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Determinants of the Invisible and Visible Hands of Punishment: An Examination of Corporate Bribery Prosecutions

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Abstract

The purpose of this research is to examine how the market, or the *invisible hand*, and regulators, or the *visible hand*, penalize organizational misconduct through the imposition of reputational penalties and legal sanctions respectively. Reputational penalty measures market-based losses a firm suffers when it engages in illegal behavior, causing its immediate stakeholders to change the terms of doing business. On the other hand, sanctions refer to the punishment provided by regulators for deviating from social norms and regulations. The aggregation of these two components reflects the total punishment for these transgressions. I develop a comprehensive model that estimates the total penalty and examines the determinants of each of its components.

I assess reputational penalties by conducting event study analyses on the population of public firms prosecuted for bribery under the Foreign Corrupt Practices Act from 1978 to 2010. The analyses show that these firms lost over $60 billion in market capital during this period. This translates to a reputational penalty of 83¢ for every dollar of share value loss; the remaining 17¢ represents the direct costs to the firm to manage the prosecution. Omission of reputational penalties in rational choice calculus underestimates bribery costs by 4.5 times. Drawing on organization stigma literature, I then explore the degree to which stigma is attached, diffused, or embedded in accounting systems. The combination of host country corruption stigma, involvement of compromised executives and corruption entrenchment in accounting systems explain variations in reputational penalty.

I also examine the hazard rate of recovery of firms' reputational penalty following the occurrence of bribery events. Prior firm reputation affects the likelihood of recovery in a manner

that it hinders recovery for firms with higher reputations than those with lower reputations. This suggests that deviant activity has greater repercussions for the former firms than the latter firms.

Under the sanctions model of punishment, I evaluate a process model of how firms regain legitimacy after allegations of misconduct. A new measure of sanctions is developed and tested. The results demonstrate that bribery misconduct is sanctioned according to its severity. Firms that internally investigate and terminate culpable employees are rewarded with lesser sanctions.

Overall, the experiences of firms prosecuted for corporate bribery suggest that firms should proactively institute corporate monitoring mechanisms to prevent criminal misconduct. My research has advanced current knowledge of punishment from corporate misconduct.

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DEDICATION

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Corporate corruption has long captured the attention of regulators, policymakers and scholars. One form of corruption, corporate bribery, appears to be fairly widespread and costly, monetarily and in the erosion of corporate ethics. In the United States, the Foreign Corrupt Practices Act (FCPA) criminalizes the bribery of foreign government officials for business purposes. The *New York Times* published an article in March 2012 noting that from 2007-2011, 58 corporations paid a total of $3.74 billion in penalties and 78 additional corporations were being prosecuted for bribery under the FCPA (Wayne, 2012). In the article a senior representative of the business community commented, "You are dealing with criminal liability, and that strikes fear and terror through the heart of the corporate suite" (2012: BU1).

Organizations "lie, cheat, steal, mislead, disguise, obfuscate, feign, distort, and confuse" different types of misconduct to improve their bottom line (Williamson, 1984: 198). Greve, Palmer and Pozner (2010) assert that organizational misconduct occurs when regulatory officials collectively judge that a firm's behavior has crossed a line. This line demarcates right from wrong and represents the boundaries of legal, ethical and social behaviors. When misconduct occurs, a corporation faces the prospect of being labeled a *criminal* firm. Clearly, misconduct can have serious punishment consequences for organizations, as it prompts further inquiry and investigation into related issues, specifically the precursors that led to the wrongdoing.

1.2 Research Purpose

The general purpose of my dissertation is to examine how the consequences of certain types of organizational misconduct are reflected in reputation penalties imposed by the market

and legal sanctions imposed by regulatory officials. Reputational penalty and legal sanctions comprise the two components of a comprehensive punishment model. Thus, a bribery prosecution represents an organizational crisis, usually amplified by adverse or negative media attention. This type of attention ultimately threatens the organization's legitimacy and reputation.

Noting that the direct measures of corporate reputation are 'empirically challenging,' Karpoff (2012) supports a definition of reputational loss proposed in the literature, which measures a firm's reputation indirectly in terms of *lost* reputation when the firm engages in illegal or bad behavior. Such a firm can lose customers and face higher costs (Klein & Leffler, 1981; Shapiro, 1983) when its counterparties change the terms of doing business because of the firm's opportunistic behavior (Karpoff & Lott, 1993). For instance, when financial statements are misstated, investors decrease their investment in a firm's equity and debt capital thereby raising its cost of capital (Graham, Li, & Qiu, 2008). I adopt this definition of reputational loss or penalty.

The evidence from research on reputational losses appears to be mixed based on the type of misconduct, with the largest losses related to financial misrepresentation (e.g., Karpoff, Lee, & Martin, 2008b; Beneish, 1999), consumer fraud (e.g., Jarrell & Peltzman, 1985; Barber & Darrough, 1996), and negligible losses for environmental violations (e.g., Karpoff, Lott, & Wehrly, 2005). The former types of misconduct are characterized by reputational penalties that are much larger than direct legal penalties, suggesting that market-based reputational losses cause more harm than direct costs. At the other extreme, environmental violations are characterized by small reputational and large legal penalties, suggesting that the parties that are harmed may not have business relationships with the organization.

FCPA prosecutions appear to have a wide range of legal sanctions assessed at the end of the enforcement action. For instance, in 2008, Siemens AG, the German engineering/technology firm, paid $1.7 billion in penalties and fines to regulators in the U.S. and Germany to settle bribery charges under the FCPA. Further, the firm paid over $1 billion in legal and consulting fees to defend itself. Between 2006 and 2008 Siemens restated earnings; two employees were convicted for diverting the firm's money for bribery purposes; Siemens AG's CEO and supervisory board head both resigned; and revenues declined by €10 billion ($13.5 billion). A corporate monitor was then appointed for a four-year period and Siemens was barred from World Bank projects for two years. FCPA legal sanctions imposed on firms for misconduct vary widely and this is evident when comparing the penalties and fines paid by Siemens AG with the relatively small fines totaling $300,000 paid by IBM for its bribery charges in 2000. A survey of the extant literature shows that scholars have not analyzed market reactions to corporate bribery events; the research, thus far, has concentrated on other types of organizational misconduct, such as fraud committed by private parties (Karpoff & Lott, 1993; Alexander, 1999; Murphy, Shrieves, & Tibbs, 2009); investigations of IPO underwriters (Beatty, Bunsis, & Hand, 1998); financial misrepresentation (e.g., Karpoff *et al*., 2008b); product recalls (e.g., Bromiley & Marcus, 1989); and financial reporting fraud (e.g., Kang, 2008). Also, the literature does not adequately address the antecedents for each of the two components of the punishment model resulting from corporate misconduct, i.e., reputational losses or the invisible hand, and legal penalties or the visible hand. Thus, the overall purpose of this research is to empirically examine these gaps in the literature.

Because the investigation of corporate misconduct typically lasts a few years, readers may have concern about how the phenomenon of time duration will be addressed in this study. I

handle this issue by using a methodology referred to as event history analysis. This methodology models *time-to-event* data, i.e., the likelihood that an event will be observed at a particular point in time, given that a firm was at risk of that event occurring prior to that time. As discussed in greater detail in section 3.5.3 of this manuscript, one of the advantages of using event history analysis is that it appropriately handles events that have not occurred during the observation time windows (i.e., 'censored' data).[1]

1.3 Objectives of the Dissertation and Research Questions

In order to identify the antecedents of reputational and legal penalties, an elementary objective is to review the literature streams. Corporate illegalities (Mishina, Dykes, Block, & Pollock, 2010) such as corruption (Jensen, Li, & Rahman, 2010; Spencer & Gomez, 2011), bribery (Lee, Oh, & Eden, 2010; Martin, Cullen, Johnson, & Parboteeah, 2007), and the actions or events leading to misconduct (Cullen, Parboteeah, & Hoegl, 2004), are increasingly documented and examined in the literature. I complement these efforts by coupling reputational capital research (e.g. Fombrun, Gardberg, and Barnett, 2000; Karpoff, Lee, & Martin, 2008a) with deviance and stigma research (e.g. Hudson, 2008; Weisenfeld, Wurthmann, & Hambrick, 2007) to examine variation in how corporate corruption is penalized, effects of penalties on corporate market performance and variations in market penalties.

To achieve this objective, I adopt the rational choice framework that underlies the FCPA and Organization for Economic Cooperation and Development (OECD) convention on eliminating corruption. These regulatory bodies assume that managers calculate a firm's bribery risk using a rational weighting of gains from contracts, losses from fines and penalties—if

[1] I am grateful to Dr. Suresh Govindaraj for raising this issue. Using event history analysis will add to the strength of the methodologies considered in this study and interpreting its results.

caught—and probabilities. Management should not overestimate benefits and underestimate costs. If managers underestimate the stigma associated with corruption (Paetzold, Dipboye, & Elsbach, 2008) and the subsequent loss in reputational capital (Karpoff *et al*., 2008b), bribery will not be stymied. Overall, this triggers a loss in social capital. Adding reputational penalties to the direct costs of bribery prosecution and responsibility would minimize risk of miscalculations. This would enable management to realistically view the firm's bribery risks. I propose four characteristics of the bribery prosecution that shift corruption stigma to or from firms. Hence, the first objective is to build a research model of punishment concentrating on reputational penalty that includes the appropriate stigma factors.

The punishment model also encapsulates rehabilitation measures undertaken by the devious firm as it reintegrates after the misconduct. One of those measures is linked to the recovery of reputational penalty. The literature addresses in a limited manner whether organizations recover reputational penalties after the occurrence of misconduct. In a study on corporate catastrophes, Knight and Pretty (1999) examined the impact of 15 major catastrophes on stock returns and their recovery, of which four catastrophes related to misconduct, specifically product recalls. Notwithstanding, stock price recovery for many other types of misconduct have not been examined. Based on the premise that bribery may represent a stigmatizing event for an organization, the question arises as to how long, if at all, it takes the organization to regain its stock price. Thus, in order to determine whether the firm bears a permanent stigma or is reintegrated (Pfarrer, DeCelles, Smith, & Taylor, 2008), the second objective is to address the recovery of stock price after allegations of misconduct have come to light. In doing so, I will investigate the extent to which deviant activity has consequences for firms with high and low reputations.

My third research objective is to examine the sanctions component of the punishment model as a firm responds to a reputation-damaging event such as misconduct. When an investigation of criminal misconduct occurs, firms seek to increase their likelihood of legitimacy restoration in a speedy manner (Pfarrer *et al.*, 2008). To this point, Rhee and Valdez (2009) suggest that 'reputation repair' is a problem-solving process that consists of three steps: problem recognition; search for solutions; and implementation of solutions. Reputation repair involves firms taking genuine or substantive actions to redeem themselves to stakeholders. Undoubtedly, stakeholders form perceptions about the extent of a firm's misconduct by evaluating the firm's actions. Corporate reputational repair actions would include internally investigating the alleged misconduct, providing suitable explanations, accepting and serving punishment, and making rehabilitation changes. To link rehabilitation with sanctions that incorporate punishment, deterrence and rehabilitation principles, I develop, validate and test an ordinal measure of sanctions.

So as to successfully accomplish my research objectives, I pose the following research questions in my dissertation related to an integrated punishment model:

- *Do bribery prosecutions lead to varying market reactions in terms of reputational penalties? Specifically, what factors explain the variances in those penalties?*
- *Does the stock price of a corporation facing allegation(s) of misconduct due to bribery recover? If so, when?*
- *How does a corporation rehabilitate itself after the commencement of a prosecution into the alleged misconduct due to bribery?*

Understanding how government regulators' fines and market-based penalties are imposed is important in examining the distinction between these types of penalties. The distinction arises

because the evaluators for each of the penalties are different: regulatory officials for the former and investors for the latter. The two evaluators have different bases that guide their contextual interpretation of corruption. In order to better understand these seemingly connected but different evaluators and evaluations, I conceive the punishment model as three separate research models and address each of the research questions presented above.

In developing the theory for the research models related to the antecedents of reputational penalty and recovery of stock price, I describe corporate misconduct, deviance and stigma in the context of bribery and reputational capital. Following Karpoff *et al.* (2008b), I use an event study to measure corporate reputational penalty and reputational recovery for 134 public firms that faced FCPA prosecutions from 1978 to 2010. I further seek to (a) examine the full cost of and to explain the inconsistent market reaction to FCPA prosecutions, (b) ascertain the components of share value losses, and (c) explain the effects that variations in reputational penalties has on investors.

The sanctions model of punishment investigates what firms should do to prevent regulators from intruding into their affairs. This study evaluates a definition of organizational misconduct from a criminal perspective by suggesting that corporate crime arises as a result of deviation from social norms. Accordingly, this deviation results in punishment by law enforcement agencies. Regulatory officials evaluate these transgressions through a process where they hold firms accountable for their criminal actions through sanctioning mechanisms. A possibility then arises that a firm can be considered illegitimate based on the judgment of regulatory officials (Greve *et al.*, 2010). I will test various firm actions as part of a process model derived from the organizational legitimacy and justice literatures to reintegrate the firm as a legitimate firm (Pfarrer *et al*, 2008).

1.4 Potential Contributions and Limitations

My research considers the population of public firms prosecuted during the 32-year span of the FCPA. The research I propose to do contributes to the literatures on corporate wrongdoing and stigma (Hudson, 2008; Mishina, *et a*l. 2012; Weisenfeld *et al*., 2008) and better specify the costs underlying the rational-choice model of corporate misconduct (Paternoster & Simpson, 1996). In addition, I will examine the degree to which the stigma is attached to the firm, deflected, diffused or transferred due to host nation stigma, multiple regulators, compromised management, and corruption entrenchment in accounting/IT systems. In doing so, I will explain variations in reputational penalty as not merely a function of the total penalty, but rather a function of the arbiters' attribution of stigma. This is one of the first research studies that would empirically examine the interrelationships between two dimensionally different constructs: reputation and organizational stigma. A majority of the extant literature on organizational stigma has been conceptual (Devers, Dewett, Mishina, & Belsito, 2009; Hudson, 2008; Pozner, 2008; Wiesenfeld *et al*., 2008); a few empirical studies on organizational stigma have concentrated on organizational failures, for instance, failed banks (Semadini, Cannella, Fraser, & Lee, 2008) and bankrupt computer firms (Sutton & Callahan, 1987), not organizational misconduct.

By examining the antecedents of the sanctions component of the punishment model, I will contribute to the sentencing, corporate governance and reputation research. In terms of the sentencing literature, I develop a measurement of sanctions based on levels of severity validated by experts. Previous studies on corporate sentencing have considered only the monetary penalties levied on firms as dependent variables (e.g., Cohen, 1996; Paternoster & Simpson, 1996; Karpoff *et al*., 2005). Sanctions are a better measure of punishment than monetary penalties because they incorporate the deterrence and rehabilitation principles of sentencing. For

example, public shaming occurs when the details of criminal misconduct are made public at the time of sentencing; this could act as a deterring measure.

This dissertation also proposes to expand corporate governance research by stressing that organizations learn from the experiences of punished firms by proactively instituting corporate mechanisms to prevent criminal wrongdoing from occurring. In regard to reputation repair, the commencement of internal investigations into bribery allegations connotes recognition of a reputation-damaging event. In addition, I plan to test the moderating effects of firm actions on the premise that these substantive actions must match the messages put forth by the firm suggesting proposed changes (Westphal & Zajac, 2001). So far, a majority of the research on reputation repair has concentrated on impression management and not the substantive problem-solving process (Rhee & Kim, 2012). I propose to advance the research on reputation repair by exploring firm actions that can enhance a firm's reputation repair performance.

This dissertation will also impart key insights to practitioners. According to rational choice theory, both firms and regulators should institute effective mechanisms for the detection and deterrence of bribery. Decision makers at firms must consider reputational penalties and costs of criminal sanctions in their rational choice calculus so as not to overestimate benefits and underestimate costs of engaging in bribery. Management and boards of directors must play a critical role in avoiding or minimizing punishment resulting from bribery prosecutions. Moreover, bribery prevention is in their self-interest because if self-policing fails, the results can be disastrous in terms of lost reputation and direct regulatory oversight/intrusion into a firm's affairs. Therefore, the threat of punishment in the form of reputational penalties and criminal sanctions can "discipline managers and provide incentives for legal and honest dealing" (Karpoff, 2012: 362).

While optimal penalty theory argues that the total penalty corresponds to the total social cost of corporate misconduct (Becker, 1968), striking a balance between the invisible hand portion and the visible hand portion of the punishment has consequences on what is viewed as the best deterrent of certain types of corporate crime. The literature posits that offenses that cause direct and serious harm to immediate stakeholders are best deterred through invisible hand punishments (Karpoff *et al*., 2008a). Conversely, third-party type offenses (e.g., environmental violations) are best deterred through visible hand punishments (Karpoff *et al*., 2005; Bromiley & Maruch, 1989). This research will inform whether corporate bribery is best deterred by invisible or visible hand punishments, or both. At this juncture, I argue that a combination of the invisible and visible hands would deter corporate bribery: the invisible hand because of the plausible harm that might be caused to investors and other immediate stakeholders; and, the visible hand due to the criminal nature of the bribery misconduct necessitating firm actions to mitigate sanction severity. Compared to other types of misconduct, corporate bribery is unique in this regard.

From the regulators' perspective, the presence of large reputation penalties would seem to justify their enforcement efforts. On the contrary, if reputational costs are not significant, regulators' efforts could be perceived as inadequate. My research will explore whether regulators' enforcement efforts are justified in terms of the equitable punishment rendered. As protectors of society, it would be in the regulators' best interest to take actions only when a firm's self-regulation efforts have failed. For policymakers, the success of government oversight in enforcing the FCPA could encourage them to further increase oversight by enacting new laws to combat misconduct, such as the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Act of 2010.

Notwithstanding the aforementioned contributions, the dissertation has certain inherent limitations. First, in spite of using the entire population of public corporations prosecuted under

the FCPA, the population represents corporations that were 'caught' committing bribery. As such, there remains the possibility of failing to capture corporations that committed bribery but were not caught by regulators. This happens to be a common limitation surrounding research related to different types of misconduct that measures reputational losses using stock price data. Nevertheless, future research could consider estimating probabilities for corporations caught in the act of misconduct. Second, loss of reputation and its recovery can be measured using other 'perception' based reputation measures such as the *Most Admired Companies* list. However, those data measurements suffer from limitations as well. Third, the use of secondary data could render the organization as a black box in terms of understanding its inner workings as it faces a bribery prosecution. Given that the alternative survey data method is beset with limitations of its own, I overcome the limitation of using secondary data by content-analyzing the various types of public information put forth by the prosecuted organizations, media and regulatory agencies, in order to identify and operationalize variables relevant to this research.

Fourth, I use closing stock prices to calculate cumulative abnormal returns (CAR), a preliminary measure to calculate reputation penalty, because it is possible that a few news announcements occurred after trading hours. Subsequently, using the difference between closing prices and next day opening stock prices would show the appropriate CARs in these instances. Alternately, using intraday returns may have provided different results. In general, all event studies suffer from limitations (McWilliams and Siegel, 1997). However, the reputational penalty construct and methodology are accepted in economics and finance.

Fifth, the dissertation does not consider direct investigation and external monitoring costs in the analyses since this information is sparingly available. Anecdotal evidence indicates that Siemens spent over $1 billion in legal and consulting costs to defend itself and Avon Products

has spent $250 million on its ongoing FCPA investigation (Henning, 2012). Accordingly, visible hand effects or direct costs from bribery prosecutions may be understated, and consequently, invisible hand effects or reputational penalties may be overstated. One of the ways to obtain this information would be to contact firms directly, which future researchers could consider. Last, there is a seeming limitation related to the generalizability of the results because the FCPA is a U.S. regulation and firms are studied in the U.S. context both in terms of stock value in U.S. markets and the behavior of U.S. regulators. I overcome this external validity problem in two ways. First, I include foreign firms with ADRs listed in the U.S. stock exchanges. Second, U.S. regulators work closely with regulators in other OECD countries in enforcing the FCPA. As such, this seeming limitation is an inherent strength of the dissertation.

1.5 Organization of Dissertation

This dissertation is divided into five chapters. Chapter 1 has addressed the objectives of the dissertation and put forth three specific research questions to be examined. In Chapter 2, I review the relevant literature and develop a series of hypotheses about the antecedents of the integrated punishment model. Chapter 3 discusses the research methodologies that are suitable to test the hypotheses. In Chapter 4, I present the empirical results of the study. Chapter 5 encompasses discussion and conclusions of the study.

CHAPTER 2

LITERATURE REVIEW AND HYPOTHESES

I begin this chapter by defining the concepts that are relevant to the study of organizational misconduct and punishment. I then review the extant literature connected with the FCPA and punishment for misconduct. Punishment has been studied by scholars for different types of misconduct, however mostly in the context of punishment related to reputational penalty. Notwithstanding, the literature on reputational penalty has neither addressed its antecedents nor its recovery. Further, the literature related to the sanctions component of punishment has not been updated since new punishment laws and practices were introduced in the U.S. over the past decade. I then discuss gaps in the literature and further advance theory to address those gaps. Next, I develop hypotheses to build an integrated punishment model that addresses the predictors of the components of the model.

2.1 Organizational Misconduct

2.1.1 Organizational Misconduct and Illegality

Corporate illegality and misconduct are corporate behaviors that deviate from social norms. Mishina *et al.* (2010: 702) define corporate illegality as "an illegal act primarily meant to benefit a firm by potentially increasing revenues or decreasing costs." Bribery and corruption have received increasing attention from scholars across disciplines, as negative effects from these types of corporate misconduct disrupts markets, increases inequality and undermines good governance. Overall, the consistency with which bribery is considered ethically offensive across national institutional environments confers it hypernorm status (e.g. Husted, Dozier, McMohan, & Kattan, 1996; Martin *et al*, 2007).

Misconduct can also be viewed from the perspective of punishment exacted on the perpetrator. Greve and associates (2010) define misconduct as a phenomenon existing in a firm that arises due to interactions between the firm and "a social-control agent." Judgment of behavior by the agent, who represents a collective on whose behalf the agent can impose sanctions, forms the crux of the definition. The judgment implies that a line between right and wrong has been crossed.

Recently, scholars have addressed issues surrounding corporate illegality and misconduct by applying theories that posit different points of view. The rational choice model of corporate crime states that decisions to offend are made by balancing the costs and benefits of committing the offense, and decision makers make subjective calculations of costs and benefits based on the perceived expectations of punishment and rewards (Paternoster & Simpson, 1996). Predicting corporate behavior in the marketplace by using rational-choice theory relies on two key assumptions. First, firms achieve regulatory compliance through an internal system of checks and balances that can be relied upon by regulators. Second, the least intrusion by regulators into internal corporate affairs provides the most efficient and effective means of corporate governance and internal control practices (Shover & Hochstetler, 2006).

This rational choice has been modeled using the e*fficient capital market hypothesis* (ECMH) (Weismann, 2009), which mainly measures firm performance by its profitability and market valuation. The resulting correlation between ECMH and increased corporate governance is partly measured by perceived risk and risk averse behavior (Stout, 2003). Institutional theory (e.g. Martin *et al*., 2007; Spencer & Gomez, 2011), anomie theory (e.g. Martin *et al*., 2007), and agency theory (e.g. Zhang, Bartol, Pfarrer & Khanin, 2008) provide complementary explanations of corporate decision making and misconduct across institutional environments. Managers in

successful firms are likely to view potential benefits of illegality as outweighing the costs when: they face great pressures to sustain performance; the potential costs of illegality in the form of fines are paid from the firm's coffers; and when they believe they can outsmart regulators and thereby decrease the chance of any negative consequences arising from committing illegal acts (Mishina *et al*., 2010). These aforementioned consequences include lost reputation and incursion of stigma.

2.1.2 Organizational Misconduct and Stigma

Some researchers have studied corporate misconduct by viewing it from an organizational stigma standpoint. Stakeholders evaluate the actions and outcomes of misconduct and impute negative labels on the organization (e.g., Devers *et al*., 2009; Hudson, 2008; Wiesenfeld *et al*., 2008; Pozner, 2008). According to Devers and colleagues (2009: 157), organizational stigma is a "label that evokes a collective stakeholder group-specific perception that an organization possesses a fundamental, deep-seated flaw that deindividuates and discredits the organization." In contrast to this definition, a corporate bribery prosecution can be considered an event stigma that is based on a "discrete, anomalous, episodic" event (Hudson, 2008: 253).

Kadish (1963: 434) suggests that criminal sanctions are imposed on corporations "through the stigma of conviction and the exaction of fine." He further argues that monetary fines magnify the stigma associated with conviction. From a corporate crime perspective, corporations take risks by engaging in misconduct so as to gain an unfair advantage. Accordingly, a firm will weigh compliance as a function of rewards and sanctions (Fehr & Rockenbach, 2003). It will prefer compliance over sanctions when the cost of compliance is less than the cost of sanctions (Chin, 1999).

Regulatory officials evaluate legal transgressions of firms and associated individuals through a process where they define accountability for others and try to identify and punish those who violate social norms (Wiesenfeld *et al*., 2008; Greve *et al*., 2010). This process may involve a firm or individuals admitting to misconduct, which can be stigmatizing for the firm (Devers *et al*., 2009; Wiesenfeld *et al*., 2008).

Upon incursion of a stigma label, firm managers can take actions over a length of time to remove the negative label, and consequently, the associated stakeholders' negative evaluations. If the firm is successful, the stigma phenomenon can be considered temporary. On the contrary, if the firm takes superficial actions or is unsuccessful in its efforts, it faces the prospect of being permanently stigmatized.

2.2 Corporate Reputation, Reputational Capital and Penalties

2.2.1 Corporate Reputation

Merriam-Webster.com defines reputation as "overall quality or character as seen or judged by people in general." Corporate reputation refers to "mental associations about the organization actually held by others outside the organization" (Brown, Dacin, Pratt & Whetten, 2006: 102). It is "a perceptual representation of a company's past actions and future prospects that describes the firm's overall appeal to all of its key constituents when compared with other leading rivals" (Fombrun, 1996: 72). Implicit in all the definitions is the notion that beliefs, opinions, associations and perceptions can be either favorable or unfavorable based on the past actions of the subject.

Corporate reputations are intangible assets that provide firms with sustainable competitive advantage (Roberts & Dowling, 2002; Shamsie, 2003) because they are unique and inimitable (Fombrun & Van Riel, 2004; Roberts & Dowling, 2002; Shamsie, 2003). Reputations are formed by the internal firm structures and other means that represent a firm's values (Sims,

2009). In the U.S., where 70-80 percent of market value comes from hard-to-assess intangible assets, such as brand equity, intellectual capital, and goodwill, firms are especially vulnerable to events that damage their reputation (Eccles, Newquist, & Schatz, 2007). Thus, the desire to maintain a favorable reputation encourages good behavior and disciplines bad behavior (Klein & Leffler, 1981).

2.2.2 Reputational Capital and Penalties

I distinguish between reputation and reputational capital as I develop the punishment model to examine the antecedents of reputational penalties. Reputational capital is a specific part of the market valuation of the firm that is at risk of being lost should it fall into disrepute (Karpoff & Lott, 1993). Fombrun and Van Riel (2004) separate the market value of a publicly traded firm into four components: physical capital, financial capital, intellectual capital, and reputational capital. Reputational capital embodies the quality of the relationships a firm has established with its stakeholders such as investors, customers, and employees. Positive esteem increases supportive stakeholder behavior. According to Fombrun, Gardberg, and Barnett (2000: 87-88):

> *A company's reputational capital is therefore the value of the company that is 'at risk' in everyday interaction with stakeholders. Reputational capital fluctuates in the equity markets as stakeholders convey or withdraw support from the company. Reputational capital is created when managers convince employees to work hard, customers to buy the company's products and services, and investors to purchase its stock. It grows when managers induce analysts and reporters to praise the company and recommend its shares. It is destroyed when stakeholders withdraw their support because they lose confidence in the company's managers, its products, prospects, or jobs.*

Though measuring the size of reputational capital, as a construct contrasted to corporate reputation, is difficult (Dowling & Gardberg, 2012), this measurement is more precisely captured when a loss in reputational capital occurs. According to Preston, "The value of reputation can be more readily identified when it declines, or even shifts from capital to liability. Scandal,

lawsuits, public criticism, etc. – whether factually accurate or not – tends to be reflected in a drop in a company's overall market value – or at least its upper limit – of the organization's (formerly favourable) reputation" (2004: 48).

Reputation capital loss is the decrease in the present value of the firm's cash flows. In essence, it is expected that investors, customers, and suppliers will change the terms of doing business with the firm (Karpoff & Lott, 1993). Corporate misconduct adjusts stakeholders' social judgments of both capability and character (Mishina, Block, & Mannor, 2012). Thus, other measures of damage to a firm's reputation include its inability to hire new talent, loss of experienced managers and directors, and customer defections (Sims, 2009).

Firms lose market value upon disclosure of the alleged misconduct. Reputational penalty is determined by deducting the direct costs such as fines, penalties and lawsuit settlements from lost market value. In other words, the residual, or the portion of the market loss that cannot be explained by such direct costs is a measure of the firm's reputational penalty. According to Karpoff (2012: 364):

> *[T]he size of the reputation loss includes the value of the lost sales and the value impact of a change in a firm's cost of capital. Notice that, viewed this way, a stock price decline is not a sanction imposed by investors' for a firm's misconduct. Rather, a stock price decline is a measure of investors' expectations of the total net costs to the firm from the news of this misconduct. Stated differently, a stock price decline is not a reputational loss, but it is a measure of a firm's total losses, which may include a reputational loss.*

Scholars have studied reputational losses for many types of firm misconduct, for example, consumer fraud (Jarrell & Peltzman, 1985), misconduct affecting third parties (Alexander, 1999; Murphy *et al.*, 2009), financial misrepresentation (Beneish, 1999), and product recalls (Bromiley & Marcus, 1989). Herein, I study the effect of bribery, a specific type of firm misconduct, on firms' reputation capital.

Reputation research related to reputational capital recovery in the aftermath of organizational misconduct is examined in a limited manner. Knight and Pretty (1999) examine the stock price recovery for 15 public firms that were involved in corporate catastrophes. Four of these catastrophes resulted from misconduct, specifically product recalls. Partitioning the sample into 'recoverers' (initial loss of CAR of five percent on average) and 'non-recoverers' (initial loss of CAR of 11 percent on average), the authors find that the former firms had recovered the initial loss by the 50th day, while the latter firms had not recovered the initial loss for a period of one year after the catastrophe. The authors suggest that the results hinge on management's ability to deal with the catastrophe effectively.

One of the main characteristics of catastrophes is the loss of human lives ('fatalities'). The initial average negative share value loss from these events was 8 percent, and the share values recovered, on average, within 50 trading days (Knight & Pretty, 1998). Because corporate bribery violations do not result in fatalities, I posit that the average share value loss and the average recovery time for corporate bribery violations will be less than catastrophes.

2.2.3 Reputational Penalties and Types of Misconduct

Share price impacts and reputation penalties vary by a wide range depending on the type of misconduct. The largest share price declines occur upon the disclosure of financial misconduct. Karpoff *et al.* (2008b) report a one-day mean abnormal return of -25.24 percent when the news of the financial statement misrepresentation is first disclosed. Using different data sources for financial restatements, Palmrose, Richardson and Scholz (2004) report a two-day mean abnormal return of -9.2 percent; Desai, Hogan, and Wilkins (2006) report a mean three-day abnormal return of -11.07 percent; and, Arthaud-Day, Certo, Dalton and Dalton (2006) report a mean return of -11 percent. Corresponding reputation penalties for financial misconduct are large as well. For example, Karpoff *et al.* (2008b) estimate that of the total share price

decline, 8.8 percent were due to legal penalties, 24.5 percent due to artificial share price inflation, and the residual 66.6 percent related to reputational penalties.

For firms involved in product recalls in the automobile and pharmaceutical industries, Jarrell and Peltzman (1985) find that 77 percent of the share price losses are attributable to reputational penalties. Barber and Darrough (1996) report that the reputational losses are substantial for automobile recall incidents. In regard to frauds of related parties, reputation losses amount to 56 percent (Karpoff & Lott, 1993; Murphy *et al.*, 2009). For air safety disasters, Mitchell and Mahoney (1989) find that the one-day abnormal reaction to an air crash caused by oversight or pilot error was -1.68 percent, of which much was attributable to reputational loss.

Conversely, when misconduct does not affect a firm's counterparties, the reputational loss is negligible. Murphy *et al.* (2009) report that for such misconduct, the share price reaction is -0.80 percent, and much of this loss can be attributed to legal penalties, implying no reputation loss. The same is the case with environmental violations where Karpoff *et al.* (2005) report an average share reaction of -1.00 percent. They also find the magnitude of the share losses are the same as those of legal penalties.

It follows from the discussion above that reputational penalties vary greatly based on the type of misconduct. This will assist in making a determination as to whether the invisible or visible hand is a better deterrent for misconduct. Evidence demonstrates that significant reputational losses are correlated to the harm caused to a firm's counterparties. Firms that are involved in financial misconduct face a higher cost of debt and equity capital (Graham *et al.*, 2008), while firms that commit consumer fraud experience lost sales (Murphy *et al*., 2009). On the other hand, reputational losses emanating from violating environmental regulations are

negligible because of the high direct legal penalties involved: firms that were responsible for contaminated sites paid an average penalty of $11 million and a cleanup cost of $123 million (Karpoff *et al.*, 2005). These authors attribute the minimal reputational losses to the premise that the firm's counterparties were not directly harmed.

2.2.4 Reputation Repair

A tenet in the reputation literature that bears close resemblance to rehabilitation after misconduct is reputation repair. When misconduct ensues, an organization's reputation is damaged primarily because of its stakeholders' negative reactions. An organization responds to this reputation-damaging event through reputation-repairing activities. The success or failure of these activities adjust stakeholders' perceptions accordingly.

The research agenda on reputation repair has largely concentrated on case studies related to impression management activities undertaken by firms as a short-term solution to reputation damages (e.g., Fombrun, 1996; Carroll, 2009; Sutton & Callahan, 1987). However, reputation scholars have paid relatively little attention to the substantive actions that firms can take to repair or restore their reputation. Substantive reputation repair involves changing the organization's behavior and position by addressing the root causes of the reputation-damaging event so that the organization is rehabilitated (Rhee & Valdez, 2009).

Building on behavioral perspectives, Rhee and Kim (2012) advance a process model of reputation repair as a problem-solving process involving three steps: (1) problem recognition; (2) search for solutions; and (3) implementation of solutions. From a corporate bribery standpoint, the commencement of an internal investigation would signal recognition of a serious problem at hand. Other steps taken by the organization as detailed in the Pfarrer *et al.* (2008) theoretical model and proposed to be empirically tested herein represent substantive reputation-repairing activities. Organizational crises such as bribery prosecutions have implications for an

organization's search and learning process, and accordingly, the reputation repair process (Heugens, van Riel, & van den Bosch, 2004).

2.3 Foreign Corrupt Practices Act

2.3.1 FCPA and Bribery

The U.S. Congress enacted the Foreign Corrupt Practices Act (FCPA) in 1977 in the aftermath of the Watergate scandal. The FCPA primarily prohibits the payment of bribes to foreign government officials, which includes employees of state-owned enterprises, to obtain or retain business. Therefore, bribing foreign government officials for business purposes is considered a criminal act if perpetrated by U.S. firms, foreign firms doing business in the U.S., and foreign firms that list shares in U.S. stock exchanges. Under the FCPA, foreign firms operating in the U.S. can be prosecuted for bribery committed in a third nation.

The Act was amended in 1998 as a result of the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions signed in 1997, which went into effect in 1999. The FCPA and the OECD convention were ratified to eliminate corruption that distorts markets and causes income inequality to persist or grow. Stigmatization of corruption is evidenced by 39 nations currently being signatories to this Convention. Moreover, in recent years, the FCPA has gained media attention, as regulators have assumed an active role in prosecuting anti-bribery laws wherein large penalties and fines have been assessed.

A rich body of research exposes the institutional and firm-level factors driving bribery (Chen, Ding & Kim, 2010; Cullen *et al*., 2004; Galang, 2012; Lee, *et al*., 2010; Jensen *et al.*, 2010; Martin *et al.*, 2007), and firms likely to bribe or resist bribery (Jensen, *et al*., 2010; Martin *et al.*, 2007; Spencer & Gomez, 2011). For instance, Spencer and Gomez (2011) explored the competing pressures of home and host nation institutional environments. A firm's engagement in bribery is a function of its vulnerability and exposure to government officials and corruption

(Lee *et al*., 2010). Extant research suggests that some firms are more able to 'walk away' from a deal requiring bribery than others.

However, it remains unclear how corruption and FCPA prosecutions influence corporate reputation and performance. Consequences of compliance with social norms include reputation, which is a mediator of performance (Philippe & Durand, 2011). If the costs or consequences of bribery are systematically underestimated, managers may be performing faulty benefit-cost analyses. The stigma lens can inform these relationships (e.g. Hudson, 2008; Mishina *et al*., 2010).

2.3.2 Enforcement under the FCPA

Legal sanctioning results in consequences imposed by external stakeholders such as regulatory and law enforcement agencies (Lange, 2008) as a means to control and modify organizational behavior (Edelman & Suchman, 1997). Under deterrence theory, rational decision makers would be discouraged from participating in criminal activity if the regulatory system provides punishment. However, the punishment must be definite and severe such that it is equivalent to the extent of the crime (Coleman, 1987; Edelman & Suchman, 1997). The United States Sentencing Commission (USSC) announced the Federal Sentencing Guidelines (FSG) in 1991 to punish and to deter firms from engaging in corporate crime. The FSG were designed to consider the purpose of the punishment and to extend fairness and just punishment to organizations (Hemphill & Cullari, 2009). The FSG incentivizes organizations to self-police and prevent criminal conduct by encouraging them to investigate alleged criminal acts and to self-report results to federal authorities. Additionally, organizations are directed to accept responsibility for their acts (FSG Manual, 2011). In the U.S., the Department of Justice (DOJ) and the Securities and Exchange Commission (SEC) are among the main law enforcement agencies responsible for upholding laws related to prosecuting criminal and civil acts perpetrated

by public corporations. The DOJ is mainly responsible for criminal enforcement while the SEC is responsible for civil enforcement.

The current enforcement trend indicates that the internal self-regulatory model of self-policing may be failing (Weismann, 2009). Notwithstanding the distinction between reputational penalties and legal sanctions (Alexander, 1999; Karpoff and Lott, 1993; Karpoff, *et al*., 2008a), legal fines or visible hand punishments seem more tolerable to firms than market-based penalties or invisible hand punishments. This partially explains why bribery incidents have not shown signs of decreasing since the FCPA went into effect.

2.3.3 Bribery and Sanctions

Prosecutors had traditionally followed two sanctioning options when bringing firms to justice: indict the firm or decline to prosecute. Indictments could lead to criminal convictions through trials in court settings, or plea agreements between the prosecutors and firms (Barkow, 2011). The first instance of the DOJ declining to prosecute a firm after a government investigation occurred in 1992 when the DOJ recognized the full cooperation and structural reforms Salomon Brothers undertook during its investigation of securities fraud violations at the company. This led to the birth of 'pretrial diversion agreements': deferred prosecution agreements (DPA) and non-prosecution agreements (NPA) (Spivack & Raman, 2008).

In 2003, the DOJ issued the Thompson memorandum, which formalized the use of pretrial diversion agreements. One of the main principles that prosecutors are advised to apply to their prosecution decisions would include a firm's "timely and voluntary disclosure of wrongdoing and its willingness to cooperate in the investigation of its agents" (Thompson, 2003). Other principles to consider would include the sufficiency of the prosecution of employees responsible for the firm's misconduct and collateral consequences such as disproportionate harm to shareholders.

In a DPA the prosecutor files a criminal charge against a corporation, but agrees not to prosecute as long as the corporation complies with the terms of the agreement over a probationary period. An organization getting a DPA accepts responsibility for the wrongful conduct and pays 'criminal' fines. All DPAs require companies to commit to future compliance by agreeing to institute new, or improve existing compliance and ethics programs. In a NPA or 'cooperation' scenario, no formal charges are filed; a statement of facts is filed describing the alleged violations. Under both agreements, the corporation enters the probationary period voluntarily during which it agrees to (a) enact substantial internal reforms and (b) help the prosecutors to build a criminal case against individual employees and other entities. In some cases firms are placed under supervised probation for a period of two to five years so that they can reform their systems and processes that failed to detect criminal acts (Barkow, 2011).

Empirical research focused on imposing sanctions on corporate crime at a firm level increased after the issuance of Federal Sentencing Guidelines in 1991 (e.g., Alexander & Cohen, 1999; Alexander, Arlen, & Cohen, 1999; Paternoster & Simpson, 1996; Cohen, 1996; Simpson, 2002; Karpoff, Lee, Mahajan, & Martin, 2005). With the amendment of the FSG in 2004, it is time to revisit the effect well-defined rehabilitative actions have on a firm's eventual retributive punishment in the form of sanction severity. Remedial measures as part of the sanctioning process impact the likelihood and speed of a firm's rehabilitation. As such, regulatory officials give appropriate weight to rehabilitative measures when sanctioning firms for misconduct as part of its rehabilitative mandate (Hemphill & Cullari, 2009).

It is evident from the discussion on the new sentencing guidelines and practices that sanctions is a broad concept that incorporates not only just and equitable punishment for a firm's misdeeds but also rehabilitation measures to prevent future misconduct. In the next section I

discuss the rehabilitative framework governing firm actions after the misconduct has arisen and caught the attention of regulatory officials.

2.4 Corporate Rehabilitation Activities after Allegations of Organizational Misconduct

Firms prosecuted under the FCPA face the possibility of criminal and civil sanctions. To minimize criminal liability, firms may opt to self-regulate by engaging in various compliance initiatives. Walsh and Pyrich (1994: 607) argue that "[w]hen a corporation has already expressed its collective will through an implemented corporate compliance program, it must be questioned whether the corporation properly should be held responsible for actions that violate the policy." Under a self-regulation paradigm, corporations become "quasi-enforcers" of the law on behalf of the government (Cohen, 1996). Prosecutors favor self-regulation of firms because it lowers regulating expenses. Laufer and Strudler (2007: 1313) note that prosecutors acknowledge "the corporation's pre-indictment conduct, presence of a compliance program, evidence of a certain kind of corporate culture, and corporate discipline of culpable employees."

Self-regulation fails when the internal systems of checks and balances are deficient such that they do not prevent misconduct from occurring. This triggers sanctions designed to equitably punish and correct the failed systems. Thus, corporate offenses can be explained within a rational choice framework (Paternoster & Simpson, 1996). Under this framework, firms would include the consequences of offending in their decision making calculus (Weissmann, 2009).

The threat of going to jail could operate as an incentive for employees not to pay bribes. From a firm's perspective, the threat of criminal sanctions could strengthen alternative systems of corporate crime control (Cohen, 1996). For example, Hemphill and Cullari (2009) suggest that for self-regulation to work effectively, a firm should create a system designed to protect itself against potential FCPA violations. This would include having adequate staff and internal

control systems, training employees, and enforcing violations of the law. As such, these deterrence actions undertaken by firms would come with costs attached in the form of monitoring corporate systems to prevent crime (Laufer & Strudler, 2007).

2.4.1 Reintegrating a Criminal Organization

While deterring corporate misconduct emphasizes the threats of financial penalties and social stigma, rehabilitation of a convicted firm focuses on various options to make amends for prior misconduct. In a recent study, Pfarrer *et al*. (2008) proposed a theoretical framework for actions that firms should consider after the criminal act becomes publicly known. Drawing from organization legitimacy theory, the authors offer a four-stage model through which a discredited firm initiates discourse to repair its legitimacy and attempt reintegration with stakeholders: (1) discovery - *what happened?*, (2) explanation - *why did it occur?*, (3) penance - *how should the organization be punished?*, and (4) rehabilitation - *what organizational changes have been made?* The authors suggest that reintegration is facilitated by actions that are within a firm's control. These actions would include voluntarily disclosing the wrongdoing, accepting responsibility, accepting punishment, and making changes to the corporate structure with the dual purpose of preventing reoccurrences of the wrongdoing to signal sincere efforts on its part to rehabilitate.

From the time misconduct is discovered, stakeholders evaluate a firm's actions and outcomes, and form perceptions about the severity of the underlying act. These actions culminate at the penance stage when firms are sanctioned. All four stages are characterized by a high degree of uncertainty (Pfarrer *et al*., 2008). During these stages, firms may engage in open internal investigations of the alleged illegal acts (Hemphill & Cullari, 2009), coinciding with investigations by regulatory and law enforcement agencies that are 'non-public' in nature (Stuart & Wilson, 2009).

At the penance stage, regulatory officials can propose organizational changes as part of a firm's sanctions. Drawing from the organizational justice literature, including equity and shaming theories, Pfarrer *et al.* (2008) argue that at the penance stage, firms should receive equitable punishment for their wrongdoing. Equitable punishment would imply fairness of the outcome of the punishment (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Regulatory officials would expect the firm to endure punishment equal to the severity and scope of its wrongdoing (Bottom, Gibson, Daniels, & Murningham, 2002; Tripp, Bies, & Aquino, 2002). In line with this premise, regulatory officials view punishment as necessary in order for an organization to restore its legitimacy (Bottom *et al*., 2002). A firm that accepts the sanction, recognizes that it is equitable, and satisfies its obligations without any hindrance, would increase its speed and likelihood of reintegration. This acceptance of the sanction dealt signals a positive confirmation of the firm's efforts to change its behavior (Bottom *et al*., 2002) and rehabilitation efforts.

Moreover, the penance stage is characterized by both official and unofficial sanctions. The goals of official sanctions are to punish and deter crime (Simpson, 2002). Official sanctions are imposed on the firm by courts and prosecutors with the authority to pass judgment, while unofficial punishment is levied through various means including reputational penalties and public shaming. Shaming happens when stakeholders publicly censure the firm for its actions, thus embarrassing the firm (Braithwaite, 1989; Rasmussen, 1996). As a result, shaming stigmatizes organizations such that they feel the consequences of public censure (Ayres & Braithwaite, 1989). The resulting consequences would encourage compromised firms to comply with social norms and laws. All the actions taken by the firm during the rehabilitation process

would signal substantive efforts on its part to repair its reputation after a reputation-damaging event (Rhee & Kim, 2012).

2.5 Integrated Punishment Model of Organizational Misconduct

Building upon the rational choice, reputation, stigma, and sentencing literatures, I now introduce a model of FCPA punishment to make the true cost of corporate corruption explicit. If managers believe that the consequences of being caught under the FCPA present a lower financial risk than failing to pay bribes to obtain business, they may be inclined to exercise rational-choice market entry strategies favoring bribery payments. This belief will change when the cost-benefit analysis shifts in favor of a rational choice that is in the firm's best financial self-interest to avoid the financial and reputational costs of prosecution. At that point, risk aversion will couple with robust governance to increase real corporate governance under the FCPA.

The parties that punish firms for bribery transgressions have their own bases for evaluating the transgressions. The market or the invisible hand penalizes the firm in the form of reputational penalties; as a result, investors, customers and other immediate stakeholders can move away from the firm based on their changed evaluations. Some may withdraw support because they do not want to be associated with a corrupt firm; others may be worried that management may be distracted from bribery investigations, and thereby, cannot fulfill its obligations. As such, the penalty is the aggregate of all these renegotiation of terms in the home and host countries. On the other hand, the legal system, through the courts and regulatory officials, punish firms through the sentencing mechanism. They evaluate the firm's actions and sanction the firm based on punishment principles that include rehabilitation and deterrence. Therefore, I conceptualize the integrated punishment model as consisting of three separate models: two models relating to the reputational penalty component and the third to the sanctions component. In the next sections, I develop hypotheses surrounding those models.

2.6 Predictors of the Reputational Penalty Punishment Model

The U.S. DOJ and the SEC impose both monetary and nonmonetary penalties on firms and individuals for most bribery actions. Monetary penalties include fines and judgments assessed due to civil and criminal actions. These costs constitute a one-time charge to the income statement. In addition to direct costs, accused firms face indirect investigation costs. Additional compliance costs and fines arising from FCPA violations can negatively affect ratings for firms with modest free cash flow and/or liquidity (*Fitch Ratings*, 2010). For example, in February 2010, Fitch Ratings downgraded the credit rating of Avon Products Inc. due to its FCPA investigatory and compliance-related expenses.

In addition to investigation costs, bribery prosecutions, like other forms of corporate misconduct, may affect other stakeholder relationships. Disclosure of bribery acts, combined with penalties and fines, imposes additional reputational costs on firms, which is characterized by a decrease in present value of the firm's cash flows. This is due to expectations that investors, customers and suppliers will change the terms of trade in how they conduct business with the firm (Karpoff & Lott, 1993). Customers may negotiate lower prices or switch to a competitor because of the stigma associated with the firm paying bribes. Suppliers may change their business terms with the firm, as a diminished reputation can result in an increase in the firm's cost of capital or trade credit (Karpoff *et al*., 2008b; Murphy *et al.*, 2009). Thus, reputation loss occurs when various firm stakeholders change their expectations of the firm's future, and I propose the following baseline hypothesis:

> *Hypothesis 1: Firms accused of violating the FCPA experience punishment in terms of a reputational penalty.*

2.6.1 Moderating Effects of Organizational Stigma Transfer

I build my model's next step on the notion that arbiters' attribution of corruption stigma

explains the variation in reputational penalty described above. Paetzold *et al.* (2008) describe corporate corruption as one type of organizational stigma that is invisible when concealed by corporate executives, IT personnel, and systems; however, an investigation typically discloses it. I have identified four potential moderators of the relationship between bribery and reputational penalty. In the remainder of this section, I theorize about the effects of host nation corruption stigma, stigma diffusion by multiple regulators, stigma transfer via compromised management and board member involvement, and the ultimate effects of corruption entrenchment in accounting systems on reputational penalty (Weisenfeld, *et al.*, 2008). In summary, firms' reputational penalty is a function of the corruption stigma and the transfer of said stigma to or from organizations.

2.6.1.1 Host Country Corruption Stigma

Although bribery is consistently considered an inappropriate and stigmatized activity across national contexts (Cullen *et al*., 2004; Husted, 1999; Spencer & Gomez, 2011), nations vary in their tolerance for it (Doh *et al*., 2003; Lee *et al*., 2010; Martin *et al.*, 2007). Extant research indicates that the likelihood of a foreign official requesting a bribe increases as the corrupt activities in a nation increase (Murphy *et al.*, 2007). Research also suggests that the likelihood of being caught decreases as the corrupt activities in a nation increase. Further, non-compliance with a bribery request will have a greater downside potential in those nations where bribery is widespread (Drabek & Payne, 2001). Lee *et al*. (2010) find that the more pervasive corruption is in a nation, the larger the bribes.

Information about nations' corruption is quantified and publicized via Transparency International's Corruption Perceptions Index (CPI) scores, which rate the perceived levels of corruption in 180 nations on a scale from highly corrupt to least corrupt. Thus, some nations, such as Nigeria, bear corruption stigma. Host nation corruption levels influence FDI inflows

(Robertson & Watson, 2004) and types of corruption (Brouthers, Gao, & McNicol, 2008). Given the visibility of CPI scores, the rational market model suggests that analysts and the market in general would factor in the likelihood of bribery taking place in a firm's portfolio of markets. In other words, a firm with operations in Nigeria would have a stock price reflecting the probability of bribery. However, bribery accusations in Denmark, New Zealand, or Singapore, which share the reputation of being the least corrupt nations, would shock the market. The firm would bear the stigma of bribery in such less corrupt nations. Therefore, I propose:

> *Hypothesis 2: The likelihood of firms experiencing punishment in terms of significant reputational penalties decreases when a nation in which the bribe was paid is perceived as more corrupt.*

2.6.1.2 Stigma Diffusion through Multiple Regulators

Criminalization of bribery of foreign public officials by the 39 signatories of the OECD convention reflects the stigmatization of this type of corruption across national institutional environments. An FCPA prosecution can have multiple regulators involved – the DOJ, the SEC, the non-U.S. regulatory authority in the firm's home OECD nation, and the regulatory authority in the nation or nations where the bribery act is committed. For instance, 13 regulatory authorities in 12 nations were involved in prosecuting Siemens for bribery.

The involvement of several regulators in foreign jurisdictions presents the prospect of concurrent investigations and prosecutions. It signals the stigmatization of the firm in multiple contexts, as well as resources encumbered by the investigation and resolution.

A firm's approach to dealing with multiple prosecutions and remediation will be distinct in light of the bribery acts committed. In these circumstances, a firm may have an intangible liability in the form of protracted prosecution. Not only will the firm expend more resources, but

its management may also be distracted from discharging its duties (*Fitch Ratings*, 2010). In addition, if the underlying project involves funds from a development bank or export credit agency, the firm could face investigations and public debarment, or other punitive measures by those entities. Stigma diffusion (Weisenfeld *et al.*, 2008) suggests that reports of firm misconduct are repeated many times for many audiences. These multiple arbiters suggest broader stigmatization and negative consequences. Hence, I suggest:

> *Hypothesis 3: The likelihood of firms experiencing punishment in terms of significant reputational penalties increases as the number of regulators involved in prosecuting bribery accusations increases.*

2.6.1.3 Stigma Transfer from Compromised Elites

In regulatory enforcement, the SEC named the CEO and/or the CFO for some involvement in 89 percent of the cases. About 20 percent of these CEOs/CFOs were criminally indicted after the SEC took actions, and over 60 percent of those indicted were convicted (Beasley *et al*., 2010). The subsequent employment prospects of the fraudulent firms' displaced managers were impaired, suggesting that both corporate boards and the external labor market impose significant penalties on compromised managers (Desai *et al.*, 2006; Cowen & Marcel, 2011). The FSG also requires a firm's board to be knowledgeable of the program and its operation, and exercise reasonable oversight (FSG, 2010). It penalizes firms for culpability when management participates in, condones or is willfully ignorant of the misconduct.

Top managers and directors associated with financial misrepresentation tend to be dismissed not only from the board of the corporation where corruption occurred (Arthaud-Day *et al.*, 2006), but also from boards of other firms that want to distance themselves from any perceived wrongdoing (Fich & Shivdasani, 2007). However, their involvement in the wrongdoing in the first place caused a drop in stock market values when the firm events were

announced (Arthaud-Day *et al.*, 2006). The aforementioned studies indicate that the compromised elite remained employed with the firms during the course of the investigation, and their dismissal occurred many months after its completion.

Further, when top management teams (TMT) are involved in committing illegal acts, it implies that the TMT has fostered a culture in the organization that promoted such illegal behavior. The stigma that arises from the wrongdoing transfers from compromised management or board members to firms. I argue that firms would face reputational penalties from the stigma transferred from these members. Therefore, I propose:

> *Hypothesis 4: The likelihood of firms experiencing punishment in terms of significant reputational penalties increases with the involvement of management/board member(s).*

2.6.1.4 Stigma Associated with Corruption Entrenchment in Accounting Systems

Corporate misbehavior varies in both severity and the level of entrenchment in corporate structure and control systems. Within the U.S., this manifests in regulators' categorization of accounting offenses. The FCPA contains both anti-bribery and accounting provisions. When accounting violations exist for reasons besides violations of anti-bribery provisions, concerns for 'materiality' or severity in the violations become more salient. This salience is reflected in financial misconduct and internal control deficiencies that raise serious concerns about management's ability to control the business (Doss & Jones, 2004).

Accounting research has found that firms who committed financial statement fraud suffered a two-day mean stock price decline of 16.7 percent after the initial news announcement of the alleged fraud. In addition, news of SEC or DOJ investigations further triggered a two-day average stock price decline of 7.3 percent (Beasley *et. al*, 2010). Thus, significant penalties strongly motivate firms to maintain complete and accurate books and records, as well as internal controls. The prospect of facing significant penalties also encourages firms to fully disclose

material information to auditors (OECD, 2009) that potentially imposes reputational costs (Patel & Dallas, 2002).

The FCPA includes three accounting provisions: (i) Books and records provision – requires firms to maintain books and records that accurately reflect all transactions (15 U.S.C. §§ 78 (b)(2)(A)); (ii) Internal controls provision – requires firms to keep and maintain a system of internal controls (15 U.S.C. §§ 78 (b)(2)(B); and (iii) Circumvention provision – no person shall knowingly circumvent or knowingly fail to implement a system of internal controls, or knowingly falsify any book, record, or account (15 U.S.C. §§ 78 (b)(5)). These provisions connote different levels of corruption entrenchment in corporate structure and systems.

At times, the possibility of accounting violations occurring is known at the time of the initial revelation of bribery. For instance, Pride International, Inc.'s initial bribery accusation on March 13, 2006 was as follows (*PR Newswire*, 2006)

> Pride International, Inc. announced today that it will delay the filing of its 2005 annual report on Form 10-K until after its due date on March 16, 2006. The Company has received allegations relating to improper payments to foreign government officials beginning a number of years ago in connection with certain of its overseas operations, as well as corresponding accounting entries and internal control issues. The Audit Committee of the Board of Directors is overseeing an investigation by outside counsel of such allegations. At this time, the Company does not know whether the allegations will be substantiated, and if so, who may be implicated or what impact the allegations or the investigation may have on the Company, the Company's business or the Company's financial statements.

Firms prosecuted under the anti-bribery provisions account for 7 percent of the total prosecutions under the FCPA; the balance relates to *material* violations of the accounting provisions not related to bribery (Karpoff *et al*., 2008b). Sometimes, potential accounting violations for bribery may be incidental to these *material* misstatements. Anti-bribery accounting violations are generally indicative of infractions based on the severity of the

underlying violations, which connotes the level of entrenchment in corporate structure and systems. I suggest that the market would punish firms charged with accounting infractions because these infractions would show that underlying financial reporting or internal control weakness issues are present. Thus, I posit the following:

> *Hypothesis 5: The likelihood of firms experiencing punishment in terms of significant reputational penalties increases with the severity of the accounting violations.*

2.7 Predictors of the Recovery of Reputational Penalty Punishment

Unlike reputation, which possesses a multidimensional nature, organizational stigma is inherently unidimensional in that an organization either bears a stigma or does not bear a stigma. An organizational stigma is not about any particular organization, but whether the organization belongs to a larger, stigmatized category (Wiesenfeld *et al*., 2008). Membership in the stigmatized category is fixed in the minds of stakeholders because a stigma imputes a negative identity based on the stereotypes associated with the stigmatized category (Devers *et al*., 2009). Involvement in bribery prosecutions could represent a stigmatized category in the minds of firm stakeholders.

Although the corporate reputation and organizational stigma constructs are fundamentally different, there is some overlap between the two. Because good reputations "sit on the slippery slope of their constituents' fickle interpretations" (Fombrun, 1996: 388), a favorable reputation can shift from good to bad much more quickly than it can shift from bad to good (e.g., Nichols & Fournier, 1999). The main reason for this phenomenon is that stakeholders assess new signals with the expectation that a questionable organization will behave in a questionable manner (Fombrun, 1996). Mishina *et al*. (2010) suggest that organizational stigmas are somewhat similar to bad reputations because stigmas can be acquired fairly easily. However, a stigmatized organization is likely to remain stigmatized unless it is able to change stakeholders'

interpretations and beliefs about its very nature (Mishina & Devers, 2012).

Since stigma can be associated with a discrete event such as bribery (Hudson, 2008), censured firms have an opportunity to remove the stigma though rehabilitative or reputation-repairing activities. Scholars posit that these activities have to be substantive and not merely ceremonial so as to have the desired effect of recoupment of sullied reputation and associated stigma in the eyes of a firm's stakeholders (Rhee & Kim, 2012; Pfarrer *et al*., 2008). If an incriminated firm is successful in its efforts, it can fundamentally shift its stakeholders' evaluations in a positive manner. I examine one such factor, prior corporate reputation, to explain the phenomenon of recovery of reputational penalty.

Research has suggested that audiences tend to use prior reputation as a baseline from which to interpret and assess a firm's actions (Phillippe & Durand, 2011; Love & Kraatz, 2009). Prior reputation may be an important moderator of the reputation-granting process because it serves as a baseline by which to evaluate the extent of the firm's credibility, that is, the extent of the firm's adherence to social norms (Phillippe & Durand, 2011).

Unfavorable perceptions of a firm's reputation in response to bribery or a negative incident may not delay a firm's immediate decline, but these perceptions have repercussions on firms in the long run as they try to recover their lost corporate reputation. Alsop (2004) opines that, collectively, corporate reputation continued to struggle three years after a series of major corporate scandals (e.g., Enron, Andersen, WorldCom and others) became publicly known. He projects that "the recovery process for Wall Street and corporate America promises to be slow" (2004: 21). Rhee and Haunschild (2006) also found that severe recalls by automobile firms caused more market share damage to high reputation rather than low reputation firms. Thus, I hypothesize and test whether it takes longer for firms with stronger reputations to recover their

stock prices following a bribery prosecution event than firms with weaker reputations.

> *Hypothesis 6: Firms' corporate reputations moderate the recovery time of market performance such that the recovery time is longer for firms with higher reputations versus lower reputations.*

2.8 Predictors of the Sanctions Model of Punishment

Under the FSG, fines imposed on firms increase with the size and scope of the violation (*FSG Manual*, 2011). Consistent with this mandate, the size of the crime would be positively related to the sanction imposed. Firms can mitigate some of the impact of the sanctions through actions within their control such as conducting prompt and thorough investigations, self-disclosing the alleged acts, and cooperating with the government.

The sentencing process provides an exhaustive picture of the criminal conduct and corresponding firm actions during all stages of the Pfarrer *et al.* (2008) model. Because information about the existence and details of most government investigations is not available to the public prior to sentencing (Stuart & Wilson, 2009), answers to "*what happened?*" and "*why happened?*" fully crystallize at this stage. In addition, sanctions provide a framework for examining the penance ("*how punished?*") and rehabilitation ("*what rehabilitation?*") stages so that the approach firms take to regain legitimacy can be better understood.

At the time of sentencing, firms should receive equitable punishment for their criminal acts (Pfarrer *et al*., 2008). The punishment would equal the severity and scope of the underlying crime (Cohen, 1996; Bottom *et al*., 2002; Tripp *et al*., 2002). This would produce outcomes consistent with Becker's (1968) optimal penalty theory in that the punishment would equal the true social cost of the crime. If this does not occur, and sanctions are too inadequate, firms may engage in risky behaviors resulting in extreme corporate crime. Conversely, if sanctions are excessive, they may force legitimate firms to be risk averse by not engaging in legal business

activities for fear of prosecution (Cohen, 1996). Thus, sanctions imposed on a firm that commits a crime would be a positive function of the severity of the crime, leading to the following hypothesis:

> *Hypothesis 7: Criminal severity based on violating the FCPA is positively related to punishment in terms of increased sanctions for guilty firms.*

2.8.1 Voluntary Disclosure

The theory of voluntary disclosure is well developed in the accounting literature (Healy & Palepu, 2001; Verrecchia, 1983). It denotes disclosure of material financial information by firms above and beyond mandatory disclosures required by U.S. securities laws. Accounting scholars posit that voluntary disclosure provides benefits to firms in terms of enhanced financial performance and reduced cost of capital by reducing information asymmetries between firms and stakeholders (Healy & Palepu, 2001). Skinner (1994) argues that firms have more incentive early on to disclose bad news rather than good news about their earnings because of the potential legal penalties for violations of securities laws. As such, firms are obligated to disclose "material" information about internal investigations of criminal misconduct based on an "assessment of the probability and magnitude of the outcome" (Stuart & Wilson, 2009: 974).

Sanctioning authorities reward firms for disclosing any wrongful conduct discovered during the course of investigating criminal acts (Gallo, 1997). Voluntarily disclosing wrongdoing can mitigate punishment (Field, Lowry, & Shu, 2005), limit the severity of imposed sentences (Simpson, 2002) and possibly reduce damage to the firm's legitimacy (Mercer, 2005; Palmrose, Richardson, & Scholz, 2004). Pfarrer *et al*. (2008) propose that voluntary disclosure by the firm would be beneficial in its interactions with its stakeholders. This is consistent with studies that indicate that firms who come forward and voluntarily disclose their wrongdoing experience less damage than those who do not, even though the wrongdoing becomes public

knowledge at a later date (Marcus & Goodman, 1991; Salancik & Meindl, 1984), for instance, at the time of sentencing.

Pfarrer *et al.* (2008) coined the phrase "voluntary disclosure of wrongdoing," which is drawn from sociological and legal research to examine voluntary restatement of financial statements that are indicative of fraudulent financial reporting (Arthaud-Day *et al*., 2006). They found that firms are rewarded for voluntarily restating fraudulent financial statements. Similarly, Short and Toffel (2008) found that firms received reduced sanctions for voluntarily disclosing violations of environmental regulations to the United States Environmental Protection Agency. In a bribery investigation context, voluntarily disclosing information about the internal investigation may be perceived by the DOJ and the SEC as a gesture of willingness to cooperate with their agencies (Janney & Gove, 2011). The FSG also provides 'credits' for voluntary disclosure thereby reducing the ultimate monetary penalty levied (*FSG Manual*, 2011). Moreover, a firm's voluntary disclosure may signal a shift away from its prior corrupt ways of doing business. Instead, this action would signal positive social values possessed by the firm such as transparency and high ethical standards. Thus, from a firm's perspective, voluntary disclosure would have a positive effect, which leads to the following hypothesis:

> *Hypothesis 8: The likelihood of firms experiencing punishment in terms of significant sanctions decreases as a result of voluntary disclosure of the alleged bribery acts to regulatory officials during the course of the bribery investigation.*

2.8.2 Cooperation with Regulatory Officials

At the time of rendering punishment, regulatory officials are guided by the FSG, which gives considerable weight to a firm's decision to cooperate in government investigations (Yockey, 2012). Formalizing pre-trial diversion agreements as alternative sanctioning mechanisms provides incentives to firms to cooperate in government investigations (Finder,

2003). In determining the level of cooperation, the prosecutor may take into account the firm's willingness to identify the persons responsible for the crime; the firm's willingness to make witnesses available to the government; the firm's willingness to waive attorney-client and work product privileges; and the firm's willingness to regularly provide updates about the results of its internal investigation (Hemphill & Cullari, 2009). In return for the firm's cooperation, the prosecutor may reduce charges, enter a plea agreement, grant immunity or amnesty, or recommend pre-trial diversion. Thus, "timely cooperation appears to be necessary to the public interest and other means of obtaining the desired cooperation are unavailable or would not be effective" (Thompson, 2003).

A waiver of the attorney-client and work product protections makes the government's investigation easier in that it allows the government to obtain statements from possible witnesses, subjects and targets, without having to negotiate individual cooperation or immunity agreements (Hemphill & Cullari, 2009). Cooperation could result in discounts to the ultimately imposed sanctions (*FSG Manual*, 2011), and favorable interactions with stakeholders (Pfarrer *et al.*, 2008). Thus, I advance the following hypothesis:

> *Hypothesis 9: The likelihood of firms experiencing punishment in terms of significant sanctions decreases as a result of cooperation with regulatory officials during the course of the bribery investigation.*

2.8.3 Termination of Employees Charged with Criminality

Research has demonstrated that firms single out one or more compromised members of the management team or board to assign blame for illegal acts in an attempt to isolate and transfer stigma (Weisenfeld *et al*., 2008). Stigma also seems to follow managers dismissed for misconduct because it diminishes their future employment prospects (Desai *et al*., 2006). In their study on board decisions to dismiss compromised directors, Cowen and Marcel (2011)

reported that directors associated with financial misrepresentation tended to not only get dismissed from that specific board (Arthaud-Day *et al*., 2006), but also from boards of other firms that want to distance themselves from those directors (Fich & Shivdasani, 2007; Srinivasan, 2005). These findings suggest that illegal acts isolate and transfer the stigma of wrongdoing from the firm to compromised employees who allegedly participated or had knowledge of the corrupt acts.

Implicit in these findings is the notion that firms benefit when they dismiss employees who have participated in criminal wrongdoing. By getting rid of "bad apples," firms may signal that the underlying corruption has been eliminated (Ashforth *et al*., 2008). Greve *et al*. (2010) suggest that dismissing such employees could convey that firms have transformed their culture in a positive manner. This position is also supported by the FSG. When a firm is prosecuted criminally, it is given credit at the time of sanctioning if it terminates those employees whose conduct gave rise to the charges brought against the corporation in the first place (*FSG Manual*, 2011; Yockey, 2012). For instance, Willbros Group, Inc., was given credit in its deferred prosecution agreement because it "severed its relationship with a senior international executive within ten days of receiving allegations of his involvement in the Bolivian tax scheme" (*Willbros Deferred Prosecution Agreement*, 2008: 4). Therefore, I propose the following hypothesis:

> *Hypothesis 10: The likelihood of firms experiencing punishment in terms of significant sanctions decreases with the termination of employees after receiving information about their alleged involvement in a bribery act during the course of the bribery investigation.*

2.9 Concluding Remarks

Overall, the ten hypotheses of the comprehensive punishment model capture the antecedents for reputational penalties, its recovery, and legal sanctions. Because the evaluators of each of the penalties/sanctions are different, the independent and moderating relationships are

developed separately. Taken together, I develop an integrated model of punishment that will provide a full picture of total social cost from corporate bribery. The reputational penalty punishment model covers five hypotheses that summarize the main effect of bribery and the moderating effects of stigma transfer on reputational penalty. The moderating effects include host country corruption stigma, stigma diffusion through multiple regulators, stigma transfer from compromised elites, and corruption entrenchment in accounting systems.

In the reputational penalty recovery model, reputational capital is expected to recover based on the strength of a firm's prior reputation. In regards to the sanctions punishment model, I develop four hypotheses that summarize the main effect of bribery and moderating effects of firm rehabilitative actions on sanctions severity: voluntary disclosure, cooperation with regulatory officials, and termination of employees charged with criminality. In sum, the proposed models would attempt to explain a statistically significant portion of the variations in reputational penalty and sanctions severity resulting from organizational misconduct. In the next chapter, I discuss the research methods suitable to test the punishment models.

CHAPTER 3

RESEARCH METHODS

This chapter discusses the methodological issues appropriate to empirically test the hypotheses that were developed in chapter 2. The research design for this study is non-experimental in nature because the predictor variables are derived through observational data as opposed to clinically controlled data used in experimental and quasi-experimental research.

3.1 Data Description and Sources

It is common to use secondary sources of data in studies examining reputational penalties (Karpoff, 2012) in order to examine the events when the first information about the alleged misconduct is revealed. A major advantage of using secondary sources is that the data elements do not require subjective assessments of raters. Another advantage is related to economics in terms of savings in time and resources.

There are certain disadvantages in using secondary data. Since the data are collected prior to the commencement of the study, it may not answer specific research questions that the researcher might have. This may limit the researcher's ability to specify different variables in the research model. Contrast this to the survey method wherein the researcher has to ability to collect data to test specific research questions thereby providing the researcher with flexibility in specifying variables. Further, secondary data are not usable for research involving complex constructs. In spite of these disadvantages, the variables used in the punishment research models are derived from public information in order to build a database to test the predictors of punishment.

I build a comprehensive database by collecting extensive information about firms prosecuted under the FCPA from (a) data sources that aggregate FCPA bribery data, (b)

databases of business press articles to identify dates when the FCPA investigation events unfolded, (c) databases containing selected financial statement information reported in public financial statements, and (d) government releases about enforcement actions and legal databases containing court documents.

The entire data collection and coding exercise amounted to approximately four hours per enforcement action. Such substantial data gathering efforts are not uncommon for research models computing reputational penalties; for instance, Beasley *et al.* (2010) report a data gathering and summarizing effort related to fraudulent financial reporting as exceeding 10,000 hours for 347 public firms.

I use the standard event study method, as used in other studies (e.g. Bhagat & Romano, 2002; Karpoff *et al*., 2008b), to evaluate market reaction to FCPA enforcement actions because this method considers that the unanticipated enforcement events convey information to the market about the violations and costs to the firm. The assumption behind using the event study method is that stock prices reflect the true value of firms as they "reflect the discounted value of all future cash flows and incorporate all relevant information" (McWilliams & Siegel, 1997: 626-627). Since the enforcement events enact the environment in which the affected firms operate, investors are likely to adjust their expectations of the affected firms' earnings, cash flows and discount rate. These adjustments to expectations would be reflected in the firms' stock price movements. Using the event study method fits well with Karpoff and Lott's (1993) characterization of reputational penalty as the decrease in the present value of the firm's cash flows as different firm stakeholders are expected to change the terms of doing business with the firm.

In order to perform an event study to calculate cumulative abnormal returns, I searched

Factiva, Lexis-Nexis, PACER, and 10-k Wizard databases for public announcements for the 134 public firms investigated for bribery from 1978 to 2010. The main data source, *Factiva*, is a database of financial press articles. The news sources included therein exceed 5,000 newspapers, journals, and magazines, including the *Wall Street Journal*, *New York Times*, *Financial Times*, and *Economist*. Factiva also contains over 500 newswires including *Dow Jones*, *Associated Press*, *Reuters* and *PR Newswire*.

One of the important operational issues when performing event studies is to search for the timing of when the bribery events first become public news. If an incorrect event date is picked, the research faces a threat in terms of not being able to estimate the effect on stock price as a result of the occurrence of the bribery event. Financial markets are considered to be efficient, and thus, are extremely sensitive to the timing when information of the bribery events are made public and react accordingly. In order to mitigate this issue, I (a) searched various media sources, and (b) identified confounding events associated with the bribery event dates, such as earnings announcements and public financial statement filings. I used key word search strings including 'bribery,' 'bribe,' 'Foreign Corrupt Practices Act,' 'FCPA,' and 'Oil for Food.' I also searched SEC releases posted on its website at www.sec.gov, and DOJ press releases about its actions to obtain missing data.

An FCPA enforcement action by the SEC is composed of five events or proceedings (Karpoff *et al.*, 2008a):

(a) Trigger or accusation event*:* represents when disclosures of potential foreign bribery violations are made for the first time. Common trigger events include whistleblower charges, voluntary disclosures in SEC filings or through press statements, internal audits, and actions by foreign law enforcement agencies. At times, the board of

directors and/or the management hires outside counsel to investigate bribery allegations that came to its attention.

(b) Investigation event*:* the regulators then follow up and gather information about the allegations through an informal inquiry, which could lead to a formal investigation. During the investigation period, the firm may publicly disclose that it is the target of an inquiry or a formal investigation.

(c) Regulatory event*:* if the regulators decide to proceed with the case, they would continue to investigate the incidents. For instance, the SEC may initiate administrative or civil litigation proceedings. Most enforcement actions are generally spread out over multiple regulatory events.

(d) Resolution event*:* this is the date when the enforcement is resolved. I observed that in cases where both the DOJ and SEC were involved, the matters were resolved on the same day.

(e) Other event: I classified any event as "other" if it did not fall into any of the aforementioned categories. Examples of such events would include raids by the regulators of the corporate offices or the resignation by a management or a board member of a firm in response to a bribery enforcement event.

For class-action lawsuits related to the FCPA enforcement actions, I searched the Stanford Securities Class Action Clearinghouse database. I gathered the *Fortune* magazine's publication of the America's Most Admired Company (AMAC) annual data for the years 1984 to 2011 to find the corporate reputation scores and rankings of the firms in the population. The AMAC data is available electronically from the year 2006. For data prior to 2006, I gathered the data from microfilm and then converted the hardcopy data into the FCPA database. Of the 134

firms, 53 firms with 115 bribery disclosure events appeared on AMAC listing during the years corresponding with the dates of the events.

3.2 Sample and Population Characteristics

I identified the population of 182 firms investigated for FCPA violations during the Act's 32-year enforcement history from 1978 through 2010. The population was identified from the enforcement actions reported in Shearman & Sterling's *FCPA Digest* published in 2011. I checked this data for completeness with Trace International's Compendium of FCPA cases. 31 of the 182 firms were private firms. Of the remaining 151 public firms prosecuted for FCPA violations, 134 were listed in the Center for Research in Securities Prices (CRSP) database for the span of the investigations. I excluded Wyeth Pharmaceuticals because I was unable to find any publicly disclosed information, including firm disclosures that it was subject to an FCPA investigation. Four firms had two enforcement actions; therefore, 138 enforcement actions encompass 134 public firms.

The 134 firms that were investigated under the FCPA experienced 331 events when bribery-related news was made public. These 331 events form the sample to test the hypotheses for the reputational penalty and recovery models. In addition, 75 of the 138 enforcement actions were resolved by December 31, 2010; these cases form the sample to test the hypotheses for the sanctions models (Aon Corporation's enforcement was partially resolved with UK regulators but outstanding with US regulators). The remaining 59 unresolved cases cannot be considered in the sample because sanctions, legal fines and amount of bribes paid cannot be determined for unresolved cases. Using only resolved cases as the sample of firms raises the possibility of sample selection bias. I propose to address this issue through statistical selection models that correct for the sample selection bias (discussed in section 3.5.2).

3.3 Power Analysis

The power of a statistical test of a null hypothesis is the probability that it will be rejected when it is false (Cohen, 1988). Statistical power depends on the significance criterion (α), the sample size (N), and the population effect size (ES). A priori power analysis is performed in order to find the requisite sample size for ascertaining the population effect to be statistically significant at a certain level. I plan to use ordinary least squares regression, Cox regression and Heckman selection models as the main models in estimating the punishment models.

Cohen (1988) suggests the following conventions for interpreting effect sizes: "small" effect size of .02; "medium" effect size of .15; and, a "large" effect size of .35. These conventions are suggestions and can be adjusted based on the nature of the research being undertaken. Estimating at the medium ES level (f^2 = .15), a moderate significance level (α = .05), and a power requirement of .80, the minimum required sample size amounts to 91 (based on five predictors for the reputational penalty punishment model) and 84 for the sanctions model (with four predictors). For the Cox regression model, the minimum required sample size with the same parameters amounts to 66. As such, the sample size of 306 that has been considered for the reputational penalty and recovery models is adequate. The reason for the smaller sample size under Cox regression has to do with the presence of censoring of subjects. In the presence of censoring, a value needs to be estimated for the probability of failure of a subject during the observation period to obtain the required sample size (Cleves *et al*., 2010).

When I relax the ES level (f^2 = .20), the minimum required sample size for the sanctions punishment model amounts to 65. That is, I would need a sample of at least 65 firms for the sanctions punishment model to test the statistical significance of an effect of f^2 = .20 and conventional power of .80 (20% probability of failing to reject the null hypothesis when it is false). As such, the sample size of 75 firms with resolved cases appears to be adequate for the

sanctions models under OLS. However, the sample size of 75 is not adequate for running the sanctions models using logistic regression. Based on relaxed assumptions of ES level (f^2 = .20) and a moderate significance level (α = .05), the required sample size with four predictors is 161.

Notwithstanding, I also plan to conduct post-hoc power analysis after the models have been run; a post-hoc analysis uses the sample size and effect size to determine the power of the research study, which is based on the assumption that the effect size in the sample is equal to the effect size in the population.

3.4 Variable Definitions and Operationalizations

3.4.1 Dependent Variable

For the reputational penalty model, I operationalize the dependent variable in two ways. In the first case, reputational capital loss is operationalized as loss of CAR, consistent with the literature (e.g., Kang, 2008). CAR is a ratio scale because (a) it is an ordinal measure (inherent order to the number); (b) there are equal measures on the scale, which denotes that the difference between different points along the continuum of the scale means the same presence of stock market loss. For example, -2.35 percent CAR reflects a greater stock market loss than -2.34 percent CAR, and the difference between -2.35 percent and -2.34 percent CAR is the same as the difference between -2.34 percent and -2.33 percent CAR; (c) an absolute zero point exists that is not set arbitrarily. That is, a CAR of 0 would reflect that were no gain/loss of stock value given the manipulation that was done on the independent variable (bribery); and, (d) levels of CAR are mutually exclusive. I reverse code CAR for easier interpretation of the results.

In the second case, I operationalize the dependent variable in terms of the hazard rate, which is the conditional probability of resolution of a bribery event at time *t*, given that the firm bribery investigation has survived for time *t*. By using this operationalization, I am able to apply Cox proportional hazard rate model for analyzing longitudinal bribery investigation data with

time-dependent independent variables (Morita, Lee, & Mowday, 1993). I split the time between the beginning and end of each bribery investigation event into quarterly spells, resulting in 1,703 firm-quarter observations. I discuss model estimation and specification in the next section.

For the reputational penalty recovery model, I operationalize the dependent variable in terms of the hazard rate, which is the conditional probability of recovery of a bribery event at time *t*, given that the event has survived for time *t*. I propose to apply Cox proportional hazard rate model for analyzing longitudinal bribery recovery data with time-dependent independent variables.

Morita *et al*. (1993) suggest using a two-step process to convert the length or duration of the recovery events to a hazard rate. In the first step, the survival function, the unconditional probability that an event does not recover beyond a given time (t), for the entire sample with censored data, also called the Kaplan-Meier estimate (Kaplan & Meier, 1958), is calculated as follows:

$$\hat{S}_{PL}(t) = \left(\frac{\text{number of surviving events after } t_1}{\text{number of surviving events just prior to } t_1} \right) \left(\frac{\text{number of surviving events after } t_2}{\text{number of surviving events just prior to } t_2} \right) \left(\frac{\text{number of surviving events after } t_j}{\text{number of surviving events just prior to } t_j} \right)$$

In the second step I plug the survival value into the hazard function to obtain the hazard rate for the entire sample:

$$\hat{h}(t) = 1 - [\hat{S}_{PL}(t) / \hat{S}_{PL}(t - 1)]$$

Under OLS, the dependent variable for recovery of reputational capital, *Recovery*, is computed as the number of days for each company's CAR to return to the pre-bribery level. The number of days reflects the success or failure of management to repair the damage to the loss of its reputational capital (Knight & Pretty, 1999). Consistent with Knight & Pretty (1999), I divide

the number of days into 10-day intervals and check whether CAR has recovered within 240 days of the occurrence of the event. For those events that did not recover within 240 days, I observed that these events had not recovered at 360 days. I develop a measure for the dependent variable of the sanctions model of punishment, *sanctions*, that encompasses the sanctions imposed by two independent agencies, the DOJ and the SEC, for committing corporate bribery. I operationalize sanctions based on their magnitude so as to measure their relationship with the severity of the underlying crime. The measure also takes into account the pretrial diversion agreements administered by the DOJ. A key assumption was made that a criminal violation is more serious than a civil violation because of the associated criminal label and unique sanctions imposed, such as corporate probation and monitoring.

Three former prosecutors independently ranked the sanctions, which resulted in the development of an ordinal scale, consisting of six levels. They indicated that the levels of sanctions administered on firms strongly correspond to the monetary penalties assessed under the FSG. When firms are sentenced, a 'base level offense' is first determined based on the severity of the underlying crime. Upward adjustments are then made based on the characteristics of the underlying criminal acts; and downward adjustments are made crediting the firm for actions taken to mitigate those acts (*United States DOJ and SEC*, 2012). Though the FSG does not specify adjustments for pre-diversion agreements, federal prosecutors have, in practice, recommended downward adjustment to the base offense level, based on whether a firm pleads guilty (e.g., Siemens), or is sanctioned with a DPA (e.g., Daimler). NPAs have been given when the level of the underlying crime is not as severe to get a conviction, plea agreement, or a DPA (e.g., El Paso Corporation). The rankings provided by these experts were consistent.

I checked the sanctions construct both for content validity and face validity. For content

validity, the experts independently checked the operationalization of the sanctions construct against the criteria that describe the content for each level of sanctions. This provides good evidence of content validity. Face validity measures whether the instrument, in appearance, captures the construct. The experts concluded that the language used for the construct was appropriate and the phrasing was clear, indicating adequate face validity of this instrument. In addition, I checked for inter-rater reliability. The three experts independently agreed, in every instance, with the coding of the sanctions levels, rendering the concern of inter-rater reliability moot (Cohen's Kappa = 1).

3.4.2 Independent Variables

The independent variable, bribery, is operationalized differently based on the specific punishment model. *Bribery* accusation event is coded as a dichotomous variable. Karpoff and associates (2008b) note that the accusation or trigger event has a more salient effect on cumulative abnormal return than investigation, regulatory proceedings, resolution and other stages. Thus, I code bribery accusation as 1 and code all other bribery related activities as 0. Other independent variables for the reputational penalty model of punishment are as follows:

National corruption perceptions (H2) is derived from Transparency International's CPI (Brouthers, *et al*., 2008; Robertson and Watson, 2004), which captures perceived levels of corruption in 180 nations on a scale from zero (highly corrupt) to ten (least corrupt). *National corruption perception* is equal to the mean 2010 CPI score for nations where the firms in the population paid bribes. I reverse code the CPI score to reflect highly corrupt countries as having higher scores than countries with lower levels of corruption.

Multiple regulators (H3) is a count of the number of U.S. and international regulatory agencies prosecuting the firm.

Management or board involvement (H4) is a dichotomous variable coded 1 if the firm's

management or board member were involved, otherwise 0.

Accounting violation (H5) is an ordinal scale ranging from 0 to 2 reflecting the possible entrenchment of the accounting weaknesses in corporate systems. This variable was coded based on the information content in the bribery event announcement, on the basis that the revelation of bribery contains information about possible accounting violations. It was coded 1 when the announcement revealed financial misrepresentation (Karpoff *et al*., 2008a), in terms of possibly hiding the alleged bribery in a firm's accounting records (use of terms such as 'improper payment(s)' or 'books and records' and/or 'internal controls' violations); this reflected possible accounting violation without material misstatement of a firm's financial statements. Code 2 was used when the announcement included financial statement fraud (Karpoff *et al*., 2008b) and the bribery allegation was incidental to the fraud. In these cases, the firm was alleged to have *materially* misstated its financial statements.

In regards to the reputational penalty recovery model, *bribery* accusation is a dichotomous variable coded 1, with all other bribery related activities coded as 0. *Corporate reputation* (H6) is derived from *reputation* ranks at year (t-1) from the *Most Admired Companies* list. These ranks are determined by industry and range from rank 1 through rank 12. I reverse coded the measurement so that the firms with the higher ranks reflect higher reputation measures. Firms not appearing on the list were coded as 0. In 2006, *Fortune* changed from *AMAC* to *World's Most Admired Companies* (WMAC). I addressed the change in coding the corporate reputation variable, as follows: first, I excluded the data related to non-US companies; then, I re-ranked the remaining US firms. Because the variable is operationalized based on *industry rank*, it would facilitate the comparison of AMAC and WMAC firms.

For the sanctions model of punishment, *bribery* (H7) is calculated as the natural

logarithm of the amount of bribes paid. The other independent variables for this model are outlined below.

Voluntary disclosure (H8) is a dichotomous variable coded 1 if the firm voluntarily disclosed the incident to regulators to potentially reduce sanctions, and 0 otherwise.

Cooperation (H9) is a dichotomous variable coded 1 if the firm cooperated with the government investigation, and 0 otherwise.

Culpable employee termination (H10) is a dichotomous variable coded 1 if an employee is terminated after involvement in the alleged bribery act becomes known, and 0 otherwise.

3.4.3 Control Variables

I include several control variables that have been shown to influence reputation capital and sanctions. The control variables are included in each of the models based on the context under which the corruption and prosecution occurred. The common control variable, *Assets*, refers to the natural logarithm of the firm's average asset size at the beginning of each bribery event because large firms are more visible and have more resources or 'deep pockets' for dealing with the costs related to investigating the misconduct and rehabilitation. Control variables for the reputational penalty punishment model include the following:

American Depository Receipts (ADR) is coded as a dichotomous variable where ADR equals 1, otherwise 0. Stock prices of foreign firms with ADRs listed on U.S. exchanges tend to fluctuate less than those of listed firms.

United Nations *Oil-for-Food* program investigations is coded as a dichotomous variable where 1 is an enforcement resulting from the program, otherwise 0.

Subsidiary is a dichotomous variable coded 1 if the allegation involved a subsidiary, otherwise 0. Many of the firms pay bribes through their subsidiaries located in foreign countries.

Voluntary disclosure is a dichotomous variable coded 1 if the firm voluntarily disclosed

the incident to regulators to potentially reduce monetary penalties, otherwise 0. I include this variable as a control variable because it is the main variable that affects regulatory officials' evaluations of corruption under the sanctions punishment model. *Cooperation* is not separately controlled for since the regulators sometimes combine the discounts associated with cooperation and voluntary disclosure when assessing monetary fines; however, each of those variables affects sanctions separately. *Culpable employee termination* is not included due to endogeneity with *management or board member involvement* variable.

I include five moderating variables from the reputational penalty and sanctions models as control variables in the research model for reputational penalty recovery: *National corruption perceptions, multiple regulators, management or board involvement, accounting violation,* and *voluntary disclosure*. I also include a firm performance measure, *return on assets* at year (t-1) because this variable is correlated to corporate reputation (Love & Kraatz, 2009).

For the sanctions model of punishment, I include three variables that have been shown to affect the investors' evaluations of punishment: *National corruption perception, accounting violation, and multiple regulators*.

Length, which is the number of days of the firm's internal investigation, is controlled in this model. Time and speed are critically important in each stage of Pfarrer and associates' (2008) model of organizational reintegration. Time is an essential element for firms to move successfully from one stage to the next.

3.5 Model Estimation and Specification

3.5.1 Event Study Model

On each event date, the rate of return on the stock price of firm *i* on day *e* is expressed as:

$$R_{ie} = \alpha_i + \beta_i R_{me} + \varepsilon_{ie}$$

where

R_{ie} = the rate of return on the stock price of firm *i* on date *e*,

R_{me} = the rate of return on a market portfolio of stocks (e.g., Standard & Poor's 500 Composite Index or the Nasdaq Composite Index) on day e,

α_i = the intercept term,

β_i = the systemic risk of stock i, and

ε_{ie} = the error term, with $E(\varepsilon_{ie}) = 0$ and $var(\varepsilon_{ie}) = \sigma_\varepsilon^2$.

Next, estimates of the daily abnormal returns (AR_{ie}), the prediction errors in the equation above, are derived based on the following equation:

$$AR_{ie} = R_{ie} - (\alpha_i + \beta_i R_{me})$$

I calculate abnormal returns using the market adjusted return model[2] by subtracting the CRSP value-weighted index of all stocks from the raw returns (i.e., returns with no market adjustments) of the firm's equity (Karpoff *et al*., 2008b). The estimation period extends back to 255 days prior to and ends 46 days before the event date. In this model, the expected firm return is assumed to be equal to the market return for the period. α is set to zero and β is set equal to one. I then cumulate the abnormal stock returns for each day in the event window to arrive at cumulative abnormal return over the event window:

$$CAR_{i(t1,t2)} = \sum_{e=t1}^{t2} AR_{je}$$

where $CAR_{i(t1,t2)}$ is the cumulative abnormal return over the specified time window, day 0 (i.e., the day of the announcement) to day +1 (one day after the announcement). I calculate CAR over the short two-day window surrounding five events (Karpoff *et al.*, 2008a) on the basis that any

[2] The market adjusted return model is different from the market model. In the market model the expected firm return is estimated as a linear function of the market model using OLS; herein, OLS is used to calculate α and β over the estimation period.

financially relevant information that is newly revealed to investors will be instantaneously incorporated into stock prices (McWilliams and Siegel, 1997). Two-day event windows have been used in previous studies on financial misrepresentation (Beasley *et al.*, 2010; Palmrose *et al.*, 2004; Karpoff & Lott, 1993).

3.5.2 Ordinary Least Squares Model

In order to test hypotheses 1 through 5, I estimate the following cross-sectional regression using OLS:

$$CAR_t = \alpha_t + \beta_{1t}\text{Bribery} + \beta_{2t}\text{Bribery}\times\text{National Corruption Perception} + \beta_{3t}\text{Bribery}\times\text{Multiple Regulators} + \beta_{4t}\text{Bribery}\times\text{Management/Board Involvement} + \beta_{5t}\text{Bribery}\times\text{Accounting Violations} + \beta_{6t}\text{National Corruption Perception} + \beta_{7t}\text{Multiple Regulators} + \beta_{8t}\text{Management/Board Involvement} + \beta_{9t}\text{Accounting Violations} + \beta_{10t}\text{Asset Size} + \beta_{11t}\text{ADR} + \beta_{12t}\text{Oil for Food} + \beta_{13t}\text{Subsidiary} + \varepsilon_t$$

where:

α_t = the intercept term on day *t*.

β_{kt} = the explanatory variable coefficients for k = 1 to 13 on day *t*.

ε_t = the random error tem on day *t*.

3.5.3 Cox Proportional Hazards Model

I test hypothesis 6 by modeling the impact of corporate reputation on the time to reputational penalty recovery. Further, in order to extend the robustness of the findings, I also model the impact of the bribery enforcement events on the time to resolution for the reputational penalty punishment model. This is because the exact dates of bribery events are known. A bribery investigation involves multiple enforcement events occurring at specific points in time over its duration.

Survival analysis is appropriate because the focal variable of interest is bribery event recovery duration, the time between the event occurrence and the event of interest, namely, its recovery (reputational penalty recovery model); for the reputational penalty punishment model,

the focal variable of interest is bribery event duration, the time starting the day after the occurrence of the event and the event of interest, namely, event completion, resulting in a sanction. Among the various survival analysis techniques, Cox regression analysis is the most common approach for analyzing duration data, which assumes that population hazard functions are proportional; in other words, the shape of the baseline hazard function is irrelevant (Singer & Willet, 2003; Yamaguchi, 1991). This analysis is advantageous as it is not necessary to specify the role of time in the analysis; what matters in the rank order of the event times (Singer & Willet, 2003; Yamaguchi, 1991). This technique also effectively handles the issue of right censoring, which arises when recovery from bribery can occur after the observation period (i.e., 240 days) has ended (Morita et al., 1993).

Recently, several management scholars have used the Cox proportional hazards model as a survival analysis technique. Using Cox regression, Yu and Cannella Jr. (2007) study the rivalry between multinational enterprises in host countries wherein they show the influence of various factors on the speed of an enterprise's response, when attacked by a rival enterprise. Wowak, Hambrick, and Henderson (2011) apply Cox regression to examine CEOs historical track record on their pay and dismissal. Similarly, Barden(2012) uses Cox regression to investigate the influences of changes in ownership control of subsidiary acquisition on the likelihood of technological adoption. In a study testing resource dependence theory, Xia and Li (2013) apply a hazard rate model to study the impact of external and internal dependence conditions on the hazard of the divesture of an acquired subunit of a firm, within one year of acquisition.

In a study involving corporate misconduct, Arthaud-Day *et al*. (2006) use event history analysis to show that executives and directors of firms restating financial statements were more

than likely to exit their firms by two times and 70% respectively. Specifically, the authors use Cox regression analysis to model the impact of restatement events on the time to executive exits. In regards to director exits, they apply logistic regression, a type of discrete-time event analysis because they were unable to determine the exact month of director turnover.

I test the assumption of proportionality in Cox regression by comparing graphs of the cumulative baseline hazard functions across levels of each predictor variable. This is done in order to check whether the various hazard lines, as a result of different independent variables, are proportional to the baseline hazard function. These proportional lines can only be parallel, converging, or diverging, and not a combination of the three characteristics.

Derived from the Cox proportional hazard regression models (Cox, 1972), my analysis takes the following form:

$$\hat{h}[t_y] = h_0(t)\, exp[\beta_1 X_{Bribery} + \beta_2 X_{Reputation(t-1)} + \beta_3 X_{Bribery} X_{Reputation(t-1)} + \beta_4 X_{ROA(t-1)} + \beta_5 X_{National\ Corruption\ Perception} + \beta_6 X_{Multiple\ Regulators} + \beta_7 X_{Management/Board\ Involvement} + \beta_8 X_{Accounting\ Violation} + \beta_9 X_{Asset\ Size} + \beta_{10} X_{Voluntary\ Disclosure}]$$

In regards to the reputational penalty punishment model as a robustness check, the hazard function is,

$$\hat{h}[t_y] = h_0(t) exp[\beta_1 X_{Bribery} + \beta_2 X_{Bribery} \times X_{National\ Corruption\ Perception} + \beta_3 X_{Bribery} \times X_{Multiple\ Regulators} + \beta_4 X_{Bribery} \times X_{Management/Board\ Involvement} + \beta_5 X_{Bribery} \times X_{Accounting\ Violations} + \beta_6 X_{National\ Corruption\ Perception} + \beta_7 X_{Multiple\ Regulators} + \beta_8 X_{Management/Board\ Involvement} + \beta_9 X_{Accounting\ Violation} + \beta_{10} X_{Asset\ Size} + \beta_{11} X_{ADR} + \beta_{12} X_{Oil\ for\ Food} + \beta_{13} X_{Subsidiary}]$$

In the above equations, $h_0(t)$ is the baseline hazard function. The exponential part of the equation resembles a simple regression equation, where the baseline hazard function contains the constant-multiplier.

3.5.4 Heckman Model

I propose to test hypotheses 7 through 10 using 75 firms for which I have complete investigation outcome and financial data as of December 31, 2010. Although 134 firms have

been investigated for bribery-related FCPA violations, only 75 of those cases were fully resolved. Because sanctions and fines cannot be computed for unresolved cases, it is necessary to correct for sample selection bias in regression analysis. To correct for this bias, I use Heckman's (1979) two-stage procedure (Bascle, 2008; Carson, Madhok, and Wu, 2006; Mishina, Pollock, and Porac, 2004; Westphal and Fredrickson, 2001).

The Heckman selection model incorporates two equations. The first model is the selection model representing the likelihood of resolution:

$x_1B_1 + u_1 > 0$

Then there is the regression equation that estimates the antecedents of sanctions:

$y = x_2B_2 + \sigma u_2$

Where the following conditions hold,

$u_1 \sim N(0,1)$, $u_2 \sim N(0, \sigma)$, $corr(u_1,u_2) = \rho$

when $\rho = 0$, the OLS regression provides unbiased estimates; when $\rho \sim= 0$, the OLS estimates are biased. The Heckman model uses information from unresolved cases to improve the parameters in the OLS regression model. The Heckman selection model provides consistent, asymptotically efficient estimates for all parameters in the model (Zajac & Westphal, 1996).

The two equations are run in two stages. In the first stage, I will run a probit analysis using all 134 firms to estimate the likelihood of a firm being selected into the final sample. A sample selection correction statistic, lambda, will be generated. In the second stage, I will use the lambda score as an independent variable along with the other independent, moderator, and control variables to estimate reputational penalty using the sample of firms for whom the enforcement has been resolved. The second stage regression generates an adjusted OLS output. If a statistically insignificant lambda is observed, it would suggest a limited presence of sample

selection, and little difference between the unadjusted OLS and the adjusted OLS results.

3.5.5 Tobit Model

As a robustness check for the sanctions model, I run the regressions for hypotheses 7 to 10 using monetary criminal fines as a proxy for the criminal sanctions (Cohen, 1996; Karpoff *et al*., 2005). As many of the enforcement actions did not result in criminal fines, this dependent variable is left censored at zero. Therefore, I run a tobit fixed effects regression, which specifies the statistical model for limited dependent variables (Tobin, 1958).

This model begins with a latent variable y*; in this case, the latent variable will represent the firm's (unobserved) propensity to experience a certain level of criminal penalties. The model can be written as follows:

$$y_i^* = x'_i\beta + u_i$$

where it is assumed that the ui are independent and normally distributed with a zero mean and constant variance, σ^2.

y* is related to observed yi in the following manner:

$$y_i = y_i^* \text{ if } y_i^* > y_L$$

$$y_i = y_L \text{ if } y_i^* \leq y_L$$

where y_L is the lower limit of the dependent variable's range.

A method of estimation of the tobit model is the maximum likelihood (ML) function. The idea of ML is "to find that set of estimates of the parameters that, if these parameters were true of the population, would have generated the observed sample data" (Breen, 1996: 18). The ML of tobit model for left censoring is written as follows:

$$ML\ (\beta,\sigma|y_i,x_i,L_i) = \prod \phi\left(L_i - \beta\, x_i / \sigma\right)$$

where ϕ is the distribution function of the standard normal evaluated at $\beta\, x_i / \sigma$.

Variables will be mean centered prior to creating the moderating effects (Aguinis, 2004). The Heckman selection, Cox proportional hazards, OLS and tobit regression analyses are done using STATA. STATA is one of the econometric software widely used for statistical analyses. I will use STATA 13.0 to run the empirical tests of the statistical models related to punishment.

3.6 Conclusion

In this chapter, I explained my data collection procedures and presented my research methodology. Specifically, I detailed the event study methodology for estimating cumulative abnormal returns. I defined dependent, independent and control variables; described variable operationalization; and, discussed model specification. In the next chapter, I present the results obtained from executing the various models.

CHAPTER 4
RESULTS

In this chapter, I report the results of the different statistical analyses. The results of the event study analyses are presented first. Second, the results of each of the punishment models are presented. Initially, the descriptive statistics are reported. Then, the results of the regression models are presented. Following the results, in order to fulfill the requirements of basic hypothesis testing, I test coefficient signs and significance levels. Coefficients signs test whether the results are in the same direction as the hypotheses. Testing significance levels specifies the probability of incorrectly accepting the hypotheses (i.e., incorrectly rejecting the null hypotheses). In addition to the a priori power analysis discussed in section 3.3, I conducted a post-hoc power analysis to validate the power of the research study. The resulting power was close to 1.00, suggesting that there was less than 1 percent probability of failing to reject the null hypothesis when it is false. However, given the controversy surrounding the use of post-hoc power analysis, due to the one-to-one function between post-hoc analysis and the *p*-value obtained from the study, results from the analysis should be interpreted with caution (Tsang, Colley, & Lynd, 2010). The magnitude of direct and moderating effects of the independent variables are discussed thereafter. I then summarize the results in the last section.

4.1 Event Study Results

I identified 331 events for the 134 public firms that were involved in the bribery events. I calculated the abnormal returns using the EVENTUS program (e.g., Wade *et al.*, 2006; Pfarrer, Pollock, and Rindova, 2010). I accessed EVENTUS through Wharton Research Data Services (WRDS), a web-based business data research service. Pace University upgraded the subscription level of WRDS in the summer of 2012, when EVENTUS became part of the subscription

package.

The data on stock returns are obtained from the daily CRSP (Center for Research in Security Prices) tape of the University of Chicago. Stock return data was available for 306 of the 331 events. I measured abnormal stock returns around the dates of the five enforcement events. I excluded firms that either were not listed on the CRSP tapes, or whose stock trading was suspended during the investigation time period.

I measured abnormal stock returns by using the market-adjusted model. I then performed two significance tests of the abnormal stock returns. The first test is a standardized parametric test where I assessed whether the excess returns were significantly different from 0 with the t-statistic (Brown & Warner, 1985; MacKinlay, 1997). The second significance test is the generalized sign test, where the null hypothesis states that the proportion of the positive or negative events is the same as in the estimation period. This test is more robust to outliers than the standard parametric test (Cowan, 1992). Both tests should be significant in order to support hypotheses where the dependent variable is CAR or reputational penalty (McWilliams & Siegel, 1997).

The results of the event study analyses are shown in Table 1. For the 306 events for which useable returns were available, the sample firms experienced statistically significant ($p<0.001$) two-day mean decline in CAR of 1.85 percent. I apportioned the decline in CAR into trigger, investigation, regulatory, resolution, and other events. The two-day mean decline in CAR of 2.94 percent for accusation events and 1.96 percent for other events were statistically significant ($p<0.001$). This result shows that all events' significance level is driven by (a) accusation events, and (b) other events, but not for other events like investigation, regulatory, and resolution events. This is so because the investigation, regulatory, and resolution events are

all anticipated at the very beginning, and as such, these subsequent events are not found to be significant; conversely, the 'other' component is unanticipated.

I converted the two-day mean decline in CAR to loss of market capital. For the 306 events, the mean loss in market capital amounts to $60.61 billion (per-event mean market capital loss of $198.06 million). For the bribery accusation events, the mean loss in market capital amounts to $31.67 billion (per-event mean market capital loss of $313.57 million).

Table 2 presents mean cumulative abnormal returns for the 306 events under other accepted event study methods, which include: the market method, Fama-French and volume. I estimated both two-day and three-day mean CAR using these methods. Under all the methods, the sample firms experienced statistically significant mean CAR ($p<0.001$ for the market and Fama-French methods, and $p<0.05$ for the volume method).

I identified 22 observations with associated confounding events, such as earnings announcements and public financial statement filings (e.g., 10-K, 10-Q, 20-F). I reran the financial event study analyses excluding these events. The results of the analyses were robust. Thus, I retained all observations in my analyses.

4.2. Reputational Penalty Punishment Model

In this section, I first discuss the descriptive statistics. Second, I explain differences between OLS and Cox regression techniques. Third, I present and review the results of the OLS and Cox regression. Lastly, I explain the magnitude of the OLS and Cox regression effects on reputational penalty.

4.2.1 Descriptive Statistics

Table 3 contains the means, standard deviations, and correlations for the variables of the reputational penalty model. The mean negative two-day CAR was 2 percent, with Syncor International experiencing negative two-day CAR of 39.75%, when bribery was first revealed on

November 6, 2002. About 27 percent of the bribery-related events were accusation events, and 46 percent of accused firms voluntarily disclosed the investigation to regulators. On average, the firms in the sample were accused of 1.4 accounting violations for covering up the corruption via false entries and internal control weaknesses; 2.5 regulators were involved in each investigation, and 12 percent management/board members participated in the bribery investigation. 15 percent were foreign firms with ADRs and 14 percent of firms were accused of violations related to the U. N.'s Oil-for-Food program. Subsidiaries tended to perform bribery violations (61 percent). The mean CPI for all nations that have been named in bribery prosecutions since 1978 is 3.2. The largest firm in the sample was Chevron with mean assets of $137.7 billion, while the smallest firm was Venturian Corporation with mean assets of $21 million.

4.2.2 OLS and Cox Regression Techniques

OLS assumes linear relationships between the outcome and predictor variables. The technique is used when the outcome variable (i.e., CAR) is continuous, and the slope(s) indicates how much of the outcome variable increases/decreases with one-unit increase of the predictor variable(s). In Cox regression the outcome variable (i.e., the hazard rate of completion of bribery investigation) focuses on the end of survival subject to previous duration of the investigation. This technique assumes proportional hazard between groups. The hazard ratio(s) illustrates how of the rate of the outcome increases/decreases for every one-unit increase of the predictor variable(s).

4.2.2.1 Assumptions

OLS assumes that the standard error has a normal distribution and is not heteroskedastic. I ran the Breusch-Pagan test to check for heteroskedasticity (Breusch & Pagan, 1979). Table 4A shows that the Breusch-Pagan χ_2 is significant at $p<0.0001$, confirming that heteroskedasticity is at a low level in the standard error of the prediction.

The Cox regression method is based on a proportionality assumption that the data on each independent variable would proportionally affect the baseline hazard rate. I validate the proportionality assumption using the Schoenfeld test. In this test, the proportionality assumption is met when the χ_2 level of significance for each independent and moderating variable is greater than 0.10. The initial Schoenfeld test failed for the *bribery* and *accounting violation* variables. I recoded *accounting violation* variable as a dichotomous variable, with the highest level, '2', as 1, otherwise 0. The proportionality assumption is validated in Table 4B.

When the proportionality assumption is not met, a stratified Cox proportional hazards model can be effectively used as an alternative method (Morita *et al*., 1993). As such, the baseline hazards of each stratum are potentially different from each other, and are nonproportional as well. In order to overcome the failure of the *bribery* variable proportionality assumption, I applied a stratified Cox model when the hazard function is stratified by event type (accusation, investigation, regulatory, resolution, and other).

In event history analyses using the Cox model, situations can arise when two or more subjects (events) failed at the same time. They are referred to as "ties." I used the Efron method of handling ties (Efron, 1977), where subsequent risk sets (after each failure of a subject in a tie situation) are adjusted using probability weights.

4.2.3 OLS and Cox Regression Analyses

The results of OLS and Cox regression analyses are presented here. Hypotheses 1 through 5 are tested using both the OLS and Cox regression methods. The control variables are tested in Model 1, followed by the main effect (H1 – Model 2) and the moderating effects (H2 to H5 – Models 3 to 6). The full model, consisting of both the main and moderating effects, is tested in Model 7.

I hypothesized that bribery (H1, +) will lead to more reputational penalties as compared to all other bribery-related events. Building on organizational stigma literature, I raised four moderating variables to explain the variances in reputational penalty. I hypothesized that *national corruption perception* (H2, -) negatively influences reputational penalties. On the contrary, I posited that *multiple regulators* (H3, +), *management/board member involvement* (H4, +) and *accounting violation* (H5, +) positively influence reputational penalty.

In Model 1 (Tables 5A and 5B), the control variables are regressed on reputational penalty and the hazard rate of completion of bribery investigation. Under the OLS model, *asset size, national corruption perception, management/board involvement* and *accounting violation* are statistically significant ($p < 0.05$) and in the predicted direction. In the Cox model, *voluntary disclosure* is statistically significant ($p < 0.05$) while *asset size* is marginally significant ($p < 0.10$).

In Model 2, I test hypothesis 1, which suggests that bribery will lead to reputational penalty. Consistent with expectations, *bribery* is statistically significant ($p < 0.001$). In regards to the Cox model, I stratify the control variables by event type. *Asset size* and *accounting violation* are statistically significant (see Tables 6A and 6B).

In Model 3, I add the proposed interaction effect of *bribery* and *national corruption perception* to test hypothesis 2. Consistent with expectations, *national corruption perception* is negative and statistically significant ($\beta = -2.06$; $p < 0.05$). Thus, H2 is supported under OLS. However, H2 is not supported in the Cox model though the interaction variable is in the right direction (see Tables 7A and 7B).

In Model 4 (Tables 8A and 8B), I test hypothesis 3, which suggests that *multiple regulators* will increase the sanctions. The hypothesized moderating effect was in the expected

direction but not statistically significant under both OLS and Cox models. As such, H3 is not supported.

In Model 5, I test hypothesis 4, which suggests that firms whose management/board members are involved in the associated wrongdoing are punished with higher reputational penalties. Consistent with expectations, *management/board member involvement* is positive and statistically significant in the OLS model (β = 3.79; $p < 0.001$) and marginally significant in the Cox model ($p < 0.10$; significant in one-tailed test at $p < 0.05$) (see Tables 9A and 9B). Thus, H4 is supported by the data.

I test hypothesis 5 in Model 6, arguing that firms charged with possible accounting violations suffer reputational penalties based on its severity. Consistent with expectations, accounting violation is positive and statistically significant (β = 2.08; $p < 0.05$). Accordingly, H5 is supported. On the contrary, H5 is not supported under the Cox model (see Tables 10A and 10B).

In Model 7 (Table 11A), I test the 5 hypotheses concurrently to see the combined effects of hypothesized main effect and moderators. *Management/board member involvement* is statistically significant (β = 2.99; $p < 0.01$) while *accounting violation* is marginally significant (β = 1.70; $p < 0.10$; significant in one-tailed test at $p < 0.05$). In addition, *national corruption perception* is marginally significant in one-tailed test ($p < 0.10$). The model is significant (F = 8.42; $p < 0.001$) with variance explained (under OLS) of 28 percent. To ensure that multi-collinearity did not affect my analysis, I examined the variance inflation factors (VIFs) in the OLS model. The VIFs for Model 7 was 1.45, which is within acceptable guidelines.

Under the Cox model (Table 11B), *management/board member involvement* is statistically significant ($p < 0.05$) while *national corruption perception* is marginally significant

($p < 0.10$). In one-tailed test, *national corruption perception* assumes statistical significance at $p < 0.05$; and, *multiple regulators* and *accounting violation* become marginally significant ($p < 0.10$). However, the multiple regulators and accounting violation relationships are in the opposite direction. A negative coefficient indicates that a variable decreases the hazard of event completion and increases the probability of survival. Given that accounting violation is operationalized at the highest level, i.e., it connotes that the firm not only committed accounting violations but also possibly had 'knowledge' that the books and records were falsified and internal controls were violated. In other words, when firms are penalized with the most severe accounting violations, it indicates that these violations are deeply entrenched in the accounting systems. Thus, a longer time period and additional resources would be required to remediate the systems. For the multiple regulators' variable, firms have to respond to the enforcement demands of multiple regulators, which would support the increased survival time to completion.

Hypothesis 1 is significant in all the models demonstrating that bribery results in a reputational loss according to its severity. Moreover, all models were statistically significant under both methods. Of the control variables, *national corruption perception*, *management/board member involvement*, *accounting violation*, and *asset size* are statistically significant in most of the models. National corruption perception is negatively associated with the size of the reputational penalty suggesting that investors impose greater punishment for bribery in less corrupt countries. Management/board member involvement results in larger reputational penalty, indicating that stigma from bribery are transferred to the firm when these members participate in the bribery misconduct. Accounting violation is positively associated with the size of the reputational penalty indicating the level of entrenchment of the violation in the accounting systems. Finally, the lower the asset size, the higher the reputational penalty. It

seems that smaller firms are penalized more severely than large firms on the notion that they have fewer resources to fend off a bribery prosecution; moreover, it could lead to a greater disruption of the business, resulting in loss of investor confidence. The remaining control variables were not statistically significant.

I reran the models controlling separately for the following variables: *post-2003* as a dummy variable for investigations that were resolved after 2003, as a result of change in sentencing practices when pre-diversion agreements were formalized (Thompson, 2003); *industry* (oil and gas, and healthcare industries that were targeted by U.S regulators as part of 'industry sweeps' (Sherman & Sterling, 2010)); and, *clustering* (firms that had more than one event). The results were unchanged.

4.2.4 Magnitude of OLS and Cox Regression Effects on Reputational Penalty

In spite of the fact that the coefficient signs and significance levels of the effects sufficiently test the hypotheses, I analyze the magnitudes of the effects so as to provide a deeper understanding of the results. For OLS models (Table 12A), I estimated eta-squared, η^2, which is the ratio of total variance in the dependent variable that is explained by an independent variable while controlling for other variables. It conveys the size of an effect relative to the variability in the population. For the Cox models, I present the hazard ratios in Table 12B.

I find strong support that characteristics of bribery result in furthering arbiters' attribution of stigma to the firm. The inclusion of the moderators increased the variance explained from 18 to 28 percent in the full model. The national corruption perception moderator (H2) is supported suggesting that corruption risk is factored into a firm's stock price according to the likelihood of bribery in a specific jurisdiction. As such, host country stigma attaches to the firm. In the presence of bribery, a one-unit increase in national corruption perception decreases reputational penalty by 4.26 percent.

I also find that stigma from compromised elites increased the reputational penalty (H4) suggesting that the stigma from their actions attaches to the firm. The average impact of the moderating effect of management/board member involvement increases reputational penalty by 12.77 percent.

I observe that the reputational penalty increases with the severity of accounting violations (H5). These indicate serious accounting infractions signaling that corruption is more deeply embedded in the firm, and thus, the stigma will be more difficult to alleviate. The average impact of the moderating effect of possible accounting violations increases reputational penalty by 4.36 percent.

To interpret the moderating effects, I drew interaction plots using values one standard deviation above and below the mean (Aiken and West, 1991). I defined high national corruption perception and high accounting violation as one standard deviation above the mean; low national corruption perception and low accounting violation as one standard deviation below the mean. For management/board involvement, a dichotomous variable, I used 0 and 1 for low and high involvement respectively. Similarly, for bribery, a dichotomous variable, I used 0 and 1 for low and high bribery. In Figure 2A, the national corruption perception / bribery interaction term is depicted. Reputational penalty decreases at a greater rate with bribery when it is committed in a country with higher national corruption perception. Figure 2B illustrates the management/board member involvement / bribery interaction on reputational penalty. Reputational penalty increases with bribery at a greater rate when a management/board member is involved. Figure 2C plots the accounting violation / bribery interaction on reputational penalty. Reputational penalty increases with bribery at a higher rate based on the severity of the accounting violations assessed.

Under the Cox regression analyses related to the moderating effect of management/board member involvement (H4), the hazard ratio of 2.5322 indicates that management/board involvement would increase the likelihood of bribery event completion by 2.5322 times compared to firms where management/board members are not involved. This likelihood increases to 5.552 times in the full model. This is a counterintuitive finding. It looks like for most of the companies in the sample, only one member was involved. This may signal that the corrupt culture has not permeated throughout the firm. This also suggests that the firm can consider isolating the compromised elite(s) from taking part in the management or corporate governance of the firm (Arthaud-Day *et al*., 2006). By getting rid of this "bad apple," the firm may be able to signal that the underlying corruption has been eliminated (Ashford *et al*., 2008), and thus, complete its investigation faster.

In the full Cox model (Table 11B), the national corruption perception is statistically significant at $p < 0.05$, and accounting violation and multiple regulators' moderators are marginally significant ($p < 0.10$) in one-tailed tests. For national corruption perception, the hazard ratio of 0.7783 indicates that this covariate decreases the likelihood of bribery event completion when bribery is committed in less corrupt host countries. The decreased likelihood of the bribery investigation completion suggests that the bribery investigation lifecycle would be prolonged in those countries. This implies that enforcing rules and regulations prohibiting bribery would be taken more seriously and enforced vigorously in less corrupt host countries (such as OECD countries) than more corrupt countries, thus increasing the duration of the bribery investigation.

In regards to the accounting violation moderator, a hazard ratio of 0.4650 would suggest that 0.4650 likelihood exists that the bribery investigation will not be completed (or 53% less)

when compared to firms with no or less severe accounting violations. This suggests that given the serious nature of the accounting violation and the associated entrenchment in the accounting systems, it would take longer to rectify these systems. Therefore, the likelihood that the bribery investigation will be prolonged increases. As it relates to multiple regulators, a hazard ratio of 0.8250 reflects a decreased likelihood of bribery completion in the presence of more regulators. This suggests that the enforcement demands of regulators would increase based on the number of regulators involved, thereby increasing the length of the bribery investigation.

4.3 Reputational Penalty Recovery Model

I start this section by discussing the descriptive statistics of the reputational penalty recovery model. After that, I present the results of the Cox and OLS regressions. Finally, I explain the magnitude of the Cox and OLS regression effects on recovery.

4.3.1 Descriptive Statistics

Table 13 contains the means, standard deviations, and correlations for the variables of the reputational penalty recovery model. The average length of time for firm's reputational penalty to recover is over four 10-day time intervals, or slightly over 40 days. Average corporate reputation ranks and return on assets in the year prior to the occurrence of the bribery event is 2.82 and 5.2 percent respectively.

4.3.2 Cox and OLS Regression Analyses and Magnitude Effects

I validated the proportionality assumption under the Cox model using the Schoenfeld test. In this test, the proportionality assumption is met when the χ_2 level for each independent and moderating variable is greater than 0.10. The proportionality assumption is validated in Table 14A. Further, I ran the Breusch-Pagan test to check for heteroskedasticity in the OLS model (Breusch & Pagan, 1979). Table 14B shows that the Breusch-Pagan χ_2 is significant at

p<0.0001, confirming that heteroskedasticity is at a low level in the standard error of the prediction.

Hypothesis 6 is tested using both the Cox and OLS regression methods (Tables 15A and 15B). The control variables are tested in Model 8 followed by the moderating effects (H6) in Model 9. I hypothesized that prior corporate reputation (H6, -) will moderate the relationship between the hazard rate of recovery time from bribery and market performance such that it will take longer for more reputable firms to recover than less reputable firms. In Model 8, the control variables are regressed on the hazard rate of recovery from bribery event and the abnormal returns at 90-days. Under the Cox model, *national corruption perception* and *management/board member involvement* are statistically significant ($p < 0.05$), though the latter variable is not in the expected direction. In the OLS model, I ran the reputational recovery model only for those firms that appeared in the *America's Most Admired Company* (*World's Most Admired Company* after 2006) lists. M*ultiple regulators*, *national corruption perception* and *return on assets (t-1)* are statistically significant ($p < 0.05$).

I test hypothesis 6 in Models 9. In the Cox model, I test the moderating effect of corporate reputation and bribery on the hazard rate of recovery time. The results are marginally significant ($p < 0.10$) and in the predicted direction. Under OLS, the moderating effect is significant ($p < 0.05$) and in the predicted direction, thus confirming H6.

For corporate reputation, a hazard ratio of 0.9585 indicates that a marginal increase in corporate reputation decreases the likelihood of recovery after experiencing a reputational penalty. The decreased likelihood of recovery suggests that the recovery may take longer for more reputable firms because of the organizational stigma associated with bribery. The shield of

prior good reputation will be removed, thus making reputable firms more vulnerable from loss of market performance and decreasing the likelihood of recovery.

Following Knight & Pretty (1999), I split the events into severe (32) and non-severe events (252) based on the criterion of exceeding negative CAR of 5 percent. The time to recovery for the severe events was 10.34 10-day intervals (i.e., over 100 days), with 9 events surviving (i.e., not recovering within 240-days' time period); conversely, the time to recovery for the non-severe events was 3.22 10-day intervals (i.e., over 30 days), with 5 events surviving (i.e., not recovering within 240-days' time period).

To interpret the moderating effects, I drew interaction plots using values one standard deviation above and below the mean (Aiken and West, 1991). I defined high corporate reputation as one standard deviation above the mean; and low corporate reputation as one standard deviation below the mean. For bribery accusation, a dichotomous variable, I used 0 for low bribery, and 1 for high bribery. In Figure 3, the corporate reputation / bribery interaction term is depicted. As bribery increases at a greater rate with higher corporate reputation, reputational penalty recovery decreases.

4.4. Sanctions Model of Punishment

In this section, descriptive statistics are first discussed. Second, the results of the Heckman and tobit regressions are presented and reviewed. I also discuss the results from ordered logistic regression models. Lastly, the magnitude of the Heckman and tobit regression effects on sanctions is explained.

4.4.1 Descriptive Statistics

Table 17 summarizes sanctions imposed as a result of FCPA prosecutions from 1978 to 2010. It also depicts both the total monetary penalties and the penalty components based on classifications by government regulators: criminal, disgorgement, civil, interest, and other. The

overall trend points toward increasing sanctions and monetary penalties, based on the severity of the crime. Through 2010, a total of $4.12 billion in monetary penalties has been assessed on public firms since the FCPA was enacted in 1978; these monetary penalties for violating the FCPA are disallowed under U.S. Federal tax law (*Internal Revenue Code*, IRC § 162(c)). 12 firms entered guilty pleas (average penalty of $206.2 million), 20 firms faced DPAs (average penalty of $70.6 million) and 14 firms entered into NPAs (average penalty of $7.2 million) with regulatory officials.

Table 18 contains the means, standard deviations, and pairwise correlations for this study's variables in regards to hypotheses 7-10. The average bribe paid amounted to $31.4 million (with Siemens) and $6.9 million (without Siemens). Siemens, an outlier, paid $1.79 billion in bribes in 10 countries and obtained benefits in excess of $10 billion. Approximately 48 percent of accused firms voluntarily disclosed to the regulators, 41 percent cooperated with the DOJ and the SEC, and 15 percent terminated culpable employees during the investigation.

4.4.2 Heckman and Tobit Regression Analyses

In terms of choosing the true test to estimate the sanctions model, I selected the Heckman correction model over ordered logistic regression based on the experts' assertion that the sanctions levels (ordered scale) correspond to the total penalties paid (continuous scale). I tested their assertion by estimating Spearman rho between sanctions and total penalties. Spearman rho amounted to 0.72, indicating a strong relationship between the two variables. This confirms that the sanctions variable behaves as a continuous scale rather than an erratic ordered arrangement. Notwithstanding this result, I ran ordered logistic regression as a robustness test.

I hypothesized that bribery (H7, +) will lead to increased sanction severity. Building on organizational legitimacy literature, I raised three moderating variables to explain the variances

in sanctions rendered. I hypothesized that *voluntary disclosure* (H8, -), *cooperation* (H9, -), and *culpable employee termination* (H10, -) negatively influence regulatory sanction severity.

Table 19A contains the results of the regression analysis. I test hypotheses 7 through 10 using the 75 companies for which complete prosecution outcome data is available as of December 31, 2010. Although 134 firms have been investigated for bribery-related FCPA violations, only 75 of those cases were fully resolved. Because sanctions, fines and bribe amounts in unresolved cases cannot be computed, I am forced to select the sample of 75 firms for non-random reasons, which introduces possible sample selection bias. I used Heckman's (1979) two-stage approach to correct this bias (e.g. Bascle, 2008; Carson, Madhok, & Wu, 2006). In the first stage, I ran a probit analysis using all 134 firms to estimate the likelihood of a firm being selected into the final sample. This step generates a sample selection correction statistic (lambda). In the second stage, I used the lambda score as an independent variable along with the other independent, moderator, and control variables to estimate sanctions, using the sample of 75 firms. The second stage regression generates an adjusted OLS output. I observed a statistically insignificant lambda suggesting a limited presence of sample selection, and little difference between the unadjusted OLS and the adjusted OLS results.

I analyzed the data by entering the control variables, main effect and moderating effects separately. As a conservative approach, I present the Heckman second-stage regression results instead of the unadjusted OLS results in Table 17A.

Before presenting the Heckman results, I would like to discuss the results that I obtained from rerunning the models using ordered logistic regression. Though the moderating variables were in the predicted direction, they were going out of range in terms of significance levels. Thus, the robustness tests failed. I repeated the ordered logistic models by combining levels 5

(plea agreement) and 4 (DPA) as level '4' – this is because a DPA is a variation of a plea agreement; the former is deferred for a period of time, while the latter is immediate. *Bribery* and *culpable employee termination* were statistically significant ($p < 0.05$), thereby supporting H7 (bribery) and H10 (culpable employee termination). Accordingly, the Heckman results for H8 (voluntary disclosure) and H9 (cooperation) should be interpreted with caution given the weakened results under ordered logistic regression. I am not surprised by the weakened results given the inadequate sample size of 75; as discussed in section 3.3, the required sample size is 161 with four predictor variables, under relaxed assumptions of effect size and significance levels.

In Model 10, the control variables are regressed on sanctions. *Culpable employee termination, national corruption perception* and *multiple regulators* are statistically significant ($p < 0.05$) while *cumulative abnormal return* is marginally significant ($p < 0.10$). In Model 11, I test hypothesis 7, which suggests that bribery will lead to sanctions. Consistent with expectations, *bribery* is statistically significant ($p < .01$).

In Model 12, I add the proposed interaction effect of bribery and voluntary disclosure to test hypothesis 8. Consistent with expectations, *voluntary disclosure* is negative and statistically significant ($p < .01$). However, H8 is not supported under ordered logistic regression. In Model 13, I test hypothesis 9, which suggests that *cooperation* will decrease the sanctions. The hypothesized moderating effect was in the expected direction, but not statistically significant. As such, H9 is not supported.

In Model 14, I test hypothesis 10, which suggests that when culpable employees are dismissed after the firm receives information about their alleged involvement, the imposed sanctions would decrease. Consistent with expectations, *culpable employee termination* is

negative and statistically significant ($p < 0.01$).

In Model 15, I test hypotheses 7 to 10 concurrently to see the combined effects of hypothesized main effect and moderators. *Voluntary disclosure* and *culpable employee termination* are statistically significant ($p < 0.05$). The model was significant (Wald $\chi 2 = 112.77$; $p < .001$), with variance explained (under OLS) of 62 percent. When I examine pairwise correlation of the interaction variables, I note two instances of significantly high correlations, namely (i) 0.53 between bribe × voluntary disclosure and bribe × cooperation; and (ii) 0.61 between bribe × voluntary disclosure and bribe × culpable employee termination. This is not unusual in a model that has three moderators, each interacting with the same independent variable. The two instances explain why in the full model, the moderators for voluntary disclosure and culpable employee termination decrease from 0.01 to 0.05 levels of significance. To ensure that multi-collinearity did not affect the analysis, I examined the variance inflation factors (VIFs) in the OLS model. The VIFs for model 15 was 2.45, which is within acceptable guidelines. However, voluntary disclosure (H8) was not supported in the full model under ordered logistic regression.

Of the control variables, *national corruption perception*, *multiple regulators*, *culpable employee termination*, and *cumulative abnormal return* are statistically significant in most of the models. National corruption perception is negatively associated with the size of the sanctions suggesting that regulators impose greater punishment for bribery in more corrupt countries. U.S. regulators also impose greater sanctions with larger numbers of regulators involved, confirming stigma diffusion and the need for additional rehabilitation to be reintegrated. Culpable employee termination results in larger sanctions indicating that the firm (principal) is held responsible for the actions of its employees (agents), and its inability to deflect blame and punishment. Finally,

the higher the CAR, the greater the sanctions imposed on the firms, suggesting that CAR reflects sanctions severity. It appears that regulatory officials consider CAR when assessing sanctions, thus striving to render an equitable punishment for corporate misconduct. The remaining control variables were not statistically significant.

As a robustness check for the *sanctions* dependent variable, I ran the regressions using monetary criminal fines as a proxy for the criminal sanctions (Cohen, 1996; Karpoff *et al*., 2005). As many of the enforcement actions did not result in criminal fines, this dependent variable was left censored at zero. Therefore, I ran a tobit fixed effects regression (see Table 19B).

The results are similar to the Heckman results, except in two situations. In Model 13, where hypothesis 9 is tested, the hypothesized moderating effect of *cooperation* is negative and statistically significant ($p < 0.01$). In addition, employee culpability is positive and statistically significant ($p<0.001$) in Model 14, suggesting that such prosecutions result in larger criminal fines levied on firms.

Though the hypothesized moderating effect of cooperation (hypothesis 9) was not statistically significant under the OLS and ordered logistic models, it was significant in the alternate tobit model, suggesting that firms experienced lesser criminal fines from cooperating. Consistent with the expected moderating effects, firms are given credit when they terminate employees soon after their participation in the bribery acts is brought to the firms' attention. This supports hypothesis 10. It demonstrates that the act of terminating employees who allegedly participated or had knowledge of the bribery acts, isolates and transfers the stigma of wrongdoing from the firm to those compromised employees (Ashforth *et al*., 2008; Weisenfeld *et al*., 2008). However, when fines are assessed, the FSG penalizes firms for culpability when

employees participate in, or the management condones, or is willfully ignorant of the misconduct. Hence, there is a positive relationship between these variables in the tobit model.

4.4.3 Magnitude of Heckman and Tobit Regression Effects

I find support that bribery is positively related to increased sanction severity, as shown by the significance of bribery (main effect) in all the models. The inclusion of the moderators resulted in explaining the variance by 62 percent. Table 20A shows the marginal effects of the coefficients of the main and moderating variables predicting sanctions.

The voluntary disclosure moderator (H8) is supported under OLS suggesting that firms that voluntarily disclose are rewarded with lesser sanctions and monetary penalties. According to Sherman & Sterling (2012), the DOJ has granted discounts ranging from 3 percent to 67 percent in cases involving voluntary disclosure. The average impact of the moderating effect of voluntary disclosure decreases sanctions by 10.14 percent. Given that the results were not supported under ordered logistic regression, they should be interpreted with caution.

I also observe that termination of culpable employees resulted in lesser sanctions (H10). This would indicate that expulsion of employees who participated in criminal wrongdoing results in the deflection of stigma away from the firm. It also suggests that termination results in the firm distancing itself from wrongdoers by getting rid of 'bad apples.' The average impact of the moderating effect of culpable employee termination decreases sanctions by 10.33 percent.

To interpret the moderating effects, I drew interaction plots using values one standard deviation above and below the mean (Aiken & West, 1991). I defined high bribery as one standard deviation above the mean, and low bribery as one standard deviation below the mean. Since voluntary disclosure and culpable employee termination are dichotomous variables, I used 0 and 1 for low and high disclosure and termination respectively. In Figure 3A, the voluntary disclosure / bribery interaction term is depicted. Sanctions increase with bribery amount at a

lesser rate when firms engage in voluntary disclosure. Figure 3B illustrates the culpable employee termination / bribery interaction on sanctions. This suggests that sanctions decrease with bribery at a lesser rate when culpable employees are terminated.

Interpreting the magnitude of effects is more challenging in tobit regression than OLS, as the tobit coefficients do not reflect the magnitude of the marginal effects of changes in the independent/moderator variables on the expected changes in the dependent variable. I overcome this problem by using McDonald and Moffitt's (1980) decomposition, where the marginal effects of each predictor variable were computed for both the censored and uncensored parts. I discuss the marginal effects that were computed after accounting for censored data; the results of the marginal effects are depicted in Table 20B.

In the presence of bribery, a marginal increase in voluntary disclosure decreases the effect on criminal penalties by $1.2971 million. A marginal increase in culpable employee termination increases the expected value of criminal penalties by $9.4440 million.

4.5 Results Summary

In this chapter the results presented show that out of the ten hypotheses, seven hypotheses were fully supported. Hypotheses 1, 2, 4, 5, 6, 7, and 10 were fully supported in either the main or robustness models or both. Hypothesis 3 was partially supported in the full Cox model; hypothesis 8 and 9 were not supported. Each hypothesis was tested under two models, thereby increasing the robustness of the results. Overall, the results of the integrated punishment model are moderately strong and promising. In the last chapter of this dissertation, I will discuss the findings from a theoretical standpoint and present implications for practice.

CHAPTER 5
DISCUSSION AND CONCLUSIONS

There are two hands of punishment associated with each type of misconduct: the invisible hand (i.e., reputational penalties imposed by the market) and the visible hand (i.e., legal sanctions imposed by regulatory officials). The extant literature on organizational misconduct has separately addressed these components. Thus, there is an imminent need not only to adequately integrate both the components into a comprehensive punishment model, but also to address the antecedents of each of those components. Moreover, Karpoff's (2012) review of research related to market reactions to firm misconduct covered many types of misconduct including financial statement fraud, environmental violations and consumer fraud, but not corporate bribery. Herein, this study broadens the research landscape on corporate misconduct by proposing and testing an integrated model of punishment in the context of corporate bribery. Further, as discussed in section 5.2 of this manuscript, this study considers the impact of time on firm misconduct. This dissertation thus advances both the theory and applied needs for research.

The integrated model of punishment is comprised of two models: reputational penalty punishment and its recovery, and sanctions. In regards to the reputational penalty model, I couple reputational capital research with deviance and stigma research to examine variation in how the market punishes corporate corruption. The punishment model also incorporates rehabilitation measures, as the devious firm reintegrates after the misconduct. For achieving this research objective, this study explored actions by firms with high and low reputation to recover loss of stock price after the investigation into misconduct has commenced. The sanctions component of the punishment model investigated firm actions to hasten the likelihood of restoration of legitimacy.

The two main hypotheses related to the positive relationship of bribery on reputational penalty and sanction severity. Four moderating relationships were hypothesized for the reputational penalty punishment model, one relationship for the reputation penalty recovery model, and three for the sanctions model. Except for three hypotheses, the data supported the remaining seven hypotheses. I discuss the overall findings in the next section.

5.1 Overall Findings

In order to estimate the total punishment from corporate bribery, I conducted event study analyses on the population of public firms prosecuted during the 32-year span of the FCPA. Well accepted in the finance and economics disciplines, these analyses represent volatility based measures of the information content of event announcements. I conducted various robustness tests to validate the results. Overall, the results showed statistical significance ($p < 0.001$), suggesting that bribery appears to be fairly widespread and costly in terms of share value losses. The mean two-day negative cumulative abnormal return for the 134 firms investigated for bribery amounted to 1.85 percent or a $60.61 billion loss of market capital (mean loss of $198.06 million per event announcement). Out of all announcement types, the accusation event was the most devastating, resulting in mean two-day negative cumulative abnormal return of 2.94 percent or a $31.67 billion loss of market capital (mean loss of $313.57 million per event announcement). Out of the 134 public firms investigated for bribery, the investigations for 75 firms were completed by 2010. The total market losses for the 75 firms amounted to $24.8 billion with mean of $326.3 million.

The direct effect of alleged FCPA violations is limited to legal penalties levied by the regulators and through class action lawsuits. These costs constitute a one-time, often large, charge to the income statement. Regulators imposed monetary penalties totaling $4.1 billion on

64 of the 75 firms. The mean monetary penalty is $53.9 million. Class action lawsuits were filed in nine of the 75 actions, of which two were dismissed. The settlements totaled $47.3 million, resulting in a mean of $5.3 million. I partition the share value losses into three components: legal fines, class action settlements and reputational penalties. I find that for every $1 of share value loss, 16.5¢ represents legal fines, 0.2¢ relates to class action settlements, and the residual, reputation loss, amounts to 83¢. This demonstrates that, on average, the invisible hand of the market penalizes firms over four times more than the visible hand.

Seven of the ten hypotheses advanced by this dissertation, including two main and five moderating hypotheses, were supported by the empirical results. I discuss each of the hypothesized relationships under the respective punishment models.

5.1.1 Reputational Penalty Punishment Model

In regards to this model, I sought to explain the inconsistent market reaction to FCPA investigations and explain the variations in reputational penalties as experienced by investors. Hypothesis 1, which proposed that firms that undergo a corruption investigation will experience a reputational penalty, is significant in all the models demonstrating that bribery is punished according to the severity of stock market losses. These losses result in a decrease in present value of an affected firm's cash flows, which implies that various stakeholders, including investors, customers and suppliers, will change their trading relationships with the firm (Karpoff & Lott, 1993). Thus, reputational capital losses occur when various firm stakeholders change their expectations of the firm's future.

I then raised four moderating hypotheses to explain the variation in reputational penalty on the basis that firms' reputational penalty is a function of the corruption stigma and the transfer of the associated stigma to and from organizations. I find support for stigma attachment due to host nation corruption (H2), suggesting that FDI portfolio and corruption risk are factored into a

firm's stock price in line with the likelihood of bribery in a particular jurisdiction. As such, the firm would bear the stigma of bribery in less corrupt nations.

Hypothesis 3, related to the moderating effect of multiple regulators on reputational penalty, was not supported. This is possibly because the FCPA is a U.S. law and the majority of firms prosecuted for bribery are headquartered in the U.S. As such, the main regulators prosecuting foreign bribery are the DOJ and the SEC. According to the OECD (2009), U.S. regulators are the dominant enforcers of anti-bribery laws when compared to regulators in other OECD countries. The premise that U.S. regulators will be the primary enforcers of the FCPA is expected by the market, thus explaining the insignificant results.

In hypothesis 4, I found that firms whose management/board members are involved in the associated wrongdoing are punished with higher reputational penalties. This finding suggests that firms with compromised elites are penalized, as their stigma would be transferred to the firm. It hints at a greater disruption of business and would call into question the quality of management and corporate governance prevalent in the firm. Moreover, it may suggest that the tone management wants to convey to its employees, in terms of prohibiting or permitting bribery. Accordingly, H4 is supported under both the OLS and Cox regression models.

I recognize that the level of accounting violations is positively related to the firm's reputational penalty (H5). More serious accounting infractions signal that corruption is more deeply embedded in the firm, and thus, the stigma will be more difficult to alleviate

Overall, I found strong support that characteristics of the bribery case facilitate arbiters' attribution of stigma toward or away from the firm. All the models in both OLS and Cox regression methods attained statistical significance thus validating the strength of the underlying results.

5.1.2 Recovery of Reputational Penalty Punishment

In building this model, I hypothesized that it would take longer for firms with stronger reputations to recover their stock prices following a bribery investigation event than firms with weaker reputations (H6). Drawing on organizational stigma literature, I argued that involvement in bribery investigations could represent a stigmatized category in stakeholders' minds (Devers *et al*., 2009; Weisenfeld *et al*., 2008). This stigma would present a greater challenge for more reputable firms, due to the increased odds of becoming stigmatized by a large number of their stakeholders. The findings for H6 are supported, suggesting that it takes longer for more reputable firms to recover from the loss in CAR associated with the bribery than less reputable firms.

5.1.3 Sanctions Model of Punishment

Regulatory officials evaluate transgressions from corporate crimes through sanctioning mechanisms to hold firms accountable for their criminal actions. By looking at corporate criminal misconduct using a sanctions lens, this study makes a case that sanctions demarcate the boundaries of acceptable behavior (Cullen, Maakstead, & Cavender, 1987); when these boundaries are crossed, a firm is considered illegitimate, based on the judgment of regulatory officials (Greve *et al*., 2010). Thus, the sanctions model of punishment considers the reactions of regulatory officials as stakeholders of affected firms.

Through the sanctions model, I tested various firm actions as part of a process model to reintegrate them as legitimate firms (Pfarrer *et al*., 2008), by first evaluating the positive relationship between bribery and sanctions. Hypothesis 7 is significant in all the models demonstrating that bribery is sanctioned according to its increased severity. I then tested the moderating effects of firm actions on the premise that these actions must match the messages put forth suggesting proposed changes (Westphal & Zajac, 2001). These actions can change

stakeholders' beliefs and interpretations assisting in a firm's reintegration (Mishina & Devers, 2012).

Though the hypothesized moderating effect of cooperation (H9) was not statistically significant under the OLS model, it was significant in the alternate tobit model, suggesting that firms experienced lesser criminal fines from cooperating. Consistent with the expected moderating effects, firms are given credit when they terminate employees soon after their participation in the bribery acts is brought to the firms' attention. This supports hypothesis 10. It demonstrates that the act of terminating employees who allegedly participated or had knowledge of the bribery acts isolates and transfers the stigma of wrongdoing from the firm to those compromised employees (Ashforth *et al*., 2008; Weisenfeld *et al*., 2008; Arthur-Day *et al*., 2008). However, when fines are assessed, the FSG penalizes firms for culpability when employees participate in, or the management condones, or is willfully ignorant of the misconduct; hence, the positive relationship between these variables in the tobit model.

In sum, in regards to the sanctions model, this study provided a fertile measure of stakeholder legitimacy by one stakeholder group – regulators. Termination of culpable employees represents hard actions by a firm requiring a commitment that cannot be half-done. On the other hand, cooperation could be half-done, as it a type of soft action (promises, positive gestures, etc.). Soft actions can be subject to judgment, possibly leading to opposite evaluations; for instance, firms may believe that they cooperated, while regulators may believe otherwise.

5.2 Theoretical Contributions

In this dissertation, I put forth a comprehensive punishment model consisting of three separate yet interconnected components: reputational penalty, recovery of reputational penalty, and sanctions. This categorization was important since each component has its own evaluators (stakeholders) that base their punishment on the contextual interpretation of corruption.

Contrary to research on other types of misconduct, this study expands the boundaries of corporate misbehavior research by investigating the antecedents of each of the punishment models. The integrated model provides a full picture of total social cost from corporate bribery. The total social cost from corporate bribery is at least $60.61 billion dollars; on a per dollar basis, reputational penalty punishment amounts to 83¢ while legal fines, a proxy for the sanctions punishment model, amount to 17¢.

Before I discuss the theoretical contributions, I would like to draw attention to one important facet of this study: the strength of the underlying model estimation methodologies. Every hypothesis was tested under a main and robustness model. Event study results were validated using four methods that provided consistent significant results. Further, in order to test for sample selection bias in the sanctions model, I used the Heckman model to correct this bias.

The theoretical contributions of the current research are manifold. First, the findings from this study suggest that if bribery is a rational choice (e.g. Lee *et al.,* 2010), then firms need to factor the potential reputational penalty in their cost-benefit analysis. I contribute to the rational choice literature by suggesting a demarcating line when the cost-benefit analysis shifts in favor of a rational choice by management that it is in the firm's best interests to avoid the invisible and visible hands of bribery prosecution. In other words, management may be risk averse and inclined to exercise rational choice market entry strategies prohibiting bribery payments.

Second, I explain the variance in reputational penalty as not merely a function of the total penalty and the legal fine component, but rather a function of arbiters' attribution of stigma. Involvement in bribery investigations could represent a stigmatized category in stakeholders' minds. Stigma could be transferred from host country corruption, the involvement of management/board members, or it could be entrenched in the accounting systems. For instance,

arbiters anticipate bribery in more corrupt host countries but not less corrupt host countries. Stakeholders seem to retain the stigma in their memory because a stigma imputes a negative identity based on the stereotypes associated with the stigmatized category (Devers *et al*., 2009). A stigmatized firm can lessen the stigma if it is able to change stakeholders' interpretations and beliefs about its very nature (Mishina & Devers, 2012). Thus, I contribute to the reputational penalty and stigma literatures.

Third, previous research on reputational capital losses have focused on the recovery of those losses and its antecedents in a limited manner. In this study, I explored the time to recovery and found that it takes longer for more reputable firms to recover from bribery violations than less reputable firms. Further, in order to reduce the sanctions imposed at the end of the bribery prosecution, firms have to take substantive actions to rehabilitate themselves. These actions would include investigating the underlying allegations, voluntarily disclosing the wrongdoing and cooperating with regulatory officials, and terminating culpable employees. Therefore, this study empirically validates the rehabilitation or reputation repair measures taken by the firm.

Fourth, by considering the role of time, I extended the perimeters of firm misconduct. Enforcement actions by regulators to prosecute deviant firms last a few years (2.8 years for corporate bribery), thereby affording a rich dimension to study the role of time. In the reputational penalty punishment model, determinants of reputational penalty had differing effects on the hazard rate of bribery completion. Management/board involvement in firm bribery actions increases the likelihood of completion of bribery investigation suggesting that both firms and regulators prosecuting the firm may consider the underlying acts as being serious acts, thus accelerating completion. Conversely, the presence of multiple regulators, national corruption

perception and accounting violations decrease the likelihood of completion, indicating that firms may have to expend more resources to bring bribery investigations to a close.

Fifth, at the time I framed the sanctions model, I evaluated a definition of organizational misconduct from a criminal perspective by suggesting that corporate crime arises as a result of deviations from social norms. Regulatory officials evaluate these transgressions through a process where they hold firms accountable for their criminal actions through sanctioning mechanisms. By looking at corporate criminal misconduct using a sanctions lens, this study supports the viewpoint that sanctions demarcate the boundaries of acceptable behavior (Cullen *et al*., 1987). When these boundaries are crossed, these officials step in and punish a firm based on their judgment that the firm is illegitimate (Greve *et al*., 2010).

This study expands the boundaries of the sentencing literature by developing a measurement of sanctions based on six levels that is validated by experts. This is contrary to previous studies on corporate sentencing that had considered only the monetary penalties levied on firms as dependent variables (e.g., Cohen, 1996; Paternoster & Simpson, 1996; Karpoff *et al*., 2005). Sanctions are inherently a better measure than monetary penalties because it incorporates all the principles of sentencing: punishment, deterrence, incapacitation and rehabilitation. For instance, when the details of the criminal misconduct are made public at the time of sentencing, public shaming might occur, which could act as a deterrence measure.

Lastly, I contribute to the literature on reputation repair. Substantive actions taken by firms during the sanctioning process represent reputation-repairing activities, whereby regulators' perceptions are adjusted favorably for the firm in terms of lesser sanctions obtained. This shows that the firm has recognized the seriousness of the problem (Rhee & Kim, 2012) and addressed the root-causes of the misconduct by undertaking a process to rehabilitate itself (Rhee

& Valdez, 2009). Results from the sanctions model indicate that these activities were carried out to the satisfaction of the regulators, thus resulting in rehabilitation of the deviant firm.

5.3 Implications for Practice

This study demonstrates that bribery investigations impose significant reputational cost in terms of loss of market value. The prospect of these punitive costs could incentivize firms to take steps to better self-police themselves. If self-policing fails, the results can be disastrous in terms of lost reputation and intrusions into the affairs of firms by regulators. Self-policing measures would include implementing effective compliance and ethics programs in order to internalize legal codes of conduct. These plans should be communicated to foreign subsidiaries or implemented in the foreign venues where the acts of bribery occur (*OECD*, 2002). For these plans to be effective, there should be proper management oversight, and employees should be appropriately trained, so that they understand the repercussions for violating codes of conduct and regulations (Ashforth *et al*., 2008; Hemphill & Cullari, 2009). All these proactive measures would require resources; this study shows that firms should spend on average, upwards of $8.7 million per year to avoid the $1.8 billion levied on firms as criminal fines. Thus, this study not only encourages management to specify accurately the costs underlying the rational choice framework, but also provides a better picture of true social costs from the standpoint of optimal penalty theory (Becker, 1968).

In order to act as a deterrent from corporate wrongdoing, a balance needs to exist between the visible hand portion and the invisible hand portion of the punishment. Third party offenses are best deterred by visible hand punishments (Karpoff *et al*., 2005), while offenses to immediate stakeholders are best deterred through invisible hand punishments (Karpoff *et al*., 2008a). Unlike Bromiley and Maruch (1989), I find that the stock market reaction may be a more effective instrument of social control than regulators. This study informs us that mid-range

corporate offenses (e.g., bribery) are also best deterred by invisible hand punishments because bribery related reputational penalty is on average 4.5 times that of legal fines. Notwithstanding, a stronger and more pronounced case for reputational penalties ought to be made to prevent decisions makers from underestimating the high costs of engaging in bribery.

From the regulators' perspective, the results would seem to justify their enforcement efforts in terms of equitable punishment rendered. It would be in their best interests, as protectors of society, to take actions only when self-regulation measures taken by firms have failed.

5.4 Limitations and Future Research

There are some inherent limitations to this study. First, the population of 134 public firms that were studied represents firms that were caught committing bribery. Thus the possibility exists that the population under consideration may not include firms that may have committed bribery but were not caught. However, this happens to be a common limitation surrounding misconduct research. One of the avenues that researchers may consider would be to estimate probabilities for companies caught in the act of misconduct. Second, in spite of the rigor used in identifying specific event information, sometimes this information was not available. Further, the study is limited by the completeness and accuracy of reported incidents in the news sources. Notwithstanding that these limitations are typical in research relating to identifying event information, researchers could try to overcome these limitations by contacting the concerned companies or the regulatory officials prosecuting these companies.

Third, I used closing stock prices to calculate CARs. It is possible that a few news announcements occurred after trading hours; as such, using the difference between closing prices and the next day opening stock prices would show the appropriate CARs in these instances. Or, using intraday returns may have provided different results. In general, all event studies suffer

from limitations (McWilliams & Siegel, 1997). However, the event study methodology is accepted in economics and finance.

Fourth, the variables considered in this study explain 28 percent of the variance in reputational penalty. Future research could identify other variables that would add to our understanding of punishment or recovery from punishment. Since bribery under the FCPA occurs in foreign jurisdictions, inclusion of legal, institutional and culture factors in those jurisdictions may provide more color about variations in reputational penalties. Future research can also consider the expected values of the various variables at each event occurrence. For instance, I attempted to analyze expected monetary fines[3] and bribery payment amounts[4] at various bribery event dates, without getting statistically significant results. In order to achieve this objective, analyses of the quality of disclosures made by the firms to the public and investors at different points in time could be conducted.

Fifth, the sample size for running ordered logistic regression was not sufficient. Future researchers are urged to run the sanctions models using this methodology when more data about completed bribery prosecutions become available. This could provide better interpretation of firm actions, such as voluntary disclosure, as a firm attempts to regain legitimacy after a bribery prosecution has unfolded.

Sixth, one of the important rehabilitative measures that occur as part of the sanctioning process is the appointment of corporate monitors. These monitors ensure that the firms adhere to

[3] Expected monetary fines were estimated as a percentage of the expected revenues from the bribe, which is referred to as 'value of benefit received' under the FSG (FSG Manual, 2011). The SEC also disgorges the profits arising from the revenues earned from paying bribes, as disgorgement penalties (*United States DOJ and SEC*, 2012).

[4] Expected bribery amounts were estimated as a percentage of the expected penalties, based on the guidance on determination of penalty on the 'value of corrupt payment' (FSG Manual, 2011).

the prosecution agreements executed with regulatory officials, and suggest measures that would reduce the likelihood of future acts of misconduct. Since the reports by external monitors are not made public at the end of the probationary period, it was not possible to develop variables to test firm-specific rehabilitation measures quantitatively. Future research ought to take a deeper look into this aspect by possibly surveying corporate monitors. Lastly, the FSG was amended in 2010, wherein the determination of legal fines and penalties has taken a formulaic approach. Data gathered over the next few years would help determine whether the amendment was successful in policing corporate misconduct.

In this final chapter, I have discussed both the theoretical and applied contributions of the comprehensive punishment model. The reputational penalty for corporate corruption dwarfs the cost of monetary fines and sanctions. The results suggest that the market is a complement to regulatory enforcement, rather than a substitute for these actions. I also noted certain limitations and provided guidance for future research. Further, I encourage other researchers to replicate this study and extend its findings. The research presented in this dissertation and the proposed extensions will add to our knowledge of punishment from corporate wrongdoing.

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TABLE 1 - RESULTS OF FINANCIAL EVENT STUDY FOR FIRMS INVESTIGATED FOR BRIBERY[a]

	Market-adjusted returns model[b]					
Event type	**Mean CAR[c]**	**Negative/positive[d]**	***t*[e]**	**Generalized sign test Z**	**Mean[g]**	**Sum[g]**
All events[f]	-1.85	200/106***	-8.18***	-5.22***	-198.06	-60605.48
Accusation	-2.94	71/30***	-8.65***	-3.93***	-313.57	-31671.23
Investigation	-1.01	17/12	-1.58	-0.69	-243.36	-7057.35
Regulatory	-1.99	8/8	-1.39	0.00	-105.95	-1695.21
Resolution	-0.31	37/28	-0.14	-0.63	1.68	111.13
Other	-1.96	67/28***	-5.28***	-4.04***	-213.61	-20292.81

[a] The event window is two-day or day zero and day one.
[b] CRSP value-weighted index
[c] Values are percentages.
[d] This column contains the ratio of negative to positive abnormal returns for the event dates.
[e] Standard parametric tests.
[f] n = 306 event dates for 134 associated firms.
[g] Millions of dollars.
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests

TABLE 2 - RESULTS OF FINANCIAL EVENT STUDY FOR FIRMS INVESTIGATED FOR BRIBERY UNDER DIFFERENT MODELS

Model[b]	All events[a] Mean CAR (2-day)[cd]	Mean CAR (3-day)[cd]	Negative/positive[e]	*t*[f]	Generalized sign test Z
Market-adjusted model	-1.85	-1.81	200/196***	-8.18***	-5.22***
Market model	-1.94	-2.00	193/113***	-8.97***	-4.05***
Fama-French	-1.95	-2.01	198/108***	-9.23***	-4.66***
Volume (Market-adjusted)[g]	-192.95	-301.38	263/43*	-38.65***	-2.32*

[a] n = 306 event dates for 134 associated firms.
[b] CRSP value-weighted index for all models, except log-transformed value-weighted volume index for volume method.
[c] The event window is two-day (day zero and day one), or three-day (day(-1), day zero and day one).
[d] Values are percentages.
[e] This column contains the ratio of negative to positive abnormal returns for the event dates.
[f] Standard parametric tests.
[g] Mean cumulative abnormal return relative volume.
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests

TABLE 3 - DESCRIPTIVE STATISTICS AND PAIRWISE PEARSON CORRELATIONS[a]

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10
1. Reputational Penalty[b]	0.02	0.05										
2. Bribery[d]	0.27	0.45	0.19***									
3. National Corruption Perceptions	6.73	1.29	-0.17**	-0.02								
4. Multiple Regulators	2.48	1.96	-0.07	-0.07	-0.08							
5. Management/Board Involvement[d]	0.12	0.33	0.06	-0.06	-0.17**	-0.05						
6. Accounting Violations	1.43	0.72	-0.08	0.14*	0.14*	0.03	0.10					
7. Voluntary Disclosure[d]	0.46	0.50	0.05	-0.05	0.04	0.03	-0.05	0.28***				
8. Asset Size[c]	8.95	2.02	-0.02	-0.03	0.06	0.38***	-0.27***	-0.08	-0.19***			
9. ADR[d]	0.15	0.36	0.04	-0.04	0.03	0.55***	0.00	-0.04	-0.14*	0.32***		
10. Oil for Food[d]	0.14	0.35	-0.01	-0.02	0.32***	0.07	-0.03	-0.02	-0.20***	0.12	0.17***	
11. Subsidiary[d]	0.61	0.49	-0.01	-0.01	-0.09	0.13*	0.27***	0.24***	0.15**	-0.18***	0.04	0.06

[a] n = 306 events for 134 firms. * $p < .05$ ** $p < .01$ *** $p < .001$

[b] Cumulative abnormal return

[c] Logarithm

[d] Correlations corresponding to these dichotomous variables are Spearman.

TABLE 4A - BREUSCH-PAGAN TEST OF HETEROSKEDASTICITY IN STANDARD ERROR*

Variable Name	χ^2	Degrees of Freedom	Significance Level
Standard Error	339.37***	1	0.0001

† p < .10
* p < .05
** p < .01
*** p < .001

* A significance level less than 0.10 for the χ^2 statistic of the Breusch-Pagan test suggests that distribution of the standard error is not heteroskedastic

TABLE 4B - SCHOENFELD TEST TO VALIDATE COX PROPORTIONALITY ASSUMPTION*

Variable Name	χ^2	Degrees of Freedom	Significance Level
National Corruption Perception	1.73	1	0.1879
Multiple Regulators	0.07	1	0.7879
Management/Board Involvement	0.01	1	0.9940
Accounting Violation	2.45	1	0.1174
Global Test	2.66	4	0.6163

† p < .10
* p < .05
** p < .01
*** p < .001

* A significance level greater than 0.10 for each variable and the global test validates the proportionality assumption.

TABLE 5A - RESULTS OF OLS REGRESSION ANALYSIS PREDICTING REPUTATIONAL PENALTY PUNISHMENT – MODEL 1

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0003	0.0016	0.84
National Corruption Perceptions	-0.0052	0.0024	0.03*
Voluntary Disclosure	0.0039	0.0058	0.50
Management Involvement	0.0382	0.0084	0.00***
Accounting Violation	0.0067	0.0032	0.04*
Asset Size	-0.0047	0.0015	0.02*
American Depository Receipts	-0.0022	0.0086	0.79
Oil For Food	0.0012	0.0078	0.88
Subsidiary	- 0.0041	0.0059	0.49
Constant	0.0589	0.0150	0.00***
F Statistic	7.81	-	0.00***
Variance Explained (R-square)	0.18		

n=306
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests

TABLE 5B - RESULTS OF COX PROPORTIONAL HAZARD MODEL PREDICTING COMPLETION OF BRIBERY INVESTIGATIONS – MODEL 1

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0577	0.0489	0.24
National Corruption Perceptions	0.0087	0.0684	0.90
Voluntary Disclosure	0.3704	0.1532	0.02*
Management Involvement	0.2330	0.2078	0.26
Accounting Violation	0.2776	0.2093	0.19
Asset Size	-0.0881	0.0438	0.04*
American Depository Receipts	-0.2029	0.2749	0.46
Oil For Food	0.2266	0.2197	0.30
Subsidiary	0.2266	0.1695	0.18
Log Likelihood L(β)	-1005.0576		
Likelihood Ratio χ^2 (significance)	30.51*** (0.00)		

n=1173 (time at risk); stratified by Event Type; Efron method for ties
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests

TABLE 6A - RESULTS OF OLS REGRESSION ANALYSIS PREDICTING REPUTATIONAL PENALTY PUNISHMENT – MODEL 2

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0009	0.0016	0.59
National Corruption Perceptions	-0.0051	0.0024	0.03*
Voluntary Disclosure	0.0016	0.0057	0.78
Management Involvement	0.0404	0.0083	0.00***
Accounting Violation	0.0080	0.0031	0.01*
Asset Size	-0.0048	0.0015	0.00***
American Depository Receipts	-0.0038	0.0084	0.65
Oil For Food	0.0004	0.0076	0.96
Subsidiary	-0.0043	0.0057	0.48
Bribery (H1)	0.0253	0.0057	0.00***
Constant	0.0538	0.0146	0.00***
F Statistic	9.40		0.00***
Variance Explained (R-square)	0.23		

n=306
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests

TABLE 6B - RESULTS OF COX PROPORTIONAL HAZARD MODEL PREDICTING COMPLETION OF BRIBERY INVESTIGATIONS – MODEL 2

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0695	0.0483	0.15
National Corruption Perceptions	0.0211	0.0727	0.77
Voluntary Disclosure	0.2011	0.1599	0.21
Management Involvement	0.0658	0.2225	0.77
Accounting Violation	0.4645	0.2113	0.03*
Asset Size	-0.0984	0.0450	0.03*
American Depository Receipts	-0.0558	0.2836	0.84
Oil For Food	0.1977	0.2212	0.37
Subsidiary	0.1950	0.1678	0.25
Log Likelihood L(β)	-691.1923		
Likelihood Ratio χ^2 (significance)	21.81** (0.00)		

n=1173 (time at risk); stratified by Event Type; Efron method for ties
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests

TABLE 7A - RESULTS OF OLS REGRESSION ANALYSIS PREDICTING REPUTATIONAL PENALTY PUNISHMENT – MODEL 3

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0010	0.0016	0.53
National Corruption Perceptions	-0.0022	0.0028	0.43
Voluntary Disclosure	0.0019	0.0057	0.83
Management Involvement	0.0410	0.0082	0.00***
Accounting Violation	0.0077	0.0031	0.01*
Asset Size	-0.0049	0.0015	0.00***
American Depository Receipts	-0.0031	0.0083	0.71
Oil For Food	0.0003	0.0076	0.97
Subsidiary	-0.0039	0.0057	0.50
Bribery (H1)	0.0261	0.0057	0.00***
Bribery×National Corruption Perception (H2)	-0.0094	0.0046	0.04*
Constant	0.0547	0.0146	0.00***
F Statistic	8.53		0.00***
Variance Explained (R-square)	0.24		

n=306
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests

TABLE 7B - RESULTS OF COX PROPORTIONAL HAZARD MODEL PREDICTING COMPLETION OF BRIBERY INVESTIGATIONS – MODEL 3

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0649	0.0482	0.18
National Corruption Perceptions	0.0768	0.0901	0.39
Voluntary Disclosure	0.2042	0.1595	0.20
Management Involvement	0.0235	0.2277	0.92
Accounting Violation	0.4861	0.2124	0.02*
Asset Size	-0.0938	0.0455	0.04*
American Depository Receipts	-0.0537	0.2823	0.85
Oil For Food	0.2126	0.2203	0.33
Subsidiary	0.2060	0.1687	0.22
Bribery×National Corruption Perception (H2)	-0.1391	0.1364	0.31
Log Likelihood L(β)	-690.6583		
Likelihood Ratio χ^2 (significance)	22.87* (0.01)		

n=1173 (time at risk); stratified by Event Type; Efron method for ties
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests

TABLE 8A - RESULTS OF OLS REGRESSION ANALYSIS PREDICTING REPUTATIONAL PENALTY PUNISHMENT – MODEL 4

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0012	0.0017	0.50
National Corruption Perceptions	-0.0051	0.0024	0.03*
Voluntary Disclosure	0.0015	0.0057	0.79
Management Involvement	0.0405	0.0083	0.00***
Accounting Violation	0.0081	0.0032	0.01*
Asset Size	-0.0048	0.0015	0.02*
American Depository Receipts	-0.0037	0.0084	0.66
Oil For Food	0.0004	0.0076	0.96
Subsidiary	-0.0045	0.0057	0.44
Bribery (H1)	0.0252	0.0058	0.00***
Bribery×Multiple Regulators (H3)	-0.0013	0.0032	0.69
Constant	0.0538	0.0146	0.00***
F Statistic	8.53		0.00***
Variance Explained (R-square)	0.24		

n=306
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests

TABLE 8B - RESULTS OF COX PROPORTIONAL HAZARD MODEL PREDICTING COMPLETION OF BRIBERY INVESTIGATIONS – MODEL 4

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0731	0.0490	0.14
National Corruption Perceptions	0.0188	0.0730	0.80
Voluntary Disclosure	0.1998	0.1599	0.21
Management Involvement	0.0822	0.2271	0.72
Accounting Violation	0.4580	0.2121	0.03*
Asset Size	-0.0978	0.0451	0.03*
American Depository Receipts	-0.0445	0.2853	0.88
Oil For Food	0.1938	0.2216	0.38
Subsidiary	0.1961	0.1679	0.24
Bribery×Multiple Regulators (H3)	-0.0378	0.1080	0.73
Log Likelihood L(β)	-691.1287		
Likelihood Ratio χ^2 (significance)	21.93* (0.02)		

n=1173 (time at risk); stratified by Event Type; Efron method for ties
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests

TABLE 9A - RESULTS OF OLS REGRESSION ANALYSIS PREDICTING REPUTATIONAL PENALTY PUNISHMENT – MODEL 5

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0005	0.0016	0.74
National Corruption Perceptions	-0.0053	0.0023	0.02*
Voluntary Disclosure	0.0018	0.0055	0.74
Management Involvement	0.0267	0.0088	0.00***
Accounting Violation	0.0075	0.0031	0.02*
Asset Size	-0.0045	0.0015	0.00**
American Depository Receipts	-0.0028	0.0082	0.73
Oil For Food	0.0020	0.0074	0.77
Subsidiary	-0.0033	0.0055	0.55
Bribery (H1)	0.0263	0.0056	0.00***
Bribery×Management/Board Involvement (H4)	0.0689	0.0182	0.00***
Constant	0.0511	0.0143	0.00***
F Statistic	10.22		0.00***
Variance Explained (R-square)	0.27		

n=306
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests

TABLE 9B - RESULTS OF COX PROPORTIONAL HAZARD MODEL PREDICTING COMPLETION OF BRIBERY INVESTIGATIONS – MODEL 5

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0587	0.0499	0.24
National Corruption Perceptions	0.0297	0.0733	0.69
Voluntary Disclosure	0.2159	0.1607	0.18
Management Involvement	-0.0910	0.2434	0.71
Accounting Violation	0.4578	0.2112	0.03*
Asset Size	-0.1000	0.0451	0.03*
American Depository Receipts	-0.0892	0.2873	0.76
Oil For Food	0.2145	0.2211	0.33
Subsidiary	0.1859	0.1680	0.27
Bribery×Management/Board[a] Involvement (H4)	0.9291	0.4849	0.06†
Log Likelihood L(β)	- 689.5597		
Likelihood Ratio χ^2 (significance)	25.07** (0.00)		

n=1173 (time at risk); stratified by Event Type; Efron method for ties
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed tests
[a] Assumes significance in a one-tailed test at $p<0.05$

TABLE 10A - RESULTS OF OLS REGRESSION ANALYSIS PREDICTING REPUTATIONAL PENALTY PUNISHMENT – MODEL 6

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0011	0.0016	0.47
National Corruption Perceptions	-0.0049	0.0023	0.04*
Voluntary Disclosure	0.0015	0.0056	0.78
Management Involvement	0.0407	0.0082	0.00***
Accounting Violation	0.0046	0.0035	0.19
Asset Size	-0.0046	0.0015	0.00**
American Depository Receipts	-0.0052	0.0083	0.54
Oil For Food	-0.0005	0.0075	0.95
Subsidiary	-0.0053	0.0057	0.36
Bribery (H1)	0.0266	0.0057	0.00***
Bribery×Accounting Violation (H5)	0.0140	0.0067	0.04*
Constant	0.0537	0.0145	0.00***
F Statistic	9.03		0.00***
Variance Explained (R-square)	0.24		

n=306
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed test

TABLE 10B - RESULTS OF COX PROPORTIONAL HAZARD MODEL PREDICTING COMPLETION OF BRIBERY INVESTIGATIONS – MODEL 6

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0696	0.0484	0.15
National Corruption Perceptions	0.0214	0.0724	0.77
Voluntary Disclosure	0.1991	0.1603	0.21
Management Involvement	0.0577	0.2236	0.80
Accounting Violation	0.5117	0.2323	0.03*
Asset Size	-0.1003	0.0452	0.03*
American Depository Receipts	-0.0502	0.2837	0.86
Oil For Food	0.2026	0.2215	0.36
Subsidiary	0.1954	0.1679	0.24
Bribery×Accounting Violation (H5)	-0.2279	0.4881	0.64
Log Likelihood L(β)	-691.0794		
Likelihood Ratio χ^2 (significance)	22.03* (0.02)		

n=1173 (time at risk); stratified by Event Type; Efron method for ties
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed test

TABLE 11A - RESULTS OF OLS REGRESSION ANALYSIS PREDICTING REPUTATIONAL PENALTY PUNISHMENT – MODEL 7

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0011	0.0016	0.50
National Corruption Perceptions	-0.0028	0.0028	0.30
Voluntary Disclosure	0.0014	0.0055	0.79
Management/Board Involvement	0.0301	0.0089	0.00**
Accounting Violation	0.0045	0.0035	0.20
Asset Size	-0.0046	0.0015	0.00**
American Depository Receipts	-0.0035	0.0082	0.67
Oil For Food	0.0008	0.0074	0.91
Subsidiary	-0.0039	0.0056	0.48
Bribery (H1)	0.0276	0.0056	0.00***
Bribery×National Corruption Perception (H2)[a]	-0.0073	0.0046	0.12
Bribery×Multiple Regulators (H3)	-0.0019	0.0032	0.56
Bribery×Management/Board Involvement (H4)	0.0659	0.0190	0.00**
Bribery×Accounting Violation (H5)[b]	0.0115	0.0067	0.09†
Constant	0.0522	0.0143	0.00***
F Statistic	8.42		0.00***
Variance Explained (R-square)	0.28		

n=306
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed test
[a] Assumes significance in one-tailed test at $p<0.10$
[b] Assumes significance in one-tailed test at $p<0.05$

TABLE 11B - RESULTS OF COX PROPORTIONAL HAZARD MODEL PREDICTING COMPLETION OF BRIBERY INVESTIGATIONS – MODEL 7

Variables	Coefficient	Standard Error	Significance Level
Multiple Regulators	0.0594	0.0493	0.23
National Corruption Perceptions	0.1185	0.0921	0.20
Voluntary Disclosure	0.2091	0.1611	0.19
Management Involvement	-0.2067	0.2562	0.42
Accounting Violation	0.6126	0.2368	0.01*
Asset Size	-0.0962	0.0458	0.03*
American Depository Receipts	-0.0204	0.2881	0.94
Oil For Food	0.2434	0.2204	0.27
Subsidiary	0.2129	0.1699	0.21
Bribery×National Corruption Perception (H2)[a]	-0.2507	0.1485	0.09†
Bribery×Multiple Regulators (H3)[b]	-0.1923	0.1331	0.15
Bribery×Management/Board Involvement (H4)	1.7142	0.5987	0.00**
Bribery×Accounting Violation (H5)[b]	-0.7657	0.5356	0.15
Log Likelihood L(β)	- 686.7202		
Likelihood Ratio χ^2 (significance)	30.75** (0.00)		

n=1173 (time at risk); stratified by Event Type; Efron method for ties
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Two-tailed test
[a] Assumes significance in one-tailed test at p<0.05
[b] Assumes significance in one-tailed test at p<0.10

TABLE 12A - MARGINAL REGRESSION EFFECTS – REPUTATIONAL PENALTY MODELS

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	eta^2	eta^2	eta^2	eta^2	eta^2	eta^2	eta^2
	% change eta^2	% change eta^2	% change eta^2	% change eta^2	% change eta^2	% change eta^2	% change eta^2
Multiple Regulators	0.0001	0.0008	0.0009	0.0011	0.0002	0.0013	0.0010
	0.0580	0.3654	0.3913	0.4939	0.0960	0.5378	0.3897
National Corruption Perceptions	0.0122	0.0115	0.0015	0.0115	0.0123	0.0107	0.0025
	6.5832	4.9272	0.6329	4.9289	4.5994	4.3684	0.9042
Voluntary Disclosure	0.0012	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
	0.6421	0.0805	0.0441	0.0783	0.0999	0.0765	0.0606
Management/Board Involvement	0.0535	0.0595	0.0613	0.0598	0.0218	0.0605	0.0267
	28.7816	25.4220	25.0450	25.4970	8.1199	24.6950	9.5329
Accounting Violation	0.0117	0.0161	0.0150	0.0160	0.0141	0.0042	0.0040
	6.2757	6.8782	6.1344	6.8183	5.2689	1.7168	1.4579
Asset Size	0.0255	0.0255	0.0270	0.0255	0.0231	0.0242	0.0236
	13.7319	10.8900	11.0500	10.8630	8.6344	9.8780	8.4311
American Depository Receipts	0.0002	0.0005	0.0003	0.0004	0.0002	0.0009	0.0004
	0.9716	0.2149	0.1406	0.2068	0.1043	0.3849	0.1559
Oil For Food	0.0001	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
	0.0328	0.0034	0.0011	0.0026	0.0656	0.0035	0.0100
Subsidiary	0.0012	0.0014	0.0011	0.0014	0.0008	0.0021	0.0011
	0.6890	0.6183	0.4723	0.6307	0.3100	0.8654	0.4237

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	eta^2	eta^2	eta^2	eta^2	eta^2	eta^2	eta^2
	% change eta^2	% change eta^2	% change eta^2	% change eta^2	% change eta^2	% change eta^2	% change eta^2
Bribery (H1)		0.0485	0.0511	0.0479	0.0522	0.0529	0.0563
		20.7250	20.9130	20.4140	19.4400	21.6150	20.1160
Bribery × National Corruption Perception (H2)			0.0104				0.0057
			4.2633				2.0376
Bribery × Multiple Regulators (H3)				0.0003			0.0008
				0.1693			0.2915
Bribery × Management/Board Involvement (H4)					0.0343		0.0212
					12.7740		7.6028
Bribery × Accounting Violation (H5)						0.0106	0.0068
						4.3621	2.4416

Eta-squared, η^2, is the ratio of total variance in the dependent variable that is explained by an independent variable while controlling for other variables. It conveys the size of an effect relative to the variability in the population.

TABLE 12B - COX HAZARD RATIOS – REPUTATIONAL PENALTY MODELS

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Multiple Regulators	1.0593	1.0720	1.0671	1.0759	1.0605	1.0720	1.0611
National Corruption Perceptions	1.0087	1.0213	1.0798	1.0190	1.0301	1.0216	1.1257
Voluntary Disclosure	1.4483	1.2227	1.2265	1.2212	1.2408	1.2203	1.2326
Management/Board Involvement	1.2623	1.0681	1.0238	1.0856	0.9130	1.0594	0.8132
Accounting Violation	1.3199	1.5912	1.6259	1.5810	1.5806	1.6682	1.8451
Asset Size	0.9156	0.9063	0.9104	0.9069	0.9048	0.9045	0.9083
American Depository Receipts	0.8164	0.9457	0.9476	0.9565	0.9147	0.9511	0.9798
Oil For Food	1.2543	1.2186	1.2340	1.2138	1.2392	1.2245	1.2756
Subsidiary	1.2543	1.2153	1.2287	1.2166	1.2043	1.2158	1.2372
Bribery×National Corruption Perception (H2)			0.8701				0.7782
Bribery×Multiple Regulators (H3)				0.9629			0.8250
Bribery×Management/Board Involvement (H4)					2.5322		5.5519
Bribery×Accounting Violation (H5)						0.7962	0.4650

A hazard rate greater than 1 reflects an increasing hazard (risk) as the coefficient of the associated variable increases, thus resulting in an increased probability of bribery completion. On the other hand, a hazard rate lesser than 1 reflects a decreasing hazard (risk) as the coefficient of the associated variable increases, thus resulting in a decreased probability of bribery completion.

TABLE 13 - DESCRIPTIVE STATISTICS AND PAIRWISE PEARSON CORRELATIONS[a]

	Mean	s.d.	1	2	3	4	5	6	7	8	9
1. Recovery[b]	4.02	6.84									
2. Bribery[d]	0.35	0.47	0.03								
3. Corporate Reputation (t-1)	2.82	4.23	-0.02	0.09							
4. Multiple Regulators	2.52	2.15	-0.08	-0.09	0.21**						
5. Management/Board Involvement[d]	0.15	0.35	0.31***	-0.12*	-0.24***	-0.09					
6. Accounting Violations	0.81	0.39	0.04	-0.12*	-0.04	0.08	0.06				
7. National Corruption Perception	3.18	1.25	0.17**	0.06	-0.00	0.12*	0.25***	0.04			
8. Voluntary Disclosure[d]	0.46	0.49	0.02	0.08	-0.08	0.05	-0.05	0.15*	0.10		
9. Asset Size[c]	8.85	2.05	-0.14*	0.02	0.50***	0.40***	-0.31***	-0.01	-0.13*	-0.23***	
10. Return on Assets (t-1)	0.05	0.07	0.02	-0.05	0.17	-0.01	0.06	0.03	-0.05	-0.09	0.26***

[a] n = 1114. * $p < .05$ ** $p < .01$ *** $p < .001$

[b] 10-day interval

[c] Logarithm

[d] Correlations corresponding to these dichotomous variables are Spearman.

TABLE 14A - SCHOENFELD TEST TO VALIDATE COX PROPORTIONALITY ASSUMPTION*

Variable Name	χ^2	Degrees of Freedom	Significance Level
Bribery	0.04	1	0.8492
Corporate Reputation	0.73	1	0.3922
Global Test	0.83	2	0.6593

† p < .10
* p < .05
** p < .01
*** p < .001

* A significance level greater than 0.10 for each variable and the global test validates the proportionality assumption.

TABLE 14B - BREUSCH-PAGAN TEST OF HETEROSKEDASTICITY IN STANDARD ERROR*

Variable Name	χ^2	Degrees of Freedom	Significance Level
Standard Error	14.93***	1	0.0001

† p < .10
* p < .05
** p < .01
*** p < .001

* A significance level less than 0.10 for the χ^2 statistic of the Breusch-Pagan test suggests that distribution of the standard error is not heteroskedastic.

TABLE 15A - RESULTS OF COX PROPORTIONAL HAZARD MODEL PREDICTING RECOVERY OF BRIBERY INVESTIGATION EVENTS

Variables	Model 8		Model 9	
	Coefficient	Significance Level	Coefficient	Significance Level
Multiple Regulators	0.0304	0.30	0.0325	0.30
	(0.0310)		(0.0314)	
National Corruption Perceptions	-0.1082	0.04*	-0.1053	0.05†
	(0.0535)		(0.0545)	
Voluntary Disclosure	0.0224	0.87	0.0652	0.64
	(0.1371)		(0.1383)	
Management/Board Member Involvement	-0.6697	0.00**	-0.7176	0.00**
	(0.2094)		(0.2141)	
Accounting Violation	-0.0222	0.90	-0.0757	0.66
	(0.1731)		(0.1736)	
Asset Size	0.0191	0.62	0.0272	0.52
	(0.0381)		(0.0426)	
Return on Assets (t-1)	0.0508	0.96	0.3597	0.73
	(1.0198)		(1.0428)	
Bribery			-0.0103	0.95
			(0.1680)	
Corporate Reputation (t-1)			-0.0017	0.94
			(0.0214)	
Bribery x Corporate Reputation[1] (t-1) (H6)			-0.0423	0.18
			(0.0315)	
Log Likelihood L(β)	-1190.31		-1149.08	
Likelihood Ratio χ^2 (significance)	26.01*** (0.00)		30.41*** (0.00)	

n=260; n(failures)=246; time at risk=1114.7
Standard error in parentheses
† $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$
[1] Marginally significant in one-tailed test

TABLE 15B - RESULTS OF OLS MODEL PREDICTING ABNORMAL RETURNS AT 90-DAYS AFTER BRIBERY EVENT

Variables	Model 8		Model 9	
	Coefficient	Significance Level	Coefficient	Significance Level
Multiple Regulators	0.0168	0.03*	0.0195	0.01*
	(0.0077)		(0.0074)	
National Corruption Perceptions	-0.0451	0.00**	-0.0273	0.08†
	(0.0156)		(0.0150)	
Voluntary Disclosure	-0.0796	0.12	-0.0870	0.11
	(0.0156)		(0.0534)	
Management/Board Member Involvement	-0.0831	0.22	-0.0425	0.56
	(0.0677)		(0.0720)	
Accounting Violation	0.0547	0.38	0.0214	0.74
	(0.0613)		(0.0646)	
Asset Size	-0.0054	0.80	-0.0235	0.33
	(0.0218)		(0.0241)	
Return on Assets (t-1)	-0.7178	0.03*	-0.4629	0.18
	(0.3320)		(0.3406)	
Days			-0.0006	0.00**
			(0.0002)	
Bribery			-0.1685	0.03*
			(0.0749)	
Corporate Reputation (t-1)			-0.0033	0.62
			(0.0068)	
Bribery x Corporate Reputation (t-1) (H6)			0.0193	0.04*
			(0.0093)	
Constant	0.1999	0.41	0.3822	0.15
	(0.2400)		(0.2642)	

	Model 8	Model 9
F Statistic	2.85*	3.82***
Variance Explained (R-square)	0.23	0.47

n=74
† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

TABLE 16A - COX HAZARD RATIOS – REPUTATIONAL PENALTY RECOVERY MODELS

Variables	Model 8	Model 9
Multiple Regulators	1.0331	1.0330
National Corruption Perceptions	0.8974	0.9001
Voluntary Disclosure	1.0227	1.0674
Management/Board Member Involvement	0.5118	0.4879
Accounting Violation	0.9780	0.9271
Asset Size	1.0193	1.0275
Return on Assets (t-1)	1.0521	1.4330
Bribery		0.9897
Corporate Reputation (t-1)		0.9982
Bribery x Corporate Reputation (t-1) (H6)		0.9585

A hazard rate greater than 1 reflects an increasing hazard (risk) as the coefficient of the associated variable increases, thus resulting in an increased probability of recovery from occurrence of bribery event. On the other hand, a hazard rate lesser than 1 reflects a decreasing hazard (risk) as the coefficient of the associated variable increases, thus resulting in a decreased probability of recovery from occurrence of bribery event.

TABLE 16B - MARGINAL REGRESSION EFFECTS – REPUTATIONAL PENALTY RECOVERY MODELS

	Model 8		Model 9	
Variables	eta^2	% change eta^2	eta^2	% change eta^2
Multiple Regulators	0.0472	42.3040	0.0527	14.6842
National Corruption Perceptions	0.0148	13.2456	0.0188	5.2480
Voluntary Disclosure	0.0510	45.7249	0.0620	17.2721
Management/Board Member Involvement	0.0205	18.4027	0.0003	0.0845
Accounting Violation	0.0097	8.6967	0.0472	13.1347
Asset Size	0.0484	43.4296	0.0845	23.5326
Return on Assets (t-1)	0.0579	51.9190	0.0043	1.1840
Days			0.0316	8.8011
Bribery			0.0721	20.0840
Corporate Reputation (t-1)			0.1400	38.9948
Bribery x Corporate Reputation (t-1) (H6)			0.0429	11.9384

Eta-squared, η^2, is the ratio of total variance in the dependent variable that is explained by an independent variable while controlling for other variables. It conveys the size of an effect relative to the variability in the population.

TABLE 17 - SANCTIONS AND MONETARY PENALTIES IMPOSED AS A RESULT OF FCPA PROSECUTIONS (1978 to 2010)

Sanction Levels	Description	N	Criminal Fines[a]	Disgorgement[a,b]	Civil[a]	Interest[a]	Other[a,c]	Total Penalties[a]
6	Conviction							
5	Guilty Plea	12	952.52	590.27	24.48	6.87	949.40	2523.54
4	Deferred Prosecution Agreement	20	867.11	418.34	131.20	17.48	6.17	1440.30
3	Non-Prosecution Agreement	14	25.85	58.58	12.64	2.53	2.54	102.14
2	Civil Sanctions Only	26	0.21	2.99	54.79	0.65		58.64
1	Acquittal	3			0.07			0.07
	Total	75	1845.69	1070.18	223.18	27.53	958.11	4124.69
	Mean		24.61	14.27	2.98	0.37	12.77	54.99

[a] 2010 inflation adjusted millions of dollars
[b] Disgorgement is the act of giving up profits obtained by illegal or unethical acts when directed by the court
[c] Fines by foreign regulator

TABLE 18 - DESCRIPTIVE STATISTICS AND PAIRWISE PEARSON CORRELATIONS

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10
1. Sanctions	3.16	1.19										
2. Bribery[a]	13.85	2.22	0.51***									
3. Voluntary Disclosure[d]	0.48	0.50	0.03	-0.17								
4. Cooperation[d]	0.41	0.50	0.23*	0.08	0.01							
5. Culpable Employee Termination[d]	0.15	0.36	0.46***	0.35**	0.12	-0.20						
6. Cumulative Abnormal Return[b]	-0.03	0.07	-0.11	0.02	-0.12	-0.02	-0.11					
7. National Corruption Perceptions	3.17	1.28	-0.23*	-0.09	0.07	-0.23*	-0.01	-0.26*				
8. Accounting Violation	1.83	0.81	0.23*	0.07	0.22	0.25*	0.03	-0.14	-0.13			
9. Multiple Regulators	2.16	1.44	0.43***	0.63***	-0.04	0.17	0.33**	-0.02	0.08	0.15		
10. Asset Size[a]	8.73	2.01	0.18	0.35**	-0.09	0.27*	0.03	0.20	-0.02	-0.01	0.35**	
11. Length of Enforcement[c]	1033.65	569.66	0.17	0.37**	0.03	-0.19	0.31**	0.13	-0.22	0.09	0.13	0.18

n=75, except n=73 for bribery, n=134 for voluntary disclosure and multiple regulators, n=135 for cumulative abnormal return and asset size, n=124 for national corruption perceptions, and n=72 for length of enforcement.

[a] Logarithm

[b] Percent

[c] Days

[d] Correlations corresponding to these dichotomous variables are Spearman.

* $p < .05$ ** $p < .01$ *** $p < .001$

TABLE 19A - HECKMAN SELECTION MODELS OF SANCTIONS

Variables	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
	Controls	Main Effects	Moderating Effects			Full Model
Hypothesized						
Bribery (H7)		0.20**	0.16**	0.20**	0.16**	0.14*
		(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Bribery × Voluntary Disclosure (H8)			-0.04**			-0.04*
			(0.01)			(0.02)
Bribery × Cooperation (H9)				-0.02		0.10
				(0.10)		(0.10)
Bribery × Culpable Employee Termination (H10)					-0.44**	-0.29*
					(0.14)	(0.14)
Controls						
Voluntary Disclosure	-0.06	0.22	0.18	0.22	0.20	0.17
	(0.21)	(0.21)	(0.19)	(0.21)	(0.19)	(0.19)
Cooperation	0.38	0.31	0.40†	0.31	0.33	0.43*
	(0.24)	(0.22)	(0.21)	(0.22)	(0.21)	(0.20)
Culpable Employee Termination	1.36***	1.13***	1.19***	1.13***	1.65***	1.56***
	(0.32)	(0.31)	(0.28)	(0.31)	(0.33)	(0.32)
Cumulative Abnormal Return	-2.06†	-2.00†	-2.03*	-2.00†	-1.56	-1.78†
	(1.20)	(1.11)	(1.03)	(1.11)	(1.04)	(1.01)
National Corruption Perception	-0.23*	-0.25*	-0.25*	-0.25*	-0.19†	-0.20*
	(0.12)	(0.11)	(0.10)	(0.11)	(0.10)	(0.10)
Accounting Violations	0.22	0.18	0.07	0.18	0.25†	0.12
	(0.14)	(0.14)	(0.14)	(0.14)	(0.13)	(0.14)
Multiple Regulators	0.16*	0.03	0.31**	0.04	0.20*	0.37**
	(0.06)	(0.09)	(0.12)	(0.09)	(0.10)	(0.12)
Asset Size	0.07	0.05	0.01	0.05	0.03	-0.01
	(0.06)	(0.06)	(0.05)	(0.06)	(0.05)	(0.06)

Variables	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
	Controls	Main Effects	Moderating Effects			Full Model
Length of Enforcement	-0.00	-0.00	-0.00*	-0.00	-0.00	-0.00†
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	2.42**	3.06***	3.15**	3.05***	2.66***	2.93***
	(0.72)	(1.10)	(0.65)	(0.69)	(0.66)	(0.64)
Wald $\chi 2$	60.32***	76.82***	97.59***	76.87***	98.08***	112.77***
Prob.> $\chi 2$	0.00	0.00	0.00	0.00	0.00	0.00

n for all models=126, except n=127 for model 1.
† p < .10
* p < .05
** p < .01
*** p < .001
Two-tailed tests

TABLE 19B - RESULTS OF TOBIT REGRESSION ANALYSIS PREDICTING CRIMINAL FINES ASSESSED

Variables	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
	Controls	Main Effects	Moderating Effects			Full Model
Hypothesized						
Bribery (H7)		20.75**	20.85**	19.45**	17.04**	26.01***
		(5.93)	(6.03)	(5.56)	(5.24)	(6.20)
Bribery × Voluntary Disclosure (H8)			-2.73*			-4.42**
			(1.17)			(1.58)
Bribery × Cooperation (H9)				-24.09**		-0.71
				(8.29)		(10.62)
Bribery × Employee Culpability (H10)					32.70**	104.68***
					(11.11)	(15.49)
Controls						
Voluntary Disclosure	-21.67	3.76	13.62	8.29	0.23	8.50
	(18.17)	(19.55)	(20.96)	(18.66)	(16.81)	(19.56)
Cooperation	-29.96	-30.14	-23.49	-20.99	-26.36	-36.91†
	(19.68)	(18.35)	(18.30)	(17.44)	(16.11)	(20.82)
Employee Culpability	49.21†	29.71	35.55	24.31	-16.32	-100.65**
	(25.47)	(23.82)	(23.38)	(22.22)	(26.13)	(34.36)
Cumulative Abnormal Return	-118.87	-54.31	-14.70	-53.66	-29.13	-78.76
	(133.57)	(124.16)	(122.45)	(116.46)	(109.06)	(104.98)
National Corruption Perception	-8.39	-5.99	-8.11	-7.54	-5.09	-6.61
	(10.02)	(9.57)	(9.44)	(8.92)	(8.37)	(10.43)
Accounting Violations	20.81†	16.31	7.10	14.57	8.32	-2.84
	(12.45)	(12.05)	(12.74)	(11.43)	(10.90)	(14.91)
Multiple Regulators	40.28***	26.49***	44.28***	33.43***	13.08†	40.99**
	(6.02)	(6.71)	(10.02)	(6.65)	(7.43)	(11.64)
Asset Size	4.24	2.57	0.50	4.64	3.89	7.67

Variables	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
	Controls	Main Effects	Moderating Effects			Full Model
	(5.38)	(5.12)	(5.23)	(5.01)	(4.43)	(5.32)
Length of Enforcement	0.01	-0.01	-0.02	-0.01	-0.01	-0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)
Constant	-159.42*	-96.54	-80.29	-114.47†	-62.69	-85.84
	(62.67)	(62.15)	(62.28)	(59.38)	(54.98)	(68.39)
Log likelihood	-248.68	-242.26	-239.45	-238.23	-238.61	-348.32
Prob>$\chi 2$	60.51	72.01	77.64	80.08	79.31	156.96
Significance level	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***

n=66 (23 left censored and 43 uncensored) for all models except n=67 for model 1 (24 left censored and 43 uncensored)
† p < .10
* p < .05
** p < .01
*** p < .001
Two-tailed tests

TABLE 20A - MARGINAL REGRESSION EFFECTS – SANCTIONS MODELS

Variables	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
	eta^2	eta^2	eta^2	eta^2	eta^2	eta^2
	% change eta^2	% change eta^2	% change eta^2	% change eta^2	% change eta^2	% change eta^2
Voluntary Disclosure	0.0005	0.0073	0.0051	0.00741	0.0064	0.0043
	0.1135	1.4029	0.8881	1.4175	1.1028	0.7033
Cooperation	0.0196	0.0136	0.0225	0.013	0.0151	0.0243
	4.2797	2.6083	3.7798	2.5019	2.5976	3.9450
Culpable Employee Termination	0.1341	0.0952	0.1039	0.0931	0.1515	0.1341
	29.1992	18.1615	17.8531	17.7912	25.9774	21.7430
Cumulative Abnormal Return	0.0223	0.0223	0.0239	0.0222	0.0132	0.0170
	4.8635	4.2802	3.9657	4.2427	2.2772	2.7654
National Corruption Perception	0.0311	0.0375	0.0375	0.0377	0.0201	0.0226
	6.7924	7.1836	6.4464	7.2115	3.4513	3.6646
Accounting Violation	0.0181	0.0108	0.0013	0.0109	0.0208	0.0038
	3.9479	2.0709	0.2335	2.0888	3.5795	0.6298
Multiple Regulators	0.0331	0.0009	0.0403	0.0011	0.0264	0.0548

Variables	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
	eta^2	eta^2	eta^2	eta^2	eta^2	eta^2
	% change eta^2	% change eta^2	% change eta^2	% change eta^2	% change eta^2	% change eta^2
	7.2134	0.1887	6.9237	0.2205	4.5365	8.8928
Asset Size	0.0101	0.0057	0.0002	0.0059	0.0018	0.0000
	2.2064	1.1012	0.0375	1.1294	0.3241	0.0161
Length of Enforcement	0.0012	0.0132	0.0257	0.0133	0.0113	0.0188
	0.2747	2.5239	4.4223	2.5492	1.9379	3.0589
Bribery (H7)		0.0702	0.0429	0.068	0.0431	0.0336
		13.4231	7.2283	13.0095	7.3943	5.4475
Bribery×Voluntary Disclosure (H8)			0.0591			0.0329
			10.1494			5.3397
Bribery×Cooperation (H9)				0.0001		0.0049
				0.0319		0.8024
Bribery×Culpable Employee Termination (H10)					0.0603	0.0228
					10.3380	3.7057

Eta-squared, η^2, is the ratio of total variance in the dependent variable that is explained by an independent variable while controlling for other variables. It conveys the size of an effect relative to the variability in the population.

TABLE 20B - MARGINAL TOBIT EFFECT OF CRIMINAL FINES – SANCTIONS MODELS

Variables	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)
	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)
Voluntary Disclosure	-11.7448	0.3070	10.1045	1.8206	-1.5918	3.9786
	-18.3421	0.4757	15.6333	2.8168	-2.4628	6.1555
Cooperation	-18.6101	-13.6700	-9.6633	22.6853	-13.8072	8.2366
	-29.0638	-21.1527	-14.9575	35.0939	-21.362	12.7434
Culpable Employee Termination	1.7902	-1.4810	1.4124	5.5766	-18.5349	-13.5295
	2.7958	-2.2913	2.1852	8.6282	-28.6764	-20.919
Cumulative Abnormal Return	-32.8979	-36.1100	-49.2568	-22.1182	-30.5954	-23.0445
	-51.3774	-55.8813	-76.2082	-34.2238	-47.3368	-35.6535
National Corruption Perception	-5.0244	-2.5510	-3.7745	-0.5397	-2.7109	-1.186
	-7.8467	-3.9486	-5.8397	-0.8359	-4.1942	-1.8265
Accounting Violation	7.7412	3.9836	-0.2539	-2.9023	3.6763	-2.6917

Variables	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)
	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)
	12.0896	6.1632	-0.3928	-4.4934	5.6879	-4.1645
Multiple Regulators	7.6013	2.2101	8.2724	4.7053	1.3571	5.4436
	11.8711	3.4194	12.7987	7.2799	2.0996	8.4221
Asset Size	4.3205	3.3137	3.3831	3.9457	2.4411	2.3511
	6.7474	5.1269	5.2342	6.1046	3.7767	3.6375
Length of Enforcement	0.0061	0.0023	-0.0036	-0.0003	0.0042	0.0001
	0.0095	0.0035	-0.0056	-0.0006	0.0065	0.0002
Bribery (H7)		6.8942	6.6361	6.8357	5.1869	4.7769
		10.666	10.2671	10.5763	8.0256	7.3907
Bribery×Voluntary Disclosure (H8)			-0.8384			-0.3419
			-1.2971			-0.5296
Bribery×Cooperation (H9)				-14.1733		-8.2569

Variables	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)	Marginal Effect (unconditional expected value)
	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)	Marginal Effect (conditional on being uncensored)
				-21.9284		-12.7747
Bribery×Culpable Employee Termination (H10)					6.1041	5.6082
					9.4404	8.6768

A marginal effect with a plus/minus sign reflects higher/lower criminal fines in the presence of the associated variable as compared to the expected fines without the presence of the associated variable. Censored data is accounted for by unconditional marginal effects whereas uncensored data is accounted for by conditional marginal effects.

TABLE 21 - SUMMARY OF RESULTS[a]

Hypotheses	Support	Statistical Significance		Effect Size	
		OLS	Cox	OLS	Cox Hazard Ratio
H1: Firms accused of violating the FCPA experience punishment in terms of a reputational penalty.	Yes	$p < 0.001$ ($p < 0.001$)	N/A	20.7250% (20.1160%)	N/A
H2: The likelihood of firms experiencing punishment in terms of significant reputational penalties decreases when a nation in which the bribe was paid is perceived as more corrupt.	Yes	$p < 0.05$ (NS)	NS ($p < 0.05$)[b]	4.2633% (2.0376%)	0.8701 (0.7782)
H3: The likelihood of firms experiencing punishment in terms of significant reputational penalties increases as the number of regulators involved in prosecuting bribery accusations increases.	No	NS (NS)	NS ($p < 0.10$)[b]	0.1693% (0.2915%)	0.9629 (0.8250)
H4: The likelihood of firms experiencing punishment in terms of significant reputational penalties increases with the involvement of management/board members.	Yes	$p < 0.001$ ($p < 0.01$)	$p < 0.05$[b] ($p < 0.01$)	12.7740% (7.6028%)	2.5322 (5.5519)
H5: The likelihood of firms experiencing punishment in terms of significant reputational penalties increases with the severity of accounting violations.	Yes	$p < 0.05$ (NS)	NS ($p < 0.10$)[b]	4.3621% (2.4416%)	0.7962 (0.4650)
		Cox	OLS	Cox – Hazard Ratio	OLS
H6: Firms' corporate reputations moderate the recovery time of market performance such that the recovery time is longer for higher reputations versus lower reputations.	Yes	$p < 0.10$[b]	$p < 0.05$	0.9585	11.9384%

Hypotheses	Support	Statistical Significance		Effect Sizes	
		Heckman	Tobit[c]	Heckman	Tobit[c]
H7: Criminal severity based on violating the FCPA is positively related to punishment in terms of increased sanctions for guilty firms.	Yes	$p < 0.01$ ($p < 0.05$)	$p < 0.01$ ($p < 0.001$)	13.4321% (5.4475%)	6.8942 (4.7769)
H8: The likelihood of firms experiencing punishment in terms of significant sanctions decreases as a result of voluntary disclosure of the alleged bribery acts to regulatory officials during the course of the bribery investigation.	Yes	$p < 0.01$ ($p < 0.05$)	$p < 0.05$ ($p < 0.01$)	10.1494% (5.3397%)	-0.8384 (-0.3419)
H9: The likelihood of firms experiencing punishment in terms of significant sanctions decreases as a result of cooperation with the regulatory officials during the course of the bribery investigation.	Yes	NS (NS)	$p < 0.01$ (NS)	0.0319% (0.8024%)	-14.1733 (-8.2569)
H10: The likelihood of firms experiencing punishment in terms of significant sanctions decreases with the termination of employees after receiving information about their alleged involvement in a bribery act during the course of the bribery investigation.	Yes	$p < 0.01$ ($p < 0.05$)	$p < 0.01$ ($p < 0.001$)	10.3380% (3.7057%)	6.1041 (5.6082)

[a] Full model results in parentheses
[b] One-tailed test results
[c] Censored portion

FIGURE 1: PREDICTORS OF INTEGRATED PUNISHMENT MODEL

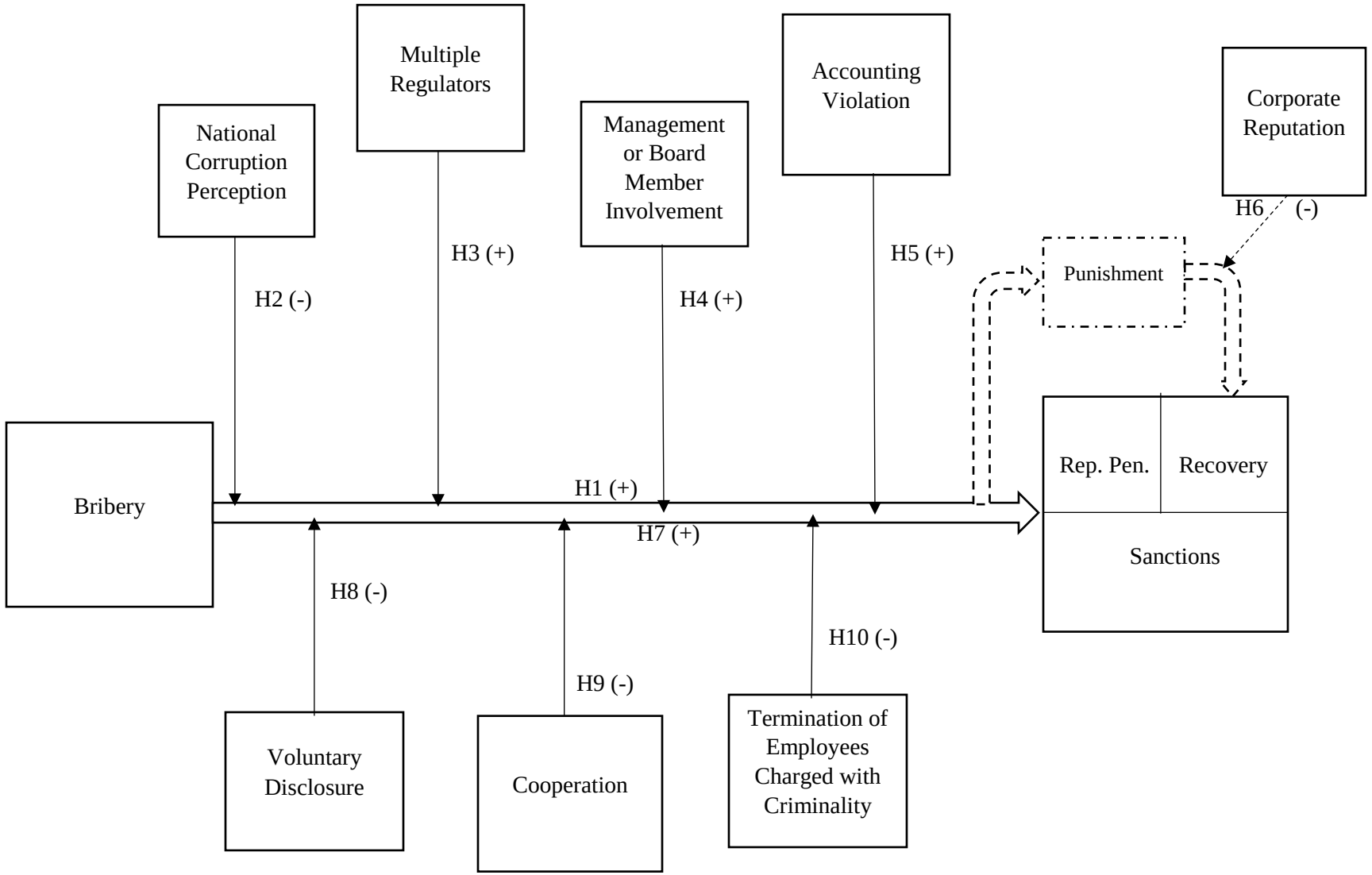

FIGURE 2A: INTERACTION OF BRIBERY AND NATIONAL CORRUPTION PERCEPTION ON REPUTATION PENALTY

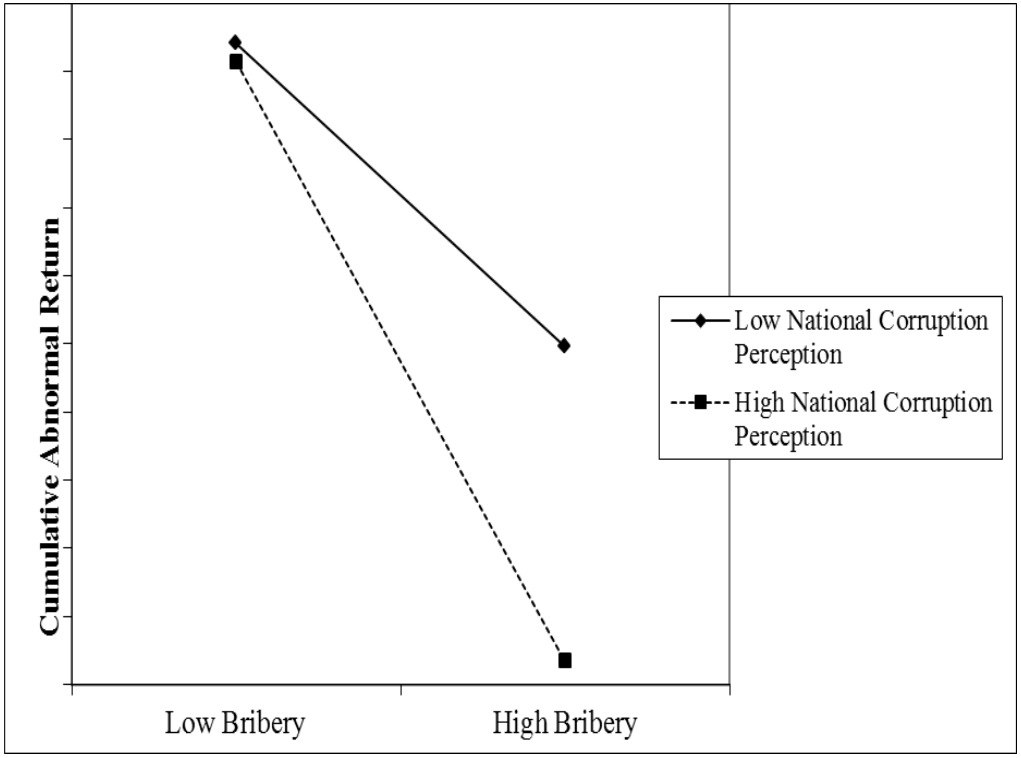

Figure 2A: Effects of Bribery by National Corruption Perception on Reputational Penalty

FIGURE 2B: INTERACTION OF BRIBERY AND MANAGEMENT/BOARD MEMBER INVOLVEMENT ON REPUTATION PENALTY

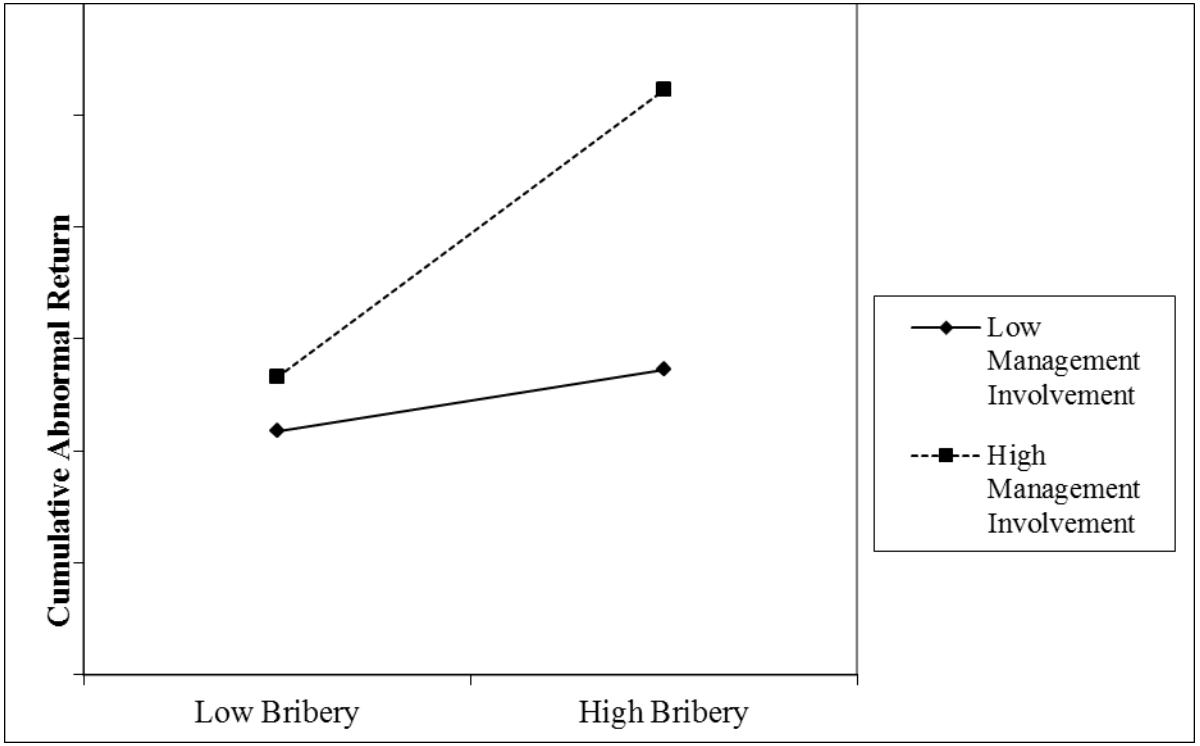

Figure 2B: Effects of Bribery by Management/Board Member Involvement on Reputational Penalty

FIGURE 2C: INTERACTION OF BRIBERY AND ACCOUNTING VIOLATION ON REPUTATION PENALTY

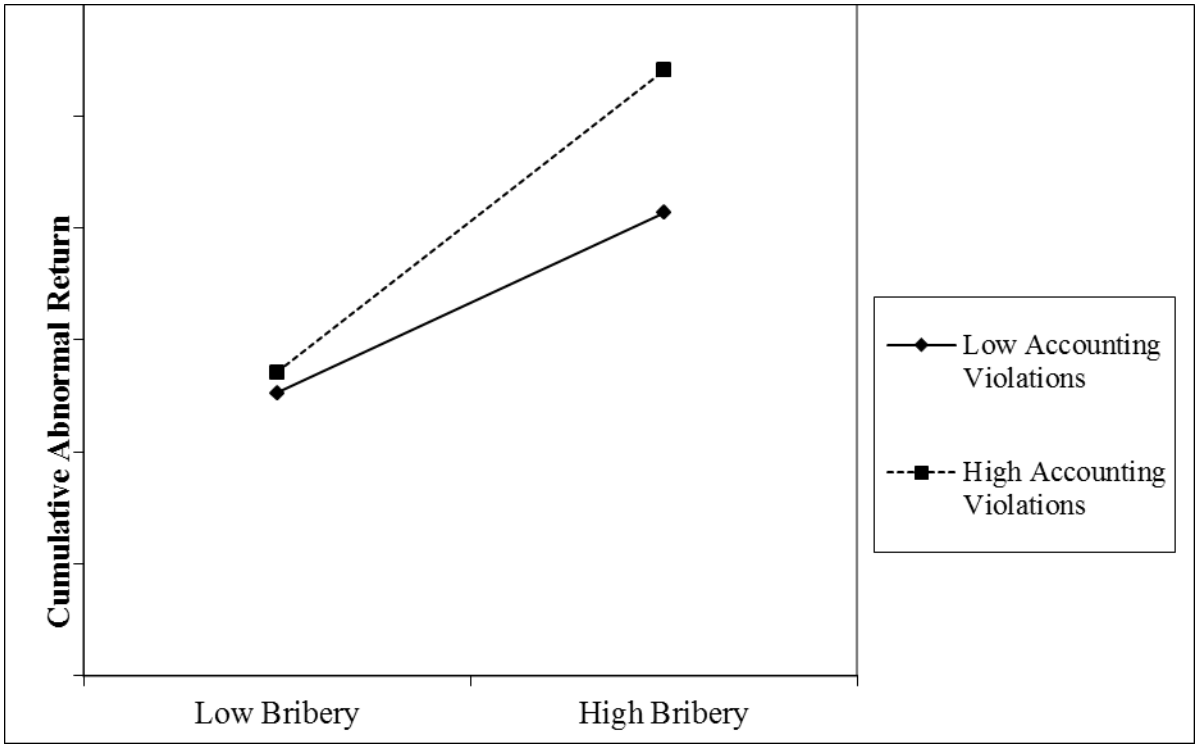

Figure 2C: Effects of Bribery by Accounting Violation on Reputational Penalty

FIGURE 3: INTERACTION OF BRIBERY AND PRIOR CORPORATE REPUTATION ON ABNORMAL RETURNS

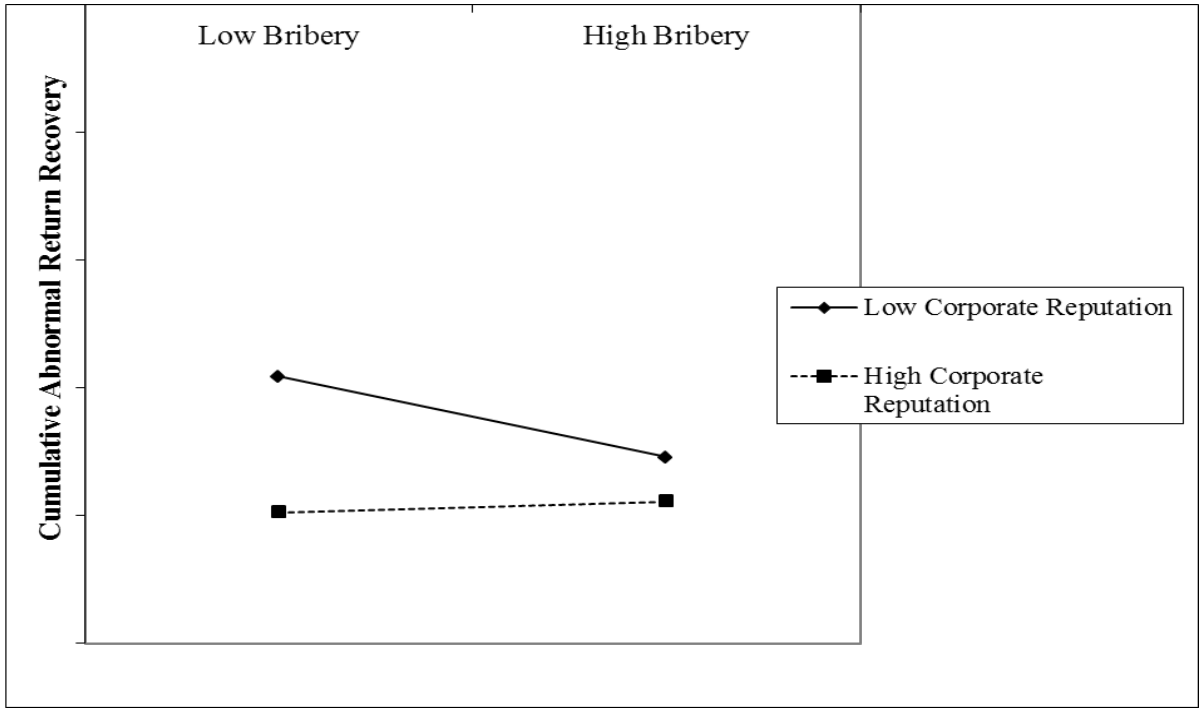

Figure 3: Effects of Bribery by Corporate Reputation on CAR Recovery

FIGURE 4A: INTERACTION OF BRIBERY AND VOLUNTARY DISCLOSURE ON SANCTIONS

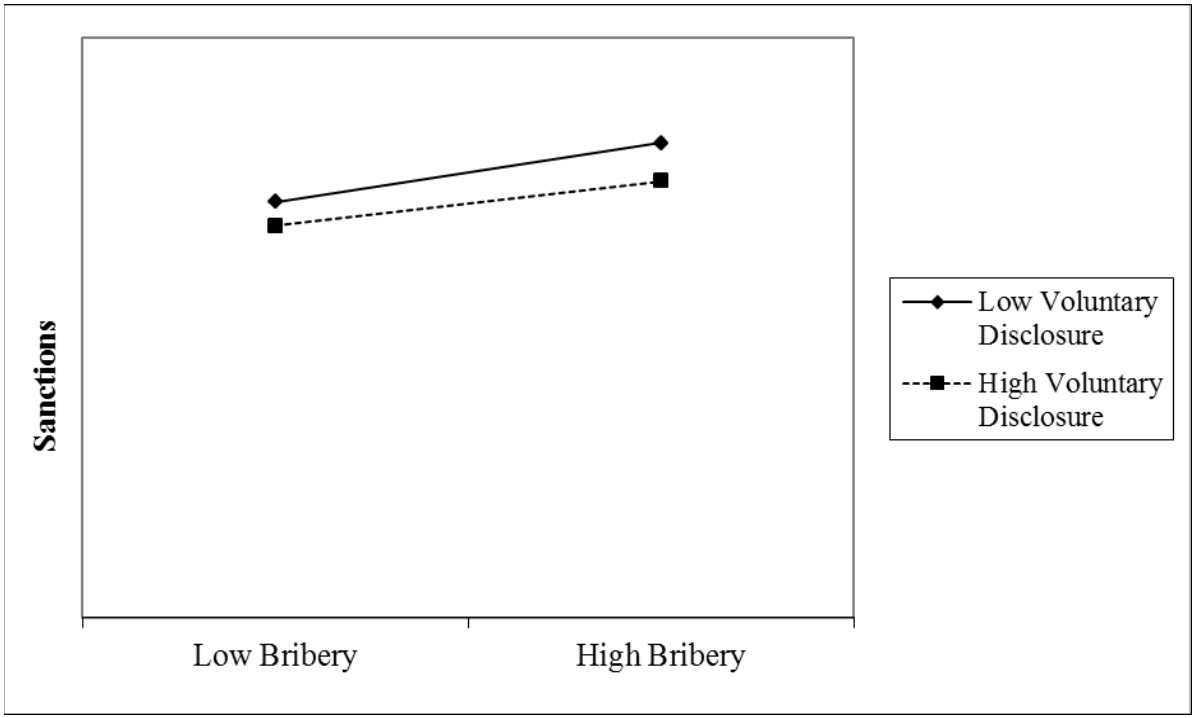

Figure 4A: Effects of Bribery by Voluntary Disclosure on Sanctions

FIGURE 4B: INTERACTION OF BRIBERY AND CULPABLE EMPLOYEE TERMINATION ON SANCTIONS

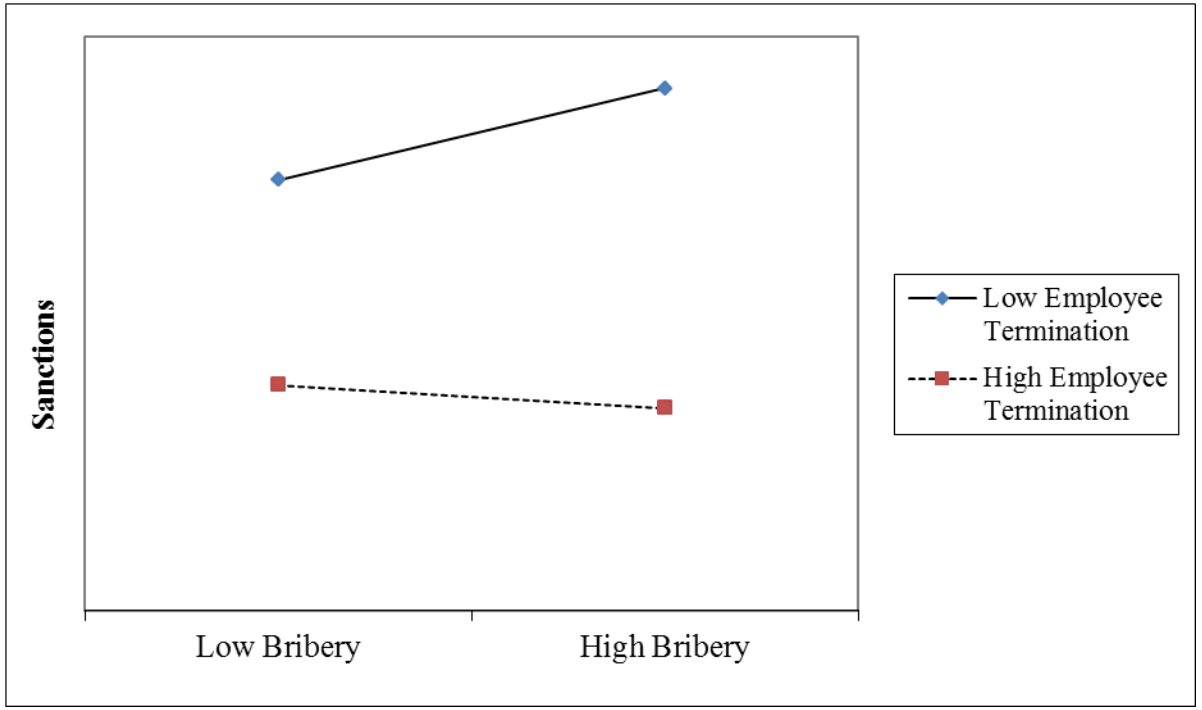

Figure 4B: Effects of Bribery by Culpable Employee Termination on Sanctions