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DOES DELAWARE INCORPORATION AFFECT EXECUTIVE COMPENSATION? AN EMPIRICAL ANALYSIS

*Pornsit Jiraporn**, *Jullavut Kittiakarasakun*** and *Pandej Chintrakarn****

Abstract: Motivated by agency theory, this study attempts to ascertain whether chief executive compensation is influenced by legal rules. In particular, we analyze whether Delaware law has an impact on CEO pay. Legal rules have been argued to impact agency conflicts. Agency costs, in turn, affect CEO compensation. Thus, we contend that Delaware law influences CEO pay through their associations with agency problems. The empirical evidence corroborates this hypothesis, showing that Delaware firms pay their CEOs significantly more generously than do non-Delaware firms (about 36% higher in total compensation). Furthermore, Delaware firms exhibit significantly lower pay-performance sensitivity (almost 50% lower), implying that the higher pay more likely reflects rent expropriation rather than shareholder wealth maximization.

JEL Classifications: G34, G38

Keywords: CEO compensation, Delaware law, Delaware incorporation

I. INTRODUCTION

Delaware occupies a unique position as the state where most corporations are incorporated. This dominance has galvanized a great deal of debate over the costs and benefits of Delaware incorporation. Much of the debate is motivated by agency theory. Legal rules that tilt the balance of power towards managers exacerbate agency conflicts. On the other hand, corporate law more in favor of stockholders reduces agency problems. International variation in legal rules has been shown to affect firm value and ownership structure (LaPorta *et al.*, 1999).

Rather than examine variation across countries like La Porta *et al.* (1999), we concentrate on legal variation in the U. S. Specifically, we distinguish between the legal rules of Delaware and those elsewhere in the U. S. Furthermore, rather than focus on the impact of corporate law on broad firm performance, we narrowly concentrate on the effect of legal rules on executive

* Great Valley School of Graduate Professional Studies Pennsylvania State University and Thammasat University, Mahidol University, Chiang Mai University, and National Institute of Development Administration (NIDA), Thailand, *E-mail:* pjiraporn@gmail.com

** University of Texas at San Antonio, One UTSA Circle, San Antonio TX 78249, US, *E-mail:* jullavut.kittiakarasakun@utsa.edu

*** Mahidol University International College, 999 Phutthamonthon 4 Road, Salaya, Nakhonpathom, Thailand 73170, *E-mail:* pandorana@yahoo.com

compensation.¹ Research on CEO compensation constitutes a vital and unique strand of the finance literature. Murphy (1998) offers an exhaustive review of the literature in this area. The central theme of research in this area is grounded in agency theory, i.e. how compensation can be structured to minimize agency conflicts.

Legal rules can affect the extent of agency problems (Daines, 2001). Agency costs, in turn, influence how much and how CEO is compensated. Hence, we argue that CEO compensation is influenced by legal variation between Delaware and elsewhere in the U.S. If Delaware law exacerbates agency costs, the CEO may be able to extract private benefits at the expense of stockholders in the form of excessive pay (Bebchuk and Fried, 2003).² The empirical evidence in this study shows that CEOs of firms incorporated in Delaware receive more generous pay regardless of whether salary, cash compensation (salary + bonus) or total compensation is used to represent CEO pay and even after controlling for several firm-specific characteristics. Furthermore, when we extend our analysis to encompass not only CEOs but also other senior executives, the results remain similar. Senior executives of Delaware firms receive significantly higher pay than those of non-Delaware firms.

To determine whether the higher pay given to Delaware executives represents optimal contracting or rent expropriation, we also conduct an analysis on pay-performance sensitivity. The evidence reveals that pay-performance sensitivity is considerably lower for Delaware firms than for non-Delaware firms. Hence, we construe the more substantial pay in Delaware as reflecting rent-seeking behavior. Our results seem to be more consistent with the managerial power view (Bebchuk and Fried, 2003) and imply that Delaware law may exacerbate agency conflicts, leading to more rent extraction in the form of higher pay but lower pay-performance sensitivity.

Regulated firms are likely to suffer lower agency costs because regulation takes away a certain degree of managerial discretion (Booth, Cornett, and Tehrani, 2002, and Kole and Lehn, 1997, Jiraporn and Ning, 2006), making it more difficult for management to act counter to shareholders' interests. This additional monitoring may have implications for CEO pay. Hence, we explicitly differentiate between regulated and industrial (unregulated) firms in this study. The results show that, for regulated firms, although CEO pay is higher in Delaware, it is not less sensitive to firm performance than outside Delaware. We conjecture that the higher pay in regulated Delaware firms more likely does not reflect rent extraction but, rather, efficient contracting. The evidence seems to suggest the beneficial effect of regulation in mitigating agency costs.

At the intersections of law, economics, and finance, this study offers empirical results that enrich the literature in several ways. First, there is a great deal of debate over the costs and benefits of Delaware incorporation (Lipton and Rowe, 2002, Gilson 2002a, 2002b, Macey, 2002, Sitkoff, 2002, Grossfeld, 2002, Bebchuk and Ferrell, 2001, Bebchuk, Cohen, and Ferrell, 2002, Bar-Gill, Barzuza, and Bebchuk, 2001). This study aptly fits into this strand of the literature. Second, the literature in CEO compensation also benefits from this study as we show that CEO pay is significantly influenced by whether or not the firm is incorporated in Delaware. Third, we contribute to the literature in corporate law by demonstrating that legal variation across states in the U.S. does have a significant impact on firms.

The remainder of this study is organized as follows. Section II discusses the relevant previous studies and the hypothesis development. Section III presents the sample selection procedure and discusses the empirical data. Section IV displays and discusses the empirical results. Finally, Section V offers the concluding remarks.

II. PREVIOUS LITERATURE AND HYPOTHESIS DEVELOPMENT

(a) Prior Literature

Delaware began its dominant position in the corporate charter market in the mid-1960s, thereby spawning a great deal of debate among scholars in law, economics, and finance (Lipton and Rowe, 2002, Gilson 2002a, 2002b, Macey, 2002, Sitkoff, 2002, Grossfeld, 2002, Bebchuk and Ferrell, 2001, Bebchuk, Cohen, and Ferrell, 2002, Bar-Gill, Barzuza, and Bebchuk, 2001). The central theme of the debate is whether Delaware law, on balance, is beneficial or detrimental. In a thorough study of the impact of Delaware law on firm value, Daines (2001) finds that Delaware firms are worth more than firms incorporated elsewhere as measured by Tobin's q .

Executive compensation constitutes an important strand of the literature in economics and finance. There has been, however, little research that links legal rules with CEO compensation. One notable exception is Borokhovich, Brunarski, and Parrino (1997), who examine the impact of corporate charter provisions and takeover legislation on compensation. They focus on two charter amendments; supermajority and fair price. Their results suggest that, at the time of the amendment adoption, CEOs have higher salary packages than their counterparts in non-adopting firms. Furthermore, this salary discrepancy rises over the next three years, which leads the authors to conclude that CEOs of adopting firms are entrenched. Another study in this area is Bertrand and Mullainathan (1999), who conduct an event study of the impact of takeover legislation on executive compensation and incentives. They find that mean pay and pay-performance sensitivity increase in companies affected by a new anti-takeover law. They also report that firms with large shareholders experience a smaller rise in mean pay.

(b) Hypothesis Development

Grounded in agency theory, the fundamental argument of this study is that legal rules influence the extent of agency conflicts. Corporate law that tilts the balance of power in favor of managers makes agency problems more severe. Agency costs, in turn, affect how much and how executives are compensated. Hence, we hypothesize that there is a relation between legal rules and executive compensation.

b1) How Might Delaware Law Exacerbate Agency Problems?

Delaware is a small state but attracts a disproportionate number of incorporations. As a result, the revenue from incorporation fees represents a significant portion of the total state income (as high as 20% by some estimates). This economic dependence on incorporations may motivate Delaware to design its legal rules in favor of managers, who decide where to have the firm incorporated, rather than in favor of the atomistic, relatively powerless, shareholders (Cary, 1974). This view argues that Delaware produces legal rules that are unjustifiably lax or pro-management, leading to a national "race to the bottom" in legal rules. For instance, Delaware

was one of the first states to eliminate managers' mandatory fiduciary duty of care, appraisal rights for dissenting shareholders in public firms, and certain shareholder voting and meeting requirements (Daines, 2001).³

In this view, Delaware incorporation favors managers and, thus, makes agency problems more severe, potentially promoting managerial opportunism. As a result, this view predicts that managers of Delaware firms, exploiting the favorable legal rules, are better able to extract private benefits in the form of higher compensation or compensation less sensitive to firm performance.

b.2) How Might Delaware Law Alleviate Agency Problems?

This view argues that market forces (including competition for capital, products, and corporate control) lead states to provide, and incorporators to select, legal rules that maximize shareholder welfare. Rather than exploiting shareholders, Delaware's famed "laxity" improves firm value by allowing parties to adopt customized contracts that limit agency costs (Easterbrook and Fischel, 1991). If this is the case, then, Delaware firms should suffer less severe agency conflicts. As a result, managers are less able to expropriate private benefits from shareholders. This view hypothesizes that managers of Delaware firms receive lower compensation or compensation more sensitive to firm performance.

Additionally, there is another reason why executive pay may be lower in Delaware firms. Daines (2001) argues and presents evidence that Delaware firms are more likely takeover targets. Delaware firms seem to attract more takeover bids and are more likely to be successfully acquired.⁴ Thus, Delaware firms are more vulnerable to the forces in the market for corporate control. External disciplinary forces play a crucial role in alleviating agency conflicts. Firms where managers are opportunistic may display poor performance and attract hostile takeover bids. Aware that Delaware firms are more likely takeover targets, managers of Delaware firms may hesitate to expropriate shareholder wealth in the form of excessive pay because they are afraid of being replaced.

Finally, one deterrent against excessive executive pay may be the presence of the special court in Delaware. Due to its dominance in the market for incorporation, Delaware has a specialized court for business disputes, whose judges are appointed from the corporate bar and are familiar with complex transactions. Delaware Chancery Court judges are regularly exposed to complex cases, which provide them with valuable training.⁵ Any attempt to expropriate shareholder wealth in the form of excessive pay may result in a lawsuit by shareholders and may be more easily detectable in Delaware, given the keen expertise of the Delaware Chancery Court. This may represent a disincentive for Delaware executives to behave opportunistically and extract private rent by consuming excessive compensation.

b.3) The Domicile Irrelevance Hypothesis

Alternatively, it can be argued that domicile makes no difference. Some consider state laws uniform. Others believe differences do not matter because entrepreneurs and managers can eliminate differences between jurisdictions by customizing the firm's securities and charter provisions and by providing substitute governance arrangements (like board structure). A firm's

choice of domicile can, therefore, be regarded as unimportant and trivial (Black, 1990). If this is the case, then, Delaware incorporation should have no impact on executive compensation.

b.4) The Impact of Regulation

Regulation is likely to affect agency costs. Because regulators already provide a certain degree of monitoring, managers of regulated firms should be less able to reap private benefits at the expense of shareholders (Booth, Cornett, and Tehrani, 2002, Kole and Lehn, 1997). This potential reduction in agency costs may have implications for the association between Delaware law and executive compensation. Accordingly, we explicitly distinguish between regulated and unregulated firms.

III. SAMPLE SELECTION AND DATA

(a) Sample Selection

The original sample is derived from the ExecComp Database, which reports CEO compensation from 1993 to 2004. Then, the sample is narrowed down by eliminating firms that are not available in the Investor Responsibility Research Center (IRRC) Database. The IRRC collects data on the state of incorporation for approximately 1,500-1,800 companies. We employ the IRRC data to identify the state of incorporation.⁶ Companies are excluded whose accounting and financial information is not available in COMPUSTAT. We differentiate between regulated and unregulated firms based on the SIC codes. Two industries are traditionally heavily regulated; financial and utility.⁷ The final sample consists of 3,736 firm-year observation. Table 1 shows the sample distribution by year and by whether or not the firm is incorporated in Delaware. It is apparent that Delaware dominates the corporate charter market as 53.21% of the sample firms are incorporated there. Moreover, this proportion exhibits only minimal variation across the years.

Table 1
Sample distribution by year and by Delaware incorporation

<i>Year</i>	<i>Delaware</i>	<i>Elsewhere</i>	<i>Total</i>	<i>% Delaware</i>
1993	95	80	175	54.29%
1994	152	138	290	52.41%
1995	155	122	277	55.96%
1996	136	133	269	50.56%
1997	142	136	278	51.08%
1998	175	158	333	52.55%
1999	187	144	331	56.50%
2000	166	150	316	52.53%
2001	127	114	241	52.70%
2002	184	172	356	51.69%
2003	194	160	354	54.80%
2004	275	241	516	53.29%
Total	1,988	1,748	3,736	53.21%

(b) CEO Compensation

Chief executive compensation consists of various components. Following Core, Holthausen and Larcker (1999), we employ three alternative measures of CEO compensation; total compensation, cash compensation (bonus + salary), and salary only. Total compensation includes salary, bonus, other annual compensation, total value of restricted stock granted, total value of stock option granted (using Black-Scholes valuation), and long-term incentive payout. Cash compensation is defined as the sum of salary and bonus only. These three alternative measures are commonly used in the CEO compensation literature. All compensation figures are adjusted for inflation and are shown in constant 1993 dollars.

IV. EMPIRICAL RESULTS

(a) Descriptive Statistics

Table 2 Panel A shows the summary statistics for various firm characteristics. In terms of size, Delaware firms average \$3,776 million (\$1,413 median) in annual sales whereas non-Delaware firms average only 3,295 million (\$1,328 median). Delaware firms are substantially larger than non-Delaware firms in terms of sales as indicated by the significant t-statistics. In terms of total assets, however, the difference is not statistically significant. The average total assets for Delaware firms are \$3,691 million (\$1,314 median) while the average for non-Delaware firms is \$3,995 million (\$1,431 median).

Tobin's q, which represents growth opportunities, averages 1.68 (1.33 median) for Delaware firms and 1.58 (1.17 median) for non-Delaware firms. Although the difference appears small, the t-statistic indicates that it is significant. The rest of Table 1 shows the summary statistics for the ratios of capital expenditures to sales, R&D to sales, and free cash flow to sales respectively.⁸

Table 2 Panel B displays the summary statistics for CEO compensation. CEOs of Delaware firms receive, on average, \$3,640,843 (\$2,702,818 median) in total compensation whereas those of non-Delaware firms are paid only \$2,846,837 (\$1,965,701 median). The t-statistic confirms that the total compensation is significantly higher for Delaware firms than for non-Delaware firms. In terms of cash compensation (bonus and salary only), the average Delaware CEO receives \$1,322,281 (\$1,206,096 median) in cash compensation. This is significantly higher than the average cash compensation for the CEO pay of non-Delaware firms (\$1,149,094 mean, \$983,104). When only salary is considered, the average Delaware CEO salary is \$650,300 (619,247 median) whereas the average non-Delaware CEO is paid only \$585,507 (\$550,000 median), a statistically significant difference. Finally, Table 2 Panel C shows the correlation coefficients between the Delaware dummy and CEO compensation. All the correlation coefficients are positive and statistically significant, implying higher CEO pay in Delaware firms.

It appears that, irrespective of which compensation measure is utilized, Delaware CEOs are paid more generously than their non-Delaware counterparts. This preliminary evidence may imply that Delaware law exacerbates agency conflicts and permits CEOs to expropriate shareholders' wealth in the form of higher private compensation.

Table 2
Descriptive Statistics

Tobin's q is computed based on Chung and Pruitt (1994). The R&D ratio is R&D spending scaled down by sales. The free cash flow ratio is free cash flow divided by sales. Total compensation includes salary, bonus, other annual compensation, total value of restricted stock granted, total value of stock option granted (using Black-Scholes valuation), and long-term incentive payout. Cash compensation is defined as the sum of salary and bonus only.

	<i>Delaware</i>	<i>Elsewhere</i>	<i>Difference</i> (<i>t</i> -statistics)
	<i>Mean</i> (<i>Median</i>)	<i>Mean</i> (<i>Median</i>)	
<i>Panel A: Firm Characteristics</i>			
Delaware Inc.	1,988	1,748	
Sales	3,776 (1,413)	3,295 (1,328)	2.28**
Total Assets	3,691 (1,314)	3,995 (1,431)	-1.33
Tobin's q	1.68 (1.33)	1.58 (1.17)	2.66***
CAPX/Sales Ratio	7.59% (4.49%)	7.31% (4.85%)	1.03
R&D Ratio	2.79% (0.00%)	2.18% (0.00%)	3.73***
Free Cash Flow Ratio	1.11% (0.29%)	1.03% (0.23%)	0.41
<i>Panel B: CEO Compensation</i>			
Total Compensation	\$3,640,843 (\$2,702,818)	\$2,846,837 (\$1,965,701)	8.53***
Cash Compensation	\$1,322,281 (\$1,206,096)	\$1,149,094 (\$983,104)	7.87***
Salary	\$650,300 (\$619,247)	\$585,507 (\$550,000)	7.88***
<i>Panel C: Correlations</i>			
Delaware (1 if Delaware Inc.)	0.127*** (0.000)	0.763*** (0.000)	0.554*** (0.000)

* statistically significant at the 10% level

** statistically significant at the 5% level

*** statistically significant at the 1% level

(b) Delaware Incorporation and CEO Compensation: A Regression Analysis

Because several factors may impact CEO compensation, we perform a regression analysis taking into account a number of control variables. First, firms of larger size have more complex operations that may exacerbate effective monitoring (Demsetz and Lehn, 1985) and increase the potential for moral hazard. Larger firms tend to require more competent managers who command higher wages (Baker and Hall, 2004). As a result, we control for firm size by including the logarithm of total assets. Second, it is apparent that firms with more growth opportunities and, hence, more complex operations need more highly skilled CEOs who demand higher wages, an argument raised by Smith and Watts (1992). Tobin's q, computed as in Chung and Pruitt (1994), is employed to represent growth opportunities. Furthermore, like Himmelburg *et al.* (1999) and Palia (2001), we include three variables that represent the scope of

managerial discretion; the ratio of capital expenditures to sales, the ratio of R&D spending to sales, and the ratio of free cash flow to sales. In particular, we execute the following regression analysis:

$$\text{Compensation} = a + b_1(\text{Delaware Dummy}) + b_2(\text{Firm Size}) + b_3(\text{Tobin's } q) + b_4(\text{Capital Expenditures Ratio}) + b_5(\text{R&D Ratio}) + b_6(\text{Free Cash Flow Ratio}) \quad (1)$$

Table 3 displays the results of the regression analysis. In Model 1, the dependent variable is the natural logarithm of CEO salary. Note that the Delaware dummy produces a positive and highly significant coefficient, suggesting higher CEO salary in Delaware firms. Likewise, in Model 2 where the dependent variable is the logarithm of cash compensation, the Delaware dummy exhibits a positive and significant coefficient, showing higher cash compensation for Delaware CEOs. Finally, the logarithm of total compensation is employed in Model 3 as the dependent variable. The coefficient of the Delaware dummy in Model 3 is also positive and significant. Hence, regardless of which compensation measure is utilized, there is consistent evidence that CEOs of Delaware firms are paid more generously than their non-Delaware counterparts.⁹

Table 3
CEO Compensation and Delaware Incorporation

Tobin's *q* is computed based on Chung and Pruitt (1994). The R&D ratio is R&D spending scaled down by sales. The free cash flow ratio is free cash flow divided by sales. Total compensation includes salary, bonus, other annual compensation, total value of restricted stock granted, total value of stock option granted (using Black-Scholes valuation), and long-term incentive payout. Cash compensation is defined as the sum of salary and bonus only.

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Dependent Variable	(t-statistics)	(t-statistics)	(t-statistics)
Intercept	Ln(Salary) 4.820*** (126.77)	Ln(Cash Comp.) 4.928*** (109.07)	Ln(Total Comp.) 4.684*** (68.10)
Delaware (1 if Delaware Inc.)	0.139*** (11.00)	0.180*** (11.95)	0.308*** (13.44)
Log (Total Assets)	0.208*** (42.75)	0.268*** (46.36)	0.378*** (42.99)
Tobin's <i>q</i>	0.001 (0.20)	0.058*** (8.53)	0.105*** (10.23)
CAPX/Sales Ratio	-0.284** (-2.14)	0.563*** (4.22)	2.168*** (9.04)
R&D Ratio	-0.953 (-12.51)	-1.414*** (-15.62)	-1.608*** (-11.66)
Free Cash Flow Ratio	0.118 (1.05)	0.563*** (4.22)	0.806*** (3.96)
F-statistics	333.689***	405.742***	369.209***
Adjusted-R ²	34.8%	39.4%	37.2%

* statistically significant at the 10% level

** statistically significant at the 5% level

*** statistically significant at the 1% level

To put the results in better perspectives, we ascertain how much more pay Delaware CEOs receive than their non-Delaware counterparts. From Model 3, the coefficient of the Delaware dummy is 0.308. Because the dependent variable is the logarithm of total compensation, we compute the ratio of Delaware CEO pay to non-Delaware CEO pay as $e^{0.308}$ or 1.3607. Thus, in terms of total compensation, Delaware firms compensate their CEOs 36.07% higher than their non-Delaware counterparts. We repeat the same calculation for salary and cash compensation and discover that CEOs of Delaware firms obtain 14.91% and 19.72% higher in salary and cash compensation respectively than their non-Delaware peers. Hence, the higher pay for Delaware CEOs appears to be both statistically and economically significant.

Prior literature also includes managerial stock ownership and block ownership as control variables as these factors are related to corporate governance (Shivdasani, 1993; Park and Song, 1995). We did not include these variables in the previous baseline regression specification because these variables are available for only 3,240 out of 3,736 observations. However, to demonstrate that our results remain robust even after controlling for these governance factors, we add managerial equity ownership and block ownership as control variables.¹⁰ The results are shown in Table 4. The Delaware dummy retains a positive and significant coefficient in all of the regressions in Table 4. Thus, the inclusion of the additional governance variables does not materially change the results. The results appear to be robust.

(c) Other Executive Compensation

The ExecComp database does not report only the compensation data for CEOs. In fact, it shows the compensation data for the five highest paid senior executives. Thus, we extend our analysis to encompass all executives whose compensation data are available. The expanded sample includes 18,972 observations.¹¹ The results remain similar.

The executives of Delaware firms receive considerably higher pay than their non-Delaware peers. Therefore, the higher pay in Delaware is not limited only to the CEO but seems to extend to the senior executives as well.

(d) The Impact of Regulation

Regulation allays agency conflicts by imposing additional monitoring on managers, forcing a closer alignment of managers and shareholders' interests. As a consequence, regulation should have implications for CEO compensation, which is related to agency costs. In this section, we explicitly distinguish between regulated and unregulated firms. Financial and utility firms constitute our regulated sample while the rest of the firms in the sample represent the industrial (unregulated) sample.¹²

Table 5 shows the regressions for the industrial and regulated samples. For conciseness, we show only the results for total CEO compensation. Using either salary or cash compensation as the dependent variable does not materially change the results. In Model 1, we restrict the regression only to the industrial sample. The Delaware dummy exhibits a positive and significant coefficient. In Model 2, we include only the regulated sample in the regression. The coefficient of the Delaware dummy is positive and significant as well. Thus, regardless of whether they are regulated or not, Delaware firms award their CEOs higher pay than do non-Delaware firms.¹³

Table 4
CEO Compensation and Delaware Incorporation with Additional Controls

Tobin's q is computed based on Chung and Pruitt (1994). The R&D ratio is R&D spending scaled down by sales. The free cash flow ratio is free cash flow divided by sales. Managerial ownership is the percentage of ownership held by the top five executives. Block ownership is defined as ownership of at least five percent. Total compensation includes salary, bonus, other annual compensation, total value of restricted stock granted, total value of stock option granted (using Black-Scholes valuation), and long-term incentive payout. Cash compensation is defined as the sum of salary and bonus only.

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Dependent Variable	(t-statistics) Ln(Salary)	(t-statistics) Ln(Cash Comp.)	(t-statistics) Ln(Total Comp.)
Intercept	6.218*** (221.51)	6.733*** (184.98)	7.272*** (133.99)
Delaware (1 if Delaware Inc.)	0.135*** (5.17)	0.161*** (4.86)	0.289*** (5.87)
Log (Total Assets)	0.000*** (7.73)	0.000*** (8.14)	0.000*** (7.73)
Tobin's q	-0.020 (-1.51)	0.257* (1.82)	0.097*** (4.16)
CAPX/Sales Ratio	0.000** (2.18)	0.000** (2.34)	0.000*** (3.46)
R&D Ratio	-0.000** (-2.59)	-0.000 (-1.51)	-0.000 (-1.12)
Free Cash Flow Ratio	-0.000*** (-6.79)	-0.000*** (-5.47)	-0.000*** (-5.15)
Managerial Ownership (%)	-0.005 (-0.86)	-0.004 (-0.83)	-0.014* (-1.86)
Block Ownership (%)	-0.001* (-1.72)	-0.002* (-1.95)	-0.001 (-1.17)
F-statistics	21.41***	22.23***	25.16***
Adjusted-R ²	16.10%	16.42%	17.84%

* statistically significant at the 10% level

** statistically significant at the 5% level

*** statistically significant at the 1% level

(e) Analysis of Pay-Performance Sensitivity

The documented higher CEO pay for Delaware firms can be interpreted as evidence in favor of the contention that Delaware exacerbate agency costs, allowing the CEO to extract private benefits in terms of excessive pay. This view is consistent with Bebchuk and Fried (2003), who advocate the managerial power approach. This view treats CEO compensation not as a device to mitigate agency conflicts but as an unresolved agency cost itself. On the contrary, however, the same piece of evidence can be construed from the optimal contracting perspective. This view posits that CEO compensation represents an optimal contract intended to reduce agency problems. Higher CEO pay may not necessarily constitute rent extraction but, rather, an optimal contract that minimizes agency costs and maximizes shareholder wealth.

To distinguish between these two hypotheses, we conduct an analysis of pay-performance sensitivity. If the documented higher compensation is associated with lower pay-performance

Table 5
CEO Compensation and Delaware Incorporation (Industrial vs. Regulated)

Tobin's q is computed based on Chung and Pruitt (1994). The R&D ratio is R&D spending scaled down by sales. The free cash flow ratio is free cash flow divided by sales. Total compensation includes salary, bonus, other annual compensation, total value of restricted stock granted, total value of stock option granted (using Black-Scholes valuation), and long-term incentive payout. Cash compensation is defined as the sum of salary and bonus only.

	Industrial (Unregulated)	Regulated
	Model 1 (t-statistics)	Model 2 (t-statistics)
Dependent Variable	Ln (Total Comp.)	Ln (Total Comp.)
Intercept	4.616*** (66.08)	3.554*** (14.47)
Delaware (1 if Delaware Inc.)	0.181*** (7.63)	0.475*** (5.64)
Log (Total Assets)	0.409*** (44.58)	0.410*** (15.39)
Tobin's q	0.079*** (7.86)	0.430*** (7.55)
CAPX/Sales Ratio	1.852*** (7.99)	-11.219*** (-3.45)
R&D Ratio	-1.068*** (-7.25)	-1.209*** (-3.34)
Free Cash Flow Ratio	0.714*** (3.55)	1.199 (1.46)
F-statistics	367.230***	54.117***
Adjusted-R ²	40.2%	40.5%

* statistically significant at the 10% level

** statistically significant at the 5% level

*** statistically significant at the 1% level

sensitivity for shareholders, it is more likely to represent rent expropriation. On the other hand, if the higher pay is associated with higher pay-performance sensitivity, it probably reflects optimal contracting and, therefore, shareholder wealth maximization.

Our examination of pay-performance sensitivity follows the approach by Jensen and Murphy (1990), Crawford, Ezzell, and Miles (1995), and Anderson, Bates, Bizjak, and Lemmon (2000). We estimate the following regression:

$$\Delta CEO_{i,t} (Comp) = a + b (Delaware) + c (\Delta SW_{i,t}) + d (Delaware \times \Delta SW_{i,t}) \quad (2)$$

where $\Delta CEO_{i,t}$ (Comp) = change in CEO pay for firm i in year t , Delaware = Delaware dummy, $\Delta SW_{i,t}$ = change in shareholder wealth for firm i in year t , $(Delaware \times \Delta SW_{i,t})$ = the interaction term between the Delaware dummy and $\Delta SW_{i,t}$.

The focus is on the coefficient of the interaction term. If it is negative and significant, then, Delaware firms experience lower pay-performance sensitivity. By contrast, if it is positive and significant, Delaware firms exhibit higher pay-performance sensitivity than non-Delaware firms. Finally, if the coefficient is not significant, then, pay-performance sensitivity does not differ between Delaware and non-Delaware firms.

Table 6 shows the result of the regression analysis.¹⁴ We include only the change in shareholder wealth in Model 1. In Model 2, we include the Delaware dummy and the interaction variable. Note that the coefficient of the interaction term is negative and highly significant, implying that pay-performance sensitivity is significantly lower in Delaware firms. The coefficient of the change in shareholder wealth in Model 2 is 0.279. When shareholder wealth rises by \$1,000, total CEO compensation increases by \$2.79 for non-Delaware firms. For Delaware firms, total CEO compensation rises by only \$1.42 ((0.279-0.137) × 10), representing a decline in pay-performance sensitivity of almost 50% in Delaware firms relative to non-Delaware firms. Finally, in Model 3, we include the data for senior executives and estimate a similar regression. The interaction variable exhibits a negative and significant coefficient just like in Model 2. Hence, Delaware firms show a lower degree of pay-performance sensitivity than their non-Delaware counterparts whether we look at only the CEO or all the senior executives. As a robustness check, in additional regressions, we expand our model specifications to include various firm characteristics such as firm size, growth opportunities, capital expenditures, R&D expenditures, and free cash flow.¹⁵ The results remain qualitatively similar even after controlling for those firm characteristics. Overall, the evidence of higher compensation and lower pay-performance sensitivity seems to corroborate the notion that Delaware law promotes agency problems, resulting in more private rent extraction.

Because regulation helps alleviate agency conflicts by imposing additional managerial oversight, we surmise that regulation may influence pay-performance sensitivity. As a result,

Table 6
Analysis of Pay-performance Sensitivity between Delaware and Non-Delaware Firms

The dependent variable is the change in total compensation. The change in shareholder wealth is computed as the change in the market value of equity from one year to another.

$$\Delta \text{CEO}_{i,t} (\text{Comp}) = a + b (\text{Delaware}) + c (\Delta \text{SW}_{i,t}) + d (\text{Delaware} \times \Delta \text{SW}_{i,t})$$

where $\Delta \text{CEO}_{i,t}$ (Comp) = change in CEO pay for firm i in year t , Delaware = Delaware dummy, $\Delta \text{SW}_{i,t}$ = change in shareholder wealth for firm i in year t , $(\text{Delaware} \times \Delta \text{SW}_{i,t})$ = the interaction term between the Delaware dummy and $\Delta \text{SW}_{i,t}$.

	<i>CEOs</i>	<i>CEOs</i>	<i>All Executives</i>
	<i>Model 1</i> (<i>t</i> -statistics)	<i>Model 2</i> (<i>t</i> -statistics)	<i>Model 3</i> (<i>t</i> -statistics)
Intercept	67.418*** (39.60)	54.992*** (16.50)	48.341*** (35.21)
Δ Shareholder Wealth	0.170*** (7.04)	0.279*** (6.08)	0.261*** (13.19)
Delaware (1 if Delaware Inc.)	-	18.346*** (4.50)	15.856*** (9.57)
Δ Shareholder Wealth × Delaware	-	-0.137*** (-2.47)	-0.101*** (-4.31)
F-statistics	49.509***	22.694***	127.238***
Adjusted-R ²	1.3%	2.0%	2.3%

* statistically significant at the 10% level

** statistically significant at the 5% level

*** statistically significant at the 1% level

we slice the sample into industrial (unregulated) and regulated firms and re-run the analysis. The results are shown in Table 7. Model 1 includes only the industrial sample. The interaction term exhibits a negative and significant coefficient, insinuating that CEO pay is less sensitive to firm performance for Delaware firms. In Model 2, we include only the regulated sample. Interestingly, the coefficient of the interaction variable is not significant. Thus, for regulated firms, there is no difference in pay-performance sensitivity between Delaware and non-Delaware firms. This finding dovetails with the conjecture that regulation helps mitigate agency costs. For industrial firms, CEO pay in Delaware firms is higher and less sensitive to stockholder wealth. We interpret this evidence as rent expropriation by managers. By contrast, for regulated firms, although CEO pay is also higher in Delaware firms, it is no less sensitive to firm performance. Therefore, the higher compensation in regulated Delaware firms may merely reflect efficient contracting rather than rent extraction.

(f) Potential Endogeneity

Several agency-related empirical studies are plagued by endogeneity. In the context of this study, endogeneity would imply that Delaware incorporation does not necessarily impact CEO compensation but that firms where CEOs are paid more generously tend to have been

Table 7
Analysis of Pay-performance Sensitivity between Delaware and Non-Delaware firms
(Industrial vs. Regulated)

The dependent variable is the change in total CEO compensation. The change in shareholder wealth is computed as the change in the market value of equity from one year to another.

$$\Delta \text{CEO}_{i,t} (\text{Comp}) = a + b (\text{Delaware}) + c (\Delta \text{SW}_{i,t}) + d (\text{Delaware} \times \Delta \text{SW}_{i,t})$$

where $\Delta \text{CEO}_{i,t}$ (Comp) = change in CEO pay for firm i in year t , Delaware = Delaware dummy, $\Delta \text{SW}_{i,t}$ = change in shareholder wealth for firm i in year t , $(\text{Delaware} \times \Delta \text{SW}_{i,t})$ = the interaction term between the Delaware dummy and $\Delta \text{SW}_{i,t}$.

Dependent Variable	Δ Total CEO pay	
	Industrial (Unregulated)	Regulated
	Model 1 (<i>t</i> -statistics)	Model 2 (<i>t</i> -statistics)
Intercept	58.759*** (15.28)	36.309*** (5.38)
Δ Shareholder Wealth	0.247*** (5.09)	0.663*** (3.88)
Delaware (1 if Delaware Inc.)	14.648*** (3.22)	33.580*** (2.77)
Δ Shareholder Wealth \times Delaware	-0.107* (-1.84)	-0.373 (-1.38)
F-statistics	16.423***	7.333***
Adjusted-R ²	1.6%	0.5%

* statistically significant at the 10% level

** statistically significant at the 5% level

*** statistically significant at the 1% level

incorporated in Delaware. It is unlikely, however, that endogeneity exists between CEO compensation and Delaware incorporation. Daines (2001) argues that the decision on where to incorporate is largely exogenous. The only predictor of domicile is the domicile chosen at IPO. It is not clear why factors determining domicile at the IPO stage would be relevant to CEO compensation in the firm decades later as ownership and firm and industry conditions change. Domicile is also fixed in that neither managers nor shareholders can change domicile without other parties' approval. Thus, endogeneity is unlikely. Furthermore, firms very infrequently change the state of incorporation. Given that CEO compensation has considerably gone up recently, there would likely be more re-incorporations if CEO pay somehow endogenously influenced where the firm should be incorporated. Clearly, this is not the case, implying that endogeneity is improbable.

In any event, we attempt to address endogeneity by trying to examine the change in CEO compensation relative to the change in domicile. Unfortunately, re-incorporation in another state occurs so rarely in the sample (and in general) that there is not a sufficient number of observations to test for the impact of re-incorporation on CEO compensation. Perhaps, this is one area that future research may fruitfully explore.

Another potential problem that may lead to a spurious relation is the omission of some unobservable firm-specific variables in the model. This problem can be alleviated by employing a fixed-effects regression analysis, which controls for firm characteristics that may be omitted in the model. We re-run the regression analysis with the fixed-effects approach and obtain qualitatively similar results. Therefore, it does not appear that our results are spurious due to unobservable firm characteristics.

(g) Further Discussion

The evidence in this study suggests that Delaware law promotes rent extraction by managers in the form of higher compensation and compensation less sensitive to firm performance. One critical question is why investors continue to invest in Delaware firms if Delaware law allows managers to exploit shareholders. Because Delaware has remained the most popular state of incorporation, it is obvious that investors do not shy away from Delaware firms.

It may be the case that Delaware firms develop other governance mechanisms to compensate for the rent extraction in terms of managerial compensation. Consistent with this view, Jiraporn, Davidson, and Chintrakarn (2009) report that Delaware firms have boards of directors that are more effective than their non-Delaware counterparts. Specifically, Delaware boards are significantly smaller and more independent. Yet, they do not find that Delaware exhibit higher firm value than non-Delaware firms. As a consequence, they argue that the benefits of the more effective board are cancelled out by other aspects of corporate governance that Delaware law compromises. This argument is consistent with our results. Delaware law weakens certain governance mechanisms such as executive compensation but strengthens others such as the board of directors. On balance, Delaware law may not be so detrimental to investors. This may explain why Delaware continues to dominate the market for incorporation.

V. CONCLUDING REMARKS

This study examines whether Delaware law has an impact on CEO compensation. Delaware has been argued to affect agency costs (Daines, 2001). Agency problems, in turn, influence CEO compensation. Thus, we conjecture that there is an association between Delaware law and chief executive compensation. We develop hypotheses that predict the impact of Delaware law on compensation and test them empirically.

The empirical evidence demonstrates that CEOs of firms incorporated in Delaware obtain significantly more generous pay than their non-Delaware counterparts. We also find that Delaware firms exhibit significantly lower pay-performance sensitivity. Taken together, the evidence seems to imply rent extraction in the form of excessive pay in Delaware firms. Thus, Delaware law does not appear to enhance shareholder wealth, at least, as far as executive compensation is concerned. In addition, we argue that regulation may change how Delaware law affects compensation because regulation helps allay agency conflicts. The evidence seems to be consistent with this conjecture as we find that Delaware firms that are subject to regulation do not show lower pay-performance sensitivity relative to their non-Delaware counterparts.

NOTES

1. This is analogous to the literature on the board of directors. There is mixed evidence on the association between boards and firm performance. Thus, several studies focus on specific situations rather than on the overall firm performance. For example, research has been conducted on the impact of boards on CEO turnover (Weibach, 1988, Perry, 2000), on earnings management (Xie *et al.*, 2003), and on executive compensation (Core *et al.*, 1999).
2. Bebchuk and Fried (2003), using the “managerial power” approach, contend that executive compensation is regarded not so much as an instrument for resolving agency conflicts as it is as an agency problem itself.
3. Other features of Delaware law that may be considered lax or pro-management include freedom from mandatory cumulative voting, permission to have staggered boards of directors, lesser pre-emptive rights for shareholders, and clear rights of indemnification for directors and officers (Cary, 1974).
4. Daines (2001) discusses several reasons why takeover attempts are facilitated in Delaware. First, Delaware takeover law raises fewer obstacles to hostile bids than in other states. Second, Delaware law prevents managers from resisting a takeover on the grounds that it threatens non-shareholders- something 29 states explicitly authorize managers to do. Third, Delaware default law imposes the shortest delay on hostile bids of all states, thus encouraging bidders to make hostile bids. Moreover, Delaware law may reduce acquisition costs by providing relatively clear precedents and by occasionally prohibiting extreme defensive tactics. Finally, firms that incorporate in Delaware do not operate there. Delaware firms have no Delaware operations and no Delaware employees and therefore lack local political clout. When these firms become targets of hostile bids, they are unable to win entrenching legislation.
5. Black (1990) states that no other state has a specialized business court; rather, they allocate shareholder claims to elected judges, many of whom have little experience with corporate law and transaction. Factual questions in other states are decided by juries, whose decisions are unpredictable.
6. The IRRC does not report the data every year. For the interim years, we assume that the state of incorporation does not change. This is a reasonable assumption and has been used in many previous studies. In addition, re-incorporation in another state is very rare.
7. Firms whose SIC codes fall between 6000 and 6999 are considered financial firms. Firms whose SIC codes fall between 4900 and 4999 are regarded as utility firms.
8. Free cash flow is computed as the firm’ earnings plus depreciation minus capital expenditures.

9. In terms of explanatory power, we run a regression with all the control variables but not the Delaware dummy and find that the adjusted-R2 is 29.9%. Thus, the addition of the Delaware dummy improves the adjusted-R2 from 29.9% to 37.2%, a significant improvement for including only one more variable in a cross-sectional analysis.
10. We thank an anonymous referee for this suggestion. Managerial equity ownership is obtained from EXECUCOMP and defined as percentage of total equity held by top five executives. Block ownership is defined as any shareholder holding at least 5% of total equity. There are the typical definitions of these variables in the literature.
11. For conciseness, we do not show the regression results, although they are available upon request.
12. SIC 6000-6999 for financial firms and SIC 4900-4999 for utilities.
13. A number of robustness tests are performed. First, to account for potential industry effects, we create industry dummies and include them in the regression analysis. The results remain similar. Second, for fear that extreme outliers may drive the results, we exclude the extreme 1% observations and re-estimate the regressions. Again, the results remain consistent. After subjecting the results to these robustness checks, we conclude that the results appear to be robust.
14. To conserve space, we show only the results based on total CEO compensation. Using either current (cash) compensation or salary does not change the results materially.
15. Results are not shown but available upon request.

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