Derivative Litigation and Board Effectiveness: Evidence from Delaware's Judicially-led Reforms in 2003

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Abstract

This research examines Delaware's judicially-led reforms in 2003 and their effects on corporate governance. In response to the Sarbanes-Oxley Act, Delaware courts adjusted their corporate law jurisprudence, moving to a more restrictive application of the business judgment rule and more vigorous enforcement of officer and director fiduciary duties. By lowering the procedural hurdles to derivative litigation (e.g., the demand requirement, and special litigation committee), the courts allowed more shareholder derivative lawsuits to survive pretrial motions to dismiss.

Using a sample of 2153 publicly-traded firms from 1999 to 2007 and the difference-in-differences method, we find that following the 2003 reforms, Delaware chartered corporations have exhibited higher CEO pay-for-performance sensitivity and greater CEO turnover-performance sensitivity than have non-Delaware firms. These results suggest that shareholder litigation rights have important governance effects. Empowering shareholders to pursue derivative litigation provides high-powered incentives to directors to improve their corporate governance decisions.

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JEL Classifications: G34, G38, K22, K41

1. Introduction

In the post-Enron era, the boards of directors of publicly-traded companies face greater scrutiny, and an increased possibility of being challenged in a courtroom. At the federal level, the Sarbanes-Oxley Act of 2002 increases the oversight duties of boards of directors. At the state level, tougher judicial opinions from the Delaware courts have heightened the standards for evaluating director conduct. These initiatives have limited the traditional protections for directors. With the heightened scrutiny, directors may find it more difficult to dismiss derivative lawsuits challenging their actions. An important question is: How does this shift in the legal environment and the increased litigation threat for directors, affect board of director behavior? This question is important because boards of directors play a central role in corporate governance, and examining their responses to legal and judicial reforms can help scholars, regulators, and practitioners evaluate the effectiveness of various legislative and regulatory initiatives to improve corporate governance practices.

We focus on Delaware court judicial decisions related to corporate governance litigation.[1] Delaware plays a prominent role in corporate law, as more than 50% of publicly-traded companies in the United States, and over 60% of the Fortune 500 companies, are incorporated in the State of Delaware. In 2003, the Delaware Chancery Court and the Delaware Supreme Court adjusted their corporate law jurisprudence, conferring less judicial deference to director business judgment. The courts lowered their procedural hurdles to derivative litigation, allowing more shareholder derivative lawsuits to survive pretrial motions to dismiss.

Shareholder litigation can take the form of derivative suits and direct suits. A derivative lawsuit is an action brought by a corporate shareholder on behalf of the corporation to enforce a corporate right that the officers and directors of the corporation have failed

[1] Clark (2005) states that in the wake of the Sarbanes-Oxley Act, corporate governance in the American public corporations were affected by "four sources of policy change — the Sarbanes-Oxley Act, new listing requirements, governance rating agencies, and tougher judicial opinions (notably in Delaware) about perennial corporate governance issues" (p.251).

to enforce. The lawsuit is "derivative" because only the corporation has the right to sue its directors and officers, and shareholders may sue these parties on behalf of the corporation only if the corporation refuses to redress the harm on the corporation. Direct lawsuit, which is either individual or class-action, is brought by shareholders in their own right, to redress harms inflicted on the particular shareholders. The financial incentives and procedural mechanisms differ for the two types of lawsuit (Clark, 1986). Ferris *et al.* (2007) commented that derivative lawsuits are better suited than class action lawsuits to examine how shareholder litigation rights affect corporate governance. In derivative litigation, plaintiff shareholders act in the interests of all shareholders, and thus are more likely to address agency problems that exist between shareholders and management.

A major procedural hurdle to derivative litigation is the demand requirement that stockholders make a pre-suit demand to the board to initiate the suit, or alternatively demonstrate with "particularized facts" that the demand would be a futile gesture. Since 2003, Delaware courts have liberalized Section 220 of the Delaware General Corporation Law (DGCL), which permits shareholders to inspect corporate books and records. The courts encouraged shareholders to use Section 220 rights to obtain "particularized facts" for pleading demand futility.

Another major procedural hurdle to derivative litigation is the special litigation committee (SLC), made up of the board's independent directors. The SLC makes pretrial investigation of the lawsuit and determines whether continuing the litigation is in the best interest of the corporation. The Delaware courts imposed more restrictive standards of SLC independence, and gave less deference to SLC's recommendation of dismissal of the suit. Lowering these procedural hurdles empowered shareholders to seek derivative litigation against corporate directors.

Since 2003, Delaware's courts have permitted many more derivative lawsuits to proceed. In *In re Walt Disney Co. Derivative Litigation*, the court challenged the business judgment of directors in a duty of care case. In *In re Oracle Corp. Derivative Litigation*, the court refused to defer to the recommendation of a special litigation committee (SLC). These cases would have been dismissed prior to the 2001-2002 scandals. Frieswick

commented that "the court's willingness to hear them may encourage disgruntled shareholders of other companies to test the protections of the business-judgment rule" (*CFO Magazine*, February 19, 2004).

Jones (2004) states that the main reason for the jurisprudential shift in Delaware is the threat of federal preemption. After the Sarbanes-Oxley Act in 2002, the Delaware judiciary was mindful of Congress's preemptive power, and the possibility that uniform federal standards could erode Delaware's appeal as a legal home for business entities, which may lead to significant loss of franchise tax revenue. In response, Delaware courts took the initiative to reform its state's corporate law, increasing scrutiny of director liability for the breach of fiduciary duty to forestall further federal preemption.

Delaware's judicially-led reforms in 2003 provide a valuable opportunity for researchers to examine the effects of derivative litigation on corporate governance. In the United States, corporate law in all states grants shareholders the right to vote, sell, and sue (Thompson, 1999). Corresponding to these rights, shareholders can potentially exert governance through three main mechanisms. The first is shareholder intervention (also known as "voice"), which includes electing corporate directors, voting against mergers, proxy fights, etc. The second main avenue for shareholders to exert governance is disciplinary trading (also known as "exit" or "Wall Street Walk"), where shareholders sell a company's shares, pushing down the stock price. The third main governance mechanism is shareholder litigation.

While most research on shareholder governance has focused on intervention and disciplinary trading, the corporate governance effect of shareholder litigation has been largely ignored in the literature. The traditional view on shareholder litigation is that the role of shareholder litigation in corporate governance is limited, because the business judgment rule effectively shields corporate directors and officers from exposure to liability. Delaware courts' judicial decisions in 2003 departed dramatically from the traditions of director and management deference that preceded Enron (Jones, 2004). The jurisprudential change empowered shareholders to pursue derivative litigation. Thus, shareholder litigation becomes an important arena for shareholders to exert influence over corporate

governance.

We exploit the jurisprudential shift in Delaware to test the effects of derivative litigation on corporate governance. The judicially-led reforms in Delaware generate an exogenous change in the threat of derivative litigation facing Delaware corporations. We examine the effectiveness of boards of directors in monitoring the chief executive officers (CEO) in publicly-traded firms around the 2003 reforms. Using a difference-in-differences method, we compare firms incorporated in Delaware with those incorporated in other states from the pre-reform period (2000-2002) to the post-reform period (2003-2005). We find that empowering shareholders to pursue derivative actions largely improves board effectiveness. Specifically, boards of directors make more effective decisions on CEO compensation and replacement. The empirical results show that following the Delaware's judicially-led reforms, Delaware corporations exhibit higher CEO pay-for-performance sensitivity than non-Delaware firms. The results imply that the threat of derivative litigation incentivizes directors to monitor CEO pay and design compensation contracts that motivate top management to create shareholder value. In addition, we find that subsequent to the Delaware reforms, Delaware firms show greater sensitivity of CEO turnover to firm performance. This result suggests that derivative litigation motivates directors to align with shareholders and enforce discipline on poorly-performing management. Overall, these findings provide evidence that derivative litigation has economically important effects on corporate governance practice. Shareholder litigation can serve as an effective mechanism for shareholders to exert governance.

Two recent papers consider the effects of derivative litigation on corporate governance. Ferris *et al.* (2007) examine the change in board characteristics surrounding the filings of derivative lawsuits. They find that following derivative litigation, the proportion of outside directors increases, board size decreases, and fewer CEOs continue to hold the position of board chairman. These board characteristics are associated with good corporate governance in literature. Appel (2015) examines the staggered adoption of universal demand law in 23 states between 1989 and 2005. The universal demand (UD) law requires shareholders to make demand in every derivative lawsuit, thus imposing a significant ob-

stacle to derivative litigation. He finds that the adoption of universal demand law leads to increased use of governance provisions that increase management entrenchment and limit shareholder voice. Our research is based on the Delaware's judicially-led reforms in 2003, which empowered shareholders to exert governance through their litigation rights. We document that following the reforms, boards of directors are more effective in monitoring CEOs.

The remainder of this paper is organized as follows. In section 2, we review Delaware's judicially-led reforms in 2003. In section 3, we formulate hypotheses on the effects of derivative litigation on board effectiveness. We describe data and variable measurement in section 4, and employ difference-in-differences method to test the governance effects of derivative litigation in section 5. We conclude in section 6.

2. Institutional Background on Delaware's Judicially-led Reforms in 2003

The 2001-2002 corporate scandals, typified by Enron and WorldCom, evoked broad public criticism of the existing corporate regulatory regime. Scholars and business lawyers challenged that the state courts had always granted judicial deference to corporate directors and officers, and provided few effective means for shareholders to redress corporate wrongdoing. The need for legal reform became glaringly apparent. The federal government enacted the Sarbanes-Oxley Act in 2002, which has been generally considered as the most far reaching reform of American business practices since the Securities Act of 1933.

Delaware's courts, in response to the widespread corporate scandals and the Sarbanes-Oxley Act, adjusted its corporate law jurisprudence, moving to a more restrictive application of the business judgment rule and more vigorous enforcement of officers' and directors' fiduciary duties (Jones, 2004). Before the Enron and WorldCom scandals, Delaware built a reputation as the most management-friendly state.[2] Delaware's courts reinforced

[2] Jones (2004) comments that "Before Enron, Delaware was the state where managers turned for assurances of minimal exposure to personal liability for mistakes, misjudgments, wrongdoing, or self-dealing."

substantive limitations on director liability by imposing procedural barriers to litigation against them. The two most significant procedural hurdles that shareholder plaintiffs face are the demand requirement and the special litigation committee (SLC). Prior to instituting a derivative action, shareholder plaintiffs must make a demand on the corporation's directors to enforce a corporate right (e.g. sue the directors or executive officers for breach of fiduciary duties). Once the demand is rejected by directors, the burden is on the plaintiff shareholders to show that the Board wrongfully refused the plaintiff's pre-suit demand. The courts generally review the Board's decision under the deferential business judgment rule and rarely second guess the Board's decision. Alternatively, plaintiff shareholders can demonstrate that the directors are incapable of making an impartial decision regarding the litigation, so the demand is futile and would be excused.

In Delaware, Court of Chancery Rule 23.1 requires that allegations of demand futility must comply with stringent requirements of "factual particularity." Under the *Aronson* test, a demand is excused if the alleged particularized facts create a reasonable doubt that: (1) the directors are disinterested and independent, and (2) the challenged transaction was otherwise the product of a valid exercise of business judgment. If either condition is satisfied, demand is excused and the case may proceed. A common complaint from plaintiff shareholders is that the system of requiring a shareholder plaintiff to plead particularized facts for establishing demand futility is basically unfair because Delaware's courts do not permit discovery. Even if the plaintiff shareholders succeed in showing that demand should be excused as futile, directors have an additional opportunity to avoid litigation. They can appoint a special litigation committee (SLC), made up of independent and disinterested directors, to consider whether the corporation should proceed with litigation. The SLC almost always concluded that continuing the suit was against the corporation's interest and recommended dismissal of the lawsuit. Delaware's courts typically deferred to the business judgment of the SLC. Overall, the demand requirement and the SLC made it virtually impossible for shareholders to challenge directors' decisions through derivative litigation.

This situation changed dramatically in 2003. The Delaware Supreme Court made

"pro-shareholder moves" (Subramanian, 2003) and lowered the procedural hurdles to derivative litigation. The Court, through their judicial opinions, encouraged shareholder plaintiffs to pursue a Section 220 action to uncover the facts that would allow them to establish demand futility. Section 220 of the Delaware General Corporation Law (DGCL) permits stockholders to inspect corporate books and records for any "proper purpose" and provides for enforcement of that right by the Court of Chancery. To facilitate shareholder plaintiff's discovery of particular facts, Delaware amended Section 220 of the DGCL in 2003. The amendment extends the right of inspection from record owners to beneficial owners[3] of a corporation's stock, and permits inspection of the books and records of subsidiaries, including non-Delaware subsidiaries, of Delaware corporations. Radin (2006) commented that the Section 220 of DGCL marks a new stage of corporate governance litigation.

Starting in 2003, Delaware's courts made a series of judicial decisions that imposed stricter judicial standards for evaluating director conduct. The Delaware Court of Chancery's 2003 decision in *In re Walt Disney Co. Derivative Litigation*[4] is one of the most important decisions. The initial Disney lawsuit was filed in 1998 and alleged a general breach of duty on the part of the directors. The Delaware Court of Chancery dismissed all of the shareholder plaintiffs' claims. The court stated that plaintiffs failed to satisfy the demand requirement, because the case was not supported by particularized facts or meaningful discovery. In 2003, the shareholder plaintiffs repleaded demand futility using Section 220 action to obtain sufficient facts about the actions of the Disney board. The shareholder established that the Disney Board of Directors failed to oversee the hiring of Michael Ovitz as president in October 1995, when Michael Eisner, the CEO of Disney, unilaterally hired his close friend Michael Ovitz. The Board of Directors and the Compensation Committee approved the hiring in less than an hour on the same day it was first presented. Both committees saw only a rough, incomplete summary of the employment

[3] A record owner or registered owner holds shares directly with the company. A beneficial owner holds shares indirectly, through a bank or broker-dealer. The majority of U.S investors own their securities as beneficial owners.

[4] See I*n re* Walt Disney Co. Derivative Litig., 825 A.2d 275 (Del. Ch. 2003)

agreement, received no expert advice on the agreement, and approved it without seeing a final version. The Board of Directors, which met immediately after the Compensation Committee, asked no questions about salary or termination terms. Instead, the Board delegated authority to Ovitz and Eisner to work out the terms of the agreement, which were generous. The Delaware Chancery Court concluded that the alleged facts created a reasonable doubt as to whether the Directors acted honestly and in good faith, and the Court refused to dismiss the plaintiff's claims against the Disney Directors. The judicial decisions on the Disney case in 2003 depart sharply from the rulings in 1998.

The second case that exemplifies the trend toward stricter judicial standards is *In re Oracle Corp. Derivative Litigation*.[5] This case was decided by the Delaware Court of Chancery in June 2003. In March 2001, Oracle announced significantly lower-than-expected earnings and license revenue growth. As a result, the Oracle stock price dropped dramatically. Two months earlier, four Oracle Directors sold a considerable amount of their Oracle common stock. The shareholders sued the four Oracle Directors, including Chairman and CEO Larry Ellison, for breaching their duty of loyalty by engaging in insider trading. The defendant directors then formed a special litigation committee (SLC), made up of two independent directors, to investigate the derivative suit. The SLC produced a 1,100-page report, concluding that the defendants did not have material nonpublic information before they traded their shares, and recommending termination of the derivative suit.

The Court of Chancery dissected the social and professional connections between SLC members and the defendant directors. Two SLC members, Joseph Grundfest and Hector Molina-Garcia, were Stanford University professors and alumni. The defendant directors include Michael Boskin, who was a former economics professor at Stanford, and William Lucas, who had contributed almost $16 million to Stanford. In addition, the CEO Larry Ellison has made more than $10 million in donations to Stanford in the past and was in current negotiations with Stanford about a potential $170 million donation. The Court of Chancery concluded that the SLC was not sufficiently independent to evaluate the

[5]See *In re* Oracle Corp. Derivative Litig., 824 A.2d 917 (Del. Ch. 2003).

plaintiffs' claim, and refused to defer to the SLC's recommendation. The Oracle case survived the motion to dismiss. This ruling departs from previous Delaware decisions, which had focused on material economic relationships and would not have questioned the SLC's independence based on "personal and other relationships" between defendant directors and SLC members. Therefore, the Oracle decision indicates that the Delaware courts increased their standards for SLC independence, and heightened its scrutiny on the application of the business judgment rule.

The foregoing case review demonstrates that the Delaware judiciary took the initiative to reform its state's corporate law and imposed stricter judicial standards for evaluating director conduct in 2003. As *The Economist* (October 25, 2003) commented, "Reacting to the latest anti-business sentiment in Washington, DC, Delaware's judges appear ready to adopt a more hawkish line on the duty of directors to represent shareholders' interests." This jurisprudential shift in 2003 indicates that the shareholders of Delaware corporations are more able to pursue derivative action to affect corporate governance.[6]

3. Hypothesis Development

Can shareholders rely on derivative litigation to improve corporate governance? Prior literature points to the limitations of derivative litigation as a governance mechanism. First, all states allow corporations to purchase directors' and officers' liability insurance (D&O insurance), which provides them with protections against legal liability. Romano (1991) shows that most shareholder lawsuits are settled, in which D&O insurers pay the settlement and a firm's rising insurance premium is borne by all of the shareholders. Lin, Officer, and Zou (2011) demonstrate that D&O insurance reduces the incentive of directors and managers to act in the best interest of shareholders in mergers and acquisitions, as the D&O insurance insulates them from shareholder litigation and financial liability. These research findings imply that the prevailing D&O insurance has restricted

[6] Jones (2004) states that Delaware's judicially-led reforms in 2003 is a response to the preemptive threat of federal legislature. As the federal preemptive threat recedes over time, Delaware judiciary can relax its restrictive standards of director conduct. The Chancery Court's 2005 decisions in *In re Walt Disney Co. Derivative Litigation* exonerated all of the Disney defendants from liability. In the Oracle case, the court ultimately favored the defendants.

the disciplinary role of shareholder litigation. Second, shareholders who pursue derivative litigation face a variety of procedural and substantive restrictions. In fact, in 1990s only a small number of cases survived pretrial motions to dismiss. Third, the function of derivative litigation as a governance device is hampered by collective action problem (Romano, 1991). Financial recoveries from derivative lawsuits usually go to the corporation. For individual shareholders, the pro rata benefit from pursuing derivative litigation may not be enough to cover the cost of bringing the lawsuit. These potential problems with derivative litigation lead economics and law scholars to conclude that derivative litigation is an ineffective instrument of corporate governance (Thompson and Thomas, 2004; Becht, Bolton, and Röell 2003).

Delaware's judicially-led reforms in 2003 have dramatically changed firm's litigation environment. This shift in Delaware jurisprudence provides an opportunity for researchers to reexamine the effects of derivative litigation on corporate governance. The Board of Directors is central to corporate governance. We examine how the threat of derivative litigation affects the effectiveness of the Board of Directors in performing its monitoring function. In particular, we evaluate whether the Board sets up CEO compensation schemes that motivate the CEO to create shareholder value. In addition, we examine whether the Board makes timely CEO replacement decisions when firm stock returns decline.

The theoretical literature on corporate governance shows that building effective boards requires aligning the interests of directors with those of shareholders (Warther, 1998; Hirshleifer and Thakor, 1994). This alignment between the Board and shareholders can be achieved through setting director compensation and exploiting the reputational concerns of the directors (John and Senbet, 1998). Since the D&O insurance insulates directors from financial liability, director's motivation to effectively monitor top management in the derivative litigation context may come from their reputational concerns. Adams, Hermalin, and Weisbach (2010) state that directors' reputation is particularly important in the market for directorships, and reputation concerns largely affect director actions. Fama and Jensen (1983) show that directors have incentives to develop reputations as

decision experts, and their reputation concern motivates them to be effective monitors. Shareholder litigation can severely damage directors' reputation and career opportunities. For example, Fich and Shivdasani (2007) document that directors experience a significant decline in the number of board seats they hold in other companies following financial fraud lawsuits. Similarly, Brochet and Srinivasan (2014) show that when a director is subject to securities class-action lawsuits, the director receives more negative recommendations from Institutional Shareholder Services, a proxy advisor firm, and is more likely to lose his/her seat in director elections. When Delaware's judicially-led reforms increase the threat of derivative litigation, reputation concerns may motivate directors to take more effort to fulfill their monitoring duties.

Moreover, the literature on director incentives recognizes a potential reputational trade-off. Although shareholders elect directors, firm management has important influence over the director-nominating process. CEOs who are looking to acquire power often favor directors who are unlikely to rock the boat. Thus, directors who gain reputation for monitoring and replacing a firm's CEO may receive less nominations at other companies where the CEO has strong control. Levit and Malenko (2016) show that whether a director is willing to develop a shareholder-friendly or management-friendly reputation depends on the aggregate quality of corporate governance. If more firms in an economy exhibit strong shareholder control, a shareholder-friendly reputation will be rewarded more in the directorial labor market. As a result, directors will have more incentives to build a reputation for being shareholder-friendly. Delaware's judicial reforms in 2003 uphold shareholder litigation rights and enhance shareholder power in corporate governance. As shareholder power increases relative to that of management in Delaware corporations, shareholder-friendly reputation would be more valuable for directors. This would motivate directors to develop a reputation of shareholder-friendliness by performing the function of monitoring and disciplining management.

Based on the analysis of director's reputational concerns, we propose that higher likelihood of derivative litigation leads to a more effective board of directors. To measure board effectiveness, we examine board decisions on CEO compensation and CEO replace-

ment. Designing CEO compensation schemes is one of the major functions of board of directors. Effective boards are expected to link CEO pay to firm performance, and prior literature shows that pay-for-performance schemes are an important means to align CEO incentives with shareholder interests (e.g., Jensen and Murphy, 1990; Bizjak, Brickley, and Coles, 1993). Since the 1990s, the compensation of top executives has been criticized for being excessive and decoupled from firm performance. Bebchuk and Fried (2004) show that CEOs have considerable influence over a board of directors, which enables them to obtain favorable pay arrangements.

We hypothesize that the threat of derivative litigation motivates directors to align with shareholders, which may lead the Board to resist a CEO's compensation demand and to impose pay-for-performance schemes. We expect that when Delaware's judicially-led reforms increased the likelihood of derivative litigation, Delaware corporations exhibited higher sensitivity of CEO pay to firm performance.

In addition, we examine the quality of the Board's decisions on CEO replacement. Effective boards are expected to remove under-performing management in a timely manner. We argue that the threat of derivative litigation may motivate directors to perform the function of replacing poorly-performing CEOs, as they have more incentives to develop a shareholder-friendly reputation. In the empirical literature, researchers measure the sensitivity of CEO turnover to firm performance, and use this measure to evaluate the quality of the Board's decisions. We expect that following the Delaware's judicially-led reforms, Delaware firms exhibit greater sensitivity of CEO turnover to firm performance.

4. Data and Model Specification

Our sample consists of 2153 publicly-traded firms from 1999 -2007. We obtain data on CEO compensation from the ExecuComp database. ExecuComp contains information on the top executives of firms in the S&P 500, S&P MidCap, and S&P SmallCap indexes. CEO compensation is comprised of cash compensation (salary, bonus, and other annual

cash payouts), total value of restricted stock granted, total value of stock options (calculated using the Black-Scholes method), and other long-term incentive payouts. Following Parrino (1997), CEO turnovers are classified into forced and voluntary turnovers. We focus on forced CEO turnover, which includes all departures for which the CEO is fired, forced from the position, or departs due to policy differences. The data on CEO forced turnover are provided by Jenter and Kanaan (2015).[7] To construct turnover-performance sensitivity and pay-for-performance sensitivity, we collect stock return data from the Center for Research in Security Prices (CRSP). We use firm 12-month stock returns adjusted by value-weighted industry (3-digit SIC) returns. We also measure stock return volatility, defined as the standard deviation of the previous 60-month stock returns.

CEO characteristics can affect Board of Director decisions on CEO compensation and dismissal. Allen (1981) and Lambert *et al.* (1993) show that CEO compensation is lower when the CEO has larger holdings of firm's stock. Booth, Cornett and Tehranian (2002) argue that concentrating management's power and board leadership in one person's hands can exacerbate potential conflicts of interest, decreasing the effectiveness of monitoring. We control for CEO characteristics, such as CEO ownership, CEO tenure, and whether the CEO is also chairman of the Board. Data on CEO characteristics are obtained from the ExecuComp database.

We also control for board and corporate governance characteristics. Prior literature shows that board size and composition affect board effectiveness. For example, Lipton and Lorsch (1992) and Yermack (1996) show that large boards are associated with poor communication and decision making, and limiting the size of the board improves board efficiency. Weisbach (1988) demonstrates that inside and outside directors behave differently in monitoring CEOs. Outsider-dominated boards are more likely to replace poorly-performing CEOs than insider-dominated boards. Hallock (1997) shows that CEO compensation is higher at firms with interlocked outside directors. Fich and Shivdasani

[7] We thank Dirk Jenter and Fadi Kanaan for providing CEO turnover data. Jenter and Kanaan (2015) use ExecuComp database to identify the cases of CEO turnover, and then search Factiva news database to determine whether the CEO turnover is forced or voluntary, as well as the exact turnover announcement date.

Table 1. Variable Definition

Variables	Definition	Data Source
CEO Compensation	Item TDC1 in ExecuComp. CEO total compensation is comprised of the following: Salary, Bonus, Other Annual, Total Value of Restricted Stock Granted, Total Value of Stock Options Granted (using Black-Scholes), Long-Term Incentive Payouts, and All Other Total.	ExecuComp
CEO Turnover	An indicator variable equal to one if there is a forced CEO turnover in firm i in year t, and equal to zero if CEO turnover is voluntary or no CEO turnover occurs. The classification of CEO turnovers into forced and voluntary is based on Parrino (1997).	Jenter and Kanaan (2015)
Industry-adjusted Stock Return	A firm's stock return adjusted by the value-weighted industry (3-digit SIC) returns, compounded over 12 months. In CEO turnover regressions, the 12-month period ends one month before the CEO turnover announcement, or ends at the end of calendar year if there is no CEO turnover. In CEO compensation regressions, the 12-month period ends at the end of the calendar year.	Center for Research in Security Prices (CRSP)
CEO Ownership	The percentage of a firm's outstanding shares owned by CEO.	ExecuComp
CEO Tenure	The number of years that a CEO holds his/her position.	ExecuComp
CEO Chairman	An indicator variable equal to one if a firm's CEO is also the chairman of the board, and equal to zero otherwise.	ExecuComp
Board Size	The total number of directors on a firm's board.	RiskMetrics
Fraction Independent Directors	The number of independent directors divided by the total number of directors.	RiskMetrics
Classified Board	An indicator variable equal to one if a firm's board is classified board, and zero otherwise. Classified board (also known as staggered board) refers to the board of directors that is divided into separate classes for the purpose of election. In most instances, there are three classes, with only one class of directors stand for election in any one year.	RiskMetrics
Average Director Tenure	The number of years that a director serves on a firm's board, averaged across all directors in a firm.	RiskMetrics
Average Director's Outside Board Seats	The number of outside boards that a director serves, averaged across all directors in a firm.	RiskMetrics
Fraction Female Directors	The number of female directors divided by the total number of directors.	RiskMetrics
Fraction Interlocking Directors	The number of interlocking directors (a director is interlocked if an inside officer of the firm serves on the board of that outside director's company), divided by the total number of directors.	RiskMetrics
Fraction Former Employee Directors	The number of directors who are former employees of the firm, divided by the total number of directors.	RiskMetrics
G Index	Governance index as defined in Gompers, Ishii, and Metrick (2003)	RiskMetrics
Dual Class Share Structure	An indicator variable equal to one if a firm's common stock has two or more classes, and zero otherwise. Dual class share structure typically grants super voting rights to one class of the stock.	RiskMetrics
Firm Assets	Firm i's book value of total assets (item # 6)	Compustat
Stock Return Volatility	The standard deviation of monthly stock returns in the past 60 months. In CEO turnover regressions, the 60-month period ends one month before the CEO turnover announcement, or ends at the end of calendar year if there is no CEO turnover. In CEO compensation regressions, the 60-month period ends at the end of the calendar year.	Center for Research in Security Prices (CRSP)
Tobin's Q	Firm i's Tobin's Q is computed as [market value of equity (item # 199×iterm # 25) + book value of assets (item # 6) − book value of equity (item #60) −balance sheet deferred taxes (item #74)] /book value of assets (item # 6)	Compustat
CapExp / Assets	Capital expenditure (item # 128) divided by lagged asset (item # 6)	Compustat
Institutional Ownership	The percentage of firm i's outstanding shares held by institutional investors.	Thomson Reuters Institutional (13f) Holdings
Firm Age	Firm i's age in year t, approximated by the number of years listed on Compustat.	Compustat

Table 2
Summary Statistics

Variables	5%	25%	Median	75%	95%	Mean	SD	N
CEO Compensation (in Thousands)	516	1410	2953	6700	19169	5693	11602	12293
CEO Turnover	0	0	0	0	0	0.036	0.186	12608
Industry-adjusted Stock Return	-0.527	-0.201	-0.022	0.181	0.773	0.040	0.502	12364
CEO Ownership	0.000	0.001	0.003	0.012	0.128	0.023	0.060	11950
CEO Tenure	0	2	5	9	22	6.890	7.241	12345
CEO Chairman	0	1	1	1	1	0.767	0.423	12364
Board Size	6	7	9	11	14	9.432	2.726	12364
Fraction Independent Directors	0.375	0.571	0.714	0.818	0.900	0.682	0.166	12364
Classified Board	0	0	1	1	1	0.601	0.490	11639
Average Director Tenure	3.111	5.778	8	10.692	16	8.926	22.317	12363
Average Director's Outside Seats	0	0.364	0.727	1.182	1.929	0.823	0.605	12364
Fraction Female Directors	0	0	0.100	0.154	0.250	0.099	0.007	12364
Fraction Interlocking Directors	0	0	0	0	0.071	0.007	0.030	12364
Fraction Former Employee Directors	0	0	0	0.100	0.200	0.049	0.078	12364
G Index	5	7	9	11	14	9.313	2.610	10315
Dual Class Share Structure	0	0	0	0	1	0.090	0.287	11639
Firm Assets (in Millions)	210	682	1892	6635	43645	14781	75226	12363
Stock Return Volatility	0.055	0.083	0.108	0.151	0.241	0.124	0.062	12361
Tobin's Q	0.852	1.179	1.604	2.529	5.811	2.364	3.635	12358
CapExp / Assets	0.002	0.020	0.040	0.072	0.181	0.059	0.067	11874
Institutional Ownership	0.347	0.570	0.718	0.840	0.920	0.724	2.439	12320
Firm Age	6	12	21	41	54	26.172	16.321	12363

(2006) find that when a majority of board members serve on three or more outside boards, the sensitivity of CEO turnover to performance is significantly lower. Adams and Ferreira (2009) show that gender-diverse boards allocate more effort to monitoring. Following these literature, we include variables such as board size, board independence, faction of interlocking directors, average director's outside board seats, fraction of female directors, as control variables. We also include a governance index (G-index) to proxy for the level of shareholder rights (Gompers, Ishii, and Metrick, 2003). We obtain data on board and corporate governance characteristics from the RiskMetrics database, which contains firms in the Standard & Poor's 1500 index. We follow procedures in Coles, Daniel, and Naveen (2014) to address the data problems with RiskMetrics.

Following prior literature, we also include firm characteristics as control variables, such as firm assets, Tobin's Q, institutional ownership, stock return volatility, capital expenditure, and firm age. We obtain data on these firm characteristics from the Compustat

database. Detailed variable definitions are provided in Table 1.

In Table 2, we present summary statistics for the main variables used in the study. The distribution of CEO compensation is skewed, with median CEO pay being $2.95 million, and mean CEO pay being $5.69 million. The distribution of forced CEO turnover is also skewed. We observe just 538 forced turnovers out of 16,101 firm-year observations.

We first compare the changes in CEO pay-for-performance sensitivity from a pre-event period (2000-2002) to a post-event period (2003-2005), between Delaware firms and non-Delaware firms. We specify the model in equation (1)

$$COMP_{i,t} = \beta_0 + \beta_1 \times RET_{i,t} + \beta_2 \times RET_{i,t} \times DELAWARE_i + \beta_3 \times RET_{i,t} \times POST_t + \beta_4 \times DELAWARE_i \times POST_t + \beta_5 \times RET_{i,t} \times DELAWARE_i \times POST_t + \gamma X_{i,t} + \nu_i + \mu_t + \varepsilon_{i,t} \quad (1)$$

Here, $COMP_{i,t}$ represents the CEO's compensation at firm i in year t. We use the natural log transformation of $COMP_{i,t}$. $RET_{i,t}$ is firm i's industry-adjusted stock return in year t. $DELAWARE_i$ is an indicator variable that equals one if firm i is incorporated in Delaware. $POST_t$ is an indicator variable which takes the value one if the observation occurs in the post-event period (2003-2005), and zero otherwise. X_{it} is a vector of firm-level controls, including CEO characteristics, board and governance characteristics, and firm characteristics. We include firm fixed effects ν_i to control for unobserved heterogeneity. μ_t is year fixed effects. $\varepsilon_{i,t}$ is an i.i.d. error term. The specification does not include the non-interacted $DELAWARE_i$ and $POST_t$, because they are subsumed in the firm and year fixed effects. In (1), β_1 is the estimate of the sensitivity of CEO compensation to changes in returns. The coefficient of main interest is β_5, which measures the change in CEO pay-for-performance sensitivity that can be attributed to Delaware's judicially-led reforms in 2003. We estimate empirical model (1) using the OLS estimator.

Similarly, to test whether the directors of Delaware corporations make more timely CEO replacement decisions when firm stock price declines, we estimate the model in equation (2):

$$Prob\,(TURNOVER_{i,t}) = \beta_0 + \beta_1 \times RET_{i,t} + \beta_2 \times RET_{i,t} \times DELAWARE_i + \beta_3 \times RET_{i,t} \times POST_t + \beta_4 \times DELAWARE_i \times POST_t + \beta_5 \times RET_{i,t} \times DELAWARE_i \times POST_t + \gamma X_{i,t} + \nu_i + \mu_t + \varepsilon_{i,t} \quad (2)$$

Here, $TURNOVER_{i,t+1}$ is an indicator variable which takes the value one if there is a forced CEO turnover at firm i in year t, and zero otherwise. The coefficient of interest is β_5, which is a DiD estimate of the effect of the Delaware's 2003 jurisprudential shift on the sensitivity of CEO turnover to firm stock performance. Empirical model (2) is estimated using the Linear Probability Model (LPM).

5. Empirical Results

5.1. Baseline Model

In Table 3, column (1) shows the effect of Delaware's judicially-led reforms on the sensitivity of CEO compensation to firm performance. The OLS regression excludes the firm-year observations in which a firm experiences CEO turnover. The reason is that ExecuComp reports the compensation of either new CEO or replaced CEO in the turnover year, in which case the compensation data are not what the CEO normally receives in the years with no turnover. For most firms, CEO total compensation reported in ExecuComp is lower in CEO turnover years than in other years. The coefficient on the interaction term *Stock Return* × *Delaware* × *Post* in column (1) is positive (0.317) and statistically significant. This suggests that following the Delaware's reforms, CEO pay-for-performance sensitivity increased significantly. When a firm's annual industry-adjusted stock returns improve (decline) by one unit, Delaware firms increase (decrease) CEO annual compensation by 31.7% more than non-Delaware firms do. In column (2), we report the estimated effects on forced CEO turnover. We find that the Delaware's judicially-led reforms lead to greater sensitivity of CEO turnover in response to change in a firm's stock performance. The probability of replacing a CEO when firm stock performance declines is significantly larger in Delaware firms than in non-Delaware firms. This effect is indicated by the negative and statistically significant coefficient on the

Table 3: The Effects of Delaware's Judicially-led Reforms in 2003 on Board Effectiveness

Variables	CEO Compensation OLS Model (1)	CEO Turnover LPM Model (2)
Stock Return	0.077**[a]	-0.022***
	(0.032)[b]	(0.008)
Stock Return × Delaware × Post	**0.317*** **	**-0.077*** **
	(0.091)	(0.029)
Stock Return × Delaware	-0.106**	-0.001
	(0.042)	(0.011)
Stock Return × Post	-0.215***	0.010
	(0.070)	(0.023)
Delaware × Post	0.032	0.014
	(0.037)	(0.010)
CEO Ownership	-1.972***	-0.424***
	(0.451)	(0.124)
CEO Tenure	0.035	0.052***
	(0.022)	(0.006)
CEO Chairman	-0.016	-0.014
	(0.037)	(0.011)
Board Size	0.152	-0.012
	(0.106)	(0.031)
Fraction Independent Directors	-0.141	0.040
	(0.121)	(0.032)
Classified Board	0.180*	0.001
	(0.094)	(0.026)
Average Director Tenure	-0.056	-0.014
	(0.058)	(0.019)
Average Director's Outside Board Seats	0.007	0.011
	(0.037)	(0.010)
Fraction Female Directors	0.282	0.023
	(0.228)	(0.072)
Fraction Interlocking Directors	0.203	-0.062
	(0.453)	(0.135)
Fraction Former Employee Directors	-0.507**	0.215***
	(0.226)	(0.061)
G Index	0.027	-0.049
	(0.155)	(0.039)
Dual Class Share Structure	0.027	0.012
	(0.116)	(0.026)
Firm Assets	0.390***	-0.038***
	(0.046)	(0.014)
Stock Return Volatility	1.031*	0.156
	(0.579)	(0.188)
Tobin's Q	0.033***	-0.001
	(0.007)	(0.001)
CapExp / Assets	0.559**	-0.102
	(0.282)	(0.080)
Institutional Ownership	0.674***	-0.190***
	(0.156)	(0.050)
Firm Age	-0.165	0.006
	(0.189)	(0.055)
Constant	4.917***	0.382
	(1.207)	(0.351)
Year FE, Firm FE	Yes	Yes
Observations	6228	7353
Adjusted R^2	0.727	0.083

[a] ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

[b] Robust standard errors of the estimate.

interaction term *Stock Return* × *Delaware* × *Post* (-0.077).

A key identifying assumption of DiD is the "parallel trend" assumption. In the absence of the treatment, the average change in CEO pay-for-performance sensitivity and turnover-performance sensitivity would be no different across Delaware and non-Delaware firms. To assess the validity of this key identifying assumption, we follow Bertrand and Mullainathan (2003). We investigate in greater detail the dynamic effects of Delaware's 2003 reforms on the sensitivities of CEO compensation and dismissals to firm performance. We replace the interaction term $RET_{i,t} \times DELAWARE_i \times POST_t$ in equations (1) and (2) with the interaction of $RET_{i,t} \times DELAWARE_i$ with eight time indicators. Those time variables include: *Before (-4), Before (-3)*, *Before (-2)*, and *Before (-1)* are the dummy variables that equal one if the firm-year observation is before the Delaware court decision (4 years before, 3 years before, 2 years before, and 1 year before, respectively), and zero otherwise; *After (+1)*, *After (+2)*, *After (+3)* and *After (+4)* are dummy variables equal to one if the firm-year observation is during or after the shift (1 year after, 2 years after, 3 years after, and 4 years after, respectively), and zero otherwise. In addition, $RET_{i,t} \times POST_t$ in equations (1) and (2) is replaced with interactions of $RET_{i,t}$ with the above time indicators, and $DELAWARE_i \times POST_t$ is replaced with interactions of $DELAWARE_i$ with time indicators.

As shown in Table 4, the estimated coefficients on the interaction terms *Stock Return* × *Delaware* × *Before (-3), Stock Return* × *Delaware* × *Before (-2) , and Stock Return* × *Delaware* × *Before (-1)* are statistically indistinguishable from zero. These results suggest that the Delaware and non-Delaware firms have similar trends in CEO pay-for-performance sensitivity and CEO turnover-performance sensitivity prior to the Delaware court decision. The estimate in column (1) shows that the effect of Delaware's reforms on CEO pay-for-performance sensitivity appears two years after the Delaware court decision that increased shareholder litigation power. The estimate in column (2) shows that a significant change in CEO turnover-performance sensitivity occurs one year after the court decision. The reforms provide stronger immediate incentives for boards of directors

Table 4: Dynamic Analysis of the Effects of Delaware's 2003 Judicially-led Reforms

Treatment firms are the U. S. publicly-traded firms incorporated in Delaware. Control firms are the U. S. publicly-traded firms incorporated in other states. *Before (-4)*, *Before (-3)*, *Before (-2)*, and *Before (-1)* are the dummy variables that equal one if the firm-year observation is before Delaware's jurisprudential shift. *After (+1)*, *After (+2)*, *After (+3)* and *After (+4)* are dummy variables equal to one if the firm-year observation is during or after the shift. In all regressions, we include (1) the interaction of $RET_{i,t} \times DELAWARE_i$ with the above time indicators; (2) the interaction of $RET_{i,t}$ with the above time indicators (not reported on the table); and (3) the interaction of $DELAWARE_i$ with time indicators (not reported on the table). The omitted group (benchmark) is the observations at *Before (-4)*.

	CEO Compensation	CEO Turnover
	OLS Model	LPM Model
Variables	(1)	(2)
Stock Return	-0.104	-0.022
	(0.069)	(0.018)
Stock Return × Delaware × Before (-3)	-0.087	0.019
	(0.109)	(0.028)
Stock Return × Delaware × Before (-2)	-0.051	-0.039
	(0.103)	(0.026)
Stock Return × Delaware × Before (-1)	-0.156	-0.002
	(0.134)	(0.038)
Stock Return × Delaware × After (+1)	-0.107	**-0.126****
	(0.146)	(0.058)
Stock Return × Delaware × After (+2)	**0.361**** [a]	-0.064
	(0.158) [b]	(0.042)
Stock Return × Delaware × After (+3)	0.207	-0.075*
	(0.170)	(0.040)
Stock Return × Delaware × After (+4)	-0.199	-0.056
	(0.200)	(0.070)
Stock Return × Delaware	0.014	0.013
	(0.078)	(0.020)
Control Variables	Yes	Yes
Year FE, Firm FE	Yes	Yes
Observations	8298	9833
Adjusted R^2	0.716	0.067

[a] ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

[b] Robust standard errors of the estimate.

to replace under-performing CEOs.

We observe that Delaware's judicially-led reforms in 2003 have a stronger effect on board monitoring effectiveness during the early years than during the later years. As discussed in previous sections, Delaware's judicially-led reforms in 2003 were a response to the preemptive threat of federal legislation. As the federal threat receded over time, Delaware courts relaxed the tough fiduciary standard that judges had imposed through earlier decisions (Jones, 2011). This explains the decline in the effect of the Delaware's reforms on director incentives to monitor CEOs. In addition, Delaware has a prominent role in the development of corporate law. Given Delaware court expertise in complex corporate litigation, other state courts often follow Delaware's lead. So, after Delaware courts imposed stricter fiduciary standards for directors and officers, the courts of the jurisdictions in other states may follow. As a result, we observe that the effect of the Delaware's reforms on board monitoring effectiveness is most prominent in the first two years following the reforms and diminishes thereafter.

We conduct placebo tests to further support the identification strategy. We shift the date of Delaware's judicially-led reforms two years backwards (i.e., starting in 2001) and forwards (i.e., starting in 2005). Then we replicate the difference-in-differences analysis for each placebo event. For the placebo event in 2001, we use data from 1999 to 2002. Similarly, for the placebo event in 2005, we utilize the data from 2003-2006. If our identification strategy is valid, we would not expect to observe significant treatment effects for these placebo events. In Table 5, we report the results from these placebo tests. Using the placebo event in 2001, the coefficients on the interaction term *Stock Return* $\times$ *Delaware* $\times$ *PostPlacebo* (-0.017 and -0.020) are statistically insignificant. This suggests that there is no differential change in CEO pay-for-performance sensitivity, or turnover-performance sensitivity between Delaware and non-Delaware firms prior to Delaware's 2003 reforms. Also, this result provides evidence that the "parallel trends" assumption is satisfied. In columns (2) and (4) we report the placebo tests using the placebo event in 2005. The estimated coefficients on *Stock Return* $\times$ *Delaware* $\times$ *PostPlacebo* are both

Table 5: Placebo Tests

Columns (1) and (3) report the difference-in-differences estimates using placebo event in 2001. Columns (2) and (4) report the difference-in-differences estimates using placebo event in 2005. All regressions include control variables as in Table 3.

	CEO Compensation OLS Model		CEO Turnover LPM Model	
	1999-2002 Placebo event in 2001	2003-2006 Placebo event in 2005	1999-2002 Placebo event in 2001	2003-2006 Placebo event in 2005
Variables	(1)	(2)	(3)	(4)
Stock Return	-0.077	-0.050	-0.033**	-0.025
	(0.053)	(0.064)	(0.014)	(0.026)
Stock Return × Delaware × PostPlacebo	**-0.017**	**-0.041**	**-0.020**	**-0.009**
	(0.093)	(0.133)	(0.028)	(0.051)
Stock Return × Delaware	0.002	-0.024	0.013	-0.032
	(0.059)	(0.085)	(0.016)	(0.033)
Stock Return × PostPlacebo	0.174**	0.210**	0.026	0.022
	(0.071)	(0.101)	(0.017)	(0.038)
Delaware × PostPlacebo	-0.090*	-0.023	-0.002	0.009
	(0.053)	(0.036)	(0.013)	(0.011)
Constant	5.185***	5.884***	0.967***	0.313
	(1.860)	(1.305)	(0.314)	(0.444)
Control Variables	Yes	Yes	Yes	Yes
Year FE, Industry FE, Firm FE	Yes	Yes	Yes	Yes
Observations	3982	4316	4783	5044
Adjusted R^2	0.707	0.784	0.082	0.095

[a] ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.
[b] Robust standard errors of the estimate.

small and statistically insignificant. These placebo tests support our assertion that the documented differential change in CEO pay-for-performance and turnover-performance sensitivities (as in Table 3) are attributable to the Delaware judicial decisions in 2003, and they are not an artifact of the estimation procedure.

5.2. Propensity Score Matching

An alternative explanation for these effects is that firm characteristics determine the endogenous choice concerning the state of incorporation, and these firm characteristics lead to differential trends in the sensitivities of CEO compensation and CEO turnover to firm stock returns after the Delaware legal reforms. To address this concern, we use propensity score matching to control for the difference in firm characteristics that affects

Table 6: Propensity Score Matching and Difference-in-Differences Estimation

In column (1) of Panel A, we present parameter estimates from a probit regression of a binary variable indicating whether a firm is incorporated in Delaware on important firm characteristics. Using the estimated propensity score, we perform a nearest-neighbor match, where control firms are drawn with replacement. In column (2) of Panel A we report parameter estimates of the probit model estimated using the sample of matched treatment-control pairs. Panel B reports the difference-in-differences estimates of the effect of Delaware's judicially-led reforms in 2003 on board effectiveness using the propensity score matching sample.

Panel A: Comparison of pre-matching and post-matching samples, probit regressions

	Pre - Matching	Post - Matching
Dependent Variable	Delaware	Delaware
	(1)	(2)
CEO Ownership	0.023	-0.040
	(0.764)	(0.777)
CEO Tenure	-0.078	-0.014
	(0.050)	(0.044)
CEO Chairman	0.144	-0.012
	(0.108)	(0.097)
Board Size	-0.503** [a]	-0.120
	(0.214) [b]	(0.194)
Fraction Independent Directors	-0.312	0.259
	(0.300)	(0.267)
Classified Board	0.168*	0.076
	(0.093)	(0.083)
Average Director Tenure	-0.465***	0.049
	(0.116)	(0.098)
Average Director's Outside Board Seats	0.080	-0.039
	(0.075)	(0.065)
Fraction Female Directors	-1.144**	-0.500
	(0.477)	(0.422)
Fraction Interlocking Directors	-1.781	-0.079
	(1.365)	(1.364)
Fraction Former Employee Directors	0.694	0.713
	(0.546)	(0.484)
G Index	-0.644***	0.020
	(0.190)	(0.156)
Dual Class Share Structure	0.240*	0.104
	(0.141)	(0.119)
Firm Assets	0.145***	0.038
	(0.034)	(0.030)
Stock Return	-0.103	0.050
	(0.096)	(0.087)
Stock Return Volatility	0.915	-0.068
	(0.762)	(0.654)
Tobin's Q	0.020	0.004
	(0.030)	(0.028)
CapExp / Assets	-0.660	0.184
	(0.707)	(0.716)
Institutional Ownership	0.890***	-0.354*
	(0.242)	(0.211)
Firm Age	-0.204**	-0.065
	(0.079)	(0.069)
Constant	2.807***	0.128
	(0.723)	(0.614)
Observations	1211	1430
Pseudo R^2	0.097	0.006

[a] ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

[b] Robust standard errors of the estimate.

Panel B. Difference-in Difference Estimation Using Propensity Score Matching Sample

Dependent Variable	CEO Compensation	CEO Turnover
Model	OLS	LPM
	(1)	(2)
Stock Return	0.073*** [a]	-0.043***
	(0.027) [b]	(0.009)
Stock Return × Delaware × Post	**0.336*** **	**-0.086*** **
	(0.081)	(0.027)
Stock Return × Delaware	-0.097**	0.020
	(0.040)	(0.012)
Stock Return × Post	-0.254***	0.014
	(0.050)	(0.021)
Delaware × Post	0.063*	0.022**
	(0.036)	(0.009)
CEO Ownership	-2.833***	-0.528***
	(0.558)	(0.124)
CEO Tenure	0.040*	0.053***
	(0.022)	(0.006)
CEO Chairman	-0.056	-0.020*
	(0.038)	(0.011)
Board Size	0.047	0.013
	(0.111)	(0.029)
Fraction Independent Directors	-0.227*	0.0123
	(0.118)	(0.027)
Classified Board	0.181*	0.002
	(0.094)	(0.026)
Average Director Tenure	-0.054	-0.014
	(0.059)	(0.019)
Average Director's Outside Board Seats	0.022	0.023***
	(0.036)	(0.009)
Fraction Female Directors	0.204	0.065
	(0.226)	(0.065)
Fraction Interlocking Directors	2.291***	-0.055
	(0.461)	(0.124)
Fraction Former Employee Directors	-1.235***	0.207***
	(0.227)	(0.056)
G Index	0.347**	-0.133***
	(0.162)	(0.040)
Dual Class Share Structure	0.0517	-0.002
	(0.131)	(0.015)
Firm Assets	0.336***	-0.011
	(0.046)	(0.012)
Stock Return Volatility	2.472***	0.042
	(0.565)	(0.159)
Tobin's Q	0.029***	-0.002*
	(0.007)	(0.001)
CapExp / Assets	0.560*	-0.048
	(0.316)	(0.070)
Institutional Ownership	0.669***	-0.141***
	(0.151)	(0.044)
Firm Age	0.060	0.023
	(0.189)	(0.049)
Constant	3.300**	0.286
	(1.345)	(0.287)
Year FE, Industry FE, Firm FE	Yes	Yes
Observations	6222	7419
Adjusted R^2	0.696	0.152

[a] ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

[b] Robust standard errors of the estimate.

the assignment into treatment and control groups. The matching procedure begins with a probit regression of a binary variable (indicating whether a firm is incorporated in Delaware) on important firm characteristics. We include firm characteristics identified by the previous literature to be the predictors of Delaware incorporation and the firm characteristics that may affect CEO compensation and dismissals. We measure these firm characteristics in 2002.

In Table 6 (Panel A), we report the results of the probit regression. In column (1), the specification captures a significant amount of variation in the firm choice to incorporate in Delaware, as indicated by a pseudo-R^2 of 0.097 and p-value below 0.001. We use the predicted probability from the probit estimation (the propensity score), to perform a nearest-neighbor match, where control firms are drawn with replacement. In column (2), we illustrate that after matching, the majority of differences in firm characteristics between treatment and control firms have been removed. The pseudo-R^2 of the probit regression using the post-matching sample is 0.006, which is significantly smaller than that of the pre-matching sample.

In Panel B, we report the difference-in-differences estimation results based on the propensity score matching sample. We find that following the Delaware court decisions, treatment firms exhibit significantly higher CEO pay-for-performance sensitivity and higher CEO turnover-performance sensitivity. In column (1), the estimated treatment effect on CEO pay-for-performance sensitivity is 0.336, with statistical significance at the 1% level. Similarly, in column (2) the estimated treatment effect on CEO turnover-performance sensitivity is -0.086, which is statistically significant at the 1% level.

In an untabulated analysis, we conduct placebo tests and dynamic analysis. The test results using propensity score matching sample are similar to those of baseline results using all Delaware and non-Delaware firms. Overall, the findings provide evidence that enhancing shareholder litigation rights has an important impacts on board of director governance decisions.

6. Conclusion

Corporate law in the United States grants shareholders litigation rights. An important question is: How do shareholder litigation rights affect corporate governance? Delaware's judicially-led reforms in 2003 empowered shareholders to pursue derivative litigation. We find that following the reforms, boards of directors have stronger incentives to make more effective corporate governance decisions. CEO compensation and CEO turnovers in Delaware firms become more sensitive to stock return performance. These results imply that empowering shareholders to pursue derivative litigation can have economically important impacts on corporate governance.

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