incentive plans (thousands of dollars)</b>								
Less than 7 meetings	2170	123.812	0	526.832	1787	18.166	0	152.130
7 to 12 meetings	1966	276.381	0	1188.86	1263	59.140	0	538.016
More than 12 meetings	171	233.223	0	998.405	164	76.728	0	552.649
<b>CEO stock ownership (millions of dollars)</b>								
Less than 7 meetings	2170	57.101	6.474	25889.2	1787	13.026	6807.76	835527.2
7 to 12 meetings	1966	33.561	4.557	18782.3	1263	51.517	3352.71	38317.1
More than 12 meetings	171	9.641	3.333	17703.9	164	61.318	3354.31	18856.8
<b>Value of in-the-money options held by CEOs (millions of dollars)</b>								
Less than 7 meetings	2170	4.435	0.458	16963.9	1787	10.325	0.998	75136.5
7 to 12 meetings	1966	7.367	0.854	23831.7	1263	9.960	0.984	40521.8
More than 12 meetings	171	3.963	0.277	10262.2	164	14.650	0.514	68213.8

**Table 2. The effect of dividend payment on the likelihood of board meetings.**

We classify all observations into two groups based on annual dividend yield at the beginning of year  $t$ . We consider observations paying only ordinary cash dividends in this study. The Tobit model estimates are provided for the two groups of the sample. The value of  $t$ -statistic is reported in the parenthesis. McFadden *pseudo-R*<sup>2</sup> is calculated as  $1 - L_M/L_0$ , where  $L_M$  is the log-likelihood for the estimated model, and  $L_0$  is the log-likelihood in the model with only an intercept.

Explanatory variables	Predicted sign	Dividend-paying firms	Non-dividend firms	Pooled Sample
Intercept	—	1.597 (3.112)***	1.9214 (3.319)***	1.809 (4.889)***
CEO Tenure	Negative	-0.022 (-2.536)***	-0.056 (-4.679)***	-0.036 (-5.153)***
Total cash compensation	Negative	-0.021 (-2.633)***	-0.037 (-4.173)***	-0.0345 (-5.741)***
CEO stock ownership	Negative	-0.028 (-9.651)***	-0.014 (-4.267)***	-0.021 (-9.847)***
Executive stock options	Positive	0.006 (3.227)***	-0.002 (-0.978)	0.004 (2.549)***
Executive stock options exercised	Positive	0.001 (0.121)	0.001 (0.574)	0.001 (0.932)
Long-term incentive plan	Positive	0.005 (2.288)**	-0.003 (-0.461)	0.003 (1.583)
Return on equity in year t-1	Negative	-0.029 (-1.194)	-0.030 (-3.136)***	-0.034 (-4.190)***
Return on equity in year t-2	Negative	0.024 (0.933)	-0.001 (-0.240)	-0.001 (-0.301)
Value of assets	Positive	0.081 (17.20)***	0.068 (10.701)***	0.072 (19.708)***
Asset structure	?	0.037 (2.505)***	-0.039 (-1.990)*	-0.011 (-0.972)
Duality	?	0.069 (5.290)***	0.010 (0.632)	0.042 (4.133)***
Estimated Sigma		0.322	0.3742	0.347
Log Likelihood		-1069.34	-1154.03	-2304.045
Num. Of Observations		3698	2632	6330
Pseudo R <sup>2</sup>		28.6%	25.7%	26.2%

Asterisks \*, \*\*, \*\*\* indicate  $t$ -statistic significance at 10%, 5%, and 1% levels, respectively.

**Table 3. The effect of industry sectors on the likelihood of board meetings.**

We classify all observations into high-tech group and traditional industry group according to sample firms' four-digit NAICS code. We identify 46 industry sectors as hi-tech industry; all other observations are classified into traditional industry sector. The Tobit model estimates (cf. Table 2) are provided for the high-tech and traditional industries of the sample. The value of  $t$ -statistic is reported in the parenthesis. McFadden *pseudo-R*<sup>2</sup> is calculated as  $1 - L_M/L_0$ , where  $L_M$  is the log-likelihood for the estimated model, and  $L_0$  is the log-likelihood in the model with only an intercept.

Explanatory variables	Predicted sign	High-Tech Industries		Traditional Industries	
		Dividend-Paying Firms	Non-dividend Firms	Dividend-Paying Firms	Non-dividend Firms
Intercept	—	1.532 (1.79)*	1.959 (2.28)***	1.584 (2.45)***	1.852 (2.29)***
CEO Tenure	Negative	-0.017 (-1.08)	-0.035 (-2.07)**	-0.019 (-1.92)*	-0.075 (-4.34)***
Total cash compensation	Negative	-0.041 (-2.98)***	-0.035 (-2.52)***	-0.010 (-1.01)	-0.032 (-2.75)***
CEO stock ownership	Negative	-0.009 (-1.69)*	-0.013 (-2.89)***	-0.033 (-9.72)***	-0.016 (3.54)***
Executive stock options	Positive	0.006 (1.85)*	-0.003 (-1.04)	0.005 (2.38)***	-0.002 (-0.69)
Executive stock options exercised	Positive	-0.006 (-2.13)***	0.001 (0.56)	0.003 (1.29)	-0.001 (-0.52)
Long-term incentive plan	Positive	-0.003 (-0.91)	-0.007 (-0.60)	0.008 (3.14)***	0.001 (0.18)
Return on equity in year t-1	Negative	-0.046 (-1.10)	-0.017 (-1.40)	-0.026 (-0.89)	-0.036 (-2.39)***
Return on equity in year t-2	Negative	0.013 (0.38)	-0.013 (-1.17)	0.046 (1.16)	0.001 (0.26)
Value of assets	Positive	0.102 (12.81)***	0.058 (6.47)***	0.072 (12.38)***	0.075 (7.94)***
Asset structure	?	-0.034 (-1.60)	-0.026 (-0.68)	0.072 (3.53)***	-0.028 (-1.21)
Duality	?	0.054 (2.35)**	-0.011 (-0.49)	0.071 (4.51)***	0.044 (1.87)*
Estimated Sigma		0.297	0.375	0.329	0.368
Log Likelihood		-226.899	-561.296	-806.823	-554.544
Num. Of Observations		1102	1275	2596	1311
Pseudo R <sup>2</sup>		35.1%	21.9%	26.7%	30.3%

Asterisks \*, \*\*, \*\*\* indicate  $t$ -statistic significance at 10%, 5%, and 1% levels, respectively.