CORPORATE LITIGATION, CORPORATE GOVERNANCE RESTRUCTURING, AND EXECUTIVE COMPENSATION

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ABSTRACT

This thesis examines corporate governance consequences within US publicly-listed companies, following encounters with litigation. Corporate litigation can impose significant wealth losses upon the sued companies, giving rise to both agency and reputational incentives to instigate changes. The thesis addresses the issue of whether, and to what extent, public companies undergo internal changes following litigation, and examines the various penalties incurred by the executive officers of the sued corporations. A large sample of lawsuits filed against the Standard and Poor's 1,500 companies during 2000-2007 is employed, comprising environmental violations, securities fraud, antitrust litigation, intellectual property infringements, and contractual disputes. The thesis further investigates the roles of lawsuit-specific characteristics, including the nature of allegations, their economic magnitudes, and their legal merits, in predicting the observed changes.

Chapter 2 summarizes the literature documenting a decline in market valuation upon the filing of lawsuits against public companies, and briefly outlines the issues pertaining to each type of litigation examined in this thesis. Chapter 3 details the procedures for collecting litigation data, and explores the characteristics of the lawsuits included in the dataset. Chapter 4 investigates executive turnover following litigation filings. By employing probit regressions and the Heckman Selection Model, this chapter produces evidence that the filing of lawsuits is associated with an increase in CEO turnover within the defendant companies. The nature of the allegations (particularly securities, intellectual property, and antitrust lawsuits) and their legal

merits (proxied by their manner of disposition) exhibit strong explanatory powers, indicating that agency concerns rather than reputational incentives appear to be driving the increased executive turnover. Chapter 5 investigates whether sued companies subsequently undergo restructurings in their boards of directors, by examining the change in board independence and size. Empirical evidence shows that board independence tends to increase, particularly following securities and contractual lawsuits. The changes are associated with the economic magnitudes of the lawsuits but not their legal merits. Chapter 6 focuses on the economic penalties imposed on the CEOs by a decrease in their remuneration. Empirical evidence shows that CEOs of sued companies tend to incur a reduction in cash and bonus compensation following litigation filings. The reduction is particularly associated with intellectual property and contractual lawsuits. Chapter 7 then examines the reputational penalties incurred by the CEOs following corporate lawsuit filings. It documents that, following securities lawsuits, CEOs are more likely to lose outside directorships held in other companies. Additionally, CEOs who depart from the sued companies during the period surrounding litigation filings tend to face an impaired prospect of finding comparative reemployment, especially following contractual lawsuits.

This thesis contributes to the literature by extending the realm of the existing investigations beyond the traditional focus upon securities and fraud allegations. It examines the public companies' responses to a diverse range of different types of corporate lawsuits. The findings shed light on corporate attitudes towards allegations of different natures. They also have implications for regulators, informing them of the non-legal penalties faced by managers of public companies for allegedly breaching the law.

DECLARATION

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CHAPTER ONE:

INTRODUCTION

1 Overview

This Thesis examines the impacts of corporate litigation, filed against US publicly listed companies, on the management and corporate governance structure of the sued corporations. In particular, it investigates executive turnover, restructuring of the board of directors, changes in executive compensation, and decline in executive reputation, following the filing of litigation against the Standard and Poor's 1,500 companies. Furthermore, this Thesis explores the roles of the idiosyncratic characteristics of lawsuit filings, including the natures of the allegations, the economic magnitudes of the demands for compensation, and the legal merits of the claims.

By employing a large sample of lawsuits filed against US public companies, this Thesis provides an extensive body of empirical evidence with respect to the consequences for managers as a result of lawsuits filed against their corporations. The findings enable fresh insights into the attitudes of public corporations and the executive labor markets towards different allegations.

Utilizing a sample of 20,934 corporate lawsuits filed against the Standard and Poor's 1,500 companies from 2000 through 2007, this study investigates four aspects of litigation-induced changes within the sued companies. The first empirical chapter examines whether sued firms respond to damaging allegations by instigating managerial turnover. The second empirical chapter investigates whether lawsuit filings

are also followed by corporate governance restructuring, namely changes in the independence and size of the board of directors. The third chapter examines whether the CEOs suffer economic penalties by reductions in their compensation, and the fourth investigates reputational penalties incurred by CEOs, in the forms of losing outside directorships and experiencing impaired future career prospects.

2 Motivation & Research Objectives

The objective of this Thesis is to conduct a comprehensive study of the impacts of corporate lawsuits on numerous aspects of a public company's management. Through the examination of a range of consequences incurred by the management of sued companies, this Thesis aims to provide evidence of the operation of various corporate governance mechanisms, and their effectiveness in imposing penalties on managers following litigation. Furthermore, by encompassing a broad spectrum of litigation in the scope of the study, this Thesis seeks to shed light on the attitudes of public companies towards allegations of different natures.

Corporate litigation imposes significant impacts upon public companies which are named as defendants, giving rise to consequences which range from instantaneous to long-lasting. First, the significant legal costs associated with defending a lawsuit constitute an inevitable drain on the company's resources (Coffee, 1986; Romano, 1991; Haslem, 2005). Second, the risk of losing the trial and receiving considerable legal claims for compensation may adversely affect the company's financial position (Cutler & Summers, 1987; Fields, 1990; Hertzel & Smith, 1993). Third, preparations for the defense of the litigation divert time and attention of managers and staff of the

sued companies from their usual business operations (Johnson, Nelson & Pritchard, 2000; Black, Cheffins & Klausner, 2006; Dai, Zhang & Jin, 2008). Fourth, where the legal disputes disrupt the companies' existing contractual relationships (Phillips & Miller, 1996), or where the litigation involves issues of social or political sensitivity (Bhagat, Bizjak & Coles, 1998), the company's reputational capital may be jeopardized, affecting its future economic success (Johnson, Nelson & Pritchard, 2000; Black, Cheffins & Klausner, 2006). Due to these adverse expectations, the filing of a lawsuit constitutes negative news for the defendant corporation, which usually triggers adverse stock market responses, leading to immediate and substantial loss of shareholder wealth (Ellert, 1976; Wier, 1983; Cutler & Summers, 1987; Fields, 1990; Feroz, Park & Pastena, 1991; Hertzel & Smith, 1993; Bizjak & Coles, 1995; Griffin, Grundfest & Perino, 2004; Karpoff, Lott & Wehrly, 2005; Koku, 2006; Raghu et al., 2008; Gande & Lewis, 2009).

Given these adverse consequences associated with litigation, it is imperative to investigate whether and how the sued companies respond to litigation filings. Firm-level responses include replacing the previous CEO in favor of a superior candidate, and strengthening the vigilance of board monitoring by pursuing changes in board composition; both measures can be motivated by either agency incentives, with the aim of reducing the likelihood of the offending practices or actions recurring in the future, or legitimacy incentives, to combat the adverse publicity associated with the allegations. Meanwhile, personal penalties may be imposed on the managers of the sued companies in the wake of lawsuit filings. These include reductions in executive compensation, and impairments of executive reputation. These consequences are imposed either by mechanisms internal to the sued companies (whereby the boards of

directors reduce CEO compensation) or by the external operation of the executive labor market (whereby the collective actions of other corporations impose reputational penalties on the executives). The penalties incurred by managers are of great significance, because the existence of such *ex post* consequences plays a substantial role in influencing management decision-making *ex ante*.

Public companies can be motivated by two incentives to engage in corporate governance restructuring (including managerial turnover and restructuring the board composition) in the wake of corporate litigation. First, given the information asymmetry underlying the principal-agent relationship (Jensen & Meckling, 1976; Jensen & Ruback, 1983), adverse selection arises as a potential agency problem, due to the difficulty for the owners to assess the professed competence of the managers. A lawsuit filed against the company serves to bridge this information asymmetry, by revealing the quality of managerial decision-making which has exposed the company to legal liabilities. Consequently, the boards of directors are expected to have incentives to discipline the managers, by replacing them with other candidates perceived to be superior, as well as strengthening the boards' vigilance in monitoring the managers' decision-making processes. In addition to this agency incentive, a second incentive arises from legitimacy concerns. As corporations operate within the terms of an implied social contract (Preston & Post, 1975; Post, 1978), a breach of law can threaten the social legitimacy of the corporations, especially in cases of socially sensitive lawsuits where a company's reputation is adversely affected by the allegations. In these circumstances, boards of directors have the additional incentive to instigate corporate governance changes, as a means of salvaging the companies' reputations and restoring

their legitimacy. Thus, both agency and legitimacy incentives may motivate corporate governance restructuring in response to lawsuit filings.

Furthermore, managers are expected to receive economic and reputational penalties for having exposed their companies, through their past decision-making, to legal liabilities giving rise to the lawsuits. Economic penalties can be imposed by internal mechanisms within the corporations, in the form of reductions in executive compensation. Reputational penalties are imposed externally by the operation of the executive labor market, as reflected by losses of outside directorships, and impairment of the managers' future career prospects. The examination of the penalties received by managers of sued corporations provides significant insights into the way in which these internal and external mechanisms operate, the relevant determinants of the penalties imposed, and the differing responses of public corporations to allegations of different characteristics.

Despite the significance of corporate litigation in the current business environment, the post-litigation changes in the corporate governance of defendant companies, and the economic and reputational consequences for their managers, have been seldom researched in the context of a diverse range of corporate lawsuits. Existing literature addresses only the various consequences of fraud or securities violations. This Thesis investigates five categories of lawsuits: environmental, securities, antitrust, intellectual property, and contractual lawsuits. The significant negative consequences associated with corporate litigation render it imperative to conduct investigations into their impacts, both on the internal corporate governance restructuring of the sued companies, and on their managers. The results of these investigations provide insights into the incentives and motivations underlying the operation of the various corporate

governance mechanisms, and shed light on the attitudes of public companies, when confronted with different kinds of adverse allegations levied against them.

In addition, two further lines of inquiry are designed to expand and complement the investigations described above. First, this Thesis examines whether and how the economic magnitudes of the lawsuits, as proxied by the amount of monetary demands for compensation filed by the plaintiffs, determine the occurrence and the degree of the observed corporate governance changes within the sued companies and the penalties incurred by their executives. Second, another lawsuit-specific characteristic, the legal merits of litigation filings as proxied by their eventual manners of disposition, is examined in relation to its role in predicting the changes in corporate governance, managerial turnover, and executive compensation and reputation.

3 Summary of Major Findings and Implications

Chapters 4 to 7 examine empirically four aspects of the impacts of corporate lawsuits on the defendant companies and their executive officers.

The results in Chapter 4 provide empirical evidence to confirm that public companies do initiate executive turnover in the wake of a wide variety of lawsuit filings. The results from multivariate analysis, in which firm-specific characteristics (including size, performance, leverage, board independence and size), time-specific variations, and executive-specific characteristics (including age, tenure, and stock ownership) are controlled for, indicate that the filing of a diverse range of corporate lawsuits, in general, is associated with an increase in the likelihood of CEO turnover during the

ensuing three-year period. Due to the fact that different companies face disparate degrees of exposure to legal risks, there exists potential selection bias in observing the post-litigation changes in corporate governance. After controlling for such potential selection bias by employing the Heckman Selection Model, these results remain robust. The breakdown of litigation filings by different lawsuit categories produces evidence that only lawsuits which impose significant adverse economic impacts on the sued companies, including securities, intellectual property and antitrust lawsuits, are significantly associated with the observed increase in CEO turnover. Additionally, executive turnover is significantly associated with the legal merits of the allegations, but not the economic magnitudes of the claims, indicating that boards take into consideration the actual blameworthiness of the underlying conduct, rather than the publicity associated with the allegations. These observations consistently indicate that boards of directors, in their decisions to replace CEOs in the wake of corporate litigation, are primarily motivated by agency incentives (to penalize CEOs for prior decision-making), rather than legitimacy incentives (to restore the companies' reputations).

Chapter 5 examines the post-litigation changes in board composition. The results reveal that, following lawsuit filings against public companies, there is an average increase in the proportion of independent directors on the boards. These results are subjected to robustness checks by employing the Heckman Selection Model, to control for potential selection bias arising from the different litigation risks faced by the sample companies. Amongst the five categories of litigation, securities and contractual lawsuits are most significantly associated with an increase in board independence. The results from the breakdown by lawsuit categories indicate that, similar to their decisions to instigate

CEO turnover, boards of directors respond most significantly to lawsuits which reveal strong agency conflicts (securities lawsuits), when initiating changes in board composition. Moreover, the economic magnitudes of the litigation are significant in predicting an increase in board independence. As lawsuits of greater magnitudes tend to have a higher profile, but are not necessarily indicative of greater liability of the sued companies (without considering lawsuit merits), the results indicate that boards also take into account the reputational impacts associated with large-scale litigation, when making the decisions to increase the proportion of independent directors on the boards.

With respect to the economic penalties incurred by CEOs, Chapter 6 produces empirical evidence that, subsequent to the filing of various corporate lawsuits, CEOs of sued companies do experience a negative change in their compensation. Lawsuits which impose an immediate economic impact on the company, namely contractual and intellectual property lawsuits, exhibit the strongest statistical association with the subsequent decrease in the cash component of CEO compensation. In contrast, reductions in total compensation are significantly predicted by securities lawsuits. These results indicate that CEOs are penalized by reductions in their compensation, following only those lawsuits that have the potential to directly adversely affect firm performance, including IP, contractual, and securities lawsuits.

Similarly, Chapter 7 produces evidence in relation to the reputational penalties incurred by CEOs of sued companies, in the form of losses of directorships on the boards of other companies, and impairments of their career prospects in seeking reemployment. CEOs only incur losses of seats on the boards of other companies following securities litigation. Nonetheless, CEOs who depart during the periods surrounding both

contractual and securities litigation filings face impaired career prospects of finding comparable reemployment. The significant association between litigation and impaired reemployment prospects remains robust after the potential selection bias is controlled for. Contractual and securities lawsuits both involve parties which are contractually related to the sued companies (for instance, suppliers, customers, or shareholders). The empirical results suggest that the executive labor market forces impose reputational penalties upon CEOs of the sued companies, only following lawsuits that involve parties contractually related to the companies, but not following lawsuits involving only unrelated third parties (for instance, environmental lawsuits). This is attributable to the fact that the future operation of the companies is only affected by disputes with related parties (such as suppliers or customers), who can penalize the companies through future contracting (for example, by refusing supplies or boycotting the company's products). In contrast, unrelated third parties (for instance, residents of the local community who are the alleged victims in environmental disputes) do not have the same degree of direct contractual power to exert penalties on the sued companies. These results provide significant insights into the operation of the executive labor market, which distinguishes between lawsuits that involve parties contractually related to the companies, and those that do not, by imposing reputational penalties on the sued companies' executives following only the former allegations, but not the latter.

Several implications can be drawn from the body of evidence provided in this Thesis. First, the corporate governance mechanisms within public companies, including that by which managers are replaced by the board, and the process through which board composition is determined, operate effectively in response to adverse allegations filed against the companies. Companies not only engage in changes in managerial identity

and board composition in light of the adverse allegations, but boards of public corporations are capable of assessing each lawsuit on an individual basis, taking into account its economic scale and legal merit, in determining the appropriate changes that follow.

Second, in addition to legal penalties, the executive officers of sued companies suffer personal consequences as a result of their companies facing litigation, including reductions in compensation and a decline in reputation. These consequences should be taken into account, when assessing whether the current legal regimes impose sufficient penalties for these breaches of law.

Third, the empirical evidence provides significant insights into the different attitudes of public companies and of the executive labor market forces, in responding to allegations of different natures. Public companies take very seriously litigation from which negative economic consequences arise. This constitutes a striking contrast to their general indifference towards litigation which threatens the social legitimacy of the firms but imposes no immediate financial threat. This evidence calls into question the general ethics of public corporations, which appear unmoved by social legitimacy concerns, as evidenced by their responses to legal allegations. These results give rise to somber policy implications, in light of the growing significance of social responsibilities such as environmental protection in today's society.

4 Contribution

Despite the significant adverse impacts that corporate litigation imposes on the defendant companies, few existing studies have investigated the flow-on consequences of a wide range of litigation, in the forms of corporate governance changes within sued companies, or penalties incurred by their executives. The existing literature in this field focuses almost exclusively on securities and fraud allegations, whilst little attention is paid to non-fraud corporate lawsuits. This Thesis constitutes the first study of a diverse variety of different types of lawsuits, and the corporate governance consequences and executive labor market penalties that ensue.

The first contribution of this Thesis is that it extends the realm of existing research from the traditional scope confined to securities and fraud revelations, to a wide range of corporate lawsuits. The investigation into the roles of environmental, antirust, intellectual property, and contractual lawsuits, provides significant new empirical evidence with respect to the responses of the internal and external corporate governance mechanisms, when confronted with various legal allegations. Capital market literature provides evidence that, in addition to securities fraud allegations, other types of lawsuit filings also lead to significant negative market responses. However, prior studies do not delve further into the investigation of whether, subsequent to the lawsuit filings, any corporate governance restructuring takes place within the sued companies, or whether any negative consequences are incurred by their management. This Thesis contributes to the literature by generating new evidence of how public companies and the executive labor market forces respond to a diverse range of corporate lawsuits. In addition to securities lawsuits, antitrust and intellectual property lawsuits are followed by increased

executive turnover. Contractual lawsuits are significant in predicting reputational penalties received by the CEOs. Meanwhile, CEOs suffer economic penalties by reduced compensation following both intellectual property and contractual lawsuits.

Second, the wide spectrum of corporate lawsuits investigated in this Thesis further contributes to existing literature, by allowing for comparisons between the companies' responses to allegations of different natures. By examining the firms' different reactions when faced with lawsuit filings of varying economic and reputational impacts, this Thesis provides potent new evidence regarding the incentives underlying the decisions of the boards of directors, and those driving the executive labor market forces, in determining corporate governance changes and personal penalties imposed on the executives of the sued companies. Empirical results indicate that, in initiating corporate governance changes in the wake of litigation, boards of directors are concerned with agency incentives rather than reputational incentives. Significant corporate governance changes occur following lawsuits which impact on the business operations of the companies, but not those where the companies allegedly benefit economically at the expense of breaching the law. Similarly, the operations of the managerial labor market are such that CEOs are penalized by internal mechanisms, through which a reduction in compensation is imposed, only following lawsuits with an immediate adverse economic impact on firm performance. Reputational penalties, too, are only imposed on CEOs following litigation against parties contractually related to the companies (such as in the cases of contractual lawsuits), rather than third parties (in the cases of environmental lawsuits), because the former have the power to impose higher costs on the companies' future operations through the process of repeated contracting.

This evidence is important in informing legislatures and other lawmakers, with respect to the attitudes of public corporations towards different allegations, as reflected by their responses to litigation filings. Additionally, it informs policy-makers of the full extent of the penalties received by managers of public corporations, when their companies have allegedly breached the law. These results make a significant addition to the body of evidence to inform the debate as to whether the current legal penalties for various breaches of law are sufficient for punitive and deterrence purposes.

Third, this Thesis conducts an in-depth analysis of the roles of lawsuit-specific characteristics, including the economic values and legal merits of the litigation filings, in determining the corporations' responses. This empirical evidence contributes to existing literature, as it sheds light on the relevant factors taken into consideration by sued public companies and the executive labor market, in evaluating the lawsuits filed. Boards of public companies, in imposing penalties on CEOs in the form of executive turnover or reductions in compensation, do take into consideration the legal merits of the lawsuits. On the other hand, boards, in deciding whether to engage in restructuring their composition in the wake of litigation, consider the economic scales of the allegations to be a relevant factor. In contrast, in imposing reputational penalties on the sued companies' executives, the managerial labor market forces take into consideration neither the economic magnitudes nor the legal merits of the lawsuits. This evidence leads to superior understanding of the operations of both the corporate governance mechanisms internal to the companies, and those of the executive labor markets external to the companies, thus allowing an evaluation of their effectiveness.

5 Thesis Structure

The remainder of this Thesis is organized as follows. Chapter 2 reviews the existing literature on the variety of lawsuits investigated in this study. It provides an overview of the institutional background and legal environment in which this study is undertaken. By providing a summary of the underlying legal issues associated with each type of corporate litigation, including environmental, securities, antitrust, intellectual property, and contractual lawsuits, this broad literature review provides the theoretical underpinning, upon which the different types of lawsuits are differentiated in the development of research hypotheses in each empirical chapter. Chapter 3 details the data collection procedures in relation to the sample of lawsuits examined in this Thesis. Additionally, it provides detailed descriptions of the lawsuit-related explanatory variables, which are employed in the subsequent four empirical chapters. Furthermore, it presents descriptive statistics relating to the five categories of lawsuits included in the dataset. Chapters 4 and 5 investigate the corporate governance restructuring initiated within the sued companies in the wake of litigation filings, including managerial turnover and changes to board composition. Chapters 6 and 7 focus on the economic and reputational penalties incurred by chief executive officers of the sued companies following the lawsuits. The four empirical chapters, Chapters 4 through 7, investigate the following specific research questions:

Chapter 4 examines whether CEOs of sued companies experience a higher likelihood of turnover during the periods following litigation filings;

Chapter 5 investigates whether the sued corporations seek to strengthen the monitoring of management by the board of directors, by increasing the proportion of independent directors on the board;

Chapter 6 examines whether CEOs of the sued companies incur economic penalties imposed by internal mechanisms, in the form of reductions in executive remuneration, following the lawsuit filings; and

Chapter 7 conducts an analysis into the reputational penalties against the CEOs, which are imposed by the executive labor market following lawsuit filings, in the form of net losses of directorships on other companies' boards, and impairments of their future career prospects.

Finally, Chapter 8 concludes the Thesis by providing a summary of the findings from the analysis conducted, a discussion of potential limitations, and suggestions for future research.

CHAPTER TWO:

LITERATURE REVIEW AND

INSTITUTIONAL BACKGROUND

1 Introduction

The objective of this Chapter is to provide a broad review of the literature which investigates the role of litigation in the context of public corporations, and its impacts upon corporate defendants. Despite the significant economic, reputational, and governance implications of corporate litigation, the body of literature which examines their impact is relatively scattered. Most studies focus upon one type of lawsuits; furthermore, most prior research only examines the economic aspects of the impact of litigation, rather than the more profound corporate governance consequences. The underlying theories identified in this Chapter are used in the development of hypotheses in the empirical chapters of this Thesis.

This Chapter first examines in Section 2 the economic impact of corporate litigation in general on the defendant corporations. Due to the diverse and individualistic nature of each type of lawsuits studied, Section 3 addresses the legal issues pertaining to each specific type of litigation examined, thus providing a background to the investigations conducted in this Thesis. Finally, Section 4 provides an analysis with respect to the scope and limitations of existing literature.

2 Impact of Litigation on Defendant Corporations

A comprehensive body of literature has examined the impact of litigation announcements upon defendant corporations' equity performance. By employing the event study methodology adopted by Ball and Brown (1968), prior researchers document that the announcements of litigation, which are generally deemed by capital market participants as adverse news in relation to the defendant companies' valuation, lead to significant negative abnormal returns on the sued companies' stocks, causing deterioration in their shareholder wealth.

2.1 Filing Date Effects

The majority of this body of capital market research literature focuses on the filing date effects of litigation, investigating the stock market reactions to the filings of a variety of lawsuits against public companies, including securities litigation (Feroz, Park & Pastena, 1991; Griffin, Grundfest & Perino, 2004; Koku, 2006; Gande & Lewis, 2009), antitrust litigation (Ellert, 1976; Wier, 1983; Bizjak & Coles, 1995), intellectual property litigation (Raghu et al., 2008), and inter-firm commercial litigation (Cutler & Summers, 1987; Fields, 1990; Hertzel & Smith, 1993). As the filing of a lawsuit is considered to be bad news by capital market participants, the vast majority of prior studies documents significant negative abnormal returns on the stocks of the defendant firms upon the initial lawsuit filings, causing deterioration in the wealth of existing shareholders.

An early body of literature investigates the capital market responses to the announcement of inter-firm commercial litigation. By employing a case study approach in relation to the *Pennzoil v Texaco* lawsuit, a number of researchers documented significant negative abnormal returns on the defendant company's stocks upon the announcements of litigation filings (Cutler & Summers, 1987; Englemann & Cornell, 1988; Fields, 1990; Hertzel & Smith, 1993). These studies provide an insight into the adverse impact of litigation on firms' economic values; however, the scope of these studies is significantly limited because, as case studies, their results are not necessarily generalizable.

Prior studies which examine the market response to the filings of securities lawsuits produce evidence that the initial announcements of the filing of shareholder litigation tend to trigger adverse market reactions and negatively impact on firm value (Ferris & Pritchard, 2001; Griffin, Grundfest & Perino, 2004; Koku, 2006; Gande & Lewis, 2009). Evidence is found by Ferris and Pritchard (2001), who study the stock market reaction to shareholder litigation between 1995 and 1999, indicating significant negative abnormal returns averaging -3.47% upon the filings of federal securities class actions. Similarly, Griffin, Grundfest and Perino (2004) find that the defendant firm's stocks suffer an abnormal negative return, averaging -4.1% upon securities lawsuit filings between 1990 and 2002. Koku (2006) likewise provides evidence of adverse market reactions upon the filings of shareholder lawsuits, by sampling from the 1990-1994 period. Further, Gande and Lewis (2009) found significant negative stock price reactions to 1,915 securities class action lawsuits filed between 1996 and 2003.[1] In

[1] Gande and Lewis (2009) argue that an implication drawn from this discovery is that traditional studies such as that by Koku (2006), which typically focus on the filing date effect, understate the magnitude of shareholder losses, and the understatement is greater for firms with a higher likelihood for being sued.

addition, studies conducted by Feroz, Park and Pastena (1991) and Dechow, Sloan, and Sweeney (1996) investigate the capital market responses to SEC enforcement actions against corporations for securities violations. Whilst both studies document significant declines of market valuation when the securities frauds are revealed, Feroz, Park and Pastena (1991) find that even when the market already possesses prior knowledge of violations, the announcements of SEC enforcement action still induce a -6% abnormal return during the (-1, 0) period. Overall, despite the differences in the magnitude of their findings, these studies provide overwhelming evidence confirming the adverse market impact of securities lawsuits upon the defendant corporations.[2]

In addition to securities lawsuits, antitrust and intellectual property lawsuits are also documented to have significant negative impact on the stock market performance of the sued companies. Bizjak and Coles (1995) examine the impacts of litigation on shareholder wealth using a sample of private inter-firm antitrust lawsuits between 1973 and 1983. Consistent with previous literature concerning securities lawsuits (Cutler & Summers, 1987; Englemann & Cornell, 1988; Fields, 1990; Bhagat, Brickley & Coles, 1994; Bhagat, Bizjak & Coles, 1998; Koku, Qureshi & Akhigbe, 2001), they find a significant price decline of -0.6% experienced by the defendant firms upon filing of a lawsuit, averaging a loss of $4 million for the 343 defendant firms in the sample. Additionally, Raghu et al (2008) examine the impact of patent infringement litigation upon the capital market performance of defendant firms in the information technology

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Consequently, many of these previous studies fail to fully capture the impact of litigation on the firm's stock performance.

[2] Apart from confirming the adverse filing date effects associated with securities lawsuits, these studies also produce evidence that the capital markets view lawsuits not as isolated events but as sequential events, by documenting negative wealth impact in addition to filing date effects in response to revelations of securities fraud prior to the actual lawsuit filings (Ferris & Pritchard, 2001; Griffin, Grundfest & Perino, 2004; Gande & Lewis, 2009).

industry. The results are largely consistent with those obtained by Bizjak and Coles (1995); they document a statistically significant cumulative abnormal return of -2.66% for the defendant firms upon filing.

Overall, the empirical results from the prior literature provide strong indications of significant negative abnormal returns on the stocks of defendant corporations upon the filings of lawsuits against them.

2.2 Termination Date Effects

Prior literature provides unequivocal evidence of the adverse capital market response to the filings of corporate litigation against publicly listed companies. In contrast, results from existing studies are more ambivalent with respect to the valuation impact of the termination of lawsuits. Whilst a number of prior researchers document insignificant capital market responses to the resolution of corporate litigation, other researchers document significant favorable or adverse impacts on market value, depending on the nature of the resolutions.

Feroz, Park and Pastena (1991) find that settlements of SEC actions against public corporations for securities violations have insignificant impact upon the firms' capital market valuations. Similarly, Fischel and Bradley (1986) examine stock price reactions to court judgments on the defendants' motions to dismiss in securities lawsuits between 1962 and 1983.[3] They observe no significant abnormal returns following the ruling by

[3] The proceedings of a shareholder lawsuit involve the defendant firm filing a motion to dismiss shortly after the lawsuit is filed, outlining the reasons why the lawsuit is of insufficient merit and thus should be dismissed.

the court whether or not to dismiss the lawsuits, indicating that neither termination nor continuation of a securities lawsuit has a significant impact on shareholder wealth. In addition, Ferris and Pritchard (2001), using a sample of federal securities class action lawsuits filed between 1995 and 1999, find no significant capital market response over the (-1,+1) event window surrounding the resolution of the lawsuits. Furthermore, Raghu et al (2008), by examining the settlements of patent infringement lawsuits, offer no evidence of significant price reactions experienced by the defendants.

However, Karpoff and Lott (1999), who study a sample of 1,979 punitive lawsuits from 1985 to 1996, find significant wealth loss for the defendant firms following the announcements of the verdict in favor of the plaintiffs (-0.62% negative abnormal returns). On the other hand, Koku and Qureshi (2006) examine the effects of the settlement of inter-firm lawsuits upon the defendant companies' capital market performance, and find the defendant firms' share price reacts positively to news of settlement, arguably as a result of terminating the negative publicity associated with the litigation proceedings. However, this positive market reaction to lawsuit settlements does not persist when the defendants have been the subject of more than one lawsuit prior to settlement within a five-year period, which the authors attribute to the firm's reputation being too severely damaged to be remedied through removal of their name from the limelight. Further, Koku and Qureshi (2006) observe that upon settlement/termination of the lawsuit, positive price reactions occur for the defendant firm but no significant changes materialize in the plaintiff's firm value. However, Raghu et al (2008), by using a sample of patent infringement lawsuits in the information technology industry, offer evidence to the contrary, that the average abnormal return for the plaintiff firms at settlement/termination date is a significantly

positive 1.17%, while the positive price reaction experienced by the defendant is not statistically significant (Raghu et al., 2008). This inconsistency between the findings is potentially attributable to the limited sample size utilized in both studies: 65 lawsuits in the study by Raghu et al (2008) and 97 in the study of Koku and Qureshi (2006).

Overall, the studies investigating the capital market responses to the termination of litigation do not produce uniform evidence. Unlike the filing of litigation, which is generally associated with negative market reactions, the capital market effects of lawsuit terminations appear to depend significantly upon the nature and circumstances of each resolution.

2.3 Size of Wealth Decline and Deadweight Loss

Prior studies also examine the scale of wealth loss associated with lawsuit filings, allowing an understanding of the market's assessments of the firm's decline in valuation relative to the actual economic losses associated with the lawsuits (Cutler & Summers, 1987; Fields, 1990; Hertzel & Smith, 1993)

The $14 billion lawsuit between two oil companies in the 1980s, *Pennzoil v Texaco*, first gave rise to significant academic interest in relation to how commercial litigation between corporations may affect the shareholders of the firms involved. A number of early studies (Cutler & Summers, 1987; Fields, 1990; Hertzel & Smith, 1993) examine the impact of the *Pennzoil v Texaco* lawsuit on shareholder wealth using an event-study methodology. Cutler and Summers (1987) find that the litigation causes the combined value of the two firms involved to reduce by some $2 billion. The gain experienced by

the plaintiff firm, by way of positive abnormal returns, amounts only to 17% of the loss experienced by the defendant. Furthermore, upon the announcement of dispute resolution, only 65% of the previous loss is reversed. Fields (1990), who likewise documents combined wealth loss between the two firms, argues that the asymmetrical effect of corporate litigation on shareholder wealth indicates the presence of large and considerable transaction costs imposed upon the defendant firm by the market. Hertzel and Smith (1993) further document that the *Pennzoil v Texaco* lawsuit not only has a negative impact on the value of the two litigating firms, but also imposes significant negative spillover effects on the industry portfolio at large, thus adversely affecting shareholder wealth of those firms which are not directly involved in the lawsuit. Englemann and Cornell (1988) conduct a similar project involving a case study of five major inter-firm lawsuits, including the *Pennzoil v Texaco* dispute. Consistent with the other studies, these authors also observe significant wealth leakage and combined loss between the plaintiff and defendant firms.

In addition to these case studies, Bhagat, Brickley and Coles (1994) conduct a large-sample analysis of the stock market reactions to various corporate litigation, including contractual, intellectual property, and antitrust lawsuits. Using a sample of 355 firms from the period between 1981 and 1983, the authors produce evidence consistent with prior literature, by documenting, upon the filing of a lawsuit, an average decline of the defendants' market valuation of approximately 1%, and no significant gains on the part of the plaintiffs, which give rise to an average combined loss of value of $21 million for litigating firms.

Similarly, Bizjak and Coles (1995), by studying private inter-firm antitrust lawsuits from 1973 through 1983, document a significant decline in market valuation of -0.6% for the sued firms upon the filing of a lawsuit. The average loss of shareholder value amounts to $4 million for the 343 defendant firms. Furthermore, unlike prior research which finds no significant gains for the plaintiff firms (Bhagat, Brickley & Coles, 1994; Koku, Qureshi & Akhigbe, 2001), Bizjak and Coles (1995) observe that, within the sample of 96 plaintiff firms, the announcement of the filing of a lawsuit triggers a wealth gain of 1.2%, averaging $3 million. Nonetheless, the results from the study confirm the combined wealth loss between the plaintiff and defendant firms documented by earlier literature (Cutler & Summers, 1987; Englemann & Cornell, 1988; Fields, 1990). The authors attribute the sources of wealth leakage to financial distress, behavioral constraints, and the risk of follow-on suits, which are factors to influence the defendant's propensity to settle.

These studies provide an insight into the impact of litigation on firm value, especially in light of the combined wealth loss between the litigating firms, whereby the losing party's loss substantially exceeds the gains of the winning party. Whilst important implications may be drawn from these results in regard to the commerciality of resolving a dispute by settlement rather than litigation, they also point to the crucial existence of deadweight losses associated with litigation, particularly borne by the defendant corporations. As observed by the prior researchers (Coffee, 1986; Fields, 1990; Romano, 1991; Haslem, 2005), this deadweight loss cannot be fully explained by the direct economic claims filed by the plaintiffs in the litigation.

Part of this deadweight loss can be attributed to economic costs associated with defending the litigation, such as attorneys' fees which can amount to substantial sums (Englemann & Cornell, 1988; Fields, 1990; Karpoff & Lott, 1999). In addition, there are other economic costs indirectly resulting from the litigation, due to the increased transactional costs from suppliers, customers, distributors, and employees, whose risk-assessment of the company increases in light of the litigation. However, these factors do not fully account for the wealth loss suffered by the defendant corporations.

A substantial component of the wealth loss is attributable to reputational losses as a result of the litigation (Karpoff & Lott, 1999; Koku & Qureshi, 2006), which can be two-fold. First, upon litigation filings against public companies, the capital market participants reassess the valuations of the sued companies, not only to account for the economic detriments associated with the current lawsuit, but also in light of the information revealed with respect to the prior managerial decision-making which has exposed the companies to potential legal liabilities. Second, by virtue of the nature of the allegations involved in the litigation, the companies may suffer damage to their social legitimacy, adversely affecting their reputation so as to impede their future economic success. This legitimacy consequence may result from the negative publicity arising from the litigation. As observed by Koku (2006), capital markets do take into consideration these adverse reputational effects, as evidenced by the positive market reactions upon the defendant companies' removal from the public limelight at the termination of the lawsuits. The reputational costs can be exerted by parties related to the company through the process of repeated contracting (Karpoff, Lott & Wehrly, 2005; Murphy, Shrieves & Tibbs, 2009). Murphy, Shrieves and Tibbs (2009) examine a sample of allegations of corporate misconduct in the *Wall Street Journal Index* from

1982 to 1996. The authors find that the wealth loss for an accused company is greater when the alleged misconduct is committed against related parties (for example, customers, suppliers, employees, investors), who can exert penalties on the company through repeated contracting, rather than unrelated third parties.

2.4 Characteristics of Litigation

Capital market responses to litigation filing announcements depend on the characteristics of the lawsuits, such as the nature of the allegations, and type of lawsuits, the identity of the plaintiffs, and the idiosyncrasies of the defendants.

2.4.1 Nature of Allegations

Bhagat, Bizjak and Coles (1998) examine the stock market reactions to the filing and settlement of a variety of different types of corporate litigation between 1981 and 1983. The results indicate that the stock markets react differently in accordance with the nature of the allegations filed: legal issues of political sensitivity such as environmental or product liability disputes, as well as violations of securities laws, are observed to give rise to higher losses than more routine commercial litigation such as antitrust or breach of contract. In particular, the filings of environmental lawsuits are associated with the most significant negative cumulative abnormal return of -3.08%, followed by securities lawsuits (-2.71%). In addition, intellectual property lawsuits are also documented to have significant adverse impacts on the sued companies' stock performance, evidenced by negative abnormal returns of -1.50%. However, in the multivariate analysis, only securities and environmental lawsuits are significant in

explaining the negative abnormal returns upon the filing of the lawsuits. The adverse market reactions to environmental and securities lawsuits are potentially attributed to the negative publicity associated with the allegations in relation to such socially sensitive issues. On the other hand, routine commercial lawsuits including antitrust and contractual litigation give rise to no significant negative market reactions to the stock prices of the defendant firms.

2.4.2 Characteristics of Legal Proceedings

The nature of the legal proceedings also plays a significant role in determining the capital markets' re-valuation of the sued companies. Past research has shown that legal proceedings which are brought as class actions, and those in which punitive damages are sought in addition to actual damages, are associated with greater declines in share price for the sued companies upon the lawsuit filings. Koku (2006), by employing a sample of securities lawsuits from the 1990-1994 period, documents that the magnitudes of the negative average cumulative abnormal returns are larger for announcements of a class action lawsuit (-1.27%) and comparatively smaller for non-class action lawsuit announcements (-0.54%). Karpoff and Lott (1999), who study a sample of 1,979 punitive lawsuits from 1985 to 1996, find significant wealth loss for the defendant firms following announcements of punitive lawsuits.

2.4.3 Identity of Plaintiffs

Apart from the legal factors in relation to the lawsuits, the characteristics of the plaintiffs and the defendants of the lawsuits can also determine the capital market

responses to the litigation. The study by Bhagat, Bizjak, and Coles (1998) produces evidence that the stock markets react differently to the filing of lawsuits in accordance with the identity of the opponents. Lawsuits brought by government agencies (local, state and federal) tend to induce larger wealth loss (-1.73%) compared to litigation against other corporations (-0.75%) or individuals (-0.81%). Furthermore, Koku, Qureshi and Akhigbe (2001), using a sample of corporate lawsuits filed between 1990 and 1994, differentiate lawsuits filed by corporations against those by individuals, and find that the market performances of the sued companies' stocks are only significantly adversely affected by lawsuits filed by other corporations, but not those filed by individuals.

2.4.4 Identity of Defendants

In addition, adverse market reactions also depend on the identity and characteristics of the defendants, including their locality, size, and proximity to bankruptcy. Bhattacharya, Galpin, and Haslem (2007), by investigating the comparative stock market reactions to lawsuits against 2,361 local US-based corporate defendants compared to 715 foreign corporations in the US federal court in the 1995-2000 period, observe that the price decline is less severe for US corporate defendants than for foreign corporate defendants, implying that US firms might have a home court advantage in the US federal court. In addition, Bhagat, Bizjak and Coles (1998) document that, whilst capital market reactions to litigation announcements are universally negative for a defendant firm, the defendant companies' size and proximity to bankruptcy are significant in determining the extent of such adverse market reactions: larger defendants suffer lesser percentage declines in value, and defendants

with greater proximity to bankruptcy suffer correspondingly greater loss of market value due to the costs associated with financial distress.

2.4.5 Effects of Multiple Lawsuits

Finally, prior studies shed light on the role of multiple lawsuit filings on the valuation of the defendant firms (Koku, Qureshi & Akhigbe, 2001; Koku & Qureshi, 2006). Koku and Qureshi (2006) find that, at the termination of inter-firm litigation by settlement, defendant firms experience significant positive abnormal returns, potentially attributable to the removal of the negative publicity associated with the lawsuits. However, the results indicate that if the defendants have been the subject of more than one lawsuit in a confined time period prior to settlement, no such positive abnormal returns occur, which the authors attribute to the firm's reputation being too severely damaged by the presence of multiple lawsuits to be remedied through removal of their name from public attention.

Somewhat paradoxically, Koku, Qureshi and Akhigbe (2001) find that, for defendant firms which are subject to multiple lawsuits, the capital markets do not respond significantly to subsequent lawsuit filings. One possible explanation for this observation offered by the authors is that the market would have already taken into consideration the likelihood of repeat lawsuits being filed, based on the filing of the initial lawsuit.

3 Legal Issues Pertaining to Various Litigation Categories

3.1 Environmental Litigation

Despite the traditional view that environmental performance is attainable only at the expense of a firm's financial performance (Walley & Whitehead, 1994; Wagner, Schaltegger & Wehrmeyer, 2001; Cordeiro & Sarkis, 2008), boards of directors of public companies nonetheless have potent incentives to ensure that their companies comply with environmental law. First, stakeholder theory dictates that the interests of stakeholders in the companies, such as local residents, must be taken into account alongside those of the shareholders in formulating environmental strategies (Henriques & Sadorsky, 1996; Delmas & Toffel, 2004). According to legitimacy theory, firms can also be motivated by reputational concerns to avoid environmental violations, in order to preserve their 'corporate image' (Downing & Kimball, 1982), for when the social legitimacy of a company is threatened by environmental concerns, customers, suppliers, and regulatory groups may exert high costs of operation upon the company, thus impairing its future economic viability (Cohen, 1992; Decker, 2003; Delmas & Toffel, 2004; Karpoff, Lott & Wehrly, 2005). Empirical literature provides evidence of superior financial performance of public companies associated with environmental performance (Feldman, Soyka & Ameer, 1996; Hart & Ahuja, 1996; Konar & Cohen, 2001; Thomas, 2001; Wagner, Schaltegger & Wehrmeyer, 2001; Semenova & Hassel, 2008).

Numerous studies have investigated capital market reactions to adverse environmental allegations involving public companies. Some document significant declines in market

valuation in response to news of environmental violations (Muoghalu, Robison & Glascock, 1990; Hamilton, 1995; Klassen & McLaughlin, 1996; Karpoff, Lott & Wehrly, 2005), but others find no significant negative abnormal returns upon breaches of environmental regulations (Laplante & Lanoie, 1994; Lanoie, Laplante & Roy, 1998; Alexander, 1999; Jones & Rubin, 2001).[4] Karpoff, Lott and Wehrly (2005), by examining a sample of 478 allegations of environmental violations between 1980 and 2000, observe that decline in market valuation for accused firms is predominantly driven by the size of the legal penalties (including fines, damages, and remediation costs), which suggests that companies are deterred from environmental violations by legal penalties only, as the reputational loss suffered by offending firms is negligible. This can be attributable to the fact that the victims of the environmental violations are third parties (for instance, residents of local communities), who do not have direct contractual relationships with the alleged corporate offenders, and thus have no power to penalize the companies through the process of repeated contracting.

There are two perspectives through which loss of market valuation upon a negative environmental announcement can be viewed. First, the loss of shareholder value could be interpreted as the penalty imposed upon the offending company by the capital markets for their environmental breaches, thus deterring such misconduct (Lanoie, Laplante & Roy, 1998). Alternatively, the decline in market value upon negative environmental news could be seen as the market assessment of the net costs to a firm for committing the environmental violation (Karpoff, Lott & Wehrly, 2005).

[4] This discrepancy between the results could potentially be attributed to the small sample size utilized in the earlier studies (Karpoff, Lott & Wehrly, 2005, p. 658).

Given these reputational concerns, whether from an agency or legitimacy perspective, the boards of public companies have reasons to take corrective actions in response to environmental violations. In the event of BP's Deepwater Horizon oil spill in the Gulf of Mexico (2010), there are two potential reasons to explain the subsequent dismissal of its CEO. First, the CEO was penalized for prior mismanagement which exposed the company to environmental liability; second, the company, through replacing its CEO, attempted to signal to the market future improvements in its expected environmental performance, in order to salvage its reputation. Each underlying rationale would lead to personal consequences for the manager of the offending company.

Top management of public corporations plays a crucial and salient role in determining the environmental performance of the companies, for they have significant ability to 'influence, support, and champion the actual formulation and deployment of environmental initiatives and resources across the organization' (Berry & Rondinelli, 1998; Sharma, 2000; Russo & Harrison, 2005; Cordeiro & Sarkis, 2008, 306). This renders it imperative to examine the consequences for managers of the environmental performance of their companies. Whilst prior studies find that there exists a relation between environmental performance and executive compensation (Stanwick & Stanwick, 2001; Berrone & Gomez-Mejia, 2009), there is evidence to suggest that this relationship only exists with explicit linkage of firm-level environmental performance to CEO compensation (Cordeiro & Sarkis, 2008). Conversely, Campbell et al (2007) document contradicting evidence to indicate that CEOs of companies with poorer environmental performance tend to receive higher compensation. The authors attribute this observation to the higher risk faced by the CEO of being personally prosecuted for

the firm's environmental performance, and correspondingly a premium in remuneration is included to compensate for this increase in risk.

3.2 Securities Litigation

Securities litigation may be brought against public companies by the Securities and Exchange Commission ('SEC') or by the shareholders. Shareholder litigation serves as a supplementary corporate governance mechanism (Jones, 1980; Romano, 1991; Ramsay, 1992; Mohan, 2004; Talley & Johnsen, 2004; Reisberg, 2007), which is called into operation when the primary governance mechanisms, such as the board of directors and executive compensation regimes, fail to correct management misconduct (Romano, 1991). The threat of shareholder litigation is considered to be one component, alongside monitoring and incentive-aligning compensation plans, which ensures adequate corporate governance in regulating the behavior of management in public firms. However, there is extensive debate over the effectiveness of shareholder litigation in achieving its corporate governance objectives (Thompson & Sale, 2003; Langevoort, 2006; Fisch, 2009; Erickson, 2010). While some describe class and derivative actions as 'a stopgap in corporate law' (Romano, 1991, p. 1217) and 'the chief regulator of corporate management' (Garth, Nagel & Plager, 1985), others cast doubt over the merits of shareholder litigation and its limited success in obtaining remedies which benefit the shareholders and the corporations (Romano, 1991; Thompson & Thomas, 2004; Erickson, 2010).

As discussed previously, the investigation into the capital market effect of shareholder litigation constitutes a subgroup of literature dealing with the wealth implications of

corporate litigation. A body of empirical capital market literature has produced ample evidence of significant adverse market responses to securities litigation, whether initiated by shareholders (Ferris & Pritchard, 2001; Griffin, Grundfest & Perino, 2004; Koku, 2006; Gande & Lewis, 2009) or regulatory bodies such as the SEC (Feroz, Park & Pastena, 1991; Dechow, Sloan & Sweeney, 1996). In particular, Feroz, Park and Pastena (1991), after isolating the effect of the disclosure of the accounting error which gives rise to the SEC proceedings, find that even when the market already possesses prior knowledge of the error, the announcement of SEC enforcement action still induces a -6% abnormal return during the (-1,0) period. These observations indicate that the capital markets consider the filings of securities litigation to be newsworthy events, even when the alleged offence has already been disclosed previously.

In addition, prior research indicates that the capital markets interpret the filings of securities lawsuits as a series of events. For instance, the process of a federal class action securities lawsuit is typically signified by the following chronological events:

(1) The date of alleged commencement of fraud (the beginning of the class period),
(2) The disclosure of corrective information (revelation of alleged fraud; the end of the class period),
(3) The announcement naming the firm as a defendant in the lawsuit (the filing date),
(4) The decision date of the district court for the initial motion to dismiss the lawsuit, and
(5) The resolution of the lawsuit by judgment or settlement.

Ferris and Pritchard (2001) conduct an event study in relation to events (2), (3), and (4) which form the process of shareholder litigation, using a sample of federal shareholder class actions filed between 1995 and 1999. Their results reveal that the capital market

exhibits significant negative reactions over the (-1, +1) period to both the revelation of alleged fraud (at the end of the class action period) and the filing of the lawsuit, but not to the resolution of the litigation. Furthermore, the market reaction to the revelation of fraud (-0.2499) is of greater magnitude than its reaction to the actual filing of the lawsuit (-0.0347), indicating that shareholders may partially anticipate the commencement of the lawsuit prior to its being filed. Similarly, Griffin, Grundfest, and Perino (2004) examine the market response to events (1), (2) and (3) during shareholder litigation. They find that at the beginning of the alleged misleading period, the market price is inflated by a mean abnormal return of 3.6% over the (-1, +1) period; the subsequent issuance of corrective disclosure triggers a stock decline signified by an abnormal return of -16.6% over the (-1, +1) window; finally, upon filing of the lawsuit, the mean abnormal return is a negative -4.1%. Apart from confirming that the announcement of shareholder litigation causes adverse impacts upon the market value of a firm, these results further indicate that the capital market interprets these events not in isolation but as sequential and conditional events, implying that the market is reasonably efficient with respect to information about securities fraud litigation.

3.3 Antitrust Litigation

The purpose of antitrust law is to maximize economic efficiency and protect consumer welfare, by the preservation of competitive markets (Page, 1985, p. 1451). Antitrust violations cover a wide range of corporate conduct, and include collusion, anti-competitive mergers, and monopolization (Baker, 2003). Collusion, such as bid-rigging and price-fixing cartels, whether engaged in directly or indirectly by sharing pricing information, can impose substantial detriments upon consumers (Gilbert & Katz, 2001;

Klein, 2001; Whinston, 2001; Bresnahan, 2002). Antitrust regulations in the US, consisting of the *Sherman Act*, the *Clayton Act*, and *FCT Act* (Vogl, 2012), not only prohibit anticompetitive behaviors, but also seek to deter potential offenses (Joskow, 2002; Seldeslachts, Clougherty & Barros, 2009). The formulation of antitrust law seeks to strike a balance between preventing the misuse of excessive market power to the detriment of society, and allowing businesses to achieve 'efficient integration of facilities and create new wealth' (Landes, 1983; Breit & Elzinga, 1985; Page, 1985; Baker, 2003).

The economic theories underlying antitrust law suggest that practices which may violate antitrust law are not culpable *per se*. Antitrust law aims to achieve the optimal balance between increasing business efficiency and curbing undue market power, in order to maximize the overall net benefit to the economy. As pointed out by Page (1985), it is only when such exercise of market power becomes excessive to the detriment of the society and consumers that the conduct becomes undesirable. Precisely where the line should be drawn has been a question subject to extensive debate amongst economists (Stigler, 1966; Long, Schramm & Tollison, 1973; Block, Nold & Sidak, 1981; Landes, 1983; Breit & Elzinga, 1985; Page, 1985; Salant, 1987; McChesney, 1996; Baker, 2003; Crandall & Winston, 2003; Young & Shughart, 2010; Wright, 2011).

Therefore, unlike environmental and securities violations, where the offending companies are deemed to have committed a self-interested offence to the detriment of others, such adverse reputational impacts are not often expected to arise from violations of antitrust law. As demonstrated by the high-profile antitrust prosecution of Microsoft

by US federal and state governments in 2001, conduct which allegedly constituted antitrust violations may be rational business decisions, involving potential improvements to efficiency and consumer welfare. For instance, Microsoft's investments in browser technology and zero pricing of Internet Explorer were both challenged as predatory conduct. Whilst there exists immense difficulty in assessing the long-term effects of such conduct on competition, certain benefit to consumer welfare was evident at least in the enhanced innovation which improved browser software quality (Gilbert & Katz, 2001; Klein, 2001; Whinston, 2001). Nonetheless, managers of public companies face decisions in which they too, as rational persons, must balance the benefits from engaging in certain practices which would maximize the companies' profits, and the risks of breaching antitrust law, especially when the legal boundaries of the offences are not clear or yet to be tested. Consequently, violations of antitrust law could therefore be perceived as economically rational decisions undertaken by management.

3.4 Intellectual Property Litigation

Intellectual property law in the U.S. comprises several regimes: patent, trademark, copyright, trade secrets, and other miscellaneous aspects (Besen & Raskind, 1991; Vogl, 2012). This Thesis is concerned with the patent and trademark components of IP law.

Traditionally, the purpose of intellectual property law is underpinned by its economic rationale. Intellectual property rights grant the owner 'enforceable power to exclude others from using a resource, without need to contract with them' (Landes & Posner,

1987, p. 266). This creates incentives for businesses and individuals to pursue quality and invest in innovation (Landes & Posner, 1987; Besen & Raskind, 1991; Lanjouw, 1998; Lanjouw & Schankerman, 2001; Posner, 2005). In the case of patent law, the invention is the property protected, in order to encourage future innovations. Similarly, in the case of trademark law, the protected property is an identifiable brand name, in which information regarding the quality of a product is embodied (Landes & Posner, 1987; Besen & Raskind, 1991; Posner, 2005). The purpose of IP law is to strike a balance between creating incentives for innovation and quality, and disseminating the intellectual property created (Besen & Raskind, 1991; Posner, 2005; Monk, 2009; Choi, 2010). An additional purpose of IP law is to encourage disclosure of the details of the invention, to facilitate a market for technological exchange which would assist in future innovation (Gallini, 2002).

Although the purpose of patent and trademark law appears ostensibly different at first blush, as the former aims to spur innovation whilst the latter seeks to lower consumer costs of selection, they are analogous in their underlying economic rationale, both seeking to maximize economic efficiency (Landes & Posner, 1987). The law serves the dual economic functions of simultaneously encouraging new creation of IP, and facilitating the dissemination of the IP created (Landes & Posner, 1987; Besen & Raskind, 1991; Posner, 2005). Whether the current scope of IP protection is optimal is a question that is yet to be determined (Posner, 2005). Due to these underlying economic underpinnings of IP law, any alleged violation simply reflects a deviation from the economic optimum identified by the existing law, but is rarely deemed socially culpable. Therefore, violations of IP law are not expected to give rise to adverse reputational consequences, nor to threaten the social legitimacy of the sued companies.

However, alleged infringement of IP rights can bring adverse economic consequences to the defendant companies. In the last decade the costs of IP litigation have undergone a sharp increase (Gallini, 2002; Raghu et al., 2008; Choi, 2010). Direct costs associated with litigation consist of considerable legal fees (Lerner, 1995; Lanjouw, 1998; Gallini, 2002; Raghu et al., 2008). Indirect costs include the costs of pre-trial discovery and deposition procedures, and those arising from the disruptions to firm operations (Chien, 2011). In addition, sued companies have to bear substantial uncertainty associated with the outcome of the litigation (Chien, 2011), which exacerbates the adverse impact of IP litigation on the defendant firms. Due to these adverse consequences associated with IP litigation (Ewert, 1995; Lerner, 1995; Lanjouw, 1998; Lanjouw & Schankerman, 2001; Gallini, 2002), research has documented adverse stock market responses to the commencement of IP suits for defendant firms (Raghu et al., 2008). The immediate decline in shareholder value constitutes another indirect cost borne by firms which have been named as defendants in IP lawsuits.

The economic significance of IP rights and the rising cost of IP litigation, render the strategic use of IP protection an integral part of business operations (Takeyama, 1997; Lanjouw, 1998; Lanjouw & Schankerman, 2001; Somaya, 2003; Baker & Mezzetti, 2005; Monk, 2009; Choi, 2010). There are a number of ways through which firms seek to avoid the high cost of litigation. These strategies determine the companies' patterns of patenting (Lerner, 1995; Gallini, 2002; Baker & Mezzetti, 2005), tendencies to litigate (Lanjouw & Schankerman, 1997; Lanjouw & Lerner, 2001), and patterns of settlement (Somaya, 2003). Prior studies document that firms with potentially higher litigation costs may have incentives to avoid litigation, by choosing to direct their

research efforts to areas not already dominated by their competitors (not to patent in a subclass with earlier awards to their rivals) (Lerner, 1995). Furthermore, firms may utilize defensive patenting, which involves creating large patent portfolios to enable cross-listing when the threat of patent litigation arises (Hall & Ziedonis, 2001; Gallini, 2002). Furthermore, firms' decisions to litigate and settle IP lawsuits are also influenced by strategic stakes (Lanjouw & Schankerman, 1997; Lanjouw & Lerner, 2001; Somaya, 2003).

In light of the adverse economic consequences associated with alleged IP infringements, IP litigation filed against a company may reflect unfavorably upon the prior decision-making by management. From the perspective of agency theory, managers have failed, through optimizing IP strategies, to minimize the litigation risk associated with the use of IP. As a result, this revelation might call into question the quality of managerial decision-making. This in turn gives rise to incentives for the boards of the sued companies to replace the CEO, or impose economic penalties by reduced compensation.

Reputational effects of IP lawsuits on management have not yet been studied. There is no evidence to suggest that there is substantial reputational impact of IP lawsuit filings on the company. Unlike securities or environmental lawsuits, the alleged infringement actions are not associated with moral culpability (sometimes they may even be 'socially' justified as the dissemination of IP is of positive net social value). Thus, public corporations, and consequently their managements, are not expected to incur significant adverse reputational effects associated with alleged IP violations.

3.5 Contractual Litigation

Contractual lawsuits have received minimal attention from prior researchers. Bhagat, Bizjak and Coles (1998) examine the stock market reactions to the filings and settlements of a diverse range of corporate lawsuits, including breaches of contract. They find no evidence of any significant negative market reactions to contractual lawsuits, which may be attributable to the routine commercial nature of such litigation.

4 Summary

This Chapter has reviewed the literature relating to the issues arising from various types of corporate litigation. Despite the significant economic and reputational impact of lawsuits on the defendant corporations, studies which investigate the effects of corporate litigation (except in the context of securities lawsuits) have rarely explored issues beyond their immediate capital market impact.

The five types of lawsuits examined in this Thesis all have substantial but different impacts on public companies. This Thesis seeks to contribute to the existing literature, by undertaking a systematic analysis of the issues surrounding corporate lawsuits, and the incentives they offer for companies to initiate internal corporate governance changes. The diverse range of corporate lawsuits examined in this Thesis offers a detailed comparison of firms' attitudes vis-à-vis responses to allegations, across a wide range of different allegations.

The evidence from this Thesis testifies as to the effectiveness of various types of corporate governance mechanisms within a firm and of the external executive labor market forces. Moreover, it also provides insights into the ways in which companies operate and react to different allegations, with potential reflections upon corporate value and incentives to respond to corporate litigation.

CHAPTER THREE:

LITIGATION DATA COLLECTION

The objective of this Chapter is to provide an overview of the data collection procedures utilized in common for all four subsequent empirical chapters. Section 1 explains the procedures employed in the construction of the litigation dataset. Section 2 details the descriptions of the lawsuit-related variables. Finally, Section 3 discusses descriptive statistics pertaining to the litigation dataset.

1 Data Collection Procedures

The sample of corporate litigation filed against US public companies is collected from the Public Access to Court Electronic Records (PACER) database, which hold records of litigation filed in the United States Federal Courts. The data gathering procedures are similar to those adopted in the studies by Haslem (2005) and Bhattacharya, Galpin, Haslem (2007).[1]

In the first stage of data collection, I search within the PACER database for all lawsuits filed between 1 January 2000 and 31 December 2007, which fall into one of the following categories: environmental lawsuits, securities violations, antitrust lawsuits, intellectual property infringements, and contractual disputes. The sampling period from 2000 to 2007 is chosen for two reasons. First, the past decade was punctuated by two

[1] As identified by prior researchers (Haslem, 2005; Bhattacharya, Galpin & Haslem, 2007), a significant advantage of gathering corporate litigation data from the PACER database, rather than from newspaper sources such as the *Wall Street Journal*, is that PACER provides information on all lawsuits filed in the US federal courts. By obtaining lawsuit data directly from the court filings, this data collection method avoids media bias. The resultant litigation sample covers a much more comprehensive range of lawsuits, not necessarily those reported in a certain media outlet.

notable disruptions to stock markets worldwide: the burst of the dot-com bubble on 10 March 2000, when the technology-heavy NASDAQ Composite Index tumbled from its peak at 5,048.62; and the sweeping effects of the Global Financial Crisis, which caused the NASDAQ Composite to fall from its height at 2,861 on 31 October 2007 to below 2,300 on 6 February 2008. The eight-year sampling period from 2000 to 2007 is selected in order to minimize the impact of market shocks from the dot-com bubble and bust of 2001 and the Global Financial Crisis of 2008, allowing this Thesis to examine the effects of corporate lawsuits during a period of relative economic stability. Second, the sampling period for lawsuits ends on 31 December 2007, allowing for three years (from 2008 to 2010) in which to observe any subsequent CEO turnover and change in board composition. The initial searches for environmental, securities, antitrust, intellectual property (trademark and patent), and contractual lawsuits, yield a total of 214,094 lawsuit filings during this sampling period.

Executive compensation data is collected from the Compustat Executive Compensation ('Execucomp') Database, which provides data for the Standard & Poor's 1,500 companies. The parameter of the sample firms in this Thesis, which consist of present and past S&P 1,500 companies, is defined by the availability of data in relation to executive compensation and directors provided by the Execucomp and RiskMetrics Databases. Accounting data is collected from the Compustat Database. Furthermore, data concerning boards of directors is collected from the RiskMetrics Directors Database. A total number of 1,671 current and former S&P 1,500 companies are included in the Execucomp Database, from which 18 companies are excluded due to missing accounting data from Compustat Database or missing directors data from the RiskMetrics Directors Database. The final sample consists of 1,653 companies.

In the second stage of the data collection process, from the initial pool of 214,094 lawsuits, I remove lawsuits which do not involve one of the 1,653 sample public companies as the first-named defendant. After eliminating the lawsuits which do not involve a public company with data available from Execucomp, the final sample of litigation comprises 20,934 lawsuits filed against the 1,653 unique companies during the period from 2000 through 2007.

In the third stage, I download from the PACER database individual court dockets for these remaining lawsuits, which contain procedural information regarding the litigation, including the filing date, the closing date, and the names of all the parties involved in the lawsuit. The litigation sample comprises firm-years in which a company experiences at least one lawsuit filing against it during a given year, and those companies which do not experience any lawsuits during the same year form the control sample. Due to the large quantity of lawsuits (20,934) within the sample, a computer program is utilized and run for an extended period of time, to download all the court dockets via an automated process. This resultant sample of corporate litigation is utilized across all four empirical chapters of this Thesis.

Fourth, from each individual court docket downloaded from PACER, I then manually extract more detailed litigation-specific information concerning the lawsuits. First, the court dockets provide the amount of pecuniary compensation demanded by the plaintiff(s) in each lawsuit. This data is used to compute explanatory variables which proxy the economic magnitudes of the lawsuits. Second, the PACER court dockets provide information regarding the manner of disposition of the lawsuits. On the basis of

this information, explanatory variables are computed to represent the outcomes of the filed lawsuits, as a proxy for the legal merits of the plaintiffs' claims. The data collected from individual court dockets thus enables the examination of lawsuit-specific characteristics, namely their economic magnitudes and legal merits, in the empirical chapters.

The litigation data collection procedures are summarized in the following table:

	Procedure	Data Source
1	Download all federally-filed lawsuits in the environmental, securities, antitrust, intellectual property, and contractual categories (filed from 2000 through 2007).	PACER Database (listings) Results in 214,094 lawsuits
2	Match the identity of the first-named defendant in the lawsuits with the names of the unique 1,653 S&P 1,500 companies included in the sample.	Execucomp, RiskMetrics, Compustat Databases Results in 20,934 lawsuits
3	Download individual court dockets for each of the 20,934 lawsuits filed.	PACER Database (court dockets)
4	Extract lawsuit-specific information (monetary demands for compensation and manners of disposition) from the individual court dockets.	PACER Database (court dockets)

2 Variable Description

This Section contains descriptions of the key explanatory variables, which will be used in all four subsequent empirical chapters.

The first key explanatory variable is the filing of corporate lawsuits against public companies. The test variable $LAWSUIT_{t=0}$ is expressed in two ways. First, a dummy variable is assigned a value of 1 if the company has experienced the filing of one or more lawsuits against it during year 0, and zero otherwise. Second, a continuous variable is employed to measure the number of corporate lawsuits filed against a company during year 0. Prior research documents that, if a company is sued more than once in a given period, the company's reputation would be much more severely damaged than if the company had only been sued once (Koku & Qureshi, 2006). The second continuous variable is therefore employed to capture the role of multiple lawsuits filed within the same year.

In order to disaggregate the predictive power of different types of corporate litigation, I employ, in lieu of the single variable measuring the filing of all lawsuits ($LAWSUIT_{t=0}$), a series of five litigation variables. Each variable measures the filing of one specific type of lawsuit against the company, namely environmental ($ENV_{t=0}$), securities ($SEC_{t=0}$), antitrust ($ANT_{t=0}$), IP ($IP_{t=0}$), and contractual lawsuits ($CON_{t=0}$). Each of the five variables is expressed as two alternative measures: first as a dummy variable which denotes whether one or more lawsuits are filed within the relevant category in year 0, and second, as a continuous variable measuring the number of lawsuits filed in year 0.

Further, each of the ensuing empirical Chapters conducts an investigation into the roles of two lawsuit-specific characteristics, in predicting the subsequent changes in corporate governance and executive labor market consequences for managers: first, the magnitude of the demands for compensation made by the plaintiffs, and second, the merits of the lawsuits as proxied by their outcomes or rate of settlement.

The economic magnitudes of the lawsuits are captured by the demand variable $DEMAND_{t=0}$. It is compiled as the cumulative sum of the monetary demands from all lawsuits filed against the company in a given year. In order to capture the magnitude of the lawsuits relative to the company size, the cumulative sum of demands is then scaled by the total assets of the company at the beginning of that year. Data on the monetary demands for compensation is collected from court dockets on individual lawsuits obtained from the PACER database (as discussed previously). In addition, apart from computing the demand variable over all lawsuits ($DEMAND_{ALL-t=0}$), I stratify the litigation dataset into five categories, and within each I compute a separate demand variable using only the claims for monetary compensation filed in that type of lawsuits. A series of alternative test variables ($DEMAND_{(ENV/SEC/ANT/IP/CON)-t=0}$) are thus computed to capture the magnitudes of environmental, securities, antitrust, intellectual property, and contractual lawsuits in turn. This allows the predictive power of the economic magnitudes of different types of litigation to be disaggregated.

The remaining explanatory and dependent variables vary across the four subsequent empirical Chapters. Those variables are defined in each individual empirical Chapter.

3 Litigation Descriptive Statistics

Table 1 reports the breakdown of corporate lawsuits by filing year and by lawsuit category. Over the eight-year sampling period, whilst no significant linear trend is observable in the total number of lawsuits filed against the sample companies, the number of lawsuits peaked in 2002, mainly driven by the increase in the volume of securities and contractual lawsuits, before gradually declining over the following 5 years. This phenomenon is attributable to the flood of litigation following the burst of the dot-com bubble in 2000, consistent with observations from prior research (Choi & Thompson, 2006; Gande & Lewis, 2009). The number of environmental and antitrust lawsuits filed per year does not appear to exhibit any notable trend over the 2000-2007 period. On the other hand, the number of intellectual property lawsuits filed appears to undergo a general increase over time, commencing with 393 lawsuits filed in 2000 and ending with 590 filed in 2007. This trend confirms the observations made by Raghu et al (2008), of a tremendous increase in intellectual property litigation over time. This increase is attributed to the higher number of patents issued in recent years (Choi, 2010), and the developments in IP enforcements of the US government (Raghu et al., 2008).

Amongst the five types of lawsuits in the sample, it is observed that the number of contractual disputes is significantly higher than those of other types of lawsuits, constituting 49.85% of the total number of lawsuits filed during the sampling period. Contractual litigation is followed by securities and intellectual property lawsuits, which constitute 19.27% and 18.10%, respectively, of all lawsuits in the sample. Antitrust lawsuits take up 10.33% of the litigation sample. Environmental litigation is of the least

frequent occurrence by far, totaling 515 lawsuit filings within the sampling period, constituting 2.46% of the sample of lawsuits. Contractual litigation is the most common. This is consistent with prior literature, which documents that contractual disputes involving corporations constituted the largest single category of federal civil suits in the US (Dunworth & Pace, 1990; Bhagat, Bizjak & Coles, 1998). Its high frequency can be attributed to the routine commercial nature of contractual litigation, which occurs in the course of business operations. Additionally, prior researchers observe that intellectual property lawsuits have become increasingly prevalent (Raghu et al., 2008; Choi, 2010). The substantial rise in the number of patents granted accounts for the large number of IP lawsuits observed in the sample (3,789 over the 2000-2007 period). Moreover, the number of securities lawsuit filings has been persistently high (Ali & Kallapur, 2001; Perino, 2003; Gande & Lewis, 2009). Following the enactment of the Private Securities Litigation Reform Act (PSLRA), substantial debates exist over whether the number of securities lawsuits has reduced over time (Perino, 2003; Choi & Thompson, 2006; Choi, 2007; Rose, 2008). Prior researchers observe that the number of securities class action filings reached a ten-year low in 2006, but in 2007 rose back to the level of 2005 (Cornerstone Research, 2007; Rose, 2008). This trend is confirmed here by the number of securities lawsuits in the litigation sample.

[Insert Table 1]

Table 2 reports the lawsuit breakdown by industry, using the two-digit Standard Industrial Classification codes. Companies operating in different industries may face different levels of inherent litigation risks, as certain industries are by nature more susceptible to lawsuit filings than others. For instance, according to Panel A,

nondepository institutions appear to experience the highest aggregated number of litigation filings per firm during the sampling period, followed by security and commodity brokers, and building materials and gardening suppliers. For the two most litigious industries, namely nondepository institutions and security/commodity brokers, the number of lawsuits filed each year, which varies slightly across time, ascends to a common peak in 2002, consistent with the overall temporal trend observed from the total number of lawsuits filed across all industries. Panel B of Table 2 reports the results from the Chi-square test of equality of the median, which tests the null hypothesis that no significant difference exists in the number of lawsuits filed against companies across different industries. As reported in Panel B, the test produces a p-value smaller than 0.0005 (significant at the 1% level). It rejects the null hypothesis, and indicates that firms operating in different industries do face significantly different susceptibility to being sued. These results are consistent with prior research, which provides evidence of differing litigation risks inherently associated with industries (Field, Lowry & Shu, 2005; Dai, Zhang & Jin, 2008). This can potentially introduce selectivity into the observation of post-litigation corporate governance changes and executive labor market penalties. The results here provide the basis for employing the two-stage Heckman Selection Model below, in order to address the potential selection bias arising from, amongst other factors, the varying degrees of litigiousness across different industries.

[Insert Table 2]

Table 1 Filing of Corporate Litigation by Year and by Category

YEAR	TOTAL		ENV		SEC		ANT		IP		CON	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
2000	2229	10.65%	47	2.11%	387	17.36%	262	11.75%	393	17.63%	1140	51.14%
2001	2470	11.80%	58	2.35%	543	21.98%	330	13.36%	392	15.87%	1147	46.44%
2002	3182	15.20%	36	1.13%	968	30.42%	313	9.84%	463	14.55%	1402	44.06%
2003	2734	13.06%	51	1.87%	618	22.60%	265	9.69%	455	16.64%	1345	49.20%
2004	2668	12.74%	41	1.54%	603	22.60%	219	8.21%	502	18.82%	1303	48.84%
2005	2680	12.80%	54	2.01%	332	12.39%	341	12.72%	463	17.28%	1490	55.60%
2006	2510	11.99%	181	7.21%	265	10.56%	207	8.25%	531	21.16%	1326	52.83%
2007	2461	11.76%	47	1.91%	317	12.88%	225	9.14%	590	23.97%	1282	52.09%
Total	**20934**	100.00%	**515**	**2.46%**	**4033**	**19.27%**	**2162**	**10.33%**	**3789**	**18.10%**	**10435**	**49.85%**

ENV: denotes environmental lawsuits (PACER lawsuit code 893)

SEC: denotes securities lawsuits (PACER lawsuit codes 160 & 850)

ANT: denotes antitrust lawsuits (PACER lawsuit code 410)

IP: denotes intellectual property lawsuits, including patent and trademark litigation (PACER lawsuit codes 830 & 840)

CON: denotes contractual lawsuits (PACER lawsuit codes 140, 150, 190, 195, 196)

Table 2 Industry Composition

Panel A: Distribution of Lawsuit Numbers

SIC2	Industry Description	Law-suits Per Firm	Total No. of Firms	Litigation Firms*	Non-Litigation Firms**	Total No. of Lawsuits	2000	2001	2002	2003	2004	2005	2006	2007
61	Nondepository Institutions	57	14	13	1	792	29	43	116	110	93	262	57	82
62	Security & Commodity Brokers	35	32	28	4	1113	55	160	190	184	182	94	99	149
52	Building Materials & Gardening Supplies	34	6	6	0	206	20	9	22	18	28	32	41	36
37	Transportation Equipment	33	36	33	3	1203	114	125	155	216	159	171	120	143
29	Petroleum & Coal Products	31	14	14	0	440	38	37	30	45	49	41	164	36
53	General Merchandise Stores	31	16	16	0	492	47	63	49	70	62	66	65	70
40	Railroad Transportation	30	5	5	0	151	35	17	18	23	17	13	17	11
48	Communications	27	36	30	6	978	113	119	203	84	119	82	173	85
51	Wholesale Trade- Nondurable Goods	25	18	16	2	457	61	47	63	54	85	51	47	49
70	Hotels & Other Lodging Places	22	2	2	0	43	7	3	7	4	6	6	6	4
64	Insurance Agents, Brokers, & Service	21	11	10	1	233	16	8	19	28	65	46	32	19
42	Trucking & Warehousing	20	11	10	1	224	25	23	16	30	26	25	19	60
28	Chemical & Allied Products	18	109	99	10	1980	176	399	390	226	218	222	159	190
57	Furniture & Home Furnishings Stores	17	7	6	1	120	10	14	14	25	14	12	16	15
60	Depository Institutions	16	114	86	28	1788	99	159	212	246	228	301	265	278
72	Personal Services	15	6	5	1	88	7	10	11	11	7	23	16	3
63	Insurance Carriers	15	69	60	9	1010	102	141	117	133	120	151	133	113
26	Paper & Allied Products	14	21	19	2	289	24	25	30	52	68	33	25	32
45	Transportation by Air	13	11	10	1	147	8	7	12	19	19	40	16	26
47	Transportation Services	13	8	7	1	106	16	14	12	10	22	10	14	8
15	General Building Contractors	12	13	11	2	156	5	10	15	12	26	25	29	34
59	Miscellaneous Retail	12	27	23	4	317	30	58	32	40	24	28	49	56
30	Rubber & Miscellaneous Plastics Products	12	11	10	1	127	10	16	14	30	16	11	11	19
54	Food Stores	11	7	6	1	78	10	12	21	9	10	4	4	8
36	Electronic & Other Electric Equipment	11	114	103	11	1253	119	141	198	152	80	203	174	186
35	Industrial Machinery & Equipment	11	90	76	14	977	132	151	113	106	125	124	117	109
	Other	7	845	690	155	6166	921	659	1103	797	800	604	642	640
	Total		**1653**	**1394**	**259**	**20934**	**2229**	**2470**	**3182**	**2734**	**2668**	**2680**	**2510**	**2461**

***Litigation Firms**: the S&P 1,500 companies with at least 1 lawsuit filed against them during the 2000-07 sampling period.
****Non-Litigation Firms**: the S&P 1,500 companies with no lawsuits filed against them during the 2000-07 sampling period.

Panel B: Difference in Litigation Frequency across Industries

Number of Industries	65
Number of Lawsuits per Industry (Mean)	322
Number of Lawsuits per Industry (Median)	132
Standard Deviation	452
Chi-Square Test of Equality of Median	13088
(p-value)	(0.000)

CHAPTER FOUR:

CORPORATE LITIGATION AND CEO TURNOVER

1 Introduction

On 20 April 2010, the explosion at the Deepwater Horizon oil rig in the Gulf of Mexico led to one of the most notorious oil spills in history. By 2 May, over 130 lawsuits had been filed in relation to the disaster, and by 17 June, over 220 lawsuits against BP alone. Subsequently, BP announced the replacement of its former chief executive officer Tony Hayward on 27 July 2010. These events surrounding BP's oil spill raise the question as to under what circumstances a public company would replace its CEO following legal allegations filed against it. In light of BP's anecdotal example, this Chapter investigates the executive turnover within sued public corporations following a variety of litigation, by employing a large sample of corporate lawsuits filed against publicly listed US companies during the 2000-2007 period.

It has long been recognized that corporate litigation imposes significant impacts upon public companies. The announcements of litigation filings often trigger significant negative stock market reactions, leading to immediate and considerable losses of shareholders' wealth (Ellert, 1976; Wier, 1983; Feroz, Park & Pastena, 1991; Bizjak & Coles, 1995; Bhagat, Bizjak & Coles, 1998; Koku, Qureshi & Akhigbe, 2001; Griffin, Grundfest & Perino, 2004; Koku, 2006; Koku & Qureshi, 2006; Bhattacharya, Galpin & Haslem, 2007; Gande & Lewis, 2009). This decline in market valuation is attributable to two factors. First, the significant legal costs associated with defending the lawsuits, and the risk of becoming liable to considerable claims for compensation,

both adversely affect the economic valuation of the company. This causes capital markets to reassess not only the current valuation of the company, but also its future valuation, given the newly revealed information about the management's failure to safeguard the company against exposure to legal risks. Second, where the litigation involves issues of social or political sensitivity, such as in the case of BP's oil spill, the company's reputational capital may be jeopardized, posing a potential threat to its social legitimacy which may affect its future economic success.

Given these significant consequences associated with corporate litigation, this Chapter investigates whether public companies respond to lawsuit filings by seeking internal corporate governance changes by turnover of their chief executive officers ('CEO' hereafter). Executive turnover following corporate litigation has been investigated in a post-litigation context, however, only in relation to securities fraud litigation and other fraud allegations (Romano, 1991; Livingston, 1996; Strahan, 1998; Agrawal, Jaffe & Karpoff, 1999; Beneish, 1999; Niehaus & Roth, 1999; Arthaud-Day et al., 2006; Desai, Hogan & Wilkins, 2006; Persons, 2006; Agrawal & Cooper, 2007; Ferris et al., 2007; Fich & Shivdasani, 2007; Krishna-Moorthy, 2011; Correia & Klausner, 2012).

By employing a sample of lawsuits filed against the Standard & Poor's 1,500 companies in the US Federal Courts from 2000 through 2007, the diverse spectrum of litigation allows insights into how public corporations distinguish between different types of lawsuits, and enables an examination of which of the completing theories, agency or legitimacy, is more likely to explain the motivation of boards of directors in instigating CEO turnover. The 2000-2007 sampling period is chosen to minimize the impact of market shocks from the dot-com bubble and bust in 2000 and the Global

Financial Crisis in 2008, enabling an examination of litigation filed against public corporations during a period of relative economic stability.

Extending the analysis beyond existing literature, this Chapter is the first to examine the change in executive turnover following a wide range of different types of corporate lawsuits, including environmental violations, securities fraud, antitrust lawsuits, intellectual property infringements, and contractual disputes.[1] Expectations founded upon both agency and legitimacy theories indicate that the boards of directors of the sued companies may have incentives to replace the CEOs following litigation filings. First, agency theory dictates that the board of directors, acting on behalf of the shareholders, may have incentives to discipline managers for exposing the companies to potential legal liabilities, by replacing the CEO in favour of other candidates who are perceived to be superior. Second, from the legitimacy perspective, where socially sensitive lawsuits adversely affect a company's reputation, such as in environmental lawsuits where much of the cost is externalized, or securities lawsuits where fraud is alleged, the board of the sued company has reputational incentives to replace the existing CEO, in an attempt to salvage the company's reputation and restore its social legitimacy. Multivariate regression results provide evidence in support of the hypothesized increase in CEO turnover following lawsuit filings, after controlling for firm size, performance, financial leverage, board composition, CEO age, tenure, stock

[1] These lawsuits are chosen on the basis of their significant impacts upon the defendant companies. Securities lawsuits are selected for their explicit role as a corporate governance mechanism (Jones, 1980; Romano, 1991; Mohan, 2004; Talley & Johnsen, 2004; Reisberg, 2007) and due to the seriousness of the allegations which often impose reputational consequences on the sued companies (Feroz, Park & Pastena, 1991). Breaches of contract arise frequently in the context of business operations, and have potentially large financial impacts upon the sued companies. Similarly, antitrust litigation (Bhagat, Brickley & Coles, 1994) and intellectual property disputes (including patents and trademark infringements) are included, due to their significant economic consequences upon the operation and financial position of the sued corporations. Finally, environmental disputes are capable of inflicting extremely adverse effects on the company, both due to the significant quantity of potential compensation and the reputational damage (as demonstrated in the anecdotal example of the recent BP oil spill).

ownership, and time-specific variations. The results remain robust after controlling for potential selection bias arising from the different likelihood of litigation by employing the Heckman Selection Model.

Furthermore, this Chapter is the first to investigate the roles of lawsuit-specific characteristics of a wide variety of litigation in determining the subsequent changes in corporate governance. By examining the predictive power of the economic magnitudes and legal merits of the litigation, this Chapter seeks to provide significant insights into the decision-making inputs driving the boards' decisions to replace CEOs following litigation. Results from the analysis show that whilst the economic magnitudes of the compensation demanded by the plaintiffs are not a significant consideration, the merits of the lawsuits, as proxied by outcomes, are significant in predicting the subsequent increase in CEO turnover. These results imply that boards of directors, when imposing penalties upon managers for exposing the companies to legal liabilities, are more concerned with the actual merits of the lawsuits, rather than their magnitudes which may indicate the levels of publicity surrounding the lawsuits.

Overall, this Chapter produces evidence that boards of directors of public companies do react to corporate litigation by instigating CEO turnover, and their reactions are mainly driven by agency concerns to ensure that managers can adequately further the interests of shareholders, rather than legitimacy concerns in relation to preserving the company's reputation and social legitimacy.

2 Literature Review and Hypothesis Development

2.1 Literature Review

Prior studies have examined the impact of fraud allegations on executive turnover within an accused company. This literature can be divided into two broad categories: first, studies which examine fraud allegations (Agrawal, Jaffe & Karpoff, 1999; Persons, 2006) and second, studies which specifically investigate the impact of securities fraud, including earnings restatements (Srinivasan, 2005; Arthaud-Day et al., 2006; Desai, Hogan & Wilkins, 2006; Agrawal & Cooper, 2007), shareholders class actions (Strahan, 1998; Niehaus & Roth, 1999; Correia & Klausner, 2012), securities derivative actions (Romano, 1991; Ferris et al., 2007; Cheng et al., 2010), and SEC enforcement actions (Beneish, 1999; Karpoff, Lee & Martin, 2008; Correia & Klausner, 2012).

Prior research produces evidence that securities fraud committed against shareholders tends to be significantly associated with a subsequent increase in executive turnover within the accused companies. Romano (1991), by using a sample of 535 randomly selected firms facing securities derivative litigation, documents an increase in CEO turnover both before and during the lawsuit. Since then, subsequent studies which investigate securities class actions have produced similar results. For example, Niehaus and Roth (1999), sampling from 1989 through 1994, find that CEO turnover is higher in sued firms compared to matched non-sued firms. Collins, Reitenga and Sanchez (2008) find a significant increase in CEO turnover following securities class actions filed between 1997 and 2002. Consistently, Krishna-Moorthy (2011) documents higher

CEO turnover in a sample of firms that have experienced securities class actions between 1994 and 2005. In addition, proceedings initiated by the Securities and Exchange Commission ('SEC' hereafter) have similar predictive power over the corporate governance of the accused company. Although Beneish (1999) finds that, within 64 firms subject to SEC proceedings between 1987 and 1993, there is no significant increase in CEO turnover, Karpoff, Lee and Martin (2008) document a significant increase in the turnover of both accused and unaccused executive officers following SEC enforcement actions. Correia and Klausner (2012) study the role of securities class actions as a supplementary mechanism to SEC proceedings. By employing a sample consisting of securities class actions and SEC enforcement proceedings filed between 2000 and 2011, the authors find a substantially increased likelihood of job losses for CEOs facing SEC proceedings, as well as those facing securities class actions, although the risk of turnover is higher for the former compared to the latter.

Securities violations constitute a direct manifestation of the agency conflict underlying the corporate structure. When managers act in their own interests to the detriments of the principals (for example, by releasing misleading financial information), the boards of directors, representing the shareholders, have strong incentives from an agency perspective to discipline the offending managers by removing them from their positions. The empirical evidence generally support this, by indicating that CEOs tend to be penalized for their misconduct alleged in securities lawsuits by an increased risk of losing their jobs.

On the other hand, the literature that focuses on general fraud has produced little evidence of any significant impact of fraud allegations upon the defendant companies' changes in corporate governance. Agrawal, Jaffe and Karpoff (1999), who examine different categories of fraud reported in the *Wall Street Journal* between 1981 and 1992, find no evidence of any increase in CEO turnover surrounding fraud events. Similarly, by examining a sample of fraud revelations in the *Wall Street Journal* between 1992-2000, Persons (2006) does not find fraud allegations statistically significant in explaining CEO turnover, once firm-specific characteristics are controlled for. On the other hand, Krishna-Moorthy (2011), who examines fraud against the US Government (under the *False Claims Act*), documents an increase in CEO turnover following these fraud allegations, but the increase is not as high as following shareholders class actions.

The overall evidence provided by prior literature indicates that, whilst public companies react significantly to securities fraud committed against shareholders by removing the offending top executives, their reactions seem much more ambivalent when confronted with allegations of other types of unlawful conduct. However, non-fraud lawsuits in which shareholders' interests are not directly violated remain seldom investigated, as prior studies have focused exclusively on allegations of fraud filed against the companies, either securities-related (Feroz, Park & Pastena, 1991; Romano, 1991; Livingston, 1996; Strahan, 1998; Niehaus & Roth, 1999; Ferris et al., 2007; Krishna-Moorthy, 2011; Correia & Klausner, 2012) or fraud against other parties (Agrawal, Jaffe & Karpoff, 1999; Beneish, 1999; Persons, 2006; Krishna-Moorthy, 2011).

2.2 Theoretical Underpinning

It is proposed that the examination of a broad range of corporate litigation is warranted, because non-fraud lawsuits may also produce significant incentives for the boards to replace the CEOs within the sued corporations. First, from an agency perspective, a lawsuit may serve to reveal hitherto unknown information regarding the quality of the agent/manager's decision-making, enabling the board (representing the interests of the principals/shareholders) to better assess the ability of the agent. Second, certain types of allegations may give rise to adverse publicity to threaten the company's social legitimacy, prompting the board to initiate executive turnovers in an attempt to salvage its reputation.

2.2.1 Agency Theory

Managers, as agents overseeing the operation of a company, possess superior information about the company compared to the shareholders/principals (Jensen & Meckling, 1976). This information asymmetry constitutes an underlying cause of agency problems, as managers alone can accurately assess the quality of their own decision-making (Jensen & Meckling, 1976; Fama & Jensen, 1983).

According to Eisenhardt (1989), the two common problems arising out of the principal-agent conflict are moral hazard and adverse selection. Securities violations constitute a manifestation of the problem of moral hazard, where the agents have allegedly acted in their own interests to the detriment of the principals. Adverse selection, on the other hand, occurs when the agent is hired on the assumption of certain abilities which the

principal has limited means of assessing (Eisenhardt, 1989). Arguably, the encounter with litigation serves as a means of bridging this information asymmetry, by revealing the suboptimal quality of prior managerial decision-making, which has exposed the company to legal liabilities. This information has so far been inaccessible to the principals, but is revealed through the process of legal claims initiated by external parties. This additional knowledge allows the board of directors to reassess the quality of the management, and if necessary, replace the existing CEO.

2.2.2 Legitimacy Theory

Boards of directors can also be motivated by legitimacy concerns to instigate corporate governance changes. Legitimacy theory is based on the concept of an implied social contract (Patten, 1991, 1992; Brown & Deegan, 1998; Wilmshurst & Frost, 2000; Deegan, Rankin & Tobin, 2002). As stipulated by Shocker and Sethi (1974, p. 67):

> 'Any social institution – and business is no exception – operates in society via a social contract, expressed or implied, whereby its survival and growth are based on: (1) the delivery of some socially desirable ends to society in general, and (2) the distribution of economic social or political benefits to groups from which it derives its power.'

The terms of social contracts are reflected in the ever-changing laws regulating corporations, because societal expectations in relation to corporate behaviours, which constitute the implied terms of the social contracts, are solidified by legislation enacted through democratic processes (Preston & Post, 1975; Post, 1978). Hence, the law

captures the society's expectations, setting in part (in addition to other public pressures) the boundaries within which a corporation should operate. As noted by Tinker and Niemark (1987, p. 84), 'the public, in general, became increasingly aware of the adverse consequences of corporate growth', and the law is adapted to accommodate the constantly changing public perception of legitimacy. Consequently, if a company is accused of violating a law, the allegations may simultaneously give rise to a breach of the terms of the social contract, thus posing a threat to the company's legitimacy.

The legitimacy concern is particularly significant in the cases of social and politically sensitive litigation, such as environmental lawsuits where much of the cost is externalized, or securities lawsuits where fraud is alleged. Consequently, the board would have additional incentives to undertake measures to ensure that the negative reputation is ameliorated. In these cases, considerable incentives arise for the board of directors to engage in changes within the company's corporate governance structure, in an attempt to salvage the company's reputation. The changes may include replacing the company's existing CEO, as BP did following the 2010 Gulf of Mexico oil spill, in order to project a new image of the company.

2.3 Hypothesis Development

Based on the *a priori* expectation supported by both agency and legitimacy theories, a higher CEO turnover is expected to be associated with litigation filings. Prior studies have produced evidence of increased CEO turnover following allegations of securities fraud against shareholders (Romano, 1991; Niehaus & Roth, 1999; Srinivasan, 2005; Arthaud-Day et al., 2006; Agrawal & Cooper, 2007; Collins, Reitenga & Sanchez,

2008; Karpoff, Lee & Martin, 2008; Krishna-Moorthy, 2011; Correia & Klausner, 2012).[2] However, no examination has been conducted with respect to the CEO turnover following different types of litigation filings, which is investigated in this research hypothesis.

H(1): Companies which have encountered litigation, on average, experience a higher likelihood of CEO turnover, *ceteris paribus*.

By employing a diverse sample comprising five different categories of lawsuits, each expected to give rise to different degrees of agency and legitimacy incentives for the board to replace the CEO, this Chapter seeks to provide further insights into the motives underlying the decision-making process of the boards of public companies, in instigating post-litigation executive turnover. No prior study has examined whether different types of lawsuits tend to lead to different corporate governance consequences within the sued companies. The scope of the study conducted by Krishna-Moorthy (2011) is limited to two types of fraud allegations (fraud committed against shareholders versus fraud against the US Government), rather than extending over a broad range of corporate lawsuits. This Chapter addresses this gap in the literature by expanding the empirical investigation, through the examination of a wider variety of litigation, which enables comparisons of the responses from the boards of public companies when confronted with different agency and legitimacy incentives to replace their CEOs.

[2] Securities lawsuits simultaneously give rise to agency concerns (as the alleged conduct is committed by agents/managers against principals/shareholders) and legitimacy concerns (due to the fraudulent nature of the allegations).

In determining these agency and reputational incentives associated with different categories of lawsuits, I draw on the studies conducted by Bhagat, Bizjak and Coles (1998) and Koku, Qureshi and Akhigbe (2001), which show that capital market participants tend to react more adversely to the announcement of lawsuits involving politically sensitive issues (such as environmental violations or breaches of securities laws), compared to more routine commercial litigation such as antitrust lawsuits or breach of contract. In addition, expected short-term and long-term economic losses suffered by the companies as a result of the litigation should also be taken into account, in assessing whether the board has agency incentives, acting in the interests of the shareholders, to penalize the CEOs for failing to protect the companies against litigation risks.

Each of the five different categories of lawsuits examined in this Chapter gives rise to different agency and legitimacy incentives for the board to replace the CEO. Securities lawsuits manifest a direct moral hazard problem arising out of the principal-agent relationship, as the alleged conduct involves agents acting opportunistically to prioritize their own interests over those of the principals. This type of allegations, therefore, gives rise to considerable incentives for the boards of the sued companies, who represent the interests of the shareholders, to impose penalties upon the agents by initiating CEO turnovers ('agency incentives' hereafter). In addition, the adverse publicity associated with allegations of securities fraud may also impose considerable reputational damage on the corporate defendants, potentially threatening their social legitimacy. In these situations, the board have additional reputational incentives to instigate changes within the company by CEO turnover (as demonstrated in the anecdotal event following BP's oil spill in 2010), in an attempt to counteract the adverse publicity by demonstrating its

willingness to initiate internal changes following these allegations, thus salvaging its reputation and preserving its legitimacy ('legitimacy incentives' hereafter).

Antirust and intellectual property lawsuits can give rise to significant agency incentives for the boards to replace the CEOs. Whilst these lawsuits do not involve allegations of moral hazard on the part of the manager-agents, they may indicate a different type of agency problem associated with adverse selection, which arises from the misrepresentation of the agent's abilities and the difficulty for the principals to accurately verify their quality. The filings of antirust and IP lawsuits may indicate a failure on the part of the managers to safeguard the companies against exposure to these legal liabilities. As a result, significant adverse economic consequences may potentially flow from these litigation filings, leading to financial detriments to the shareholders. In these situations, the boards of directors of the sued companies may have incentives to impose disciplinary measures on the managers, by instigating CEO turnover, for failing to fulfil their stewardship duties to the shareholders by minimizing the litigation risks of the companies. Hence, even though securities lawsuits, in contrast to antitrust and IP lawsuits, reveal different types of agency problems, both groups of litigation have the potential of giving rise to agency incentives for the boards to replace the CEOs.

On the other hand, antitrust and intellectual property lawsuits do not give rise to significant reputational incentives (Bhagat, Bizjak & Coles, 1998). The economic principle underpinning antitrust and IP law is to maximize economic efficiency within society as a whole. Antitrust law seeks to strike a balance between permitting integration leading to greater efficiency whilst still protecting competition (Page, 1985; Gilbert & Katz, 2001; Klein, 2001; Whinston, 2001; Bresnahan, 2002; Baker, 2003). IP

law seeks to balance encouraging quality and innovation by recognizing property rights, against the social need for dissemination of the arising benefits (Landes & Posner, 1987; Besen & Raskind, 1991; Lanjouw, 1998; Lanjouw & Schankerman, 2001; Posner, 2005). In formulating the law, somewhat arbitrary lines are drawn by legislatures and the judiciary (Stigler, 1966; Long, Schramm & Tollison, 1973; Block, Nold & Sidak, 1981; Landes, 1983; Breit & Elzinga, 1985; Page, 1985; Salant, 1987; McChesney, 1996; Baker, 2003; Crandall & Winston, 2003; Young & Shughart, 2010; Wright, 2011). Consequently, an alleged violation of antitrust or IP law is usually not considered culpable, from the legitimacy perspective (Bhagat, Bizjak & Coles, 1998). Therefore, no substantial reputational incentives arise under legitimacy theory from these lawsuits. Similarly, contractual lawsuits, due to their routine nature in business operations, are also unlikely to give rise to such adverse reputation to justify the replacement of the sued company's CEO.

Meanwhile, environmental lawsuits do not give rise to agency incentives, as the alleged environmental violations are likely to be carried out in pursuit of economic profits to benefit the shareholders. However, prior literature (Bhagat, Bizjak & Coles, 1998; Koku, Qureshi & Akhigbe, 2001) indicates that significant reputational damage may arise from lawsuits involving politically sensitive issues (such as environmental violations or breaches of securities laws), as evidenced by the adverse capital market responses to the lawsuit announcements. Environmental lawsuits attract political scrutiny and have potentially catastrophic impacts on society, and therefore may create significant adverse reputational impacts, potentially threatening the social legitimacy of the sued companies (as strongly demonstrated in the case of BP's oil spill). The adverse publicity associated with the allegations may give rise to significant legitimacy

incentives for the board of the sued company to replace the CEO, in order to project a new image of the company, thus preserving its reputation and perceived social legitimacy.

Corporate responses to environmental litigation are motivated, according to *a priori* expectation, by reputational incentives, not agency incentives: whilst CEOs are not accused of any failure to fulfill their stewardship duties to the shareholders (since environmental damage is carried out in pursuit of financial profits); nevertheless, considerations for the sued companies' social legitimacy may render it desirable to replace the CEOs to preserve the companies' reputations. Consequently, even though environmental liability insurance may protect the sued companies from incurring significant financial losses as a result of the lawsuits (Smith, 1983; Abraham, 1988), the sued companies will nonetheless suffer reputational damage associated with the allegations (Kassinis & Vafeas, 2002). Any protection against environmental lawsuits in the form of liability insurance is only relevant to limit the agency incentives associated with environmental lawsuits. However, the inevitable reputational damage to the defendant companies, and the consequent legitimacy incentives to instigate CEO turnover, cannot be insured against.

Given the vastly diverse incentives associated with each type of lawsuit filing, the second hypothesis is thus specified:

H(2A): The filings of lawsuits which give rise to the strongest agency incentives (securities, antitrust, and IP lawsuits) are more likely to be followed by an increase in CEO turnover within the sued companies, *ceteris paribus*.

H(2B): The filings of lawsuits which give rise to the strongest legitimacy incentives (securities and environmental lawsuits) are more likely to be followed by an increase in CEO turnover within the sued companies, *ceteris paribus*.

3 Variable Description[3]

I examine CEO turnover during the three-year period following the filing of the lawsuit. The year in which the lawsuit is filed is defined as year 0, and subsequent years following the lawsuit filing are defined accordingly as year +1, year +2, and year +3. CEO turnover is initially observed over the period of (0, +3), from the year in which the lawsuit is filed to the third subsequent year. A CEO turnover is recorded when the person holding the CEO position within the company in year 0 is no longer the same person in year +3. In addition, I extend the period of examination to include the year prior to the filing of the lawsuit (defined as year -1), as the company's board of directors may possess preemptive information about impending lawsuits, which might prompt them to act by replacing the CEO prior to the actual filing of the lawsuits. Therefore, by including year -1 as part of the observation period, I aim to capture any preemptive change in corporate governance undertaken by the companies in anticipation of imminent lawsuits. Data on CEO turnover is obtained from the RiskMetrics Database. RiskMetrics does not provide information to differentiate forced turnover from voluntary turnover. Nonetheless, numerous prior studies have utilized CEO age as an independent variable, in order to distinguish retirements from forced termination (Niehaus & Roth, 1999; Defond & Hung, 2004; Yermack, 2004;

[3] A comprehensive list of the definitions of all variables is included in Appendix 1 (Variable Definitions).

Srinivasan, 2005; Desai, Hogan & Wilkins, 2006; Baum, Bohn & Chakraborty, 2007; Karpoff, Lee & Martin, 2008). In particular, Yermack (2004) documents that CEO age is a significant determinant of turnover propensity, as 'a large majority of CEOs leave their positions at some point between ages 60 and 69' (p. 2295). Following prior literature, I therefore include CEO age as a control variable in the regressions predicting CEO turnover.

I control for a number of factors which may also influence the likelihood of CEO turnover. At the firm-level, prior studies have documented that poorer firm performance is associated with higher CEO turnover (Warner, Watts & Wruck, 1988; Weisbach, 1988; Denis & Serrano, 1996; Denis, Denis & Sarin, 1997; Mikkelson & Partch, 1997); I therefore include Return on Assets, $ROA_{t\text{-}1}$, which is calculated as the net profit in year -1 over total assets as at the end of year -1, as a control for the firm's accounting performance.

Prior studies also indicate that the vigilance of board monitoring plays a significant role in determining the likelihood of forced CEO dismissal in case of poor performance (Weisbach, 1988); in particular, smaller boards (Jensen, 1993; Yermack, 1996) and more independent boards (Weisbach, 1988; Jensen, 1993) are documented to be more effective in removing underperforming CEOs. I include $BSIZE_{t\text{-}1}$ (the number of directors on the board at the end of year -1) and $\%OUTSIDE_{t\text{-}1}$ (the proportion of independent directors on the board at the end of year -1) as control variables. Following prior literature, board size (Agrawal, Jaffe & Karpoff, 1999; Karpoff, Lee & Martin, 2008) and independence (Agrawal, Jaffe & Karpoff, 1999l; Desai, Hogan & Wilkins, 2006; Karpoff, Lee & Martin, 2008) are employed to proxy the vigilance of the board

of directors. These control variables however are not without limitations. Although smaller (Yermack, 1996; Eisenberg, Sundgren & Wells, 1998) and more independent boards (Weisbach, 1988; Agrawal, Jaffe & Karpoff, 1999) have been shown to be more effective in providing monitoring, board composition is endogenously determined by firm-specific factors (Hermalin & Weisbach, 1988, 1998), such as the private benefits available to insiders balanced against the costs of monitoring (Boone et al., 2007). [4]

In addition, I include $LogTA_{t-1}$, the natural logarithm of book value of assets at the end of year -1, as a control for firm size, and LEV_{t-1}, the debt to equity ratio at the end of year -1, as a control for the financial leverage of the company. Accounting data in relation to firm-specific characteristics is collected from Standard & Poor's Compustat Database. Finally, yearly dummies are included in the regression to account for unobserved time-specific variations that may influence CEO turnover.

At the executive-level, $EXECOWN_{t=0}$ is included to control for the proportion of total ordinary shares outstanding owned by the CEO at the time of the lawsuit filing, as past studies show that executive ownership is negatively related to turnover (Denis, Denis & Sarin, 1997; Mikkelson & Partch, 1997; Niehaus & Roth, 1999). Similarly, $TENURE_{t=0}$ is included to control for the duration over which the CEO has served the company in the current capacity as at the time of the lawsuit filings, as a proxy for the degree of CEO entrenchment within the organization. As mentioned previously, $CEOAGE_{t=0}$ is

[4] It is further recognized that other stakeholder groups, such as debt-holders and institutional investors, may also play a role in indirectly exerting influence over the removal of executive officers (Cheng et al., 2010; Dimopoulos & Wagner, 2010). The role of debt-holders is captured by the financial leverage of the company in the regression analysis. However, the analysis is constrained by the unavailability of data concerning institutional ownership during the sampling period. Whilst institutional investors have no right to directly instigate or oppose a CEO appointment or dismissal (unless by way of a proxy fight in extremely rare circumstances), they may apply pressure on the boards of directors, through their influence over the composition of the boards (Cheng et al., 2010). Consequently, any potential role they might play in determining CEO turnover can be captured by controlling for the characteristics of the board composition.

also included (measuring the natural age of the CEO as at the time of the lawsuit filing), as a proxy to distinguish retirements from forced termination (Strahan, 1998; Niehaus & Roth, 1999; Defond & Hung, 2004; Yermack, 2004; Srinivasan, 2005; Arthaud-Day et al., 2006; Desai, Hogan & Wilkins, 2006; Baum, Bohn & Chakraborty, 2007; Karpoff, Lee & Martin, 2008; Burks, 2010; Krishna-Moorthy, 2011).

4 Empirical Results

4.1 Univariate Analysis

Table 1 reports the firm characteristics of the lawsuit sample versus the control sample, including results from the ANOVA test of difference in the mean, and the chi-square test of difference in the median. First, the average firm size within the lawsuit sample is higher than that of the control sample, the difference in both mean and median being statistically significant at the 5% level. Second, prior firm performance as measured by ROA is better within the lawsuit sample, however, the difference in the median is not statistically significant. Third, the lawsuit sample, on average, has a higher number of directors compared to the control sample, however this difference in board size could be attributed to the difference in firm size, as larger firms on average tend to have a correspondingly larger boards. Fourth, the average executive ownership in the lawsuit sample is significantly lower in both mean and median relative to the control sample. This appears to support the proposition that CEOs whose financial interests are better aligned with their companies', as evidenced by higher stock ownership, tend to exercise more care to prevent the companies from being exposed to litigation risks.

[Insert Table 1]

Results from the univariate analysis in the rate of CEO turnover are reported in Table 2. CEO turnover is significantly higher for the litigation sample compared to the control sample during the (0, +3) period (from the year in which the lawsuit was filed, defined as year 0, to the third year subsequent to the litigation filing, year +3), as well as during

the (-1,+3) period beginning from the year preceding the filing. The incidence of CEO turnover within the lawsuit sample is 48.4% during the (0, +3) period and 57.8% during the (-1, +3) period, which is higher than that of the control sample during the same periods by 3.6% and 3.3%, respectively. The differences in the mean are statistically significant at the 1% significance level. These results provide preliminary support for hypothesis H(1), by indicating that lawsuit firms tend to experience higher CEO turnover on average during the period subsequent to the lawsuit filings.

[Insert Table 2]

4.2 Multivariate Analysis

4.2.1 Overall Litigation

I examine the association between corporate litigation and CEO turnover subsequent to and surrounding lawsuit filings, by estimating the following binary probit regressions:

$$\Delta CEO_{t(0,+3),t(-1,+3)} = \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 LogTA_{t-1} + \beta_3 ROA_{t-1} + \beta_4 LEV_{t-1} + \beta_5 BSIZE_{t-1} + \beta_6 \%OUTSIDE_{t-1} + \beta_7 CEOAGE_{t=0} + \beta_8 EXECOWN_{t=0} + \beta_9 TENURE_{t=0} + \varepsilon \quad (1)$$

The dependent variable $\Delta CEO_{t(0,+3)}$ is assigned a value of 1 if a change in the person holding the position of CEO occurs at any time within the (0,+3) period, otherwise this variable is assigned the value zero (Agrawal, Jaffe & Karpoff, 1999, p. 326; Cheng et al., 2010, p. 148). An alternative dependent variable, $\Delta CEO_{t(-1,+3)}$ which measures the

CEO turnover during the (-1,+3) period, is employed to re-estimate the regression, for additional analysis incorporating the year immediately prior to the lawsuit filings.

In Equation (1), as discussed in Chapter 3, the test variable $LAWSUIT_{t=0}$ is expressed in turn as a dummy variable and a continuous variable.[5] Additionally, the regression employing the continuous variable is re-run over a restricted sample comprising lawsuit firm-years only, in order to test the robustness of the results after excluding the zero values in the control sample. This additional analysis allows the examination of the incremental predictive power of each additional lawsuit filed during the year. Results from all three sets of regressions are reported in Table 3.

[Insert Table 3]

As reported in Table 3, the instance of CEO turnover during the (0,+3) period is higher, as evidenced by a positive estimated coefficient of the dummy variable $LAWSUIT_{t=0}$ (0.077), which is statistically significant at the 5% level. The results indicate that, consistent with hypothesis H(1), companies which experience lawsuit filings are more likely to undergo changes in their CEOs during the (0,+3) period. When year -1 is included in the interval during which CEO turnover is observed, the estimated coefficient of the dummy variable $LAWSUIT_{t=0}$ remains positive (0.064) and is significant at the 10% level.

[5] As discussed in Chapter 3, the $LAWSUIT_{t=0}$ variable represents the lawsuit filings in year 0. An alternative definition of the lawsuit variable has been employed, which measures the lawsuit filings over the entire sample period (from 2000 through 2007). The key empirical results from these alternative regressions remain largely consistent with the reported results.

Furthermore, when the filing of corporate litigation is measured by a continuous variable denoting the number of lawsuits filed, the estimated coefficient of $LAWSUIT_{t=0}$ remains positive (0.008 in predicting the likelihood of CEO turnover over the (0,+3) period, and 0.007 in predicting CEO turnover over the (-1,+3) period), both are significant at the 5% level. When the regression model employing the continuous variable is re-run using a sample restricted only to lawsuit firm-years, the estimated coefficient of $LAWSUIT_{t=0}$ remains positive and significant at the 5% level. The results provide consistent evidence in support of hypothesis H(1), by demonstrating a significant association between lawsuit filings and an increase in CEO turnover during both (0,+3) and (-1,+3) periods, regardless of whether the litigation is measured as a dummy variable or as a continuous variable. The magnitudes of the pseudo R-squares from the regression models are consistent with those reported in prior studies (Niehaus & Roth, 1999; Desai, Hogan & Wilkins, 2006; Agrawal & Cooper, 2007; Baum, Bohn & Chakraborty, 2007; Collins, Reitenga & Sanchez, 2008; Krishna-Moorthy, 2011).

A number of observations may be made regarding the control variables. First, the results show that firm size ($LogTA_{t-1}$) is positively and significantly associated with CEO turnover, at the 10% level in Models (1) and (2) of Table 3, and at the 5% level in Models (3) and (4). This observation is consistent with prior literature (Niehaus & Roth, 1999; Defond & Hung, 2004; Arthaud-Day et al., 2006; Agrawal & Cooper, 2007; Burks, 2010), which documents a positive association between firm size and the likelihood of executive turnover. Accounting performance of the company during the previous year (ROA_{t-1}) is negatively associated with CEO turnover, significant at the 1% level across all regressions reported in Table 3. This is consistent with the expectation that underperforming CEOs are more likely to depart from their companies

(Warner, Watts & Wruck, 1988; Weisbach, 1988; Jensen & Murphy, 1990; Denis & Serrano, 1996; Denis, Denis & Sarin, 1997; Mikkelson & Partch, 1997).

Second, the financial leverage of the company, LEV_{t-1}, is found to have a significant negative association with the probability of CEO turnover, indicating that CEOs tend to turn over more frequently in firms with relatively lower debt-to-equity ratios. The role of the debtholders within the agency relationship underlying a public corporation cannot be overlooked (Smith & Warner, 1979; Berger, Ofek & Yermack, 1997; Branch, 2000), as their interests may deviate from those of the shareholders (Smith & Warner, 1979; Shleifer & Summers, 1988; Ofek, 1993; Klock, Mansi & Maxwell, 2005; Adams & Mansi, 2009). The observed significant and negative association between financial leverage and CEO turnover indicates that debtholders appear less willing to initiate CEO turnover. This is consistent with prior empirical evidence found by Adams and Mansi (2009), who document that CEO turnovers, although beneficial to shareholders, are value-decreasing from a debtholder perspective.

Third, Jensen (1993) argues that the presence of outside directors on the board facilitates the removal of executive officers. The results in Models (3) and (5) show that the proportion of independent directors on the board at the end of year -1 ($\%OUTSIDE_{t-1}$) is positively and significantly (at the 1% level) associated with the likelihood of CEO turnover during the (0,+3) period, consistent with prior studies, which document that companies with more independent boards are more likely to replace an existing underperforming CEO (Weisbach, 1988; Agrawal, Jaffe & Karpoff, 1999, p. 328). However, the size of the board of directors ($BSIZE_{t-1}$), which is hypothesized to have a negative impact on the probability of CEO turnover based on the argument that smaller

boards are more effective in replacing CEOs (Jensen, 1993; Yermack, 1996), is not statistically significant in predicting CEO turnover. Overall, these results provide evidence that greater board independence is associated with increased effectiveness of the board in replacing the existing CEO, although the same relationship is not observed with board size.[6]

Fourth, amongst the executive-specific characteristics, the age of the CEO ($CEOAGE_{t=0}$) is significantly and positively associated with their likelihood of departure at the 1% level. This is consistent with prior studies, which use age as a proxy to distinguish retirements from forced termination in predicting executive turnover (Strahan, 1998; Niehaus & Roth, 1999; Defond & Hung, 2004; Yermack, 2004; Srinivasan, 2005; Arthaud-Day et al., 2006; Desai, Hogan & Wilkins, 2006; Baum, Bohn & Chakraborty, 2007; Karpoff, Lee & Martin, 2008; Burks, 2010; Krishna-Moorthy, 2011).

Fifth, ownership of the company's common stock by the CEO in year 0 ($EXECOWN_{t=0}$) is not statistically significant in predicting subsequent turnover. On the other hand, the duration of the CEO's employment at the company in his current position is significantly and negatively associated with the likelihood of turnover, with an estimated coefficient of -0.032 in predicting turnover over the (0,+3) period in Model (1) of Table 3, and -0.053 in predicting turnover over the (-1,+3) period in Model (2).

[6] In order to further examine the role of board vigilance in determining post-litigation CEO turnover, I conduct regression analysis by including the following additional interaction terms in the re-estimation of Equation (1). The variables $LAWSUIT_{t=0}$*$BSIZE_{t-1}$ and $LAWSUIT_{t=0}$*%$OUTSIDE_{t-1}$ represent the interactions of the litigation variable ($LAWSUIT_{t=0}$), with board size ($BSIZE_{t-1}$) and board independence (%$OUTSIDE_{t-1}$), respectively. If the vigilance of the board (as proxied by size and independence) has significant impacts on the board's tendency to remove the CEO in the wake of litigation, such relationships would be captured by the statistical significance of these interaction variables. However, in the unreported regression results, the interaction terms $LAWSUIT_{t=0}$*$BSIZE_{t-1}$ and $LAWSUIT_{t=0}$*%$OUTSIDE_{t-1}$ do not exhibit statistically significant predictive power at the 5% level.

The negative estimated coefficients, significant at the 1% level across all regressions, confirm the expectation that more entrenched CEOs are less likely to be replaced by their boards.

4.2.2 Breakdown by Lawsuit Categories

I further employ the binary regressions below, in order to distinguish between the predictive powers of different types of corporate litigation. Equation (2) employs five litigation variables, each measuring the filing of one specific type of lawsuits against the company, in lieu of the one single variable measuring the filing of all lawsuits. As discussed in Chapter 3, these five litigation variables are also expressed first as dummy variables, and then as continuous variables. The regression employing the continuous variables is first run over the entire dataset comprising all firm-years, then over a restricted dataset comprising litigation firm-years only.

$$\begin{aligned}\Delta CEO_{t(0,+3),t(-1,+3)} &= \alpha + \beta_1 ENV_{t=0} + \beta_2 SEC_{t=0} + \beta_3 ANT_{t=0} + \beta_4 IP_{t=0} + \beta_5 CON_{t=0} \\ &+ \beta_6 LogTA_{t-1} + \beta_7 ROA_{t-1} + \beta_8 LEV_{t-1} + \beta_9 BSIZE_{t-1} + \beta_{10} \%OUTSIDE_{t-1} + \\ &\beta_{11} CEOAGE_{t=0} + \beta_{12} EXECOWN_{t=0} + \beta_{13} TENURE_{t=0} + \varepsilon\end{aligned} \quad (2)$$

As reported in Table 4, the estimated coefficients and statistical significance of the control variables do not experience significant changes from those previously discussed when a single lawsuit variable is employed (under Equation (1) as discussed above).

[Insert Table 4]

Amongst the five lawsuits categories investigated in this Chapter, securities lawsuits, $SEC_{t=0}$ (when expressed as a dummy variable), exhibit the strongest predictive power over subsequent CEO turnover, as indicated by both the largest estimated coefficient (0.236 in predicting $\Delta CEO_{t(0,+3)}$ and 0.182 in predicting $\Delta CEO_{t(-1,+3)}$), and the highest statistical significance (at the 1% level). This is consistent with prior research which documents increased executive turnover following revelations of securities fraud (Niehaus & Roth, 1999; Srinivasan, 2005; Arthaud-Day et al., 2006; Agrawal & Cooper, 2007; Collins, Reitenga & Sanchez, 2008; Karpoff, Lee & Martin, 2008; Krishna-Moorthy, 2011; Correia & Klausner, 2012). The highest explanatory power of securities lawsuits over CEO turnover is consistent with expectation, as securities lawsuits can give rise to both agency *and* legitimacy incentives for the board to displace the current CEO. First, securities violations constitute a direct manifestation of the agency conflict within the company, where the managers have allegedly acted to the detriment of the shareholders, providing significant incentives for the board of directors who represent shareholders' interests to replace the top executive. Second, due to the fraudulent nature of the allegations and the associated negative publicity, the social legitimacy of the accused companies may also be threatened, further giving rise to reputational incentives for the board to replace the CEO, in an attempt to project a new image of the company. Therefore, the results confirm the expectation that securities litigation, being the only category that gives rise to both agency and legitimacy incentives, is most significantly associated with a subsequent increase in CEO turnover.

In addition, the filing of antitrust lawsuits, as represented by the dummy variable $ANT_{t=0}$, is positively associated with subsequent CEO turnover over the (-1,+3) period (with an estimated coefficient of 0.170 significant at the 5% level), while the filing of

intellectual property infringements, as represented by the dummy variable $IP_{t=0}$, is also significantly associated with an increase in CEO turnover during both the (0,+3) and (-1,+3) intervals (with estimated coefficients of 0.077 and 0.085, significant at the 10% and 5% levels, respectively). When the filing of litigation is represented by continuous variables denoting the number of lawsuits filed within a given year (rather than dummy variables), intellectual property litigation ($IP_{t=0}$) remains significant in explaining the increase in CEO turnover, with improved p-values significant at the 5% level in both the $\Delta CEO_{t(0,+3)}$ and $\Delta CEO_{t(-1,+3)}$ regressions. When the model employing the continuous litigation variables is run using a sample restricted to lawsuit firm-years only, the regression results concerning the key independent variables remain consistent with those produced by employing the entire dataset.

Whilst securities lawsuits flag the moral hazard problems within a corporation, where the manager-agents have acted in their own interests to the detriment of the shareholder-principals, intellectual property and antitrust lawsuits give rise to no such moral hazard implications. However, they potentially serve to reveal a different type of agency problem arising from the shareholder-manager relationship, namely adverse selection, which is associated with the difficulty for the principals to accurately assess the managerial abilities of the agents. Arguably IP and antitrust lawsuits, which can lead to significant economic losses for the corporate defendants, serve to reflect adversely upon managerial abilities by indicating a failure to safeguard the companies against exposures to litigation risks and potential legal liabilities. This may give rise to agency incentives for the boards to impose disciplinary measures by instigating CEO turnover.

Thus, two implications can be drawn from the statistical significance of IP and antitrust lawsuits in predicting a subsequent increase in CEO turnover. First, given that mixed incentives are provided by intellectual property and antitrust lawsuits,[7] the fact that both are followed by increases in CEO turnover indicates that the boards of directors of public companies are willing to impose disciplinary actions in relation to managerial decisions which eventually lead to legal strife, causing economic losses to the companies, and that managers who fail to adequately guard their companies against the exposure to legal liabilities are penalized by an increased likelihood of losing their jobs. Second, given that antitrust and IP disputes do not usually give rise to adverse publicity to threaten the social legitimacy of the companies involved (for instance, neither Apple nor Samsung is censured by society for their IP disputes over the Smartphone design), their statistical significance demonstrates that agency incentives alone are sufficient to motivate the board of directors to replace the CEO, even in the absence of legitimacy and reputational concerns.

On the other hand, the filing of contractual lawsuits does not appear to have any significant association with the likelihood of CEO turnover. The lack of statistical significance can be attributable to the routine nature of contractual disputes in business operations, and the limited reputational impacts associated with this type of litigation.

Contrary to expectation, the filings of environmental lawsuits, as represented by the dummy variable $ENV_{t=0}$ are associated with a decrease in CEO turnover at the 1% significance level. This appears to indicate that, following environmental allegations, far from replacing the CEOs in an attempt to preserve the sued companies' reputation

[7] On the one hand, the underlying conduct resulting in the lawsuit, for instance an alleged IP infringement or cartel, is carried out with the aim of financially benefiting the shareholders, but on the other hand, the misjudgement in carrying out such conduct has exposed the company to legal liabilities.

and social legitimacy, the boards of directors are less likely to replace their CEOs, as evidenced by the negative predicted sign of $ENV_{t=0}$. Like securities lawsuits, environmental litigation can give rise to significant adverse publicity, creating strong reputational incentives for the boards to initiate changes that would improve the perceived legitimacy of the sued companies. However, unlike securities lawsuits, environmental lawsuits do not give rise to agency incentives for the board to remove the CEO, as they do not reveal underlying conflicts between the managers and shareholders; to the contrary, the managers act in the economic interests of the shareholders by engaging in practices detrimental to the environment in pursuit of financial profits. In light of the recent environmental disaster caused by BP's oil spill, this observation is particularly informative. It indicates that agency incentives of protecting the shareholders' financial interests appear to dominate over legitimacy concerns of preserving the company's reputation, in determining a board's decision to remove the CEO. The boards of directors of public companies are generally unmoved by alleged environmental violations, and are not sufficiently motivated by reputational concerns to instigate changes of the companies' CEOs.[8] This may be attributable to explanations raised in prior literature (Karpoff, Lott & Wehrly, 2005), that environmental lawsuit filings are not expected to give rise to future loss of profits due to reputational costs, because the alleged victims are third parties extrinsic to the companies, rather than their customers, employees, suppliers, or other stakeholders.

[8] In addition, the failure by the boards of the sued companies to respond to environmental lawsuits by instigating CEO turnover may be due to their underlying ineffectiveness in performing their monitoring function. This explanation appears to be supported by the results from robustness checks. In the robustness analysis, the regression model employs interaction terms between the number of individual categories of lawsuits filed ($ENV_{t=0}$ to $CON_{t=0}$) and board independence as a proxy for vigilance ($\%OUTSIDE_{t-1}$). In the unreported regression results, the interaction term $ENV_{t=0}$*$\%OUTSIDE_{t-1}$ is positive and statistically significant at the 5% level, indicating that following environmental lawsuits, sued companies with more independent boards are more likely to replace their CEOs.

Section Summary

In summary, consistent with hypothesis H(1) which predicts higher CEO turnover following lawsuit filings, results from the regression analysis show that the encounter with corporate litigation is associated with an increase in the instance of CEO turnover within the sued companies. Furthermore, empirical evidence indicates that lawsuits which give rise to agency incentives for the boards to remove the CEOs, by revealing either moral hazard (in the cases of securities lawsuits) or adverse selection problems (in the cases of IP and antitrust lawsuits), tend to be followed by an increase in CEO turnover, whereas boards are unresponsive to those lawsuits giving rise only to legitimacy concerns (such as environmental lawsuits), which are not associated with a subsequent increase in CEO turnover.

4.3 Robustness Check: Heckman Selection Model

The litigation risk faced by public companies may vary substantially, across different industries and depending on their organizational structures. Accordingly, the boards of directors, in making their decisions to replace the CEOs following litigation, are expected to take these inherently different levels of litigation risk into account. These underlying differences, which determine the likelihood of a company being sued, may therefore play a role in determining the likelihood of CEO turnover. In order to control for any potential selection bias that may arise from the different levels of litigation risks faced by the sample firms, I utilize the two-stage econometric model developed by Heckman (1979), as specified below in Equation (3), to re-examine the first research hypothesis.

In the two-stage regression estimating the likelihood of CEO turnover, I first estimate a binary probit model predicting the likelihood of the firm encountering a litigation filing during a given year (a dummy variable representing lawsuit filings). In the second stage, I estimate a probit model for CEO turnover, which includes the inverse Mills ratio (lambda), to correct for the likelihood of the litigation which has been predicted.

Stage 1:

$$LAWSUIT_{t=0} = \alpha + \beta_1 SEG_{t-1} + \beta_2 RISKINDQ_{t-1} + \beta_3 LogTA_{t-1} + \beta_4 ROA_{t-1} + \beta_5 LEV_{t-1} + \beta_6 BSIZE_{t-1} + \beta_7 \%OUTSIDE_{t-1} + \beta_8 CEOAGE_{t=0} + \beta_9 EXECOWN_{t=0} + \beta_{10} TENURE_{t=0} + \varepsilon \quad (3)$$

Stage 2:

$$\Delta CEO_{t(0,+3),t(-1,+3)} = \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 LogTA_{t-1} + \beta_3 ROA_{t-1} + \beta_4 LEV_{t-1} + \beta_5 BSIZE_{t-1} + \beta_6 \%OUTSIDE_{t-1} + \beta_7 CEOAGE_{t=0} + \beta_8 EXECOWN_{t=0} + \beta_9 TENURE_{t=0} + \beta_{10} \text{lambda} + \varepsilon$$

In the first stage regression, I utilize two instrumental variables (IV) in the estimation of the probability of lawsuit filings against the sample companies. The first IV, SEG_{t-1}, is a measure of the organizational complexity of the company, as proxied by the number of business segments of the company as at the end of year -1 (Cohen & Lou, 2012). The segment data is obtained from the Compustat Segment Database. Organizational complexity is included in the first stage estimation, as a predictor of the level of litigation risk faced by the company, because firms with more complex structures, which extend their business into a wider variety of operations (Cohen & Lou, 2012), tend to face an increased risk of being sued. On the other hand, there is no evidence to suggest that more complex companies tend to face an increased likelihood of CEO turnover. Therefore, the organizational complexity of the firm, as measured by SEG_{t-1}, is suitable to be employed as an IV. The second IV, $RISKINDQ_{t-1}$, is a measure of the level of litigation risk inherently associated with the industry in which the company operates (Field, Lowry & Shu, 2005; Dai, Jin & Zhang, 2012). $RISKINDQ_{t-1}$ is a dummy variable which takes on a value of 1, if the two-digit Standard Industry Classification (SIC) code of the company falls into the top quartile of the most litigious industries as observed during the sampling period, and 0 otherwise. Some industries are inherently more litigious than others, hence industry is a suitable predictor of the litigation risk faced by public companies in controlling for endogeneity (Field, Lowry & Shu, 2005; Dai, Jin & Zhang, 2012). As reported in Table 5, the results from the first-stage regression indicates that, both SEG_{t-1} and $RISKINDQ_{t-1}$ are positive and statistically significant (at the 5% and 1% levels, respectively), in predicting the likelihood of a company's encounter with litigation, providing empirical evidence that they constitute effective IVs under the Heckman Selection Model.

[Insert Table 5]

The results from the second-stage regression under the Heckman Selection Model are also reported in Table 5. In the regression predicting CEO turnover during the (0,+3) period, the estimated coefficient of the inverse Mills ratio (lambda) is positive but statistically insignificant (with a p-value of 0.212). Similarly, in the model predicting the CEO turnover during the (-1,+3) period, the estimated coefficient of the inverse Mills ratio is also positive and insignificant (with a p-value of 0.204). The statistical insignificance of lambda in the second-stage regression indicates that there is no evidence to suggest any selection bias exists in the original binary regressions predicting CEO turnover.

Furthermore, in the second-stage regressions, the test variable $LAWSUIT_{t=0}$, which measures the number of lawsuits filed against the company during year 0, is positive and significant in predicting CEO turnover over both the (0,+3) and (-1,+3) periods (at the 1% and 5% levels, respectively). In predicting both $\Delta CEO_{t(0,+3)}$ and $\Delta CEO_{t(-1,+3)}$, the estimated coefficients of $LAWSUIT_{t=0}$ remain similar (0.009 and 0.008) to those from the original probit regressions (0.008 and 0.007) under Equation (1). These results are consistent with those from the original probit models discussed in Section 4.2.1, indicating a significant relation exists between the filing of lawsuits against public companies, and an increase in the likelihood of CEO turnover within these sued companies, during the (0,+3) and (-1,+3) periods subsequent to and surrounding the lawsuit filings.

Results from the robustness checks, in which the two-stage Heckman Selection Model is utilized, confirm the robustness of the results from the original probit regressions discussed in the preceding Section.[9] These results show that, consistent with the evidence provided by the analysis in Section 4.2 and as predicted by the research hypothesis H(1), the encounter with corporate litigation is associated with a subsequent increase in the incidence of CEO turnover within the sued companies.

[9] The two-stage Heckman model is also employed to examine the predictive power of individual lawsuit categories, by employing in the second-stage regression the five continuous litigation variables, each denoting the lawsuit filings under an individual category. The results from the two-stage regressions remain unchanged from the single stage probit regression discussed in the preceding Section.

4.4 Litigation Magnitudes and Merits

In addition, I conduct further analysis to scrutinize the roles of lawsuit-specific characteristics in predicting post-litigation executive turnover, including the economic magnitude of the compensation demanded by the plaintiffs, and the merits of the filed lawsuits, as proxied by their eventual outcomes. Whilst two competing theories, from the agency and legitimacy perspectives, both predict a higher likelihood of executive turnover following litigation, the examination of the role of lawsuit-specific characteristics seeks to provide further insights into which incentives are more prominent in explaining the predicted increase in CEO turnover.

Lawsuits filed against public corporations vary extensively in economic magnitudes and legal merits. The following analysis seeks to capture the role of these lawsuit-specific factors in determining the corporate governance changes that ensue, by examining first the magnitude of the demands for compensation filed by the plaintiffs, as a proxy for the economic scale of the litigation; and second, the outcomes of the litigation filed against the defendant companies, as a proxy for the legal merits of the claims filed. The regression analyses in this Section are conducted over a sub-sample, comprising only those firm-years where at least one lawsuit has been filed against the company.

4.4.1 Litigation Magnitudes and CEO Turnover

First, the magnitudes of the monetary compensation demanded by the plaintiffs constitute a direct measure of the scale of the litigation, and hence the associated publicity. Litigation with greater economic magnitude is more likely to have a higher

profile, attracting more attention from the media and the general public, therefore being capable of giving rise to greater reputational incentives to take measures to restore the company's perceived legitimacy. Consequently, if boards are motivated by legitimacy concerns for the sued companies, higher demands for legal compensation are expected to be followed by a higher likelihood of CEO turnover.

In order to examine the role of the economic magnitude of corporate litigation on subsequent CEO turnover in the sued firms, the regression utilized in the previous analysis in Section 4.2.1 (Equation (1)) is reemployed, in which the previous key independent variable $LAWSUIT_{t=0}$ (which measures the occurrence of lawsuit filings) is replaced by the new test variable $DEMAND_{ALL-t=0}$, which represents the magnitude of the filed lawsuits, as discussed in Chapter 3. The detailed description of the demand variables are contained in Appendix 1 (Variable Definitions).

[Insert Table 6]

As reported in Table 6, the results show that the test variable, $DEMAND_{ALL-t=0}$, is not statistically significant in predicting CEO turnover over both the (0,+3) and the (-1,+3) periods.[10] Furthermore, when the lawsuits are broken down into different categories, the five test variables $DEMAND_{(ENV/SEC/ANT/IP/CON)-t=0}$ remain insignificant in predicting the likelihood of CEO turnover surrounding the lawsuit filings.[11] These results do not

[10] It is *a priori* expected that the economic magnitudes of filed lawsuits should have a significant and positive predictive power over subsequent CEO turnover. The observed insignificance of $DEMAND_{ALL-t=0}$ is therefore counter-intuitive. By way of robustness check, I further stratify the sample firms by industry, re-running the regression model within each subsample defined by a common two-digit SIC code. Amongst the twelve (12) most common industries with sufficient observations to enable the probit regression analysis, the variable $DEMAND_{ALL-t=0}$ remains statistically insignificant in predicting CEO turnover.

[11] In addition, I include in the regression model interaction terms between the economic magnitudes of the lawsuits and board composition (size and independence), as a means of distinguishing between

provide evidence in support of the expectation, that the likelihood of CEO turnover within the sued companies should increase with the magnitude of the demands for compensation filed.

The lack of statistical association between the economic magnitude of filed lawsuits, and the subsequent CEO turnover in sued companies, gives rise to two potential interpretations.

First, according to *a priori* expectation, because lawsuits of larger economic magnitudes tend to attract more publicity and notoriety, rendering it more likely for reputational incentives to arise to motivate the board to replace the CEO, the fact that the economic magnitude of the lawsuits is not statistically significant in determining subsequent CEO turnover indicates that the legitimacy concerns alone do not constitute sufficient motivation for boards to instigate managerial changes.

Second, in certain types of corporate litigation which involve serious allegations against the company management (for instance, allegations of fraudulent disclosure of misleading financial information), it is the nature of the allegations, rather than the dollar amount of compensation demanded by the plaintiffs, which raises substantial concerns to catalyse the changes within the company. Therefore, given that a lawsuit

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contentious boards, which may pay more attention to lawsuit-specific characteristics, and less contentious boards. However, in the regression results, both interaction terms are statistically insignificant at the 10% level, providing no support for the view that more vigilant boards (as proxied by size and independence) of certain composition would take into account lawsuit-specific characteristics more than others.

has been filed against the company, the actual monetary amount of compensation sought is inconsequential.[12]

The control variables, as reported in Table 6, remain largely consistent with the previous results as discussed in Section 4.2.1. Firm performance (ROA_{t-1}) is negative and significant at the 5% level, consistent with the expectation that underperforming CEOs are more likely to depart (Warner, Watts & Wruck, 1988; Weisbach, 1988; Jensen & Murphy, 1990; Denis & Serrano, 1996; Denis, Denis & Sarin, 1997; Mikkelson & Partch, 1997). Financial leverage of the company (LEV_{t-1}) is also negatively associated with CEO turnover (significant at the 5% level). Third, firms with more independent boards ($\%OUTSIDE_{t-1}$) are more likely to replace their CEO during the (0, +3) period (significant at the 5% level). Fourth, CEOs who are older in age are more likely to depart, as evidenced by the positive and significant (at the 1% level) estimated coefficient of $CEOAGE_{t=0}$ (Strahan, 1998; Niehaus & Roth, 1999, p. 65). Finally, $TENURE_{t=0}$ is negatively and significantly associated with turnover, confirming the expectation that CEOs who are more entrenched, as proxied by the duration of service at the company, are less likely to depart.

4.4.2 Litigation Merits and CEO Turnover

However, the economic magnitude of the litigation alone does not indicate whether, from an agency perspective, the CEO should be penalized by the board through

[12] This argument is consistent with prior research (Govindaraj, Jaggi & Lin, 2004), which found that when potentially litigious events such as vehicle recalls are revealed, the adverse capital market reactions generally grossly exceed the actual economic costs associated with the recall. The excess was attributed to reputational damage which would hinder the company's future profitability. In other words, the economic losses associated with the event *per se* are insignificant when considered in the context of the broader damage to the reputational capital.

turnover. A lawsuit in which the plaintiff claims a substantial amount of damages may nonetheless be based on frivolous allegations. Therefore, the economic magnitude of a lawsuit only indicates the level of publicity associated with the litigation (which is relevant to determining the legitimacy incentives), but does not indicate the degree of blameworthiness of the sued company (which is relevant to determining the agency incentives).

If boards of directors, in replacing CEOs following lawsuit filings, are driven by legitimacy incentives to remedy adverse reputational impacts on the companies, they would respond to those lawsuits that generate the greatest publicity (i.e. lawsuits of larger economic scales), which are not necessarily of the strongest merits. Thus, the post-litigation CEO turnover would be predicted by the economic scale of the lawsuits, but not their legal merits.

In contrast, if boards are motivated by agency incentives to *penalize* CEOs by instigating turnover, they should pay significant attention to the actual merits of the lawsuits, and respond only to those that reflect adversely on the CEO's prior decision-making. The economic magnitudes of the lawsuits would be less relevant, because high compensation claimed by the plaintiffs does not necessarily mean that the company should be held legally responsible. Thus, the likelihood of subsequent CEO turnover would be significantly predicted by the merits of the lawsuits, but not their economic magnitudes.

The second part of the analysis investigates the role of the merits of the plaintiffs' claims against the sued companies, as proxied by their litigation outcomes. The

outcome of a lawsuit, manifested in its manner of disposition, constitutes a strong indicator of the merits of the litigation. If a lawsuit is filed against the company but subsequently dismissed by the court, the dismissal would indicate an absence of strong legal claims by the plaintiffs against the defendant company. On the other hand, if the lawsuit proceeds to receive a judgment from the court, this would strongly indicate the existence of *bona fide* legal claims on the part of the plaintiffs, or at least the belief held by both the plaintiffs and defendants to this effect.

Data on the outcomes of the litigation is collected from Public Access to Court Electronic Records (PACER) database, and consists of a total of 33 unique dispositions.[13] In the study conducted by Baum, Bohn, and Chakraborty (2007), the authors distinguished dismissed lawsuits from settled lawsuits as a proxy for merits, in the examination of board turnover following securities litigation. This Chapter builds upon and refines the approach adopted by Baum, Bohn, and Chakraborty, by further differentiating between lawsuits which are settled, and those which end in court judgments.

[13] PACER disposition records consist of 33 unique dispositions: (1) Consolidated, (2) Consolidated - Unknown, (3) Dismissed, (4) Dismissed - Lack of Jurisdiction, (5) Dismissed - Other, (6) Dismissed - Settled, (7) Dismissed - Voluntarily, (8) Dismissed - Want of Prosecution, (9) District Court Affirmed Decision in its Entirety, (10) District Court Reversed Decision in Whole or Part, (11) Judgment - Award of Arbitrator, (12) Judgment - Court Trial, (13) Judgment - Directed Verdict, (14) Judgment - Judgment on Consent, (15) Judgment - Judgment on Default, (16) Judgment - Jury Verdict, (17) Judgment - Motion Before Trial, (18) Judgment - Motion/Petition Before Trial, (19) Judgment - Non-Jury Trial, (20) Judgment - Other, (21) Non-reportable closing, (22) Ongoing, (23) Settled, (24) Statistical Closing, (25) Statistical/Administrative Closing, (26) Stayed Pending Bankruptcy, (27) Transfer/Remand, (28) Transfer/Remand - MDL Transfer, (29) Transfer/Remand - Remanded to State Court, (30) Transfer/Remand - Remanded to U.S. Agency, (31) Transfer/Remand - Transfer to Another District, (32) Transfer/Remand - Transfer to Another Federal Court, and (33) Unknown.

The unique dispositions of lawsuits obtained from the PACER court dockets are grouped into four broad categories:[14] the first category, 'DISMISSAL', consists of all cases which are recorded to have been dismissed by the court, with the exception of those which are dismissed voluntarily due to out of court settlement.[15] The dismissal of a lawsuit implies that the plaintiff's claims are of weak legal merits (Baum, Bohn & Chakraborty, 2007). Therefore, dismissed lawsuits are expected to be followed by the least likelihood of corporate governance changes within the sued companies.

Second, the 'SETTLE' category consists of cases which are terminated by agreements reached between the plaintiffs and defendants (whether in court or out of court).[16] Lawsuit settlements indicate that the filed claims are of stronger merits than those which are dismissed (Baum, Bohn & Chakraborty, 2007). The third category, 'JUDGMENT', consists of those cases which are recorded to end by court judgments, with the exception of consent judgements which are deemed to have been settled. Given the significant legal costs associated with litigation (primarily consisting of attorneys' fees and court charges) (Coffee, 1986; Romano, 1991; Haslem, 2005), which increase exponentially as the case further advances towards a court trial, it is unlikely for the parties to proceed to trial without reaching a settlement, unless they both hold the firm belief that their legal claims are sufficiently strong to outweigh the additional legal costs as well as the risk of losing the trial. Therefore, lawsuits which end in court judgements indicate that the claims filed by the plaintiffs are of the strongest legal

[14] Amongst the 33 different dispositions provided by PACER, there are 6 sub-categories of Dismissals, and 8 sub-categories of Judgments. In addition, several recorded dispositions suggest a settlement having been reached by the parties, including 'Dismissed - Settled', 'Judgment - Judgment on Consent', and 'Settled'. As negotiated settlements constituted a prevalent manner of disposals of filed lawsuits, SETTLE is also recognized as a separate disposition category in the analysis.

[15] Those lawsuits are marked as 'Dismissed – Settled' in the PACER disposition records.

[16] These include lawsuits which have the following dispositions recorded on the PACER court dockets: 'Dismissed – Settled', 'Judgment – Judgment on Consent', 'Judgment – Award of Arbitrator', and 'Settlement', all of which indicate that the plaintiff(s) and the defendant(s) have reached an agreement over the claims.

merits of the filed lawsuits, and are expected to be followed by the highest likelihood of corporate governance changes. Finally, the four category, 'OTHER', consists of all other outcomes, such as cases which are 'consolidated' or 'transferred/remanded' to another jurisdiction, and is the omitted category in the regression analysis.

In order to examine the roles of the merits of corporate litigation in predicting subsequent CEO turnover, I reemploy Equation (1) utilized in the previous analysis in Section 4.2.1, replacing the previous key independent variable $LAWSUIT_{t=0}$ with a set of new test variables to measure lawsuit merits. The three test variables $DISMISSAL_{ALL-t=0}$, $SETTLE_{ALL-t=0}$, and $JUDGMENT_{ALL-t=0}$, denote the proportion of lawsuits filed against a defendant company in a year which eventually end in each type of outcome.[17] The fourth category (*OTHER*), is the category omitted from the regression in order to avoid perfect multicollinearity within the test variables. Those lawsuits the outcome of which is unavailable from the PACER database are excluded from the calculations.

In addition, in order to disaggregate the merits of lawsuits of different natures, five groups of disposition test variables are calculated and employed in turn in a series of regressions, each representing the proportions of litigation that have ended in dismissals, settlements, and judgments, *within* the stratified sample of one individual lawsuit category (namely environmental, securities, antitrust, intellectual property, and

[17] The litigation outcome variables capture broad categories of lawsuit outcomes. They do not account for the idiosyncratic terms of each lawsuit's termination, or the degree of the defendant's victory. For instance, the variable that represents disposition by settlement does not capture the actual content of the settlement agreement. This is inevitable for two reasons. First, many litigation settlements are confidential. Their contents are unavailable to parties other than the litigants. Second, even assuming full data availability, there would be considerable difficulties associated with converting the terms of the judgments and settlements, which are qualitative in nature and specific to the facts of each case, into quantitative measures which could be generalized and compared across all lawsuits. Any attempt at this process would inevitably introduce substantial subjectivity into the data, and hence compromise its accuracy. For these reasons, individual variations from lawsuit to lawsuit, in terms of their outcomes and the degrees of victory for the defendant companies, are not captured by the study design.

contractual lawsuits, respectively). For instance, when investigating the role of the disposition of environmental lawsuits on CEO turnover, the test variables, $DISMISSAL_{ENV\_t=0}$, $SETTLE_{ENV\_t=0}$, and $JUDGMENT_{ENV\_t=0}$, are calculated by dividing the number of environmental lawsuits with the relevant outcomes, by the total number of environmental lawsuits filed against the company in that year.[18]

[Insert Table 7]

The results from Model (1) of Table 7 show that the first test variable, $DISMISSAL_{ALL\_t=0}$, is negatively and significantly associated with CEO turnover over the (0,+3) period. The negative estimated coefficient -0.178, significant at the 10% level, indicates that, given a lawsuit has been filed against the company during year 0, it is *less* likely to be followed by an increase in CEO turnover during the (0,+3) period, if the litigation is subsequently dismissed by the court. The results provide weak evidence in support of the expectation of a positive correlation between the merits of the lawsuits and the likelihood of subsequent CEO turnover. Consistent with expectation, firms which encounter less meritorious lawsuits, as reflected by their dismissals by the courts, are less likely to undergo an increase in CEO turnover during the ensuing period. This evidence indicates that the board of directors of a public company is capable of taking into account the actual merits of the lawsuits, in determining whether to instigate post-litigation CEO turnover.

[18] Further, in order to account for the role of board vigilance in determining their attitudes towards the legal merits of the litigation, I conduct additional analysis by employing a number of interaction terms, including the interactions between the lawsuit dispositions ($DISMISSAL_{t=0}$, $SETTLE_{t=0}$, and $JUDGMENT_{t=0}$), and variables which proxy board vigilance ($BSIZE_{t-1}$ and $\%OUTSIDE_{t-1}$). The general statistical insignificance of the interaction terms, at the 10% level, indicates that there is no evidence to suggest that boards of certain composition tend to pay more attention to the outcomes of the lawsuits, in determining subsequent CEO turnover.

On the other hand, the other two test variables, $SETTLE_{ALL-t=0}$ and $JUDGMENT_{ALL-t=0}$, are not statistically significant in predicting the likelihood of CEO turnover during either the (0,+3) or the (-1,+3) period.[19] The results in relation to the control variables remain similar to those predicted under Equations (1) and (4), as discussed in Sections 4.2.1 and 4.4.1 respectively, and are consistent with prior literature.[20]

When the outcomes of the lawsuits are examined within each specific lawsuit category, as reported in Table 7, the dismissal variable, $DISMISSAL_{(ENV/SEC/ANT/IP/CON)-t=0}$, remains consistently negative across *all* regressions examining each of the five types of

[19] By way of robustness check, I also conduct regression analysis whereby DISMISSAL is the omitted base category, in order to further examine the roles of settled and court adjudicated lawsuits in determining CEO turnover. The additional robustness analysis is conducted by re-running the regression models, utilizing $SETTLE_{t=0}$, $JUDGMENT_{t=0}$, and $OTHER_{t=0}$ as the key independent variables (in lieu of $DISMISSAL_{t=0}$, $SETTLE_{t=0}$, and $JUDGMENT_{t=0}$ in the primary analysis). The $DISMISSAL_{t=0}$ category is omitted as the base category, on the basis that lawsuits dismissed by the courts imply the weakest merits. The analysis produces results consistent with those reported in the primary analysis. First, $JUDGMENT_{ALL-t=0}$ is the most positive and statistically significant (at the 1% level) in predicting an increase in CEO turnover, indicating that following lawsuits of more serious merits which resulted in court judgments, executive officers are more likely to be replaced. Second, the settlement of securities lawsuits ($SETTLE_{SEC-t=0}$) is also significantly and positive associated with CEO turnover (at the 5% level), which indicates that, given the serious nature of securities allegations, their settlements tend to be followed by increased CEO turnover. These results provide further support of the *a priori* expectation that the boards of directors are capable of recognizing the settlement and judgment of filed lawsuits as indications of greater legal merits, and penalizing the CEOs by turnover accordingly.

[20] First, firm performance during the preceding year (ROA_{t-1}) is significantly and negatively associated with CEO turnover over both the (0, +3) period (at the 5% level) and the (-1, +3) period (at the 1% level), confirming the expectation that underperforming CEOs are more likely to depart (Warner, Watts & Wruck, 1988; Weisbach, 1988; Jensen & Murphy, 1990; Denis & Serrano, 1996; Denis, Denis & Sarin, 1997; Mikkelson & Partch, 1997). Second, the financial leverage of the company, LEV_{t-1}, is found to have a significant negative association with the probability of CEO turnover, significant at the 1% level in predicting CEO turnover over (0, +3) and (0, +3) periods, respectively, indicating that CEOs experience more frequent turnovers in firms with relatively lower debt-to-equity ratio. Third, the proportion of independent directors on the board at the beginning of year 0, as measured by $\%OUTSIDE_{t-1}$, is significant and positively associated with the likelihood of CEO turnover; this is consistent with Jensen's theory (1993) that the presence of outside directors on the board facilitates the removal of executive officers; furthermore, these results confirm the observations from prior research which found that companies with higher board independence are more likely to replace an existing underperforming CEO (Weisbach, 1988; Agrawal, Jaffe & Karpoff, 1999). Fourth, the age of the CEO is significantly positively associated with their likelihood of departure at the 1% level, whether the CEO turnover is observed over the (0, +3) period or (-1, +3) period. In prior studies, CEO age is used as a proxy to distinguish retirements from forced termination in predicting executive turnovers (Strahan, 1998; Niehaus & Roth, 1999), and the observed positive significant relationship is consistent with expectation. Finally, CEO tenure, which measures the number of years over which the CEO has worked for the company in the capacity of the chief executive, is shown to be negatively and significantly associated with the likelihood of CEO turnover, consistent with the expectation that the greater degree of entrenchment, as proxied by the duration of tenure, is associated with lesser likelihood of the CEO being replaced.

litigation, in predicting CEO turnover over both the (0,+3) and (-1,+3) periods, but are not statistically significant.[21] The settlement and judgment of lawsuits are also statistically insignificant in predicting subsequent CEO turnover across all five lawsuit categories.

[21] In Model (3), although the dismissal of environmental lawsuit appears to be statistically significant, the overall regression is insignificant (as evidenced by the p-value of 0.369). Consequently, the estimated coefficients of individual variables and their statistical significance cannot be relied upon.

5 Conclusion

This Chapter examines CEO turnover within US public companies following the filings of corporate lawsuits against them. Consistent with expectation, which is founded upon agency and legitimacy theories, results from the analysis indicate that corporate lawsuits are generally followed by an increase in CEO turnover within the sued companies, and the results are robust after controlling for potential selection bias arising from the different likelihood of litigation faced by different companies.

Additionally, empirical results indicate that the post-litigation CEO turnover is significantly associated with the merits of the litigation, but not the magnitude of the monetary demands for compensation. When viewed in conjunction with the evidence of a general increase in CEO turnover following litigation, these results further shed light on the motives underlying the boards' decisions in instigating CEO turnover following lawsuits. According to *a priori* expectation, the observed increase in CEO turnover following litigation may be explained by two competing theories: agency theory and legitimacy theory. If a board of directors is driven by reputational concerns to replace the CEO, then lawsuits of larger economic scales, which tend to attract greater publicity, should be more relevant in predicting a higher subsequent CEO turnover. On the other hand, if the board instigates CEO turnover to exert penalties on the manager who has exposed the company to legal liabilities, then the board should assess the actual merits of the allegations before imposing such penalties. The empirical results confirm the second proposition. The lack of statistical significance of the economic magnitudes of lawsuits indicates that boards are not driven by the scale of the litigation and their associated publicity. Meanwhile, dismissed lawsuits are less likely to be

followed by an increase in CEO turnover, indicating that the boards take into account the merits of the lawsuits in assessing whether the agents are competently fulfilling their duty to the principals. Therefore, the results indicate that the boards of directors' decisions to instigate post-litigation CEO turnover are attributable to agency concerns, to penalize executives who have failed to guard the companies against legal risks, rather than legitimacy concerns, to redress the negative publicity arising out of the allegations, thus preserving the companies' reputation.

A detailed breakdown of different types of lawsuits shows that the increase in CEO turnover is chiefly associated with three types of lawsuits: securities violations, intellectual property infringements and, albeit with a lower statistical significance, antitrust lawsuits. First, securities lawsuits, which give rise to both agency and legitimacy incentives for the board to replace the CEO, exhibit the highest predictive power over the subsequent increase in CEO turnover. Second, the significance of antitrust and intellectual property lawsuits in predicting CEO turnover indicates that, even in the absence of reputational and legitimacy concerns (as antitrust and IP lawsuits do no generally attract adverse publicity), boards of directors, representing the interests of shareholders, are prepared to discipline CEOs by an increased rate of turnover, for exposing the companies to legal liabilities and the associated negative economic consequences.

This Chapter provides significant evidence concerning the attitude of boards of directors of public corporations in differentiating between lawsuits that imply agency problems adversely affecting the shareholders' financial interests, and those that do not. Boards are willing to penalize CEOs when they have allegedly acted in self-interests

rather than the interests of the principals (as evidenced by securities lawsuits), or when they have failed to fulfil their stewardship duties to safeguard the companies against legal liabilities, resulting in imminent financial losses (as evidenced by antitrust and IP lawsuits). However, boards of public companies remain unmoved by environmental lawsuits, in which no detriment accrues to the shareholders, despite their potentially significant reputational impact which may threaten the legitimacy of the corporate defendants.

Arguably, this unwillingness exhibited by public corporations to instigate changes in the wake of environmental litigation, which stands in contrast to their reactions towards other types of corporate lawsuits, reflects their underlying attitudes of indifference towards environmental responsibility generally, perpetuated through the selection and retention of their executive officers. In light of the recent disaster of the Gulf of Mexico oil spill, this Chapter provides confronting empirical evidence of the prevailing corporate attitude, of prioritizing the economic interests of their shareholders over preserving the social legitimacy of the companies, in particular when environmental issues are concerned. This evidence calls into question whether more stringent environmental legislation is required, to ensure that corporations do not violate the terms of their social contracts in pursuit of financial profits.

6 Tables

Table 1 Descriptive Statistics (Mean and Median) for Lawsuit vs. Control Samples

	Lawsuit* (Mean)	Control** (Mean)	Lawsuit (Median)	Control (Median)	Difference in Mean[1]	(P-value)	Difference in Median[2]	(P-value)
log(TA)	8.118	6.868	7.991	6.801	1.250***	(0.000)	1.190***	(0.000)
ROA	0.047	0.043	0.045	0.044	0.003**	(0.037)	0.001	(0.559)
LEV	2.823	2.221	1.366	1.098	0.602***	(0.000)	0.268***	(0.000)
BSIZE	10.061	8.992	10.000	9.000	1.070***	(0.000)	1.000***	(0.000)
%OUTSIDE	0.688	0.678	0.714	0.700	0.011***	(0.004)	0.014***	(0.000)
CEOAGE	55.524	55.633	56.000	56.000	-0.110	(0.454)	0.000	(0.684)
EXECOWN	1.955	2.607	0.240	0.429	-0.652***	(0.000)	-0.188***	(0.000)
TENURE	6.588	7.335	4.000	5.000	-0.747***	(0.000)	-1.000***	(0.000)

* Those firm-years in which at least one lawsuit is filed against the company.
** Those firm-years in which no lawsuit is filed against the company.

[1] ANOVA F-test of the Difference in Mean
[2] Chi-square Test of the Difference in Median

Detailed definitions of all variables are listed in Appendix 1 (Variable Definitions).

Table 2 Univariate Analysis: CEO Turnover & Changes in Board Composition

	Lawsuit* (Mean)	Control** (Mean)	Lawsuit (Median)	Control (Median)	Difference in Mean[1]	(P-value)	Difference in Median[2]	(P-value)
CEO(0,+3)	0.484	0.448	0.000	0.000	0.036***	(0.001)	0.000***	(0.001)
CEO(-1,+3)	0.578	0.544	1.000	1.000	0.033***	(0.002)	0.000	(1.000)

* Those firm-years in which at least one lawsuit is filed against the company.
** Those firm-years in which no lawsuit is filed against the company.

[1] ANOVA F-test of the Difference in Mean
[2] Chi-square Test of the Difference in Median

Detailed definitions of all variables are listed in Appendix 1 (Variable Definitions).

Table 3 CEO Turnover Regression Results (Overall Lawsuit Variable) – Equation (1)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)
Model	(1)	(2)	(3)	(4)	(5)	(6)
constant	-2.313***	-1.389***	-2.355***	-1.458***	-2.501***	-1.654***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LAWSUIT (dummy)	0.077**	0.064*				
	(0.026)	(0.065)				
LAWSUIT (continuous)			0.008***	0.007**	0.009***	0.008**
			(0.005)	(0.019)	(0.003)	(0.014)
log(TA)	0.026*	0.027*	0.035**	0.037**	0.006	0.014
	(0.068)	(0.062)	(0.014)	(0.011)	(0.777)	(0.493)
ROA	-0.727***	-0.890***	-0.754***	-0.922***	-0.845***	-1.003***
	(0.001)	(0.000)	(0.000)	(0.000)	(0.008)	(0.002)
LEV	-0.018***	-0.023***	-0.022***	-0.027***	-0.019***	-0.027***
	(0.001)	(0.000)	(0.000)	(0.000)	(0.009)	(0.000)
BSIZE	0.004	0.011	-0.003	0.005	0.005	0.011
	(0.621)	(0.126)	(0.715)	(0.528)	(0.653)	(0.265)
%OUTSIDE	0.145	-0.056	0.322***	0.119	0.466***	0.304**
	(0.158)	(0.588)	(0.002)	(0.245)	(0.001)	(0.032)
CEOAGE	0.044***	0.037***	0.045***	0.038***	0.049***	0.041***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EXECOWN	-0.005	-0.003	-0.005	-0.003	-0.001	0.002
	(0.116)	(0.416)	(0.117)	(0.417)	(0.837)	(0.718)
TENURE	-0.032***	-0.053***	-0.032***	-0.053***	-0.030***	-0.052***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	6342	6420	6342	6420	3198	3251
R2	0.064	0.085	0.070	0.089	0.073	0.085
Wald F-Stat	46.13	67.72	50.74	68.64	28.24	36.47
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — ΔCEO(0,+3) and ΔCEO(-1,+3) equal the value of 1 if a CEO turnover occurs in a company during the (0,+3) and (-1,+3) periods, respectively. LAWSUIT (dummy) equals the value of 1 if one or more lawsuit(s) is/are filed against the company during year 0. LAWSUIT (continuous) denotes the number of lawsuit(s) filed against the company during year 0. Log(TA) equals the natural log of total assets reported in Compustat. ROA equals the return on total assets reported in Compustat. LEV denotes the debt-to-equity ratio reported in Compustat. BSIZE equals the number of directors on the board in year -1. %OUTSIDE equals the proportion of independent directors on the board in year -1. CEOAGE equals the age of the CEO reported in ExecuComp. EXECOWN denotes the stock ownership of the company's common shares by the CEO. TENURE equals the number of years over which the CEO has been serving in his/her current capacity.

The sample consists of the Standard & Poor's 1,500 firms, divided into the litigation and control samples on the basis of whether any lawsuit is filed against the firm in year 0. The numbers in parentheses below the coefficient estimates are p-values.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 4 CEO Turnover Regression Results (Lawsuit Categories) – Equation (2)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)
Model	(1)	(2)	(3)	(4)	(5)	(6)
constant	-2.416***	-1.509***	-2.376***	-1.483***	-2.572***	-1.725***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ENV (dummy)	-0.287***	-0.312***				
	(0.004)	(0.001)				
ENV (continuous)			0.006	0.003	0.007	0.004
			(0.593)	(0.782)	(0.556)	(0.756)
SEC (dummy)	0.236***	0.182***				
	(0.000)	(0.005)				
SEC (continuous)			0.045***	0.044***	0.048***	0.046***
			(0.000)	(0.000)	(0.000)	(0.000)
ANT (dummy)	0.103	0.170**				
	(0.181)	(0.030)				
ANT (continuous)			-0.006	-0.003	-0.004	-0.002
			(0.370)	(0.651)	(0.497)	(0.784)
IP (dummy)	0.077*	0.085**				
	(0.068)	(0.044)				
IP (continuous)			0.044**	0.038**	0.046**	0.038**
			(0.010)	(0.027)	(0.011)	(0.034)
CON (dummy)	-0.001	0.007				
	(0.985)	(0.858)				
CON (continuous)			-0.004	-0.006	-0.003	-0.005
			(0.349)	(0.206)	(0.510)	(0.305)
log(TA)	0.035**	0.034**	0.032**	0.035**	0.003	0.012
	(0.019)	(0.023)	(0.029)	(0.018)	(0.894)	(0.536)
ROA	-0.760***	-0.947***	-0.738***	-0.915***	-0.800**	-0.974***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.012)	(0.003)
LEV	-0.022***	-0.026***	-0.021***	-0.026***	-0.018**	-0.026***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.018)	(0.001)
BSIZE	-0.002	0.005	-0.002	0.005	0.006	0.013
	(0.785)	(0.469)	(0.802)	(0.461)	(0.543)	(0.206)
%OUTSIDE	0.323***	0.116	0.339***	0.132	0.498***	0.327**
	(0.002)	(0.257)	(0.001)	(0.197)	(0.001)	(0.021)
CEOAGE	0.046***	0.039***	0.046***	0.038***	0.050***	0.042***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EXECOWN	-0.005	-0.003	-0.005	-0.003	-0.001	0.001
	(0.108)	(0.389)	(0.113)	(0.405)	(0.832)	(0.732)
TENURE	-0.032***	-0.054***	-0.032***	-0.054***	-0.031***	-0.053***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	6342	6420	6342	6420	3198	3251
R2	0.072	0.092	0.073	0.092	0.080	0.091
Wald F-Stat	36.58	48.92	36.57	48.67	21.00	26.41
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — ENV, SEC, ANT, IP, CON (dummy) equal 1 if any environmental, securities, antitrust, intellectual property, and contractual lawsuits, respectively, are filed against the company during year 0. ENV, SEC, ANT, IP, CON (continuous) denote the number of environmental, securities, antitrust, intellectual property, and contractual lawsuits, respectively, filed against the company during year 0.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 5 CEO Turnover Regression Results (Heckman Selection Model) – Equation (3)

Stage 1 Results

	$LAWSUIT_{t=0}$
constant	-1.985***
	(0.000)
SEG	0.020**
	(0.023)
RISKINDQ	0.183***
	(0.002)
log(TA)	0.310***
	(0.000)
ROA	0.702***
	(0.001)
LEV	-0.017**
	(0.010)
BSIZE	-0.001
	(0.937)
%OUTSIDE	-0.215**
	(0.028)
CEOAGE	-0.006**
	(0.021)
EXECOWN	0.005*
	(0.091)
TENURE	-0.006**
	(0.034)
Wald F-Stat	80.77
(p-value)	0.000

Stage 2 Results

Dependent Variable Model	ΔCEO(0,+3) (1)	ΔCEO(-1,+3) (2)
constant	-3.620***	-2.829***
	(0.000)	(0.004)
LAWSUIT	0.009***	0.008**
	(0.007)	(0.026)
log(TA)	0.105	0.114
	(0.245)	(0.205)
ROA	-0.564	-0.728*
	(0.135)	(0.056)
LEV	-0.020*	-0.025**
	(0.052)	(0.015)
BSIZE	0.017	0.027**
	(0.124)	(0.015)
%OUTSIDE	0.448***	0.293*
	(0.003)	(0.052)
CEOAGE	0.044***	0.036***
	(0.000)	(0.000)
EXECOWN	0.001	0.003
	(0.838)	(0.474)
TENURE	-0.030***	-0.052***
	(0.000)	(0.000)
lambda	0.592	0.601
	(0.212)	(0.204)
n	3016	3065
R2	0.070	0.083
Wald F-Stat	23.08	33.26
(p-value)	0.000	0.000

Note — lambda equals the inverse Mills ratio calculated from the first-stage regression of the Heckman Selection Model.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 6 Litigation Magnitudes and CEO Turnover

	Overall Lawsuits		**Environmental**		**Securities**		**Antitrust**		**Intellectual Property**		**Contractual**	
Dependent Variable	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
constant	-3.070***	-2.186***	-2.268*	-1.117	-2.663***	-2.504***	-4.175***	-3.065**	-3.775***	-2.763***	-3.173***	-2.108***
	(0.000)	(0.000)	(0.085)	(0.387)	(0.001)	(0.003)	(0.001)	(0.012)	(0.000)	(0.000)	(0.000)	(0.000)
$DEMAND_{ALL}$	-0.008	0.003										
	(0.396)	(0.334)										
$DEMAND_{ENV\text{-}CON}$			-0.288	-0.558	-0.005	0.004	0.598	2.444	0.049	0.155	-0.014	-0.011
			(0.609)	(0.327)	(0.830)	(0.516)	(0.622)	(0.420)	(0.454)	(0.505)	(0.249)	(0.292)
log(TA)	0.025	0.030	-0.050	-0.040	0.087	0.103*	-0.022	0.014	0.018	0.003	0.014	0.018
	(0.246)	(0.166)	(0.580)	(0.655)	(0.141)	(0.094)	(0.794)	(0.868)	(0.657)	(0.931)	(0.564)	(0.466)
ROA	-0.952**	-1.227***	-0.095	-1.016	-2.295***	-2.292***	-0.698	-1.337	-1.621***	-1.805***	-0.430	-0.869*
	(0.011)	(0.002)	(0.966)	(0.647)	(0.005)	(0.010)	(0.610)	(0.371)	(0.008)	(0.004)	(0.367)	(0.075)
LEV	-0.022**	-0.026***	0.028	-0.003	-0.066***	-0.077***	0.017	-0.005	-0.009	-0.005	-0.017*	-0.023**
	(0.011)	(0.002)	(0.482)	(0.948)	(0.001)	(0.000)	(0.556)	(0.867)	(0.595)	(0.764)	(0.072)	(0.012)
BSIZE	0.006	0.014	-0.037	0.002	0.017	0.006	-0.046	-0.001	0.027	0.054**	0.000	0.004
	(0.609)	(0.221)	(0.493)	(0.966)	(0.543)	(0.850)	(0.286)	(0.983)	(0.213)	(0.012)	(0.975)	(0.760)
%OUTSIDE	0.381**	0.222	0.647	-0.096	-0.238	-0.098	0.039	-0.327	0.639**	0.027	0.472**	0.347*
	(0.022)	(0.179)	(0.358)	(0.887)	(0.626)	(0.847)	(0.952)	(0.618)	(0.033)	(0.926)	(0.016)	(0.075)
CEOAGE	0.054***	0.045***	0.049**	0.037*	0.052***	0.053***	0.100***	0.079***	0.060***	0.053***	0.058***	0.047***
	(0.000)	(0.000)	(0.021)	(0.076)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EXECOWN	-0.000	0.003	-0.107	-0.120	0.006	0.016	0.008	-0.002	0.000	0.010	0.000	0.003
	(0.937)	(0.607)	(0.208)	(0.161)	(0.619)	(0.226)	(0.790)	(0.963)	(0.973)	(0.376)	(0.952)	(0.689)
TENURE	-0.034***	-0.055***	0.000	-0.058*	-0.060***	-0.084***	-0.082***	-0.122***	-0.026***	-0.051***	-0.036***	-0.059***
	(0.000)	(0.000)	(0.993)	(0.072)	(0.000)	(0.000)	(0.001)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
n	2297	2314	183	186	300	302	182	183	737	738	1725	1738
R2	0.072	0.081	0.072	0.062	0.126	0.155	0.189	0.210	0.098	0.102	0.075	0.082
Wald F-Stat	20.35	22.50	1.06	0.95	3.91	4.59	3.47	3.36	8.63	8.94	15.77	17.71
(p-value)	0.000	0.000	0.392	0.481	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000

Note — $DEMAND_{ALL}$ equals the sum of all demands for pecuniary compensation filed against the company during year 0 scaled by firm size (total assets) at the beginning of year 0. $DEMAND_{ENV}$, $DEMAND_{SEC}$, $DEMAND_{ANT}$, $DEMAND_{IP}$, AND $DEMAND_{CON}$ equal the sum of demands for pecuniary compensation filed during year 0 in environmental, securities, antitrust, intellectual property, and contractual lawsuits, respectively, scaled by firm size (total assets) at the beginning of year 0.

* Significant at the 10% level, in a two-tailed test. ** Significant at the 5% level, in a two-tailed test. *** Significant at the 1% level, in a two-tailed test.

Table 7 Litigation Merits and CEO Turnover

Dependent Variable	**Overall Lawsuits**		**Environmental**		**Securities**		**Antitrust**		**Intellectual Property**		**Contractual**	
	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)	ΔCEO(0,+3)	ΔCEO(-1,+3)
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
constant	-2.435***	-1.655***	-1.753	-1.050	-2.127***	-1.779**	-2.341**	-1.001	-2.837***	-2.027***	-2.554***	-1.527***
	(0.000)	(0.000)	(0.204)	(0.441)	(0.002)	(0.010)	(0.016)	(0.285)	(0.000)	(0.000)	(0.000)	(0.000)
DISMISSAL	-0.178*	-0.053	-0.744*	-0.198	-0.250	-0.114	-0.408	-0.212	-0.038	-0.023	-0.132	-0.013
	(0.082)	(0.601)	(0.096)	(0.655)	(0.219)	(0.585)	(0.117)	(0.407)	(0.808)	(0.879)	(0.255)	(0.912)
SETTLE	-0.126	-0.073	-0.245	0.027	-0.224	0.016	0.024	0.095	0.118	0.084	-0.145	-0.087
	(0.203)	(0.455)	(0.501)	(0.940)	(0.290)	(0.940)	(0.926)	(0.718)	(0.433)	(0.570)	(0.193)	(0.431)
JUDGMENT	-0.041	0.038	-0.526	-0.416	-0.016	0.125	0.273	0.194	0.029	-0.001	-0.087	-0.015
	(0.720)	(0.743)	(0.262)	(0.373)	(0.937)	(0.558)	(0.313)	(0.487)	(0.878)	(0.995)	(0.497)	(0.907)
log(TA)	0.018	0.021	-0.073	-0.050	0.057	0.066	-0.097	-0.053	0.013	0.011	0.014	0.013
	(0.369)	(0.285)	(0.425)	(0.572)	(0.235)	(0.180)	(0.146)	(0.424)	(0.683)	(0.723)	(0.538)	(0.559)
ROA	-0.812**	-1.079***	-0.793	-1.931	-2.050***	-2.460***	0.940	0.641	-1.370***	-1.483***	-0.434	-0.796*
	(0.014)	(0.001)	(0.721)	(0.378)	(0.005)	(0.002)	(0.446)	(0.604)	(0.009)	(0.006)	(0.296)	(0.060)
LEV	-0.021***	-0.028***	0.034	0.000	-0.049***	-0.061***	0.028	0.010	-0.010	-0.012	-0.015*	-0.022***
	(0.005)	(0.000)	(0.404)	(0.997)	(0.001)	(0.000)	(0.240)	(0.668)	(0.496)	(0.385)	(0.076)	(0.007)
BSIZE	0.007	0.013	-0.021	0.018	0.018	0.023	0.007	0.027	0.024	0.037**	0.003	0.006
	(0.520)	(0.210)	(0.692)	(0.730)	(0.464)	(0.382)	(0.848)	(0.481)	(0.163)	(0.037)	(0.793)	(0.604)
%OUTSIDE	0.444***	0.290**	0.488	-0.232	0.027	-0.063	-0.004	-0.543	0.557**	0.115	0.493***	0.348**
	(0.003)	(0.049)	(0.487)	(0.729)	(0.944)	(0.878)	(0.994)	(0.330)	(0.024)	(0.637)	(0.004)	(0.043)
CEOAGE	0.049***	0.041***	0.048**	0.037*	0.051***	0.047***	0.071***	0.051***	0.050***	0.047***	0.051***	0.041***
	(0.000)	(0.000)	(0.025)	(0.081)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
EXECOWN	-0.002	0.001	-0.131	-0.129	0.008	0.016	-0.010	0.008	-0.000	0.006	-0.000	-0.000
	(0.718)	(0.858)	(0.150)	(0.146)	(0.463)	(0.171)	(0.668)	(0.764)	(1.000)	(0.529)	(0.958)	(0.978)
TENURE	-0.033***	-0.054***	0.007	-0.052	-0.053***	-0.075***	-0.046**	-0.091***	-0.022***	-0.046***	-0.036***	-0.060***
	(0.000)	(0.000)	(0.823)	(0.110)	(0.000)	(0.000)	(0.020)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
n	3002	3052	186	189	458	464	273	278	1166	1185	2200	2233
R2	0.072	0.087	0.086	0.067	0.122	0.153	0.138	0.125	0.095	0.101	0.074	0.087
Wald F-Stat	21.62	28.31	1.09	0.88	5.26	6.46	3.29	3.60	10.66	13.48	15.99	20.39
(p-value)	0.000	0.000	0.369	0.563	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note — In Models (1) and (2), DISMISSAL denotes the proportion of lawsuits, of all lawsuits filed against the company during year 0 the outcomes of which are known, which were dismissed by the court. SETTLE denotes the proportion of lawsuits, of all lawsuits filed against the company during year 0 the outcomes of which are known, which were settled. JUDGMENT denotes the proportion of lawsuits, of all lawsuits filed against the company during year 0 the outcomes of which are known, which ended in court judgments. In Models (3) to (12), DISMISSAL, SETTLE, and JUDGMENT denote the proportion of lawsuits which ended in dismissals, settlements, and court judgments, respectively, amongst each category of environmental, securities, antitrust, intellectual property, and contractual lawsuits, in turn.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

CHAPTER FIVE:

CORPORATE LITIGATION AND BOARD RESTRUCTURING

1 Introduction

The significant adverse impacts which lawsuits impose upon sued public companies (as detailed in the preceding Chapter 4) can motivate the boards of directors of the sued companies to engage in internal changes, by seeking to improve their monitoring effectiveness as a result of their companies' encounters with lawsuits. If the filing of a lawsuit is considered to reflect poorly upon the prior decision-making process within the company, the board in representing the shareholders' interests would seek to enhance its monitoring functions, to ensure that similar incidents do not occur in the future. If the allegations made in the lawsuits are such that they adversely affect the reputations of the sued companies, reputational incentives can also motivate the boards to engage in corporate governance changes, to signal to the public that more stringent monitoring will be in place to monitor managerial decisions in the future.

Prior literature indicates that boards which are dominated by independent directors (Baysinger & Butler, 1985; Weisbach, 1988; Rosenstein & Wyatt, 1990; Byrd & Hickman, 1992; Brickley, Coles & Terry, 1994; Cotter, Shivdasani & Zenner, 1997) tend to be more effective in performing their monitoring roles. From an agency perspective, a board of directors may have incentives to change its composition following corporate litigation filings, by increasing the proportion of independent directors, in order to improve its future monitoring effectiveness to fulfill its duty to shareholders. Additionally, from a legitimacy perspective, the board may be motivated

to increase the proportion of independent directors, in order to enhance the perceived independence or integrity of the board of directors.

However, prior studies have only examined the changes to the composition of the board of directors, following the companies' encounters with securities fraud litigation and other fraud allegations (Romano, 1991; Livingston, 1996; Strahan, 1998; Agrawal, Jaffe & Karpoff, 1999; Beneish, 1999; Niehaus & Roth, 1999; Arthaud-Day et al., 2006; Desai, Hogan & Wilkins, 2006; Persons, 2006; Agrawal & Cooper, 2007; Ferris et al., 2007; Fich & Shivdasani, 2007; Krishna-Moorthy, 2011; Correia & Klausner, 2012), but not in the context of a more diverse spectrum of corporate lawsuits.

Distinguishable from prior research, this Chapter is the first to examine a wide range of different types of corporate lawsuits, including environmental lawsuits, securities violations, antitrust lawsuits, intellectual property infringements, and contractual disputes,[1] by employing a sample of all such lawsuits filed against the Standard & Poor's 1,500 companies in the US Federal Courts from 2000 through 2007. As each category of lawsuits potentially gives rise to vastly different agency and legitimacy incentives, the diverse spectrum of litigation allows an investigation into the factors and motivations underpinning the boards' decisions to seek changes in their composition, as

[1] These lawsuits are chosen on the basis of their significant impacts upon the defendant companies. Securities lawsuits are selected for their explicit role as a corporate governance mechanism (Jones, 1980; Romano, 1991; Mohan, 2004; Talley & Johnsen, 2004; Reisberg, 2007) and due to the seriousness of the allegations which often impose reputational consequences for the sued companies (Feroz, Park & Pastena, 1991). Breaches of contract arise frequently in the context of business operation, and have potentially large financial impacts upon the sued companies. Similarly, antitrust litigation (Bhagat, Brickley & Coles, 1994) and intellectual property disputes (including patents and trademark infringements) are included, due to their significant economic consequences upon the operation and financial position of the sued corporations. Finally, environmental disputes are capable of inflicting extremely adverse effects on the company, both due to the significant quantity of potential compensation and the reputational damage (as demonstrated in the anecdotal example of the recent BP oil spill).

evidenced by their differing responses when initiating corporate governance changes when confronted with allegations of different natures.

Results from the multivariate analysis[2] provide evidence in support of the hypothesized changes. After controlling for changes in firm size and performance, financial leverage, and time-specific variations, the filing of corporate litigation is significantly associated with an increase in the proportion of independent directors on the board, as predicted by the hypothesis, and is negatively associated with the subsequent change in board size. These results remain robust after employing the Heckman Selection Model to control for potential selection bias arising from the different likelihood of litigation faced by sample companies.

Furthermore, empirical results from a detailed breakdown of the sued companies' responses to different types of lawsuits provide intriguing insights into the attitudes of public corporations towards allegations of different natures. First, consistent with expectation, securities litigation is followed by the most significant increase in the proportion of independent directors on the board, and is also negatively associated with the change in board size. Securities lawsuits represent a direct manifestation of the principal-agent conflict within a corporation; consequently, there are strong incentives to improve the independence of the board to provide better monitoring of managerial actions in the future. In addition, both environmental lawsuits and contractual lawsuits are also negatively associated with the change in board size, indicating that directors are more willing to depart or less willing to join the boards of those companies following allegations that may adversely affect the companies' reputations.

[2] In all OLS regressions employed in this study, the White heteroskedasticity-consistent standard errors are used to ensure the robustness of the results.

Furthermore, this Chapter is the first to investigate the roles of the economic magnitudes and legal merits of the various types of litigation in determining the subsequent changes in board composition. These investigations seek to provide significant insights into corporate attitudes to assessing the severity of lawsuits. Empirical evidence indicates that, whilst the merits of the lawsuits, as proxied by their outcomes, are not statistically significant in predicting the changes in board composition, the amounts of the monetary demands for compensation are significant, as larger lawsuits tend to be followed by a greater increase in board independence. These results indicate that public companies, in acting to initiate changes in board composition, are motivated by legitimacy concerns, to signal the improved independence and integrity of the board to the general public.

Overall, this Chapter produces evidence that the boards of public companies do react to corporate litigation, by undertaking changes to the composition of the boards, depending on their assessments of the nature and information value of different lawsuit filings. Board of directors, acting on behalf of the shareholders, are most sensitive to securities lawsuits in which shareholders are the alleged victims.

2 Literature Review and Hypothesis Development

2.1 Literature Review

Changes in board composition within companies accused of fraud have been documented in prior literature. Romano (1991), by using a sample of 535 randomly

selected firms facing securities derivative litigation, documents that in 9 cases, lawsuit settlements led to changes in board composition by an increase in the proportion of independent directors, 'conceivably obtaining better monitors of management' (Romano, 1991, p. 63). On the other hand, Agrawal, Jaffe and Karpoff (1999), who examine different categories of fraud reported in the *Wall Street Journal* between 1981 and 1992, find no evidence of any increase in the turnover of independent directors following fraud events.

Farber (2005), using a sample of 87 firms which committed securities fraud during the 1982-2000 period, shows an increase in the proportion of outside directors during the subsequent three-year period. Similarly, Desai, Hogan, and Wilkins (2006) document that, following accounting restatements between 1997 and 1998, the boards of the accused companies did take actions to improve the governance of the companies, by increasing the proportion of independent directors over the following two year period. Furthermore, Ferris et al. (2007), investigating securities derivative lawsuits filed between 1982 and 1994, find that during the three years following the lawsuits, although board size does not change significantly, there is a significant increase in the proportion of outside directors.

Cheng et al. (2010) examine securities class actions brought against companies between 1997 and 2004, and find that the proportion of independent directors increases within the subsequent three-year period following the litigation, but only if the class action is led by an institutional, rather than individual, investor. Krishna-Moorthy (2011) finds an increase in the proportion of independent directors following allegations of fraud

against shareholders, but not following fraud against the US Government (under the *False Claims Act*).

The overall evidence provided by prior literature indicates that the boards of directors of public companies tend to undergo significant changes in their composition, by an increase in the proportion of independent directors, following securities litigation, but not other types of fraud allegations. Securities lawsuits give rise to significant incentives for the boards of the sued companies to initiate restructuring in their board composition for obvious reasons: securities lawsuits constitute a manifestation of the direct manager-shareholder conflict arising from the corporations' agency relationships, and the boards, responsible for representing the shareholders' interests, are motivated to strengthen the effectiveness of their future independent monitoring of management, by appointing additional outsiders onto the boards.

However, the body of prior literature investigating post-litigation change in board composition is limited to the context of securities fraud (Romano, 1991; Farber, 2005; Desai, Hogan & Wilkins, 2006; Ferris et al., 2007; Cheng et al., 2010; Krishna-Moorthy, 2011) and other fraud allegations (Agrawal, Jaffe & Karpoff, 1999; Krishna-Moorthy, 2011). Distinguishable from prior research, this Chapter contributes to literature from three novel perspectives. First, it investigates the change in board composition following a broad range of different types of corporate litigation, extending the literature beyond its traditional focus upon securities fraud and other fraud allegations, and into the realm of other corporate litigation. Second, the examination of the diverse range of corporate litigation produces evidence of the way in which corporations differentiate between allegations of different natures, shedding light

on the incentives which motivate the boards of the sued companies to engage in corporate governance restructuring. Third, this Chapter is the first to examine the lawsuit-specific characteristics of a broad range of litigation, including the roles of their economic magnitudes and legal merits in predicting the subsequent change in board composition. The results from this investigation provide significant insights into the factors motivating the changes in board composition.

2.2 Hypothesis Development

Prior research has seldom investigated corporate governance restructuring following the filings of non-fraud corporate litigation. It is proposed that the examination of a broad range of corporate litigation is warranted, because non-fraud lawsuits may also give rise to significant motivations for the board to initiate corporate governance restructuring within the sued companies.

First, the board of directors of a public company serves to mitigate the agency problem arising from the manage-shareholder relationship (Jensen & Meckling, 1976; Fama & Jensen, 1983). Prior studies have abundantly documented the important role of the board of directors in corporate governance (Baysinger & Butler, 1985; Weisbach, 1988; Kaplan & Reishus, 1990; Rosenstein & Wyatt, 1990; Byrd & Hickman, 1992; Brickley, Coles & Terry, 1994; Cotter, Shivdasani & Zenner, 1997; Sharfman, Toll & Szydlowski, 2009). The board constitutes an effective mechanism to monitor management behavior (Cheng et al., 2010). Coffee (1991) argues that strengthening the board's monitoring is an effective way of disciplining management and preventing future corporate misbehaviors. Furthermore, according to Cheng et al. (2010), changes

in board composition may also occur as a result of the defendant firms' increased awareness of the importance of corporate governance, in light of the large financial consequences that could potentially arise from the litigation. Consequently, a corporate lawsuit filed against a company, which reflects prior managerial decision-making which has exposed the company to potential legal liabilities, may give rise to agency incentives to initiate changes in the composition of the board of directors, with the aim of improving its future effectiveness in providing independent monitoring of management.

Second, boards of directors can also be motivated by legitimacy concerns to instigate changes in their composition. A corporation operates in a society on the basis of an express or implied social contract (Shocker & Sethi, 1974; Patten, 1991, 1992; Brown & Deegan, 1998; Wilmshurst & Frost, 2000; Deegan, Rankin & Tobin, 2002). The terms of the social contract are captured, in part, in the laws regulating corporations (Preston & Post, 1975; Post, 1978), which are adapted through time to reflect public opinions in relation to the expected behaviors of corporations (Tinker & Neimark, 1987). Therefore, the filing of a lawsuit against a company, alleging the breach of a law, may also indicate the company's breach of the implied terms of the social contract, causing adverse publicity and reputational impacts which may threaten the company's social legitimacy.

The legitimacy incentives are particularly potent in those cases where the legal allegations involve issues of social or politically sensitivity (for instance, environmental lawsuits where the alleged detriment is imposed on society at large). The adverse reputation arising from the litigation may give rise to legitimacy incentives for the

boards of the sued companies to undertake measures, by instigating changes within the board composition such as appointing more independent directors onto the board, to fortify the perception of strong independent monitoring of the company. Romano (1991) observes that sometimes the changes may be merely 'cosmetic', as an attempt to signal to the public better independent monitoring within the companies, rather than actually improving the monitoring effectiveness of the boards. Consequently, when a lawsuit gives rise to reputational damage, the company may consider board restructuring desirable, as it signals to the public the company's ability and commitment to change.

According to prior studies, board independence and size are emphasized as determinants of the effectiveness of the board as a corporate governance mechanism. Prior studies suggest that a greater proportion of outside representation on the board strengthens its corporate governance functions, by providing independent monitoring of management actions (Baysinger & Butler, 1985; Weisbach, 1988; Rosenstein & Wyatt, 1990; Byrd & Hickman, 1992; Brickley, Coles & Terry, 1994; Cotter, Shivdasani & Zenner, 1997; Agrawal & Chadha, 2005). The first hypothesis is specified accordingly:

H(1): Companies which have encountered litigation, on average, are more likely to experience an increase in the proportion of independent directors on the board, *ceteris paribus*.

Amongst prior researchers, it has been argued that boards with fewer directors tend to be more effective, due to the reduced level of bureaucracy (Yermack, 1996; Eisenberg, Sundgren & Wells, 1998). In contrast, some researchers find evidence that the

relationship between board size and governing effectiveness depends on firm size (Boone et al., 2007) and structure (Denis & Sarin, 1999; Raheja, 2005; Coles, Daniel & Naveen, 2008). An increase in the proportion of independent directors can be achieved either by the addition of new independent directors, or by the removal of existing inside directors. Therefore, an increase in the percentage of independent directors is not necessarily accompanied by an increase in board size. For instance, a board would experience an increase in independence but a reduction in the number of directors, if an executive director departs.[3] Therefore, in this Chapter, a non-directional hypothesis is specified in relation to the change in board size:

H(2): Companies which have encountered litigation, on average, are more likely to experience changes in the number of directors on the board, *ceteris paribus*.

Furthermore, this Chapter investigates whether public companies respond differently to lawsuits of different natures in undergoing changes in board composition. No prior study has examined whether different lawsuits tend to lead to different board restructuring consequences within the sued companies. Although Krishna-Moorthy (2011) compares fraud committed against shareholders versus fraud against the US Government, the scope of his study is limited to these two types of fraud allegations, rather than a broad range of corporate lawsuits. This Chapter addresses this gap in the literature by expanding the empirical investigation, through the examination of a wider variety of litigation, including environmental lawsuits, securities violations, antitrust disputes, infringements of intellectual property (patent and trademark lawsuits), and

[3] Due to limited data availability, it was not plausible within the timeframe of this Thesis to obtain information on the turnover of individual directors. Following prior studies, I capture board restructuring by monitoring the changes in board independence (Wu, 2004; Farber, 2005; Desai, Hogan & Wilkins, 2006; Ferris et al., 2007; Cheng et al., 2010; Krishna-Moorthy, 2011) and board size (Wu, 2004; Farber, 2005; Ferris et al., 2007).

contractual lawsuits, each of which can lead to potential incentives for shareholders to engage in corporate governance restructuring.

By examining a broad range of corporate litigation, each type giving rise to different degrees of agency and legitimacy incentives on the part of the boards to initiate changes in board composition, this Chapter seeks to provide evidence as to how boards of sued companies differentiate between allegations of different natures. These different responses can potentially provide evidence as to which incentives constitute the dominant motivation in the boards' decisions to initiate changes in their composition. Therefore, by examining whether and how public companies' responses to litigation differ across various types of allegations, this Chapter provides important insights into corporate attitudes and perceptions of lawsuits of different natures.

Companies are expected to differentiate between various categories of allegations in determining whether subsequent corporate governance restructuring is justified. In determining which types of lawsuits are expected to trigger the most severe responses from within the sued companies, I draw on studies conducted by Bhagat, Bizjak and Coles (1998) and Koku, Qureshi and Akhigbe (2001), which show that capital market participants react more adversely to the announcement of lawsuits involving politically sensitive issues (such as environmental violations or breaches of securities laws), compared to more routine commercial litigation such as antitrust lawsuits or breach of contract.

Securities lawsuits constitute a direct manifestation of the manager-shareholder agency conflict, thus giving rise to considerable agency incentives on the part of the board,

which represents the shareholders' interests, to seek to improve its future monitoring effectiveness by increasing the proportion of outside directors. In addition, when allegations of securities fraud give rise to negative reputational consequences for the sued companies which might threaten their social legitimacy, the boards have the additional legitimacy incentives to initiate changes to their structure which are perceived as desirable (for instance, by increasing its independence), in order to restore public faith in the companies' corporate governance systems. Similarly, environmental lawsuits can also be associated with significant legitimacy incentives for the boards to initiate changes in their composition. Environmental allegations attract political scrutiny and may give rise to substantial negative publicity, posing a potential threat to the social legitimacy of the defendant companies. Therefore considerable legitimacy incentives are expected to arise from environmental lawsuits to motivate the boards to instigate changes to their composition. According to prior literature (Bhagat, Bizjak & Coles, 1998), in contrast with securities or environmental litigation, lawsuits which are relatively routine in business operations, such as antitrust lawsuits and intellectual property infringements, are not associated with significant reputational impact, as represented by adverse capital market reactions. The reputational impact associated with contractual lawsuits is slightly different. On the one hand, due to their routine commercial nature (Bhagat, Bizjak & Coles, 1998), contractual lawsuits rarely give rise to bad publicity from a social perspective. However, contractual disputes can result in disturbance to the sued companies' existing contractual relationships, thus creating adverse reputation, within the restricted circle of potential contractual partners (such as suppliers and customers). Based on these *a priori* expectations, the research hypothesis is specified as follows:

H(3A): The filings of lawsuits which give rise to the strongest agency incentives (securities, antitrust, and IP lawsuits) are associated with a higher likelihood of subsequent increase in board independence, *ceteris paribus*.

H(3B): The filings of lawsuits which give rise to the strongest legitimacy incentives (securities, environmental, and contractual lawsuits) are associated with a higher likelihood of subsequent increase in board independence, *ceteris paribus*.

3 Variable Description[4]

Following prior studies (Farber, 2005; Ferris et al., 2007; Cheng et al., 2010), I examine the change in board composition during the three-year period following the filing of the lawsuit. The changes in board independence and size are observed initially over the period of (0, +3), from the year in which the lawsuit is filed to the third subsequent year. Using data obtained from RiskMetrics, change in board independence is computed as the proportion of 'outside' or 'unaffiliated' directors on the board (relative to the total number of directors) in year +3 minus that in year 0. Similarly, change in board size is computed as the number of directors on the board in year +3 minus the number of directors in year 0.

In addition, I extend the period of examination to include the year prior to the filing of the lawsuit (defined as year -1), as the company's management and board of directors may possess preemptive information about impending lawsuits, which might prompt them to act by engaging in corporate governance restructuring prior to the actual filing of the lawsuits. For example, Fahlenbrach et al. (2010) produce evidence that some

[4] A comprehensive list of the definitions of all variables is included in Appendix 1 (Variable Definitions).

directors tend to depart before public announcements of adverse news to protect their reputation. Therefore, by including year -1 as part of the observation period, I aim to capture any preemptive changes in corporate governance undertaken by the companies in anticipation of imminent lawsuits.

In the regression estimations that predict the changes in board composition, I control for a number of factors that potentially influence the size and independence of the board of directors. First, I control for any change in firm size during the interval yr (-1, 0) immediately preceding the lawsuit filing, by including $\Delta LogTA_{t(-1,0)}$ which is calculated as the difference between the natural logarithm of total assets from the end of year -1 to the end of year 0. Prior literature indicates that firm size is a determinant of the number of directors on the board, thus any change in firm size should be controlled for in predicting the change in board size. Similarly, I control for any change in firm performance by including $\Delta ROA_{t(-1,0)}$, which is the change in Return on Assets from year -1 to year 0. In addition, as discussed previously in Chapter 4, financial leverage of the company, LEV_{t-1}, is controlled for. Finally, in all OLS regressions, I employ period fixed effects to control for unobserved time-specific variations influencing the change in board composition. The White heteroskedasticity-consistent standard errors are used to ensure the robustness of the regression results.

4 Empirical Results

4.1 Univariate Analysis

The characteristics of the lawsuit sample versus the control sample are reported in Table 1. Amongst the comparisons by mean and median, a number of observations can be made. First, even though the lawsuit sample has larger mean and median firm size than the control sample, the change (increase) in firm size during the (-1,0) period is significantly lower in the lawsuit sample compared to the control sample. This difference is statistically significant at the 1% level in both mean and median. Second, the average change in firm performance during the (-1,0) period is negative for the lawsuit sample, and positive for the control sample. This is consistent with the expectation that sued companies tend to suffer a decline in firm performance. The difference in the mean is significant at the 10% level, but the difference in the median is not statistically significant. Third, the financial leverage is significantly higher for the lawsuit sample, compared to the control sample, in both mean and median at the 1% level.

[Insert Table 1]

As reported in Table 2, results from the univariate analysis indicate that within the lawsuit sample, the average increase in the proportion of independent directors is 6.1% during the (0,+3) period, and 7.2% during the (-1,+3) period, both of which are higher than their control sample counterparts. These differences in the mean between the lawsuit and control samples are statistically significant, at the 10% and 5% levels,

respectively. These results provide preliminary support of hypothesis H(1), which expects lawsuit filings to be associated with a higher subsequent proportion of independent directors.

In addition, univariate analysis results indicate that the change in board size during the (0,+3) and (-1,+3) periods also differs significantly between the lawsuit and control samples. For both the lawsuit sand control samples, the average number of directors experiences an increase between year 0 and year +3, as well as between year -1 and year +3. However, this increase in board size is smaller for the lawsuit sample compared to that of the control sample (the difference in the mean being statistically significant at the 1% level for the (0,+3) period and at the 5% level for the (-1,+3) period).

Overall, results from the univariate analysis lend support to hypothesis H(1), by providing preliminary evidence that, following the filling of lawsuits, changes occur within the corporate governance structure of the defendant companies, in the form of a higher increase in the proportion of independent directors on the board. In addition, following lawsuit filings, companies appear to experience a lower rate of increase in the number of directors on the board.

[Insert Table 2]

4.2 Multivariate Analysis

4.2.1 Overall Litigation

The following Ordinary Least Square (OLS) regressions are estimated, to examine the predictive power of corporate litigation over the change in the board independence. In all OLS regressions, the White heteroskedasticity-consistent standard errors are used.

$$\Delta\%INDEPEND_{t(0,+3),t(-1,+3)} = \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 \Delta LogTA_{t(-1,0)} + \beta_3 \Delta ROA_{t(-1,0)} + \beta_4 LEV_{t-1} + \varepsilon \quad (4)$$

Following prior studies (Farber, 2005; Ferris et al., 2007; Cheng et al., 2010), I examine the change in board composition during the three-year period (0,+3) following the filing of the lawsuit. Using data obtained from RiskMetrics, change in board independence is computed as the proportion of 'outside' or 'unaffiliated' directors on the board (relative to the total number of directors) in year +3 minus that in year 0. Additionally, $\Delta\%INDEPEND_{t(-1,+3)}$ is also calculated over the alternative observation period of (-1,+3) to capture any preemptive change in board independence immediately preceding the lawsuit filing.[5]

[5] Recent literature has discussed the non-linear relationship between board independence and monitoring effectiveness, as optimal board effectiveness requires a balance between inside and outside directors (John & Senbet, 1998; Nicholson & Kiel, 2004). In the Thesis, the design of the $\Delta\%INDEPEND_{t(0,+3),t(-1,+3)}$ variables captures the existing number of independent directors on the board. As the proportion of independent directors increases, for each additional appointment of an outside director onto the board, the marginal percentage change of board independence becomes of a diminished magnitude. Therefore, the design of the dependent variables which measure the change in board independence preempts the issue, by capturing the percentage change, rather than the absolute change, in board independence, with reference to the existing proportion of independent directors prior to the occurrence of the changes.

Hypothesis H(1) predicts a positive association between lawsuit filings and an increase in the proportion of independent directors on the board. As discussed in Chapter 3, the test variable $LAWSUIT_{t=0}$ in Equation (4) is expressed in two alternatives (as a dummy and a continuous variable, respectively) [6] as defined in Appendix 1 (Variable Definitions).

[Insert Table 3]

Results from the OLS regressions (reported in Model (1) of Table 3) show that, when the change in board independence is measured over the (0,+3) period, the estimated coefficient for the test dummy variable $LAWSUIT_{t=0}$ is positive and significant at the 5% level, consistent with the expectation that an increase in board independence follows the filing of litigation against the company. The estimated coefficient of $LAWSUIT_{t=0}$ of 0.007 indicates that, all else being equal, the percentage of independent directors tends to increase by 0.7% during the (0,+3) period, if the company has experienced one or more lawsuits during year 0. When the measurement period for the dependent variable is extended over the (-1,+3) period in Model (2), the estimated coefficient of the dummy variable $LAWSUIT_{t=0}$ remains unchanged in magnitude and statistically significant at the 5% level. When corporate litigation is measured by the

[6] Companies which are repeat litigants may derive benefits from the litigation experience in the form of legal precedents set in previous judgments (Che & Yi, 1993). The setting of legal precedents offers greater certainty to the outcome of subsequent litigation, thereby reducing the costs of litigation for both the plaintiffs and the defendants. However, obtaining benefits from setting legal precedents is rare, in practice, even for corporations which incur repeated lawsuits, for a number of reasons. First, legal precedents are created only if the lawsuits proceed to the final stage of the litigation process and receive court judgments. In practice, a vast majority of filed lawsuits are subsequently settled (in- or out-of-court), without court judgments being delivered or any precedents being set. Second, legal precedents, by nature, are only applicable to facts which are comparable to those of the cases in which they are set. It is rare for a single firm to derive benefits from its own prior lawsuits, given that each lawsuit presents idiosyncratic factual circumstances. If a number of lawsuits are of similar factual backgrounds as a result of having arisen from the same (or a series of similar) incidents, the latter-filed lawsuits may be consolidated with the earlier-filed lawsuits. The use of the continuous variable $LAWSUIT_{t=0}$ is employed to account for multiple lawsuit filings in a given year, in order to account for the latter situations.

number of lawsuit filings, the continuous variable $LAWSUIT_{t=0}$ remains positive and significant in explaining the change in board independence over both the (0,+3) and (-1,+3) periods, at the 5% and 1% levels, respectively (in Models (3) and (4)). After restricting the dataset to only the lawsuit sample, the estimated coefficient of the continuous variable $LAWSUIT_{t=0}$ remains positive and significant at the 1% level in explaining the change in board independence over the (-1,+3) period. The magnitudes of R-squared observed from these regressions are largely consistent with prior literature (Agrawal, Jaffe & Karpoff, 1999; Krishna-Moorthy, 2011).

Amongst the control variables, the financial leverage of the company (LEV_{t-1}) alone appears to have a negative association with the change in board independence. The estimated coefficient of LEV_{t-1} is -0.002, and significant at the 1% level across all model specifications,[7] indicating that firms with higher debt-to-equity ratios are less likely to experience an increase in board independence. This observation may be attributable to the fact that the incentives of debtholders differ significantly from those of shareholders (Smith & Warner, 1979; Shleifer & Summers, 1988; Ofek, 1993; Branch, 2000; Klock, Mansi & Maxwell, 2005; Adams & Mansi, 2009). An increase in board independence, which seeks to mitigate the shareholder-manager agency problems, may not be deemed as relevant in dealing with the agency issues arising from the debtholder-manager relationship.[8] On the other hand, changes in neither firm size nor accounting performance appear to have any significant explanatory power over the subsequent change in board independence.

[7] With the exception of Model (5), in which the estimated coefficient of LEV_{t-1} is significant at the 5% level.

[8] For instance, Adams and Mansi (2009) find that involuntary CEO turnovers from 1973 to 2000 are associated with higher shareholder values, but lower debtholder values. Klock, Mansi and Maxwell (2005) find that firms with corporate governance provisions, which favor shareholder interests over management interests, are perceived to be unfavorable by debtholders.

Furthermore, I estimate the following OLS regressions to examine the predictive power of corporate litigation over the change in the number of directors, in which the test litigation variable is again expressed in two alternatives: as a dummy variable and as a continuous variable:

$$\Delta BSIZE_{t(0,+3),t(-1,+3)} = \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 \Delta LogTA_{t(-1,0)} + \beta_3 \Delta ROA_{t(-1,0)} + \beta_4 LEV_{t-1} + \varepsilon \quad (5)$$

The dependent variable $\Delta BSIZE_{t(0,+3)}$ is calculated as the change in board size from year 0 through to the end of year +3. An alternative dependent variable $\Delta BSIZE_{t(-1,+3)}$ is calculated as the change in board size from year -1 through to the end of year +3.[9]

[Insert Table 4]

As reported in Table 4, consistent with expectation, the results from Model (1) indicate that a company's encounter with corporate litigation is negatively and significantly associated with the change in its board size over the (0,+3) period; the estimated coefficient of the dummy variable $LAWSUIT_{t=0}$ is -0.097 and significant at the 5% level. When the change in board size is measured over the interval (-1,+3) rather than (0,+3), the estimated coefficient of $LAWSUIT_{t=0}$ is negative (-0.053) but is insignificant, providing no evidence of any preemptive change in board size which occurs during

[9] As the sample firms experience an average increase, rather than decrease, in board size (as indicated by the results from the Univariate Analysis), it is rendered moot to account for the reason of any decrease in board size by excluding those decreases caused by the death or illness of a director.

year -1.[10] When litigation filings are represented by a continuous variable rather than a dummy variable, the estimated coefficient of $LAWSUIT_{t=0}$ remains negative and significant in predicting the change in board size. In the regressions utilizing all firm-years in the dataset, the estimated coefficient of $LAWSUIT_{t=0}$ is -0.012 when predicting $\Delta BSIZE_{t(0,+3)}$ and -0.009 when predicting $\Delta BSIZE_{t(-1,+3)}$, both significant at the 5% level. Similar results are produced when the regressions are re-run over the restricted sample of lawsuit firm-years only, with an estimated coefficient of the continuous variable $LAWSUIT_{t=0}$ of -0.013 and -0.009 in predicting $\Delta BSIZE_{t(0,+3)}$ and $\Delta BSIZE_{t(-1,+3)}$, respectively, both significant at the 5% level.[11]

The empirical evidence indicates a negative association between the filing of lawsuits and the subsequent change in board size within the sued companies. This negative association may evidence either a decrease in the number of directors, or a reduced rate of increase compared to the control sample. When viewed in conjunction with the results from the univariate analysis, which indicate an average increase in the number of directors on the board regardless of whether any lawsuit is filed against the company, these regression results give rise to the following interpretation. Despite the general average increase in board size experienced by companies following the filing of lawsuits, this increase is of a significantly lower rate compared to the control sample. Furthermore, empirical results from Table 3 provide evidence of an increase in the proportion of independent directors following litigation. This increase in board

[10] This observation potentially suggests that, despite the superior information possessed by board members regarding an imminent lawsuit before its actual filing, board members generally do not act out of concerns for their own reputation to depart immediately before the lawsuit is filed.

[11] As a robustness check, I employ the alternative variables $\Delta\%BSIZE_{t(0,+3)}$ and $\Delta\%BSIZE_{t(-1,+3)}$, which represent the proportional change in board size. These unreported regressions produce consistent results with respect to the key independent variables. The proportional changes in board size, $\Delta\%BSIZE_{t(0,+3)}$ and $\Delta\%BSIZE_{t(-1,+3)}$, are regressed on the same independent variables as a robustness check. The regressions produce consistent results with respect to the key independent variable $LAWSUIT_{t=0}$.

independence might be achieved through either an addition of independent directors, or a reduction of existing executive directors, or a combination thereof. The results here suggest that the increase in board independence is attributable to a reduction in the number of executive directors on the board[12] (in addition to the appointments of independent directors), thus contributing to a lower rate of increase in the overall board size.

Amongst the control variables, the change in firm size, $\Delta LogTA_{t(-1,0)}$, has significant positive predictive power over the change in board size; the positive estimated coefficients of $\Delta LogTA_{t(-1,0)}$ are significant at the 1% level in the regressions reported in Table 4. This observation indicates that, consistent with expectation, as public companies expand in size, they tend to experience a corresponding increase in the number of directors on their boards. Change in performance ($\Delta ROA_{t(-1,0)}$), however, does not exhibit any significant association with the observed change in board size. The financial leverage of the company (LEV_{t-1}) is shown to be significantly negatively associated with the change in board size, indicating that firms with higher financial leverage tend to experience a more negative change in the number of directors.

Overall, the empirical results provide evidence in support of hypothesis H(1), which predicts an increase in board independence following lawsuit filings, by demonstrating a positive and significant association between the filing of lawsuits, and the subsequent change in the proportion of independent directors on the board of the sued companies during the (0,+3) and (-1,+3) periods surrounding the filing of lawsuits. The empirical

[12] This conclusion is further supported by the negative mean change in the number of insider directors over the (0,+3) and (-1,+3) period for the lawsuit sample (-0.578 and -0.656, respectively), which is significantly different at the 1% level from the control sample (-0.449 and -0.511, respectively), indicating a greater average decrease in the number of inside directors following litigation filings.

results also indicate that the encounter with corporate litigation is negatively associated with the change in board size of the sued companies, indicating that the rate of the increase is significantly smaller for the lawsuit sample compared to the control sample.

4.2.2 Breakdown by Lawsuit Categories

Alternatively, I estimate the following OLS regressions, which employ five litigation variables (as discussed in Chapter 3), each measuring a single category of lawsuit filings.

$$\Delta\%INDEPEND_{t(0,+3),t(-1,+3)} = \alpha + \beta_1 ENV_{t=0} + \beta_2 SEC_{t=0} + \beta_3 ANT_{t=0} + \beta_4 IP_{t=0} + \beta_5 CON_{t=0} + \beta_6 \Delta LogTA_{t(-1,0)} + \beta_7 \Delta ROA_{t(-1,0)} + \beta_8 LEV_{t-1} + \varepsilon \quad (6)$$

Securities lawsuits ($SEC_{t=0}$) appear most significant in predicting the subsequent increases in board independence, as reported Table 5. In Models (1) and (2), the estimated coefficient of the dummy variable $SEC_{t=0}$ is 0.014 and 0.017, respectively, in predicting the change in board independence over observation periods (0,+3) and (-1,+3), significant at the 5% and 1% levels. The predictive power of $SEC_{t=0}$ remains significant across all regressions reported in Table 5, regardless of whether the filings of securities lawsuits are measured as a dummy variable or as a continuous variable. These results are consistent with prior literature, which documents increases in board independence following allegations of securities fraud (Romano, 1991; Agrawal, Jaffe & Karpoff, 1999; Farber, 2005; Desai, Hogan & Wilkins, 2006; Ferris et al., 2007; Cheng et al., 2010; Krishna-Moorthy, 2011).

Securities lawsuits constitute a direct manifestation of the manager-shareholder agency conflict, thus giving rise to considerable agency incentives on the part of the board, who represent the shareholders' interests, to seek to improve the monitoring effectiveness of the board by increasing the proportion of outside directors. In addition,

when allegations of securities fraud give rise to negative reputational consequences for the sued companies which might threaten their social legitimacy, the boards have the additional legitimacy incentives to increase board independence, in order to restore public faith in the companies' corporate governance systems.

On the other hand, the filings of environmental, antitrust, and intellectual property lawsuits are not significantly associated with any increase in the proportion of independent directors. Contractual lawsuit filings, when represented by a dummy variable $CON_{t=0}$, appear significant at the 5% level in predicting an increase in board independence over the (0,+3) period. However, this significant explanatory power does not persist when predicting the change in board independence over the alternative (-1,+3) period, nor when the filing of contractual lawsuits is measured by a continuous variable. This prevents strong inferences from being drawn from these results. The estimated coefficients and the statistical significance of the control variables are similar to those discussed in Section 4.2.1.

[Insert Table 5]

In order to distinguish the roles of different types of lawsuits in determining the change in board size within sued public companies, I estimate the following OLS regressions, in which the filing of corporate litigation is measured by five separate variables (expressed as dummies and continuous variables in turn), each denoting the filing of one type of lawsuits against the sample companies:

$$\Delta BSIZE_{t(0,+3),t(-1,+3)} = \alpha + \beta_1 ENV_{t=0} + \beta_2 SEC_{t=0} + \beta_3 ANT_{t=0} + \beta_4 IP_{t=0} + \beta_5 CON_{t=0} + \beta_6 \Delta LogTA_{t(-1,0)} + \beta_7 \Delta ROA_{t(-1,0)} + \beta_8 LEV_{t-1} + \varepsilon \quad (7)$$ [13]

Results from these OLS regressions are reported in Table 6. When litigation filings are measured by dummy variables under Model (1), securities litigation ($SEC_{t=0}$) exhibits the most significant predictive power over the change in board size during the (0,+3) period, with an estimated coefficient of -0.281 significant at the 1% level. Securities lawsuits are followed by contractual lawsuits ($CON_{t=0}$), with an estimated coefficient of the dummy variable $CON_{t=0}$ of -0.142, which is significant at the 1% level. However, when year -1 is included in the observation period for the change in board size, environmental and contractual lawsuits become the two significant predictors of the change in board size over the (-1,+3) period, both with negative estimated coefficients significant at the 5% level.

When litigation filings are represented by continuous variables, first, environmental litigation ($ENV_{t=0}$) exhibits a consistently negative and significant association with the change in board size over both (0,+3) and (-1,+3) periods (at the 1% and 5% levels, respectively). Second, the estimated coefficient of contractual lawsuits (as represented by the continuous variable $CON_{t=0}$) remains negative and significant at the 5% level in predicting $\Delta BSIZE_{t(0,+3)}$. Third, the number of securities lawsuits filed also exhibits a negative and significant (at the 10% level) predictive power over the change in board size during the (0,+3) period. Finally, the filing of intellectual property lawsuits ($IP_{t=0}$), whilst negative but insignificant when represented by a dummy variable, now becomes significant at the 10% level in predicting the change in board size over the (-1,+3)

[13] I also examine the proportional change in board size as a robustness check. The dependent variables $\Delta\%BSIZE_{t(0,+3)}$ and $\Delta\%BSIZE_{t(-1,+3)}$, are computed, by expressing the change in the number of directors as a percentage of the existing board size as at the beginning of the observation period.

period. When the regressions employing the continuous litigation variables are re-run over the restricted dataset comprising lawsuit firm-years only, the estimated coefficients and statistical significance of the test variables remain consistent with the results produced from running the regressions over the entire dataset.

[Insert Table 6]

Consistent with the expectation, securities, environmental, and contractual lawsuits all exhibit significant associations with a negative change in the number of directors on the board. The results from the univariate analysis indicate that the average board size tends to increase during both the (0,+3) and (-1,+3) periods surrounding litigation filings. Therefore, the observed significant and negative predictive power of securities, environmental, and contractual lawsuits constitutes evidence of a significantly lower rate of increase in board size following litigation, compared to the control sample. This gives rise to the potential interpretation that, following lawsuits which are associated with adverse reputational impacts on the companies, directors may be more willing to depart from, or less willing to join, the boards of the sued companies, out of concerns for their own reputation (Fahlenbrach, Low & Stulz, 2010).

Section Summary

In summary, empirical results provide evidence of an increase in the proportion of independent directors on the board following the filing of lawsuits against the companies, in support of hypothesis H(1). In relation to hypothesis H(2), empirical evidence indicates that the number of directors on the board tends to undergo an

average increase, but at a significantly lower rate for the lawsuit sample compared to the control sample. The lower rate of increase in board size is potentially attributable to a reduction in the number of executive directors (to counteract any increase in the number of outside directors), which accounts for the observed increase in board independence.[14]

A detailed breakdown by lawsuit categories indicates that securities lawsuits, and to a lesser extent contractual lawsuits, are followed by a significant increase in board independence. The statistical significance is consistent with the expectation that when shareholders' interests are directly infringed by alleged securities violations committed by management, securities lawsuits give rise to stronger incentives to improve the effectiveness of the board of directors as a monitoring mechanism.

[14] See Footnote 12.

4.3 Robustness Check: Heckman Selection Model

Given the varying litigation risks faced by different companies, the two-stage Heckman Selection Model (1979) is employed, as specified below in Equations (8) and (9), respectively, to control for the potential selection bias arising from different likelihoods of encountering lawsuits, as a result of industry and organizational structure. The first stage comprises a binary probit model predicting the likelihood of the firm being sued in year 0, by employing the two instrumental variables, organizational complexity (SEG_{t-1}) (Cohen & Lou, 2012) and litigious industry ($RISKINDQ_{t-1}$) (Field, Lowry & Shu, 2005; Dai, Jin & Zhang, 2012), as discussed previously in Chapter 4. The second stage comprises an OLS model predicting the change in board composition (independence or size), by including the inverse Mills ratio (lambda) to correct for the predicted likelihood of litigation:

Stage 1 :

$$LAWSUIT_{t=0} = \alpha + \beta_1 SEG_{t-1} + \beta_2 RISKINDQ_{t-1} + \beta_3 \Delta LogTA_{t(-1,0)} + \beta_4 \Delta ROA_{t(-1,0)} + \beta_5 LEV_{t-1} + \varepsilon \quad (8)$$

Stage 2 :

$$\Delta\%INDEPEND_{t(0,+3),t(-1,+3)} = \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 \Delta LogTA_{t(-1,0)} + \beta_3 \Delta ROA_{t(-1,0)} + \beta_4 LEV_{t-1} + \beta_5 \text{lambda}_{t=0} + \varepsilon$$

Stage 1 :

$$LAWSUIT_{t=0} = \alpha + \beta_1 SEG_{t-1} + \beta_2 RISKINDQ_{t-1} + \beta_3 \Delta LogTA_{t(-1,0)} + \beta_4 \Delta ROA_{t(-1,0)} + \beta_5 LEV_{t-1} + \varepsilon \quad (9)$$

Stage 2 :

$$\Delta BSIZE_{t(0,+3),t(-1,+3)} = \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 \Delta LogTA_{t(-1,0)} + \beta_3 \Delta ROA_{t(-1,0)} + \beta_4 LEV_{t-1} + \beta_5 \text{lambda}_{t=0} + \varepsilon$$

Results from the second-stage regression of the two-stage Heckman Model in Equation (8), estimating the change in board independence, are reported in Table 7. The inverse Mills ratio (lambda) is positive in the regressions predicting both $\Delta\%INDEPEND_{t(0,+3)}$ and $\Delta\%INDEPEND_{t(-1,+3)}$ (and significant at the 10% and 1% levels, respectively), suggesting the existence of potential selection bias in the original OLS model. The positive estimated coefficients of lambda indicate that there exist unobserved factors which are positively associated with an increase in board independence during both (0,+3) and (-1,+3) periods. As hypothesis H(1) predicts a positive relation between lawsuit filings and the subsequent increase in board independence, the existence of such unobserved factors may have biased the regression results in favor of the hypothesized outcome in the original OLS regressions.

[Insert Table 7]

However, after controlling for selectivity (as reported in Table 7), the predictive power of litigation filings remains positive and significant over the change in board independence. The estimated coefficient of the test variable $LAWSUIT_{t=0}$ remains positive (0.0004) and significant at the 10% level in predicting $\Delta\%INDEPEND_{t(0,+3)}$. This estimated coefficient is of unchanged magnitude from the original OLS regression results (as reported in Table 3 and discussed in Section 4.2.1). Additionally, in predicting $\Delta\%INDEPEND_{t(-1,+3)}$, the positive estimated coefficient of $LAWSUIT_{t=0}$ is 0.001, which also remains unchanged from the original OLS regression as reported in Table 3, with a p-value significant at the 1% level. These results indicate that, after correcting for the potential selection bias using the Heckman two-stage model, the

regression results remain robust. These results provide statistical evidence to further confirm the observations from the original OLS models previously discussed, that the encounter with corporate litigation is, on average, accompanied by a significant subsequent increase in the proportion of independent directors during both the (0,+3) and (-1,+3) periods surrounding the lawsuit filings.

[Insert Table 8]

Results from the two-stage Heckman Model estimating the change in board size are reported in Table 8. The inverse Mills ratio (lambda) is again positive and significant at the 1% level in both regressions predicting $\Delta BSIZE_{i(0,+3)}$ and $\Delta BSIZE_{i(-1,+3)}$. The positive estimated coefficients of lambda indicate that, in the original OLS regressions, there may have existed factors uncaptured by the regression specification, which are significantly associated with an increase in board size during the observation periods, thus potentially biasing the regression results against the predicted negative association between lawsuit filings and change in board size.

Nonetheless, after correcting this potential selection bias (as reported in Table 8), the test variable $LAWSUIT_{t=0}$ remains consistent in both its magnitude and statistical significance, compared to the results from the original OLS regression reported in Table 4 and discussed in Section 4.2.1. In the second-stage regression predicting the change in board size over the (0, +3) period ($\Delta BSIZE_{i(0,+3)}$), the estimated coefficient of $LAWSUIT_{t=0}$ is -0.011, indicating that the encounter with a lawsuit, on average, is negatively associated with the change in the number of directors on the board. This estimated coefficient is very similar to that from the original OLS model (-0.012), the

p-value of which remains significant at the 5% level. Similarly, when the year -1 is included in the observation period for the change in board size ($\Delta BSIZE_{t(-1,+3)}$), the regression results remain consistent with the previous results. The estimated coefficient of the variable $LAWSUIT_{t=0}$ is -0.010 in predicting $\Delta BSIZE_{t(-1,+3)}$, significant at the 5% level.[15]

Section Summary

Overall, the two-stage Heckman Selection Model generates results to confirm the robustness of those produced in the original OLS regressions. The encounter with corporate litigation is shown to be associated with an increase in the proportion of independent directors. Moreover, the significant and negative association between corporate litigation and the subsequent change in board size remains robust.

[15] When the variables $\Delta\%BSIZE_{t(0,+3)}$ and $\Delta\%BSIZE_{t(-1,+3)}$, which measure the proportional change in board size, are employed in the two-stage regressions as a robustness check, the empirical results remain consistent.

4.4 Litigation Magnitudes and Merits

Further analysis is conducted to examine the role of two lawsuit-specific characteristics: the magnitude of the litigation, measured by the plaintiffs' monetary demands for compensation, and the legal merits of the lawsuits, as proxied by their manners of disposition. In this section, the regression analyses employ a sub-sample of firm-years during which at least one lawsuit has been filed against the companies.

4.4.1 Litigation Magnitudes and Change in Board Independence

In order to examine the role of the economic magnitudes of litigation in predicting the change in board composition, I re-estimate Equations (4) and (5) from Section 4.2.1 above, in which the previous key independent variable ($LAWSUIT_{t=0}$) is replaced by a new test variable, $DEMAND_{ALL-t=0}$, to measure the economic scale of the filed litigation (as discussed in Chapter 3). Lawsuits of greater economic magnitudes are more likely to attract attention from the media or the general public, and hence give rise to greater legitimacy incentives for the boards of directors to instigate changes in board composition. In addition, the monetary demands from the individual category of contractual lawsuits ($DEMAND_{CON-t=0}$) are employed as an alternative test variable.[16] Detailed definitions of the demand variables are provided in Appendix 1 (Variable Definitions). The results from these regressions are reported in Table 9.

[16] Originally, a series of alternative test variables, $DEMAND_{(ENV\,/\,SEC\,/\,ANT\,/\,IP\,/\,CON)-t=0}$, were employed in turn in the regression running, each calculated as the sum of the demands filed *within* environmental, securities, antitrust, IP, and contract lawsuits, respectively, in order to disaggregate the monetary demands filed under each individual lawsuit category. However, due to the low sample size, the regressions employing the demands from environmental, securities, antitrust, and IP litigation categories are statistically insignificant (as evidenced by their F-statistics). Their results are therefore not reported.

[Insert Table 9]

As reported Models (1) and (2) of Table 9, the estimated coefficient of $DEMAND_{ALL-t=0}$ is positive and significant in predicting the change in board independence during both the (0,+3) and (-1,+3) periods, at the 1% and 10% levels, respectively. This statistically significant relation provides evidence in support of the expectation that larger lawsuits are more likely to be followed by greater increases in the proportion of independent directors. The control variables remain consistent with the results estimated under Equation (4) (as discussed in Section 4.2.1 above).

Additionally, as reported in Models (3) to (4) of Table 9, results from the regressions examining the economic scale of contractual lawsuits, $DEMAND_{CON-t=0}$, indicate that contractual litigation of larger magnitude is also associated with a greater increase in board independence, as evidenced by the positive estimated coefficients of $DEMAND_{CON-t=0}$, significant at the 5% and 1% levels in predicting $\Delta\%INDEPEND_{t(0,+3)}$ and $\Delta\%INDEPEND_{t(-1,+3)}$, respectively.

Results from the empirical analysis indicate a positive and significant association between the amounts of compensation sought by the plaintiffs, particularly in contractual lawsuits, and a subsequent increase in the proportion of independent directors of the sued companies. Since plaintiffs in frivolous lawsuits can nevertheless file large claims for compensation, the greater economic magnitude of a lawsuit does not necessarily indicate that the management has exposed the company to legal liabilities. Therefore, in interpreting the significant positive association between lawsuit magnitudes and the subsequent increase in board independence, a more probable

explanation is that lawsuits of greater economic magnitudes give rise to more significant reputational impacts, which consequently leads to stronger incentives to motivate changes in board composition, in order to improve the companies' reputations.

4.4.2 Litigation Magnitudes and Change in Board Size

Here, I re-estimate Equation (5) from Section 4.2.1 to predict the change in board size. In the re-estimated regressions, the previous key independent variable, $LAWSUIT_{t=0}$, is replaced by the $DEMAND_{ALL-t=0}$ variable to measure the economic scale of all filed litigation.[17] The regression results are reported in Table 10.

[Insert Table 10]

The results in Model (1) indicate a positive relationship between the economic magnitudes of the lawsuits filed, and a subsequent increase in the defendant company's board size. The estimated coefficient of $DEMAND_{ALL-t=0}$ is positive and significant at the 10% level in predicting an increase in board size during the (0,+3) period. The empirical results indicate that larger demands for compensation filed against the companies are, on average, more likely to be followed by an increase in board size.[18]

When viewed in conjunction with the results from the preceding Section, these results appear consistent with, and in corroboration of, the observations in relation to the change in board independence. Whilst results from the preceding Section indicate that

[17] Regressions employing a series of alternative test variables, $DEMAND_{(ENV\,/\,SEC\,/\,ANT\,/\,IP\,/\,CON)-t=0}$, have also been run, but due to the limited sample size, these regressions exhibit statistically insignificant F-statistics and are not reported.

[18] In the robustness check whereby dependent variables, $\Delta\%BSIZE_{t(0,+3)}$ and $\Delta\%BSIZE_{t(-1,+3)}$ measuring the proportional change in board size, are employed, the key empirical results remain consistent.

litigation of larger economic magnitude tends to be followed by a greater increase in the proportion of independent directors on the boards, the results from this Section provide some evidence that this increase in board independence is accompanied by a corresponding increase in board size. This indicates that boards of public companies, when confronted with lawsuits of larger magnitudes, tend to respond by appointing additional outside directors to the boards, thus resulting in an increase in both the number of directors, and the proportion of outsiders on the boards.

4.4.3 Litigation Merits and Change in Board Independence

In the following re-estimation of Equation (4) from 4.2.1, I examine the roles of the outcomes of corporate litigation in predicting the change in board composition, by employing the following test variables in lieu of the litigation variable ($LAWSUIT_{t=0}$). As discussed in Chapter 4, the three test variables $DISMISSAL_{t=0}$, $SETTLE_{t=0}$, and $JUDGMENT_{t=0}$, denote the proportion of lawsuits filed against a defendant company in a year which eventually resolve in each respective manner of disposition.[19]

[Insert Table 11]

As reported in Table 11, in Models (1) and (2), the three key test variables denoting the different outcomes of litigation, $DISMISSAL_{ALL-t=0}$, $SETTLE_{ALL-t=0}$, and $JUDGMENT_{ALL-t=0}$, are all statistically insignificant in predicting $\Delta\%INDEPEND_{t(0,+3),t(-1,+3)}$. The estimated coefficients and the statistical significance of the control variables are consistent with the results from Equation (4) as discussed in Section 4.2.1. These results indicate that the merits of lawsuits filed against the companies, as proxied by their outcomes, do not appear to have significant explanatory power over the change in board independence subsequent to the lawsuit filings.

4.4.4 Litigation Merits and Change in Board Size

The predictive power of litigation merits over the change in board size within the sued companies is examined by employing the following re-estimations of OLS regressions

[19] Detailed variable definitions are provided in Appendix 1 (Variable Definitions).

specified in Equation (5) in Section 4.2.1, which employ the litigation outcome variables $DISMISSAL_{ALL-t=0}$, $SETTLE_{ALL-t=0}$, and $JUDGMENT_{ALL-t=0}$.[20]

The results from Models (1) and (2) of Table 12 show that the estimated coefficients of all three test variables, $DISMISSAL_{ALL-t=0}$, $SETTLE_{ALL-t=0}$, and $JUDGMENT_{ALL-t=0}$, are uniformly statistically insignificant in predicting the change in board size.

[Insert Table 12]

Amongst the control variables, change in the size of the company, as measured by $\Delta LogTA_{t(-1,0)}$, has significant predictive power over the change in board size during the (-1,+3) period relative to the lawsuit filing year (year 0), with an estimated coefficient of 0.674 significant at the 1% level. This observation is consistent with prior literature which suggests that board size is determined by firm size, thus increases in firm size tend to be associated with increases in the number of directors on the board. Change in performance (as proxied by $\Delta ROA_{t(-1,0)}$), however, usually does not have any significant association with the observed change in board size. Finally, the financial leverage of the company as at the beginning of year 0 (LEV_{t-1}) is shown to be significantly and negatively associated with the change in board size (at the 5% level), indicating that firms with higher financial leverage tend to experience a greater reduction in the number of directors. These results are consistent with those previously discussed in Section 4.2.1 in relation to Equation (5).

[20] Their counterparts in each individual lawsuit category (namely $DISMISSAL_{(ENV\ /\ SEC\ /\ ANT\ /\ IP\ /\ CON)-t=0}$, $SETTLE_{(ENV\ /\ SEC\ /\ ANT\ /\ IP\ /\ CON)-t=0}$, and $JUDGMENT_{(ENV\ /\ SEC\ /\ ANT\ /\ IP\ /\ CON)-t=0}$) are also employed in the re-estimation of the OLS regressions. However, due to the low sample size within the individual lawsuit categories, these regressions are statistically insignificant (as evidenced by their F-statistics) and are not reported.

Overall, the results from the board size regressions do not provide strong statistical support for the prediction based on agency theory, that the change in board size within the sued firms is associated with the outcome of the lawsuits. The results indicate that none of the dismissal, settlement, or final court adjudication of filed lawsuits has significant explanatory power over the predicted decrease in the number of directors within the sued companies.

5 Conclusion

In this Chapter, I examine the changes in corporate governance which occur within sued US public companies following the filings of corporate lawsuits against them. The restructuring of the composition of the board of directors is expected to result in an increased proportion of independent directors on the board. Results from the empirical analysis indicate that, following corporate lawsuit filings, the sued companies, on average, experience an increase in board independence. This increase in board independence is accompanied by a diminished rate of increase in the number of directors on the board. These empirical results are robust after controlling for potential selection bias.

When lawsuits are disaggregated by the natures of the allegations, empirical results show that both securities and, to a lesser extent, contractual lawsuits, are associated with a significant increase in board independence following the lawsuits. Despite the general increase in board size, those firms which have encountered securities, contractual, and environmental lawsuits, tend to experience the increase at a significantly lower rate compared to the control sample. Securities violations give rise to both agency and reputational incentives to tighten board monitoring, and are therefore most significant in predicting a subsequent increase in board independence.

Apart from confirming the findings of prior literature with respect to securities litigation, this study provides empirical evidence which offers fresh insights into the factors motivating the observed changes in board composition. Results indicate that post-litigation corporate governance restructuring is significantly determined by the

economic scale of the litigation, but the merits of the litigation do not exhibit any consistent predictive power over the subsequent change in board composition. Sued companies are more likely to increase board independence when confronted with larger lawsuits, by bringing additional independent directors onto the boards. Lawsuits of greater economic magnitudes are expected to have a higher public profile. However, larger lawsuits do not necessarily indicate greater legal liabilities on the part of the sued companies (in the absence of proven merits). Hence, they do not necessarily give rise to greater agency incentives to tighten board monitoring. Therefore, given the lack of statistical significance of lawsuit merits, the boards' responses to lawsuits of larger magnitude can only be attributed to an attempt to signal enhanced vigilance and integrity of the boards, as a means of improving the companies' reputations. The results from this study contribute to literature, by providing support for the view that the post-litigation changes in board composition are motivated, at least in part, by reputational concerns.

6 Tables

Table 1 Descriptive Statistics (Mean and Median) for Lawsuit vs. Control Samples

	Lawsuit* (Mean)	Control** (Mean)	Difference in Mean[1]	(P-value)	Difference in Median[2]	(P-value)
log(TA)	8.118	6.868	1.250	(0.000)***	1.190	(0.000)***
ROA	0.047	0.043	0.004	(0.037)**	0.001	(0.559)
Δlog(TA)	0.102	0.144	-0.042	(0.000)***	-0.025	(0.000)***
ΔROA	-0.001	0.005	-0.006	(0.085)*	-0.000	(0.185)
LEV	2.823	2.221	0.602	(0.000)***	0.268	(0.000)***

* Those firm-years in which at least one lawsuit is filed against the company.
** Those firm-years in which no lawsuit is filed against the company.

[1] ANOVA F-test of the Difference in Mean
[2] Chi-square Test of the Difference in Median

Detailed definitions of all variables are listed in Appendix 1 (Variable Definitions).

Table 2 Univariate Analysis: Changes in Board Composition

	Lawsuit* (Mean)	Control** (Mean)	Difference in Mean[1]	(P-value)	Difference in Median[2]	(P-value)
Δ%INDEPEND(0,+3)	0.061	0.056	0.005	(0.083)*	0.005	(0.205)
Δ%INDEPEND(-1,+3)	0.072	0.064	0.008	(0.019)**	0.010	(0.025)**
ΔBSIZE(0,+3)	0.063	0.184	-0.121	(0.002)***	0.000	(0.545)
ΔBSIZE(-1,+3)	0.121	0.211	-0.090	(0.029)**	0.000	(0.839)

* Those firm-years in which at least one lawsuit is filed against the company.
** Those firm-years in which no lawsuit is filed against the company.

[1] ANOVA F-test of the Difference in Mean
[2] Chi-square Test of the Difference in Median

Detailed definitions of all variables are listed in Appendix 1 (Variable Definitions).

Table 3 Changes in Board Independence Regression Results (Overall Lawsuit Variable) – Equation (4)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	Δ%INDEPEND (0,+3)	Δ%INDEPEND (-1,+3)	Δ%INDEPEND (0,+3)	Δ%INDEPEND (-1,+3)	Δ%INDEPEND (0,+3)	Δ%INDEPEND (-1,+3)
Model	(1)	(2)	(3)	(4)	(5)	(6)
constant	0.059***	0.069***	0.062***	0.071***	0.063***	0.074***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LAWSUIT (dummy)	0.007**	0.007**				
	(0.024)	(0.025)				
LAWSUIT (continuous)			0.0004**	0.001***	0.0003	0.001***
			(0.017)	(0.000)	(0.156)	(0.006)
Δlog(TA)	0.006	0.009	0.006	0.009	-0.000	0.006
	(0.442)	(0.321)	(0.457)	(0.315)	(0.981)	(0.594)
ΔROA	-0.001	0.003	-0.001	0.003	0.022	0.011
	(0.915)	(0.820)	(0.935)	(0.794)	(0.121)	(0.496)
LEV	-0.002***	-0.002***	-0.002***	-0.002***	-0.001**	-0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.033)	(0.001)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	6803	7940	6803	7940	3375	3946
Adj. R2	0.012	0.036	0.012	0.037	0.009	0.034
F-Stat	9.31	28.25	9.15	28.60	3.91	13.62
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — Δ%INDEPEND(0,+3) and Δ%INDEPEND(-1,+3) denote the change in the proportion of independent directors over the (0,+3) period and (-1,+3) period, respectively. LAWSUIT (dummy) equals the value of 1 if one or more lawsuit(s) is/are filed against the company during year 0. LAWSUIT (continuous) denotes the number of lawsuits filed against the company during year 0. Δlog(TA) equals the change in the natural log of total assets from year -1 to year 0 reported in Compustat. ΔROA equals the change in the returns on total assets reported from year -1 to year 0 in Compustat. LEV denotes the debt-to-equity ratio reported in Compustat.

The sample consists of the Standard & Poor's 1,500 firms, divided into the litigation and control samples on the basis of whether any lawsuit is filed against the firm in year 0. The numbers in parentheses below the coefficient estimates are p-values.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 4 Changes in Board Size Regression Results (Overall Lawsuit Variable) – Equation (5)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	ΔBSIZE (0,+3)	ΔBSIZE (-1,+3)	ΔBSIZE (0,+3)	ΔBSIZE (-1,+3)	ΔBSIZE (0,+3)	ΔBSIZE (-1,+3)
Model	(1)	(2)	(3)	(4)	(5)	(6)
constant	0.220***	0.239***	0.192***	0.227***	0.144***	0.199***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LAWSUIT (dummy)	-0.097**	-0.053				
	(0.015)	(0.191)				
LAWSUIT (continuous)			-0.012***	-0.009**	-0.013***	-0.009**
			(0.003)	(0.031)	(0.004)	(0.034)
Δlog(TA)	0.359***	0.777***	0.355***	0.773***	0.113	0.684***
	(0.001)	(0.000)	(0.001)	(0.000)	(0.506)	(0.000)
ΔROA	0.043	0.136	0.033	0.130	0.035	0.015
	(0.731)	(0.444)	(0.785)	(0.464)	(0.835)	(0.956)
LEV	-0.036***	-0.052***	-0.033***	-0.050***	-0.015*	-0.039***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.099)	(0.000)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	6803	7940	6803	7940	3375	3946
Adj. R2	0.010	0.018	0.012	0.018	0.007	0.014
F-Stat	8.05	13.97	9.19	14.55	3.32	6.05
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — ΔBSIZE(0,+3) and ΔBSIZE(-1,+3) denote the change in the number of directors on the board over the (0,+3) period and (-1,+3) period, respectively.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 5 Changes in Board Independence Regression Results (Lawsuit Categories) – Equation (6)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	Δ%INDEPEND (0,+3)	Δ%INDEPEND (-1,+3)	Δ%INDEPEND (0,+3)	Δ%INDEPEND (-1,+3)	Δ%INDEPEND (0,+3)	Δ%INDEPEND (-1,+3)
Model	(1)	(2)	(3)	(4)	(5)	(6)
constant	0.060***	0.070***	0.062***	0.072***	0.066***	0.076***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ENV (dummy)	0.009	0.003				
	(0.287)	(0.699)				
ENV (continuous)			0.0001	0.0001	0.00004	0.00003
			(0.503)	(0.546)	(0.802)	(0.843)
SEC (dummy)	0.014**	0.017***				
	(0.027)	(0.006)				
SEC (continuous)			0.001**	0.002***	0.001**	0.002***
			(0.032)	(0.000)	(0.049)	(0.000)
ANT (dummy)	0.004	0.002				
	(0.568)	(0.797)				
ANT (continuous)			-0.000	0.000	-0.000	0.000
			(0.889)	(0.952)	(0.891)	(0.959)
IP (dummy)	-0.004	-0.000				
	(0.357)	(0.941)				
IP (continuous)			-0.000	0.000	-0.001	-0.000
			(0.976)	(0.747)	(0.551)	(0.779)
CON (dummy)	0.008**	0.004				
	(0.022)	(0.200)				
CON (continuous)			0.000	0.000	0.000	0.000
			(0.226)	(0.287)	(0.506)	(0.562)
Δlog(TA)	0.006	0.007	0.005	0.007	-0.001	0.003
	(0.455)	(0.465)	(0.533)	(0.460)	(0.955)	(0.820)
ΔROA	0.000	-0.003	0.000	-0.004	0.024*	-0.005
	(0.989)	(0.818)	(0.982)	(0.798)	(0.098)	(0.825)
LEV	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	6802	7941	6802	7941	3375	3947
Adj. R2	0.014	0.037	0.012	0.038	0.010	0.036
F-Stat	7.66	21.29	7.08	21.76	3.38	10.95
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — ENV, SEC, ANT, IP, CON (dummy) equal 1 if any environmental, securities, antitrust, intellectual property, and contractual lawsuits, respectively, are filed against the company during year 0. ENV, SEC, ANT, IP, CON (continuous) denote the number of environmental, securities, antitrust, intellectual property, and contractual lawsuits, respectively, filed against the company during year 0.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 6 Changes in Board Size Regression Results (Lawsuit Categories) – Equation (7)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	ΔBSIZE (0,+3)	ΔBSIZE (-1,+3)	ΔBSIZE (0,+3)	ΔBSIZE (-1,+3)	ΔBSIZE (0,+3)	ΔBSIZE (-1,+3)
Model	(1)	(2)	(3)	(4)	(5)	(6)
constant	0.225***	0.263***	0.190***	0.242***	0.142***	0.229***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
ENV (dummy)	-0.053	-0.290**				
	(0.734)	(0.048)				
ENV (continuous)			-0.016***	-0.015**	-0.015***	-0.016**
			(0.000)	(0.037)	(0.000)	(0.030)
SEC (dummy)	-0.281***	-0.140				
	(0.004)	(0.154)				
SEC (continuous)			-0.014*	-0.009	-0.015*	-0.010
			(0.093)	(0.365)	(0.066)	(0.329)
ANT (dummy)	-0.095	-0.091				
	(0.385)	(0.394)				
ANT (continuous)			-0.003	-0.000	-0.003	0.001
			(0.789)	(0.998)	(0.818)	(0.957)
IP (dummy)	0.067	0.060				
	(0.202)	(0.267)				
IP (continuous)			-0.014	-0.036*	-0.001	-0.035*
			(0.522)	(0.056)	(0.955)	(0.078)
CON (dummy)	-0.142***	-0.112**				
	(0.001)	(0.013)				
CON (continuous)			-0.016**	-0.008	-0.018***	-0.010
			(0.018)	(0.269)	(0.008)	(0.191)
Δlog(TA)	0.329***	0.723***	0.344***	0.734***	0.100	0.637***
	(0.003)	(0.000)	(0.002)	(0.000)	(0.557)	(0.001)
ΔROA	0.046	0.109	0.046	0.106	0.040	-0.055
	(0.704)	(0.542)	(0.705)	(0.556)	(0.810)	(0.838)
LEV	-0.028***	-0.049***	-0.030***	-0.051***	-0.012	-0.042***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.175)	(0.000)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	6802	7941	6802	7941	3375	3947
Adj. R2	0.013	0.019	0.011	0.018	0.007	0.014
F-Stat	7.28	11.50	6.46	10.84	2.61	4.70
(p-value)	0.000	0.000	0.000	0.000	0.001	0.000

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 7 Changes in Board Independence Regression Results (Heckman Selection Model) – Equation (8)

Dependent Variable	Δ%INDEPEND(0,+3)	Δ%INDEPEND(-1,+3)
Model	(1)	(2)
constant	0.032*	0.023
	(0.066)	(0.187)
LAWSUIT	0.0004*	0.001***
	(0.061)	(0.002)
Δlog(TA)	-0.006	-0.007
	(0.630)	(0.610)
ΔROA	0.021	-0.008
	(0.141)	(0.723)
LEV	0.000	0.001
	(0.760)	(0.452)
lambda	0.034*	0.055***
	(0.073)	(0.004)
n	3188	3724
Adj. R2	0.008	0.035
F-Stat	3.19	12.28
(p-value)	0.000	0.000

Note — lambda equals the inverse Mills ratio calculated from the first-stage regression of the Heckman Selection Model.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 8 Changes in Board Size Regression Results (Heckman Selection Model) – Equation (9)

Dependent Variable Model	ΔBSIZE(0,+3) (1)	ΔBSIZE(-1,+3) (2)
constant	-0.597***	-0.586**
	(0.008)	(0.015)
LAWSUIT	-0.011**	-0.010**
	(0.011)	(0.024)
Δlog(TA)	0.014	0.478**
	(0.937)	(0.015)
ΔROA	0.020	-0.083
	(0.907)	(0.757)
LEV	0.026**	0.010
	(0.031)	(0.461)
lambda	0.776***	0.841***
	(0.001)	(0.001)
n	3188	3724
Adj. R2	0.010	0.012
F-Stat	3.82	4.64
(p-value)	0.000	0.000

Note — lambda equals the inverse Mills ratio calculated from the first-stage regression of the Heckman Selection Model.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 9 Litigation Magnitudes and Change in Board Independence

	Overall Lawsuits		**Contractual**	
Dependent Variable	Δ%INDEPEND (0,+3)	Δ%INDEPEND (-1,+3)	Δ%INDEPEND (0,+3)	Δ%INDEPEND (-1,+3)
Model	(1)	(2)	(3)	(4)
constant	0.063***	0.080***	0.064***	0.079***
	(0.000)	(0.000)	(0.000)	(0.000)
DEMAND$_{ALL}$	0.0003***	0.0003*		
	(0.009)	(0.091)		
DEMAND$_{CON}$			0.001**	0.002***
			(0.024)	(0.001)
Δlog(TA)	0.002	0.012	0.007	0.003
	(0.883)	(0.460)	(0.686)	(0.864)
ΔROA	0.021	0.016	0.025	0.025
	(0.193)	(0.386)	(0.441)	(0.252)
LEV	-0.001**	-0.002**	-0.002***	-0.002***
	(0.041)	(0.012)	(0.008)	(0.007)
YEARLY DUMMIES	YES	YES	YES	YES
n	2462	2681	1844	2016
Adj. R2	0.011	0.017	0.011	0.022
F-Stat	3.67	5.31	3.08	5.10
(p-value)	0.000	0.000	0.001	0.000

Note — DEMAND$_{ALL}$ equals the sum of all demands for pecuniary compensation filed against the company during year 0 scaled by firm size (total assets) at the end of year -1. DEMAND$_{CON}$ equals the sum of demands for pecuniary compensation filed under contractual lawsuits during year 0, scaled by firm size (total assets) at the end of year -1.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 10 Litigation Magnitudes and Change in Board Size

	Overall Lawsuits	
Dependent Variable	ΔBSIZE (0,+3)	ΔBSIZE (-1,+3)
Model	(1)	(2)
constant	0.129***	0.183***
	(0.006)	(0.000)
$DEMAND_{ALL}$	0.003*	0.004
	(0.088)	(0.136)
Δlog(TA)	0.090	0.511**
	(0.668)	(0.020)
ΔROA	0.071	-0.109
	(0.729)	(0.748)
LEV	-0.023**	-0.045***
	(0.020)	(0.000)
YEARLY DUMMIES	YES	YES
n	2462	2681
Adj. R2	0.004	0.010
F-Stat	2.06	3.49
(p-value)	0.025	0.000

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 11 Litigation Merits and Change in Board Independence

	Overall Lawsuits	
Dependent Variable	Δ%INDEPEND (0,+3)	Δ%INDEPEND (-1,+3)
Model	(1)	(2)
constant	0.058***	0.082***
	(0.000)	(0.000)
DISMISSAL	0.004	-0.005
	(0.711)	(0.633)
SETTLE	0.006	-0.010
	(0.557)	(0.307)
JUDGMENT	0.008	-0.005
	(0.515)	(0.669)
Δlog(TA)	0.003	0.007
	(0.834)	(0.578)
ΔROA	0.026*	0.011
	(0.079)	(0.468)
LEV	-0.001*	-0.002***
	(0.051)	(0.004)
YEARLY DUMMIES	YES	YES
n	3166	3690
Adj. R2	0.008	0.032
F-Stat	3.19	10.36
(p-value)	0.000	0.000

Note —DISMISSAL denotes the proportion of all lawsuits filed against the company during year 0 the outcomes of which are known, which were dismissed by the court. SETTLE denotes the proportion of all lawsuits filed against the company during year 0 the outcomes of which are known, which were settled. JUDGMENT denotes the proportion of all lawsuits filed against the company during year 0 the outcomes of which are known, which ended in court judgments.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 12 Litigation Merits and Change in Board Size

	Overall Lawsuits	
Dependent Variable	ΔBSIZE (0,+3)	ΔBSIZE (-1,+3)
Model	(1)	(2)
constant	0.252**	0.324***
	(0.031)	(0.007)
DISMISSAL	-0.116	-0.145
	(0.378)	(0.299)
SETTLE	-0.176	-0.200
	(0.164)	(0.125)
JUDGMENT	-0.237	-0.154
	(0.112)	(0.310)
Δlog(TA)	0.131	0.674***
	(0.466)	(0.001)
ΔROA	0.073	0.005
	(0.681)	(0.986)
LEV	-0.020**	-0.044***
	(0.028)	(0.000)
YEARLY DUMMIES	YES	YES
n	3166	3690
Adj. R2	0.003	0.012
F-Stat	1.93	4.52
(p-value)	0.027	0.000

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

CHAPTER SIX:

CORPORATE LITIGATION AND

EXECUTIVE COMPENSATION

1 Introduction

This Chapter investigates the financial penalties personally incurred by managers of publicly listed corporations, when the corporations have allegedly breached the law. Upon the filing of a lawsuit, the chief executive officer of the sued company is expected to receive *ex post* economic penalties, in the form of reductions in executive compensation.

Prior literature in this area has been limited to securities fraud and other fraud allegations. Whilst existing studies show that the revelation of fraud can have adverse impacts upon the executive compensation of the managers of the sued companies (Desai, Hogan & Wilkins, 2006; Fich & Shivdasani, 2007; Collins, Reitenga & Sanchez, 2008; Correia & Klausner, 2012), no prior study has examined whether a wide variety of *corporate lawsuits* are followed by similar economic penalties for the CEOs, given that various categories of corporate litigation give rise to different implications, some alleging fraud against the companies, others implying lesser degrees of culpability but nonetheless reflecting adversely upon the sued companies' executives.

This Chapter seeks to contribute to the existing literature, by providing empirical evidence regarding the economic penalties suffered by CEOs of public companies

which have encountered lawsuits. In light of the negative economic consequences associated with the filing of the litigation, managers are expected to be penalized for having exposed the company, through their past decision-making, to legal liabilities which have now given rise to the litigation. It is hypothesized that CEOs whose companies have encountered litigation would incur economic penalties, in the form of decreases in their cash (salary and bonus), bonus only, and total compensation.

Multivariate analyses are utilized to examine these hypothesized changes. After controlling for firm-level characteristics including size and performance of the company, size and independence of the board and compensation committee, and executive-specific characteristics including age, gender, tenure, internal appointment, and stock ownership, the regression results provide evidence in support of the hypothesis. The results show a significant and negative association between the filings of corporate lawsuits, and subsequent changes in CEO cash and bonus compensation. Contractual and intellectual property lawsuits, which impose an immediate economic impact on the company, exhibit the strongest statistical association with the subsequent decrease in cash and bonus compensation. These results indicate that a decrease in CEO cash compensation is significantly associated only with litigation that affects the immediate financial performance of a company. Additionally, the reduction in total compensation is significantly associated with securities lawsuits, confirming the findings from prior literature that CEOs are penalized following securities fraud.

Furthermore, the results provide evidence with respect of the role of the economic magnitude and legal merits of the lawsuits. The economic magnitude of the lawsuits filed, as proxied by the amount of pecuniary compensation claimed by the plaintiffs,

does not appear relevant in determining the subsequent change in CEO compensation. However, the merits of the lawsuits, as proxied by the rate of settlement of the claims, are significant in predicting the economic penalties by reductions in CEO total compensation, as well as in cash and bonus compensation following intellectual property lawsuits. These results imply that boards of directors, when imposing *ex post* economic penalties upon managers in the wake of corporate litigation, are more concerned with the actual merits of the allegations, rather than their magnitudes.

Overall, this Chapter produces evidence in support of the effective functioning of the internal mechanisms within public companies, in imposing penalties upon CEOs who have led their companies into allegedly breaching the law. In particular, empirical evidence indicates that CEOs are only penalized following those lawsuits that have the potential of directly affecting the financial performance of the sued companies, namely contractual lawsuits involving contractual partners, securities lawsuits involving investors, and IP lawsuits involving disputes over intangible assets. On the other hand, allegations which do not directly impact on the financial performance of the companies, namely environmental lawsuits where the costs are externalized, give rise to no such penalties imposed on the accused companies‟ management.

2 Literature Review and Hypothesis Development

2.1 Executive Compensation

Labor market forces and reputational concerns are expected to have a disciplining effect on managers of corporations where there is a separation of ownership and control (Fama et al., 1969; Jensen & Meckling, 1976). When a public company encounters litigation, the filing of the lawsuit can reflect adversely upon the quality of prior managerial decision-making. Consequently, boards of directors can impose economic penalties upon the executive officers, in the form of reductions in compensation.

Executive compensation has been the subject of a large body of corporate governance literature (Bryan et al., 2000; Mahoney & Thorne, 2005; Brick, Palmon & Wald, 2006; Bryan, Nash & Patel, 2006; Campbell et al., 2007; Cho & Shen, 2007; Qiang & Farber, 2008; Bales & Davis, 2009; Berrone & Gomez-Mejia, 2009; Dai, Jin & Zhang, 2012). In particular, a group of prior studies investigate the change in executive compensation following revelations of securities fraud and other fraud allegations against the companies (Persons, 2006; Collins, Reitenga & Sanchez, 2008; Burks, 2010).

When public companies face securities fraud and other fraud allegations, boards can choose to terminate the employment of top managers (Agrawal, Jaffe & Karpoff, 1999; Niehaus & Roth, 1999; Arthaud-Day et al., 2006; Desai, Hogan & Wilkins, 2006; Agrawal & Cooper, 2007; Collins, Reitenga & Sanchez, 2008; Karpoff, Lee & Martin, 2008; Burks, 2010; Krishna-Moorthy, 2011; Correia & Klausner, 2012). Significant incentives exist for boards to impose this penalty, in order to discipline the managers

(Agrawal, Jaffe & Karpoff, 1999; Karpoff, Lee & Martin, 2008), or to restore the perceived legitimacy of the company (Arthaud-Day et al., 2006; Burks, 2010). However, boards would refrain from imposing this penalty, if the costs of terminating the CEO (giving rise to the risk of an inferior replacement) exceed the benefits of improved reputations for the sued companies (Burks, 2010).

In contrast, reduction in compensation constitutes a less severe penalty for the chief executive officers. Burks (2010) argues that this form of economic penalty is more likely to be imposed where no allegations of fraudulent conduct are levied against the managers. Boards can impose compensation penalties against executive officers in these circumstances, through incorporating discretionary assessments of the CEOs‟ performance into the determination of compensation (Bushman, Indjejikian & Smith, 1996; Ittner, Larcker & Rajan, 1997; Murphy & Oyer, 2001). The bonus component of executive compensation is linked, not only to financial measures of firm performance, but also non-financial performance, through subjective evaluations by the board (Burks, 2010).

The body of literature which examines the change in executive compensation following securities fraud and other fraud allegations generates interesting results (Persons, 2006; Collins, Reitenga & Sanchez, 2008; Burks, 2010). Persons (2006) examines the impact of fraud and lawsuit revelations in the *Wall Street Journal* from 1992 to 2000 on executive turnover and compensation. While finding no significant explanatory power of fraud events over managerial turnover, Persons documents that the executive cash compensation (comprising salary and bonus) for top managers *increases* following the fraud revelations. The author argues that, despite the increase in compensation

following fraud allegations contrary to expectation, the rate of this increase is smaller compared to other control firms without similar fraud revelations, indicating that the managers are penalized by a diminished rate of increase, rather than a decrease, in their compensation.

Collins, Reitenga, and Sanchez (2008) shift the focus of investigation from CEOs to CFOs. By examining allegations of securities fraud during the 1997-2003 period (in the forms of accounting restatements and consequent securities class actions), they find that earnings restatements are associated with significant reductions in CFO bonus compensation, but only if securities class actions are undertaken by shareholders. These results suggest that CFOs are penalized as a result of earnings restatements, but only when the restatements are of sufficient severity to trigger class actions against the firms.

Burks (2010) examines the impact of non-fraudulent accounting restatements on the turnover and compensation of CEOs and CFOs. Utilizing a sample of data on accounting restatements comprising two time periods (January 1997 to July 2002 and August 2002 to September 2005), the author compares the association between accounting restatements and disciplinary actions on firm executives imposed by the boards, before and after the passing of the Sarbanes-Oxley Act (SOX) in 2002. He finds that subsequent to SOX, boards tend to impose penalties on CEOs of restating firms, not by increased turnover, but by reducing their bonus compensation to zero during the year of the restatement.

In addition, the literature produces evidence that securities allegations can impact on executive compensation, even when the executive officers are not personally named in the allegations of fraudulent conduct (Collins, Reitenga & Sanchez, 2008; Burks, 2010).

2.2 Gaps in Existing Literature

The existing body of literature provides evidence that, following securities litigation or accounting restatements, the board of directors can impose economic penalties on the CEO, either through a decrease in compensation, or a reduced rate of increase compared to companies not facing fraud allegations. All previous studies, however, focus upon either securities-related lawsuits or other fraud allegations as the subject of their investigation. No prior study has systematically examined the economic penalties incurred by executive officers following a wide range of lawsuits. Although the sample used in Persons‟ (2006) study also includes *some* revelations of lawsuits in the *Wall Street Journal* (p. 407) between 1992 and 2002, the primary focus of that study is fraud reevaluations, rather than lawsuit filings *per se*. By employing the *Wall Street Journal* as the data source, the research design in Persons‟ (2006) study is likely to introduce media bias into the sample, by selecting only those fraud revelations reported in the WSJ (Haslem, 2005; Bhattacharya, Galpin & Haslem, 2007). Furthermore, the author does not make systematic distinctions between different types of lawsuits, nor is the sampling method designed to capture a diverse variety of lawsuits filed against public corporations.

This Chapter builds upon the observations from the prior studies, and seeks to contribute to existing literature in three significant ways. First, it extends the scope of the investigation beyond securities-related lawsuits and fraud revelations. Securities fraud allegations and accounting restatements, which involve alleged wrongdoings against shareholders, have hitherto constituted the main focus of the existing literature. By examining a diverse range of different types of lawsuits, this Chapter seeks to conduct a more comprehensive investigation into the penalties imposed by the executive labor market following a wider range of corporate litigation. Second, the broad spectrum of different lawsuits investigated (namely environmental, securities, antitrust, intellectual property, and contractual disputes) allows for comparisons of the resultant penalties that ensue. This empirical evidence seeks to inform policy-makers of corporate attitudes towards various allegations of different natures. Third, the Chapter examines lawsuit-specific characteristics, including the economic value and legal merits of the allegations, in determining the labor market penalties that follow. Lawsuits which are more meritorious and economically significant are expected to be followed by more serious economic penalties for the company‟s executives. The diverse inter-lawsuit variations, therefore, allow an investigation into the factors relevant to the internal mechanism whereby executive compensation is determined, in assessing the penalties for managers in the wake of corporate litigation.

2.3 Hypothesis Development

Upon the encounter with lawsuits, managers of public companies can incur economic penalties, in the form of reductions in compensation. Such penalties are imposed through the internal mechanism whereby the CEO‟s compensation is determined. There

are two ways in which lawsuit filings against a company can affect its CEO‟s compensation.

First, prior literature indicates that the cash component of CEO compensation is commonly tied to both financial and non-financial measures of performance (Burks, 2010). Non-financial performance can be determined through explicit systematic measures, or through subjective assessments of the CEO‟s performance by the board (Bushman, Indjejikian & Smith, 1996; Ittner, Larcker & Rajan, 1997; Murphy & Oyer, 2001; Burks, 2010). Therefore, if the filing of a lawsuit serves to reveal prior suboptimal managerial decision-making, the board of directors may use its discretion to reduce the cash bonuses paid to the CEO.

Second, in contrast to cash bonuses, other components of CEO compensation, such as option and restricted stock grants, are not determined on an annual basis, but are fixed over a period of several years (Hall, 2000). However, prior literature documents that, upon the filing of lawsuits, sued public companies commonly suffer adverse market reactions (Ellert, 1976; Wier, 1983; Cutler & Summers, 1987; Fields, 1990; Feroz, Park & Pastena, 1991; Hertzel & Smith, 1993; Bizjak & Coles, 1995; Griffin, Grundfest & Perino, 2004; Koku, 2006; Raghu et al., 2008; Gande & Lewis, 2009). If this depression in stock prices of the sued companies were to persist, the litigation-triggered decline in market valuation may adversely affect the value of the stock options component of CEO compensation.

For these reasons, it is *a priori* expected that the CEO of the sued company will incur economic penalties, in the form of reduced executive compensation, following the filing of lawsuits against their corporation.

H(1): CEOs of public companies which are named as defendants in corporate lawsuits are more likely to experience reductions in their executive compensation.

Moreover, the question arises as to how public corporations distinguish between lawsuits of different natures and degrees of severity, and impose penalties accordingly. The diverse range of corporate lawsuits investigated in this Chapter allows for comparison between the economic penalties following lawsuits of different natures, in order to assess the corporate attitudes, revealed through the determination of penalties, in response to allegations of different kinds.

Prior research conducted by Bhagat, Bizjak and Coles (1998) investigates the stock market reactions to the filing and settlement of a variety of different types of corporate litigation between 1981 and 1983. Amongst environmental lawsuits, securities fraud, antitrust lawsuits, patent (IP) litigation, and breaches of contract, the empirical evidence indicates that filings of environmental lawsuits are associated with the most significant negative cumulative abnormal return of -3.08%, followed by securities lawsuits (-2.71%). In addition, intellectual property (patent) lawsuits are also documented to have a significant adverse impact on the sued companies‟ stock performance, as evidenced by the negative abnormal returns of -1.50%. In the multivariate analysis, only securities and environmental lawsuits are significant in explaining the negative abnormal returns upon the filing of the lawsuits. On the other hand, stock market reactions to antitrust

and contractual litigation are small (-0.81% and -0.16%, respectively) and statistically insignificant. Based on the evidence from prior research, environmental and securities lawsuits are expected to be associated with the most severe economic penalties incurred by CEOs of sued companies.

Second, intellectual property and contractual lawsuits affect the defendant companies in a substantially different way. Whilst these lawsuits are often commercially-oriented, and do not give rise to allegations of misconduct or issues of social or political sensitivity (Bhagat, Bizjak & Coles, 1998), they may nonetheless have significant economic impacts on the sued companies. Contractual lawsuits can adversely affect the companies‟ existing business relationships with their customers or suppliers, while allegations of intellectual property infringements might pose threats to the companies‟ current or future operations involving the contested intellectual property, both of which could result in substantial disturbance to the companies‟ operating performance. Consequently, even though these types of litigation do not tend to significantly affect the companies‟ reputations and hence the reputations of their executives, they are expected to be followed by substantial economic penalties for the CEOs.

Third, antitrust lawsuits are brought against the defendant corporations alleging breaches of the relevant laws regulating the operation of their business. Unlike securities violations and environmental lawsuits, which are politically sensitive in nature, antitrust lawsuits rarely give rise to adverse publicity due to their routine commercial character (Bhagat, Bizjak & Coles, 1998), nor do they project moral culpability on the part of the responsible managers from a stewardship perspective. However, the filings of these allegations nonetheless reflects poorly upon the managers,

either by revealing their negligent failure to ensure the company‟s compliance with the law, or by indicating a degree of opportunistic disregard of the specific provisions, which has increased the legal risk faced by the companies. Consequently, managers, although not implicated in any deliberate misconduct, are nevertheless expected to be disciplined, for failing to adhere to the legal boundaries of their business operations and thus exposing the company to litigation.

H(2): CEOs are more likely to experience reductions in executive compensation, when the lawsuits filed impose immediate financial impacts upon the sued public companies (such as intellectual property and contractual lawsuits).

3 Variable Description[1]

In this Chapter, three measurements of executive compensation are examined: cash, bonus only, and total compensation. Cash compensation is defined as the sum of the annual salary and bonus received by the CEO. Additionally, bonus compensation alone is examined, as a robustness check to complement the investigation of cash compensation. Following Persons (2006) and Collins, Reitenga and Sanchez (2008), cash compensation is examined, because it excludes any long-term stock option-based compensation, and is "determined annually by the compensation committee and approved by the board of directors" (Persons, 2006, p. 407). In addition, CEO bonus compensation is also examined as a robustness check to ensure that the results are consistent with those from the analysis involving cash compensation. Total compensation is defined, following Brick, Palmon and Wald (2006), as the sum of

[1] A comprehensive list of the definitions of all variables is included in Appendix 1 (Variable Definitions).

salary, bonus, the total value of restricted stock granted, the total value of stock options granted using the Black-Scholes model, long-term incentive payouts, and all other payments.

The change in CEO compensation is measured initially over the period of (0, +2), from the year in which the lawsuit is filed to the second subsequent year. In addition, I extend the period of examination to include the year prior to the filing of the lawsuit (defined as year -1) (Burks, 2010).

A number of control variables are included in the prediction of the changes in CEO compensation, following prior studies (Brick, Palmon & Wald, 2006; Collins, Reitenga & Sanchez, 2008). First, $\Delta LogTA_{t(-1,+2)}$, the change in firm size during the (-1,+2) period as measured by the natural logarithm of book value of assets, is included in the regression. Second, I include $\Delta ROA_{t(-1,+2)}$, calculated as the difference between the net profit over total assets for year -1, and that for year +2, as a control for the change in firm performance. Additionally, prior studies indicate that the vigilance of board monitoring, as represented by board size (Jensen, 1993; Yermack, 1996) and board independence (Weisbach, 1988; Jensen, 1993), is relevant to its effectiveness at disciplining underperforming CEOs. Following Persons (2006), who controls for the size of the compensation committee, and Brick, Palmon and Wald (2006), who control for the size and independence of the overall board, I include three variables, $\%OUTSIDE_{t-1}$ (the proportion of independent directors on the board at the beginning of year 0), $\%COMPSIZE_{t-1}$ (the proportion of directors on the compensation committee relative to the total number of directors on the board at the beginning of year 0), and $\%COMPIND_{t-1}$ (the proportion of independent directors on the compensation

committee at the beginning of year 0), as proxies for the effectiveness of the existing board of directors and the compensation committee in disciplining CEOs in the wake of litigation filings.

Furthermore, a number of CEO-specific characteristics are controlled for in the regressions predicting the change in CEO compensation (Brick, Palmon & Wald, 2006), including the age and gender of the CEO ($CEOAGE_{t=0}$ and $GENDER_{t=0}$). Several factors are included in the analysis in order to control for the level of CEO entrenchment, since more entrenched CEOs are less likely to face stringent board monitoring (Hermalin & Weisbach, 1998): first, whether the CEO has been appointed internally (i.e. employed by the company for one year or more prior to becoming its CEO) ($INTERNAL_{t=0}$); second, the number of years over which the CEO has served the company in this position ($TENURE_{t=0}$); and third, measures of the stock ownership of the CEO. I employ two measures of CEO stock ownership: a static measure is used to control for the proportion of total ordinary shares outstanding owned by the CEO at the time of year 0 ($EXECOWN_{t=0}$); in addition, a dynamic measure that captures changes in stock ownership over the preceding two-year period ($\Delta EXECOWN_{t(-2,0)}$) (Srinivasan, 2005).[2] Finally, period fixed effects are employed to account for unobserved time-specific variations that may influence the change in CEO compensation.

[2] The inclusion of the two measures of executive stock ownership, $EXECOWN_{t=0}$ and $\Delta EXECOWN_{t(-2,0)}$, does not introduce multicollinearity into the regressions. This is evidenced by the Pearson Correlation Coefficient for $EXECOWN_{t=0}$ and $\Delta EXECOWN_{t(-2,0)}$ (0.158), which indicates that the two control variables are not highly correlated.

4 Empirical Results

4.1 Univariate Analysis

The firm characteristics (in mean and median) for firm-years in the lawsuit sample versus the control sample are reported in Table 1. Results are reported from the test of difference in the mean, and the test of difference in the median, between the lawsuit sample and the control sample. First, the average change in firm size within the lawsuit sample is lower than that of the control sample, as represented by the smaller increase in firm size during the (-1,+2) period surrounding the lawsuit filing. Secondly, compared to the control sample, the lawsuit sample also exhibits a marginally higher proportion of outside directors on the board. The differences in the median size and independence of the compensation committee are not statistically significant. Thirdly, the likelihood of having a female CEO is lower in the lawsuit sample, compared to the control sample. Fourthly, the average executive stock ownership in the lawsuit sample is significantly lower in both mean and median relative to the control sample. Finally, the average duration of tenure of the CEO is lower within the lawsuit sample compared to the control sample.

[Insert Table 1]

The univariate analysis results reported in Table 2 indicate that changes in CEO cash and bonus compensation over both (0,+2) and (-1,+2) periods are significantly more negative for the lawsuit sample, compared to the control sample. For instance, the mean change in cash compensation over the (-1,+2) period is -$85,921 for the lawsuit sample.

In contrast, the mean change in compensation within the control sample over the same period, is positive ($16,932). The difference in the changes in cash and bonus compensation, over both (0,+2) and (-1,+2) periods, are significant between the lawsuit sample and the control sample, at the 5% and 10% levels. Similarly, the average change in CEO total compensation is negative for the lawsuit sample over both (0,+2) and (-1,+2) periods (-$387,812 and -$125,688, respectively), but positive for the control sample over both periods ($269,413 and $492,721, respectively), and both differences are statistically significant at the 5% level. Consistent with expectation, these results show that when a public company incurs litigation, the CEOs experience on average a negative change in compensation.

These results provide preliminary support for hypothesis H(1), by indicating that CEOs of firms which have experienced lawsuits are more likely to incur a decrease in their compensation.

[Insert Table 2]

4.2 Multivariate Analysis

4.2.1 Corporate Litigation and CEO Compensation

In order to examine the association between corporate litigation and the subsequent change in CEO compensation, the following Ordinary Least Square (OLS) regressions are estimated. A detailed description of each variable included is provided in Appendix 1 (Variable Definitions). In all OLS regressions employed in this Chapter, the White Heteroskedasticity-Consistent Standard Errors are used.

$$\begin{aligned}\Delta COMP_{t(0,+2),t(-1,+2)} &= \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 \Delta LogTA_{t(-1,+2)} + \beta_3 \Delta ROA_{t(-1,+2)} \\ &+ \beta_4 \%OUTSIDE_{t-1} + \beta_5 \%COMPSIZE_{t-1} + \beta_6 \%COMPIND_{t-1} + \beta_7 CEOAGE_{t=0} \\ &+ \beta_8 GENDER_{t=0} + \beta_9 INTERNAL_{t=0} + \beta_{10} EXECOWN_{t=0} + \beta_{11} \Delta EXECOWN_{t(-2,0)} \\ &+ \beta_{12} TENURE_{t=0} + \varepsilon\end{aligned} \quad (10)$$

Three alterative measures of CEO annual compensation are employed to measure the dependent variable $\Delta COMP_{t(0,+2),t(-1,+2)}$, each as defined in detail in Appendix 1 (Variable Definitions). First, cash compensation represents the sum of the salary and bonus received by the CEO during a given year. Second, bonus compensation represents the annual bonus only. The cash component of CEO compensation is determined on a year-to-year basis (Persons, 2006). Bonus compensation is observed as a robustness check for the examination of cash compensation (bonus and salary). If the change in bonus compensation accounts for most of the variations in cash compensation (assuming that salary does not change significantly on an annual basis), then the cash compensation (salary and bonus) regressions and bonus compensation regressions are expected to produce consistent results. Third, total compensation measures the sum of all remuneration received by the CEO each year, including salary, bonus, other annual payments, long-term incentive payouts, total value of restricted stock granted, and the total value of restricted stock options granted (calculated using the Black-Scholes model) (Brick, Palmon & Wald, 2006). The dependent variables are observed over the (0,+2) period subsequent to the lawsuit filings in year 0. Additionally, an alternative observation period (-1,+2) is employed to include the year immediately prior to the lawsuit filing (year -1) (Burks, 2010). The results are reported in Tables 3, 4, and 5, respectively.

The estimated coefficient of $LAWSUIT_{t=0}$ (dummy variable)[3] in Model (1) of Table 3 is negative (-120.057) and significant at the 10% level, indicating that if any lawsuit is filed against the company in year 0, the CEO of the company, on average, experiences a decrease of $120,057 in cash compensation over the following two-year period, holding all other factors constant. When the observation period for the change in CEO cash compensation is extended over the (-1,+2) period in Model (2), the results remain consistent (with an estimated coefficient of the dummy variable $LAWSUIT_{t=0}$ of -166.025 significant at the 5% level).

Similarly, when litigation is measured by a continuous variable in Models (3) and (4), the estimated coefficient of $LAWSUIT_{t=0}$ is negative and statistically significant at the 5% level in predicting the changes in cash compensation over both (0,+2) and (-1,+2) periods. The estimated coefficient of the continuous variable $LAWSUIT_{t=0}$ of -26.078 in predicting $\Delta CASH_{t(0,+2)}$ indicates that, holding all else constant, with every additional lawsuit filed against a company during the year, the CEO tends to receive, on average, a decrease of $26,078 in cash compensation during the subsequent two-year period. In addition, when Equation (10) is re-run over a restricted sample comprising lawsuit firm-years only, rather than over the entire sample, the estimated coefficients of the continuous variable $LAWSUIT_{t=0}$ (-25.858 and -22.179) remain consistent with those discussed above, both significant at the 5% level.

[3] In Equation (10), the test variable $LAWSUIT_{t=0}$ specified in two alternative measures: first as a dummy variable which is assigned a value of 1 if the company has experienced one or more lawsuit filings during year 0, and zero otherwise. Second, in order to account for the impact of multiple lawsuits filed within the same year, $LAWSUIT_{t=0}$ is specified as a continuous variable, measuring the number of corporate lawsuits filed against a company during year 0. Prior research documents that, if a company is sued more than once in a given period, the company"s reputation would be much more severely damaged than if the company had only been sued once (Koku & Qureshi, 2006). The second continuous variable is therefore employed to capture the role of multiple lawsuits filed within the same year. The model employing the continuous variable is run first over the entire dataset, comprising both the litigation and control samples; it is then re-run over a restricted sample comprising lawsuit firm-years only, in order to avoid the zero values in the control sample potentially biasing the results upwards.

[Insert Table 3]

As reported in Table 4, litigation remains significant and negative when the dependent variable measures the change in CEO bonus compensation, rather than CEO cash compensation (the sum of salary and bonus). The estimated coefficient of the dummy variable $LAWSUIT_{t=0}$ is -130.319 (significant at the 10% level) and -184.928 (significant at the 5% level) in estimating the change in bonus compensation over the (0,+2) and (-1,+2) periods, respectively. Similarly, when the filing of litigation is measured by the continuous variable under Models (3) and (4), the estimated coefficient of the continuous variable $LAWSUIT_{t=0}$ is negative (-24.920 and -22.000) and significant at the 5% level, similar to the results generated from the regression models predicting the change in cash compensation. When the model employing the continuous litigation variable is re-run using a restricted sample of lawsuit firm-years only, the results relating to the test variables remain consistent. The magnitudes of the adjusted R-squares from the regression models are consistent with those reported in prior studies (Burks, 2010; Dai, Jin & Zhang, 2012).

[Insert Table 4]

Results from the regressions estimating the change in cash and bonus compensation indicate that, consistent with hypothesis H(1), which predicts a decrease in compensation following corporate litigation, the CEOs of companies which have encountered lawsuits are more likely to experience a negative change in the amount of cash and bonus compensation they receive. This hypothesis is supported by the

negative and significant estimated coefficients of the litigation variable $LAWSUIT_{t=0}$, measured either as a dummy variable or as a continuous variable.

The negative association between a firm‟s encounter with lawsuits and the subsequent change in CEO cash compensation may be attributed to two factors. First, the filing of a lawsuit against a public company can have an adverse impact upon its financial performance, due to the significant legal expenses incurred, the diversion of resources in preparation of trial and pre-trial proceedings (for instance, staff time and attention) (Johnson, Nelson & Pritchard, 2000), and any reputational damage that may harm its business operations (Johnson, Nelson & Pritchard, 2000; Black, Cheffins & Klausner, 2006). The existence of these factors is captured by the decline in market valuation associated with lawsuit filings, as documented by prior research (Ellert, 1976; Wier, 1983; Feroz, Park & Pastena, 1991; Bizjak & Coles, 1995; Bhagat, Bizjak & Coles, 1998; Koku, Qureshi & Akhigbe, 2001; Griffin, Grundfest & Perino, 2004; Koku, 2006; Koku & Qureshi, 2006; Bhattacharya, Galpin & Haslem, 2007; Gande & Lewis, 2009). As a result, litigation can directly affect the component of CEO bonus compensation which is tied to the financial performance of the company. Second, bonus compensation is commonly linked, in addition to financial measures of firm performance, to non-financial performance, assessed either through pre-specified measures, or through subjective evaluations by the board (Bushman, Indjejikian & Smith, 1996; Ittner, Larcker & Rajan, 1997; Murphy & Oyer, 2001; Burks, 2010). If the lawsuit filings against a company are deemed to reflect poorly upon the CEOs performance in protecting the company from legal risks, the board can impose penalties by reducing such discretionary component of the CEO bonus remuneration. Burks (2010) reasons that, when there are no allegations of fraudulent conduct against the

managers, boards are likely to impose penalties upon the CEOs not by initiating terminations, but by this method of reducing their remuneration.

Results reported in Table 5 indicate that, in predicting the change in CEO total compensation, the estimated coefficients of the litigation variable $LAWSUIT_{t=0}$, measured either as a dummy or a continuous variable, are negative but statistically insignificant.

[Insert Table 5]

The results observed from the regressions above confirm the expectation that CEOs are penalized, following their companies‟ encounters with litigation, by a reduction in the cash component of their compensation, which is determined on a year-to-year basis. In contrast, the filing of litigation is statistically insignificant in predicting the change in CEO total compensation. This could be due to the fact that a substantial component of CEO total compensation is option-based remuneration, which is typically fixed over a number of years, and is not varied on an annual basis (Hall, 2000).

In the regression predicting the change in CEO compensation, a number of additional factors which may also influence the dependent variable are controlled. Two accounting variables, $\Delta LogTA_{t(-1,+2)}$ and $\Delta ROA_{t(-1,+2)}$, measure the change in firm size and performance over the same period during which the change in CEO compensation is observed. The positive and significant coefficient of $\Delta LogTA_{t(-1,+2)}$, at the 1% level, in estimating the change in cash, bonus and total compensation over the (-1,+2) period, indicates that an increase in firm size is associated with an increase in CEO

compensation, consistent with the expectation that managers of larger firms tend to receive higher remuneration in light of their greater responsibilities. Similarly, $\Delta ROA_{t(-1,+2)}$ is also positive and significant (at the 1% level), in predicting cash, bonus, and total compensation, consistent with the expectation that better performing CEOs receive higher increases in their compensation.

Malmendier and Tate (2009) investigate the performance of „superstar" CEOs, and document that these award-winning CEOs tend to underperform and receive higher compensation. The „superstar" status may enhance the CEOs" perceived ability and increase the CEOs" bargaining power over the board selection process, thus influencing the strength of subsequent board monitoring (Hermalin & Weisbach, 1998). Due to constraints in data availability, this Thesis does not control for prior business awards received by the CEOs of public companies. However, a number of characteristics are included in the empirical analysis, as proxies for the effectiveness of the board in reducing CEO compensation. Consistent with prior literature (Brick, Palmon & Wald, 2006; Persons, 2006), these factors include the independence of the overall board, and the size and independence of the compensation committee. The empirical results indicate that the proportion of independent directors on the board ($\%OUTSIDE_{t-1}$) is significant at the 5% level in predicting a decrease in CEO cash and bonus compensation over the (-1,+2) period only. The negative association, between board independence and change in CEO cash compensation, indicates that more independent boards are more effective in penalizing CEOs by reducing the cash component of their compensation. The size ($\%COMPSIZE_{t-1}$) and independence ($\%COMPIND_{t-1}$) of the compensation committee do not exhibit consistent explanatory powers over the change in CEO compensation.

Amongst the CEO-specific characteristics, $GENDER_{t=0}$ (indicating female CEOs) exhibits some positive predictive power (at the 10% level) in predicting the change in cash and bonus compensation, albeit not consistently across all models.

A number of variables measure the level of CEO entrenchment. First, the variable $INTERNAL_{t=0}$ is positive in predicting the change in total compensation over the (-1,+2) period, and is significant at the 10% level in Models (2) and (4) reported in Table 5. This is consistent with the expectation that internally appointed CEOs tend to experience more positive changes in compensation, holding all else constant. Internally appointed CEOs are more likely to be entrenched, as they possess more established relationships with the directors and other executive officers. Consequently, the higher level of entrenchment can result in the CEOs facing lesser disciplining in the form of reduced compensation. Second, the duration of the CEO‟s service ($TENURE_{t=0}$) is positive and significant at the 1% level, in predicting the change in CEO cash and bonus compensation, indicating that longer-serving CEOs, who are likely to be more entrenched within the companies, are more likely to experience positive changes in the cash component of executive remuneration. Finally, the level of CEO stock ownership is significant and positively associated with the change in compensation. In predicting the change in cash and bonus compensation, the dynamic measure $\Delta EXECOWN_{t(-2,0)}$, which captures the *change* in CEO ownership over the preceding two-year period (-2, 0), is positive and significant at the 5% level, as reported in Models (1)-(4) in Table 3 and Table 4. Higher stock ownership constitutes an indicator of greater executive entrenchment. The empirical results indicate that CEOs who are more entrenched are

more likely to have the power to prevent reductions in compensation following lawsuit filings.

Overall, the empirical results indicate that, after controlling for firm-level and CEO-specific characteristics, there exists a significant and negative association between litigation filings against a company, and the subsequent change in CEO cash and bonus compensation. This provides support for hypothesis H(1), that CEOs tend to receive economic penalties for their companies‟ encounter with lawsuits, by a decrease in the cash component of their compensation.

4.2.2 Breakdown by Lawsuit Categories

The predictive powers of different types of lawsuits over the change in CEO compensation are investigated in the re-estimation of the OLS regressions, where five category-specific litigation variables are employed (as defined in Appendix 1 (Variable Definitions) and discussed in Chapter 3). The results from the regressions predicting the change in cash, bonus, and total compensation are reported in Tables 6, 7, and 8, respectively.

$$\begin{aligned}\Delta COMP_{t(0,+2),t(-1,+2)} &= \alpha + \beta_1 ENV_{t=0} + \beta_2 SEC_{t=0} + \beta_3 ANT_{t=0} + \beta_4 IP_{t=0} + \beta_5 CON_{t=0} \\ &+ \beta_6 \Delta LogTA_{t(-1,+2)} + \beta_7 \Delta ROA_{t(-1,+2)} + \beta_8 \%OUTSIDE_{t-1} + \beta_9 \%COMPSIZE_{t-1} \\ &+ \beta_{10} \%COMPIND_{t-1} + \beta_{11} CEOAGE_{t=0} + \beta_{12} GENDER_{t=0} + \beta_{13} INTERNAL_{t=0} + \\ &\beta_{14} EXECOWN_{t=0} + \beta_{15} \Delta EXECOWN_{t(-2,0)} + \beta_{16} TENURE_{t=0} + \varepsilon\end{aligned} \quad (11)$$

[Insert Table 6]

Amongst the five categories of lawsuits reported in Table 6, contractual litigation and IP lawsuits appear the most significant categories in explaining the change in CEO cash compensation. The filing of contractual lawsuits $CON_{t=0}$, when measured as a dummy variable, is negative and significant (at the 5% level) in predicting the change in cash compensation over both the (0,+2) and (-1,+2) periods, with estimated coefficients of -181.708 and -219.465, respectively. These results indicate that if the company has experienced contractual litigation in year 0, on average the CEO would face a decrease in cash compensation of $181,708 over the (0,+2) period, and a decrease of $219,465 over the (-1,+2) period, assuming all else remains constant. In Models (3) and (4), the estimated coefficient of the continuous variable $CON_{t=0}$ remains negative and significant at the 1% level (-54.326 and -55.147 in predicting $\Delta COMP_{t(0,+2)}$ and $\Delta COMP_{t(-1,+2)}$, respectively). They indicate that for every additional contractual lawsuit filed during a year, *ceteris paribus*, the CEO is expected to experience an average decrease of -$54,326 and -$55,147, respectively, in cash compensation over the (0,+2) and (-1,+2) periods. Subsequently, Equation (11) is re-run over a restricted dataset comprising lawsuit firm-years only. The key results (reported in Models (5) and (6)) remain consistent with those from Models (3) and (4).

Intellectual property litigation is also significant in predicting a decrease in cash compensation. The negative estimated coefficient of the dummy variable $IP_{t=0}$ (-164.153) is significant at the 10% level, in estimating the change in cash compensation during the (0,+2) period. This indicates that the filing of IP lawsuits tends to be followed by an average decrease of $164,153 in CEO cash compensation over the subsequent two-year period. The estimated coefficient remains negative (-161.448) and significant at the 10% level in predicting the change in cash compensation over the (-

1,+2) period. The results are only significant when $IP_{t=0}$ is measured as a dummy variable, rather than a continuous variable.

As reported in Table 7, when the dependent variables $\Delta COMP_{t(0,+2),t(-1,+2)}$ are measured as the change in bonus compensation, the regression results are consistent with those from the regressions predicting the change in cash compensation. Contractual lawsuits and IP lawsuits remain the two most significant categories in predicting a subsequent decrease in CEO bonus compensation. The results relating to the control variables from both the cash and bonus regressions remain largely consistent with those previously discussed in relation to Equation (10) in Section 4.2.1.

CEO cash and bonus compensation is designed to capture the short-term performance of the company. Despite the fact that contractual lawsuit filings do not generally give rise to reputational damage to the defendant companies (Bhagat, Bizjak & Coles, 1998), they can nonetheless have immediate adverse impacts on the firm‟s financial performance, due to the significance of a company‟s contractual relationships to its business operations, and the high costs when such relationships are strained (Phillips & Miller, 1996). Intellectual property lawsuits are documented by prior literature to lead to negative capital market reactions (Bhagat, Bizjak & Coles, 1998; Raghu et al., 2008). They give rise to substantial direct and indirect costs that may adversely impact the company‟s financial performance (Raghu et al., 2008). Direct costs are incurred in the form of legal expenses, and indirect costs can arise due to potential disturbance to the defendant company‟s current use of the intellectual property allegedly infringed (for instance, as a result of an interim injunction pending the outcome of the lawsuit). For these reasons, both contractual and IP lawsuits can adversely affect a company‟s

financial performance during the period of the litigation. Consequently, the CEOs of the defendant corporations, consistent with expectation, incur a corresponding reduction in the cash component of their compensation, following the filing of contractual and IP lawsuits.

On the other hand, contrary to expectation, the filing of antitrust lawsuits appears to have a positive association with the change in CEO compensation. As reported in Table 6 and Table 7, when $ANT_{t=0}$ is expressed as a continuous variable measuring the number of antitrust lawsuits filed, its estimated coefficient is positive and significant at the 5% level, in predicting the change in both cash and bonus compensation over the (0,+2) and (-1,+2) periods.[4] Similarly, as reported in Table 8, the dummy variable $ANT_{t=0}$ has a positive estimated coefficient in predicting the change in total compensation over the (-1,+2) period, significant at the 5% level.

According to hypothesis H(2), antitrust lawsuits are least expected to have any negative impact on CEO compensation, due to their routine commercial nature, their lack of reputational impact, and the absence of any adverse market reactions to their filings (Bhagat, Bizjak & Coles, 1998). However, it is contrary to expectation for CEOs to experience positive changes in compensation, following antitrust litigation filed against their companies.

[Insert Table 7]

[4] However, when the regression employing continuous litigation variables is re-run over the restricted sample of lawsuit firm-years only, the estimated coefficient of $ANT_{t=0}$ is no longer statistically significant in predicting the change in bonus compensation over the (-1,+2) period (Table 7) and the change in cash compensation (Table 6).

As reported in Table 8, securities lawsuits alone appear to be significantly associated with a decrease in CEO total compensation surrounding the lawsuit filings. The number of securities lawsuits filed, as measured by the continuous variable $SEC_{t=0}$, is negative and significant (at the 10% level) in predicting the change in total compensation during the (-1,+2) period (in Models (4) and (6) of Table 8). These results provide statistically significant albeit weak evidence consistent with prior research, which documents that following securities allegations, CEOs (Burks, 2010) and CFOs (Collins, Reitenga & Sanchez, 2008) tend to experience decreases in their compensation. Distinguishable from cash compensation (bonus or salary), total compensation primarily consists of long-term stock-based remuneration, which is not altered from year to year. Securities lawsuits commonly have significant negative impact on the companies‟ market valuation (Feroz, Park & Pastena, 1991; Griffin, Grundfest & Perino, 2004; Koku, 2006; Gande & Lewis, 2009), which in turn affects the value of the stock-based remuneration. For this reason, securities litigation is most significantly associated with a decrease in CEO total compensation.

Further, it is observed that the association between a firm‟s encounter with securities lawsuits and a decrease in CEO total compensation is significant, only when the number of securities lawsuits filed in the year are taken into account (by the use of the continuous variable, rather than a dummy variable). These results give rise to the interesting observation that the number of securities lawsuits filed in a year plays a significant part in predicting the ensuing change in CEO total compensation. As discussed previously in Chapter 3, the role of multiple lawsuit filings is explored in a prior study conducted by Koku and Qureshi (2006). By examining the effects of lawsuit settlements upon the defendant companies‟ capital market performance, the authors

document that when a defendant company has been the subject of more than one lawsuit in a confined time period, the firm‟s reputation would be too severely damaged to be remedied by the termination of the lawsuits. The results here appear to be consistent with these prior findings. Whilst a single securities lawsuit may be insufficient to lead to a decrease in CEO remuneration, it is only when the impact of multiple lawsuits is taken into account, that this association becomes significant.

[Insert Table 8]

The empirical results show that environmental lawsuits are not followed by any reduction in CEO compensation. Unlike securities allegations, which are documented to give rise to compensation penalties for the sued companies‟ managers (Collins, Reitenga & Sanchez, 2008; Burks, 2010), prior studies provide mixed evidence pertaining to the environmental allegations. Some show a significant association between environmental performance and executive compensation (Stanwick & Stanwick, 2001; Cordeiro & Sarkis, 2008; Berrone & Gomez-Mejia, 2009). Others, however, find evidence to the contrary (Campbell et al., 2007), by documenting higher remuneration for CEOs of companies with poorer environmental performance. The authors explain that poorer environmental performers offer higher remuneration to their executives, to compensate them for the increased risk of being personally prosecuted for the companies‟ poor environmental performance. The findings from this Chapter appear to support this view. Since companies take into consideration the inherent environmental exposure associated with their operation (Campbell et al., 2007), CEOs do not appear to be penalized for any alleged environmental violations.

Overall, the results indicate that CEOs of sued companies are penalized, by way of reduced cash remuneration, only following the filings of lawsuits which directly affect the financial performance of the companies, such as contractual and IP lawsuits. Additionally, CEOs experience a decrease in total compensation following securities litigation,[5] however, the results are significant only at the 10% level and hence should be interpreted with caution.

4.3 Robustness Check: Heckman Selection Model

It is expected that factors such as industries and organizational structures, which result in different levels of litigation risks faced by public companies, are preempted in determining the changes in managerial compensation within the sued companies. For instance, managers whose companies operate in industries exposed to higher risk of litigation might have terms built into their remuneration contracts, to compensate for the fact that the operations within their companies are more likely to be disrupted by litigation (Campbell et al., 2007). Therefore, in order to control for any potential selection bias that may arise from the different levels of litigation risks faced by the sample firms, I utilize the two-stage Heckman (1979) Selection Model, as specified below in Equation (12).

[5] This is consistent with prior literature (Collins, Reitenga & Sanchez, 2008; Burks, 2010), which documents decreased CEO compensation following securities litigation.

Stage 1 :

$$LAWD_{t=0} = \alpha + \beta_1 SEG_{t-1} + \beta_2 RISKINDQ_{t-1} + \beta_3 \Delta LogTA_{t(-1,+2)} + \beta_4 \Delta ROA_{t(-1,+2)} + \beta_5 \%OUTSIDE_{t-1} + \beta_6 \%COMPSIZE_{t-1} + \beta_7 \%COMPIND_{t-1} + \beta_8 CEOAGE_{t=0} + \beta_9 GENDER_{t=0} + \beta_{10} INTERNAL_{t=0} + \beta_{11} EXECOWN_{t=0} + \beta_{12} \Delta EXECOWN_{t(-2,0)} + \beta_{13} TENURE_{t=0} + \varepsilon \quad (12)$$

Stage 2 :

$$\Delta COMP_{t(0,+2),t(-1,+2)} = \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 \Delta LogTA_{t(-1,+2)} + \beta_3 \Delta ROA_{t(-1,+2)} + \beta_4 \%OUTSIDE_{t-1} + \beta_5 \%COMPSIZE_{t-1} + \beta_6 \%COMPIND_{t-1} + \beta_7 CEOAGE_{t=0} + \beta_8 GENDER_{t=0} + \beta_9 INTERNAL_{t=0} + \beta_{10} EXECOWN_{t=0} + \beta_{11} \Delta EXECOWN_{t(-2,0)} + \beta_{12} TENURE_{t=0} + \beta_{13} \text{lambda} + \varepsilon$$

I estimate in the first stage a binary probit model predicting the likelihood for a firm to encounter litigation during a given year, employing organizational complexity (SEG_{t-1}) and litigious industry ($RISKINDQ_{t-1}$) as predictors of litigation risk.[6] As discussed in Chapter 4, both factors are significant predictors of litigation risks faced by different companies. On the other hand, no evidence from existing literature indicates that CEOs of complex companies, or CEOs in more litigious industries, also experience greater changes in executive compensation, thus making organizational complexity (Cohen & Lou, 2012) and litigious industry (Field, Lowry & Shu, 2005; Dai, Jin & Zhang, 2012) appropriate IVs. In the second-stage OLS model, I estimate the change in CEO compensation, by including the inverse Mills ratio (lambda) calculated from the first-stage regression, to account for the predicted likelihood of the litigation. The test variable $LAWSUIT_{t=0}$ in the second-stage regression is expressed as a continuous variable, measuring the number of lawsuits filed in year 0.

[6] The two Instrumental Variables are previously defined in Chapter 4. Detailed definitions are also provided in Appendix 1 (Variable Definition).

The results from the Heckman Selection Model (Equation (12)) are reported in Table 9. CEO remuneration is represented, in turn, by cash, bonus, and total compensation. As reported in Table 9, in all the regressions predicting the three alternative measures of $\Delta COMP_{t(0,+2),t(-1,+2)}$, the inverse Mills ratio is statistically insignificant, indicating that there is no evidence of any unobserved factors that could have biased the results in favor of the hypothesized outcomes in the original OLS models. Therefore, the original results from Section 4.2.1 are robust.

[Insert Table 9]

After taking into account the potential selection bias arising from the likelihood of litigation faced by different companies, the results from the two-stage Heckman Selection Model confirm those from the original OLS regressions in support of hypothesis H(1) (as presented in Section 4.2.1). The estimated coefficients of the inverse Mills ratio included in the second-stage regressions are statistically insignificant, providing no evidence to suggest the existence of any selection bias in the prediction of the change in CEO compensation. The results indicate a significant and robust relation between a company‟s encounter with litigation, and the subsequent decrease in the CEO‟s cash and bonus compensation.

4.4 Litigation Magnitudes and CEO Compensation

This Section investigates the role of the economic magnitude of lawsuits, by examining the size of the monetary demands for compensation sought by the plaintiffs, and its association with subsequent changes in CEO compensation. The amount of the pecuniary demand for compensation, which is claimed by the plaintiff in a corporate lawsuit, constitutes a direct proxy for the scale of the litigation, and the likely economic impact it exerts upon the sued company. A greater magnitude of claimed compensation not only reflects more adversely upon the managerial decision-making giving rise to the legal claims. It also imposes an increased financial burden in the event of losing the case. Given these consequences, the CEOs responsible are expected to experience a higher likelihood of receiving a reduction in their remuneration.

In this section, OLS regressions are run over a sub-sample of the dataset, comprising only firm-years where the companies have experienced one or more lawsuits during the year. In these regressions, I re-run Equation (10) as previously specified in Section 4.2.1, substituting the key independent variable (previously $LAWSUIT_{t=0}$) with a new test variable, $DEMAND_{ALL-t=0}$, which captures the magnitude of the plaintiffs‟ demands for compensation in the litigation (as discussed in detail in Chapter 3). In addition, the OLS regression is further re-estimated, by employing in turn a series of lawsuit category-specific test variables, $DEMAND_{(ENV/SEC/ANT/IP/CON)-t=0}$, each representing the sum of monetary demands for compensation filed under an individual category of lawsuits (the variable definitions are provided in Appendix 1 (Variable Definitions)).

[Insert Table 10-Table 12]

Table 10 through Table 12 report the results from the regressions, in which compensation is represented by cash, bonus, and total compensation, respectively. The economic magnitude of the lawsuits, whether measured in relation to all lawsuits filed ($DEMAND_{ALL-t=0}$) or in relation to individual lawsuit categories ($DEMAND_{(ENV/SEC/ANT/IP/CON)-t=0}$), is statistically insignificant in predicting the change in all three levels of CEO compensation (cash, bonus, and total compensation).[7] In light of the evidence from the previous analysis in Section 4.2.1, which demonstrates that the CEOs of sued companies tend to incur reductions in their compensation following litigation filings, the results in this Section indicate that the extent and likelihood of such reductions do not appear to be determined by the economic magnitude of the lawsuits. In other words, the decrease in CEO compensation occurs regardless of the actual monetary claims made by the plaintiffs in the litigation.

[7] As a robustness measure, the sample is further stratified by industry (according to the two-digit SIC code), to allow the regression to be re-run within each industry-specific sub-sample. In all regressions utilizing industry-specific sub-samples, the $DEMAND_{t=0}$ variable remains statistically insignificant (at the 5% level) in predicting the change in CEO compensation, with the exception of the paper & allied products industry (SIC=26), where $DEMAND_{ALL-t=0}$ exhibits a negative and significant (at the 5% level) predictive power over the change in CEO cash and total compensation (over both the (0,+2) and (-1,+2) periods).

4.5 Litigation Merits and CEO Compensation

In addition to their economic magnitudes, the merits of corporate litigation filed against public companies also vary substantially across different lawsuit filings, and are reflected in the outcomes of the litigation. This section seeks to investigate whether the labor market penalties incurred by CEOs of the sued companies vary in accordance with the merits of the litigation, as proxied by the rate of settlement amongst the lawsuits filed.

The settlement of a lawsuit implies some degree of acquiescence by the defendant corporation with respect to the plaintiff"s claims. In the study by Eisenberg and Lanvers (2009), two alternative methods of calculating the settlement rates were explored. The first was designed to proxy the level of plaintiffs" success in the litigation. The second was designed to capture the proportion of lawsuits terminated by alternative resolutions other than adjudication. This Chapter adopts the definition of „settlement" which serves as a proxy for plaintiffs" success. A higher proportion of lawsuits subsequently settled by the defendant companies is expected to reflect more adversely upon the managers of these companies, and hence is more likely to be followed by reductions in CEO compensation.

In the following regressions, the role of the settlement rate amongst the filed lawsuits is examined. The test variable $SETTLE_{ALL-t=0}$ denotes the proportion of lawsuits filed against a defendant company in year 0 which eventually end in settlement. It is calculated, in relation to each firm-year, by dividing the number of settled lawsuits, with the total number of lawsuits filed that year, of which the outcome is known.

Following Eisenberg and Lanvers (2009), I adopt the measure of settlement rate as a proxy for the plaintiffs‟ success in the litigation. A filed lawsuit is deemed to have settled, if it is terminated, as reported in the court docket, by one of the following dispositions: Dismissed – Settled, Dismissed – Voluntarily, Dismissed – Other, Judgment – Judgment on Consent, or Settled. Following Eisenberg and Lanvers (2009), in computing the settlement rate variable, $SETTLE_{ALL-t=0}$, I exclude from the denominator those lawsuits which „have no definitive outcome and may be settled or otherwise resolved at a future time or in a different forum‟ (Eisenberg & Lanvers, 2009, p. 129), including cases resolved via arbitration, remanded or transferred to another jurisdiction, consolidated with other cases, and other infrequent non-terminating dispositions.

In addition to $SETTLE_{ALL-t=0}$, which investigates the aggregated settlement rate across the five categories of lawsuits examined, I further investigate the settlement rate of litigation within each individual category of lawsuits ($SETTLE_{(ENV/SEC/ANT/IP/CON)-t=0}$), by stratifying the dataset and calculating the settlement variable within each subsample of environmental, securities, antitrust, intellectual property, and contractual lawsuits. These individual settlement rates are employed in turn in the re-estimation of the regression.[8]

[Insert Table 13-Table 14]

[8] Detailed definitions of the settlement variables are provided in Appendix 1 (Variable Definitions).

As reported in Table 13, the settlement rate across all lawsuits ($SETTLE_{ALL-t=0}$) is negatively but insignificantly associated with the change in CEO cash compensation. When disaggregated into individual lawsuit categories, the settlement rate of intellectual property lawsuits alone ($SETTLE_{IP-t=0}$) is negative and significant at the 10% level in predicting the change in cash compensation over the (0,+2) period. As reported in Table 14, the regressions predicting the change in CEO bonus compensation produce similar and consistent results.

Intellectual property litigation imposes significant and adverse economic impacts upon the sued companies, as the allegations of patent or trademark infringements may constitute a potent threat to the companies‟ operations and a drain on the companies‟ resources (Raghu et al., 2008). Claims of IP infringements which are meritorious, as implied by a high rate of settlement, are thus expected to result in negative economic consequences for the sued companies, which are in turn reflected in the decrease in CEO cash and bonus compensation. However, the $SETTLE_{IP-t=0}$ is only statistically significant at the 10% level, thus preventing strong inferences from being drawn on the basis of these results.

[Insert Table 15]

In the regressions estimating the change in CEO total compensation, the estimated coefficient of $SETTLE_{ALL-t=0}$ is negative and statistically significant at the 10% level in predicting $\Delta COMP_{t(0,+2)}$, as reported in Model (1) of Table 15. This observation provides support for the expectation that a higher settlement rate, indicating greater merits in the plaintiffs‟ claims, would be associated with greater decreases in

compensation. However, the results are significant only at the 10% level, and therefore should be interpreted with caution.[9]

Overall, the results provide weak statistical evidence in support of the *a priori* expectation, that more meritorious lawsuit filings are followed by greater reductions in CEO compensation. The settlement rate of filed litigation, as a proxy for the plaintiffs‟ success in their claims, is significant in predicting a decrease in total compensation during the (0,+2) period following the litigation filings. The breakdown of the settlement rates across different categories of lawsuits indicate that a high settlement rate in IP lawsuits is significant in predicting the change in the short-term measures of CEO compensation (cash and bonus payments). However, it should be noted that the results are significant only at the 10% level. These results provide statistically significant albeit weak evidence that the settlement rate amongst filed litigation, which constitutes a proxy for the merits of the claims, is relevant to determining the penalties received by CEOs in the forms of reductions in their compensation.

[9] In Models (3) and (4), the estimated coefficient of $SETTLE_{ENV-t=0}$ appears to be negative and significant at the 10% and 5% levels, respectively, in predicting the change in total compensation. However, the F-statistic of the overall regression model is not statistically significant in Model (4), as evidenced by the p-value of 12.3%. Therefore, the estimated coefficients and statistical significance of the variables are not relied upon in the discussion.

5 Conclusion

When US public companies encounter corporate litigation, their CEOs are expected to experience economic penalties through reductions in their executive compensation. Results from the empirical analysis indicate that, following corporate lawsuit filings, the CEOs of the sued companies, on average, experience a reduction in the cash and bonus components of their compensation. By employing the two-stage Heckman Selection Model to control for the different litigation risks faced by various companies, the robustness checks generate results to confirm those from the original regressions. This is evidenced by the continued statistical significance of the key independent variable, with similar predicted values compared to those from the original OLS regressions, and the lack of statistical significance of the inverse Mills ratio, providing no evidence to suggest that any selection bias exists.

A detailed breakdown of different types of lawsuits shows that a decrease in CEO cash compensation is most significantly associated with contractual and intellectual property lawsuits, whilst a reduction in total compensation is most significantly associated with securities lawsuits. Apart from confirming the findings of prior literature, which document economic penalties received by CEOs following securities litigation (Collins, Reitenga & Sanchez, 2008; Burks, 2010), these results provide insights into the way in which public corporations differentiate between lawsuits that lead to immediate economic losses by the firm, and those that do not.

Contractual and intellectual property lawsuits impose immediate adverse economic impacts on the sued companies, by disturbing their existing contractual relationships or

uses of intellectual property. Following these lawsuits, the CEOs of sued companies are penalized through a reduction in short-term cash and bonus compensation, which is determined on a yearly basis. This demonstrates that the operation of the internal mechanisms whereby CEO compensation is determined can effectively capture the adverse economic impacts associated with litigation filings. However, whilst CEOs are penalized following lawsuits that impose imminent financial consequences (IP and contractual lawsuits), the filing of environmental lawsuits appears to be largely disregarded, triggering no internal penalties for the CEO by reduction in pay.

The roles of the economic magnitudes of the litigation, and the merits of the litigation filings, are further examined. Contrary to expectation, the economic magnitude of the litigation is shown to be largely irrelevant in determining the subsequent reductions in executive compensation. This could be due to the fact that it is the very nature of the allegations made in the litigation filings, rather than the monetary value of the claims, which determines the compensation penalties received by the CEO following litigation filings against their companies.

The merits of the litigation filings, as proxied by the settlement rates, are shown to be significant in determining the economic penalties received by the CEO. A higher settlement rate amongst filed lawsuits is statistically significantly associated with a negative change in total compensation during the subsequent two-year period. Meanwhile, a decrease in cash and bonus compensation is associated with the settlement rate of litigation only in the context of intellectual property lawsuits. These results indicate that, in imposing economic penalties on CEOs, the sued companies‟

boards take into consideration the legal merits of the allegations made against their corporations.

Overall, these results provide a number of important insights into the way in which economic penalties are imposed upon CEOs for leading their companies into legal strife. First, the operation of the internal mechanisms within public companies, whereby CEO compensation is determined, can effectively impose economic penalties upon the CEOs by reductions in cash compensation, following litigation filings against their companies. Second, whilst the economic scale of the lawsuits is of little consequence in determining the extent and magnitude of the penalties, the merits of the lawsuits, as proxied by the settlement rate measuring the degree of plaintiffs‟ success, are taken into account in assessing the penalties. Third, there exists a potent contrast between the penalties which follow lawsuits which have an adverse economic impact on the sued companies (contractual, IP, and securities lawsuits), versus those lawsuits with no such direct impact on firm performance (such as environmental lawsuits). CEOs are penalized only following the former, and not the latter.

In particular, the filings of environmental lawsuits are not significantly associated with any immediate economic penalties imposed on the CEOs, indicating that environmental performance is not taken into consideration, when executive compensation is determined through the internal mechanisms within public companies. Arguably, the absence of any link between environmental violations, and compensation penalties for the CEOs, plays an important role in the shaping of the companies‟ operations and strategies in relation to environmental preservation. In light of the recent disaster of the Gulf of Mexico oil spill, this empirical evidence calls into question whether more

stringent environmental legislation is required to impose harsher legal penalties in cases of proven violations, to counteract the general lack of concern shown by the operation of internal mechanisms. Such measures may be necessary to impose sufficient penalties upon managers, who have allowed their companies to financially profit from breaching environmental regulations, with the ultimate aim of influencing the behavior of future managers.

6 Tables

Table 1 Descriptive Statistics (Mean and Median) for Lawsuit vs. Control Samples

	Lawsuit* (Mean)	Control** (Mean)	Lawsuit (Median)	Control (Median)	Difference in Mean[1]	(P-value)	Difference in Median[2]	(P-value)
Δlog(TA)	0.253	0.371	0.208	0.289	-0.118***	(0.000)	-0.081***	(0.000)
ΔROA	-0.001	0.002	0.000	-0.001	-0.003	(0.429)	0.001*	(0.061)
%OUTSIDE	0.688	0.678	0.714	0.700	0.011***	(0.004)	0.014***	(0.000)
%COMPSIZE	0.351	0.361	0.333	0.333	-0.010***	(0.002)	0.000	(0.696)
%COMPIND	0.907	0.895	1.000	1.000	0.012**	(0.016)	0.000	(1.000)
CEOAGE	55.524	55.633	56.000	56.000	-0.110	(0.454)	0.000	(0.684)
GENDER	0.017	0.023	0.000	0.000	-0.007**	(0.016)	0.000**	(0.016)
INTERNAL	0.647	0.592	1.000	1.000	0.055***	(0.000)	0.000	(1.000)
EXECOWN	1.955	2.607	0.240	0.429	-0.652***	(0.000)	-0.188***	(0.000)
EXECOWN(-2,0)	-0.062	-0.143	0.010	0.015	0.081	(0.252)	-0.005**	(0.041)
TENURE	6.588	7.335	4.000	5.000	-0.747***	(0.000)	-1.000***	(0.000)

* Those firm-years in which at least one lawsuit is filed against the company.
** Those firm-years in which no lawsuit is filed against the company.

[1] ANOVA F-test of the Difference in Mean
[2] Chi-square Test of the Difference in Median

Detailed definitions of all variables are listed in Appendix 1 (Variable Definitions).

Table 2 Univariate Analysis: Changes in CEO Compensation

	Lawsuit* (Mean)	Control** (Mean)	Lawsuit (Median)	Control (Median)	Difference in Mean[1]	(P-value)	Difference in Median[2]	(P-value)
ΔCASH(0,+2)	-113.183	-7.947	44.020	43.750	-105.235**	(0.029)	0.270	(0.910)
ΔCASH(-1,+2)	-85.921	16.932	32.212	38.039	-102.853*	(0.097)	-5.828	(0.689)
ΔBONUS(0,+2)	-199.228	-84.659	0.000	0.000	-114.568**	(0.017)	0.000**	(0.021)
ΔBONUS(-1,+2)	-217.573	-96.597	0.000	0.000	-120.976**	(0.049)	0.000	(0.266)
ΔTOTAL(0,+2)	-387.812	269.413	272.713	167.891	-657.224***	(0.003)	104.823***	(0.003)
ΔTOTAL(-1,+2)	-125.688	492.721	494.107	293.628	-618.409**	(0.022)	200.479***	(0.000)

* Those firm-years in which at least one lawsuit is filed against the company.
** Those firm-years in which no lawsuit is filed against the company.

[1] ANOVA F-test of the Difference in Mean
[2] Chi-square Test of the Difference in Median

Detailed definitions of all variables are listed in Appendix 1 (Variable Definitions).

Table 3 Change in CEO Cash (Salary & Bonus) Compensation (Overall Litigation) – Equation (10)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependant Variable	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-666.053	-1196.610	-672.505	-1235.951	-557.413	-1654.019
	(0.262)	(0.145)	(0.263)	(0.140)	(0.469)	(0.195)
LAWSUIT (dummy)	-120.057*	-166.025**				
	(0.095)	(0.041)				
LAWSUIT (continuous)			-26.078**	-23.125**	-25.858**	-22.179**
			(0.012)	(0.024)	(0.015)	(0.035)
Δlog(TA)	327.991***	661.055***	316.257***	653.191***	206.518	598.830***
	(0.003)	(0.000)	(0.005)	(0.000)	(0.244)	(0.006)
ΔROA	916.074**	1418.073***	897.735**	1405.994***	605.545	1030.860*
	(0.021)	(0.006)	(0.024)	(0.006)	(0.154)	(0.077)
%OUTSIDE	-460.410	-736.175**	-422.529	-707.426**	-792.853*	-1088.086**
	(0.103)	(0.013)	(0.135)	(0.017)	(0.084)	(0.025)
%COMPSIZE	494.876	649.318	428.997	597.979	709.576	931.743
	(0.105)	(0.106)	(0.156)	(0.139)	(0.164)	(0.230)
%COMPIND	-86.973	403.714	-84.146	405.626	346.397	1455.116**
	(0.704)	(0.252)	(0.712)	(0.249)	(0.298)	(0.047)
CEOAGE	10.821	11.989	10.671	11.869	2.140	1.864
	(0.318)	(0.359)	(0.324)	(0.364)	(0.842)	(0.877)
GENDER	160.737*	213.003*	149.782	214.928*	-19.322	65.057
	(0.092)	(0.053)	(0.120)	(0.058)	(0.917)	(0.762)
INTERNAL	-43.356	20.773	-33.675	26.956	61.850	158.369
	(0.622)	(0.833)	(0.703)	(0.783)	(0.676)	(0.269)
EXECOWN	-5.185	-3.080	-5.275	-3.025	8.532	11.637
	(0.357)	(0.641)	(0.346)	(0.645)	(0.258)	(0.222)
ΔEXECOWN(-2,0)	31.464***	25.626**	31.652***	25.867**	20.278	13.344
	(0.003)	(0.025)	(0.003)	(0.025)	(0.271)	(0.492)
TENURE	185.335***	221.524***	182.929***	223.752***	245.930**	269.214*
	(0.009)	(0.009)	(0.009)	(0.009)	(0.048)	(0.058)
PERIOD FIXED EFFECT	YES	YES	YES	YES	YES	YES
n	3394	3391	3394	3391	1648	1647
Adj. R2	0.070	0.067	0.073	0.068	0.111	0.127
F-Stat	14.53	13.82	15.10	14.04	11.84	13.65
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — ΔCASH(0,+2) and ΔCASH(-1,+2) denote the change in the cash component of CEO compensation (comprising salary and bonus) over the (0,+2) period and (-1,+2) period, respectively. LAWSUIT (dummy) equals the value of 1 if one or more lawsuit(s) is/are filed against the company during year 0. LAWSUIT (continuous) denotes the number of lawsuits filed against the company during year 0. Δlog(TA) equals the change in the natural log of total assets from year -1 to year +2 reported in Compustat. ΔROA equals the change in the returns on total assets reported from year -1 to year +2 in Compustat. %OUTSIDE denotes the proportion of independent directors on the board in year -1. %COMPSIZE measures the relative size of the compensation committee calculated as a percentage of the size of the overall board in year -1. %COMPIND equals the proportion of independent directors on the compensation committee in year -1. CEOAGE equals the age of the CEO reported in ExecuComp. GENDER equals 1 if the CEO is female and 0 otherwise. INTERNAL equals 1 if the CEO is internally appointed (having been employed at the company for 12 months or more prior to his or her appointment). EXECOWN denotes the stock ownership of the company‟s common shares by the CEO. ΔEXECOWN(-2,0) measures the change in CEO stock ownership over the two-year period from year -2 to year 0. TENURE equals the number of years over which the CEO has been serving in his/her current capacity.

The sample consists of the Standard & Poor‟s 1,500 firms, divided into the litigation and control samples on the basis of whether any lawsuit is filed against the firm in year 0. The numbers in parentheses below the coefficient estimates are p-values.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 4 Change in CEO Bonus (Only) Compensation (Overall Litigation) – Equation (10)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	ΔBONUS(0,+2)	ΔBONUS(-1,+2)	ΔBONUS(0,+2)	ΔBONUS(-1,+2)	ΔBONUS(0,+2)	ΔBONUS(-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-741.376	-1283.962	-756.219	-1336.491	-610.435	-1762.212
	(0.210)	(0.116)	(0.206)	(0.109)	(0.426)	(0.165)
LAWSUIT (dummy)	-130.319*	-184.928**				
	(0.068)	(0.022)				
LAWSUIT (continuous)			-24.920**	-22.000**	-24.128**	-20.209**
			(0.015)	(0.029)	(0.020)	(0.049)
Δlog(TA)	262.004**	571.116***	251.442**	564.794***	146.498	517.959**
	(0.018)	(0.000)	(0.024)	(0.000)	(0.406)	(0.017)
ΔROA	847.325**	1347.701***	830.737**	1338.134***	561.180	967.092*
	(0.026)	(0.007)	(0.029)	(0.008)	(0.168)	(0.084)
%OUTSIDE	-456.390	-737.748**	-421.538	-712.668**	-811.171*	-1103.513**
	(0.104)	(0.012)	(0.134)	(0.015)	(0.077)	(0.022)
%COMPSIZE	510.007*	660.670*	448.920	615.055	719.810	941.287
	(0.093)	(0.098)	(0.135)	(0.126)	(0.156)	(0.223)
%COMPIND	-85.253	409.774	-82.712	411.299	353.199	1465.950**
	(0.708)	(0.243)	(0.716)	(0.241)	(0.287)	(0.045)
CEOAGE	11.325	12.288	11.184	12.177	2.392	2.403
	(0.295)	(0.346)	(0.301)	(0.351)	(0.823)	(0.841)
GENDER	162.738*	213.633*	155.324	220.756*	-1.767	85.223
	(0.087)	(0.051)	(0.105)	(0.051)	(0.992)	(0.688)
INTERNAL	-55.195	-0.610	-46.597	4.168	47.661	140.161
	(0.529)	(0.995)	(0.597)	(0.966)	(0.746)	(0.325)
EXECOWN	-4.824	-2.304	-4.883	-2.199	8.706	12.404
	(0.386)	(0.724)	(0.376)	(0.734)	(0.236)	(0.183)
ΔEXECOWN(-2,0)	30.069***	24.132**	30.273***	24.400**	18.743	11.023
	(0.004)	(0.034)	(0.004)	(0.034)	(0.296)	(0.559)
TENURE	183.420***	219.430***	182.335***	223.612***	234.095*	252.860*
	(0.009)	(0.009)	(0.009)	(0.009)	(0.058)	(0.073)
PERIOD FIXED EFFECT	YES	YES	YES	YES	YES	YES
n	3394	3391	3394	3391	1648	1647
Adj. R2	0.069	0.065	0.072	0.066	0.110	0.126
F-Stat	14.30	13.40	14.79	13.54	11.71	13.51
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — ΔBONUS(0,+2) and ΔBONUS(-1,+2) denote the change in CEO bonus compensation over the (0,+2) period and (-1,+2) period, respectively.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test

Table 5 Change in CEO Total Compensation (Overall Litigation) – Equation (10)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	ΔTOTAL(0,+2)	ΔTOTAL(-1,+2)	ΔTOTAL(0,+2)	ΔTOTAL(-1,+2)	ΔTOTAL(0,+2)	ΔTOTAL(-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-2875.604	-5075.546	-2860.497	-5080.081	-4368.592	-10168.520
	(0.122)	(0.155)	(0.131)	(0.162)	(0.192)	(0.145)
LAWSUIT (dummy)	-60.267	-369.164				
	(0.795)	(0.345)				
LAWSUIT (continuous)			-21.713	-84.205	-23.844	-78.163
			(0.610)	(0.160)	(0.600)	(0.180)
Δlog(TA)	398.790	2137.788***	387.728	2097.650***	482.143	3414.426***
	(0.294)	(0.000)	(0.310)	(0.000)	(0.437)	(0.001)
ΔROA	3444.917***	5996.107***	3425.751***	5935.653***	2994.927*	6812.373*
	(0.006)	(0.009)	(0.006)	(0.009)	(0.077)	(0.063)
%OUTSIDE	258.112	2401.284	294.838	2522.283	-348.256	5072.522
	(0.783)	(0.227)	(0.752)	(0.212)	(0.817)	(0.193)
%COMPSIZE	622.011	1465.518	561.494	1248.895	1167.760	4998.001
	(0.544)	(0.534)	(0.586)	(0.585)	(0.543)	(0.307)
%COMPIND	601.293	-1385.925	604.591	-1374.670	2233.553	-2800.005
	(0.431)	(0.340)	(0.429)	(0.342)	(0.180)	(0.393)
CEOAGE	35.860	63.797*	35.738	63.252*	39.713	103.849
	(0.121)	(0.083)	(0.122)	(0.084)	(0.224)	(0.117)
GENDER	-37.649	-89.731	-54.632	-129.742	-963.977	-369.467
	(0.946)	(0.922)	(0.921)	(0.887)	(0.532)	(0.897)
INTERNAL	198.430	1162.517*	208.355	1194.306*	306.950	2158.217
	(0.476)	(0.084)	(0.455)	(0.080)	(0.545)	(0.129)
EXECOWN	26.896*	5.778	26.758*	5.529	79.244**	65.394
	(0.079)	(0.863)	(0.080)	(0.869)	(0.037)	(0.373)
ΔEXECOWN(-2,0)	-41.532	-109.464	-41.452	-109.018	-93.728	-196.697
	(0.380)	(0.135)	(0.382)	(0.137)	(0.292)	(0.222)
TENURE	-94.122	-132.806	-99.414	-142.328	-195.069	-264.041
	(0.663)	(0.645)	(0.651)	(0.624)	(0.622)	(0.643)
PERIOD FIXED EFFECT	YES	YES	YES	YES	YES	YES
n	3371	3363	3371	3363	1637	1632
Adj. R2	0.014	0.015	0.014	0.016	0.018	0.020
F-Stat	3.44	3.63	3.49	3.83	2.54	2.76
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — ΔTOTAL (0,+2) and ΔTOTAL(-1,+2) denote the change in CEO total compensation, which is the sum of salary, bonus, the total value of restricted stock granted, stock options granted using the Black-Scholes model, long-term incentive payouts, and all other payments, over the (0,+2) period and (-1,+2) period, respectively.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test

Table 6 Change in CEO Cash (Salary & Bonus) Compensation

(Breakdown by Lawsuit Categories) – Equation (11)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-587.850	-1148.218	-661.079	-1253.297	-524.328	-1686.090
	(0.313)	(0.157)	(0.255)	(0.130)	(0.458)	(0.179)
ENV (dummy)	146.658	88.973				
	(0.639)	(0.783)				
ENV (continuous)			182.831	153.837	196.179	170.830
			(0.241)	(0.249)	(0.214)	(0.196)
SEC (dummy)	-94.450	61.935				
	(0.759)	(0.814)				
SEC (continuous)			-33.321	-36.988	-39.502	-43.199
			(0.620)	(0.640)	(0.557)	(0.594)
ANT (dummy)	-23.481	65.826				
	(0.871)	(0.650)				
ANT (continuous)			12.689**	14.820**	9.657	10.620
			(0.022)	(0.046)	(0.100)	(0.130)
IP (dummy)	-164.153*	-161.448*				
	(0.061)	(0.097)				
IP (continuous)			-62.277	-25.712	-61.677	-17.469
			(0.282)	(0.435)	(0.301)	(0.601)
CON (dummy)	-181.708**	-219.465**				
	(0.017)	(0.014)				
CON (continuous)			-54.326***	-55.147***	-54.521***	-52.980***
			(0.005)	(0.008)	(0.004)	(0.008)
Δlog(TA)	324.425***	659.264***	319.156***	650.019***	216.146	594.003***
	(0.004)	(0.000)	(0.006)	(0.000)	(0.253)	(0.007)
ΔROA	911.959**	1432.701***	889.382**	1395.492***	594.076	1013.734*
	(0.020)	(0.005)	(0.024)	(0.006)	(0.160)	(0.077)
%OUTSIDE	-443.410	-728.413**	-427.894	-701.332**	-811.383*	-1084.215**
	(0.121)	(0.015)	(0.117)	(0.017)	(0.064)	(0.024)
%COMPSIZE	458.494	628.281	399.753	571.892	643.664	878.414
	(0.124)	(0.116)	(0.178)	(0.157)	(0.191)	(0.260)
%COMPIND	-88.066	398.491	-86.527	396.337	339.257	1433.493*
	(0.699)	(0.257)	(0.700)	(0.264)	(0.294)	(0.053)
CEOAGE	10.470	11.856	11.456	12.967	3.634	3.905
	(0.333)	(0.364)	(0.287)	(0.321)	(0.724)	(0.740)
GENDER	144.632	202.105*	145.926	204.811*	-5.564	50.966
	(0.128)	(0.068)	(0.130)	(0.072)	(0.977)	(0.817)
INTERNAL	-42.238	22.665	-28.794	38.277	67.267	177.813
	(0.630)	(0.818)	(0.731)	(0.693)	(0.621)	(0.212)
EXECOWN	-5.161	-3.004	-5.281	-3.004	8.748	11.945
	(0.365)	(0.651)	(0.349)	(0.650)	(0.257)	(0.219)
ΔEXECOWN(-2,0)	31.484***	25.509**	32.074***	26.503**	21.613	15.120
	(0.003)	(0.026)	(0.003)	(0.021)	(0.243)	(0.438)
TENURE	172.739**	208.733**	169.060**	210.505**	225.670*	252.212*
	(0.015)	(0.014)	(0.015)	(0.014)	(0.070)	(0.079)
PERIOD FIXED EFFECT	YES	YES	YES	YES	YES	YES
n	3394	3391	3394	3391	1648	1647
Adj. R2	0.071	0.067	0.076	0.070	0.116	0.131
F-Stat	12.34	11.63	13.15	12.09	10.41	11.76
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — ENV, SEC, ANT, IP, CON (dummy) equal 1 if any environmental, securities, antitrust, intellectual property, and contractual lawsuits, respectively, are filed against the company during year 0. ENV, SEC, ANT, IP, CON (continuous) denote the number of environmental, securities, antitrust, intellectual property, and contractual lawsuits, respectively, filed against the company during year 0.

Table 7 Change in CEO Bonus (Only) Compensation (Breakdown by Lawsuit Categories) – Equation (11)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	ΔBONUS(0,+2)	ΔBONUS(-1,+2)	ΔBONUS(0,+2)	ΔBONUS(-1,+2)	ΔBONUS(0,+2)	ΔBONUS(-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-668.545	-1243.402	-743.498	-1354.256	-575.168	-1797.112
	(0.249)	(0.123)	(0.199)	(0.101)	(0.414)	(0.150)
ENV (dummy)	121.210	32.363				
	(0.696)	(0.920)				
ENV (continuous)			153.083	100.081	168.497	119.250
			(0.324)	(0.445)	(0.283)	(0.359)
SEC (dummy)	-70.817	91.589				
	(0.818)	(0.725)				
SEC (continuous)			-31.961	-34.577	-37.570	-39.918
			(0.632)	(0.660)	(0.575)	(0.621)
ANT (dummy)	-56.268	19.103				
	(0.694)	(0.894)				
ANT (continuous)			12.475**	14.279**	9.501*	10.197
			(0.011)	(0.035)	(0.072)	(0.110)
IP (dummy)	-162.340*	-163.753*				
	(0.062)	(0.090)				
IP (continuous)			-63.315	-26.912	-61.095	-15.580
			(0.273)	(0.412)	(0.304)	(0.640)
CON (dummy)	-186.424**	-228.709***				
	(0.014)	(0.010)				
CON (continuous)			-50.825***	-51.074**	-50.188***	-47.888**
			(0.009)	(0.014)	(0.009)	(0.016)
Δlog(TA)	257.861**	568.184***	254.675**	561.672***	156.681	512.886**
	(0.022)	(0.000)	(0.027)	(0.000)	(0.404)	(0.019)
ΔROA	844.759**	1364.204***	823.734**	1329.773***	551.619	952.673*
	(0.024)	(0.006)	(0.030)	(0.008)	(0.175)	(0.085)
%OUTSIDE	-436.460	-724.051**	-426.132	-703.815**	-828.318*	-1094.040**
	(0.125)	(0.015)	(0.117)	(0.016)	(0.058)	(0.023)
%COMPSIZE	471.815	635.265	419.114	587.614	654.384	887.318
	(0.112)	(0.110)	(0.156)	(0.144)	(0.182)	(0.253)
%COMPIND	-87.637	402.407	-84.866	401.784	346.759	1443.823*
	(0.699)	(0.251)	(0.705)	(0.256)	(0.283)	(0.050)
CEOAGE	11.014	12.237	11.949	13.296	3.808	4.456
	(0.308)	(0.348)	(0.266)	(0.308)	(0.711)	(0.703)
GENDER	145.632	200.875*	151.839	210.572*	12.798	70.128
	(0.124)	(0.069)	(0.113)	(0.063)	(0.946)	(0.747)
INTERNAL	-53.475	2.440	-42.296	15.272	51.797	159.308
	(0.540)	(0.980)	(0.612)	(0.874)	(0.702)	(0.260)
EXECOWN	-4.821	-2.247	-4.900	-2.203	8.895	12.653
	(0.391)	(0.731)	(0.378)	(0.736)	(0.236)	(0.183)
ΔEXECOWN(-2,0)	30.037***	23.921**	30.645***	24.956**	19.965	12.639
	(0.004)	(0.035)	(0.004)	(0.030)	(0.269)	(0.504)
TENURE	170.670**	205.560**	168.193**	209.332**	213.895*	234.572
	(0.015)	(0.015)	(0.015)	(0.013)	(0.084)	(0.100)
PERIOD FIXED EFFECT	YES	YES	YES	YES	YES	YES
n	3394	3391	3394	3391	1648	1647
Adj. R2	0.070	0.065	0.074	0.067	0.114	0.128
F-Stat	12.15	11.28	12.82	11.60	10.21	11.54
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test

Table 8 Change in CEO Total Compensation (Breakdown by Lawsuit Categories) – Equation (11)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	ΔTOTAL(0,+2)	ΔTOTAL(-1,+2)	ΔTOTAL(0,+2)	ΔTOTAL(-1,+2)	ΔTOTAL(0,+2)	ΔTOTAL(-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-2825.671	-4659.777	-2993.597	-4429.179	-4664.066	-8858.344
	(0.124)	(0.154)	(0.109)	(0.163)	(0.159)	(0.143)
ENV (dummy)	34.325	-463.137				
	(0.958)	(0.600)				
ENV (continuous)			174.322	136.857	194.886	48.794
			(0.671)	(0.799)	(0.634)	(0.927)
SEC (dummy)	510.298	-3419.948				
	(0.334)	(0.155)				
SEC (continuous)			31.650	-395.443*	24.785	-374.350*
			(0.766)	(0.058)	(0.818)	(0.064)
ANT (dummy)	1065.295	2979.135**				
	(0.279)	(0.023)				
ANT (continuous)			-19.872	59.162	-18.935	72.345
			(0.714)	(0.386)	(0.728)	(0.328)
IP (dummy)	-307.351	-1272.998				
	(0.392)	(0.109)				
IP (continuous)			111.742	-760.479	124.501	-790.466
			(0.401)	(0.229)	(0.354)	(0.211)
CON (dummy)	-124.232	-161.884				
	(0.624)	(0.686)				
CON (continuous)			-69.738	13.091	-73.053	-15.513
			(0.404)	(0.907)	(0.417)	(0.894)
Δlog(TA)	421.324	2161.295***	356.126	2239.310***	412.876	3706.181***
	(0.266)	(0.000)	(0.349)	(0.000)	(0.504)	(0.002)
ΔROA	3507.153***	5772.472***	3410.351***	5978.403**	2961.535*	6914.587*
	(0.005)	(0.009)	(0.006)	(0.010)	(0.076)	(0.068)
%OUTSIDE	167.921	2386.489	340.202	2255.633	-263.641	4618.833
	(0.856)	(0.239)	(0.715)	(0.222)	(0.862)	(0.198)
%COMPSIZE	700.837	1352.239	597.242	1017.552	1245.248	4428.181
	(0.493)	(0.540)	(0.564)	(0.639)	(0.521)	(0.339)
%COMPIND	597.442	-1325.364	578.271	-1278.448	2176.150	-2638.160
	(0.433)	(0.349)	(0.454)	(0.351)	(0.197)	(0.400)
CEOAGE	35.830	62.215*	37.171	59.439*	42.961	98.374
	(0.121)	(0.077)	(0.108)	(0.076)	(0.188)	(0.102)
GENDER	1.075	17.263	-83.304	-18.534	-1078.044	116.408
	(0.998)	(0.985)	(0.881)	(0.984)	(0.488)	(0.968)
INTERNAL	191.667	1124.373*	242.051	1061.966*	382.667	1891.142
	(0.490)	(0.087)	(0.386)	(0.072)	(0.455)	(0.126)
EXECOWN	27.253*	7.582	26.622*	6.452	79.051**	67.790
	(0.074)	(0.823)	(0.081)	(0.848)	(0.036)	(0.364)
ΔEXECOWN(-2,0)	-42.217	-104.384	-40.977	-108.029	-92.544	-194.112
	(0.372)	(0.156)	(0.391)	(0.138)	(0.303)	(0.224)
TENURE	-108.248	-206.799	-99.407	-176.314	-197.368	-336.888
	(0.617)	(0.462)	(0.649)	(0.539)	(0.617)	(0.548)
PERIOD FIXED EFFECT	YES	YES	YES	YES	YES	YES
n	3371	3363	3371	3363	1637	1632
Adj. R2	0.014	0.022	0.013	0.020	0.017	0.024
F-Stat	3.07	4.23	3.00	4.05	2.20	2.75
(p-value)	0.000	0.000	0.000	0.000	0.001	0.000

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 9 Change in CEO Compensation (Heckman Selection Model) – Equation (12)

	COMP = CASH (salary & bonus)		COMP = BONUS (only)		COMP = TOTAL	
	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔBONUS(0,+2)	ΔBONUS(-1,+2)	ΔTOTAL(0,+2)	ΔTOTAL(-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-1376.769	-5237.506	-1637.709	-5638.079	-15551.200	-40839.140
	(0.777)	(0.272)	(0.737)	(0.239)	(0.143)	(0.113)
LAWSUIT	-21.044*	-17.701	-20.087*	-16.399	-27.147	-93.312
	(0.073)	(0.101)	(0.084)	(0.121)	(0.586)	(0.162)
Δlog(TA)	71.752	340.776	90.338	367.452	1088.096	2992.901
	(0.877)	(0.426)	(0.846)	(0.393)	(0.223)	(0.112)
ΔROA	-484.786	-268.142	-500.610	-313.766	-889.428	-3583.119
	(0.612)	(0.802)	(0.600)	(0.768)	(0.807)	(0.537)
%OUTSIDE	-780.908	-1330.941*	-797.430	-1357.874*	-1270.751	2066.180
	(0.208)	(0.062)	(0.201)	(0.058)	(0.472)	(0.476)
%COMPSIZE	627.872	1087.272	638.923	1100.629	1928.674	7888.306
	(0.425)	(0.273)	(0.417)	(0.266)	(0.385)	(0.221)
%COMPIND	238.326	1289.451*	231.123	1287.845*	1937.321	-3506.054
	(0.508)	(0.076)	(0.518)	(0.075)	(0.247)	(0.339)
CEOAGE	2.453	-2.617	2.177	-2.943	27.544	63.437
	(0.857)	(0.856)	(0.872)	(0.837)	(0.435)	(0.199)
GENDER	-79.171	-168.687	-78.032	-175.630	-1399.835	-1591.576
	(0.794)	(0.570)	(0.790)	(0.544)	(0.439)	(0.643)
INTERNAL	73.802	126.291	54.585	102.605	180.126	1772.053
	(0.586)	(0.348)	(0.686)	(0.443)	(0.744)	(0.165)
EXECOWN	9.184	17.146	9.693	18.537	102.608**	124.322
	(0.464)	(0.198)	(0.436)	(0.159)	(0.017)	(0.180)
ΔEXECOWN(-2,0)	19.697	9.929	18.493	7.971	-108.429	-239.381
	(0.286)	(0.598)	(0.307)	(0.664)	(0.233)	(0.161)
TENURE	216.329	118.680	194.884	84.584	-748.486	-1719.426*
	(0.394)	(0.640)	(0.443)	(0.739)	(0.238)	(0.076)
lambda	586.291	2236.807	718.065	2434.420	5989.252	17629.850
	(0.814)	(0.334)	(0.774)	(0.295)	(0.234)	(0.123)
n	1557	1556	1557	1556	1547	1543
Adj. R2	0.096	0.108	0.096	0.110	0.014	0.014
F-Stat	9.250	10.419	9.259	10.572	2.087	2.076
(p-value)	0.000	0.000	0.000	0.000	0.003	0.004

Note — lambda equals the inverse Mills ratio calculated from the first-stage regression of the Heckman Selection Model.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 10 Litigation Magnitudes and Change in CEO Cash (Salary & Bonus) Compensation

	Overall Lawsuits		**Environmental**		**Securities**		**Antitrust**		**Intellectual Property**		**Contractual**	
	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
constant	-574.328	-2133.981**	144.541	-1956.992	-1231.802	-4893.950	2196.608	1139.347	-3559.802**	-7192.110***	-637.372	-2405.897**
	(0.494)	(0.014)	(0.967)	(0.555)	(0.709)	(0.141)	(0.288)	(0.588)	(0.028)	(0.000)	(0.565)	(0.035)
$DEMAND_{ALL}$	2.674	0.005										
	(0.874)	(1.000)										
$DEMAND_{ENV-CON}$			647.854	669.650	0.695	10.369	1814.908	3818.205	176.623	372.715	5.280	-8.489
			(0.543)	(0.502)	(0.986)	(0.793)	(0.523)	(0.191)	(0.784)	(0.565)	(0.828)	(0.734)
Δlog(TA)	412.932*	759.369***	-855.830	99.027	447.187	510.914	-1150.142**	-609.945	385.248	100.370	439.062	941.982***
	(0.073)	(0.001)	(0.358)	(0.909)	(0.615)	(0.560)	(0.031)	(0.254)	(0.373)	(0.817)	(0.166)	(0.004)
ΔROA	761.759	910.974	677.533	4995.512*	-2539.548	-4011.824	3791.921*	1304.345	4627.514**	3140.082	833.568	1012.441
	(0.180)	(0.120)	(0.823)	(0.081)	(0.446)	(0.238)	(0.076)	(0.545)	(0.022)	(0.120)	(0.222)	(0.150)
%OUTSIDE	-1143.482**	-1786.265***	-1142.596	389.304	-1793.269	-260.498	-34.547	-2176.139	799.791	-1628.584	-1244.588*	-2234.060***
	(0.049)	(0.003)	(0.650)	(0.869)	(0.429)	(0.907)	(0.981)	(0.147)	(0.468)	(0.141)	(0.100)	(0.004)
%COMPSIZE	1356.909**	1428.495**	2766.866	1910.265	2889.940	2006.495	-240.831	1751.296	2791.793**	3820.574***	1709.424**	1813.345**
	(0.041)	(0.037)	(0.310)	(0.454)	(0.370)	(0.526)	(0.920)	(0.477)	(0.035)	(0.004)	(0.045)	(0.039)
%COMPIND	470.562	2130.217***	1935.241	3418.073**	1404.562	2469.189	1034.330	2541.384**	-640.942	4020.991***	352.362	2589.047***
	(0.320)	(0.000)	(0.266)	(0.038)	(0.490)	(0.219)	(0.354)	(0.028)	(0.471)	(0.000)	(0.567)	(0.000)
CEOAGE	-3.497	3.145	-53.123	-72.419	-8.968	27.885	-56.408*	-57.907*	29.055	42.747*	-3.592	3.570
	(0.785)	(0.812)	(0.363)	(0.187)	(0.857)	(0.579)	(0.076)	(0.074)	(0.255)	(0.096)	(0.831)	(0.837)
GENDER	-95.153	-32.534			-409.455	-1364.108			654.999	710.935	-137.785	-1112.752
	(0.918)	(0.973)			(0.890)	(0.648)			(0.643)	(0.617)	(0.947)	(0.601)
INTERNAL	182.253	184.829	45.161	409.171	307.798	806.121	-17.680	-228.403	599.299*	659.959*	155.945	92.306
	(0.292)	(0.301)	(0.946)	(0.515)	(0.675)	(0.266)	(0.968)	(0.616)	(0.080)	(0.055)	(0.495)	(0.695)
EXECOWN	16.168	22.247	847.592***	922.827***	40.730	127.295*	51.212	131.018**	1.622	21.617	35.307*	43.092**
	(0.278)	(0.160)	(0.000)	(0.000)	(0.458)	(0.078)	(0.344)	(0.020)	(0.960)	(0.501)	(0.071)	(0.040)
ΔEXECOWN(-2,0)	-1.473	-4.878	1863.124***	2185.033***	-42.738	-118.868	780.087	857.543	32.343	91.009	-27.016	-34.397
	(0.959)	(0.870)	(0.000)	(0.000)	(0.593)	(0.184)	(0.141)	(0.113)	(0.768)	(0.408)	(0.440)	(0.344)
TENURE	253.461	312.784	557.995	939.476	530.832	300.625	305.644	726.090	305.320	466.614	285.591	270.411
	(0.186)	(0.118)	(0.496)	(0.223)	(0.449)	(0.679)	(0.517)	(0.135)	(0.453)	(0.253)	(0.254)	(0.301)
PERIOD F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
n	1096	1095	96	96	121	120	74	74	319	319	818	817
Adj. R2	0.118	0.138	0.477	0.588	-0.050	-0.033	0.280	0.400	0.052	0.113	0.116	0.142
F-Stat	8.700	10.208	6.090	8.960	0.697	0.799	2.575	3.700	1.909	3.136	6.618	8.108
(p-value)	0.000	0.000	0.000	0.000	0.814	0.704	0.004	0.000	0.013	0.000	0.000	0.000

Note — DEMAND$_{ALL}$ equals the sum of all demands for pecuniary compensation filed against the company during year 0 scaled by firm size (total assets) at the beginning of year 0. DEMAND$_{ENV}$, DEMAND$_{SEC}$, DEMAND$_{ANT}$, DEMAND$_{IP}$, AND DEMAND$_{CON}$ equal the sum of demands for pecuniary compensation filed during year 0 under environmental, securities, antitrust, intellectual property, and contractual lawsuits, respectively, scaled by firm size (total assets) at the beginning of year 0.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 11 Litigation Magnitudes and Change in CEO Bonus (Only) Compensation

	Overall Lawsuits		**Environmental**		**Securities**		**Antitrust**		**Intellectual Property**		**Contractual**	
	ΔBONUS (0,+2)	ΔBONUS (-1,+2)	ΔBONUS (0,+2)	ΔBONUS (-1,+2)	ΔBONUS (0,+2)	ΔBONUS (-1,+2)	ΔBONUS (0,+2)	ΔBONUS (-1,+2)	ΔBONUS (0,+2)	ΔBONUS (-1,+2)	ΔBONUS (0,+2)	ΔBONUS (-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
constant	-598.200	-2212.414**	168.408	-1896.687	-1341.181	-4842.586	2372.557	1578.263	-3558.872**	-7211.657***	-670.739	-2510.440**
	(0.474)	(0.010)	(0.962)	(0.560)	(0.684)	(0.144)	(0.247)	(0.426)	(0.027)	(0.000)	(0.543)	(0.027)
$DEMAND_{ALL}$	3.012	0.259										
	(0.858)	(0.988)										
$DEMAND_{ENV\text{-}CON}$			562.003	588.207	1.635	11.115	1717.188	3777.336	187.322	395.874	5.657	-8.293
			(0.595)	(0.548)	(0.968)	(0.778)	(0.542)	(0.170)	(0.771)	(0.538)	(0.815)	(0.739)
Δlog(TA)	367.568	683.775***	-1001.571	-81.220	544.422	506.760	-1212.915**	-749.332	314.604	7.728	404.143	864.772***
	(0.108)	(0.004)	(0.279)	(0.924)	(0.540)	(0.563)	(0.022)	(0.139)	(0.466)	(0.986)	(0.200)	(0.008)
ΔROA	723.809	845.334	350.719	4656.902*	-2160.288	-3611.089	3252.459	804.729	4450.967**	2857.430	794.327	944.118
	(0.200)	(0.146)	(0.907)	(0.097)	(0.516)	(0.287)	(0.123)	(0.691)	(0.027)	(0.155)	(0.242)	(0.176)
%OUTSIDE	-1166.384**	-1812.205***	-1301.091	400.024	-1815.545	-370.305	1.215	-2040.811	773.194	-1670.638	-1268.403*	-2253.981***
	(0.043)	(0.002)	(0.603)	(0.863)	(0.422)	(0.868)	(0.999)	(0.149)	(0.481)	(0.129)	(0.092)	(0.004)
%COMPSIZE	1350.700**	1422.729**	2802.502	1945.742	2703.178	1809.761	-619.475	1557.246	2781.700**	3772.129***	1703.102**	1809.586**
	(0.040)	(0.036)	(0.300)	(0.437)	(0.401)	(0.567)	(0.795)	(0.502)	(0.035)	(0.004)	(0.045)	(0.038)
%COMPIND	488.454	2154.334***	2074.089	3441.943**	1401.509	2450.795	1001.283	2284.725**	-676.426	4025.295***	363.311	2603.621***
	(0.299)	(0.000)	(0.230)	(0.033)	(0.490)	(0.222)	(0.365)	(0.036)	(0.445)	(0.000)	(0.553)	(0.000)
CEOAGE	-3.895	2.962	-54.662	-77.731	-7.331	28.128	-60.132*	-64.907**	29.510	43.207*	-3.502	4.133
	(0.760)	(0.822)	(0.345)	(0.149)	(0.883)	(0.575)	(0.057)	(0.035)	(0.247)	(0.091)	(0.834)	(0.810)
GENDER	-120.561	-59.376			-226.392	-1090.668			537.264	595.405	-81.863	-1036.431
	(0.896)	(0.950)			(0.939)	(0.715)			(0.703)	(0.673)	(0.968)	(0.624)
INTERNAL	169.468	171.990	65.157	451.459	398.673	909.944	0.134	-194.223	579.943*	626.771*	140.232	74.597
	(0.325)	(0.332)	(0.922)	(0.464)	(0.587)	(0.209)	(1.000)	(0.651)	(0.089)	(0.067)	(0.538)	(0.750)
EXECOWN	15.821	22.637	839.229***	923.786***	33.676	113.699	48.289	115.503**	3.868	22.112	33.451*	41.669**
	(0.286)	(0.150)	(0.000)	(0.000)	(0.539)	(0.114)	(0.368)	(0.029)	(0.904)	(0.489)	(0.085)	(0.045)
ΔEXECOWN(-2,0)	-2.478	-6.480	1847.064***	2176.890***	-34.919	-107.026	707.350	699.599	33.635	85.146	-26.508	-34.106
	(0.931)	(0.827)	(0.000)	(0.000)	(0.662)	(0.231)	(0.177)	(0.169)	(0.758)	(0.437)	(0.446)	(0.345)
TENURE	248.635	309.136	526.294	969.261	498.379	266.247	361.898	724.841	288.419	432.947	275.860	264.620
	(0.192)	(0.119)	(0.517)	(0.200)	(0.477)	(0.714)	(0.440)	(0.114)	(0.477)	(0.286)	(0.268)	(0.308)
PERIOD F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
n	1096	1095	96	96	121	120	74	74	319	319	818	817
Adj. R2	0.118	0.139	0.475	0.592	-0.052	-0.040	0.291	0.424	0.051	0.114	0.114	0.141
F-Stat	8.711	10.267	6.063	9.093	0.686	0.759	2.661	3.985	1.901	3.145	6.560	8.055
(p-value)	0.000	0.000	0.000	0.000	0.825	0.749	0.003	0.000	0.014	0.000	0.000	0.000

* Significant at the 10% level, in a two-tailed test. ** Significant at the 5% level, in a two-tailed test. *** Significant at the 1% level, in a two-tailed test.

Table 12 Litigation Magnitudes and Change in CEO Total Compensation

	Overall Lawsuits		**Environmental**		**Securities**		**Antitrust**		**Intellectual Property**		**Contractual**	
	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
constant	-6710.875**	-16256.380**	-13974.230	555.621	914.937	-22920.010*	-18511.690	-22040.600	-20579.280***	-56462.540***	-8967.383***	-21552.110***
	(0.013)	(0.010)	(0.139)	(0.964)	(0.917)	(0.082)	(0.379)	(0.333)	(0.005)	(0.004)	(0.008)	(0.010)
$DEMAND_{ALL}$	18.626	48.492										
	(0.729)	(0.700)										
$DEMAND_{ENV\text{-}CON}$			2345.528	833.614	-5.918	51.841	3584.681	-2079.657	1414.300	3177.106	5.768	34.550
			(0.406)	(0.824)	(0.956)	(0.739)	(0.901)	(0.947)	(0.628)	(0.684)	(0.938)	(0.849)
Δlog(TA)	1276.264*	4837.808***	-555.531	1254.184	2467.564	-1811.305	6567.575	5168.329	2449.342	13047.710**	186.351	5676.579**
	(0.083)	(0.005)	(0.821)	(0.701)	(0.306)	(0.599)	(0.220)	(0.370)	(0.219)	(0.014)	(0.846)	(0.017)
ΔROA	2175.258	7525.769*	4066.316	14282.840	-7746.938	-17583.680	-26360.910	-14939.610	2604.091	50837.880**	1329.712	8964.176*
	(0.229)	(0.076)	(0.612)	(0.182)	(0.393)	(0.188)	(0.223)	(0.521)	(0.779)	(0.038)	(0.520)	(0.080)
%OUTSIDE	878.984	8236.975*	2627.272	1294.594	6303.424	16578.900*	13496.380	17189.670	4386.017	20896.760	879.411	11015.110*
	(0.635)	(0.058)	(0.694)	(0.884)	(0.300)	(0.062)	(0.365)	(0.287)	(0.386)	(0.120)	(0.702)	(0.053)
%COMPSIZE	2415.402	10882.400**	4486.448	-3558.947	138.248	6410.101	28103.200	26923.210	1398.311	27685.030*	5361.382**	14759.700**
	(0.254)	(0.028)	(0.534)	(0.710)	(0.987)	(0.608)	(0.255)	(0.312)	(0.816)	(0.083)	(0.038)	(0.021)
%COMPIND	2787.986*	-3815.955	3200.746	3384.447	1428.651	-4644.235	-1614.562	2962.970	7394.215*	-10981.230	3331.373*	-4846.525
	(0.065)	(0.280)	(0.486)	(0.579)	(0.798)	(0.556)	(0.887)	(0.809)	(0.067)	(0.307)	(0.075)	(0.294)
CEOAGE	41.989	101.884	58.817	-191.350	-76.227	246.306	205.523	219.656	169.423	464.910	57.791	148.025
	(0.307)	(0.290)	(0.703)	(0.352)	(0.561)	(0.226)	(0.521)	(0.525)	(0.145)	(0.134)	(0.261)	(0.243)
GENDER	901.693	4599.813			-6641.424	-13957.260			4481.110	16634.990	-1818.216	-3884.778
	(0.760)	(0.505)			(0.393)	(0.235)			(0.484)	(0.331)	(0.771)	(0.802)
INTERNAL	515.307	3427.178***	1066.960	2887.418	-1661.547	-271.171	-8178.045*	-8652.044*	1131.311	10570.960**	541.894	4490.819***
	(0.352)	(0.008)	(0.548)	(0.223)	(0.391)	(0.925)	(0.076)	(0.082)	(0.465)	(0.011)	(0.436)	(0.009)
EXECOWN	126.517***	137.453	991.388***	964.427**	355.254**	962.524***	1087.037*	1704.753***	313.594**	413.559	137.710**	167.977
	(0.008)	(0.230)	(0.003)	(0.025)	(0.015)	(0.001)	(0.052)	(0.006)	(0.031)	(0.287)	(0.020)	(0.270)
ΔEXECOWN(-2,0)	-43.682	-156.098	2298.714**	2813.767**	-344.260	-777.293**	3530.024	4412.893	105.105	-323.968	-65.147	-130.832
	(0.633)	(0.468)	(0.021)	(0.033)	(0.102)	(0.029)	(0.510)	(0.447)	(0.832)	(0.807)	(0.539)	(0.621)
TENURE	-129.304	279.368	2970.523	4397.082	-1542.668	-1859.104	-4801.036	-6855.228	-801.531	1841.801	-82.851	-333.830
	(0.833)	(0.847)	(0.173)	(0.130)	(0.405)	(0.515)	(0.320)	(0.191)	(0.665)	(0.711)	(0.913)	(0.861)
PERIOD F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
n	1088	1086	96	96	120	119	74	74	316	317	812	811
Adj. R2	0.018	0.021	0.099	0.038	0.050	0.114	0.160	0.185	0.017	0.043	0.016	0.024
F-Stat	2.076	2.221	1.615	1.219	1.328	1.800	1.773	1.918	1.295	1.741	1.700	2.051
(p-value)	0.004	0.002	0.080	0.270	0.183	0.033	0.054	0.033	0.185	0.029	0.031	0.005

* Significant at the 10% level, in a two-tailed test. ** Significant at the 5% level, in a two-tailed test. *** Significant at the 1% level, in a two-tailed test.

Table 13 Litigation Merits and Change in CEO Cash (Salary & Bonus) Compensation

	Overall Lawsuits		**Environmental**		**Securities**		**Antitrust**		**Intellectual Property**		**Contractual**	
	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)	ΔCASH(0,+2)	ΔCASH(-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
constant	-915.566	-1814.988**	340.874	-437.037	-7590.767*	-2838.911	546.656	-1205.010	-1777.997	-4331.506***	-789.650	-1976.322**
	(0.181)	(0.014)	(0.923)	(0.891)	(0.090)	(0.433)	(0.731)	(0.489)	(0.110)	(0.000)	(0.384)	(0.043)
$SETTLE_{ALL}$	-38.692	-78.688										
	(0.842)	(0.705)										
$SETTLE_{ENV\text{-}CON}$			-105.296	-353.878	584.194	-403.630	209.394	113.882	-579.187*	-354.786	8.499	-34.833
			(0.888)	(0.601)	(0.556)	(0.610)	(0.578)	(0.782)	(0.075)	(0.279)	(0.972)	(0.893)
Δlog(TA)	240.222	630.818***	-1016.387	186.532	-104.889	468.603	-763.142*	-530.616	45.588	-109.614	283.374	814.285***
	(0.172)	(0.001)	(0.271)	(0.823)	(0.922)	(0.584)	(0.052)	(0.214)	(0.861)	(0.676)	(0.237)	(0.002)
ΔROA	616.425	1197.552**	2083.686	7069.747**	2640.260	5949.213*	2634.089	620.682	577.691	901.209	849.745	1280.353**
	(0.187)	(0.017)	(0.486)	(0.011)	(0.517)	(0.080)	(0.119)	(0.736)	(0.576)	(0.386)	(0.136)	(0.037)
%OUTSIDE	-922.308**	-1369.094***	-2539.241	-878.615	-1840.522	-2807.384	1150.914	201.947	266.304	-1281.201*	-904.772	-1612.450**
	(0.044)	(0.005)	(0.282)	(0.680)	(0.520)	(0.222)	(0.326)	(0.875)	(0.722)	(0.090)	(0.133)	(0.013)
%COMPSIZE	911.205*	1115.075**	3189.801	1891.488	5405.094	3017.606	-145.867	587.099	1713.238**	2580.099***	1199.582*	1610.272**
	(0.082)	(0.048)	(0.230)	(0.430)	(0.147)	(0.308)	(0.918)	(0.706)	(0.050)	(0.004)	(0.079)	(0.029)
%COMPIND	395.768	1587.036***	2525.293	4258.879***	1402.056	2815.832	460.369	1636.984*	31.453	2917.565***	297.007	1976.778***
	(0.284)	(0.000)	(0.131)	(0.006)	(0.605)	(0.194)	(0.579)	(0.074)	(0.956)	(0.000)	(0.550)	(0.000)
CEOAGE	5.330	4.175	-35.142	-74.157	62.625	10.211	-40.989*	-21.854	8.968	14.582	0.264	-0.260
	(0.605)	(0.706)	(0.546)	(0.162)	(0.323)	(0.842)	(0.095)	(0.413)	(0.597)	(0.395)	(0.985)	(0.986)
GENDER	35.463	37.597			2475.836	1934.890			340.499	479.230	20.526	-74.089
	(0.955)	(0.955)			(0.507)	(0.519)			(0.674)	(0.557)	(0.984)	(0.945)
INTERNAL	41.675	110.345	-457.061	-329.533	1026.478	646.398	-209.447	-557.987	216.415	379.250*	23.283	79.292
	(0.756)	(0.444)	(0.499)	(0.590)	(0.254)	(0.366)	(0.512)	(0.112)	(0.320)	(0.084)	(0.896)	(0.679)
EXECOWN	9.190	11.797	826.720***	893.734***	38.027	-83.405	33.701	130.036**	-1.078	9.735	21.873*	24.007*
	(0.385)	(0.307)	(0.000)	(0.000)	(0.651)	(0.347)	(0.477)	(0.014)	(0.963)	(0.680)	(0.093)	(0.094)
ΔEXECOWN(-2,0)	18.620	16.454	1843.444***	2195.527***	-10.250	90.009	732.624*	1289.662***	48.195	73.925	-2.382	-6.432
	(0.448)	(0.533)	(0.000)	(0.000)	(0.933)	(0.415)	(0.083)	(0.006)	(0.545)	(0.357)	(0.935)	(0.838)
TENURE	321.023**	310.178*	373.761	792.513	651.090	412.716	416.145	695.320*	444.016*	552.364**	342.214*	245.826
	(0.033)	(0.056)	(0.639)	(0.273)	(0.459)	(0.579)	(0.239)	(0.074)	(0.100)	(0.042)	(0.089)	(0.262)
PERIOD F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
n	1467	1466	92	92	175	174	111	111	549	549	1045	1044
Adj. R2	0.105	0.126	0.505	0.638	0.019	0.076	0.315	0.353	0.078	0.136	0.114	0.135
F-Stat	10.028	12.085	6.464	10.414	1.181	1.745	3.816	4.336	3.442	5.532	8.097	9.603
(p-value)	0.000	0.000	0.000	0.000	0.280	0.034	0.000	0.000	0.000	0.000	0.000	0.000

Note — SETTLE$_{ALL}$ denotes the proportion of lawsuits filed against the company in year t (defined as year 0) of which the disposition is known, which eventually end in settlement. SETTLE$_{ENV}$, SETTLE$_{SEC}$, SETTLE$_{ANT}$, SETTLE$_{IP}$, AND SETTLE$_{CON}$ equal the proportion of environmental, securities, antitrust, intellectual property, and contractual lawsuits filed against the company during year t (defined as year 0) which eventually end in settlement.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 14 Litigation Merits and Change in CEO Bonus (Only) Compensation

	Overall Lawsuits		**Environmental**		**Securities**		**Antitrust**		**Intellectual Property**		**Contractual**	
	ΔBONUS (0,+2)	ΔBONUS (-1,+2)	ΔBONUS (0,+2)	ΔBONUS (-1,+2)	ΔBONUS (0,+2)	ΔBONUS (-1,+2)	ΔBONUS (0,+2)	ΔBONUS (-1,+2)	ΔBONUS (0,+2)	ΔBONUS (-1,+2)	ΔBONUS (0,+2)	ΔBONUS (-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
constant	-962.983	-1910.589***	374.628	-373.081	-7829.019*	-3009.341	471.222	-1019.228	-1846.542*	-4450.210***	-847.295	-2104.841**
	(0.157)	(0.009)	(0.914)	(0.905)	(0.079)	(0.402)	(0.764)	(0.547)	(0.095)	(0.000)	(0.348)	(0.030)
$SETTLE_{ALL}$	-25.274	-74.880										
	(0.896)	(0.717)										
$SETTLE_{ENV\text{-}CON}$			-138.321	-395.106	640.741	-369.225	248.974	100.999	-562.731*	-349.530	15.437	-28.183
			(0.852)	(0.552)	(0.516)	(0.638)	(0.502)	(0.801)	(0.082)	(0.283)	(0.948)	(0.913)
Δlog(TA)	179.715	548.527***	-1149.700	20.918	-66.997	430.849	-821.817**	-647.850	4.652	-175.935	234.436	739.632***
	(0.305)	(0.004)	(0.210)	(0.980)	(0.950)	(0.612)	(0.034)	(0.120)	(0.986)	(0.499)	(0.325)	(0.004)
ΔROA	562.593	1121.342**	1721.948	6670.919**	2678.509	5850.591*	1908.842	-168.490	455.648	715.735	808.091	1227.462**
	(0.226)	(0.025)	(0.561)	(0.014)	(0.509)	(0.083)	(0.251)	(0.925)	(0.658)	(0.489)	(0.154)	(0.045)
%OUTSIDE	-945.293**	-1391.073***	-2665.218	-856.560	-1781.636	-2755.593	1182.777	370.273	239.201	-1282.223*	-921.140	-1617.217**
	(0.038)	(0.004)	(0.256)	(0.682)	(0.532)	(0.227)	(0.306)	(0.766)	(0.748)	(0.087)	(0.124)	(0.012)
%COMPSIZE	910.874*	1113.411**	3202.734	1926.932	5216.627	2863.717	-371.446	618.249	1677.639*	2502.537***	1209.398*	1616.912**
	(0.081)	(0.046)	(0.224)	(0.413)	(0.160)	(0.329)	(0.791)	(0.683)	(0.054)	(0.004)	(0.075)	(0.027)
%COMPIND	400.468	1594.050***	2654.695	4279.056***	1458.805	2829.103	607.566	1525.572*	23.824	2917.317***	290.702	1970.870***
	(0.276)	(0.000)	(0.110)	(0.005)	(0.589)	(0.189)	(0.458)	(0.086)	(0.967)	(0.000)	(0.556)	(0.000)
CEOAGE	5.635	4.861	-36.576	-79.013	64.508	11.525	-43.254*	-26.037	9.957	16.275	0.962	0.869
	(0.582)	(0.658)	(0.526)	(0.129)	(0.306)	(0.820)	(0.074)	(0.316)	(0.556)	(0.339)	(0.944)	(0.953)
GENDER	54.319	56.074			2620.553	2009.617			335.949	473.421	89.883	6.288
	(0.930)	(0.933)			(0.480)	(0.499)			(0.677)	(0.560)	(0.928)	(0.995)
INTERNAL	31.069	96.524	-443.742	-295.509	1078.216	713.454	-193.175	-573.079*	204.953	356.771	14.152	67.851
	(0.816)	(0.500)	(0.508)	(0.622)	(0.229)	(0.315)	(0.539)	(0.094)	(0.344)	(0.102)	(0.936)	(0.721)
EXECOWN	9.196	12.311	818.703***	894.701***	33.580	-84.770	33.236	115.615**	0.778	9.787	20.888	23.334
	(0.382)	(0.283)	(0.000)	(0.000)	(0.688)	(0.335)	(0.477)	(0.024)	(0.973)	(0.677)	(0.107)	(0.101)
ΔEXECOWN(-2,0)	17.271	14.486	1828.090***	2188.687***	-4.984	90.767	702.517*	1204.166***	48.308	66.312	-2.658	-6.887
	(0.480)	(0.581)	(0.000)	(0.000)	(0.967)	(0.407)	(0.091)	(0.008)	(0.543)	(0.406)	(0.927)	(0.825)
TENURE	304.492**	288.535*	340.891	817.656	638.198	385.773	405.499	610.466	428.473	520.975*	322.069	228.335
	(0.042)	(0.074)	(0.666)	(0.249)	(0.466)	(0.601)	(0.244)	(0.105)	(0.111)	(0.054)	(0.108)	(0.294)
PERIOD F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
n	1467	1466	92	92	175	174	111	111	549	549	1045	1044
Adj. R2	0.104	0.125	0.504	0.642	0.019	0.074	0.322	0.358	0.078	0.137	0.113	0.134
F-Stat	9.980	12.020	6.432	10.580	1.177	1.723	3.904	4.408	3.450	5.582	8.032	9.513
(p-value)	0.000	0.000	0.000	0.000	0.284	0.038	0.000	0.000	0.000	0.000	0.000	0.000

* Significant at the 10% level, in a two-tailed test. ** Significant at the 5% level, in a two-tailed test. *** Significant at the 1% level, in a two-tailed test.

Table 15 Litigation Merits and Change in CEO Total Compensation

	Overall Lawsuits		**Environmental**		**Securities**		**Antitrust**		**Intellectual Property**		**Contractual**	
	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)	ΔTOTAL (0,+2)	ΔTOTAL (-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
constant	-4256.489*	-11440.060**	-11468.230	5468.891	877.542	-77234.000**	-4837.179	-15628.320	-12144.460**	-28184.220**	-5610.482*	-15470.160**
	(0.058)	(0.020)	(0.235)	(0.666)	(0.897)	(0.037)	(0.749)	(0.297)	(0.013)	(0.021)	(0.053)	(0.024)
$SETTLE_{ALL}$	-1160.086*	-804.211										
	(0.067)	(0.562)										
$SETTLE_{ENV\text{-}CON}$			-3811.605*	-5625.870**	1728.106	13298.010	-1034.381	-602.932	-1969.471	-3107.031	-1216.825	-1794.570
			(0.065)	(0.040)	(0.246)	(0.102)	(0.772)	(0.865)	(0.165)	(0.382)	(0.111)	(0.321)
Δlog(TA)	817.787	3741.347***	-567.309	2085.245	457.346	3206.495	1049.391	-257.386	1187.761	5817.933**	60.601	4051.248**
	(0.156)	(0.003)	(0.822)	(0.530)	(0.781)	(0.711)	(0.776)	(0.944)	(0.300)	(0.043)	(0.937)	(0.025)
ΔROA	2363.417	6448.573*	4672.626	15691.630	5913.033	15105.890	-13054.760	2949.045	-187.471	13875.080	2083.653	7868.426*
	(0.121)	(0.053)	(0.568)	(0.148)	(0.342)	(0.660)	(0.414)	(0.852)	(0.967)	(0.221)	(0.250)	(0.066)
%OUTSIDE	204.428	6301.428*	2114.637	3461.188	262.369	40482.520*	13912.140	16635.200	3907.224	12463.850	-756.498	7852.277*
	(0.892)	(0.056)	(0.743)	(0.684)	(0.952)	(0.084)	(0.212)	(0.133)	(0.237)	(0.131)	(0.693)	(0.084)
%COMPSIZE	1051.314	6715.420*	3826.832	-5471.024	1937.918	36914.940	18118.100	15703.410	1209.527	15527.820	2899.756	10491.530**
	(0.539)	(0.074)	(0.597)	(0.567)	(0.731)	(0.219)	(0.182)	(0.243)	(0.751)	(0.105)	(0.182)	(0.042)
%COMPIND	2089.407*	-3187.890	3589.389	3548.650	738.210	-22822.560	-4940.005	-1344.380	3827.411	-4256.674	3477.114**	-3806.813
	(0.084)	(0.228)	(0.431)	(0.554)	(0.859)	(0.300)	(0.531)	(0.863)	(0.127)	(0.499)	(0.028)	(0.308)
CEOAGE	46.345	96.024	87.924	-206.321	-27.983	632.981	61.563	147.998	125.266*	250.547	46.869	134.124
	(0.170)	(0.194)	(0.581)	(0.327)	(0.768)	(0.229)	(0.790)	(0.519)	(0.092)	(0.179)	(0.288)	(0.197)
GENDER	-1062.953	-216.322			609.258	-7634.050			-654.464	1799.431	-2419.578	-4534.398
	(0.600)	(0.961)			(0.913)	(0.802)			(0.853)	(0.839)	(0.444)	(0.544)
INTERNAL	283.774	2655.940***	955.220	2535.315	-650.178	12278.350*	-4852.662	-4426.224	1031.995	5486.641**	283.229	3888.170***
	(0.518)	(0.006)	(0.605)	(0.300)	(0.631)	(0.094)	(0.112)	(0.143)	(0.277)	(0.022)	(0.617)	(0.004)
EXECOWN	82.035**	88.307	1066.326***	1068.645**	118.354	1172.236	1447.294***	1854.149***	245.318**	330.160	82.898**	106.764
	(0.018)	(0.251)	(0.002)	(0.014)	(0.348)	(0.193)	(0.002)	(0.000)	(0.018)	(0.205)	(0.046)	(0.285)
ΔEXECOWN(-2,0)	-87.016	-237.821	2542.570**	3129.760**	-91.048	-877.067	3613.006	2505.902	77.231	-108.547	-106.948	-241.867
	(0.277)	(0.176)	(0.012)	(0.019)	(0.618)	(0.434)	(0.365)	(0.525)	(0.824)	(0.901)	(0.247)	(0.269)
TENURE	-68.433	31.413	2563.858	4207.226	-1258.166	-2077.606	-5121.392	-3207.807	-883.123	229.150	200.821	-182.824
	(0.889)	(0.977)	(0.241)	(0.146)	(0.341)	(0.783)	(0.128)	(0.334)	(0.454)	(0.938)	(0.755)	(0.905)
PERIOD F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
n	1457	1455	92	92	174	173	111	111	545	546	1037	1036
Adj. R2	0.019	0.021	0.127	0.084	0.002	0.017	0.119	0.177	0.016	0.030	0.019	0.024
F-Stat	2.500	2.663	1.780	1.489	1.019	1.153	1.829	2.311	1.473	1.895	2.055	2.340
(p-value)	0.000	0.000	0.047	0.123	0.442	0.305	0.033	0.005	0.089	0.013	0.005	0.001

* Significant at the 10% level, in a two-tailed test. ** Significant at the 5% level, in a two-tailed test. *** Significant at the 1% level, in a two-tailed test.

CHAPTER SEVEN:

CORPORATE LITIGATION AND EXECUTIVE REPUTATION

1 Introduction

This Chapter investigates the reputational penalties personally incurred by managers of publicly listed corporations, when the corporations encounter lawsuits. As detailed previously in Chapter 4, corporate litigation may impose adverse reputational impacts on the sued companies, which can negatively affect their future financial success. Reputational penalties can be exerted by parties related to the companies (for example, customers, suppliers, and investors), through the process of repeated contracting, thus increasing the costs of their business operations. Accordingly, the chief executive officers are expected to receive reputational penalties, by losing their existing seats on boards of other corporations, and impairment of their future career progression.

Prior literature on the reputational impact of litigation on executive officers has been limited to securities fraud and other fraud allegations. These existing studies show that the revelation of fraud can have adverse impacts upon the reputations of the managers of the sued companies (Desai, Hogan & Wilkins, 2006; Fich & Shivdasani, 2007; Collins, Reitenga & Sanchez, 2008; Correia & Klausner, 2012). However, no prior study has examined whether a wide variety of corporate lawsuits are followed by similar reputational penalties for the CEOs, given that various categories of corporate litigation give rise to different implications, some alleging fraud against the companies, others implying lesser degrees of culpability but nonetheless adversely affecting the companies‟ reputations.

This Chapter seeks to contribute to the existing literature, by providing empirical evidence regarding the reputational penalties suffered by CEOs of public companies which have encountered lawsuits. In light of the negative reputational consequences associated with the filing of the litigation, managers are expected to receive corresponding reputational penalties. It is hypothesized that CEOs whose companies have encountered litigation would incur reputational penalties imposed by the executive labor market, as represented by a net loss of outside directorships held by the CEO, and an impairment of the reemployment prospects faced by a displaced CEO.

Multivariate analyses are utilized to examine these hypothesized changes. After controlling for firm-level characteristics, including size and performance of the firm, board size and independence, and executive-specific characteristics, including age, gender, tenure, internal appointment, and stock ownership, the regression results provide evidence in support of the research hypotheses. First, the results show that securities lawsuits are significant in predicting a net loss of outside directorships experienced by the CEOs of the sued companies. This indicates a decline in CEO reputation, as evidenced by the unwillingness of other public companies to retain or appoint the CEO on their boards. Second, by following the career progression of CEOs who depart from the sued companies, results suggest that there exists a significant negative association between the filing of lawsuits, and the career progression of CEOs in the event of turnover following the lawsuit filings. This statistical association is particularly strong in relation to contractual and securities litigation. The results indicate that a firm‟s encounter with corporate litigation is associated with poorer reemployment prospects for the CEO who departs.

This Chapter confirms the reputational damage experienced by corporate executives following securities fraud found in prior studies (Desai, Hogan & Wilkins, 2006; Collins et al., 2009; Correia & Klausner, 2012). Moreover, this Chapter documents that CEOs of sued companies tend to experience reputational penalties, following lawsuits where the plaintiffs have contractual relationships with the sued companies, such as investors (in securities litigation) and customers/suppliers (in contractual litigation). In contrast, no reputational penalties are incurred following lawsuits where the plaintiffs are merely members of the general public, who have no direct contractual relationships with the sued companies (in the case of environmental lawsuits).

Furthermore, the results provide evidence with respect to the roles of the economic magnitude and legal merits of the lawsuits. Neither the economic magnitudes, as proxied by the amounts of pecuniary compensation claimed by the plaintiffs, nor the merits of the lawsuits, as proxied by their rates of settlement, appear to be generally significant in predicting the reputational penalties suffered by CEOs following lawsuits. However, IP litigation constitutes a notable exception. There is weak statistical evidence to suggest that, following IP lawsuits of larger economic magnitudes and greater legal merits, CEOs of the sued companies are *less* likely to experience a decline in reputation. This is potentially attributable to the CEOs‟ experience gained from dealing with significant IP allegations levied against their companies.

Overall, this Chapter produces evidence in support of the effective functioning of the forces of the executive labor market, in imposing penalties upon CEOs who have led their companies into allegedly breaching the law. The extent of the reputational

penalties, by losses of outside directorships and impairments to future career prospects, is determined by the nature of the allegations. Only litigation involving plaintiffs who have contractual relationships with the sued companies (including investors in securities litigation) is followed by reputational penalties for their CEOs. Corporate executives, in general, do not tend to suffer a decline in reputation following environmental litigation, where the alleged damage is borne by third parties unrelated to the accused corporations.

2 Literature Review and Hypothesis Development

The filing of a lawsuit causes reputational damage to a sued company. Given the disciplining effect exerted by the managerial labor market upon managers of public corporations (Fama et al., 1969; Jensen & Meckling, 1976), it is expected that the operation of the labor market forces would impose corresponding reputational penalties, adversely affecting the managers‟ current and future employment prospects.

Prior studies document that, following accounting restatements and revelations of fraud, the accused companies‟ executive officers and board members tend to suffer reputational penalties (Wu, 2004; Srinivasan, 2005; Desai, Hogan & Wilkins, 2006; Helland, 2006; Fich & Shivdasani, 2007; Hamori, 2007; Collins et al., 2009). In these studies, reputation is proxied by two measures. First, prior researchers have measured the number of outside directorships held by an executive or a board member (Wu, 2004; Srinivasan, 2005; Helland, 2006; Fich & Shivdasani, 2007). Second, the career progression of displaced managers has also been used as a proxy for executive

reputation (Desai, Hogan & Wilkins, 2006; Hamori, 2007; Collins, Reitenga & Sanchez, 2008; Correia & Klausner, 2012).

2.1 Reputational Penalties: Number of Outside Directorships

Prior studies suggest that the number of outside directorships is a proxy for reputational capital held by an executive officer (Gilson, 1990; Kaplan & Reishus, 1990; Helland, 2006). These studies investigate the reputation of directors following securities fraud litigation. Fich and Shivdasani (2007) examine 216 firms which have encountered shareholder class actions between 1998 and 2006, and find that when the fraud allegation is severe, there is a decline in the reputation of outside directors by way of an increased risk of losing other board seats they hold. Similarly, Srinivasan (2005), who studies the 409 firms with earnings restatements between 1997 and 2001, documents reputational loss for outside directors, as evidenced by an average loss of 25% of their directorships on other boards. However, Helland (2006) investigates the reputational impact on directors caused by securities lawsuits between 1985 and 2002, by observing the change in net outside directorships over an eight-year period, but finds no evidence of reputational damage for directors, as the net number of directorships is documented to increase over the sampling period. In addition, Wu (2004) investigates the deterioration in directors‟ reputations, as a result of a company being named by the California Public Employees‟ Retirement System (CalPERS) as having poor corporate governance. Wu (2004) uses the average number of directorships held by board members, as a proxy for the firm‟s board reputation. The author documents no significant deterioration in directors‟ reputations. Thus, as established in prior studies,

the number of outside directorships held by a company‟s officers or directors constitutes a measure of executive reputation.

2.2 Reputational Penalties: Career Progression

Prior studies provide empirical evidence of increased executive turnover following allegations of fraud and other breaches of law (Niehaus & Roth, 1999; Srinivasan, 2005; Arthaud-Day et al., 2006; Agrawal & Cooper, 2007; Collins, Reitenga & Sanchez, 2008; Krishna-Moorthy, 2011).[1] However, according to Desai, Hogan and Wilkins, "for such discipline to be effective, it is necessary that the managerial labor market also views the departure as informative and imposes further discipline in the form of *ex post* settling up" (Desai, Hogan & Wilkins, 2006, p. 103). Such reputational consequences have been examined by a number of prior studies, as a form of penalty incurred by displaced CEOs following revelations of securities fraud.

Desai, Hogan, and Wilkins (2006) document that, following accounting restatements between 1997 and 1998, top executives tend to incur penalties from the labor market, as evidenced by a significantly higher rate of turnover (within the following 24 months) and poorer prospects of being reemployed at a public or private firm for similar office-holdings. Collins, Reitenga, and Sanchez (2009), in replicating Desai, Hogan, and Wilkins (2006)‟s study, shift the focus from CEOs to CFOs of companies with accounting restatements. Similar to the findings of the earlier studies, Collins, Reitenga, and Sanchez (2009) find that CFOs leaving restatement firms are less likely to find a comparable job in a public company, due to impairment of their reputation. Hamori

[1] In the previous Chapter of the Thesis, empirical evidence suggests that managers of firms which have encountered corporate litigation tend to experience an increase in CEO turnover during the yr (0, +3) and yr (-1,+3) periods surrounding the lawsuit filings.

(2007) investigates the impact of lawsuits by public authorities (amongst other events that generate negative publicity) on the future careers of an organization‟s employees; however, the study does not directly examine the impact on CEOs, and finds no significant adverse impact on the careers of general employees.

Correia and Klausner (2012) study a sample of securities class actions filed between 2000 and 2011 against public companies or their officers, and the subsequent likelihood of turnover and reemployment for the CEOs and CFOs. They find that within the subsample of displaced officers, CEOs who face SEC enforcement proceedings are less likely to find reemployment at another firm. These impaired career prospects may be attributable to the officer and director bars imposed by the SEC.

2.3 Hypothesis Development

It is *a priori* expected that the CEOs of sued companies will suffer reputational penalties exerted by the labor market upon the filing of lawsuits against their corporations. The number of outside directorships is used by prior studies as a proxy for reputational capital held by an executive officer (Gilson, 1990; Kaplan & Reishus, 1990; Helland, 2006). Corporate litigation may have an adverse reputational impact on the sued company, and consequently its CEO. This being the case, other companies may have incentives to remove the CEO from their boards, in order to avoid or minimize associated reputational damage. Consequently, when a CEO‟s reputation is adversely affected by the filing of corporate litigation against his or her[2] company, such

[2] Hereafter, the word „his‟ is used as a gender-neutral term with the meaning of „his or her‟.

reputational damage is expected to be evidenced by a decrease in the number of outside directorships they hold. The first research hypothesis is accordingly specified below:

H(1): CEOs of public companies which are named as defendants in corporate lawsuits are more likely to experience a net loss of outside directorships.

In addition to the number of outside directorships held by the executive officers, prior studies have employed also a second measure of executive reputation: the reemployment prospects for displaced executives. In the event that the CEO is replaced by the company following the lawsuit filing, the CEO is expected to experience impairment of future reemployment prospects in a similar position at a comparable company. The second research hypothesis is thus specified as follows:

H(2): CEOs who depart from public companies surrounding the filing of corporate lawsuits are less likely to find reemployment in comparable positions at other firms.

Moreover, legal allegations of different natures are expected to have different impacts upon the reputations of the sued companies, and hence their executive officers. The diverse range of corporate lawsuits studied in this Chapter allows for a comparison between the various degrees of reputational penalties, following different types of lawsuit filings. This Chapter aims to investigate whether the managerial labor market mechanisms, whereby the collective actions of public companies impose reputational penalties on executive officers, operate effectively in distinguishing allegations of different natures. It is hypothesized that:

H(3): CEOs are more likely to experience reputational penalties when the lawsuits filed against their public corporations are more serious in nature.

The seriousness of the allegations is assessed with reference to the evidence produced by prior studies. Existing literature offers inconsistent evidence in this respect, on the basis of which two competing expectations are derived.

On the one hand, Bhagat, Bizjak, and Coles (1998) document that capital market participants react more adversely to issues of political and social sensitivity, such as environmental lawsuits, where the costs of the damage is borne by the local community, and securities lawsuits, where there are allegations of fraudulent conduct. Under this expectation, environmental and securities litigation is hypothesized to lead to the most significant reputational penalties for the managers of the sued companies. In contrast, antitrust, IP, and contractual lawsuits, which are of routine commercial nature (Bhagat, Bizjak & Coles, 1998), are less likely to be followed by reputational penalties on the CEOs of the defendant companies.

On the other hand, prior research (Alexander, 1999; Jones & Rubin, 2001; Karpoff, Lott & Wehrly, 2005; Murphy, Shrieves & Tibbs, 2009) suggests that greater reputational penalties are imposed on the sued companies, following lawsuits involving parties who have contractual relationships with the sued firms, such as customers, suppliers, employees, and investors, rather than parties with no such direct contractual relationships. By virtue of their direct contractual dealings with the accused company, the plaintiffs in the former category of lawsuits are capable of imposing higher costs of operation upon the company through repeated contracting. Under this hypothesis,

securities lawsuits, which often involve alleged wrongdoings against the shareholders of the company, and contractual lawsuits, which arise out of disputes with trading partners over existing contracts, are expected to lead to the most significant reputational penalties for the sued companies, and hence their executive officers. On the other hand, environmental lawsuits, the alleged victims of which are members of the general public without direct business relationships with the sued companies (for instance, residents of the local community), are less likely to be followed by reputational penalties for the CEOs of the defendant corporations.

Given the findings documented in prior studies, two competing theories arise from the existing empirical evidence. The first theory predicts that lawsuits of social and political sensitivity (namely environmental and securities litigation) give rise to the most significant executive reputational penalties. The second theory predicts that lawsuits filed by parties with existing contractual relationships with the defendants (namely securities, IP, and contractual litigation) bring the most significant reputational impacts. The investigation in this Chapter will provide empirical evidence as to which constitutes the most compelling theory, in determining the reputational penalties imposed by the executive labor market.

3 Variable Description[3]

Changes in the number of directorships held by the CEO are measured over the period (0, +2). A civil lawsuit in the Federal Court typically lasts 22 months (Fellows & Haydock, 2004-2005; California Labor and Employment Law, 2010). Accordingly, the change in outside directorships is computed over this two-year period, during which any reputational damage to the CEO is captured as the lawsuit progresses to its conclusion. The change in the number of directorships is calculated as the net change in the number of positions on outside boards held by the CEO from year 0 to year +2. Data on outside directorships held by the CEO is collected from Execucomp Database. In addition, I extend the period of examination to include the year prior to the filing of the lawsuit (defined as year -1).

In computing the second measure of reputation, I follow the reemployment prospects of all CEOs who depart from their previous employers, during the (0,+3) period surrounding any lawsuit filings. Alternatively, I expand the examination to include those CEOs who depart during year -1 prior to the lawsuit filings, to capture any preemptive CEO turnover in anticipation of imminent lawsuit filings. Similar to the method employed by Desai, Hogan and Wilkins (2006), the reemployment prospects for a CEO who departs during the period surrounding the filing of a lawsuit are measured at three different levels, by three alternative cumulative variables: *RECEO*, *RETOP3*, and *REEMPLOY*.[4]

[3] A comprehensive list of the definitions of all variables is included in Appendix 1 (Variable Definitions).
[4] Whilst there is a possibility that the CEO, upon termination of his previous employment, is contractually obliged to abstain from seeking employment for a given period under the „gardening leave" clause of his employment contract, the difficulty lies in the fact that the content of these executive contracts do not fall within the scope of publicly accessible information. In order to control for any „gardening leave" provision in executive contracts, one must gain access to the terms of these contracts.

The first variable, *RECEO*, measures whether a replaced manager subsequently obtained reemployment as the CEO of another S&P 1,500 company. In the second measure, *RETOP3*, the scope of reemployment is expanded to include gaining a position as the CEO, president, or chairman of another S&P 1,500 company. The third measure, *REEMPLOY*, is further expanded to include reemployment at another S&P 1,500 company in any senior executive capacity (including vice president, chief financial officer, chief operating officer), or as a non-executive member of the board. The reemployment variables are expressed as dummy variables, which take on the value of 1 if the relevant reemployment occurs, and 0 otherwise. Following prior research (Desai, Hogan & Wilkins, 2006), both *RETOP3* and *REEMPLOY* are cumulative measures; in other words, those CEOs who experience a value of 1 in the variable *RECEO* would also experience a value of 1 in both *RETOP3* and *REEMPLOY*. All three variables, *RECEO*, *RETOP3*, and *REEMPLOY*, record the reemployment prospects for any CEO who departs from the company during the (0,+3) period surrounding the lawsuit filings. In addition, a second observation period (-1,+3) is also used, in order to capture any preemptive CEO departure in year -1 (the year immediately before the litigation) in anticipation of the imminent lawsuits.

In the regressions that predict the change in the number of outside directorships held, factors which can potentially influence the dependent variable are controlled for. First, following Srinivasan (2005), I control for firm size ($LogTA_{t-1}$), performance (ROA_{t-1}), and board independence ($\%OUTSIDE_{t-1}$), as previously defined in Chapter 4. In addition, consistent with prior studies (Srinivasan, 2005, p. 303; Helland, 2006, p. 376;

Typically executive contracts of public corporations are retained by their attoneys and remain confidential. In the absence of available data on the issue, the inherently confidential nature of the contractual terms precludes them from being included in the empirical analysis.

Fich & Shivdasani, 2007, p. 331), I control for a number of CEO-specific characteristics (as previously defined in Chapter 6), including age ($CEOAGE_{t=0}$), gender ($GENDER_{t=0}$), internal appointment ($INTERNAL_{t=0}$), length of service ($TENURE_{t=0}$), and stock ownership ($EXECOWN_{t=0}$ and $EXECOWN_{t(-2,0)}$). CEO stock ownership is measured by both a static measure ($EXECOWN_{t=0}$) (Desai, Hogan & Wilkins, 2006; Fich & Shivdasani, 2007) and a dynamic measure ($\Delta EXECOWN_{t(-2,0)}$). There is no significant multi-collinearity between these two control variables, as evidenced by the Pearson Correlation Coefficient of 0.158. Detailed definitions of the control variables are provided in Appendix 1 (Variable Definitions).

Additionally, in the regressions predicting the change in the number of outside directorships held by the CEO, I include the variable $NUMDIR_{t-1}$, which measures the number of existing directorships held by the CEO at the beginning of year 0, as prior studies indicate that the higher the number of existing positions held on outside boards by the CEO, the higher the likelihood he or she would face of losing one of them (Srinivasan, 2005, p. 303; Helland, 2006, p. 376; Fich & Shivdasani, 2007, p. 331). Finally, in the regressions I employ both period and cross-sectional fixed effects, in order to control for time-specific factors, as well as firm-specific idiosyncrasies, which may also influence the change in the number of outside directorships held by the CEO.

When estimating the regressions to predict the future reemployment prospects for displaced CEOs, apart from the variables similar to those included in the regressions predicting the change in the number of outside directorships, I employ two additional control variables. First, $RETAIN_{t=0}$ is a dummy variable that measures whether, subsequent to ceasing to be the company‟s CEO, the former CEO continues to be

employed by the company. This variable is included to account for situations where, for example, a CEO facing retirement steps down from the post as the CEO, but remains at the company for the period of one to two years as part of the succession plan, in order to assist the incoming CEO in an advisory position. In these cases, the outgoing CEO would have little incentive to seek alternative reemployment elsewhere. Second, the variable $RESIGN_{t=0}$ is a dummy variable, which takes on the value of 1 if resignation is given as the official reason for the CEO‟s departure from the company. In addition to the control variables, yearly dummies are included in the models to control for any time-specific factors which may also impact on the reemployment prospects of the departing CEO.

4 Empirical Results

4.1 Univariate Analysis

Amongst the differences in firm characteristics (in mean and median) between the lawsuit versus the control sample, as reported in Table 1, first, the average firm size within the lawsuit sample is higher than that of the control sample. Second, the lawsuit sample appears to have marginally better average prior performance, compared to the control sample, prior to the lawsuit filings (as measured by ROA_{t-1}); however, the difference in the median is not statistically significant. Third, compared to the control sample, the lawsuit sample also exhibits a marginally higher proportion of outside directors on the board. Fourth, the average executive ownership in the lawsuit sample is significantly lower in both mean and median relative to the control sample. Fifth, the average duration of tenure of the CEOs within the lawsuit sample is shorter than that within the control sample. Finally, the average number of outside directorships held by the CEOs is significantly higher in the lawsuit sample than that in the control sample.

[Insert Table 1]

As reported in Table 2, the change in the number of directorships held by the CEO, over the (0,+2) and (-1,+2) periods, does not appear significantly different between the lawsuit and the control samples. Second, the reemployment likelihood of the displaced executive, as represented by $RECEO_{t(0,+3)}$, is 3.2% for the lawsuit sample, and 2.2% for the control sample. This difference is statistically significant at the 5% level. Similarly, the mean likelihood of $RETOP3_{t(0,+3)}$, as well as that of $REEMPLOY_{t(0,+3)}$, are also marginally higher for the lawsuit sample compared to the control sample.

[Insert Table 2]

4.2 Multivariate Analysis

4.2.1 Corporate Litigation and Outside Directorships

The association between corporate litigation and subsequent changes in the reputation of the CEO, as proxied by the number of outside directorships, is estimated by employing the following OLS regressions, in which the dependent variable $\Delta DIRECT_{t(0,+2)}$ is calculated as the change in the number of outside directorships held by the CEO from year 0 through year +2. An alternative dependent variable $\Delta DIRECT_{t(-1,+2)}$ is calculated as the net change in board seats from year -1 through year +2:

$$\begin{aligned}\Delta DIRECT_{t(0,+2),t(-1,+2)} = {} & \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 LogTA_{t-1} + \beta_3 ROA_{t-1} + \\ & \beta_4 \%OUTSIDE_{t-1} + \beta_5 CEOAGE_{t=0} + \beta_6 GENDER_{t=0} + \beta_7 INTERNAL_{t=0} + \\ & \beta_8 TENURE_{t=0} + \beta_9 EXECOWN_{t=0} + \beta_{10} \Delta EXECOWN_{t(-2,0)} + \beta_{11} NUMDIR_{t-1} + \varepsilon\end{aligned} \quad (13)$$

[Insert Table 3]

Table 3 reports the results from Equation (13).[5] The estimated coefficient of the dummy variable $LAWSUIT_{t=0}$ is statistically insignificant, in predicting the change in the

[5] In Equation (13), the test variable $LAWSUIT_{t=0}$ represents the filing of corporate litigation. It is specified in two alternative measures: first as a dummy variable which is assigned a value of 1 if the company has experienced one or more lawsuit filings during year 0, and zero otherwise. Second, it is specified as a continuous variable, measuring the number of corporate lawsuits filed against a company during year 0, in order to examine the predictive power of multiple lawsuit filings during the same year. In addition, the model employing the continuous variable is run first over the entire dataset, comprising both the

number of outside directorships held by the CEO during both the (0,+2) and (-1,+2) periods. When corporate litigation is represented by a continuous variable, the estimated coefficient of $LAWSUIT_{t=0}$ in Models (3) and (4) is negative but not statistically significant. The key results remain consistent in Models (5) and (6), when the regressions are re-run using a restricted sample of lawsuit firm-years only.

Breakdown by Lawsuit Categories

The following OLS regressions are estimated, in which corporate litigation is measured by five separate variables, to disaggregate the predictive powers of different lawsuits on the changes in CEO reputation:[6]

$$\begin{aligned}\Delta DIRECT_{t(0,+2),t(-1,+2)} &= \alpha + \beta_1 ENV_{t=0} + \beta_2 SEC_{t=0} + \beta_3 ANT_{t=0} + \beta_4 IP_{t=0} + \beta_5 CON_{t=0} \\ &+ \beta_6 LogTA_{t-1} + \beta_7 ROA_{t-1} + \beta_8 \%OUTSIDE_{t-1} + \beta_9 CEOAGE_{t=0} + \beta_{10} GENDER_{t=0} + \\ &\beta_{11} INTERNAL_{t=0} + \beta_{12} TENURE_{t=0} + \beta_{13} EXECOWN_{t=0} + \beta_{14} \Delta EXECOWN_{t(-2,0)} + \\ &\beta_{15} NUMDIR_{t-1} + \varepsilon\end{aligned} \quad (14)$$

[Insert Table 4]

Table 4 reports the regression results from Equation (14). The filing of securities litigation, as represented by $SEC_{t=0}$, is the only significant variable in predicting the

litigation and control samples; it is then re-run over a restricted sample comprising lawsuit firm-years only, in order to avoid the zero values in the control sample potentially biasing the results upwards. In all OLS regressions employed in this Chapter, the White heteroscedasticity-consistent standard errors are used.

[6] The five litigation variables in Equation (14) represent each of the individual categories of lawsuit filings: environmental, securities, antitrust, intellectual property, and contractual lawsuits. They are measured in two alternative ways: first as dummy variables indicating whether there is any lawsuit of the relevant category filed during year 0, and second as continuous variables measuring the number of each type of lawsuits filed in year 0. Detailed definitions of the litigation variables are provided in Appendix 1 (Variable Definitions).

change in the number of directorships held by the CEO. Under Models (3) and (4), the estimated coefficient of $SEC_{t=0}$ is -0.014 in predicting both $\Delta DIRECT_{t(0,+2)}$ and $\Delta DIRECT_{t(-1,+2)}$, significant at the 10% and 5% levels, respectively. These results indicate that following securities lawsuits, the CEOs of the sued companies tend to experience, on average, a net loss of existing directorships held. However, when the regressions are run over a restricted sample of lawsuit firm-years only, the results are no longer statistically significant.

Under hypothesis H(3), securities lawsuits are expected to lead to the most significant reputational damage on the sued companies and their executives. Not only is securities litigation of political sensitivity, due to the fraudulent nature of the allegations (Bhagat, Bizjak & Coles, 1998); moreover, the alleged victims (namely shareholders) are parties contractually related to the sued company, rather than outside parties with no such contractual relationships (Alexander, 1999; Jones & Rubin, 2001; Karpoff, Lott & Wehrly, 2005; Murphy, Shrieves & Tibbs, 2009).

The empirical evidence confirms this expectation. It is also consistent with results from prior research conducted by Fich and Shivdasani (2007), who find that following securities fraud allegations, *directors* of the sued companies tend to suffer a net loss of outside directorships, signifying a decline in their reputation. The regression results here indicate that CEOs of defendant corporations appear to experience a similar decline in their reputation. When allegations of securities fraud adversely affect the reputation of the sued company, other public companies have incentives to remove the CEO of the sued company from their boards, in order to avoid any associated negative reputational impact upon their own companies. The results from these regressions

confirm the expectation, by indicating a significant association between the filing of securities lawsuits, and the subsequent loss of directorships experienced by the CEOs of the sued companies.

It is noted that the significant predictive power of litigation exists *only* when the lawsuit filings are measured by continuous variables. This observation offers an important insight, that the reputational penalty incurred by the CEO appears to depend significantly upon the number of lawsuits filed during a given year.

Amongst the firm-level control variables as reported in Table 4, firm size ($LogTA_{t-1}$), as measured by the natural log of total assets at the beginning of year 0, is positive in predicting $\Delta DIRECT_{t(-1,+2)}$, and is significant at the 1% level in Models (2) and (4). Amongst the executive-specific variables, $NUMDIR_{t-1}$, which measures the number of outside directorships already held by the CEO, is the only variable which is uniformly significant in predicting the change in the number of directorships. The estimated coefficient of $NUMDIR_{t-1}$ is negative and significant at the 1% level in all regressions, indicating that on average, with every additional directorship already held, the CEO is more likely to experience a net decrease in the number of directorships during the ensuing period. The statistical evidence confirms the expectation, that CEOs currently holding a larger number of outside directorships face a higher likelihood of losing some existing positions, and are less likely to take up additional appointments on other boards due to over-commitment of their time.

Overall, results from the OLS regressions provide weak statistical evidence in support of hypothesis H(1). When the lawsuit filings are broken down by categories, securities

lawsuits appear to be followed by a decline in CEO reputation, as evidenced by a net loss of outside directorships. However, the results are only significant at the 5% and 10% levels.

4.2.2 Corporate Litigation and CEO Career Progression

In this Section, I examine the predictive power of a company‟s encounter with corporate litigation over the subsequent career progression of managers of the sued company, by observing their reemployment prospects after their departure from the company. The following binary probit regressions are estimated:

$$REEMPLOY_{t(0,+3),t(-1,+3)} = \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 LogTA_{t-1} + \beta_3 ROA_{t-1} + \beta_4 \%OUTSIDE_{t-1} + \beta_5 CEOAGE_{t=0} + \beta_6 GENDER_{t=0} + \beta_7 INTERNAL_{t=0} + \beta_8 TENURE_{t=0} + \beta_9 EXECOWN_{t=0} + \beta_{10} RETAINED_{t=0} + \beta_{11} RESIGN_{t=0} + \varepsilon \quad (15)$$

The dependent variable, $REEMPLOY_{t(0,+3),t(-1,+3)}$, is expressed as a dummy variable and measured over two alternative periods. First, it measures the reemployment prospects for any CEO who departs from the company during the three-year period (0, +3) subsequent to year 0 (the lawsuit filing year). In addition, a second observation period (-1,+3) is used, in order to capture any preemptive CEO departures in year -1 (the year immediately before the litigation) in anticipation of imminent lawsuit filings. The reemployment variable takes on the value of 1 of the relevant reemployment occurs, and the value of 0 otherwise.

Three measures of reemployment are utilized, the corresponding results are reported in Panels A, B and C of Table 5, respectively. As reported in Panel A, in predicting

$RECEO_{t(0,+3),t(-1,+3)}$, the litigation dummy variable, $LAWSUIT_{t=0}$, has negative estimated coefficients but is statistically insignificant. However, when the number of lawsuits are taken into account under Models (3) and (4) by the use of a continuous litigation variable, the estimated coefficient of $LAWSUIT_{t=0}$ is negative and statistically significant in explaining both $RECEO_{t(0,+3)}$ and $RECEO_{t(-1,+3)}$ (at the 10% and 5% levels, respectively). This indicates that holding all else constant, if a lawsuit is filed against the CEO‟s existing employer prior to his departure, the CEO is likely to face more adverse prospects of obtaining a position of employment at a comparable company. When Equation (15) is re-run over a restricted sample of lawsuit firm-years only, the estimated coefficient of $LAWSUIT_{t=0}$ remains negative and significant at the 10% level in Models (5) and (6). The magnitudes of Adjusted R-square observed from these regressions are consistent with prior research (Desai, Hogan & Wilkins, 2006).

As reported in Panel B of Table 5, the estimated coefficient of the continuous variable $LAWSUIT_{t=0}$ remains negative and statistically significant (at the 5% level), in predicting the second measure of reemployment, $RETOP3_{t(0,+3),t(-1,+3)}$. Similarly, as reported in Panel C of Table 5, when CEO career prospects are measured by $REEMPLOY_{t(0,+3),t(-1,+3)}$, the continuous variable $LAWSUIT_{t=0}$ remains negative and significant at the 5% level.

The significant and negative association between the continuous litigation variable and all three measures of reemployment, combined with the lack of statistical significance of the dummy litigation variable, indicates that a significant association between lawsuit filings and the impairment of CEO career prospects only exists, when the number of lawsuits filed in a year is taken into account. Prior research, which examines

the role of multiple lawsuit filings on the sued companies‟ reputation (Koku & Qureshi, 2006), documents that if a defendant company is subject to more than one lawsuit in a confined time period, the firm‟s reputation would be so severely damaged, that its stock market performance does not recover even at the termination of the litigation. The empirical results support this observation, by indicating that a significant association between corporate litigation and a decline in CEO reputation exists, only when the effect of multiple lawsuits is captured by the use of the continuous variable to measure litigation filings.

[Insert Table 5]

A number of control variables are included in these regressions in order to capture other factors which may affect the CEO‟s career prospects upon leaving a company. As reported in Panel A of Table 5, firm size as measured by $LogTA_{t\text{-}1}$ is positive and significant at the 10% level in predicting $RECEO_{t(\text{-}1,+3)}$. Consistent with expectation, CEOs departing from larger firms tend to have a better chance of gaining reemployment. Similarly, firm performance, as measured by $ROA_{t\text{-}1}$, is also positive and significant at the 10% level in predicting $RECEO_{t(\text{-}1,+3)}$, which indicates that better firm performance prior to CEO departure is associated with a greater opportunity for the CEO to gain reemployment. Amongst the CEO-specific characteristics, $GENDER_{t=0}$ (denoting a female executive) is positive and significant at the 5% level, in predicting all three levels of reemployment. As the measure $REEMPLOY_{t(0,+3),t(\text{-}1,+3)}$ includes reemployment as an independent director, the statistical significance of $GENDER_{t=0}$ might be attributable to the incentives for public companies to maintain gender diversity on their boards, for strategic or publicity purposes, thus making it easier for

women to find reemployment than men. However, this conjecture cannot explain the positive predictive power of $GENDER_{t=0}$ over $RECEO_{t(0,+3),t(-1,+3)}$ and $RETOP3_{t(0,+3),t(-1,+3)}$, which capture only reemployment as the CEO, Chairman or President of another company. Prior research suggests that female CEOs tend to outperform male CEOs, because given the patriarchal corporate environment, female executives must have demonstrated exceptional abilities and performance, to attain the top position within a company (Davidson, 2002; Erhardt, Werbel & Shrader, 2003). The observed positive and significant predictive power of $GENDER_{t=0}$ may be attributable to this explanation: female executives who have attained the position as a CEO are more employable after their departure from their previous firms, because they are likely to have exhibited stronger performance records compared to their male counterparts in the same circumstances.

$INTERNAL_{t=0}$, $TENURE_{t=0}$ and $EXECOWN_{t=0}$ are three proxies intended to capture the degree of CEO entrenchment within his existing employer. First, as expected, an internally appointed CEO (i.e. one who had been an employee of the company for more than one year prior to ascending to the position of the CEO), faces a reduced likelihood of gaining reemployment, as evidenced by the negative estimated coefficients, significant at the 1% level. Second, $TENURE_{t=0}$ (the duration of service by the CEO in his current position) also exhibits significant negative explanatory power at the 1% level in predicting $RECEO_{t(-1,+3)}$, indicating that CEOs who have been employed for a longer period at the same firm tend to face increased difficulty, upon departure, to find reemployment elsewhere. Third, executive ownership of common stocks demonstrates, consistent with expectation, some negative predictive power significant at the 5% level, in predicting $RECEO_{t(0,+3)}$ in Models (1) and (3), but is not uniformly significant across

all models. Higher stock ownership in the company indicates the CEO‟s greater commitment to his employer, and therefore is expected to be associated with reduced likelihood of gaining another comparable position after departing from his current employer. Overall, the results in relation to the three variables indicate that, CEOs who are more entrenched within their current companies tend to face reduced likelihood of finding comparable reemployment at another firm, following their departure from their existing employers. Finally, the variable $RESIGN_{t=0}$, which takes on a value of 1 if the official reason for the CEO‟s departure is that the CEO has resigned, is positive and significant at the 5% level in predicting the CEO reemployment prospects. This might be attributable to the potential tendency for a CEO to be more willing to voluntarily resign from his company, and to cite his resignation as the official reason for departure in public announcements, when he is more certain of a positive prospect of gaining reemployment elsewhere.

The estimated coefficients and statistical significance remain consistent in the prediction of $RETOP3_{t(0,+3),t(-1,+3)}$ and $REEMPLOY_{t(0,+3),t(-1,+3)}$ (as reported in Panels B and C of Table 5). In addition, the variable $RETAIN_{t=0}$ (which measures whether the CEO was retained as an employee with the company after ceasing to be its CEO) is shown to be negative and significant at the 10% level in predicting the dependent variable. This observation is consistent with expectation, and could be attributed to two potential factors. First, when the CEO intends to retire, it is likely for the company to put in place certain succession arrangements which involve the outgoing CEO being retained by the company for a period of time, in order to assist the incoming CEO in an advisory position; in these circumstances, the retiring CEO would have little reason to seek alternative reemployment. Second, if the CEO is retained by his previous employer, this

would reduce the likelihood of the need to seek and obtain employment at another company.

Overall, the results from these regressions provide statistical evidence in support of hypothesis H(2), by indicating a significant association between the filing of lawsuits against a company, and the subsequent diminished prospect for the CEO departing from that company to obtain comparable reemployment at another firm. It is observed that this association is only statistically significant when the number of lawsuits filed in a year are taken into account, by the use of the continuous variable $LAWSUIT_{t=0}$, which indicates the significant explanatory power of multiple lawsuit filings within a year in determining the reputational penalties suffered by the CEO. Consistent with expectation, multiple lawsuits reflect more adversely upon the CEO‟s prior decision-making, thus invoking more significant reputational penalties in the form of impaired likelihood of finding comparable reemployment in the event of departure from the sued company.

Breakdown by Lawsuit Categories

I estimate the following binary probit regressions by employing five separate test variables, as defined in Appendix 1 (Variable Definitions).

$$\begin{aligned} REEMPLOY_{t(0,+3),t(-1,+3)} = {} & \alpha + \beta_1 ENV_{t=0} + \beta_2 SEC_{t=0} + \beta_3 ANT_{t=0} + \beta_4 IP_{t=0} + \\ & \beta_5 CON_{t=0} + \beta_6 LogTA_{t-1} + \beta_7 ROA_{t-1} + \beta_8 \%OUTSIDE_{t-1} + \beta_9 CEOAGE_{t=0} + \\ & \beta_{10} GENDER_{t=0} + \beta_{11} INTERNAL_{t=0} + \beta_{12} TENURED_{t=0} + \beta_{13} EXECOWN_{t=0} + \\ & \beta_{14} RETAINED_{t=0} + \beta_{15} RESIGN_{t=0} + \varepsilon \end{aligned} \quad (16)$$

[Insert Table 6]

As reported in Panel A of Table 6, only the continuous variable, $CON_{t=0}$, which measures the number of contractual lawsuits filed, is negative and significant, at the 5% and 1% levels, in predicting $RECEO_{t(0,+3)}$ and $RECEO_{t(-1,+3)}$, respectively. The results remain consistent and significant at the 5% level when Models (5) and (6) are run over a restricted sample of lawsuit firm-years only. The estimated coefficients and statistical significance of all control variables remain consistent with those from Equation (15) (reported in Table 5) as previously discussed. In addition, the estimated coefficient of the continuous variable $CON_{t=0}$ remains negative and significant at the 10% and 5% levels in predicting both $RETOP3_{t(0,+3),t(-1,+3)}$ and $REEMPLOY_{t(0,+3),t(-1,+3)}$ (as reported in Panels B and C of Table 6). These results indicate that, if a company has experienced contractual lawsuits, the CEOs who depart during the periods surrounding the lawsuit filings experience reputational penalties, in the form of lower instances of gaining reemployment. Prior studies indicate lawsuits involving parties contractually related to the defendants give rise to greater reputational penalties (Alexander, 1999; Jones & Rubin, 2001; Karpoff, Lott & Wehrly, 2005; Murphy, Shrieves & Tibbs, 2009). Contractual lawsuits inevitably involve parties with whom the sued company has previously established contractual relationships (typically customers, suppliers, and trading partners). Hence, the results, which evidence poorer reemployment prospects for the CEOs of the sued companies following contractual litigation, appear to confirm the proposition from prior research, that lawsuits involving related parties, rather than third parties, tend to give rise to greater reputational penalties on the sued companies, and hence their executive officers.

In addition, in predicting $RETOP3_{t(0,+3),t(-1,+3)}$ and $REEMPLOY_{t(0,+3)}$, the filing of securities lawsuits ($SEC_{t=0}$), when measured as a dummy variable, is also negative and significant at the 10% level, indicating an association between the filing of securities lawsuits and poorer subsequent reemployment prospects for a CEO who departs during periods (0,+3) and (-1,+3) surrounding the lawsuits.

It is noted that environmental lawsuit filings, as measured by $ENV_{t=0}$, are statistically insignificant in predicting the subsequent reemployment prospects for the CEOs of the sued companies. Karpoff, Lott, and Wehrly (2005) argue that limited reputational penalties are associated with environmental allegations, because the alleged victims in environmental violations are third parties, rather than related parties, who have no means of imposing higher costs on the company through repeated contracting in the future. The statistical insignificance of environmental litigation is consistent with the hypothesis that only litigation involving contractually related parties is followed by reputational penalties for the defendant companies (Alexander, 1999; Jones & Rubin, 2001; Karpoff, Lott & Wehrly, 2005; Murphy, Shrieves & Tibbs, 2009). It also provides evidence contrary to the competing hypothesis, which predicts that lawsuits involving issues of political sensitivity, including environmental lawsuits, tend to give rise to greater reputational penalties (Bhagat, Bizjak & Coles, 1998). It appears that adverse publicity amongst the general public (such as that associated with environmental lawsuits) does not necessarily lead to impairment of executive reputation in the managerial labor market. Only parties, who have existing contractual relationships with the sued companies (for example, customers or suppliers in contractual lawsuits), are able to exert influence on the reputation of the executive officers, through the process of repeated contracting.

4.3 Robustness Check: Heckman Selection Model[7]

4.3.1 Loss of Outside Directorships

As part of the two-stage model predicting the change in the number of outside directorships held by the CEOs, the first stage comprises a binary probit model predicting the litigation risks faced by public companies, using organizational complexity (SEG_{t-1}) (Cohen & Lou, 2012) and litigious industry ($RISKINDQ_{t-1}$) (Field, Lowry & Shu, 2005; Dai, Jin & Zhang, 2012), as defined in Chapter 4. In the second-stage OLS model, I estimate the change in CEO reputation using the inverse Mills ratio (lambda) to account for the predicted likelihood of the litigation, in addition to other control variables as previously discussed in relation to Equation (13) in Section 4.2.1.

$$\begin{aligned}
&\text{Stage 1:}\\
&LAWSUIT_{t=0} = \alpha + \beta_1 SEG_{t-1} + \beta_2 RISKINDQ_{t-1} + \beta_3 LogTA_{t-1} + \beta_4 ROA_{t-1} + \\
&\beta_5 \%OUTSIDE_{t-1} + \beta_6 CEOAGE_{t=0} + \beta_7 GENDER_{t=0} + \beta_8 INTERNAL_{t=0} + \\
&\beta_9 TENURE_{t=0} + \beta_{10} EXECOWN_{t=0} + \beta_{11} \Delta EXECOWN_{t(-2,0)} + \beta_{12} NUMDIR_{t-1} + \varepsilon \\
&\text{Stage 2:}\\
&\Delta DIRECT_{t(0,+2),t(-1,+2)} = \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 LogTA_{t-1} + \beta_3 ROA_{t-1} + \\
&\beta_4 \%OUTSIDE_{t-1} + \beta_5 CEOAGE_{t=0} + \beta_6 GENDER_{t=0} + \beta_7 INTERNAL_{t=0} \\
&+ \beta_8 TENURE_{t=0} + \beta_9 EXECOWN_{t=0} + \beta_{10} \Delta EXECOWN_{t(-2,0)} + \beta_{11} NUMDIR_{t-1} \\
&+ \beta_{12} \text{lambda}_{t=0} + \varepsilon
\end{aligned} \tag{17}$$

Table 7 reports the results from the second-stage model predicting the change in the number of outside directorships. The inverse Mills ratio is statistically insignificant in both regressions predicting $\Delta DIRECT_{t(0,+2)}$ and $\Delta DIRECT_{t(-1,+2)}$. The lack of statistical

[7] Please refer to Chapter 4 for discussions of the Heckman (1979) Selection Model. Detailed definitions of the Instrumental Variables are provided in Appendix 1 (Variable Definitions).

significance of the inverse Mills ratio indicates that there is no evidence to suggest the existence of any selection bias arising from the litigation risk faced by the sample firms. Consistent with the results from the original OLS regressions reported in Section 4.2.1, the estimated coefficient of the test variable $LAWSUIT_{t=0}$, which is a continuous variable measuring the number of lawsuits filed in year 0, remains negative in predicting $\Delta DIRECT_{t(0,+2)}$ and $\Delta DIRECT_{t(-1,+2)}$, but is statistically insignificant.

[Insert Table 7]

4.3.2 CEO Career Progression

The dependent variable $REEMPLOY_{t(0,+3),t(-1,+3)}$ is represented by three alternative measures, $RECEO_{t(0,+3),t(-1,+3)}$, $RETOP3_{t(0,+3),t(-1,+3)}$, and $REEMPLOY_{t(0,+3),t(-1,+3)}$, consistent with Equation (15) previously employed in Section 4.2.2.

Stage 1:

$$LAWSUIT_{t=0} = \alpha + \beta_1 SEG_{t-1} + \beta_2 RISKINDQ_{t-1} + \beta_3 LogTA_{t-1} + \beta_4 ROA_{t-1} + \beta_5 \%OUTSIDE_{t-1} + \beta_6 CEOAGE_{t=0} + \beta_7 GENDER_{t=0} + \beta_8 INTERNAL_{t=0} + \beta_9 TENURED_{t=0} + \beta_{10} EXECOWN_{t=0} + \beta_{11} RETAINED_{t=0} + \beta_{12} RESIGN_{t=0} + \varepsilon \quad (18)$$

Stage 2:

$$REEMPLOY_{t(0,+3),t(-1,+3)} = \alpha + \beta_1 LAWSUIT_{t=0} + \beta_2 LogTA_{t-1} + \beta_3 ROA_{t-1} + \beta_4 \%OUTSIDE_{t-1} + \beta_5 CEOAGE_{t=0} + \beta_6 GENDER_{t=0} + \beta_7 INTERNAL_{t=0} + \beta_8 TENURED_{t=0} + \beta_9 EXECOWN_{t=0} + \beta_{10} RETAINED_{t=0} + \beta_{11} RESIGN_{t=0} + \beta_{12} \text{lambda}_{t=0} + \varepsilon$$

Results from the second-stage regressions are reported in Table 8. The inverse Mills ratio is negative across all regressions, and significant at the 10% in the regressions

predicting $RETOP3_{t(0,+3)}$ and $REEMPLOY_{t(0,+3),t(-1,+3)}$. The negative estimated coefficients of lambda indicate that, in the original probit model, there may have existed factors not captured by the regression specification, which are significantly associated with a *decreased* likelihood for the departing CEOs to gain subsequent reemployment, thus potentially biasing the regression results in favor of the predicted negative association between lawsuit filings and poorer reemployment prospects. However, the effects of these unobserved factors have now been controlled for by the inclusion of lambda.

After the inclusion of the inverse Mills ratio, the continuous litigation variable $LAWSUIT_{t=0}$ remains consistent, in both its magnitude and its statistical significance, with the results from the original probit regressions discussed in Section 4.2.2. The test variable $LAWSUIT_{t=0}$ is negative and significant at the 10% in predicting $RECEO_{t(0,+3),t(-1,+3)}$, with estimated coefficients of -0.068 and -0.067, respectively, compared to the predicted values of -0.048 and -0.061 in the original probit models. Similarly, the estimated coefficient of $LAWSUIT_{t=0}$ is negative and significant at the 5% level in predicting $RETOP3_{t(0,+3),t(-1,+3)}$, with estimated coefficients -0.087 and -0.082. Furthermore, in predicting $REEMPLOY_{t(0,+3),t(-1,+3)}$, the estimated coefficient of $LAWSUIT_{t=0}$ again remains negative and significant at the 5% level. These results indicate that the significant association between litigation and impairments in CEO career progression is robust.

[Insert Table 8]

The results from the two-stage model, which predict the three measures of CEO reemployment prospects, all provide evidence consistent with, and in support of, the

conclusion previously drawn from the original probit models as discussed in Section 4.2.2. These results indicate a robust and significant inverse relationship between litigation filings and the departing CEOs‟ future reemployment prospects, after controlling for the potential selection bias arising from unobserved factors associated with litigation risks faced by different companies. The results provide evidence in support of hypothesis H(2), by indicating that CEOs who depart from their companies during the period surrounding the lawsuit filings, on average, face diminished likelihood of finding comparable reemployment at other companies.

4.4 Litigation Magnitudes

In addition to the investigations above, I examine the impact of lawsuit-specific characteristics on changes in the reputation of the sued companies‟ executives. First, the scale of the litigation is measured by the amount of the pecuniary demand for compensation claimed by the plaintiff. Lawsuits involving higher demands for compensation are likely to attract greater attention from the media and the general public. The greater publicity indicates a higher likelihood of impaired reputation for the sued companies, and consequently, the CEOs. As a result, the CEOs are expected to incur a more significant decline in reputation, as evidenced by losses of existing outside directorships, and impairment of their prospects of gaining comparable reemployment in the event of turnover.

4.4.1 Litigation Magnitudes and Outside Directorships

This Section investigates the role of the economic magnitude of the lawsuits, by examining the monetary demands for compensation sought by the plaintiffs. A series of regression models are run over a sub-sample of the dataset, comprising only firm-years where companies have experienced one or more lawsuits during the year. In these regressions, the key independent variable (previously $LAWSUIT_{t=0}$) is replaced by the test variable $DEMAND_{ALL-t=0}$, as a measure of the magnitude of the plaintiffs‟ demands for compensation (as discussed in Chapter 3). Furthermore, a series of test variables ($DEMAND_{(ENV\,/\,SEC\,/\,ANT\,/\,IP\,/\,CON)-t=0}$) is employed in turn, each representing the sum of demands for compensation filed under an individual category of lawsuits. The

definitions of the demand variables are provided in Appendix 1 (Variable Definitions). The results from these regressions are reported in Table 9.

As reported in Models (1) and (2) of Table 9, the test variable $DEMAND_{ALL-t=0}$ is statistically insignificant in determining the change in the number of outside directorships held by the CEO over both the (0,+2) and (-1,+2) periods. However, when the predictive power of the five categories of corporate lawsuits is disaggregated, as reported in Models (3) to (12), the economic magnitude of environmental lawsuits appears significant in predicting a decline in CEO reputation.

[Insert Table 9]

As reported in Table 9, in Model (4) the estimated coefficient of $DEMAND_{ENV-t=0}$ is -1.018 in predicting $\Delta DIRECT_{t(-1,+2)}$, significant at the 5% level, indicating that greater economic magnitude of environmental lawsuits is associated with a higher likelihood for the CEOs of the sued companies to experience a net loss of their seats on outside boards. Given the politically sensitive nature of environmental allegations (Bhagat, Bizjak & Coles, 1998), prior research indicates that major environmental disasters can generate adverse publicity to threaten the legitimacy of not only the sued companies, but related companies (Patten, 1992). The related companies, especially those on whose boards the sued companies‟ CEOs serve as independent directors, are motivated by their own reputational concerns to take actions to restore their perceived social legitimacy (Patten, 1992). They may thus experience greater incentives to remove the CEOs from their boards, in order to preserve their own reputation. However, this empirical evidence must be interpreted in the context of the results from Section 4.2.1,

which indicate that environmental litigation, in general, is not followed by a decline in CEO reputation. Thus, the results here only suggest that the larger the magnitudes of environmental lawsuits, the more likely it is for them to precede negative changes in outside directorships. This inverse relationship between lawsuit magnitudes and the change in the number of outside directorships does not in itself provide evidence that environmental lawsuits give rise to reputational penalties for the CEOs.

The economic magnitudes of antitrust and intellectual property lawsuits (as represented by $DEMAND_{ANT-t=0}$ and $DEMAND_{IP-t=0}$) appear to be significantly and positively associated with the subsequent change in CEO reputation. The estimated coefficient of $DEMAND_{ANT-t=0}$ is positive (0.367) and significant at the 5% level in predicting $\Delta DIRECT_{t(-1,+2)}$. Similarly, the estimated coefficient of $DEMAND_{IP-t=0}$ is also positive and significant at the 1% level in predicting $\Delta DIRECT_{t(0,+2),t(-1,+2)}$. These observed positive associations may be attributed to the following explanation: antitrust and intellectual property lawsuits do not allege fraud or misconduct, rather they represent aggressive business strategies on the part of the management, therefore, outside companies do not have the same reputational incentives to remove the CEOs of the sued companies from their boards.[8] Moreover, the CEOs of the sued companies, from their encounter with antitrust or intellectual property lawsuits of significant magnitude, may be regarded as having acquired valuable experience in dealing with these major lawsuits. Such knowledge and experience in these complex legal matters may enhance,

[8] As noted in Section 2.3 above, under hypothesis H(3), there are two competing bodies of evidence from prior literature, one stipulating greater reputational penalties following allegations of a political sensitive nature (such as environmental and securities litigation) (Bhagat, Bizjak & Coles, 1998), the other expects greater reputational penalties to follow lawsuits involving parties related to the sued companies (Karpoff, Lott & Wehrly, 2005; Murphy, Shrieves & Tibbs, 2009). Under both completing hypotheses, antitrust and intellectual property lawsuits, which are of routine commercial nature and often involve competitors rather than contractually related parties, are least expected to be followed by reputational penalties for the sued companies' executives.

rather than diminish, the perceived desirability for outside companies to appoint or retain them as independent directors on their boards.

Overall, the empirical results indicate that the economic magnitude of environmental lawsuits alone is significant in predicting a decline in CEO reputation, proxied by a subsequent loss of outside directorships. To the contrary, larger-scale antitrust and IP lawsuits are associated with an increase in the number of seats held by the CEO on outside boards.

4.4.2 Litigation Magnitudes and Career Progression

The binary regression specified in Section 4.2.2 under Equation (15) is re-estimated, by employing the demand variables ($DEMAND_{ALL\_t=0}$ and $DEMAND_{(SEC/ANT/IP/CON)\_t=0}$ in turn) to predict the reemployment prospects for CEOs who depart following lawsuit filings.

[Insert Table 10]

As reported in Panel A of Table 10, results indicate that the test variable $DEMAND_{ALL\_t=0}$, whilst having negative estimated coefficients, is statistically insignificant in predicting all three levels of reemployment measured by $RECEO_{t(0,+3),t(-1,+3)}$, $RETOP3_{t(0,+3),t(-1,+3)}$, and $REEMPLOY_{t(0,+3),t(-1,+3)}$. When the economic magnitudes of lawsuits in different categories are disaggregated, the test variables remain statistically insignificant, in predicting both $RETOP3_{t(0,+3),t(-1,+3)}$ (as reported in Panel B), and $REEMPLOY_{t(0,+3),t(-1,+3)}$ (as reported in Panel C).

This lack of statistical association between the economic magnitude of the legal claims, and the subsequent impairment of reemployment prospects, can be attributed to two primary reasons. First, given the severity of the allegations made in certain types of corporate litigation, it is the very nature of such allegations, rather than the monetary quantification of the alleged damages, that is of importance in raising substantial concern in relation to the company‟s management, and in determining the economic penalties for the managers responsible. For instance, in a shareholders‟ class action alleging the disclosure of misleading financial information by the company‟s management, given the grave and serious nature of the allegations, the dollar amount of damages claimed by the plaintiffs may be of secondary concern.

Second, when a lawsuit is filed against a public company, it may give rise to negative publicity that harms the company‟s reputation and hence its future profitability, resulting in adverse economic impacts far exceeding the actual amount of compensation sought by the plaintiffs in the lawsuit. Prior research (Govindaraj, Jaggi & Lin, 2004) has produced evidence of the capital market‟s tendency to overreact to potentially litigious events, such as vehicle recalls announced by public companies, causing a decline in their market value which grossly exceeds the expected costs of the recalls, arguably to account for the loss of reputational capital and the consequent impairment of their future profitability. Similarly, following the filing of litigation, the adverse reputational effects triggered by the allegations may far exceed the actual amounts of compensation sought, hence rendering the latter insignificant in the scheme of the overall negative impacts of the litigation, for which the CEOs of the sued companies are penalized by a decline in their reputation.

4.5 Litigation Merits

This Section investigates whether the reputational penalties incurred by CEOs of the sued companies vary in accordance with the merits of the litigation, as proxied by the rate of settlement amongst the filed lawsuits. The key independent variables employed in the re-estimation of the regressions, $SETTLE_{ALL-t=0}$ (for all lawsuits) and $SETTLE_{(ENV/SEC/ANT/IP/CON)-t=0}$ (for individual lawsuit categories), are previously discussed in Chapter 6.

4.5.1 Litigation Merits and Outside Directorships

I re-estimate Equation (13) as previously specified in Section 4.2.1, in which the key independent variable (previously $LAWSUIT_{t=0}$) is replaced by the settlement variables.[9] The results from these regressions are reported in Table 11.

[Insert Table 11]

As reported in Models (1) and (2) of Table 11, when the settlement rate, $SETTLE_{ALL-t=0}$, is calculated as an aggregated ratio across all five categories of lawsuits, its estimated coefficient is statistically insignificant in predicting the change in the number of outside directorships held by the CEOs. Similarly, when the settlement rates are computed within each of the individual lawsuit categories, the key independent variables, $SETTLE_{(ENV\ /\ SEC\ /\ ANT\ /\ IP\ /\ CON)-t=0}$, remain statistically insignificant in predicting the

[9] Detailed definitions of the settlement variables are provided in Appendix 1 (Variable Definitions).

subsequent change in CEO reputation, as proxied by the number of outside directorships held.

Contrary to the expectation that the reputational damage incurred by the CEOs of the sued companies would be determined by the outcome of the litigation as proxied by their settlement rates, there is no evidence to suggest that the CEO of a sued company experiences a more severe reputational penalty, as represented by a loss in the number of outside directorships held, in the case of more meritorious litigation filings which are subsequently settled. These results suggest that, unlike the economic penalties imposed on the CEOs by the internal mechanisms of reduced remuneration, the reputational penalties imposed by the external labor market forces, which are driven by the decisions of other companies to appoint or retain the CEOs as outside directors, do not appear to be determined by the merits of the lawsuits.

4.5.2 Litigation Merits and Career Progression

In order to investigate the association between the merits of the lawsuits filed against the companies, as proxied by their settlement rate ($SETTLE_{ALL-t=0}$), and the subsequent reemployment prospects for the CEOs in the event of departure from the sued companies, the binary probit regression specified previously in Equation (15) (in Section 4.2.2) is re-estimated, utilizing the settlement variables as the key independent variables. The regression results are reported in Table 12.

[Insert Table 12]

As reported in Panel A, the estimated coefficients of the test variable $SETTLE_{ALL-t=0}$ are uniformly insignificant in predicting the dependent variable $REEMPLOY_{t(0,+3),t(-1,+3)}$, at any of the three levels of reemployment observed. When the settlement rates are disaggregated by lawsuit categories (as reported in Panel B),[10] contrary to expectation, the settlement rate of IP lawsuits ($SETTLE_{IP-t=0}$) has a positive estimated coefficient (1.179), significant at the 10% level in predicting the subsequent reemployment prospects for the CEOs departing from the sued companies.

These empirical results give rise to an interesting observation. In the context of IP lawsuits, CEOs who depart from companies with a higher settlement rate of IP infringement allegations, not only fail to encounter diminished career prospects, but contrarily appear to face a slightly increased likelihood of finding reemployment. I interpret this observation to indicate that the experience gained from negotiating and securing settlements of IP lawsuits is considered by prospective employers as a valuable skill on the part of the departing CEOs.

[10] In Models (3) and (4), the settlement rate of antitrust lawsuits ($SETTLE_{ANT-t=0}$) is also significant at the 5% level in predicting both $REEMPLOY_{t(0,+3)}$ and $REEMPLOY_{t(-1,+3)}$, with negative estimated coefficients. However the overall F-statistics for the regressions are not statistically significant for these regressions, therefore, the estimated coefficients cannot be relied upon.

5 Conclusion

This Chapter examines the reputational penalties incurred by CEOs of US public companies, whose firms have encountered corporate litigation, in the forms of losses of outside directorships, and impairments of career prospects in the event of CEO turnover surrounding the lawsuit filings. The results provide a number of significant insights into the way in which the executive labor market operates, to impose reputational penalties upon CEOs for leading their companies into legal strife.

Results from empirical analyses indicate that, following corporate lawsuit filings, the CEOs of the sued companies, on average, experience impaired prospects of finding comparable reemployment in the event of turnover. Furthermore, CEOs of companies which have encountered securities litigation tend to experience a decrease in the total number of directorships held on outside boards, indicating a decline in their reputation. After controlling for potential selection bias that may arise from the different litigation risks faced by various companies, the predictive power of litigation remains significant in determining the reemployment prospects for displaced CEOs; in the case of loss of directorships, there is no evidence to suggest that any such selection bias exists.

The role of lawsuit-specific characteristics is further examined. However, there is little evidence to indicate that either the economic magnitudes of the litigation, or the merits of the litigation filings, have significant predictive powers over the subsequent decline in CEO reputation. It is observed that intellectual property lawsuits of larger economic magnitudes and more serious merits, far from damaging the CEOs‟ reputation, are followed by an increase in the number of outside directorships held, and improved

reemployment prospects. This may be due to the fact that the experience gained by the CEOs in handling such litigation is perceived as a desirable attribute by other companies, thus resulting in more appointments to outside boards and easier reemployment. The merits of other types of litigation, as proxied by their settlement rates, exhibit no consistent explanatory power over the change in reputation of the sued companies‟ executives.

Amongst the five types of lawsuits examined, whilst securities lawsuits are associated with a net loss of outside directorships, both securities *and* contractual lawsuits are followed by poorer reemployment prospects for CEOs who depart during the period surrounding the lawsuit filings. These results provide significant insights into the way in which the operation of the managerial labor market differentiates between lawsuits that lead to foreseeable impediments to the companies‟ economic success, and those that do not. CEOs appear to experience reputational penalties, only following those lawsuits involving plaintiffs who have existing contractual relationships with the sued companies, such as investors (in securities lawsuits) and customers or suppliers (in contractual lawsuits). These plaintiffs can impose future costs on the sued companies through repeated contracting. Prior literature has documented similar observations, however only in the context of firm reputation, rather than executive reputation, by investigating capital market reactions to litigation announcements (Alexander, 1999; Karpoff, Lott & Wehrly, 2005; Murphy, Shrieves & Tibbs, 2009). The empirical evidence in this Chapter therefore contributes to existing literature, by providing direct empirical evidence pertaining to the reputational penalties personally incurred by the sued companies‟ executive officers.

It is of particular significance that environmental lawsuits, where the plaintiffs usually have no direct contractual relationships with the sued companies, are not followed by any observed penalty imposed on the CEOs of the sued companies. Although the economic magnitudes of environmental lawsuits are significantly and negatively associated with the CEO‟s outside directorships, overall environmental litigation is not significant in predicting either a loss of outside board seats, or poorer reemployment prospects. Arguably, the absence of any significant penalties incurred personally by CEOs, whose companies are subject to environmental allegations, plays an important role in the shaping of the companies‟ operations and strategies in relation to environmental preservation. In light of the recent disaster of the Gulf of Mexico oil spill, this empirical evidence calls into question whether more stringent environmental legislation is required to impose harsher legal penalties in cases of proven violations. Given the general lack of concern shown by the operation of the executive labor market, harsher legal penalties for managers, who have allowed their companies to financially benefit from breaching environmental regulations, could serve to influence the behavior of future managers.

6 Tables

Table 1 Descriptive Statistics (Mean and Median) for Lawsuit vs. Control Samples

	Lawsuit* (Mean)	Control** (Mean)	Lawsuit (Median)	Control (Median)	Difference in Mean[1]	(P-value)	Difference in Median[2]	(P-value)
log(TA)	8.118	6.868	7.991	6.801	1.250***	(0.000)	1.190***	(0.000)
ROA	0.047	0.043	0.045	0.044	0.003**	(0.037)	0.001	(0.559)
%OUTSIDE	0.688	0.678	0.714	0.700	0.011***	(0.004)	0.014***	(0.000)
CEOAGE	55.524	55.633	56.000	56.000	-0.110	(0.454)	0.000	(0.684)
GENDER	0.017	0.023	0.000	0.000	-0.007**	(0.016)	0.000**	(0.016)
INTERNAL	0.647	0.592	1.000	1.000	0.055***	(0.000)	0.000	(1.000)
EXECOWN	1.955	2.607	0.240	0.429	-0.652***	(0.000)	-0.188***	(0.000)
EXECOWN(-2,0)	-0.062	-0.143	0.010	0.015	0.081	(0.252)	-0.005**	(0.041)
TENURE	6.588	7.335	4.000	5.000	-0.747***	(0.000)	-1.000***	(0.000)
NUMDIR	0.940	0.685	1.000	0.000	0.255***	(0.000)	1.000***	(0.000)
CEOAGE (ExCEO)	59.771	59.728	61.000	60.000	0.043	(0.847)	1.000	(0.333)
GENDER (ExCEO)	0.014	0.011	0.000	0.000	0.004	(0.226)	0.000	(0.226)
INTERNAL (ExCEO)	0.632	0.577	1.000	1.000	0.056***	(0.000)	0.000	(1.000)
EXECOWN (ExCEO)	8.667	9.068	7.000	7.000	-0.401*	(0.085)	0.000	(0.101)
TENURE (ExCEO)	1.901	2.349	0.244	0.404	-0.448***	(0.006)	-0.160***	(0.000)
RETAINED	0.343	0.332	0.000	0.000	0.011	(0.480)	0.000	(0.479)
RESIGN	0.273	0.318	0.000	0.000	-0.045**	(0.011)	0.000**	(0.011)

* Those firm-years in which at least one lawsuit is filed against the company.
** Those firm-years in which no lawsuit is filed against the company.

[1] ANOVA F-test of the Difference in Mean
[2] Chi-square Test of the Difference in Median

Detailed definitions of all variables are listed in Appendix 1 (Variable Definitions).

Table 2 Univariate Analysis: CEO Outside Directorships & Reemployment Prospects

	Lawsuit* (Mean)	Control** (Mean)	Lawsuit (Median)	Control (Median)	Difference in Mean[1]	(P-value)	Difference in Median[2]	(P-value)
ΔDIRECT(0,+2)	0.021	0.027	0.000	0.000	-0.006	(0.787)	0.000***	(0.000)
ΔDIRECT(-1,+2)	0.019	0.034	0.000	0.000	-0.015	(0.570)	0.000***	(0.000)
RECEO(0,+3)	0.032	0.022	0.000	0.000	0.010**	(0.048)	0.000**	(0.048)
RECEO(-1,+3)	0.031	0.025	0.000	0.000	0.007	(0.168)	0.000	(0.168)
RETOP3(0,+3)	0.038	0.023	0.000	0.000	0.015***	(0.005)	0.000***	(0.005)
RETOP3(-1,+3)	0.037	0.027	0.000	0.000	0.011**	(0.034)	0.000**	(0.034)
REEMPLOY(0,+3)	0.043	0.030	0.000	0.000	0.013**	(0.031)	0.000**	(0.031)
REEMPLOY(-1,+3)	0.043	0.033	0.000	0.000	0.011**	(0.049)	0.000**	(0.049)

* Those firm-years in which at least one lawsuit is filed against the company.
** Those firm-years in which no lawsuit is filed against the company.

[1] ANOVA F-test of the Difference in Mean
[2] Chi-square Test of the Difference in Median

Detailed definitions of all variables are listed in Appendix 1 (Variable Definitions)

Table 3 Loss of Outside Directorships (Overall Lawsuit Variable) – Equation (13)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	ΔDIRECT(0,+2)	ΔDIRECT(-1,+2)	ΔDIRECT(0,+2)	ΔDIRECT(-1,+2)	ΔDIRECT(0,+2)	ΔDIRECT(-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	0.189	-0.687	0.148	-0.733	0.039	0.082
	(0.797)	(0.285)	(0.840)	(0.257)	(0.862)	(0.718)
LAWSUIT (dummy)	0.039	0.013				
	(0.329)	(0.685)				
LAWSUIT (continuous)			-0.002	-0.003	-0.001	-0.001
			(0.693)	(0.380)	(0.749)	(0.760)
log(TA)	0.048	0.191***	0.056	0.198***	0.008	0.029**
	(0.577)	(0.004)	(0.517)	(0.003)	(0.559)	(0.040)
ROA	-0.193	-0.090	-0.190	-0.083	-0.113	-0.104
	(0.574)	(0.768)	(0.582)	(0.785)	(0.718)	(0.757)
%OUTSIDE	-0.172	-0.086	-0.175	-0.090	-0.062	0.232*
	(0.381)	(0.568)	(0.375)	(0.551)	(0.653)	(0.090)
CEOAGE	-0.003	-0.001	-0.003	-0.001	0.002	0.002
	(0.582)	(0.888)	(0.584)	(0.902)	(0.485)	(0.633)
GENDER	-0.173	-0.432	-0.184	-0.435	0.006	-0.031
	(0.856)	(0.793)	(0.848)	(0.792)	(0.974)	(0.861)
INTERNAL	0.064	0.099	0.067	0.103	0.007	-0.047
	(0.465)	(0.192)	(0.446)	(0.176)	(0.883)	(0.315)
EXECOWN	-0.013	-0.004	-0.013	-0.004	-0.014**	-0.007
	(0.342)	(0.689)	(0.340)	(0.685)	(0.022)	(0.156)
ΔEXECOWN(-2,0)	0.006	-0.003	0.006	-0.003	0.013**	-0.000
	(0.497)	(0.639)	(0.482)	(0.657)	(0.031)	(0.980)
TENURE	0.043	0.079	0.042	0.078	0.079	0.006
	(0.530)	(0.154)	(0.541)	(0.156)	(0.108)	(0.904)
NUMDIR	-0.381***	-1.043***	-0.381***	-1.043***	-0.266***	-0.561***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PERIOD F.E.	YES	YES	YES	YES	YES	YES
CROSS-SECT F.E.	YES	YES	YES	YES	YES	YES
n	4296	4299	4296	4299	2123	2124
Adj. R2	0.155	0.620	0.155	0.620	0.112	0.311
F-Stat	1.71	7.32	1.71	7.32	15.81	54.31
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — ΔDIRECT(0,+2) and ΔDIRECT(-1,+2) denote the change in the number of outside directorships held by the CEO on the boards of other companies over the (0,+2) period and (-1,+2) period, respectively. LAWSUIT (dummy) equals the value of 1 if one or more lawsuit(s) is/are filed against the company during year 0. LAWSUIT (continuous) denotes the number of lawsuits filed against the company during year 0. Log(TA) equals the natural log of total assets reported in Compustat. ROA equals the returns on total assets reported in Compustat. %OUTSIDE denotes the proportion of independent directors on the board in year -1. CEOAGE equals the age of the CEO reported in ExecuComp. GENDER equals 1 if the CEO is female and 0 otherwise. INTERNAL equals 1 if the CEO is internally appointed (having been employed at the company for 12 months or more prior to his or her appointment). EXECOWN denotes the stock ownership of the company‟s common shares by the CEO. ΔEXECOWN(-2,0) measures the change in CEO stock ownership over the two-year period from year -2 to year 0. TENURE equals the number of years over which the CEO has been serving in his/her current capacity. NUMDIR denotes the number of outside directorships already held by the CEO as at year 0. The sample consists of the Standard & Poor‟s 1,500 firms, divided into the litigation and control samples on the basis of whether any lawsuit is filed against the firm in year 0. The numbers in parentheses below the coefficient estimates are p-values.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 4 Loss of Outside Directorships (Breakdown by Lawsuit Categories) – Equation (14)

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	ΔDIRECT(0,+2)	ΔDIRECT(-1,+2)	ΔDIRECT(0,+2)	ΔDIRECT(-1,+2)	ΔDIRECT(0,+2)	ΔDIRECT(-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	0.166	-0.697	0.140	-0.760	0.089	0.161
	(0.822)	(0.279)	(0.850)	(0.240)	(0.698)	(0.490)
ENV (dummy)	-0.072	-0.109				
	(0.506)	(0.226)				
ENV (continuous)			-0.009	-0.077	0.072	0.134**
			(0.894)	(0.130)	(0.228)	(0.025)
SEC (dummy)	-0.065	-0.080				
	(0.384)	(0.142)				
SEC (continuous)			-0.014*	-0.014**	-0.009	-0.008
			(0.080)	(0.017)	(0.242)	(0.134)
ANT (dummy)	0.021	0.064				
	(0.818)	(0.345)				
ANT (continuous)			0.005	0.006	-0.001	-0.000
			(0.423)	(0.245)	(0.772)	(0.978)
IP (dummy)	0.006	0.009				
	(0.912)	(0.833)				
IP (continuous)			0.024	-0.000	0.011	0.004
			(0.375)	(0.989)	(0.442)	(0.758)
CON (dummy)	0.009	-0.017				
	(0.831)	(0.596)				
CON (continuous)			0.0004	-0.005	0.005	0.004
			(0.974)	(0.560)	(0.423)	(0.483)
log(TA)	0.055	0.197***	0.054	0.201***	-0.000	0.020
	(0.523)	(0.003)	(0.533)	(0.003)	(0.973)	(0.163)
ROA	-0.194	-0.090	-0.188	-0.086	-0.170	-0.151
	(0.574)	(0.768)	(0.586)	(0.779)	(0.590)	(0.654)
%OUTSIDE	-0.178	-0.093	-0.189	-0.105	-0.071	0.218
	(0.364)	(0.535)	(0.338)	(0.486)	(0.608)	(0.113)
CEOAGE	-0.004	-0.001	-0.003	-0.000	0.002	0.001
	(0.568)	(0.864)	(0.641)	(0.953)	(0.484)	(0.701)
GENDER	-0.181	-0.439	-0.180	-0.434	0.007	-0.023
	(0.850)	(0.790)	(0.851)	(0.793)	(0.969)	(0.898)
INTERNAL	0.067	0.100	0.068	0.105	0.006	-0.051
	(0.445)	(0.187)	(0.444)	(0.166)	(0.896)	(0.274)
EXECOWN	-0.013	-0.004	-0.013	-0.004	-0.014**	-0.007
	(0.337)	(0.680)	(0.336)	(0.687)	(0.019)	(0.146)
ΔEXECOWN(-2,0)	0.006	-0.002	0.006	-0.002	0.014**	0.000
	(0.470)	(0.690)	(0.459)	(0.688)	(0.025)	(0.968)
TENURE	0.041	0.076	0.040	0.075	0.085*	0.015
	(0.551)	(0.170)	(0.558)	(0.178)	(0.086)	(0.769)
NUMDIR	-0.382***	-1.043***	-0.380***	-1.042***	-0.266***	-0.563***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PERIOD F.E.	YES	YES	YES	YES	YES	YES
CROSS-SECT F.E.	YES	YES	YES	YES	YES	YES
n	4296	4299	4296	4299	2123	2124
Adj. R2	0.154	0.620	0.155	0.621	0.113	0.313
F-Stat	1.70	7.30	1.71	7.32	13.26	45.05
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — ENV, SEC, ANT, IP, CON (dummy) equal 1 if any environmental, securities, antitrust, intellectual property, and contractual lawsuits, respectively, are filed against the company during year 0. ENV, SEC, ANT, IP, CON (continuous) denote the number of environmental, securities, antitrust, intellectual property, and contractual lawsuits, respectively, filed against the company during year 0.

Table 5 CEO Reemployment Prospects (Overall Lawsuit Variable) – Equation (15)

Panel A: Dependent Variable = RECEO

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependent Variable	RECEO(0,+3)	RECEO(-1,+3)	RECEO(0,+3)	RECEO(-1,+3)	RECEO(0,+3)	RECEO(-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-2.359**	-2.163***	-2.703***	-2.466***	-2.875*	-2.674*
	(0.014)	(0.009)	(0.006)	(0.004)	(0.064)	(0.064)
LAWSUIT (dummy)	-0.029	-0.201				
	(0.851)	(0.149)				
LAWSUIT (continuous)			-0.048*	-0.061**	-0.071*	-0.070*
			(0.067)	(0.029)	(0.072)	(0.070)
log(TA)	0.053	0.081*	0.102*	0.118**	0.133	0.123
	(0.274)	(0.063)	(0.052)	(0.012)	(0.149)	(0.161)
ROA	1.254	1.317*	1.344	1.326*	2.985**	3.269**
	(0.123)	(0.077)	(0.108)	(0.080)	(0.044)	(0.024)
%OUTSIDE	0.401	0.227	0.361	0.195	0.156	0.036
	(0.472)	(0.641)	(0.519)	(0.689)	(0.845)	(0.962)
CEOAGE	-0.000	-0.004	0.001	-0.004	0.005	0.004
	(0.989)	(0.745)	(0.965)	(0.770)	(0.830)	(0.835)
GENDER	0.700**	0.743***	0.770**	0.801***	0.313	0.663
	(0.028)	(0.009)	(0.017)	(0.005)	(0.552)	(0.123)
INTERNAL	-0.596***	-0.506***	-0.625***	-0.524***	-0.833***	-0.830***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
TENURE	-0.312	-0.444***	-0.338*	-0.466***	-1.098***	-0.904**
	(0.105)	(0.008)	(0.082)	(0.006)	(0.009)	(0.011)
EXECOWN	-0.602**	-0.068	-0.620**	-0.067	-0.668	-0.631
	(0.034)	(0.307)	(0.036)	(0.322)	(0.127)	(0.114)
RETAIN	-0.411	-0.340	-0.457*	-0.385	-0.813*	-0.537
	(0.130)	(0.161)	(0.100)	(0.119)	(0.068)	(0.148)
RESIGN	0.338**	0.369**	0.372**	0.406***	0.368	0.457*
	(0.042)	(0.012)	(0.027)	(0.007)	(0.139)	(0.051)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	1307	1534	1307	1534	679	795
Adj. R2	0.156	0.121	0.170	0.134	0.252	0.234
F-Stat	11.75	15.49	11.59	15.24	5.43	6.68
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Panel B: Dependent Variable = RETOP3

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependant Variable	RETOP3(0,+3)	RETOP3(-1,+3)	RETOP3(0,+3)	RETOP3(-1,+3)	RETOP3(0,+3)	RETOP3(-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-2.582***	-2.279***	-2.997***	-2.662***	-3.500**	-3.342**
	(0.005)	(0.004)	(0.002)	(0.001)	(0.018)	(0.015)
LAWSUIT (dummy)	-0.017	-0.187				
	(0.912)	(0.159)				
LAWSUIT (continuous)			-0.053**	-0.063**	-0.087**	-0.082**
			(0.033)	(0.012)	(0.023)	(0.020)
log(TA)	0.101**	0.132***	0.158***	0.177***	0.228***	0.231***
	(0.027)	(0.001)	(0.002)	(0.000)	(0.008)	(0.005)
ROA	1.264	1.434*	1.398*	1.486*	3.348**	3.974***
	(0.117)	(0.054)	(0.095)	(0.052)	(0.025)	(0.006)
%OUTSIDE	0.619	0.296	0.563	0.253	0.629	0.498
	(0.252)	(0.526)	(0.300)	(0.590)	(0.414)	(0.491)
CEOAGE	-0.004	-0.008	-0.002	-0.007	0.000	-0.003
	(0.781)	(0.503)	(0.862)	(0.561)	(0.998)	(0.864)
GENDER	0.687**	0.727***	0.770**	0.798***	0.377	0.696*
	(0.027)	(0.009)	(0.014)	(0.005)	(0.459)	(0.094)
INTERNAL	-0.472***	-0.391***	-0.507***	-0.416***	-0.678***	-0.642***
	(0.002)	(0.003)	(0.001)	(0.002)	(0.003)	(0.002)
TENURE	-0.426**	-0.536***	-0.466**	-0.569***	-1.240***	-1.057***
	(0.021)	(0.001)	(0.013)	(0.001)	(0.002)	(0.002)
EXECOWN	-0.521**	-0.059	-0.539**	-0.057	-0.624	-0.554
	(0.046)	(0.375)	(0.048)	(0.397)	(0.146)	(0.148)
RETAIN	-0.429*	-0.367	-0.473*	-0.413*	-0.902**	-0.634*
	(0.098)	(0.114)	(0.075)	(0.082)	(0.031)	(0.068)
RESIGN	0.266	0.291**	0.302*	0.330**	0.278	0.333
	(0.102)	(0.043)	(0.067)	(0.024)	(0.253)	(0.142)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	1307	1534	1307	1534	679	795
Adj. R2	0.143	0.113	0.162	0.131	0.245	0.223
F-Stat	12.86	16.38	12.71	16.20	6.22	7.47
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Panel C: Dependent Variable = REEMPLOY

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependant Variable	REEMPLOY (0,+3)	REEMPLOY (-1,+3)	REEMPLOY (0,+3)	REEMPLOY (-1,+3)	REEMPLOY (0,+3)	REEMPLOY (-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-2.054**	-1.861**	-2.492***	-2.260***	-2.517*	-2.478**
	(0.017)	(0.014)	(0.005)	(0.004)	(0.064)	(0.049)
LAWSUIT (dummy)	0.010	-0.157				
	(0.946)	(0.223)				
LAWSUIT (continuous)			-0.054**	-0.064***	-0.087**	-0.082**
			(0.025)	(0.010)	(0.020)	(0.018)
log(TA)	0.112**	0.135***	0.172***	0.182***	0.217***	0.220***
	(0.011)	(0.001)	(0.000)	(0.000)	(0.008)	(0.005)
ROA	1.112	1.352*	1.267	1.420*	3.330**	3.937***
	(0.150)	(0.061)	(0.114)	(0.055)	(0.019)	(0.004)
%OUTSIDE	0.304	0.063	0.254	0.026	0.419	0.314
	(0.546)	(0.887)	(0.615)	(0.953)	(0.559)	(0.641)
CEOAGE	-0.011	-0.013	-0.010	-0.012	-0.015	-0.016
	(0.387)	(0.257)	(0.459)	(0.305)	(0.443)	(0.365)
GENDER	0.569*	0.639**	0.657**	0.717**	0.166	0.514
	(0.068)	(0.022)	(0.038)	(0.011)	(0.745)	(0.213)
INTERNAL	-0.471***	-0.393***	-0.509***	-0.422***	-0.606***	-0.575***
	(0.001)	(0.002)	(0.001)	(0.001)	(0.006)	(0.005)
TENURE	-0.296*	-0.415***	-0.341**	-0.449***	-0.979***	-0.860***
	(0.081)	(0.006)	(0.047)	(0.003)	(0.002)	(0.003)
EXECOWN	-0.298*	-0.055	-0.300*	-0.053	-0.382	-0.357
	(0.085)	(0.366)	(0.094)	(0.389)	(0.213)	(0.214)
RETAIN	-0.488*	-0.432*	-0.532**	-0.481**	-0.963**	-0.690**
	(0.060)	(0.063)	(0.047)	(0.044)	(0.023)	(0.049)
RESIGN	0.378**	0.378***	0.413***	0.416***	0.396*	0.436**
	(0.014)	(0.006)	(0.008)	(0.003)	(0.083)	(0.042)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	1307	1534	1307	1534	679	795
Adj. R2	0.132	0.112	0.151	0.131	0.235	0.216
F-Stat	13.86	17.06	13.66	16.85	6.87	8.05
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — REEMPLOY(0,+3) and REEMPLOY(-1,+3) denote whether a CEO who departs from the company during the (0,+3) period and (-1,+3) period, respectively, subsequently gains reemployment at another S&P 1,500 company. RECEO equals 1 if the CEO subsequently gains employment as the chief executive officer. RETOP3 equals 1 if the CEO subsequently gains employment as the chief executive officer, president, or chairman of the board. REEMPLOY equals 1 if the CEO subsequently gains reemployment as any senior executive officer (including vice president, chief financial officer, and chief operating officer) or as a non-executive director on the board.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test

Table 6 CEO Reemployment Prospects (Breakdown by Lawsuit Categories) – Equation (16)

Panel A: Dependent Variable = RECEO

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependant Variable	RECEO(0,+3)	RECEO(-1,+3)	RECEO(0,+3)	RECEO(-1,+3)	RECEO(0,+3)	RECEO(-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-2.353**	-2.198***	-2.817***	-2.623***	-3.284**	-3.068**
	(0.016)	(0.009)	(0.005)	(0.003)	(0.045)	(0.043)
ENV (dummy)	-0.336	-0.351				
	(0.547)	(0.503)				
ENV (continuous)			-0.116	-0.122	-0.217	-0.133
			(0.802)	(0.794)	(0.688)	(0.805)
SEC (dummy)	-0.293	-0.339				
	(0.261)	(0.173)				
SEC (continuous)			-0.029	-0.031	-0.032	-0.035
			(0.469)	(0.438)	(0.483)	(0.423)
ANT (dummy)	0.258	0.242				
	(0.344)	(0.343)				
ANT (continuous)			-0.022	-0.022	-0.026	-0.029
			(0.651)	(0.648)	(0.676)	(0.643)
IP (dummy)	-0.037	-0.035				
	(0.844)	(0.835)				
IP (continuous)			0.041	0.041	-0.024	0.004
			(0.569)	(0.557)	(0.821)	(0.971)
CON (dummy)	-0.069	-0.233				
	(0.681)	(0.131)				
CON (continuous)			-0.155**	-0.198***	-0.206**	-0.238**
			(0.045)	(0.009)	(0.037)	(0.016)
log(TA)	0.069	0.097**	0.117**	0.136***	0.173*	0.168*
	(0.183)	(0.035)	(0.030)	(0.005)	(0.074)	(0.073)
ROA	1.200	1.236*	1.282	1.265*	3.055**	3.312**
	(0.145)	(0.100)	(0.127)	(0.099)	(0.047)	(0.029)
%OUTSIDE	0.343	0.181	0.335	0.166	0.218	0.062
	(0.541)	(0.712)	(0.555)	(0.737)	(0.791)	(0.937)
CEOAGE	-0.002	-0.005	0.001	-0.002	0.007	0.006
	(0.914)	(0.680)	(0.928)	(0.847)	(0.754)	(0.766)
GENDER	0.752**	0.776***	0.803**	0.820***	0.455	0.754*
	(0.019)	(0.007)	(0.013)	(0.005)	(0.400)	(0.087)
INTERNAL	-0.598***	-0.516***	-0.640***	-0.546***	-0.878***	-0.883***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
TENURE	-0.318	-0.442***	-0.344*	-0.466***	-1.128***	-0.927**
	(0.101)	(0.009)	(0.080)	(0.006)	(0.009)	(0.012)
EXECOWN	-0.573**	-0.066	-0.583**	-0.066	-0.591	-0.575
	(0.042)	(0.315)	(0.050)	(0.324)	(0.195)	(0.169)
RETAIN	-0.434	-0.368	-0.449	-0.385	-0.829*	-0.570
	(0.114)	(0.133)	(0.108)	(0.122)	(0.067)	(0.135)
RESIGN	0.339**	0.375**	0.367**	0.400***	0.363	0.454*
	(0.044)	(0.012)	(0.030)	(0.008)	(0.150)	(0.057)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	1307	1534	1307	1534	679	795
Adj. R2	0.163	0.130	0.179	0.146	0.269	0.256
F-Stat	8.64	11.36	8.57	11.15	4.11	4.88
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Panel B: Dependent Variable = RETOP3

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependant Variable	RETOP3(0,+3)	RETOP3(-1,+3)	RETOP3(0,+3)	RETOP3(-1,+3)	RETOP3(0,+3)	RETOP3(-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-2.541***	-2.299***	-3.118***	-2.809***	-3.981**	-3.775***
	(0.007)	(0.004)	(0.001)	(0.001)	(0.011)	(0.008)
ENV (dummy)	-0.525	-0.543				
	(0.341)	(0.293)				
ENV (continuous)			-0.222	-0.254	-0.344	-0.288
			(0.619)	(0.583)	(0.495)	(0.565)
SEC (dummy)	-0.455*	-0.379*				
	(0.075)	(0.098)				
SEC (continuous)			-0.038	-0.042	-0.046	-0.050
			(0.368)	(0.317)	(0.359)	(0.263)
ANT (dummy)	0.334	0.268				
	(0.172)	(0.238)				
ANT (continuous)			-0.014	-0.017	-0.019	-0.024
			(0.723)	(0.673)	(0.703)	(0.623)
IP (dummy)	-0.077	-0.033				
	(0.660)	(0.832)				
IP (continuous)			0.001	0.016	-0.083	-0.038
			(0.987)	(0.802)	(0.400)	(0.666)
CON (dummy)	0.012	-0.153				
	(0.939)	(0.287)				
CON (continuous)			-0.116*	-0.152**	-0.184**	-0.198**
			(0.064)	(0.014)	(0.030)	(0.016)
log(TA)	0.120**	0.147***	0.171***	0.192***	0.268***	0.274***
	(0.014)	(0.001)	(0.001)	(0.000)	(0.003)	(0.002)
ROA	1.199	1.348*	1.352	1.418*	3.521**	4.035***
	(0.146)	(0.073)	(0.108)	(0.066)	(0.024)	(0.008)
%OUTSIDE	0.519	0.227	0.539	0.218	0.703	0.516
	(0.341)	(0.630)	(0.326)	(0.646)	(0.377)	(0.489)
CEOAGE	-0.006	-0.009	-0.002	-0.006	0.003	-0.001
	(0.675)	(0.439)	(0.911)	(0.639)	(0.887)	(0.963)
GENDER	0.759**	0.763***	0.788**	0.803***	0.505	0.770*
	(0.015)	(0.006)	(0.013)	(0.004)	(0.330)	(0.069)
INTERNAL	-0.480***	-0.397***	-0.515***	-0.429***	-0.721***	-0.678***
	(0.002)	(0.003)	(0.001)	(0.001)	(0.002)	(0.002)
TENURE	-0.436**	-0.535***	-0.470**	-0.568***	-1.271***	-1.076***
	(0.019)	(0.001)	(0.013)	(0.001)	(0.002)	(0.002)
EXECOWN	-0.496*	-0.056	-0.509*	-0.056	-0.559	-0.482
	(0.055)	(0.392)	(0.063)	(0.401)	(0.209)	(0.220)
RETAIN	-0.470*	-0.404*	-0.473*	-0.417*	-0.955**	-0.680*
	(0.075)	(0.086)	(0.076)	(0.081)	(0.025)	(0.056)
RESIGN	0.278*	0.305**	0.298*	0.326**	0.274	0.329
	(0.093)	(0.037)	(0.072)	(0.027)	(0.266)	(0.153)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	1307	1534	1307	1534	679	795
Adj. R2	0.158	0.123	0.168	0.139	0.258	0.239
F-Stat	9.50	12.06	9.44	11.95	4.67	5.52
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Panel C: Dependent Variable = REEMPLOY

	LAWSUIT (dummy)		LAWSUIT (continuous)		LAWSUIT (continuous) Restricted Sample	
Dependant Variable	REEMPLOY (0,+3)	REEMPLOY (-1,+3)	REEMPLOY (0,+3)	REEMPLOY (-1,+3)	REEMPLOY (0,+3)	REEMPLOY (-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-2.084**	-1.920**	-2.621***	-2.406***	-3.000**	-2.921**
	(0.018)	(0.013)	(0.004)	(0.003)	(0.035)	(0.027)
ENV (dummy)	-0.592	-0.611				
	(0.279)	(0.236)				
ENV (continuous)			-0.251	-0.284	-0.372	-0.322
			(0.578)	(0.545)	(0.469)	(0.529)
SEC (dummy)	-0.391*	-0.327				
	(0.097)	(0.129)				
SEC (continuous)			-0.034	-0.036	-0.041	-0.043
			(0.367)	(0.329)	(0.345)	(0.278)
ANT (dummy)	0.313	0.249				
	(0.193)	(0.271)				
ANT (continuous)			-0.012	-0.016	-0.018	-0.022
			(0.764)	(0.702)	(0.736)	(0.671)
IP (dummy)	-0.109	-0.074				
	(0.528)	(0.631)				
IP (continuous)			-0.007	0.005	-0.104	-0.062
			(0.921)	(0.945)	(0.294)	(0.493)
CON (dummy)	0.019	-0.131				
	(0.902)	(0.348)				
CON (continuous)			-0.118*	-0.152**	-0.188**	-0.201**
			(0.053)	(0.012)	(0.025)	(0.013)
log(TA)	0.133***	0.152***	0.186***	0.199***	0.263***	0.269***
	(0.005)	(0.000)	(0.000)	(0.000)	(0.002)	(0.001)
ROA	1.091	1.308*	1.251	1.382*	3.628**	4.148***
	(0.166)	(0.073)	(0.121)	(0.066)	(0.016)	(0.005)
%OUTSIDE	0.245	0.013	0.232	-0.006	0.485	0.321
	(0.631)	(0.978)	(0.650)	(0.989)	(0.511)	(0.643)
CEOAGE	-0.013	-0.014	-0.009	-0.011	-0.012	-0.014
	(0.340)	(0.230)	(0.501)	(0.356)	(0.537)	(0.437)
GENDER	0.633**	0.674**	0.675**	0.723**	0.314	0.606
	(0.043)	(0.016)	(0.034)	(0.011)	(0.543)	(0.148)
INTERNAL	-0.479***	-0.401***	-0.516***	-0.434***	-0.658***	-0.620***
	(0.001)	(0.002)	(0.000)	(0.001)	(0.003)	(0.003)
TENURE	-0.309*	-0.417***	-0.347**	-0.450***	-1.038***	-0.901***
	(0.071)	(0.006)	(0.045)	(0.003)	(0.002)	(0.002)
EXECOWN	-0.282*	-0.053	-0.282	-0.052	-0.345	-0.313
	(0.099)	(0.381)	(0.109)	(0.397)	(0.276)	(0.282)
RETAIN	-0.529**	-0.468**	-0.533**	-0.485**	-1.023**	-0.743**
	(0.046)	(0.047)	(0.047)	(0.043)	(0.018)	(0.037)
RESIGN	0.395**	0.395***	0.410***	0.413***	0.389*	0.433**
	(0.012)	(0.005)	(0.010)	(0.004)	(0.094)	(0.048)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	1307	1534	1307	1534	679	795
Adj. R2	0.145	0.121	0.157	0.139	0.250	0.232
F-Stat	10.15	12.50	10.12	12.39	5.07	5.87
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test

Table 7 Loss of Outside Directorships (Heckman Selection Model) – Equation (17)

Dependant Variable Models	ΔDIRECT(0,+2) (1)	ΔDIRECT(-1,+2) (2)
constant	0.297	0.035
	(0.741)	(0.971)
LAWSUIT	-0.001	-0.002
	(0.743)	(0.566)
log(TA)	-0.017	0.035
	(0.845)	(0.698)
ROA	-0.179	-0.203
	(0.616)	(0.597)
%OUTSIDE	-0.001	0.254
	(0.997)	(0.126)
CEOAGE	0.002	0.001
	(0.513)	(0.748)
GENDER	-0.019	-0.061
	(0.919)	(0.746)
INTERNAL	0.000	-0.045
	(0.997)	(0.371)
EXECOWN	-0.015**	-0.007
	(0.021)	(0.189)
ΔEXECOWN(-2,0)	0.013**	-0.001
	(0.031)	(0.936)
TENURE	0.102	0.030
	(0.128)	(0.657)
NUMDIR	-0.277***	-0.556***
	(0.000)	(0.000)
lambda	-0.149	-0.008
	(0.766)	(0.987)
n	2013	2014
Adj. R2	0.114	0.306
F-Stat	14.646	47.775
(p-value)	0.000	0.000

Note — lambda equals the inverse Mills ratio calculated from the first-stage regression of the Heckman Selection Model.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 8 CEO Reemployment Prospects (Heckman Selection Model) – Equation (18)

	RECEO		**RETOP3**		**REEMPLOY**	
Dependant Variable	RECEO (0,+3)	RECEO (-1,+3)	RETOP3 (0,+3)	RETOP3 (-1,+3)	REEMPLOY (0,+3)	REEMPLOY (-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	1.953	1.724	2.028	1.903	3.490	3.130
	(0.625)	(0.651)	(0.587)	(0.592)	(0.329)	(0.358)
LAWSUIT	-0.068*	-0.067*	-0.087**	-0.082**	-0.087**	-0.082**
	(0.097)	(0.090)	(0.030)	(0.026)	(0.026)	(0.024)
Log(TA)	-0.270	-0.243	-0.223	-0.195	-0.278	-0.240
	(0.407)	(0.434)	(0.451)	(0.491)	(0.332)	(0.380)
ROA	1.481	1.858	1.523	2.234	1.339	2.058
	(0.422)	(0.303)	(0.405)	(0.206)	(0.443)	(0.224)
%OUTSIDE	0.085	-0.040	0.516	0.375	0.327	0.205
	(0.915)	(0.958)	(0.502)	(0.605)	(0.648)	(0.761)
CEOAGE	0.009	0.008	0.005	0.001	-0.009	-0.011
	(0.677)	(0.682)	(0.811)	(0.951)	(0.651)	(0.552)
GENDER	-0.077	0.306	-0.069	0.280	-0.315	0.069
	(0.897)	(0.548)	(0.905)	(0.565)	(0.580)	(0.885)
INTERNAL	-0.574*	-0.599**	-0.382	-0.370	-0.281	-0.282
	(0.066)	(0.041)	(0.189)	(0.168)	(0.314)	(0.277)
TENURE	-0.977**	-0.804**	-1.103***	-0.944***	-0.830**	-0.736**
	(0.024)	(0.028)	(0.007)	(0.006)	(0.011)	(0.012)
EXECOWN	-0.641	-0.593	-0.551	-0.482	-0.322	-0.293
	(0.166)	(0.156)	(0.203)	(0.215)	(0.282)	(0.295)
RETAIN	-1.034**	-0.740*	-1.139***	-0.857**	-1.237***	-0.941**
	(0.030)	(0.068)	(0.010)	(0.021)	(0.006)	(0.012)
RESIGN	0.451*	0.536**	0.378	0.427*	0.512**	0.546**
	(0.086)	(0.031)	(0.143)	(0.075)	(0.037)	(0.017)
lambda	-2.515	-2.303	-2.939*	-2.785	-3.211*	-2.994*
	(0.179)	(0.204)	(0.096)	(0.102)	(0.060)	(0.069)
n	651	763	651	763	651	763
Adj. R2	0.257	0.237	0.257	0.232	0.250	0.227
F-Stat	3.170	3.463	3.003	3.273	3.519	3.778
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Note — lambda equals the inverse Mills ratio calculated from the first-stage regression of the Heckman Selection Model.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 9 Litigation Magnitudes and Loss of Outside Directorships

	Overall Lawsuits		**Environmental**		**Securities**		**Antitrust**		**Intellectual Property**		**Contractual**	
Dependant Variable	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
constant	0.077	0.104	3.250**	3.426**	-0.068	-0.120	1.445	0.047	0.051	0.083	0.002	-0.017
	(0.783)	(0.708)	(0.041)	(0.029)	(0.932)	(0.871)	(0.289)	(0.968)	(0.922)	(0.871)	(0.995)	(0.959)
$DEMAND_{ALL}$	0.003	0.003										
	(0.672)	(0.574)										
$DEMAND_{ENV\text{-}CON}$			-0.820	-1.018**	-0.002	-0.007	0.359*	0.367**	0.074***	0.071***	0.000	0.003
			(0.101)	(0.039)	(0.830)	(0.478)	(0.076)	(0.039)	(0.008)	(0.009)	(0.956)	(0.714)
log(TA)	0.002	0.033**	-0.011	0.052	-0.025	-0.046	0.021	0.061	-0.035	-0.006	0.022	0.049***
	(0.887)	(0.045)	(0.877)	(0.453)	(0.537)	(0.229)	(0.777)	(0.356)	(0.254)	(0.846)	(0.256)	(0.010)
ROA	-0.041	-0.002	2.215	3.469	-0.688	-0.255	0.714	1.548	0.078	-0.021	-0.094	0.234
	(0.917)	(0.995)	(0.333)	(0.124)	(0.453)	(0.767)	(0.697)	(0.335)	(0.904)	(0.974)	(0.857)	(0.650)
%OUTSIDE	-0.088	0.196	-0.458	-1.298	0.072	0.449	-0.416	-0.307	-0.119	0.137	-0.202	0.147
	(0.613)	(0.257)	(0.625)	(0.160)	(0.890)	(0.360)	(0.627)	(0.683)	(0.706)	(0.656)	(0.323)	(0.470)
CEOAGE	0.002	0.002	-0.035*	-0.030	0.004	0.005	-0.014	0.007	0.005	0.005	0.003	0.004
	(0.654)	(0.632)	(0.091)	(0.147)	(0.739)	(0.657)	(0.452)	(0.656)	(0.534)	(0.475)	(0.601)	(0.441)
GENDER	0.388	0.164			1.905**	1.660**			0.290	-0.147	0.129	0.095
	(0.185)	(0.573)			(0.032)	(0.045)			(0.457)	(0.700)	(0.778)	(0.835)
INTERNAL	-0.007	-0.102*	-0.269	-0.266	0.016	-0.003	-0.549*	-0.639**	0.000	-0.148	-0.011	-0.103
	(0.913)	(0.086)	(0.327)	(0.324)	(0.934)	(0.988)	(0.070)	(0.017)	(0.999)	(0.156)	(0.874)	(0.147)
TENURE	-0.009	-0.003	-0.007	-0.006	-0.047*	-0.047**	-0.069	-0.062*	-0.012	-0.013	-0.008	-0.000
	(0.128)	(0.559)	(0.898)	(0.917)	(0.061)	(0.044)	(0.103)	(0.095)	(0.262)	(0.205)	(0.272)	(0.999)
EXECOWN	0.012	-0.003	0.044	0.027	0.049	0.043	0.216	0.304	0.007	-0.004	0.011	-0.006
	(0.216)	(0.787)	(0.791)	(0.870)	(0.100)	(0.123)	(0.561)	(0.350)	(0.859)	(0.905)	(0.320)	(0.550)
ΔEXECOWN(-2,0)	0.125*	-0.005	-0.231	-0.441	0.275	0.369**	0.169	0.122	0.223*	0.176	0.090	-0.078
	(0.058)	(0.936)	(0.473)	(0.166)	(0.157)	(0.043)	(0.564)	(0.634)	(0.080)	(0.156)	(0.248)	(0.312)
NUMDIR	-0.284***	-0.576***	-0.261***	-0.515***	-0.312***	-0.501***	-0.347***	-0.544***	-0.240***	-0.542***	-0.290***	-0.606***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PERIOD F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
n	1421	1421	127	127	163	163	101	101	416	416	1061	1061
Adj. R2	0.113	0.323	0.118	0.346	0.119	0.282	0.082	0.292	0.110	0.306	0.112	0.337
F-Stat	11.084	38.638	2.052	5.170	2.219	4.538	1.529	3.427	3.861	11.176	8.406	30.988
(p-value)	0.000	0.000	0.016	0.000	0.005	0.000	0.105	0.000	0.000	0.000	0.000	0.000

Note — $DEMAND_{ALL}$ equals the sum of all demands for pecuniary compensation filed against the company during year 0 scaled by firm size (total assets) at the beginning of year 0. $DEMAND_{ENV}$, $DEMAND_{SEC}$, $DEMAND_{ANT}$, $DEMAND_{IP}$, AND $DEMAND_{CON}$ equal the sum of demands for pecuniary compensation filed during year 0 under environmental, securities, antitrust, intellectual property, and contractual lawsuits, respectively, scaled by firm size (total assets) at the beginning of year 0.

Table 10 Litigation Magnitudes and CEO Reemployment Prospects

Panel A: Dependent Variable = RECEO

	Overall Lawsuits		**Overall Lawsuits**		**Overall Lawsuits**	
Dependant Variable	RECEO(0,+3)	RECEO(-1,+3)	RETOP3(0,+3)	RETOP3(-1,+3)	REEMPLOY(0,+3)	REEMPLOY(-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-1.475	-1.402	-1.493	-1.318	-1.715	-1.568
	(0.360)	(0.365)	(0.324)	(0.354)	(0.247)	(0.260)
$DEMAND_{ALL}$	-1.276	-1.386	-1.603	-1.753	-1.687	-1.824
	(0.374)	(0.345)	(0.291)	(0.256)	(0.274)	(0.244)
log(TA)	-0.074	-0.081	-0.030	-0.018	-0.028	-0.017
	(0.401)	(0.354)	(0.716)	(0.822)	(0.724)	(0.827)
ROA	3.378**	3.447**	3.750**	4.148***	3.752**	4.160***
	(0.039)	(0.032)	(0.020)	(0.009)	(0.018)	(0.007)
%OUTSIDE	0.418	0.304	0.859	0.783	1.043	0.967
	(0.645)	(0.730)	(0.323)	(0.345)	(0.224)	(0.236)
CEOAGE	0.006	0.005	-0.003	-0.011	-0.003	-0.010
	(0.801)	(0.832)	(0.882)	(0.610)	(0.906)	(0.639)
GENDER	0.227	0.251	0.178	0.163	0.129	0.122
	(0.704)	(0.671)	(0.756)	(0.770)	(0.823)	(0.829)
INTERNAL	-0.601**	-0.582**	-0.432*	-0.359	-0.458*	-0.381*
	(0.023)	(0.023)	(0.079)	(0.124)	(0.060)	(0.098)
TENURE	-0.433*	-0.368	-0.471**	-0.367*	-0.495**	-0.392*
	(0.086)	(0.122)	(0.045)	(0.093)	(0.031)	(0.065)
EXECOWN	-0.849*	-0.858*	-0.932*	-0.955*	-0.593	-0.579
	(0.093)	(0.097)	(0.089)	(0.090)	(0.115)	(0.127)
RETAIN	-0.691	-0.698	-0.706	-0.718	-0.754	-0.760
	(0.191)	(0.186)	(0.157)	(0.143)	(0.134)	(0.124)
RESIGN	0.571**	0.577**	0.489*	0.438*	0.565**	0.511**
	(0.040)	(0.034)	(0.071)	(0.093)	(0.033)	(0.045)
PERIOD FIXED EFFECT	YES	YES	YES	YES	YES	YES
n	472	543	472	543	472	543
Adj. R2	0.233	0.226	0.216	0.200	0.216	0.198
F-Stat	5.040	5.223	5.393	5.590	5.564	5.757
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Panel B: Dependent Variable = RETOP3

	Securities		**Antitrust**		**Intellectual Property**		**Contractual**	
Dependant Variable	REEMPLOY(0,+3)	REEMPLOY(-1,+3)	REEMPLOY(0,+3)	REEMPLOY(-1,+3)	REEMPLOY(0,+3)	REEMPLOY(-1,+3)	REEMPLOY(0,+3)	REEMPLOY(-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
constant	-1.004	-0.901	16.327	-0.854	-0.145	-1.875	-1.479	-1.369
	(0.652)	(0.663)	(0.241)	(0.903)	(0.937)	(0.248)	(0.380)	(0.391)
$DEMAND_{SEC\text{-}CON}$	-6.416	-8.191	1.656	0.052	-0.284	-1.853	-1.559	-1.584
	(0.804)	(0.697)	(0.497)	(0.980)	(0.964)	(0.934)	(0.345)	(0.335)
log(TA)	-0.137	-0.101	0.713	0.573	0.122	0.120	-0.055	-0.024
	(0.382)	(0.465)	(0.203)	(0.133)	(0.205)	(0.156)	(0.562)	(0.793)
ROA	0.611	1.358	-5.790	1.078	2.517	2.422	4.603**	4.941**
	(0.795)	(0.564)	(0.622)	(0.879)	(0.144)	(0.117)	(0.025)	(0.013)
%OUTSIDE	0.138	0.378	11.294	12.462*	2.020*	2.109*	1.777	1.795*
	(0.924)	(0.785)	(0.219)	(0.055)	(0.100)	(0.056)	(0.124)	(0.099)
CEOAGE	0.006	-0.006	-0.568*	-0.244*	-0.064**	-0.036*	-0.018	-0.027
	(0.840)	(0.829)	(0.093)	(0.056)	(0.012)	(0.067)	(0.485)	(0.283)
INTERNAL	-0.608	-0.436	-1.997	-0.722	-0.843**	-0.644**	-0.380	-0.303
	(0.219)	(0.325)	(0.225)	(0.465)	(0.010)	(0.021)	(0.198)	(0.277)
TENURE	0.025	0.109	-2.700	-1.320	-0.872***	-0.694***	-0.344	-0.237
	(0.954)	(0.774)	(0.198)	(0.179)	(0.004)	(0.004)	(0.200)	(0.340)
EXECOWN	0.026	0.019	-6.597	-3.194	0.106***	0.069***	-0.614	-0.590
	(0.336)	(0.456)	(0.185)	(0.402)	(0.002)	(0.007)	(0.217)	(0.240)
PERIOD FIXED EFFECT	YES	YES	YES	YES	YES	YES	YES	YES
n	137	154	86	101	288	333	349	414
Adj. R2	0.151	0.117	0.701	0.636	0.296	0.243	0.225	0.204
F-Stat	4.044	4.655	0.549	0.918	4.547	5.364	5.915	6.664
(p-value)	0.000	0.000	0.816	0.505	0.000	0.000	0.000	0.000

Panel C: Dependent Variable = REEMPLOY

	Securities		**Antitrust**		**Intellectual Property**		**Contractual**	
Dependant Variable	RETOP3(0,+3)	RETOP3(-1,+3)	RETOP3(0,+3)	RETOP3(-1,+3)	RETOP3(0,+3)	RETOP3(-1,+3)	RETOP3(0,+3)	RETOP3(-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
constant	-1.730	-1.556	16.327	-0.854	-0.145	-1.875	-1.479	-1.369
	(0.470)	(0.477)	(0.241)	(0.903)	(0.937)	(0.248)	(0.380)	(0.391)
$DEMAND_{SEC\text{-}CON}$	-3.157	-5.785	1.656	0.052	-0.284	-1.853	-1.559	-1.584
	(0.761)	(0.764)	(0.497)	(0.980)	(0.964)	(0.934)	(0.345)	(0.335)
log(TA)	-0.086	-0.039	0.713	0.573	0.122	0.120	-0.055	-0.024
	(0.609)	(0.795)	(0.203)	(0.133)	(0.205)	(0.156)	(0.562)	(0.793)
ROA	0.395	1.412	-5.790	1.078	2.517	2.422	4.603**	4.941**
	(0.881)	(0.594)	(0.622)	(0.879)	(0.144)	(0.117)	(0.025)	(0.013)
%OUTSIDE	-1.089	-0.619	11.294	12.462*	2.020*	2.109*	1.777	1.795*
	(0.500)	(0.676)	(0.219)	(0.055)	(0.100)	(0.056)	(0.124)	(0.099)
CEOAGE	0.016	-0.001	-0.568*	-0.244*	-0.064**	-0.036*	-0.018	-0.027
	(0.657)	(0.971)	(0.093)	(0.056)	(0.012)	(0.067)	(0.485)	(0.283)
INTERNAL	-0.440	-0.284	-1.997	-0.722	-0.843**	-0.644**	-0.380	-0.303
	(0.427)	(0.562)	(0.225)	(0.465)	(0.010)	(0.021)	(0.198)	(0.277)
TENURE	0.086	0.148	-2.700	-1.320	-0.872***	-0.694***	-0.344	-0.237
	(0.869)	(0.739)	(0.198)	(0.179)	(0.004)	(0.004)	(0.200)	(0.340)
EXECOWN	0.028	0.020	-6.597	-3.194	0.106***	0.069***	-0.614	-0.590
	(0.313)	(0.437)	(0.185)	(0.402)	(0.002)	(0.007)	(0.217)	(0.240)
PERIOD FIXED EFFECT	YES	YES	YES	YES	YES	YES	YES	YES
n	137	154	86	101	288	333	349	414
Adj. R2	0.173	0.136	0.701	0.636	0.296	0.243	0.225	0.204
F-Stat	2.966	3.668	0.549	0.918	4.547	5.364	5.915	6.664
(p-value)	0.004	0.001	0.816	0.505	0.000	0.000	0.000	0.000

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 11 Litigation Merits and Loss of Outside Directorships

	Overall Lawsuits		**Environmental**		**Securities**		**Antitrust**		**Intellectual Property**		**Contractual**	
Dependant Variable	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)	ΔDIRECT (0,+2)	ΔDIRECT (-1,+2)
Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
constant	0.126	0.109	3.169*	3.220**	0.229	-0.212	1.518	0.331	-0.314	-0.112	0.207	0.089
	(0.600)	(0.657)	(0.060)	(0.049)	(0.717)	(0.743)	(0.176)	(0.760)	(0.430)	(0.782)	(0.478)	(0.767)
$SETTLE_{ALL}$	0.047	0.017										
	(0.489)	(0.806)										
$SETTLE_{ENV\text{-}CON}$			-0.211	-0.435	0.032	0.052	-0.037	0.006	-0.025	-0.110	0.036	-0.020
			(0.532)	(0.187)	(0.830)	(0.734)	(0.876)	(0.980)	(0.829)	(0.347)	(0.646)	(0.802)
log(TA)	0.003	0.023*	-0.002	0.078	-0.022	-0.017	0.025	0.042	0.017	0.026	0.008	0.030*
	(0.811)	(0.098)	(0.974)	(0.275)	(0.492)	(0.600)	(0.670)	(0.453)	(0.440)	(0.247)	(0.604)	(0.074)
ROA	-0.230	-0.026	3.246	3.531	-1.243*	-1.066	0.695	1.415	0.186	0.017	-0.109	0.402
	(0.477)	(0.937)	(0.164)	(0.119)	(0.094)	(0.159)	(0.625)	(0.305)	(0.723)	(0.974)	(0.799)	(0.359)
%OUTSIDE	-0.144	0.207	-0.420	-1.008	0.127	0.494	-0.494	-0.080	-0.119	0.036	-0.292*	0.141
	(0.321)	(0.163)	(0.676)	(0.303)	(0.751)	(0.228)	(0.507)	(0.912)	(0.629)	(0.886)	(0.098)	(0.433)
CEOAGE	0.001	0.002	-0.033	-0.026	-0.000	0.007	-0.018	-0.004	0.004	0.007	0.002	0.004
	(0.678)	(0.566)	(0.185)	(0.287)	(0.962)	(0.483)	(0.239)	(0.764)	(0.468)	(0.217)	(0.682)	(0.403)
GENDER	0.075	0.023			0.286	-0.278			-0.046	-0.060	0.108	0.178
	(0.712)	(0.913)			(0.544)	(0.563)			(0.867)	(0.831)	(0.695)	(0.529)
INTERNAL	0.023	-0.054	-0.349	-0.378	0.044	0.000	-0.216	-0.232	0.070	-0.027	0.044	-0.026
	(0.632)	(0.267)	(0.242)	(0.192)	(0.758)	(0.999)	(0.349)	(0.297)	(0.361)	(0.725)	(0.452)	(0.664)
TENURE	-0.014***	-0.007*	-0.008	0.010	-0.013	-0.001	-0.058	-0.051	-0.010	-0.011	-0.016***	-0.006
	(0.001)	(0.075)	(0.898)	(0.863)	(0.540)	(0.968)	(0.112)	(0.150)	(0.199)	(0.144)	(0.001)	(0.206)
EXECOWN	0.014	0.001	0.020	-0.012	0.015	-0.002	-0.030	0.198	-0.003	-0.010	0.017*	-0.001
	(0.103)	(0.918)	(0.914)	(0.945)	(0.575)	(0.927)	(0.905)	(0.414)	(0.915)	(0.710)	(0.065)	(0.938)
ΔEXECOWN(-2,0)	0.095*	0.012	-0.252	-0.466	0.144	0.097	0.079	0.243	0.210**	0.108	0.062	-0.047
	(0.074)	(0.820)	(0.466)	(0.167)	(0.322)	(0.510)	(0.730)	(0.272)	(0.023)	(0.251)	(0.352)	(0.486)
NUMDIR	-0.267***	-0.558***	-0.266***	-0.562***	-0.240***	-0.497***	-0.289***	-0.556***	-0.237***	-0.505***	-0.276***	-0.595***
	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PERIOD F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
CROSS-SECT F.E.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
n	1907	1908	119	119	238	238	150	150	724	725	1356	1356
Adj. R2	0.113	0.305	0.102	0.352	0.062	0.260	0.064	0.278	0.100	0.259	0.117	0.329
F-Stat	14.464	47.559	1.842	5.015	1.869	5.633	1.595	4.370	5.473	15.034	11.013	37.891
(p-value)	0.000	0.000	0.035	0.000	0.020	0.000	0.074	0.000	0.000	0.000	0.000	0.000

Note — SETTLE$_{ALL}$ denotes the proportion of lawsuits filed against the company in year t (defined as year 0) of which the disposition is known, which eventually end in settlement. SETTLE$_{ENV}$, SETTLE$_{SEC}$, SETTLE$_{ANT}$, SETTLE$_{IP}$, AND SETTLE$_{CON}$ equal the proportion of environmental, securities, antitrust, intellectual property, and contractual lawsuits filed against the company during year t (defined as year 0) which eventually end in settlement.

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

Table 12 Litigation Merits and CEO Reemployment Prospects

Panel A: Overall Litigation

	Overall Lawsuits		**Overall Lawsuits**		**Overall Lawsuits**	
Dependant Variable	RECEO(0,+3)	RECEO(-1,+3)	RETOP3(0,+3)	RETOP3(-1,+3)	REEMPLOY(0,+3)	REEMPLOY(-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)
constant	-1.907	-1.766	-1.991	-1.788	-1.233	-1.149
	(0.187)	(0.198)	(0.141)	(0.158)	(0.324)	(0.331)
$SETTLE_{ALL}$	0.192	0.152	0.124	0.087	0.231	0.180
	(0.563)	(0.635)	(0.683)	(0.763)	(0.443)	(0.530)
log(TA)	-0.006	-0.011	0.056	0.064	0.058	0.065
	(0.939)	(0.881)	(0.410)	(0.330)	(0.379)	(0.309)
ROA	2.397*	2.672**	2.540**	3.089**	2.729**	3.266***
	(0.064)	(0.039)	(0.047)	(0.015)	(0.031)	(0.009)
%OUTSIDE	0.638	0.394	1.028	0.781	0.775	0.575
	(0.434)	(0.606)	(0.192)	(0.281)	(0.290)	(0.398)
CEOAGE	-0.002	-0.002	-0.009	-0.013	-0.023	-0.025
	(0.906)	(0.928)	(0.642)	(0.478)	(0.206)	(0.148)
GENDER	0.277	0.562	0.286	0.529	0.105	0.387
	(0.607)	(0.198)	(0.582)	(0.207)	(0.840)	(0.355)
INTERNAL	-0.631***	-0.654***	-0.481**	-0.457**	-0.408**	-0.393**
	(0.006)	(0.003)	(0.022)	(0.021)	(0.045)	(0.040)
TENURE	-0.358	-0.239	-0.480**	-0.333*	-0.426**	-0.292*
	(0.105)	(0.237)	(0.017)	(0.067)	(0.028)	(0.098)
EXECOWN	-0.748*	-0.723*	-0.631	-0.595	-0.468	-0.446
	(0.086)	(0.076)	(0.109)	(0.108)	(0.127)	(0.127)
RETAIN	-0.769*	-0.485	-0.772*	-0.498	-0.858**	-0.564
	(0.093)	(0.201)	(0.072)	(0.158)	(0.049)	(0.112)
RESIGN	0.330	0.408*	0.235	0.273	0.345	0.371*
	(0.167)	(0.073)	(0.310)	(0.212)	(0.117)	(0.076)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES
n	618	720	618	720	618	720
Adj. R2	0.190	0.179	0.167	0.149	0.171	0.154
F-Stat	5.955	6.839	6.913	7.780	7.049	7.993
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000

Panel B: Individual Lawsuit Categories

	Securities		**Antitrust**		**Intellectual Property**		**Contractual**	
Dependant Variable	REEMPLOY(0,+3)	REEMPLOY(-1,+3)	REEMPLOY(0,+3)	REEMPLOY(-1,+3)	REEMPLOY(0,+3)	REEMPLOY(-1,+3)	REEMPLOY(0,+3)	REEMPLOY(-1,+3)
Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
constant	-1.256	-1.294	-25.323*	-25.323*	-3.278**	-3.081**	-0.543	-0.444
	(0.544)	(0.496)	(0.060)	(0.060)	(0.037)	(0.026)	(0.703)	(0.746)
$SETTLE_{SEC\text{-}CON}$	0.294	0.446	-4.991**	-4.991**	1.179*	0.841	-0.103	-0.118
	(0.602)	(0.400)	(0.043)	(0.043)	(0.074)	(0.108)	(0.741)	(0.693)
log(TA)	-0.118	-0.099	2.246*	2.246*	0.178**	0.153**	0.032	0.055
	(0.334)	(0.387)	(0.068)	(0.068)	(0.018)	(0.021)	(0.691)	(0.484)
ROA	0.067	1.056	-37.873*	-37.873*	2.666*	3.472***	3.565**	3.884**
	(0.973)	(0.598)	(0.070)	(0.070)	(0.055)	(0.008)	(0.039)	(0.021)
%OUTSIDE	1.000	0.989	45.908**	45.908**	1.481	1.721**	1.280	1.161
	(0.452)	(0.425)	(0.048)	(0.048)	(0.113)	(0.041)	(0.171)	(0.191)
CEOAGE	-0.007	-0.016	-0.509	-0.509	-0.026	-0.024	-0.039*	-0.044**
	(0.793)	(0.561)	(0.117)	(0.117)	(0.138)	(0.118)	(0.073)	(0.037)
INTERNAL	-0.589	-0.424	-5.383*	-5.383*	-0.945***	-0.765***	-0.129	-0.092
	(0.177)	(0.278)	(0.059)	(0.059)	(0.000)	(0.000)	(0.609)	(0.703)
TENURE	0.054	0.129	-4.944*	-4.944*	-0.558***	-0.523***	-0.355	-0.283
	(0.881)	(0.695)	(0.065)	(0.065)	(0.007)	(0.003)	(0.116)	(0.183)
EXECOWN	0.014	0.010	-3.088	-3.088	0.036**	0.036**	-0.550	-0.536
	(0.532)	(0.644)	(0.133)	(0.133)	(0.021)	(0.017)	(0.204)	(0.213)
YEARLY DUMMIES	YES	YES	YES	YES	YES	YES	YES	YES
n	198	223	113	139	460	540	428	511
Adj. R2	0.142	0.121	0.749	0.762	0.232	0.199	0.194	0.183
F-Stat	7.131	7.975	0.724	0.724	7.861	9.467	7.063	8.057
(p-value)	0.000	0.000	0.670	0.670	0.000	0.000	0.000	0.000

* Significant at the 10% level, in a two-tailed test.
** Significant at the 5% level, in a two-tailed test.
*** Significant at the 1% level, in a two-tailed test.

CHAPTER EIGHT:

CONCLUSION

1 Summary of Findings

This Thesis undertakes two broad lines of investigation into the impacts of corporate litigation filed against US public companies. Chapters 4 and 5 explore the managerial and corporate governance changes undertaken by the sued companies. Specifically, Chapter 4 explores CEO turnover following lawsuit filings. Chapter 5 investigates the restructuring of the boards of directors' composition within the sued companies. Chapters 6 and 7 examine the personal consequences experienced by defendant companies' managers following the lawsuit filings. In particular, Chapter 6 investigates the economic penalties imposed internally by the sued companies, in the form of changes in short-term and long-term executive remuneration. Chapter 7 examines the reputational penalties imposed by the executive labor market, in the form of losses of outside directorships and impairments of future career prospects.

Based on a sample of lawsuits filed against the S&P 1,500 companies between 2000 and 2007, this Thesis provides evidence in support of the hypothesized corporate governance changes and personal penalties for the sued companies' executives, following the filing of lawsuits against public companies. Appendix 2 provides a tabulated summary of the empirical findings. In the following paragraphs, I highlight the main results.

First, the sued companies, on average, experience higher CEO turnover during the three-year period following litigation filings. This increase in CEO turnover is consistent with both the agency theory and the legitimacy theory. Under the agency theory, the boards of sued companies have incentives to replace the existing CEOs, in order to penalize them for exposing the companies to legal risks. Alternatively, under the competing legitimacy theory, a board's motivation lies in projecting a new image of the company, in order to redress the negative publicity associated with the lawsuit allegations, and thus to restore the company's reputation. In order to distinguish between the agency incentives and legitimacy incentives, investigations were conducted into the natures of the allegations, the economic magnitudes of the lawsuits, and the legal merits of the claims. The natures of the allegations provide significant insights into the motivation underlying the boards' decisions to instigate CEO turnover. Intellectual property and antitrust lawsuits, which give rise to significant agency incentives because they impose direct adverse financial impacts on the sued companies, are both significantly associated with increased CEO turnover. In addition, the results also document that securities litigation is followed by increased CEO turnover, which confirms the findings of prior studies. The economic magnitudes of the lawsuits are not statistically significant in predicting an increase in CEO turnover. In contrast, the merits of the litigation filings, as represented by their eventual outcomes, are significant in predicting CEO turnover. This indicates that, consistent with the agency incentives, the boards do take into consideration the merits of the lawsuits, in penalizing CEOs for leading the companies into legal strife.

Second, litigation filings are also followed by an increase in the proportion of independent directors on the boards of the sued companies. This increase in board

independence is accompanied by a diminished rate of increase in board size. As evidenced by the breakdown of lawsuits by categories, securities litigation is most significantly associated with increased board independence. This indicates that, similar to the motivation underlying their decisions to instigate CEO turnover, boards respond by seeking restructuring after lawsuit filings which expose agency conflicts within their companies. In addition, the increase in board independence is significantly associated with only the economic magnitudes of the lawsuits, but not their legal merits (as proxied by lawsuit outcomes). These observations indicate that public companies, in initiating changes to board composition, also take into account the reputational impacts associated with large-scale lawsuits, regardless of their actual merits.

Third, CEOs of the sued companies experience a reduction in the cash component of their executive compensation, which is primarily attributable to the decrease in their annual bonus. This observed decrease in CEO cash compensation is significantly associated with intellectual property lawsuits and contractual lawsuits, both of which can have immediate adverse impacts on the financial performance of the sued companies. This indicates that the internal mechanisms within public companies, which determine the CEOs' compensation from year to year, are driven primarily by financial considerations, rather than reputational considerations. In addition, securities lawsuits are associated with a reduction in total compensation received by the CEOs. This can be attributable to the fact that securities litigation, which triggers significant negative capital market reactions (Feroz, Park & Pastena, 1991; Bhagat, Bizjak & Coles, 1998; Griffin, Grundfest & Perino, 2004; Koku, 2006; Gande & Lewis, 2009), adversely affects the market valuation of the sued companies and, consequently, the stock-based component of the CEOs' compensation. Furthermore, the investigation into lawsuit-

specific characteristics shows that the economic magnitudes of the filed lawsuits are not relevant; whereas the actual merits of the litigation filings, as proxied by their settlement rates, are significant in determining the penalties received by the CEOs. The empirical evidence indicates that public companies appear to make significant distinctions between lawsuits that cause immediate economic losses to the companies, versus those that do not. CEOs are only penalized by reduced remuneration for the former, but not the latter.

Fourth, following lawsuit filings against public companies, the CEOs incur reputational penalties exerted by the executive labor market. The results show that CEOs experience poorer reemployment prospects, after their departure from the sued companies during the periods surrounding the lawsuits. When the lawsuits of different natures are disaggregated, the results indicate that contractual lawsuits are associated with poorer prospects of finding comparable reemployment. In addition, consistent with prior research, securities lawsuits are followed by reputational penalties for the CEOs, as evidenced by a loss of outside directorships. Furthermore, the operation of the external executive labor market takes into consideration neither the scale nor the merits of the lawsuits, but only the nature of the allegations. Existing literature provides competing empirical evidence regarding what types of lawsuits give rise to the most significant reputational damage. One body of empirical evidence suggests that environmental and securities lawsuits, which are of social and political sensitivity, are associated with greater adverse reputational impact. The competing body of empirical evidence suggests that only contractual and securities lawsuits, where the plaintiffs have existing contractual relationships with the defendant companies, are followed by reputational penalties, exerted by the plaintiffs through the process of repeated contracting. The

empirical results confirm the latter proposition. Securities lawsuits involve shareholders, and contractual lawsuits typically involve customers, suppliers, or trading partners, all of whom are parties contractually related to the defendant companies. The empirical evidence indicates that the operation of the managerial labor market tends to disregard those lawsuits where the complainants do not have existing contractual relationships with the sued companies.

2 Contribution and Implications

The empirical evidence of this Thesis makes a significant contribution to existing literature, by providing multi-faceted insights into the corporate governance mechanisms within public companies, and the operations of the executive labor market.

First, this Thesis provides empirical evidence to indicate that, apart from securities lawsuits which have been studied extensively by prior researchers, other types of corporate litigation are also followed by corporate governance restructuring within the sued companies, and personal penalties experienced by their executive officers. Consistent with prior literature, securities lawsuits, which adversely affect both the defendant companies' financial performance and their reputations, give rise to an increase in CEO turnover, an increase in board independence, a decrease in CEO total compensation, and a decline in executive reputation. However, with respect to various other types of lawsuits not yet investigated, this Thesis documents that intellectual property litigation, which adversely affects firm performance, is also significantly associated with an increase in executive turnover and a reduction in the cash component of CEO compensation. Contractual lawsuits disturb the sued companies' existing contractual relationships with their trading partners. Consequently, they are not only followed by personal economic penalties incurred by the CEOs, in the form of reductions in cash compensation, but also by reputational penalties, in the form of impaired reemployment prospects. Finally, antitrust lawsuits, which can exert significantly negative economic impacts on the firms, are associated with an increase in CEO turnover following the lawsuits. These findings constitute a substantial addition to the existing literature.

Second, this Thesis provides fresh insights into the relevant incentives underlying the decision-making processes of the boards of directors of public companies, when confronted with corporate lawsuits. Agency incentives appear to dominate the boards' decisions to replace the CEOs. In instigating executive turnover, the boards appear to be concerned with penalizing the managers for exposing the companies to legal risks which result in economic losses. Restructurings in board composition are also driven by agency incentives. The proportion of independent directors is increased on the board following securities lawsuits, which constitute a direct manifestation of the principal-agent conflicts. Once the natures of the allegations are considered, boards also appear to take into account the economic scale of the litigation, in determining whether changes in composition are warranted. Overall, boards of public companies respond to lawsuits which lead to foreseeable losses of firm value, such as intellectual property, antitrust, and contractual lawsuits. However, when litigation gives rise only to broader social legitimacy concerns in the case of environmental lawsuits, where the companies are accused of benefiting at the expense of external parties (for example, a local community), the boards of sued companies generally do not respond to the allegations by instigating managerial or corporate governance changes.

Third, an examination of the post-litigation reductions in executive remuneration sheds light on the operation of the intra-firm mechanisms through which CEO compensation is determined. Variations in CEO compensation on an annual basis are determined in such a way that CEOs only experience economic penalties following those lawsuits that adversely affect the financial performance of the companies (IP and contractual lawsuits).

Fourth, the empirical evidence indicates that the factors driving the forces of the executive labor market, in exerting reputational penalties on the sued companies' executive officers, appear to mirror those considerations relevant to boards of directors. The managerial labor market only imposes reputational penalties on the sued companies' executives, in the wake of legal disputes involving parties with direct contractual relationships with the defendant companies, but not following disputes involving merely third parties (environmental lawsuits), who have no contractual power to impose penalties affecting the firms' future operations.

Finally, it must be highlighted that this Thesis provides illuminating evidence to indicate that environmental lawsuits appear to be largely disregarded by public companies. Environmental litigation constitutes the only lawsuit category, amongst the five examined, which is not associated with any hypothesized corporate governance changes, internal economic penalties incurred by the CEOs, or external reputational penalties imposed by the executive labor market. In particular, there is evidence to suggest that, following the filings of environmental lawsuits, rather than imposing penalties in the form of increase in CEO turnover, there is a general decrease in the likelihood of CEO turnover within the sued companies.

The evidence documented in this Thesis gives rise to at least two important policy implications. First, in light of the recent and growing debate over whether various legal regulations are sufficient to deter corporations from opportunistic breaches of the law, this Thesis provides a timely contribution of the empirical evidence that aids to resolve this debate. It informs policy-makers of the additional penalties received by managers

following their companies' encounters with lawsuits, in the form of increased turnover, more vigilant board monitoring, reduced compensation, and impaired reputation, creating disincentives as well as implementing measures to prevent similar breaches in the future. However, such penalties are only incurred following lawsuits which directly affect the financial performance and operations of the sued companies, but not those that adversely affect only the companies' reputations. The determinants of these penalties must be taken into consideration, when assessing the adequacy of the legal penalties incurred by the sued companies and their executives in relation to the allegations.

Second, the empirical evidence from this Thesis portrays a general indifference exhibited by public corporations, as well as their officers and directors, in relation to environmental allegations, which stands in contrast with their reactions to other types of corporate lawsuits. Arguably, the unwillingness of corporations to respond to environmental allegations, by instigating internal corporate governance changes or imposing penalties on their executives, reflects their prevailing attitudes where environmental responsibility is concerned. In light of the recent disaster of the Gulf of Mexico oil spill, this empirical evidence raises the question of whether more stringent environmental regulations are called for, and whether harsher legal penalties need to be imposed in cases of proven violations, to counteract the general lack of concern. This unresponsiveness is demonstrated by both the internal mechanisms within a company (whereby a board of directors replaces a CEO, reduces CEO compensation, and restructures the board composition), and the external mechanisms of the executive labor market (whereby the collective actions of other companies drive the market forces to impose reputational penalties on executive officers). Increased penalties upon

managers, who have allowed their companies to financially profit from breaches of environmental law, may be necessary to influence the future behaviors of corporate executive officers.

3 Potential Limitations

This Thesis utilizes the data gathering process adopted by Haslem (2005) and Bhattacharya, Galpin and Haslem (2007), by collecting litigation listings from the original US Federal Court records stored in the Public Access to Court Electronic Records Database. This method, whilst ensuring comprehensive coverage of all federally filed lawsuits, is not without limitation. The dataset is confined to lawsuit filings in the Federal Courts, and does not cover lawsuits filed in State Courts across the United States. This constitutes a limitation in the scope of the study. However, due to limited time and resources, it is not practical to compile a dataset which covers all lawsuits filed in each of the US State Courts. For the same reason, this task has not been undertaken in any existing research.

4 Further Research

Corporate litigation can play a significant role in the life of a publicly listed company. It provides a platform to examine public companies' reactions to legal allegations, and to determine the effectiveness of the corporate governance mechanisms both within the firm and externally in the executive labor market.

This Thesis investigates five types of lawsuits that can impose significant consequences upon the sued companies: environmental, securities, antitrust, intellectual property, and contractual lawsuits. Other categories of lawsuits may also form interesting subjects of examination, such as product liabilities lawsuits, with respect to their roles in determining the post-litigation consequences for the sued companies and their executive officers. Product liabilities lawsuits are not investigated in this Thesis, because they are only applicable to companies in the manufacturing industries. Consequently, their examination requires a different scope of sample firms compared to the sample used in this Thesis.

In this Thesis I investigated the natures of the allegations, and the economic magnitudes and legal merits of the lawsuit filings, in determining the observed corporate governance restructurings and executive labor market penalties. Litigation provides a wealth of other factors which may also be relevant and worthy of exploration in future studies, such as the identity of the plaintiffs, and whether or not these plaintiffs have previously brought lawsuits against the defendant companies as repeat litigants.

Furthermore, the changes examined in this Thesis include measures imposed by the sued companies in the wake of litigation to improve the quality of future decision-making. The penalties incurred by the CEOs are also expected to have a deterrent effect on future managerial behaviors. Given that these are the premises upon which the research hypotheses are developed in this Thesis, it would be interesting to investigate whether these observed post-litigation changes subsequently lead to positive outcomes for the sued companies. There are two aspects that may be worth exploring in future studies.

First, given the significant losses of shareholder wealth upon the announcements of litigation filings, it would be interesting to examine the capital market responses to the announcements of any post-litigation managerial turnover or corporate governance restructuring, to ascertain whether such changes are perceived positively by investors. This evidence would inform public corporations as to whether, if sued companies choose to engage in corporate governance changes following litigation filings, such actions can enable the companies to salvage some of the market valuation lost upon the initial filings of the lawsuits.

Second, apart from the capital market responses, it would also be interesting to examine whether, for those companies which have undergone corporate governance changes, such changes lead to diminished exposure to legal risks and enhanced performance in the future. This would provide empirical evidence with respect to the effectiveness of these post-litigation corporate governance restructurings, in particular whether they achieve their intended objective of reducing a company's exposure to future litigation risks.

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APPENDIX ONE:

VARIABLE DEFINITIONS

Variable Name	Variable Definitions	Chapter No.	Equation No.	Page No.
	Dependent Variables			
$\Delta CEO_{t(0,+3)}$	Dummy variable which is assigned a value of 1 if a change in the person holding the position of CEO occurs during the interval yr (0,+3), from the year of lawsuit filing to the third year subsequent to the filing, otherwise this variable is assigned the value 0.	Chapter 4	(1) (2) (3)	p.74 p.79 p.85
$\Delta CEO_{t(-1,+3)}$	Dummy variable which is assigned a value of 1 if a change in the person holding the position of CEO occurs during the interval yr (-1,+3), from the year immediately preceding the lawsuit filing to the third year subsequent to the filing, otherwise this variable is assigned the value 0.	Chapter 4	(1) (2) (3)	p.74 p.79 p.85
$\Delta\%INDEPEND_{t(0,+3)}$	The change in the proportion of independent directors on the board during the interval yr (0,+3), from the year of lawsuit filing to the third year subsequent to the filing.	Chapter 5	(4) (6) (8)	p.127 p.134 p.139
$\Delta\%INDEPEND_{t(-1,+3)}$	The change in the proportion of independent directors on the board during the interval yr (-1,+3), from the year immediately preceding the lawsuit filing to the third year subsequent to the filing.	Chapter 5	(4) (6) (8)	p.127 p.134 p.139
$\Delta BSIZE_{t(0,+3)}$	The change in the number of directors on the board during the interval yr (0,+3), from the year of lawsuit filing to the third year subsequent to the filing.	Chapter 5	(5) (7) (9)	p.130 p.136 p.139
$\Delta BSIZE_{t(-1,+3)}$	The change in the number of directors on the board during the interval yr (-1,+3), from the year immediately preceding the lawsuit filing to the third year subsequent to the filing.	Chapter 5	(5) (7) (9)	p.130 p.136 p.139
$\Delta COMP_{t(0,+2)}$	The change in CEO compensation during the (0,+2) period relative to year 0, measured at three alternative levels: first, cash compensation comprising salary and bonus; second, bonus compensation; and third, total compensation as the sum of salary, bonus, the total value of restricted stock granted, the total value of stock options granted using the Black-Scholes model, long-term incentive payouts, and all other payments.	Chapter 6	(10) (11) (12)	p.179 p.186 p.193

Variable Name	Variable Definitions	Chapter No.	Equation No.	Page No.
$\Delta COMP_{t(-1,+2)}$	The change in CEO compensation during the (-1,+2) period relative to year 0, measured at three alternative levels: first, cash compensation comprising salary and bonus; second, bonus compensation; and third, total compensation as the sum of salary, bonus, the total value of restricted stock granted, the total value of stock options granted using the Black-Scholes model, long-term incentive payouts, and all other payments.	Chapter 6	(10) (11) (12)	p.179 p.186 p.193
$\Delta DIRECT_{t(0,+2)}$	The change in the number of outside directorships on the boards of other companies held by the CEO during the (0,+2) period relative to year 0.	Chapter 7	(13) (14) (17)	p.236 p.237 p.248
$\Delta DIRECT_{t(-1,+2)}$	The change in the number of outside directorships on the boards of other companies held by the CEO during the (-1,+2) period relative to year 0.	Chapter 7	(13) (14) (17)	p.236 p.237 p.248
$REEMPLOY_{t(0,+3)}$	Dummy variable which takes on a value of 1 if the CEO, who departs from the company during the (0,+3) period relative to year 0, subsequently obtains reemployment at another S&P 1,500 company, and 0 otherwise. Reemployment is measured at three alternative levels. First, RECEO captures any reemployment as the new company's chief executive officer. Second, RETOP3 captures any reemployment in one of the following capacities: the company's CEO, president, or chairman of the board. Third, REEMPLOY captures any reemployment as a senior executive officer (including vice president, chief financial officer, chief operating officer), or as a non-executive member of the board.	Chapter 7	(15) (16) (18)	p.240 p.245 p.249
$REEMPLOY_{t(-1,+3)}$	Dummy variable which takes on a value of 1 if the CEO, who departs from the company during the (-1,+3) period relative to year 0, subsequently obtains reemployment at another S&P 1,500 company, and 0 otherwise. Reemployment is measured at three alternative levels as specified above.	Chapter 7	(15) (16) (18)	p.240 p.245 p.249
	Key Independent Variables (Litigation)			
$LAWSUIT_{t=0}$	Litigation as represented by two alternative measures: first, a dummy variable which is assigned a value of 1 if there has been one or more lawsuits filed against the company during year t (defined as year 0), and 0 otherwise; second, a continuous variable measuring the number of lawsuits filed against the company during year 0.	Chapters 4-7	(1) (3) (4) (5) (8) (9) (10) (12) (13) (15) (17) (18)	p.74 p.85 p.127 p.130 p.139 p.139 p.179 p.193 p.236 p.240 p.248 p.249

Variable Name	Variable Definitions	Chapter No.	Equation No.	Page No.
$ENV_{t=0}$	Environmental litigation as represented by two alternative measures: first, a dummy variable which is assigned a value of 1 if there has been one or more environmental lawsuits filed against the company during year t (defined as year 0), and 0 otherwise; second, a continuous variable measuring the number of environmental lawsuits filed against the company during year 0.	Chapters 4-7	(2) (6) (7) (11) (14) (16)	p.79 p.134 p.136 p.186 p.237 p.245
$SEC_{t=0}$	Securities litigation as represented by two alternative measures: first, a dummy variable which is assigned a value of 1 if there has been one or more securities lawsuits filed against the company during year t (defined as year 0), and 0 otherwise; second, a continuous variable measuring the number of securities lawsuits filed against the company during year 0.	Chapters 4-7	(2) (6) (7) (11) (14) (16)	p.79 p.134 p.136 p.186 p.237 p.245
$ANT_{t=0}$	Antitrust litigation as represented by two alternative measures: first, a dummy variable which is assigned a value of 1 if there has been one or more antitrust lawsuits filed against the company during year t (defined as year 0), and 0 otherwise; second, a continuous variable measuring the number of antitrust lawsuits filed against the company during year 0.	Chapters 4-7	(2) (6) (7) (11) (14) (16)	p.79 p.134 p.136 p.186 p.237 p.245
$IP_{t=0}$	Intellectual property litigation as represented by two alternative measures: first, a dummy variable which is assigned a value of 1 if there has been one or more intellectual property lawsuits filed against the company during year t (defined as year 0), and 0 otherwise; second, a continuous variable measuring the number of intellectual property lawsuits filed against the company during year 0.	Chapters 4-7	(2) (6) (7) (11) (14) (16)	p.79 p.134 p.136 p.186 p.237 p.245
$CON_{t=0}$	Contractual litigation as represented by two alternative measures: first, a dummy variable which is assigned a value of 1 if there has been one or more contractual lawsuits filed against the company during year t (defined as year 0), and 0 otherwise; second, a continuous variable measuring the number of contractual lawsuits filed against the company during year 0.	Chapters 4-7	(2) (6) (7) (11) (14) (16)	p.79 p.134 p.136 p.186 p.237 p.245
	Control Variables			

Variable Name	Variable Definitions	Chapter No.	Equation No.	Page No.
$LogTA_{t-1}$	Natural logarithm of the book value of total assets as at the end of year -1 (in which the lawsuit is filed) as a control for firm size.	Chapters 4 & 7	(1) (2) (3) (13) (14) (15) (16) (17) (18)	p.74 p.79 p.85 p.236 p.237 p.240 p.245 p.248 p.249
ROA_{t-1}	Return on total assets ratio for the company for the year -1 (immediately preceding the lawsuit filing), calculated as the net profit in year -1 divided by the total assets of the company as at the end of year -1, as a control for firm performance.	Chapters 4 & 7	(1) (2) (3) (13) (14) (15) (16) (17) (18)	p.74 p.79 p.85 p.236 p.237 p.240 p.245 p.248 p.249
$\Delta LogTA_{t(-1,0)}$	Change in firm size from year -1 (the year immediately preceding the lawsuit filing) to year 0 (the year of the lawsuit filing), calculated as the difference between the natural logarithm of total assets as at the end of year -1 and that as at the end of year 0.	Chapter 5	(4) (5) (6) (7) (8) (9)	p.127 p.130 p.134 p.136 p.139 p.139
$\Delta ROA_{t(-1,0)}$	Change in accounting performance of the company from year -1 (the year immediately preceding the lawsuit filing) to year 0 (the year of the lawsuit filing), calculated as the difference between the return on assets for year -1 and that for year 0.	Chapter 5	(4) (5) (6) (7) (8) (9)	p.127 p.130 p.134 p.136 p.139 p.139
$\Delta LogTA_{t(-1,+2)}$	The change in firm size, measured as the natural logarithm of the book value of total assets, from the beginning of year 0 to year +2.	Chapter 6	(10) (11) (12)	p.179 p.186 p.193
$\Delta ROA_{t(-1,+2)}$	The change in firm performance from year -1 to year +2, measured by return on total assets of the company (calculated as the net profit for the year divided by the total assets at the beginning of the year).	Chapter 6	(10) (11) (12)	p.179 p.186 p.193
LEV_{t-1}	Debt to equity ratio for the company as at the end of year -1 as a control for the financial leverage of the company.	Chapters 4-5	(1) (2) (3) (4) (5) (6) (7) (8) (9)	p.74 p.79 p.85 p.127 p.130 p.134 p.136 p.139 p.139
$BSIZE_{t-1}$	The number of directors on the board as at the end of year -1 (the year of the lawsuit filing) as a control for board size.	Chapter 4	(1) (2) (3)	p.74 p.79 p.85

Variable Name	Variable Definitions	Chapter No.	Equation No.	Page No.
$\%OUTSIDE_{t-1}$	The proportion of independent directors on the board, calculated as the number of independent directors over the total number of directors as at the end of year -1, as a control for board independence.	Chapters 4, 6, 7	(1) (2) (3) (10) (11) (12) (13) (14) (15) (16) (17) (18)	p.74 p.79 p.85 p.179 p.186 p.193 p.236 p.237 p.240 p.245 p.248 p.249
$\%COMPSIZE_{t-1}$	The proportion of compensation committee members, calculated as the number of compensation committee members over the total number of directors on the board as at the beginning of year 0, as a control for the relative size of the compensation committee.	Chapter 6	(10) (11) (12)	p.179 p.186 p.193
$\%COMPIND_{t-1}$	The proportion of independent directors on the compensation committee, calculated as the number of independent compensation committee members over the total number of directors on the compensation committee as at the beginning of year 0, as a control for the independence of the compensation committee.	Chapter 6	(10) (11) (12)	p.179 p.186 p.193
$CEOAGE_{t=0}$	Continuous variable representing the age of the CEO in year 0.	Chapters 4, 6, 7	(1) (2) (3) (10) (11) (12) (13) (14) (15) (16) (17) (18)	p.74 p.79 p.85 p.179 p.186 p.193 p.236 p.237 p.240 p.245 p.248 p.249
$GENDER_{t=0}$	Dummy variable which takes on the value of 1 if the CEO is female, and 0 otherwise.	Chapters 6-7	(10) (11) (12) (13) (14) (15) (16) (17) (18)	p.179 p.186 p.193 p.236 p.237 p.240 p.245 p.248 p.249
$INTERNAL_{t=0}$	Dummy variable which takes on a value of 1 if the CEO has been employed by his or her current company for 12 months or longer prior to his or her appointment as the CEO, as a control for internally appointed CEOs.	Chapters 6-7	(10) (11) (12) (13) (14) (15) (16) (17) (18)	p.179 p.186 p.193 p.236 p.237 p.240 p.245 p.248 p.249

Variable Name	Variable Definitions	Chapter No.	Equation No.	Page No.
$EXECOWN_{t=0}$	The percentage of total ordinary shares outstanding owned by the CEO at the time of the lawsuit filing in year 0.	Chapters 4, 6, 7	(1) (2) (3) (10) (11) (12) (13) (14) (15) (16) (17) (18)	p.74 p.79 p.85 p.179 p.186 p.193 p.236 p.237 p.240 p.245 p.248 p.249
$\Delta EXECOWN_{t(-2,0)}$	The change in the percentage of total ordinary shares outstanding owned by the CEO during the two-year period (-2,0) immediately preceding year 0.	Chapters 6-7	(10) (11) (12) (13) (14) (17)	p.179 p.186 p.193 p.236 p.237 p.248
$TENURE_{t=0}$	The number of years during which the CEO has served the company in his or her current capacity as at year 0.	Chapters 4, 6, 7	(1) (2) (3) (10) (11) (12) (13) (14) (15) (16) (17) (18)	p.74 p.79 p.85 p.179 p.186 p.193 p.236 p.237 p.240 p.245 p.248 p.249
$NUMDIR_{t-1}$	The number of existing seats on the boards of other companies held by the CEO as at year 0.	Chapter 7	(13) (14) (17)	p.236 p.237 p.248
$RETAIN_{t=0}$	Dummy variable which takes on a value of 1 if the CEO has been retained by his or her company in another capacity of employment for 12 months or longer upon ceasing to be its CEO.	Chapter 7	(15) (16) (18)	p.240 p.245 p.249
$RESIGN_{t=0}$	Dummy variable which takes on a value of 1 if the official reason for the CEO turnover is that the CEO has resigned.	Chapter 7	(15) (16) (18)	p.240 p.245 p.249
	Instrumental Variables			
SEG_{t-1}	The number of business segments of the company as at the end of year -1 as reported in the Compustat Segment Database, as a control for the organizational complexity.	Chapters 4-7	(3) (8) (9) (12) (17) (18)	p.85 p.139 p.139 p.193 p.248 p.249

Variable Name	Variable Definitions	Chapter No.	Equation No.	Page No.
$RISKINDQ_{t-1}$	Dummy variable which takes on a value of 1, if the two-digit Standard Industry Classification (SIC) code of the company falls into one of the top quartile of the most litigious industries as observed during the sampling period 2000-2007, and 0 otherwise.	Chapters 4-7	(3) (8) (9) (12) (17) (18)	p.85 p.139 p.139 p.193 p.248 p.249
	Key Independent Variables (Litigation Magnitudes)			
$DEMAND_{ALL-t=0}$	The cumulative sum of all demands for compensation filed against the public company during year 0, scaled by the total assets of the company at the beginning of that year, as a measure of the economic magnitude of the litigation encountered.	Chapters 4-5	---	p.90 p.143 p.148 p.195 p.252 p.255
$DEMAND_{ENV-t=0}$	The cumulative sum of the demands for compensation of all environmental lawsuits filed against the company during year 0, scaled by the total assets of the company at the beginning of that year.	Chapters 4-5	---	p.90 p.195 p.252 p.255
$DEMAND_{SEC-t=0}$	The cumulative sum of the demands for compensation of all securities lawsuits filed against the company during year 0, scaled by the total assets of the company at the beginning of that year.	Chapters 4-5	---	p.90 p.195 p.252 p.255
$DEMAND_{ANT-t=0}$	The cumulative sum of the demands for compensation of all antitrust lawsuits filed against the company during year 0, scaled by the total assets of the company at the beginning of that year.	Chapters 4-5	---	p.90 p.195 p.252 p.255
$DEMAND_{IP-t=0}$	The cumulative sum of the demands for compensation of all intellectual property lawsuits filed against the company during year 0, scaled by the total assets of the company at the beginning of that year.	Chapters 4-5	---	p.90 p.195 p.252 p.255
$DEMAND_{CON-t=0}$	The cumulative sum of the demands for compensation of all contractual lawsuits filed against the company during year 0, scaled by the total assets of the company at the beginning of that year.	Chapters 4-5	---	p.90 p.144 p.195 p.252 p.255
	Key Independent Variables (Litigation Merits)			
$DISMISSAL_{ALL-t=0}$	The proportion of lawsuits, of all lawsuits filed against the company in year 0 of which the disposition is known, which eventually end in dismissal.	Chapters 4-5	---	p.96 p.147 p.148

Variable Name	Variable Definitions	Chapter No.	Equation No.	Page No.
$SETTLE_{ALL-t=0}$	The proportion of lawsuits, of all lawsuits filed against the company in year 0 of which the disposition is known, which eventually end in settlement.	Chapters 4-5	---	p.96 p.147 p.148
$JUDGMENT_{ALL-t=0}$	The proportion of lawsuits, of all lawsuits filed against the company in year 0 of which the disposition is known, which eventually end in judgment.	Chapters 4-5	---	p.96 p.147 p.148
$OTHER_{ALL-t=0}$	The proportion of lawsuits, of all lawsuits filed against the company in year 0 of which the disposition is known, which eventually end in manners other than dismissal, settlement or judgment.	Chapters 4-5	---	p.96
$DISMISSAL_{ENV-t=0}$	The proportion of environmental lawsuits filed against the company during year 0 which eventually end in dismissal.	Chapters 4-5	---	p.97
$SETTLE_{ENV-t=0}$	The proportion of environmental lawsuits filed against the company during year 0 which eventually end in settlement.	Chapters 4-5	---	p.97
$JUDGMENT_{ENV-t=0}$	The proportion of environmental lawsuits filed against the company during year 0 which eventually end in judgment.	Chapters 4-5	---	p.97
$DISMISSAL_{SEC-t=0}$	The proportion of securities lawsuits filed against the company during year 0 which eventually end in dismissal.	Chapters 4-5	---	p.97
$SETTLE_{SEC-t=0}$	The proportion of securities lawsuits filed against the company during year 0 which eventually end in settlement.	Chapters 4-5	---	p.97
$JUDGMENT_{SEC-t=0}$	The proportion of securities lawsuits filed against the company during year 0 which eventually end in judgment.	Chapters 4-5	---	p.97
$DISMISSAL_{ANT-t=0}$	The proportion of antitrust lawsuits filed against the company during year 0 which eventually end in dismissal.	Chapters 4-5	---	p.97
$SETTLE_{ANT-t=0}$	The proportion of antitrust lawsuits filed against the company during year 0 which eventually end in settlement.	Chapters 4-5	---	p.97
$JUDGMENT_{ANT-t=0}$	The proportion of antitrust lawsuits filed against the company during year 0 which eventually end in judgment.	Chapters 4-5	---	p.97
$DISMISSAL_{IP-t=0}$	The proportion of intellectual property lawsuits filed against the company during year 0 which eventually end in dismissal.	Chapters 4-5	---	p.97

Variable Name	Variable Definitions	Chapter No.	Equation No.	Page No.
$SETTLE_{IP-t=0}$	The proportion of intellectual property lawsuits filed against the company during year 0 which eventually end in settlement.	Chapters 4-5	---	p.97
$JUDGMENT_{IP-t=0}$	The proportion of intellectual property lawsuits filed against the company during year 0 which eventually end in judgment.	Chapters 4-5	---	p.97
$DISMISSAL_{CON-t=0}$	The proportion of contractual lawsuits filed against the company during year 0 which eventually end in dismissal.	Chapters 4-5	---	p.97
$SETTLE_{CON-t=0}$	The proportion of contractual lawsuits filed against the company during year 0 which eventually end in settlement.	Chapters 4-5	---	p.97
$JUDGMENT_{CON-t=0}$	The proportion of contractual lawsuits filed against the company during year 0 which eventually end in judgment.	Chapters 4-5	---	p.97
$SETTLE_{ALL-t=0}$	The proportion of lawsuits filed against the company in year t (defined as year 0) of which the disposition is known, which eventually end in settlement.	Chapters 6-7	---	p.197 p.257
$SETTLE_{ENV-t=0}$	The proportion of environmental lawsuits filed against the company during year t (defined as year 0) which eventually end in settlement.	Chapters 6-7	---	p.198 p.257
$SETTLE_{SEC-t=0}$	The proportion of securities lawsuits filed against the company during year t (defined as year 0) which eventually end in settlement.	Chapters 6-7	---	p.198 p.257
$SETTLE_{ANT-t=0}$	The proportion of antitrust lawsuits filed against the company during year t (defined as year 0) which eventually end in settlement.	Chapters 6-7	---	p.198 p.257
$SETTLE_{IP-t=0}$	The proportion of intellectual property lawsuits filed against the company during year t (defined as year 0) which eventually end in settlement.	Chapters 6-7	---	p.198 p.257
$SETTLE_{CON-t=0}$	The proportion of contractual lawsuits filed against the company during year t (defined as year 0) which eventually end in settlement.	Chapters 6-7	---	p.198 p.257

APPENDIX TWO:

TABULATED SUMMARY OF EMPIRICAL FINDINGS

	Chapter 4: CEO Turnover	**Chapter 5: Board Restructuring**	**Chapter 6: Executive Compensation**	**Chapter 7: Executive Reputation**
	H(1): CEO Turnover	***H(1): Change in Board Independence***	***H(1): Change in CEO Cash / Bonus Compensation***	***H(1): Change in Number of Outside Directorships***
Overall Litigation	Section 4.2.1 - Positive association; - Uniformly statistically significant (dummy: 5% and 10%, continuous: 1% and 5%). *Interpretation: litigation filings are significantly associated with an increase in CEO turnover.*	Section 4.2.1 - Positive association; - Mostly statistically significant (5% and 1%). *Interpretation: litigation filings are significantly associated with an increase in board independence.*	Section 4.2.1 - Negative association; - Uniformly statistically significant (dummy: 5% and 10%, continuous: 5%) *Interpretation: litigation filings are significantly associated with a decrease in CEO cash compensation.*	Section 4.2.1 - Statistically insignificant. *Interpretation: litigation filings are not significantly associated with any change in the number of outside directorships held by the CEOs of the sued companies.*
Breakdown by Lawsuit Categories	Section 4.2.2 **Securities** - Positive association; uniformly statistically significant (1%) **IP lawsuits:** - Positive association; uniformly statistically significant (5% and 10%). **Antitrust lawsuits:** - Positive association; statistically significant (dummy only) (5%) *Interpretation: the filing of securities, IP, and antitrust lawsuits is significantly associated with an increase in CEO turnover.*	Section 4.2.2 **Securities lawsuits:** - Positive association; - Uniformly statistically significant (5% and 1%). **Contractual lawsuits:** - Positive association; - Statistically significant (dummy only) (5%). *Interpretation: the filing of securities and contractual lawsuits is significantly associated with an increase in board independence.*	Section 4.2.2 **Contractual lawsuits:** - Negative association; uniformly statistically significant (5% and 1%). **IP Lawsuits:** - Negative association; statistically significant (dummy only) (10%). **Antitrust lawsuits:** - Positive association; statistically significant (continuous only) (10%). *Interpretation: the filing of securities and IP lawsuits is significantly associated with a decrease in CEO cash compensation; on the other hand, the filing of antitrust lawsuits is positively associated with a change in cash compensation.*	Section 4.2.1 **Securities lawsuits:** - Negative association; - Statistically significant (continuous only) (10% and 5%) *Interpretation: the filing of securities lawsuits is significantly associated with a net loss of outside directorships held by the CEOs of the sued companies.*

	Chapter 4: CEO Turnover	**Chapter 5: Board Restructuring**	**Chapter 6: Executive Compensation**	**Chapter 7: Executive Reputation**
	H(1): CEO Turnover	***H(1): Change in Board Independence***	***H(1): Change in CEO Cash / Bonus Compensation***	***H(1): Change in Number of Outside Directorships***
Heckman Selection Model	Section 4.3 - Positive association; - Uniformly statistically significant (1% and 5%); - lambda: positive and statistically insignificant. *Interpretation: the significant association between lawsuit filings and CEO turnover is robust, with no evidence suggesting that the observed association is driven by selection bias.*	Section 4.3 - Positive association; - Uniformly statistically significant (10% and 1%); - lambda: positive and statistically significant (10% and 1%). *Interpretation: after controlling for potential selection bias (in favor of the hypothesized relationship), the significant association between lawsuit filings and an increase in board independence remains robust.*	Section 4.3 - Negative association; - Statistically significant for (0,+2) observation period (10%); - lambda: positive and statistically insignificant. *Interpretation: the significant association between lawsuit filings and a decrease in CEO cash compensation is robust, with no evidence suggesting that the observed association is driven by selection bias.*	Section 4.3.1 - Negative association; - Statistically insignificant; - lambda: negative and statistically insignificant. *Interpretation: there is no evidence to indicate the existence of any selection bias in the original predicted association between lawsuit filings and the change in the number of CEO outside directorships.*
Lawsuit Magnitudes	Section 4.4.1 - Statistically insignificant. *Interpretation: CEO turnover is not significantly associated with the economic magnitudes of the lawsuits filed.*	Section 4.4.1 - Positive association; - Uniformly statistically significant for Overall Litigation (1% and 10%) and Contractual Lawsuits (1% and 5%). *Interpretation: Boards are more likely to experience an increase in independence following lawsuits of larger magnitudes.*	Section 4.4 - Statistically insignificant. *Interpretation: the change in CEO cash compensation is not significantly associated with the economic magnitudes of the lawsuits filed.*	Section 4.4.1 **Environmental Lawsuits:** - Negative & statistically significant (-1,+2) period only (5%) **Antitrust and IP Lawsuits:** - Positive association; statistically significant (Antitrust: 5% (-1,+2) observation period only; IP: 1%). *Interpretation: The magnitudes of environmental lawsuits are negatively associated with CEO outside directorships. However, antitrust and IP lawsuits of greater magnitudes are associated with a positive change in the number of outside directorships.*

	Chapter 4: CEO Turnover	**Chapter 5: Board Restructuring**	**Chapter 6: Executive Compensation**	**Chapter 7: Executive Reputation**
	H(1): CEO Turnover	***H(1): Change in Board Independence***	***H(1): Change in CEO Cash / Bonus Compensation***	***H(1): Change in Number of Outside Directorships***
Lawsuit Merits	Section 4.4.2 - Lawsuit Dismissals: negative association; - Statistically significant for Overall Litigation (10%). *Interpretation: CEOs are less likely to experience turnover if the filed lawsuits are subsequently dismissed (indicating weak merits of the claims).*	Section 4.4.3 - Statistically insignificant. *Interpretation: the change in board independence is not significantly associated with the legal merits of the lawsuits filed (as proxied by lawsuit outcomes).*	Section 4.5 - Negative association; - Statistically significant for IP Lawsuits (observation period (0,+2) only) (10%). *Interpretation: CEOs are more likely to experience decreases in cash compensation following lawsuits which have subsequently been settled (indicating greater merits of the claims), but only in the context of IP lawsuits.*	Section 4.5.1 - Statistically insignificant. *Interpretation: the change in the number of outside directorships held by the CEOs is not significantly associated with the legal merits (proxied by settlement rates) of the lawsuits filed.*

	Chapter 4: **CEO Turnover**	**Chapter 5:** **Board Restructuring**	**Chapter 6:** **Executive Compensation**	**Chapter 7:** **Executive Reputation**
		H(2): Change in Board Size	***H(1): Change in CEO Total Compensation***	***H(2): Reemployment Prospects in the Event of Turnover***
Overall Litigation		Section 4.2.1 - Negative association; - Statistically significant (5% and 1%). *Interpretation: litigation filings are significantly negatively associated with the change in board size.*	Section 4.2.1 - Negative association; - Uniformly statistically insignificant. *Interpretation: litigation filings are not significantly associated with a decrease in CEO total compensation.*	Section 4.2.2 - Negative association; - Statistically significant (continuous only) (5% and 10%). *Interpretation: litigation filings are significantly associated with poorer reemployment prospects for the CEOs.*
Breakdown by Lawsuit Categories		Section 4.2.2 - Negative association; **Contractual lawsuits:** - mostly statistically significant (5%); **Securities lawsuits:** - statistically significant (dummy: 1%, continuous 10%); **Environmental lawsuits:** - some statistically significant (continuous variable) (5%). **IP lawsuits:** - some statistically significant (continuous variable) (10%). *Interpretation: the filing of all lawsuits with the exception of antitrust lawsuits is significantly and negatively associated with the change in board size.*	Section 4.2.2 **Securities lawsuits:** - Negative association; - Statistically significant (continuous only) (10%). **Antitrust lawsuits:** - Positive association; - Some statistically significant (dummy only, (-1,+2) observation period) (5%). *Interpretation: the filing of securities lawsuits is significantly associated with a decrease in CEO total compensation; on the other hand, the filing of antitrust lawsuits is positively associated with a change in total compensation.*	Section 4.2.2 - Negative association; **Securities lawsuits:** - statistically significant (dummy only) (10%); **Contractual lawsuits:** - statistically significant (continuous only) (5% and 10%). *Interpretation: the filing of contractual and securities lawsuits is significantly associated with impairments of CEO reemployment prospects.*

	Chapter 4: CEO Turnover	**Chapter 5: Board Restructuring**	**Chapter 6: Executive Compensation**	**Chapter 7: Executive Reputation**
		H(2): Change in Board Size	***H(1): Change in CEO Total Compensation***	***H(2): Reemployment Prospects in the Event of Turnover***
Heckman Selection Model		Section 4.3 - Negative association; - Uniformly statistically significant (5%); - lambda: positive and statistically significant (1%). *Interpretation: after controlling for potential selection bias, the significant negative association between lawsuit filings and the change in board size remains robust.*	Section 4.3 - Negative association; - Statistically insignificant; - lambda: positive and statistically insignificant. *Interpretation: there is no evidence to indicate the existence of any selection bias in the original predicted association between lawsuit filings and the change in CEO total compensation.*	Section 4.3.2 - Negative association; uniformly statistically significant (10% for RECEO and 5% for RETOP3 & REEMPLOY); - lambda: negative association; statistically insignificant for RECEO, and significant (10%) for RETOP3 & REEMPLOY. *Interpretation: after controlling for potential selection bias, the significant negative association between lawsuit filings and CEO reemployment prospects remains robust.*
Lawsuit Magnitudes		Section 4.4.2 - Positive association; - Statistically significant (observation period (0,+3) only) (10%). *Interpretation: Boards are more likely to experience an increase in size following lawsuits of larger magnitudes.*	Section 4.4 - Statistically insignificant. *Interpretation: the change in CEO total compensation is not significantly associated with the economic magnitudes of the lawsuits filed.*	Section 4.4.2 - Statistically insignificant. *Interpretation: CEO reemployment prospects are not significantly associated with the economic magnitudes of the lawsuits filed.*

	Chapter 4: CEO Turnover	**Chapter 5: Board Restructuring**	**Chapter 6: Executive Compensation**	**Chapter 7: Executive Reputation**
		H(2): Change in Board Size	***H(1): Change in CEO Total Compensation***	***H(2): Reemployment Prospects in the Event of Turnover***
Lawsuit Merits		Section 4.4.4 - Statistically insignificant. *Interpretation: the change in board size is not significantly associated with the legal merits of the lawsuits filed (as proxied by lawsuit outcomes).*	Section 4.5 - Negative association; - Overall Litigation: statistically significant (observation period (0,+2) only) (10%); *Interpretation: CEOs are more likely to experience decreases in total compensation following lawsuits which have subsequently been settled (indicating greater merits of the claims).*	Section 4.5.2 **IP Lawsuits:** - Positive association; - Statistically significant (10%) (0,+3) period observation only. *Interpretation: contrary to expectation, there is a positive albeit weak association between the settlement rate amongst IP lawsuits and CEO reemployment prospects.*