

**Antecedents of Financial Corruption in Organizations**

by

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## Abstract

Implications of prior research suggest that social-control agents (e.g., boards of directors, external auditors) deter managers from financial reporting violations because of fraud and error. However, existing theory does not adequately explain financial reporting violations because of financial corruption. Laboratory research on unethical behavior shows that implications of prior research on financial reporting violations may not extend to violations because of financial corruption. Corruption in organizations has substantial adverse impact on the integrity and development of market economies. My study is unique by incorporating important perspectives not addressed in prior research. Building on multiple existing theories, I develop a theoretical model of antecedents of financial corruption in organizations that offers novel insights into our knowledge about antecedents of financial corruption in publicly-traded firms. I reviewed 2,585 Accounting and Auditing Enforcement Releases available from the US Securities and Exchange Commission to identify financially corrupt firms. To test my hypotheses, I employed a matched sample of 328 firms (164 financially corrupt firms plus 164 compliant firms). I believe this study has theoretical and practical implications that offer important contributions to research on financial corruption.

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## **Antecedents of Financial Corruption in Organizations**

Whether a public company intentionally falsifies financial statements is an area of crucial interest for a multitude of parties, including investors, auditors, media, employees, financial market analysts, and industry regulators (Dyck, Morse, & Zingales, 2010). Falsified financial reporting was shown to likely remain undetected (Zakolyukina, 2018), prevail across capitalistic economies worldwide (Leuz, Nanda, & Wysocki, 2003), negatively distort allocation of resources in economies (Kedia & Philippon, 2009), and diminish trust in the stock market (Giannetti & Wang, 2016), which is a foundation for the economic success of capitalist societies (Fukuyama, 1996).

In this study, I focus on *financial corruption*, defined as repeated, consecutive commitment of fraud in financial reporting. Financial corruption differs from *error* because corruption involves deception (i.e., an intentional attempt to mislead others; Fleming & Zyglidopoulos, 2007), while error is unintentional communication of falsehoods because of negligence (DePaulo et al., 2003). Financial corruption is distinct from *fraud* because a corrupt culture is a necessary condition for corruption (Ashforth & Anand, 2003; J.-L. Campbell & Göritz, 2014). Corrupt organizational cultures evolve gradually (Ashforth, Gioia, Robinson, & Treviño, 2008; Gino & Bazerman, 2009) via routinized unethical behaviors (den Nieuwenboer, Cunha, & Treviño, 2017). Repeated, consecutive commitment of the same crime indicates a corrupt culture that normalizes (Ashforth & Anand, 2003) and encourages (Brief, Buttram, & Dukerich, 2001) commitment of this crime. Normalized corruption allows perpetrators to defraud while maintaining a moral self-image (Umphress, Bingham, & Mitchell, 2010) and can be perpetuated indefinitely on a wide scale (Ashforth & Anand, 2003). An example of financial corruption is the behavior of Michael Rand, the former Chief Accounting Officer of Beazer

Homes, USA, Inc., that US District Judge Robert Conrad described as “criminal, dishonest and corrupt, with repeated acts to cook the books, and as a result, illegality became a norm at Beazer” (US Department of Justice, 2015). Rand was convicted of orchestrating a conspiracy to defraud shareholders by repeatedly and consecutively falsifying Beazer’s financial reports during the years 2003 through 2006 and was sentenced to 10 years in prison (US Department of Justice, 2015). Former CEO Ian McCarthy and former CFO James O’Leary agreed to settle the Securities and Exchange Commission’s (SEC) charges of violating the US Sarbanes-Oxley Act of 2002 (SOX) by reimbursing their compensation received during financial corruption (US Securities and Exchange Commission, 2011b, 2011a).

Prior research on antecedents of financial reporting violations has focused on violations because of fraud and error (Amiram et al., in press; Karpoff, Koester, Lee, & Martin, 2017). For instance, there is considerable evidence that CEOs’ performance-contingent compensation (e.g., stock options) increases financial reporting violations (e.g., Donohue, Reed, & Storrud-Barnes, 2007; Harris & Bromiley, 2007; X. Zhang, Bartol, Smith, Pfarrer, & Khanin, 2008), while directors’ independence reduces financial reporting violations (e.g., Beasley, 1996; Dunn, 2004). However, there is no quantitative research that examined antecedents of financial corruption, specifically. Laboratory research on unethical behavior (e.g., deliberate over-reporting of performance to increase compensation) demonstrates that implications of prior research on financial reporting violations may not extend to financial corruption because of differences in the constructs (see Bazerman & Sezer, 2016).

While past studies have yielded important insights about financial reporting violations, existing theory does not adequately explain violations because of corruption (Ashforth et al., 2008). Numerous theoretical shortcomings in the literature inhibit our understanding of key



mechanisms of corruption in organizations. For instance, empirical analysis of corruption is sparse (Graaf, 2007). Lack of clarity about the corruption construct inhibits empirical application of theory and theoretical development (C. Moore, 2009). Given that corruption has a substantial adverse impact on the integrity of capitalistic economies and economic development, my central research objectives are to understand mechanisms of financial corruption in organizations. Namely, the goal of this study is to build a theory that can adequately explain and predict financial corruption in organizations, as well as offer prescriptive advice for parties interested in preventing financial corruption. I designed the current research to address shortcomings in the literature by following the theory elaboration research approach (i.e., the process of conceptualizing and executing empirical research using preexisting conceptual ideas or a preliminary model as a basis for developing new theoretical insights; Fisher & Aguinis, 2017). Particularly, building on the rational crime theory (Becker, 1968), I develop a theoretical model of antecedents of financial corruption in organizations and use empirical material to search for deviations from predictions of the theoretical model (Alvesson & Kärreman, 2007). To examine predictions of the model, I identified financially corrupt firms by reviewing 2,585 Accounting and Auditing Enforcement Releases (AAERs) issued by the SEC and matched these financially corrupt firms to compliant firms. Prompted by surprising observations, I elaborate the theoretical model by blending it with the process model of corruption in organizations (Ashforth & Anand, 2003).

My study has the potential to make contributions to research on financial corruption in four ways. First, this study builds theory by clarifying and supplementing existing theory. The extant research on financial reporting violations is based on fraud and error. I integrate the rational crime theory (Becker, 1968) and theoretical implications of organizational research on

financial reporting violations because of fraud and error (e.g., Harris & Bromiley, 2007; X. Zhang et al., 2008) and the theoretical implications of laboratory research on unethical behavior (e.g., Gino & Bazerman, 2009) with the process model of corruption in organizations (Ashforth & Anand, 2003) to develop a theoretical model of antecedents of financial corruption in organizations. The resulting theoretical model improves explanatory and predictive capacity of existing theory in application to financial corruption. Second, implications of my study add novel theoretical insights into our knowledge about antecedents of financial corruption. One of my key theoretical implications is that a relation structure that normally applies to financial reporting violations because of fraud and error does not apply to financial reporting violations because of financial corruption. Particularly, antecedents of financial corruption are driven by mechanisms different from those that explain antecedents of fraud and error examined in prior research. Corrupt organizational sub-cultures as a component of the corruption construct (J.-L. Campbell & Göritz, 2014) is a mechanism that alters relationships between antecedents and financial reporting violations in application to financial corruption. The importance of this implication is significant because prior knowledge about antecedents of financial reporting violations does not extend to financial corruption in organizations. Third, implications of this study have scientific utility by offering the continuity that may facilitate communication among researchers. This study clarifies the construct of financial corruption and reveals a nuanced nature of how antecedents of financial reporting violations apply to financial corruption, specifically. This study offers a basis for future directions in extending theoretical knowledge about financial corruption by improving clarity of the financial corruption construct. Finally, I offer recommendations for practitioners based on the theoretical knowledge developed in this study.

## **I. Illustrating Existing Theory**

Becker (1968) offered a theoretical model based on rational choice theory to predict and explain commitment of crime. Becker's model (labeled as the rational crime theory from prior research; Gino, Ayal, & Ariely, 2009) is a prevalent approach to understand economic crimes in organizations (Greve, Palmer, & Pozner, 2010). The rational crime theory provides coherent understanding of causes of corruption in Western countries (Graaf, 2007). The theory views perpetrators as rational individuals who commit the crime because of expected gains from the crime and refrain from committing the crime because of expected costs (i.e., severity of punishment and likelihood of detection and prosecution) from the crime (Becker, 1968). The theory assumes that individuals are rational in such a way that their behavior is forward-looking and consistently optimizes a perceived well-ordered function (e.g., utility or profit function; Becker, 1962, 1993). The explicit use of the rational crime theory by the US Sentencing Commission to develop rules in punishing violators of federal statutes (Becker, 1993) and lawmakers to support enforcement of sanctions (Baer, 2008) demonstrates that the theory has predictive adequacy (cf. Ferraro, Pfeffer, & Sutton, 2005).

Criminal behavior may be rational if individuals perceive financial or other rewards from crime compared to compliance, considering expected costs of crime (Becker, 1993). Perpetrators measure perceived expected costs by the severity of punishment and by the likelihood of detection and prosecution. Becker (1968) treats the likelihood of detection and severity of punishment as mutually interchangeable substitutes. To obtain an optimal level of crime deterrence (i.e., minimize the social loss in income from crimes), social-control agents (i.e., actors who represent a collectivity and can impose sanctions on that collectivity's behalf, e.g., boards of directors, external auditors; Greve et al., 2010) can expand their monitoring efforts in

order to increase the likelihood of detection and prosecution. Otherwise, social-control agents can attain the same level of deterrence by raising the punishment for crime.

The scope of the rational crime theory encompasses a range of phenomena and can be used to study enforcement of all laws, including minimum wage legislation, income tax evasion, and violations of security laws (Becker, 1993). “Calculating” crimes by adults (e.g., theft) are more responsive to changes in the likelihood of detection and severity of punishment than crimes of passion (e.g., rape, murder) or crimes committed by minors (Becker, 1968). Corruption is deterrable because offenders do not commit crime as a way of life and have much to lose because of conviction (e.g., comfortable life, status, and respect; Braithwaite, 1985).

Levels of sanctioning and punishment by social-control agents play a role in managers’ contemplation and commitment of economic crimes (Braithwaite, 1985; Zahra, Priem, & Rasheed, 2005). Managers avoid commitment of violations if they perceive effective monitoring by social-control agents. A wide range of social-control agents, ranging from typical corporate governance actors (e.g., investors, the SEC, external auditors) to non-traditional players (e.g., employees, media, industry regulators) detected alleged fraud in the United States (Dyck et al., 2010). There is evidence that firms are deterred from committing fraud if peer firms in their industries were caught and punished, suggesting that firms’ managers perceived effective monitoring and likely detection and prosecution by social-control agents (Yiu, Xu, & Wan, 2014). Additionally, managers refrain from committing unethical acts if they perceive a high magnitude of adverse consequences (Weber & Wasieleski, 2001a). For instance, the CFO who perpetrated financial corruption in the HealthSouth Corporation recognized the cost to him, withdrew from continuing violations, and became a whistleblower because of the increased punishment under SOX (Armenakis & Lang, 2014).

Corruption may be an economically rational course of action if individuals perceive financial or other rewards from corruption (Becker, 1993; Braithwaite, 1989a). There is evidence that executives have great financial incentives to engage in fraud (Johnson, Ryan, & Tian, 2009) and the strength of the economic inducements increases the likelihood of financial reporting violations because of fraud (Donoher et al., 2007). CEOs' pay packages largely consist of stock-based compensation (e.g., stock options). Stock-based compensation is a double-edged sword that induces CEOs to exert honest effort, as well as to illegally inflate financial performance (Goldman & Slezak, 2006) and manipulate short-term stock prices (Peng & Röell, 2014).

The rational crime theory implies that a certain level of crime will occur at an optimal level of deterrence, considering costs of law enforcement and costs because of crimes (Becker, 1968). A level of crime is expected to occur even when effective crime prevention mechanisms are in place. Becker analyzed changes in the damages from crimes as a function of the likelihood of detection and the severity of punishment. Because of either an increase in the likelihood of detection or the severity of punishment, both the damages and the incidence of crimes decrease. Organizational behavior research noted that financial corruption was mitigated by effective control systems in organizations (Fleming & Zyglidopoulos, 2007). However, Fleming and Zyglidopoulos further added that internal monitoring practices were lax in financially corrupt organizations like Enron Corporation (McLean & Elkind, 2003).

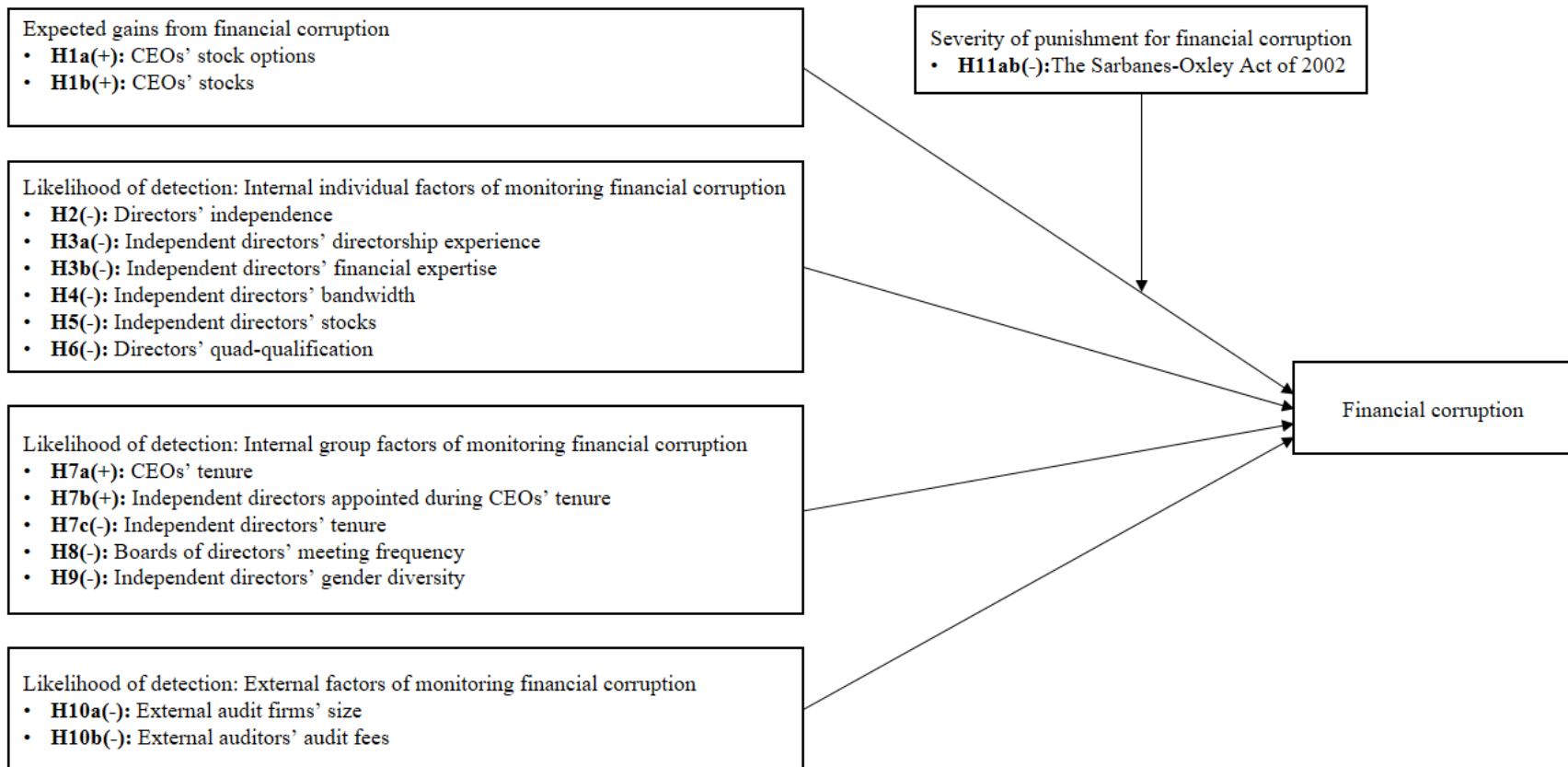
## **II. Conceptualizing the Model of Antecedents of Financial Corruption in Organizations**

Depicted in Figure 1, the theoretical model highlights three categories of variables – expected gains, likelihood of detection, and severity of punishment – that are antecedents of financial corruption. In Figure 1, I also identify sub-categories within the expected gains category (i.e., CEOs’ stock options and CEOs’ stocks), the likelihood of detection category (i.e., internal individual factors of monitoring, internal group factors of monitoring, and external factors of monitoring), and the severity of punishment category (i.e., SOX).

### **Expected Gains from Financial Corruption**

Inducements increase efforts devoted to the achievement of goals tied to the inducements (March & Simon, 1993). Well-defined incentive criteria linked to considerable monetary rewards will influence efforts to meet the criteria. CEOs are motivated by the potential financial gain (Miller & Leiblein, 1996) and their compensation packages largely consist of stocks and stock options (i.e., rights to buy or sell a stock at an agreed-upon price within a certain time period; Hall, 2003). CEOs having substantial numbers of stock options and stocks realize monetary value, depending on the level of firms’ reported financial performance. Values of stock options, as well as stocks are linked to firms’ financial performance. Because behavior is a function of its consequences, CEOs are positively reinforced to increase firms’ financial performance to realize the potential gain (Skinner, 1953).

**Figure 1**



Theoretical Model of Antecedents of Financial Corruption in Organizations

Stock-based compensation is a device to incentivize honest effort, as well as a covert mechanism for self-dealing (Shleifer & Vishny, 1997). Empirical evidence suggests that stock options encourage efforts to increase stock prices (G. Sanders & Carpenter, 2003) and risk-taking that results in more financial losses than gains (W. G. Sanders & Hambrick, 2007). Large performance-contingent monetary rewards create a strong incentive to increase reported financial performance. High-performance goals tied to financial incentives hinder ethical decision-making and motivate people to misrepresent their performance level (Ordóñez, Schweitzer, Galinsky, & Bazerman, 2009; Welsh & Ordóñez, 2014). For instance, in 1999, Joseph Nacchio, a former CEO of Qwest Communications International, Inc., as a part of his compensation package received 9.0 million stock options with potential realizable value of \$408.8 million. The value of stock options was calculated with the assumption that Qwest's common stock appreciated in market value 10% annually and under the condition that stock options could be exercised in four annual installments of 25% beginning in 2000. It appears that Nacchio could achieve the performance goal of increasing Qwest's stock price by 10% because Nacchio exercised 2.2 million stock options, rewarding himself with \$93.5 million in 2000. Subsequently, the SEC alleged that Qwest's financial statements for the 2000 fiscal year were fraudulent. To compare, F. Duane Ackerman, a former CEO of BellSouth Corporation (a compliant firm with size and industry alike to Qwest), received 590 thousand stock options potentially valued at \$6.6 million as a part of his compensation package in 1999. Ackerman did not exercise any stock options during 2000.

Financial corruption is an organization-level phenomenon in which organizational members at the top of the organizational hierarchy (e.g., CEOs) implement, directly or through their subordinates, collective and coordinated corrupt actions (Ashforth & Anand, 2003; Brief et



al., 2001). CEOs are increasingly expected to be and actually are obsessed with shareholder value, money-minded, self-interested, and emotionally detached from their firms (Hambrick, 2005). Namely, CEOs' behaviors provide evidence that the assumption about people as rational self-interest maximizers has empirical validity and can be predicted using economic assumptions and language (see Ferraro et al., 2005). Given that stock-based compensation gives strong incentives for managers to artificially inflate financial performance, corrupt practices may appeal as a means to boost reported financial performance. Thus, I argue that CEOs' stock options and stocks contribute to expected gains from financial corruption (see Figure 1).

Prior research provided evidence that CEOs' performance-contingent incentive compensation was related to product safety problems, as well as financial reporting violations. Particularly, the fraction of CEOs' compensation in stock options was positively associated with the likelihood of product recalls (Wowak, Mannor, & Wowak, 2015). The value of CEOs' stock options was sometimes related to a lower incidence and sometimes to a higher incidence of financial restatements because of fraud, depending on whether the CEO was a board of directors' chair and whether directors also held stock options (O'Connor, Priem, Coombs, & Gilley, 2006). Other studies found evidence to support the main effect of the positive influence of CEOs' incentive compensation on financial reporting violations. In particular, the fraction of CEOs' compensation in stock options (Harris & Bromiley, 2007) and the number of options held by CEOs (Efendi, Srivastava, & Swanson, 2007; X. Zhang et al., 2008) positively influenced the likelihood of financial restatements because of violations<sup>1</sup>. Additionally, the proportion of CEOs' compensation in stock options and bonuses positively related to financial restatements because of fraud (Donoher et al., 2007).

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<sup>1</sup> The extant research used mixed samples that contained financial restatements because of both fraud and error.

There is also evidence showing that in addition to CEOs' stock options, CEOs' stocks also influence financial reporting violations. Particularly, CEOs' stocks negatively related to financial restatements because of violations (X. Zhang et al., 2008). Additionally, CEOs' stocks were positively associated with financial restatements because of fraud (Donoher et al., 2007). Because CEOs' stock options and stocks were positively associated with fraud, I posited the following hypotheses:

*Hypothesis 1a:* CEOs' stock options will positively relate to financial corruption.

*Hypothesis 1b:* CEOs' stocks will positively relate to financial corruption.

### **Likelihood of Detection of Financial Corruption**

An important factor in the choice of whether to engage in financial corruption is the likelihood of detection (Becker, 1968). Both internal social-control agents (ISCAs), e.g., boards of directors, and external social-control agents (ESCAs), e.g., external auditors, increase the perceived likelihood of detection of financial corruption.

**Internal individual factors of monitoring financial corruption.** The likelihood of detection of financial corruption is a function of monitoring (i.e., diligence in areas of potential organizational problems; Hambrick, Misangyi, & Park, 2015) by internal social-control agents. Boards of directors are internal social-control agents who can increase the likelihood of detection of financial corruption in organizations. Directors' monitoring can be deemed effective if it approximates the degree of monitoring by large and impartial shareholders, assuming these would serve on boards of directors (Hambrick et al., 2015). Monitoring managers on behalf of shareholders is a legally designated function and responsibility of directors (Hillman & Dalziel, 2003). Directors' vigilance is crucial because they are the front line of defense for protecting interests of shareholders in the face of unprincipled CEOs (Hambrick et al., 2015). Directors'

monitoring plays an indispensable role in corporate governance, resulting in high firms' profits (Misangyi & Acharya, 2014). For instance, Dyck et al. (2010) argued that boards of directors were effective in detecting fraud, finding that at least 34% of the fraud detections were due to the monitoring function of ISCAs. In this study, I investigate six factors that have been shown to enhance directors' monitoring: (a) directors' independence, (b) independent directors' directorship experience, (c) independent directors' financial expertise, (d) independent directors' bandwidth, (e) independent directors' stocks, and (f) directors' quad-qualification (see Figure 1).

***Directors' independence.*** Independent boards of directors were argued to be ISCAs who effectively monitored managers of publicly owned companies (Jensen & Meckling, 1976). Directors' independence provides the ability to evaluate managers and their policies objectively, and to genuinely question or dissent from CEOs' objectionable initiatives (Hambrick et al., 2015). In contrast, directors who (a) are executives and hierarchically report to CEOs or (b) have family or professional ties with firms or their managers (e.g., bankers, lawyers, consultants) are likely to be susceptible to undue influence from CEOs (Brief et al., 2001) and concerned about maintaining harmonious relationships with them, thus, limiting their monitoring function (Hambrick et al., 2015).

Managers can neutralize monitoring by non-independent directors (e.g., employed by firms). Formal authority is the essential mechanism through which managers influence subordinates to engage in corruption (Brief et al., 2001). Formal authority allows managers to initiate actions by giving them the right to expect compliance by subordinates. Managers can use legitimating influence tactics (i.e., establishing legitimacy of requests by referring to rules or formal policies) to convert their formal authority into behaviors. For instance, managers issue directives to subordinates to engage in corrupt practices by framing situations in ways that

subordinates focus on fulfillment of role requirements without reasoning about the moral nature of these directives. Accordingly, subordinates comply with managers' directives backed by formal authority because subordinates acknowledge legitimacy of position power to influence. CEOs can use their formal authority as a mechanism to influence non-independent directors to engage in corruption. The importance of independent directors in influencing the effectiveness of monitoring was emphasized by SOX's independence requirements (Linck, Netter, & Yang, 2009), as well as New York Stock Exchange and NASDAQ's stipulations for audit committees to have at least three independent directors (Klein, 2002b). Thus, directors' independence contributes to the likelihood of financial corruption detection.

Prior research captured directors' independence by focusing on distinctions articulated by the SEC. The SEC requires disclosure of close personal and professional affiliations with a focal firm or its managers (e.g., employment by the firm, provision of professional services to the firm). There is evidence that affiliated (i.e., non-independent) directors have been associated with negative organizational outcomes. For instance, bankrupt firms had a higher percentage of affiliated directors, indicating weak monitoring by these directors (Daily & Dalton, 1994). There is evidence of a negative association between audit committees' independence with aggressive accounting practices (Be´dard, Chtourou, & Courteau, 2004; Klein, 2002a). Additionally, independent directors have been negatively associated with fraudulent financial reporting (Beasley, 1996; Dunn, 2004). Because independent directors have been negatively associated with fraudulent financial reporting, I posit the following hypothesis:

***Hypothesis 2:*** Directors' independence will negatively relate to financial corruption.

***Independent directors' directorship experience.*** To effectively monitor, independent directors require expertise in a given problem area (i.e., in-depth knowledge and understanding

of the domain being monitored; Hambrick et al., 2015). Directors can ask the substantive questions or understand the answers about complex issues only if they have the ability to comprehend impending issues. Such expertise can be developed by (a) learning pertinent lessons in prior directorships or (b) having relevant professional working experience (Carpenter & Westphal, 2001; Hillman & Dalziel, 2003).

Directors' expertise obtained through prior directorships is likely to increase effectiveness at monitoring CEOs' initiatives (Hillman & Dalziel, 2003). Directors having prior experience in a problem area facing firms (e.g., financial reporting violations) or relevant expertise to understand the issue (e.g., financial expertise) have been more effective monitors (Carpenter & Westphal, 2001). Thus, directors' expertise developed by learning relevant lessons in prior directorships contributes to the likelihood of financial corruption detection.

Empirical research provided evidence that the number of directorships held by directors was linked to organizational outcomes. For instance, the number of directors' directorships held by independent directors was positively associated with the rate of sales growth (Kor & Sundaramurthy, 2009). Also, the number of directorships held by directors decreased the likelihood of firms being prosecuted for violating environmental laws (Kassinis & Vafeas, 2002). Moreover, the number of directorships held by independent audit committee members negatively related to aggressive accounting practices (Be´dard et al., 2004). Because independent directors' directorship experience has been negatively associated with aggressive accounting practices, I assumed the following hypothesis:

***Hypothesis 3a:*** Independent directors' directorship experience will negatively relate to financial corruption.

***Independent directors' financial expertise.*** Financial expertise (i.e., understanding of generally accepted accounting principles and financial statements; Burak Güner, Malmendier, &

Tate, 2008) is especially important to prevent financial reporting violations because these violations can be detected by careful review of financial statements and practices (Hambrick et al., 2015). SOX's stipulations asserted the importance of financial expertise by requiring public companies to disclose whether audit committees included directors with financial expertise (Linck et al., 2009). Thus, directors' financial expertise contributes to the likelihood of financial corruption detection.

Prior research provided evidence that independent directors with financial expertise influenced several organizational outcomes. Directors with financial expertise reduced levels of acquisition activity (Jensen & Zajac, 2004). Audit committees having independent directors with financial expertise reduced aggressive accounting practices (Xie, Davidson, & DaDalt, 2003), as well as financial restatements because of violations (Agrawal & Chadha, 2005). Because independent directors' financial expertise has been negatively associated with financial restatements because of violations, I posited the following hypothesis:

***Hypothesis 3b:*** Independent directors' financial expertise will negatively relate to financial corruption.

***Independent directors' bandwidth.*** Directors are likely to be effective in monitoring only if they have sufficient bandwidth (i.e., ability to devote the requisite time, attention, and energy) to be effective monitors (Hambrick et al., 2015). Directors are constrained in their ability to process large amounts of complex information, creating barriers to effective information processing (Boivie, Bednar, Aguilera, & Andrus, 2016). The number of directorships can reduce directors' attention and commitment to a given directorship (Ferris, Jagannathan, & Pritchard, 2003). Additionally, most directors are employed full-time, and the bandwidth they devote to a given directorship is limited by these outside demands (Boivie et al., 2016). The amount and nature of directors' outside demands reduce directors' bandwidth, as well as their ability to

monitor effectively on behalf of shareholders. Thus, independent directors' bandwidth contributes to the likelihood of financial corruption detection.

Prior research provided evidence that independent directors' bandwidth was associated with organizational outcomes. There is evidence that high levels of boards of directors' bandwidth were positively associated with firm performance (Cashman, Gillan, & Jun, 2012), while busy boards of directors were associated with weak corporate governance (Fich & Shivdasani, 2006). Busy boards of directors were related to low effectiveness of monitoring and detrimental to shareholder value (Falato, Kadyrzhanova, & Lel, 2014). Independent directors' bandwidth decreased the likelihood of fraudulent financial reporting (Beasley, 1996). Because independent directors' bandwidth has been negatively associated with fraudulent financial reporting, I postulated the following hypothesis:

***Hypothesis 4:*** Independent directors' bandwidth will negatively relate to financial corruption.

***Independent directors' stocks.*** To undertake effective monitoring, directors should be adequately motivated to exert effort (Hambrick et al., 2015). Stocks motivate directors to be diligent in their monitoring duties (Elson, 1994). Particularly, a significant financial involvement in companies is a strong incentive for directors to monitor effectively (Hambrick et al., 2015). Directors may psychologically identify with shareholders, leading to effective monitoring (Hillman, Nicholson, & Shropshire, 2008). Independent directors' stocks of companies will motivate directors to act on the shareholders' behalf (Jensen, 1993) because it reinforces their identification with shareholders (Hillman et al., 2008). Thus, independent directors' stocks contribute to the likelihood of financial corruption detection.

Prior research provided evidence that independent directors' stocks were associated with organizational outcomes. Independent directors' stocks were positively related to future firm

performance, suggesting that stocks motivated directors to be effective monitors (Bhagat & Tookes, 2012). Independent directors' stocks were positively associated with layoffs of underperforming CEOs (Hoskisson, Johnson, & Moesel, 1994), superior outcomes of corporate acquisitions (Kroll, Walters, & Wright, 2008), and corporate disclosure quality (Sengupta & Zhang, 2015). Independent directors' stocks are negatively related to fraudulent financial reporting (Beasley, 1996). Because independent directors' stocks have been negatively associated with fraudulent financial reporting, I posited the following hypothesis:

*Hypothesis 5:* Independent directors' stocks will negatively relate to financial corruption.

*Directors' quad-qualification (i.e., comprises directors' independence, directorship experience, financial expertise, bandwidth, and stocks' qualities).* Prior studies of directors' monitoring, although prudently motivated and competently implemented, has been overly fragmentary and inconclusive and proposed solutions that were not effective to resolve corporate governance problems (Hambrick et al., 2015). To address this shortcoming, Hambrick et al. proposed a model for predicting directors' effective monitoring of corporate governance failures. Relying on the proposition that performance is the joint function of ability and motivation (Heider, 2013), Hambrick et al. suggested that effective monitoring might be achieved only when directors had levels of both ability and motivation above a threshold level. Namely, if either ability or motivation is below a minimum level, the level of monitoring may be low. Directors may have ability in three ways: (a) ability to be dispassionate (i.e., independence), (b) ability to understand a problem area (i.e., directorship experience and financial expertise), and (c) ability to devote time and effort (i.e., bandwidth). To be effective monitors of financial corruption, directors may need to have these three elements of ability, as well as motivation above some threshold levels. Thus, directors' quad-qualification contributes to the likelihood of financial



corruption detection. Because directors' quad-qualification was argued to associate with directors' effective monitoring of corporate governance failures, I posited the following hypothesis:

***Hypothesis 6:*** Directors' quad-qualification will negatively relate to financial corruption.

**Internal group factors of monitoring financial corruption.** There is evidence that the effectiveness of directors' monitoring is constrained by a number of factors, arising at the group level (see Boivie et al., 2016). In this study, I focus on four factors that influence the independent directors' monitoring function: (a) CEOs' tenure and the power balance between CEOs and directors, (b) independent directors' tenure (c) boards of directors' meeting frequency, and (d) independent directors' gender diversity (see Figure 1).

***CEOs' tenure and CEOs/directors power balance.*** The balance of power between CEOs and directors has direct influence on corporate governance. Finkelstein (1992) demonstrated that CEOs' tenure was positively associated with CEOs' power. Prior research indicated that CEOs who were powerful relative to directors were able to reduce effectiveness of directors' monitoring (see Boivie et al., 2016), while many directors had their power too limited to effectively fulfill their monitoring function (Lorsch & Maciver, 1989). CEOs with greater power are able to direct and control agendas of directors' board meetings (J. T. Campbell, Campbell, Sirmon, Bierman, & Tuggle, 2012), reducing effectiveness of directors' monitoring. Thus, the balance of power between CEOs and directors contributes to the likelihood of financial corruption detection.

Prior research provided evidence CEOs' power and tenure were associated with organizational outcomes. CEOs having high levels of power recruited directors who were demographically similar to them (Westphal & Zajac, 1995). Meta-analytical evidence indicated

that CEOs having higher levels of power received higher levels of compensation (Essen, Otten, & Carberry, 2015). More powerful CEOs were more likely to recruit directors with ties to the CEOs, leading to more value-destroying acquisitions and reduced effectiveness of monitoring by directors (Fracassi & Tate, 2012). There is evidence that long-tenured CEOs experienced less monitoring by boards of directors (Cook & Burrell, 2013) and were positively associated with financial restatements because of violations (X. Zhang et al., 2008).

Independent directors who are appointed by CEOs are more obedient and feel an obligation to comply with CEOs' proposals, leading to their lower effectiveness of monitoring (Boivie et al., 2016). For instance, CEOs who appointed directors were more likely to get golden parachutes (Wade, O'Reilly, & Chandratat, 1990). Additionally, independent directors recruited during CEOs' tenure might be beholden to the CEOs, increasing the likelihood of committing fraud and decreasing the likelihood of detection (Khanna, Kim, & Lu, 2015). In contrast, directors having high levels of power recruited directors who were demographically like them (Westphal & Zajac, 1995). Because CEOs' tenure was positively associated with financial restatements because of violations, while independent directors appointed during CEOs' tenure were linked to increased likelihood of fraud, I assumed the following hypotheses:

***Hypothesis 7a:*** CEOs' tenure will positively relate to financial corruption.

***Hypothesis 7b:*** Independent directors appointed during CEOs' tenure will positively relate to financial corruption.

***Independent directors' tenure.*** Directors' power has a positive effect on effectiveness of directors' monitoring (Boivie et al., 2016). Longer tenure increases directors' power in firms, leading to higher levels of effectiveness of directors' monitoring (Donoher et al., 2007). Higher power creates a capacity for directors to (a) dismiss CEOs during performance downturns (Boeker, 1992), (b) exercise their preference in CEOs' hiring (Zajac & Westphal, 1996), and (c)

influence strategic changes in organizations (Golden & Zajac, 2001). Powerful directors were associated with high financial performance (Pearce & Zahra, 1991). Tenure of independent audit committee members decreased aggressive accounting practices (Be´dard et al., 2004).

Independent directors’ tenure was negatively associated with fraud (Beasley, 1996; Donohoe et al., 2007). Because independent directors’ tenure was negatively associated with fraud, I posited the following hypothesis:

***Hypothesis 7c:*** Independent directors’ tenure will negatively relate to financial corruption.

***Boards of directors’ meeting frequency.*** Regular meetings increase the likelihood that directors are informed and knowledgeable about relevant accounting and auditing matters (Raghunandan, Read, & Rama, 2001). Boards of directors that meet frequently are likely to be cohesive as a decision-making body, leading to higher effectiveness of monitoring (Boivie et al., 2016). Meeting frequency is also an indicator of effectiveness of audit committees’ monitoring (Carcello, Hermanson, Neal, & Riley, 2002; Linck et al., 2009; Menon & Deahl Williams, 1994). Thus, boards of directors’ meeting frequency contribute to the likelihood of financial corruption detection.

Prior research provided evidence that boards of directors’ and audit committees’ meeting frequency was positively associated with reducing negative organizational outcomes.

Particularly, there is evidence that the number of meetings was negatively associated with earnings management (Xie et al., 2003), white-collar crimes (Schnatterly, 2003), financial restatements because of violations (O’Connor et al., 2006), and fraudulent financial reporting (Beasley, Carcello, Hermanson, & Lapidus, 2000). Because boards of directors’ meeting frequency was negatively associated with fraudulent financial reporting, I postulated the following hypothesis:

**Hypothesis 8:** Boards of directors' meeting frequency will negatively relate to financial corruption.

**Independent directors' gender diversity.** Gender diversity increases effectiveness of directors' monitoring. Prior research indicated that gender diversity influenced ethical decision making (Sundén & Surette, 1998). Women were found to have consistently different ethical evaluations, intentions, and orientation than men (Cohen & Pant, 1998). Gender differences in ethical sensitivity exist because men and women learn different sex roles and values that form different personalities in their childhood (Dawson, 1997). In turn, these personalities' differences influence psychological and cognitive processes, as well as behaviors of people. For instance, women have been found to be less aggressive and less likely to harm others (Radtke, 2000), as well as more ethical in their decision making than men (Roxas & Stoneback, 2004). In the boards of directors settings, Adams and Ferreira (2009) provided evidence that (a) women attended directors' meetings more often, (b) men missed less meetings in more gender-diverse boards of directors, and (c) women joined more monitoring committees. Thus, independent directors' gender diversity contributes to the likelihood of financial corruption detection.

Prior research linked independent directors' gender diversity to organizational outcomes. There is evidence that gender diversity was associated with higher firms' financial performance (Carter, Simkins, & Simpson, 2003; Erhardt, Werbel, & Shrader, 2003). Additionally, boards of directors with higher gender diversity reduced the frequency and the severity of fraudulent financial reporting (Cumming, Leung, & Rui, 2015). Because independent directors' gender diversity was negatively associated with fraudulent financial reporting, I assumed the following hypothesis:

**Hypothesis 9:** Independent directors' gender diversity will negatively relate to financial corruption.

**External factors of monitoring financial corruption.** In addition to ISCAAs, recent conceptual research emphasized the need to consider the role of external social-control agents (ESCAAs) in governing managers (Aguilera, Desender, Bednar, & Lee, 2015). In this study, I focus on two factors that were associated with effective corporate governance practices: (a) external auditors and (b) SOX (see Figure 1).

**External auditors.** External auditors play an essential role in corporate governance, notably in the area of financial information disclosure (Aguilera et al., 2015). External auditors are the main protection for investors and stockholders against false financial reports (Clinard & Yeager, 2011). The role of external auditors is to ascertain that financial statements adhere to relevant accounting standards and are free from material financial reporting violations. External auditors increase transparency of financial performance and reduce asymmetry of information between firm insiders and all other stakeholders, limiting managers' ability to falsify financial information and obtain undeserved financial gains. There is evidence indicating that external auditors are sensitive to firms' governance structure and play a complementary role in monitoring managers. In particular, external auditors increased planned audit efforts when the board of directors was weak in monitoring (Cohen, Krishnamoorthy, & Wright, 2007). Additionally, SOX emphasized the importance of independent external auditors as a key mechanism to prevent fraud and corruption (Aguilera et al., 2015). Thus, monitoring by external auditors contributes to the likelihood of financial corruption detection.

Two external auditors' qualities have been extensively investigated: (a) the size of the external audit firm and (b) the level and nature of external audit fees (Hay, Knechel, & Wong, 2006). Aguilera et al. (2015) argued that Big N auditors (larger audit firms were labeled as Big N because the number of big auditor firms in the US decreased from eight to four, starting in 1989)

were more effective monitors because of three reasons. First, Big N auditors have stronger incentives to provide more diligent audits because of higher reputational capital, higher litigation risk, and greater scrutiny by regulators. Second, Big N auditors may be more competent because of their ability to attract quality human resources. Finally, Big N auditors are less financially dependent on a given client because of a larger customer base. Empirical evidence indicated that Big N auditors were associated with more effective monitoring. Particularly, Big N auditors were associated with a lower likelihood of financial restatements because of financial reporting violations (Francis, Michas, & Yu, 2013) and fraudulent financial reporting (Lennox & Pittman, 2010).

Higher audit fees reflect higher auditor effort, leading to more effective monitoring (Aguilera et al., 2015). The SEC required the disclosure of audit fees in annual proxy statements filed on or after February 5, 2001 (Abbott, Parker, Peters, & Raghunandan, 2003). Empirical evidence showed that audit fees were positively related to independence and expertise of directors serving on audit committees (Abbott et al., 2003), as well as boards of directors' independence, diligence, and expertise (Carcello et al., 2002), while negatively related to financial restatements because of violations (Blankley, Hurtt, & MacGregor, 2012). Because the audit firms' size was negatively associated with fraudulent financial reporting, while auditing fees were negatively associated with financial restatements because of violations, I presupposed the following hypotheses:

***Hypothesis 10a:*** External audit firms' size will negatively relate to financial corruption.

***Hypothesis 10b:*** External auditors' audit fees will negatively relate to financial corruption.

## **Severity of Punishment for Financial Corruption**

An important factor in the choice of whether to engage in financial corruption is the severity of punishment. SOX increases the severity of punishment for financial corruption.

**SOX.** Levels of sanctioning by social-control agents play a role in managers' contemplation and commitment of economic crimes (Zahra et al., 2005). Low levels of sanctioning by social-control agents and high rewards suggest that financial corruption can be an economically rational course of action (Braithwaite, 1989b). Managers avoid commitment of violations if they perceive effective monitoring by social-control agents. A wide range of social-control agents (e.g., investors, the SEC, external auditors, employees, media, industry regulators) detected alleged fraud in the United States (Dyck et al., 2010). There is evidence that firms were deterred from committing fraud if peer firms in their industries were caught and punished, suggesting that firms' managers perceived effective monitoring and likely detection and prosecution by social-control agents (Yiu et al., 2014). Additionally, managers refrain from committing unethical acts if they perceive a high magnitude of adverse consequences (Weber & Wasieleski, 2001b). For instance, the CFO who perpetrated financial corruption in the HealthSouth Corporation recognized the cost to him, withdrew from continuing violations, and became a whistleblower because of the increased punishment under SOX (Armenakis & Lang, 2014).

SOX decreased expected rewards realized from falsification of financial reports and increased the expected likelihood of detection and prosecution. CEOs and CFOs are required to pay back performance-contingent incentive compensation received as a result of violations in financial reporting after SOX was enacted (Rockness & Rockness, 2005). SOX increased the likelihood of detection by strengthening effectiveness of monitoring by audit committees and

external auditors (Nelson, 2006). The Act enhanced the enforcement ability of DOJ prosecutors and SEC regulators. Particularly, the Act lowered the burden of proof required to establish criminality at trial, eliminated the defenses of lack of knowledge or good faith by requiring senior managers to certify accuracy of financial reports, and strengthened protection for whistleblowers who provided evidence of violations in financial reports (Moohr, 2003). Furthermore, Moohr reports the increase in the severity of punishment is the major mechanism of the criminal law under SOX to reduce both the magnitude and the incidence of falsification in financial reporting; the maximum severity of punishment under SOX is comparable to penalties for attempted murder, torture, and sexual abuse of minors; the Act increased the maximum penalties for mail and wire fraud from five to 20 years in prison; conspiracy to commit such fraud increased at least four times and carries a penalty of 25 years in prison; the maximum penalty for fraud involving pensions increased 10 times, from the maximum of one year to 10 years in prison; and, the maximum prison term for obstruction of justice increased from 10 to 20 years. SOX applies to all management personnel that can influence the adequacy and accuracy of financial reports (e.g., CEO, CFO, board of directors, and audit committee; Rockness & Rockness, 2005). Executives who willfully certify falsified financial statements are subject to a maximum fine of \$5 million dollars and 20 years in prison (Moohr, 2003). To satisfy SOX requirements, the US Sentencing Commission updated sentencing guidelines by increasing maximum sentences and stipulating longer sentences for larger magnitudes of criminal behaviors (Rockness & Rockness, 2005). Thus, SOX detracts from expected gains from financial corruption and contributes to the expected likelihood of detection and prosecution of financial corruption, as well as expected severity of punishment for financial corruption.



The rational crime theory implies that a certain level of crime occurs at an optimal level of deterrence (Becker, 1968). A level of crime is expected to occur even when effective crime prevention mechanisms are in place. Because SOX weakened expected gains from financial corruption and strengthened the expected likelihood of detection and prosecution, as well as expected severity of punishment under SOX, I expect CEOs' expected gains from financial corruption to be less meaningful in predicting financial corruption after SOX. Thus, I posited the following hypotheses:

***Hypothesis 11a:*** SOX will negatively moderate the relationship between CEOs' stock options and financial corruption.

***Hypothesis 11b:*** SOX will negatively moderate the relationship between CEOs' stocks and financial corruption.

### **III. Research Methodology**

Following the reasoning of Leavitt, Mitchell, and Peterson (2010), I employed a research methodology similar to the one that is prevalent in research investigating financial reporting violations (e.g., X. Zhang et al., 2008) to reduce complexity and ambiguity in attributing causal relationships and to make findings of this study comparable to prior research. Particularly, I used a matched-pairs sample study design, compatible variable measurement, and binomial logistic regression for testing hypotheses.

#### **Sample Selection**

I identified firms involved in financial corruption by restricting my selection specifically to firms (a) located in the US; (b) involved in fraudulent financial reporting in violation of Section 10(b)-5 of the 1934 US Securities and Exchange Act or Section 17(a) of the 1933 Securities Act and Section 13(b)(2)(a), Section 13(b)(2)(b), or Section 13(b)(5) of the 1934 US Securities Exchange Act (see Table 1); (c) had been assigned penalties or sanctions; and (d) had fraudulently reported financial results for at least two consecutive fiscal years because of a related set of violations. For example, in the case of Atlanta-based Beazer Homes, USA, Inc. mentioned earlier, three senior managers were charged with committing fraud in Beazer's financial reports and were assigned penalties by the SEC and the DOJ. Consequently, Beazer restated fraudulent 10-K reports for fiscal years from 2003 through 2006 in the 10-K report filed with the SEC on May 12, 2008.

**Table 1****US Legislation Prohibiting Fraudulent Financial Reporting**

<b>Legislation</b>	<b>Section</b>	<b>Content</b>
1934 US Securities Exchange Act	10(b)-5	It shall be unlawful for any person, directly or indirectly, by the use of any means or instrumentality of interstate commerce, or of the mails or of any facility of any national securities exchange, (a) to employ any device, scheme, or artifice to defraud, (b) to make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or (c) to engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security.
1933 US Securities Act	17(a)	It shall be unlawful for any person in the offer or sale of any securities (including security-based swaps) or any security-based swap agreement by the use of any means or instruments of transportation or communication in interstate commerce or by use of the mails, directly or indirectly (a) to employ any device, scheme, or artifice to defraud, or (b) to obtain money or property by means of any untrue statement of a material fact or any omission to state a material fact necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading; or (c) to engage in any transaction, practice, or course of business which operates or would operate as a fraud or deceit upon the purchaser.
1934 US Securities Exchange Act	13(b)(2)(a)	Every issuer which has a class of securities registered and every issuer which is required to file reports shall make and keep books, records, and accounts, which, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the issuer.
1934 US Securities Exchange Act	13(b)(2)(b)	Every issuer which has a class of securities registered and every issuer which is required to file reports shall devise and maintain a system of internal accounting controls sufficient to provide reasonable assurances that (a) transactions are executed in accordance with management's general or specific authorization; (b) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles or any other criteria applicable to such statements, and to maintain accountability for assets; (c) access to assets is permitted only in accordance with management's general or specific authorization; and (d) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences.
1934 US Securities Exchange Act	13(b)(5)	No person shall knowingly circumvent or knowingly fail to implement a system of internal accounting controls or knowingly falsify any book, record, or account described in Section 13(b)(2)(a) and Section 13(b)(2)(b) of the 1934 US Securities Exchange Act.

I used my sample selection criteria for several reasons. First, I excluded non-US-based companies to avoid any differences in financial reporting requirements (Pfarrer, Decelles, Smith, & Taylor, 2008). Second, based on Karpoff, Koester, Lee, and Martin's (2017) reasoning, I considered financial reporting in violation of Section 13(b)(2)(a), Section 13(b)(2)(b), or Section 13(b)(5) of the 1934 US Securities Exchange Act as fraudulent if the SEC or the DOJ alleged the violation of Section 10(b)-5 of the 1934 US Securities and Exchange Act for manipulative and deceptive devices in connection with the purchase or sale of any security or Section 17(a) of the 1933 Securities Act for fraudulent interstate transactions with respect to the offer or sale of any security (see Table 1). To sue under these regulations, the SEC and the DOJ must establish some form of "scienter" (intent to deceive, manipulate, or defraud; Buell, 2011) on behalf of the defendants. Scienter can be observed from communications and behaviors of perpetrators in organizations (Sherman, 1980). To ensure that the sample included only fraudulent financial reporting, I used only cases involving Section 10(b)-5 or Section 17(a) violations by firms or their employees. Third, to ensure the SEC and the DOJ did not dismiss allegations of fraud, I chose only cases, in which firms or employees were assigned penalties or sanctions. Finally, to ensure my sample contained only cases of financial corruption, I used only cases that restated fraudulently reported financial results for at least two consecutive fiscal years because of a related set of violations. Thus, I consider my sample of firms that falsified financial reports as financially corrupt.

### **Data Collection Procedures**

To identify financial corruption cases, I collected data from the series of AAERs. The SEC issues AAERs during or at the completion of enforcement actions against a public company, an auditor, or an officer for alleged auditing or accounting offenses. These releases

contain descriptions of the nature of the offense, effect on financial statements, and the people, as well as firms involved.

Three other sources also identified cases of financial reporting violations, namely, the US Government Accountability Office (GAO) database of restatement events, Audit Analytics (AA), and the Securities Class Action Clearinghouse (SCAC). I focused on using the series of AAERs as a source for identifying financial corruption rather than other sources because the AAER database has several advantages over the three alternative databases. First, AAERs includes cases of financial reporting violations that are associated only with criminal intent or gross negligence, while the GAO and AA databases included a large number of economically insignificant restatements (Karpoff et al., 2017). The SCAC database contained securities class action lawsuits that were allegations of fraud with no clear evidence supporting the allegations and were likely to be frivolous (Amiram et al., in press). Second, in contrast to the other databases, the AAER database was not subject to omitted cases due to the coverage period and provided sufficient data to accurately categorize and interpret financial violations (Karpoff et al., 2017). GAO, AA, and SCAC did not provide sufficient data to accurately categorize and interpret violations (Karpoff et al., 2017). Therefore, the AAER database was more useful to researchers who wished to (a) avoid type one error (i.e., false positive error), which involved classifying compliant firms as financially corrupt, (b) investigate cases covering an extended period, and (c) increase statistical power of their research design because of accurate classification of violations.

I retrieved copies of 2,585 AAERs from the SEC Website ([sec.gov/divisions/enforce/friactions.shtml](http://sec.gov/divisions/enforce/friactions.shtml); see Table 2). The SEC lists the AAERs chronologically based on the progress of investigations. Although the SEC started issuing AAERs on May 17, 1982, the SEC Website reports that the earliest AAER available was issued on October 18, 1999 (AAER 1190; see <https://www.sec.gov/divisions/enforce/friactions/friactions1999.shtml>). I retrieved all AAERs that were issued in the period between October 18, 1999 and December 29, 2016. I reviewed AAERs to identify the name of the firm, nature of the offense, period of the violation, and penalties and sanctions assigned. Some AAERs referred to violations committed solely by auditors and other agents or left names of firms involved in violations unidentified. I could not determine violations committed by firms or firm names in 251 AAERs representing 9.7% of all 2,585 AAERs reviewed.

I complemented the data available from the SEC's Website through reviewing the DOJ's Corporate Fraud Task Force list of significant criminal cases and charging documents (see [justice.gov/archive/dag/cftf/cases.htm](http://justice.gov/archive/dag/cftf/cases.htm)) and Internet searches using Google's Web search engine. I used names of firms and employees accused of violations in combination with "fraud," "restatement," "conspiracy," "guilty," "indictment," "sentence," "penalty," "FBI," and "DOJ" as search keywords. News releases, reports from the FBI and the DOJ furnished me with additional data on enforcement outcomes.

**Table 2**  
**Number of Distinct Cases of Financial Corruption in US Firms<sup>1</sup>**

Number of distinct cases of violations observed in the AAERs <sup>2</sup>	Number
Cases of violations identified in AAERs	823
Less: Cases unrelated to financial reporting violations (e. g., bribes)	<u>124</u>
Cases of financial reporting violations	699
Less: Cases of financial reporting violations because of error	<u>114</u>
Cases of fraudulent financial reporting	585
Less: Cases of fraud in non-US-based firms	<u>55</u>
Cases of fraud in US firms	530
Less: Cases of fraud with dismissed charges	<u>5</u>
Cases of fraud in US firms that were assigned penalties or sanctions	525
Less: Cases of fraud, involving violations for less than two fiscal years	<u>232</u>
Cases of financial corruption in US firms	293
Less: Cases of financial corruption without proxy statements	<u>122</u>
Cases of financial corruption in US firms, which provided proxy statements	171
Less: Cases of financial corruption in US firms without matched firms	<u>7</u>
Cases of financial corruption in US firms, which provided proxy statements and had matched firms	164

<sup>1</sup> 823 cases of violations were reported in 2,585 AAERs.

<sup>2</sup> AAER = Accounting and Auditing Enforcement Releases.

I searched for information on independent variables in the firms' forms filed with the SEC using the Electronic Data Gathering, Analysis, and Retrieval system (EDGAR). Although prior research primarily employed COMPUSTAT's databases to retrieve coded information contained in the SEC filings, empirical evidence suggests these databases contain inaccurate information that can lead to misleading conclusions (Gillan, Hartzell, Koch, & Starks, 2018). Therefore, I hand-collected original information contained in DEF 14A forms (aka annual proxy statements) that were statements filed with the SEC in the event firms solicited shareholder votes. Proxy statements contained information about directors', CEOs', and external auditors' characteristics like compensation, demographic attributes, audit committees' composition, and auditing fees.

I identified 823 cases of violations, which involved alleged financial reporting violations because of financial corruption, fraud, and error, and violations unrelated to financial reporting (see Table 2). Among the 823 cases of violations, 530 did not meet my criteria for sample inclusion because of one or more of the following reasons: (a) unrelated to financial reporting violations; (b) involved financial reporting violations because of error; (c) involved non-US-based firms; (d) charges of fraud were dismissed; or (e) involved violations because of fraud for less than two fiscal years. Thus, I identified 293 financial corruption cases which met my selection criteria. I excluded 122 firms because I could not find proxy statements issued before violations occurred. In many such firms proxy statements were not available because violations occurred before May 6, 1996 when the SEC (2010) required public domestic companies to make their filings on EDGAR or violations occurred during years of initial public offerings. Additionally, I excluded seven firms because I could not locate matched firms. Some financially corrupt firms differed substantially in organizational size from compliant firms in a given



industry (e.g., General Electric Corporation) or many firms in a given industry were financially corrupt (e.g., health services). Therefore, the final sample of financially corrupt firms amounted to 164.

### **Matched-Pairs Sample Study Design**

This study employed a matched-pairs sample study design of companies involved in financial corruption and a comparison sample of companies that were compliant. The matched-pairs sample study design is used in studies of infrequent phenomena and functions as a quasi-experiment that reduces the need for control variables (cf. Harris & Bromiley, 2007), controls for potential endogeneity (cf. Gomulya & Mishina, 2017), and strengthens causal inference while maintaining internal and external validity (Grant & Wall, 2009). Following prior research on financial reporting violations (e.g., Gomulya & Mishina, 2017), I used COMPUSTAT's Fundamentals Annual Database (see [wrds-web.wharton.upenn.edu](http://wrds-web.wharton.upenn.edu)) to identify companies matched on (a) the same industry, measured by the four-digit Standard Industrial Classification code, (b) similar organizational size, measured by total assets at the end of the fiscal year before violations, (c) the same financial reporting requirements, limiting our sample to firms incorporated in the US, and (d) the same time period, measured by fiscal year. To ensure equivalency in organizational size, I chose matching firms with total assets closest to that of paired financially corrupt firms. To check the equivalency of the matched pairs, I tested the similarity of the two groups in terms of total assets, revenue, and net income, finding no statistically significant difference between the groups on any of these dimensions. I ensured that each matched company was itself not the subject of an AAER or otherwise accused of financial violations.

Organizations within their industries may develop and share procedures for avoiding detection of crimes (Daboub, Rasheed, Priem, & Gray, 1995). Additionally, industries vary on the level of monitoring by regulatory agencies (Amiram et al., in press; Daboub et al., 1995). Organizational size has been shown to be positively associated with SEC scrutiny (Beneish, 1999). Thus, matching companies on industry and organizational size was our attempt to control against classifying financially corrupt firms as compliant because of potential shortcomings of the SEC to identify financial corruption (Zakolyukina, 2018). No firms outside the US were considered for matching to avoid confounding effects because of differences in financial reporting requirements (Bushman & Piotroski, 2006). Because changes in macroeconomic conditions were shown to relate to CEOs' unethical behaviors in financial reporting (Bianchi & Mohliver, 2016), I matched firms on the same time period. To strengthen causal attributions, I employed a lagged design: all independent variables (except the dichotomous variable for SOX) were measured in the fiscal year preceding violations (cf. Ndofor, Wesley, & Priem, 2015).

The 164 financial corruption cases included firms with total assets at the end of the fiscal year before violations of \$5.5 billion on average ( $SD = 24.7$ ). Revenue was \$2.9 billion on average ( $SD = 7.1$ ). Net income was \$203.8 million on average ( $SD = 729.5$ ). The 164 compliance cases included firms with total assets of \$4.6 billion on average ( $SD = 18.0$ ). Revenue was \$2.2 billion on average ( $SD = 6.4$ ). Net income was \$142.4 million on average ( $SD = 521.8$ ).

## Measures

**Independent variables: CEOs' stock options.** CEOs' stock options contribute to expected gains of financial corruption. I measured *CEOs' stock options* using the number of stock options exercised by CEOs in a given fiscal year (Dhaliwal, Erickson, & Heitzman, 2009).

**CEOs' stocks.** CEOs' stocks contribute to expected gains of financial corruption. The number of CEOs' stocks include stocks and stock options exercisable within 60 days of firms' proxy statement filing (cf. O'Connor et al., 2006). I measured *CEOs' stocks* using the number of stocks owned by CEOs in a given fiscal year (X. Zhang et al., 2008).

Boards of directors as a whole are responsible for oversight of financial reporting practices. However, many boards of directors' decisions occur within committees (Daily, 1996). The monitoring function in US public firms is delegated to audit committees (i.e., committees of boards of directors responsible for the supervision of financial reporting and disclosure practices). Audit committee is the "ultimate monitor" of financial reporting by public companies (Klein, 2002b). Firms' external auditors must report audit results directly to members of audit committees who in turn work directly with firms' internal auditors, senior financial managers, and other directors to ensure compliance with financial reporting regulations (Braiotta, 2002). Because directors serving on audit committees are particularly relevant to scrutinizing financial reporting practices, I considered characteristics of only those directors who served on audit committees if firms had audit committees. I describe how I measured independent and dependent variables next.

**Directors' independence.** Following the approach of prior research (Daily & Dalton, 1994; Kang, 2008), I classified directors as independent if they did not have (a) employment with focal firms or their affiliates; (b) family relationship by blood or marriage with managers; (c) affiliation with customers, suppliers, bankers, or creditors who had business relationships with the firms; (d) affiliation with investment banks or law firms that provided services to focal firms; or (e) holding control of firms' equity. I coded *directors' independence* as the percentage of directors who were independent (Daily & Dalton, 1994; Kang, 2008).

**Independent directors' directorship experience.** Following the approach of Field, Lowry, and Mkrtchyan (2013), I included only directorships at private and public firms and excluded universities, charitable organizations, and trusts in the number of directorships held by focal firm directors. As described by Hambrick et al. (2015), I considered only directorships that were held *prior* to the service in a focal firm in a focal fiscal year and excluded all current directorships at that time. Proxy statements typically described such directorships in a past tense or noted a year when service for a given directorship ended. For each independent director, I calculated the total number of directorships as a sum of the number of prior directorships specifically listed. I measured *independent directors' directorship experience* as the average number of prior directorships held by independent directors (Be´dard et al., 2004).

**Independent directors' financial expertise.** Following the approach reported in prior research (Abbott, Parker, & Peters, 2004; Agrawal & Chadha, 2005), I classified independent directors as having financial expertise if they had professional experience as auditors, accountants, financial managers (e.g., CFOs, treasurers, controllers), investment bankers, financiers, venture capitalists, investors, business administration professors, or otherwise were reported in proxy statements as financial experts in accordance to the SEC's definition (see McFarland, 2003). I coded *independent directors' financial expertise* 1 = at least one independent director had financial expertise and 0 = otherwise (Abbott et al., 2004; Agrawal & Chadha, 2005; Be´dard et al., 2004).

**Independent directors' bandwidth.** Bandwidth is a function of two factors: (a) number of concurrent directorships and (b) full-time employment (Boivie et al., 2016; Hambrick et al., 2015). Following the approach reported in prior research (Field et al., 2013), I included current directorships at private and public firms and excluded universities, charitable organizations, and

trusts to arrive at the number of concurrent directorships. In some cases, proxy statements did not provide specific numbers of directorships, noting that directors had multiple directorships. In such cases, I counted multiple directorships as two. I calculated the total number of directorships as a sum of the number of concurrent directorships specifically listed (including the directorship at the focal firm) plus two if directors were listed as having additional multiple directorships. I considered directors not having full-time employment if they were retired, independent consultants, and investors. I considered independent directors having bandwidth if they had no more than three concurrent directorships and full-time employment or no more than six concurrent directorships and no full-time employment. I coded *independent directors' bandwidth* 1 = more than 50% of independent directors had bandwidth and 0 = otherwise (Fich & Shivdasani, 2006; Field et al., 2013).

**Independent directors' stocks.** I argued that stocks contributed to independent directors' motivation to fulfill their monitoring duties. I measured *independent directors' stocks* using the average number of stocks owned by independent directors.

**Directors' quad-qualification.** I classified directors as quad-qualified if they (a) were independent, (b) had directorship experience, (c) had financial expertise, (d) had bandwidth, and (e) had a meaningful number of stocks of focal companies (Hambrick et al., 2015). Because directors' directorship experience and stocks are continuous variables, I followed Fich and Shivdasani's (2006) approach to convert continuous into dichotomous variables. Particularly, I computed medians of the continuous variables and split observations of each variable into two groups (i.e., one group with values lower than the median and other group with values higher than the median). For 826 independent directors in my sample, the median number of directorships served prior to service in given firms in given years was zero (mean equaled .42)

and the median number of stocks owned was 21,443. Thus, I considered directors having at least one prior directorship as having directorship experience and owning at least 21,443 stocks as having a meaningful number of stocks of focal firms. I coded *directors' quad-qualification* using a total count of quad-qualified directors (Hambrick et al., 2015).

**CEOs' tenure.** I operationalized *CEOs' tenure* as a count of total number of years individuals served as CEOs in focal firms (Ndofor et al., 2015; X. Zhang et al., 2008).

**Independent directors appointed during CEOs' tenure.** To measure *independent directors appointed during CEOs' tenure*, I used the percentage of independent directors who started their directorships in focal firms during tenure of focal CEOs (Donoher et al., 2007; Khanna et al., 2015).

**Independent directors' tenure.** I operationalized *independent directors' tenure* using the average number of years that independent directors served as directors in focal firms (Be'dard et al., 2004; Beasley, 1996; Donoher et al., 2007).

**Boards of directors' meeting frequency.** I measured the *boards of directors' meeting frequency* using a count of total number of boards of directors' meetings in a given fiscal year (Ndofor et al., 2015).

**Independent directors' gender diversity.** I measured *independent directors' gender diversity* using the percentage of independent directors who were female (Cumming et al., 2015).

**External audit firms' size.** During my sample period (from 1993 through 2010), the Big N auditors were Deloitte & Touche, Arthur Andersen, Ernst & Young, KPMG, Price Waterhouse, PricewaterhouseCoopers, and Coopers & Lybrand (Myers, Schmidt, & Wilkins, 2014). PricewaterhouseCoopers was created in 1998 because of the merger of Price Waterhouse

and Coopers & Lybrand. I measured the *external audit firms' size* coding 1 = Big N auditor and 0 = otherwise (Lennox & Pittman, 2010).

**External auditors' audit fees.** The SEC required the disclosure of audit fees in proxy statements filed on or after February 5, 2001 (Abbott et al., 2003). Among 328 firms (164 financially corrupt plus 164 compliant) in my sample, 114 firms (57 financially corrupt plus 57 compliant) reported audit fees paid to external auditors. The SEC (2004) expects firms to disclose fees paid to external auditors in two or more categories: audit fees (i.e., fees for operational audits) and non-audit fees, such as audit-related fees (i.e., fees for assurance and related services, e.g., due diligence services), and all other fees (e.g., fees for tax services). To operationalize *external auditors' audit fees*, I combined all amounts of US dollar values paid by firms to external auditors in one group to avoid confounding effects because of two reasons. First, firms may classify audit and non-audit fees inconsistently (Markelevich & Rosner, 2013). Second, SOX redefined the level and nature of fees paid by firms to external auditors (Ghosh & Pawlewicz, 2009). Among 114 firms that reported audit fees paid to external auditors, 18 and 96 were before and after SOX, respectively.

**SOX.** I operationalized *SOX* coding financially corrupt firms and their matched pairs 0 = initial instance of financial corruption occurred in the fiscal year ending before July 30, 2002 and 1 = initial instance of financial corruption occurred in the fiscal year ending after July 30, 2002.

**Dependent variable: Financial corruption.** I coded *financial corruption* as 1 = firms that engaged in financial corruption and 0 = firms that were compliant.

## **Analyses**

Given my use of a dichotomous dependent variable and a series of continuous and dichotomous independent variables, binomial logistic regression analysis was appropriate for

hypothesis testing (Kutner, Nachtsheim, Neter, & Li, 2005; Menard, 1995). For analysis using binomial logistic regression, I transformed *CEOs' stock options*, *CEOs' stocks*, *independent directors' stocks*, and *external auditors' audit fees* variables to a natural logarithmic form to reduce extreme skewness and kurtosis (cf. Gomulya & Boeker, 2014). Because the *CEOs' stock options*, *CEOs' stocks*, and *independent directors' stocks* variables contained values of zero and the logarithmic function is defined only for values greater than zero, I added a value of one to the variables. I excluded intercept term in logistic regression because this term interfered with the case-based estimates of other parameters (Agresti, 2012). Results from logistic models with the number of observations per independent variable (OPIV) ranging from at least five to nine are reliable, especially so if results are statistically significant (Vittinghoff & McCulloch, 2007). All models in this study exceeded the rule of thumb of at least five OPIVs.

Because the binomial logistic regression assumes no influential model fit outliers (i.e., data points that change the fit of a model; Aguinis, Gottfredson, & Joo, 2013), Menard (1995) recommended to examine observations that have Studentized residuals greater than 3 in absolute value and exclude these observations if exclusion results in model fit to data. I identified one observation (compliant firm Bea Systems, Inc.), for which the Studentized residual exceeded the absolute value of 3. Removing this observation resulted in the increase in model's chi-square, Nagelkerke  $R^2$ , and the overall predictive accuracy of correct classification of observations into either financial corruption or compliance categories. Nagelkerke  $R^2$  is a modified version of the coefficient of determination  $R^2$  used for binary response models (Nagelkerke, 1991). However, results did not change because of removing the outlier. Therefore, to avoid increasing the likelihood of making the sample a biased representation of the population because of the excluded data point (Aguinis et al., 2013), I kept the outlying observation in the sample.



The appropriate analytical approach for categorical moderators involves comparisons of regression coefficients across subgroups (Aguinis, Edwards, & Bradley, 2017; Hoetker, 2007). Accordingly, I estimated models separately for each group and compared relationships across groups. Namely, to assess effects of SOX, I estimated the relationship between *CEOs' stock options* and *CEOs' stocks* and *financial corruption* separately for groups before and after SOX. To test the difference between coefficients for the groups before and after SOX, I used the Wald chi-square statistic (Allison, 1999). To achieve sufficient statistical power, sample sizes between 100 and 200 observations per group are recommended for subgroup moderation analysis in organization-level research (Boyd, Haynes, Hitt, Bergh, & Ketchen, 2012). In my analysis, sample sizes were 230 and 98 observations before and after SOX groups, respectively. Accordingly, statistical power was not likely to be an explanation for potential weak or null results in my analysis. Following prior research (Cumming et al., 2015), I included all independent variables used in the full sample model for analysis in the models before and after SOX.

The final sample of 328 firms had missing data for six independent variables. One value (.3%) was missing for *CEOs' stock options*, *independent directors' stocks*, *independent director appointed during CEOs' tenure*, and *independent directors' tenure*. Seven values (2.1%) were missing for *boards of directors' meeting frequency* and 214 values (65.2%) were missing for *external auditors' audit fees*. Normal model multiple imputation (MI) estimates values for variables with missing data and yields parameters that are close to the population average, as well as is appropriate for hypothesis-testing research because MI restores the error variance (Graham, 2009). However, estimates of missing values with MI are biased to a significant degree if attrition exceeds 25% and is not random (Collins, Schafer, & Kam, 2001). The level of

attrition for *external auditors' audit fees* was 65.2% and the attrition was because the SEC did not require to disclose audit fees in proxy statements before February 5, 2001 (Abbott et al., 2003). Therefore, to reduce bias in findings because of missing data, I used MI to estimate values for all independent variables with missing data, except for *external auditors' audit fees*. To avoid the loss of statistical power for the remaining independent variables in the model because of missing data for *external auditors' audit fees* (Graham, 2009), I omitted *external auditors' audit fees* from the focal model and conducted analysis of the variable in a separate model.

Additionally, binomial logistic regression assumes that only meaningful variables should be included, but also all meaningful variables should be included in models. Therefore, I conducted analysis of *external audit firms' size* in the model with *external auditors' audit fees*.

To reduce bias in findings because of missing data for *external auditors' audit fees*, I used listwise deletion approach. Listwise deletion yields minimal bias in parameter estimates for variables with missing data if variables with complete data are included in the model as covariates (Graham, 2009). Therefore, in addition to *external auditors' audit fees* and *external audit firms' size*, I included all relevant study's independent variables in the model.

#### IV. Results

In Table 3, I provided descriptive statistics and correlations among all variables. To ensure there was no multicollinearity in my models, I checked values of the variance inflation factors (VIFs). The highest individual VIF was 2.75. Given that all VIFs were below the commonly accepted value of 10 (Cohen, Cohen, West, & Aiken, 2003), multicollinearity was unlikely a problem in my study. I assessed models to ensure the correct specification, using the Hosmer-Lemeshow goodness-of-fit test (Menard, 1995).

Because *directors' quad-qualification* significantly is an interaction term of *directors' independence*, *independent directors' directorship experience*, *independent directors' financial expertise*, *independent directors' bandwidth*, and *independent directors' stocks*, I undertook hierarchical binomial logistic regression analysis to assess main and interaction effects on *financial corruption*, following the recommendation of Kutner et al. (2005). As such, I undertook the analysis consisting of two steps. To assess main effects, I entered *directors' independence*, *independent directors' directorship experience*, *independent directors' financial expertise*, *independent directors' bandwidth*, and *independent directors' stocks* in Step 1. To assess the effect of the interaction term, I added *directors' quad-qualification* in Step 2.

**Table 3**  
**Means, Standard Deviations, and Inter-correlations Among Study Variables<sup>a</sup>**

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<i>Independent variables:</i>																		
1. CEOs' stock options <sup>b</sup>	.13	1.08																
2. CEOs' stocks <sup>b</sup>	5.80	28.20	-.01															
3. Directors' independence	78.89	28.90	.10*	-.03														
4. Independ. directors' directorship exp.	.40	.59	.06	.00	.20**													
5. Independ. directors' financial expert.	.68	.47	.09	.06	.34**	.10*												
6. Independent directors' bandwidth	.60	.49	.03	-.05	.11*	.01	.11*											
7. Independent directors' stocks <sup>b</sup>	.24	1.06	.00	.30**	.27**	.05	.29**	.08										
8. Directors' quad-qualification	.10	.31	-.10*	.02	.12*	.31**	.22**	.14**	.26**									
9. CEOs' tenure	7.04	7.75	.09*	.35**	-.07	-.10*	.05	.05	.08	-.05								
10. Independent directors appointed during CEOs' tenure	64.32	42.65	-.04	.30**	-.03	.01	.13**	.06	.18**	-.01	.57**							
11. Independent directors' tenure	5.09	4.79	.16**	-.10*	.25**	.03	.11*	.19**	.17**	.03	.21**	-.23**						
12. Board of directors' meeting frequency	3.60	2.78	.05	.06	.26**	.14**	.13**	.10*	.08	.14**	-.01	-.10*	.10*					
13. Independ. directors' gender diversity	8.05	17.90	.12*	-.10*	.23**	.05	.06	.10*	-.04	.08	-.05	-.07	.20**	.14**				
14. External audit firms' size	.84	.37	.18**	-.01	.19**	.12*	.02	-.06	.04	.00	-.01	-.01	.14**	.11*	.06			
15. External auditors' audit fees <sup>b</sup>	1.37	3.06	.20*	.03	.31**	.31**	.19*	.02	.13	.23**	.06	.01	.32**	.53**	.22**	.71**		
16. SOX	.30	.46	-.09*	-.17**	.09*	.03	.20**	.13*	.13**	.12*	-.00	-.03	-.06	.43**	.04	-.33**	-.13	
<i>Dependent variable:</i>																		
17. Financial corruption	.50	.50	.14**	.13*	-.17**	-.10*	.10*	-.06	.00	-.12*	.12*	.06	-.10*	-.09	-.09*	-.09*	.02	.00

<sup>a</sup>  $N = 328$ . \* $p < 0.05$  \*\* $p < 0.01$  (one-tailed significance tests).

<sup>b</sup> In millions

In Table 4, I present results of the binomial logistic regression analysis. A binomial logistic regression was performed to ascertain the effects of *directors' independence*, *independent directors' directorship experience*, *independent directors' financial expertise*, *independent directors' bandwidth*, and *independent directors' stocks* on the likelihood of *financial corruption*. The full sample model shows the effect of the independent variables on the prediction of *financial corruption* ( $\chi^2(5) = 22.14, p < 0.01$ ; Nagelkerke  $R^2 = 0.09$ ). The overall predictive accuracy of correct classification of observations into either financial corruption or compliance categories is 62.2%.

*Hypothesis 2* predicted that *directors' independence* would negatively relate to *financial corruption*. Table 4 shows that *directors' independence* ( $b = -.02, p < 0.01$ ) negatively related to *financial corruption*. Accordingly, the percentage of directors who were independent was higher in compliant firms than in financially corrupt firms. The results indicated that while holding other variables constant, a one-percent increase in independent directors decreased the odds of *financial corruption* by 2%. Thus, *Hypothesis 2* was supported.

**Table 4<sup>a</sup>****Hierarchical Binomial Logistic Regression Usefulness Analyses for Financial Corruption**

	<i>B</i>	<i>SE</i>	<i>exp(b)</i>
<i>Step 1:</i>			
<i>Directors' independence</i>	-.02**	.01	.98
<i>Independent directors' directorship experience</i>	-.36*	.21	.70
<i>Independent directors' financial expertise</i>	.89**	.28	2.43
<i>Independent directors' bandwidth</i>	-.17	.23	.85
<i>Independent directors' stocks</i>	.08*	.04	1.09
<i>Step 2:</i>			
<i>Directors' independence</i>	-.02**	0.01	.98
<i>Independent directors' directorship experience</i>	-.24	.21	.79
<i>Independent directors' financial expertise</i>	1.01**	.28	2.75
<i>Independent directors' bandwidth</i>	-.11	.24	.90
<i>Independent directors' stocks</i>	.09**	.04	1.09
<i>Directors' quad-qualification</i>	-1.05**	.42	.35

<sup>a</sup>  $N = 328$ .  $\text{Exp}(b)$  is the exponentiation of the  $b$  coefficient that is an odds ratio.

\* $p < 0.05$  \*\* $p < 0.01$  (one-tailed significance tests).

*Hypothesis 3a* predicted that *independent directors' directorship experience* would negatively relate to *financial corruption*. Table 4 shows that *independent directors' directorship experience* ( $b = -.36, p < 0.05$ ) negatively related to *financial corruption*. Accordingly, the average number of prior directorships held by independent directors was higher in compliant firms than financially corrupt firms. The results indicated that while holding other variables constant, the increase in one prior directorship held by independent directors on average decreased the odds of *financial corruption* by 30%. Thus, *Hypothesis 3a* was supported.

*Hypothesis 3b* predicted that *independent directors' financial expertise* would negatively relate to *financial corruption*. Table 4 shows that *independent directors' financial expertise* ( $b = .89, p < 0.01$ ) positively related to *financial corruption*. Accordingly, the instance of at least one independent director who had financial expertise was higher in financially corrupt than in compliant firms. The results indicated that while holding other variables constant, having at least one independent director with financial expertise increased the odds of *financial corruption* by 123%. Thus, *Hypothesis 3b* was not supported.

*Hypothesis 4* predicted that *independent directors' bandwidth* would negatively relate to *financial corruption*. Table 4 shows that *independent directors' bandwidth* ( $b = -.17, p > 0.05$ ) did not relate to *financial corruption*. Accordingly, instances of boards of directors with more than 50% of independent directors who had bandwidth were not different in financially corrupt compared to compliant firms, while holding other variables constant. Thus, *Hypothesis 4* was not supported.

*Hypothesis 5* predicted that *independent directors' stocks* would negatively relate to *financial corruption*. Table 4 shows that *independent directors' stocks* ( $b = .08, p < 0.05$ ) positively related to *financial corruption*. Accordingly, the average number of stocks owned by

independent directors was higher in financially corrupt versus compliant firms, while holding other variables constant. Thus, *Hypothesis 5* was not supported.

In Step 2, a binomial logistic was performed to ascertain the effects of *directors' quad-qualification*. In Table 4, I present results of the binomial logistic regression analysis. In the model, I entered *directors' independence*, *independent directors' directorship experience*, *independent directors' financial expertise*, *independent directors' bandwidth*, *independent directors' stocks*, and *directors' quad-qualification*. The full sample model shows the effect of the independent variables on the prediction of *financial corruption* ( $\chi^2(6) = 28.92, p < 0.01$ ; Nagelkerke  $R^2 = 0.11$ ). The overall predictive accuracy of correct classification of observations into either financial corruption or compliance categories is 56.6%.

*Hypothesis 6* predicted that *directors' quad-qualification* would negatively relate to *financial corruption*. Table 4 shows that *directors' quad-qualification* ( $b = -1.05, p < 0.01$ ) negatively related to *financial corruption*. Accordingly, the number of quad-qualified directors was higher in compliant versus financially corrupt firms. The results indicated that while holding other variables constant, a one-unit increase the number of quad-qualified directors decreased the odds of *financial corruption* by 65%. Thus, *Hypothesis 6* was supported.



In Table 5, I present results of the binomial logistic regression analysis. A binomial logistic regression was performed to ascertain the effects of *CEOs' stock options*, *CEOs' stocks*, *CEOs' tenure*, *independent directors appointed during CEOs' tenure*, *independent directors' tenure*, *boards of directors' meeting frequency*, and *independent directors' gender diversity* on the likelihood of *financial corruption*. In the model, I entered *CEOs' stock options*, *CEOs' stocks*, *directors' independence*, *independent directors' directorship experience*, *independent directors' financial expertise*, *independent directors' bandwidth*, *independent directors' stocks*, *directors' quad-qualification*, *CEOs' tenure*, *independent directors appointed during CEOs' tenure*, *independent directors' tenure*, *boards of directors' meeting frequency*, and *independent directors' gender diversity*. The full sample model shows the effect of the independent variables on the prediction of *financial corruption* ( $\chi^2(13) = 51.67, p < 0.01$ ; Nagelkerke  $R^2 = 0.20$ ). The overall predictive accuracy of correct classification of observations into either financial corruption or compliance categories is 62.5%.

*Hypothesis 1a* predicted that *CEOs' stock options* would positively relate to *financial corruption*. Table 5 shows that *CEOs' stock options* ( $b = .07, p < 0.01$ ) positively related to *financial corruption*. Accordingly, financially corrupt firms' CEOs exercised more stock options than CEOs of compliant firms, while holding other variables constant. Thus, *Hypothesis 1a* was supported.

*Hypothesis 1b* predicted that *CEOs' stocks* would positively relate to *financial corruption*. Table 5 shows that *CEOs' stocks* ( $b = .05, p < 0.05$ ) positively related to *financial corruption*. Accordingly, financially corrupt firms' CEOs owned larger numbers of stocks than CEOs of compliant firms, while holding other variables constant. Thus, *Hypothesis 1b* was supported.

**Table 5**

**Results of Binomial Logistic Regression for Financial Corruption<sup>a</sup>**

	Full Sample N = 328			Before SOX N = 230			After SOX N = 98			$\chi^2$ for Difference
	<i>b</i>	SE	exp( <i>b</i> )	<i>b</i>	SE	exp( <i>b</i> )	<i>b</i>	SE	exp( <i>b</i> )	
<i>Independent variables:</i>										
1. CEOs' stock options	.07**	.02	1.07	.09**	.03	1.09	.06	.05	1.06	55.25**
2. CEOs' stocks	.05*	.03	1.06	.10*	.04	1.11	.002	.06	1.002	599.71**
3. Directors' independence	-.02**	.01	.98	-.02**	.01	.98	-.004	.01	.996	
4. Independent directors' directorship exper.	-.33	.22	.72	-.32	.27	.73	-.47	.50	.62	
5. Independent directors' financial expertise	.88**	.30	2.40	.61*	.34	1.84	1.45	.89	4.25	
6. Independent directors' bandwidth	-.06	.25	.94	-.01	.30	.99	-.35	.57	.71	
7. Independent directors' stocks	.07	.05	1.07	.09	.06	1.10	-.06	.10	.95	
8. Directors' quad-qualification	-.81*	.45	.45	.01	.59	1.01	-2.27**	.90	.10	
9. CEOs' tenure	.03	.02	1.03	.03	.03	1.03	.01	.04	1.01	
10. Independent directors appointed during CEOs' tenure	-.003	.004	.997	.003	.005	.997	-.002	.01	.998	
11. Independent directors' tenure	-.09**	.04	.92	-.11**	.04	.89	-.02	.07	.98	
12. Boards of directors' meeting frequency	-.02	.05	.98	-.11	.09	.90	.08	.08	1.08	
13. Independent directors' gender diversity	-.005	.01	.995	-.005	.01	.995	-.01	.01	.99	

<sup>a</sup> N = 328. Exp(b) is the exponentiation of the *b* coefficient that is an odds ratio.

\**p* < 0.05 \*\**p* < 0.01 (one-tailed significance tests).

*Hypothesis 7a* predicted that *CEOs' tenure* would positively relate to *financial corruption*. Table 5 shows that *CEOs' tenure* ( $b = .03, p > 0.05$ ) did not relate to *financial corruption*. Accordingly, the number of years individuals served as CEOs of focal firms was not different in financially corrupt versus compliant firms, while holding other variables constant. Thus, *Hypothesis 7a* was not supported.

*Hypothesis 7b* predicted that *independent directors appointed during CEOs' tenure* would positively relate to *financial corruption*. Table 5 shows that *independent directors appointed during CEOs' tenure* ( $b = -.003, p > 0.05$ ) did not relate to *financial corruption*. Accordingly, the percentage of independent directors who started their directorships in focal firms during tenure of focal CEOs was not different in financially corrupt versus compliant firms, while holding other variables constant. Thus, *Hypothesis 7b* was not supported.

*Hypothesis 7c* predicted that *independent directors' tenure* would negatively relate to *financial corruption*. Table 5 shows that *independent directors' tenure* ( $b = -.09, p < 0.01$ ) negatively related to *financial corruption*. Accordingly, the average number of years that independent directors served as directors in focal firms was higher in compliant versus financially corrupt firms. The results indicated that while holding other variables constant, a one-year increase in the average number of years that independent directors served as directors in focal firms decreased the odds of *financial corruption* by 8%. Thus, *Hypothesis 7c* was supported.

*Hypothesis 8* predicted that *boards of directors' meeting frequency* would negatively relate to *financial corruption*. Table 5 shows that *boards of directors' meeting frequency* ( $b = -.02, p > 0.05$ ) did not relate to *financial corruption*. Accordingly, the number of boards of

directors' meetings in a given fiscal year was not different in financially corrupt versus compliant firms, while holding other variables constant. Thus, *Hypothesis 8* was not supported.

*Hypothesis 9* predicted that *independent directors' gender diversity* would negatively relate to *financial corruption*. Table 5 shows that *independent directors' gender diversity* ( $b = -.005, p > 0.05$ ) did not relate to *financial corruption*. Accordingly, the percentage of independent directors who were female was not different in financially corrupt versus compliant firms, while holding other variables constant. Thus, *Hypothesis 9* was not supported.

In Table 6, I present the results of the binomial logistic regression analysis. A binomial logistic regression was performed to ascertain the effects of *external audit firms' size* and *external auditors' audit fees* on the likelihood of *financial corruption*. In the model, I entered *CEOs' stock options*, *CEOs' stocks*, *directors' independence*, *independent directors' directorship experience*, *independent directors' financial expertise*, *independent directors' bandwidth*, *independent directors' stocks*, *directors' quad-qualification*, *CEOs' tenure*, *independent directors appointed during CEOs' tenure*, *independent directors' tenure*, *boards of directors' meeting frequency*, *independent directors' gender diversity*, *external audit firms' size*, and *external auditors' audit fees*. The model shows the effect of the independent variables on the prediction of *financial corruption* ( $\chi^2(15) = 27.83, p < 0.01$ ; Nagelkerke  $R^2 = 0.32$ ). The overall predictive accuracy of correct classification of observations into either financial corruption or compliance categories is 68.5%.

**Table 6**  
**Results of Binomial Logistic Regression for Financial Corruption<sup>a</sup>**

	<i>B</i>	<i>SE</i>	<i>exp(b)</i>
<i>Independent variables:</i>			
1. <i>CEOs' stock options</i>	.06	.05	1.06
2. <i>CEOs' stocks</i>	-.25*	.15	.78
3. <i>Directors' independence</i>	.003	.01	1.003
4. <i>Independent directors' directorship exper.</i>	-.20	.49	.82
5. <i>Independent directors' financial expertise</i>	.25	.69	1.29
6. <i>Independent directors' bandwidth</i>	.12	.49	1.13
7. <i>Independent directors' stocks</i>	.02	.10	1.02
8. <i>Directors' quad-qualification</i>	-2.56**	.89	.08
9. <i>CEOs' tenure</i>	.06	.04	1.06
10. <i>Independent directors appointed</i>	-.01	.01	.99
<i>during CEOs' tenure</i>	-.12	.06	.89
11. <i>Independent directors' tenure</i>	.09*	.09	1.10
12. <i>Boards of directors' meeting frequency</i>	-.02	.02	.98
14. <i>External audit firms' size</i>	-1.66**	.63	.19
15. <i>External auditors' audit fees</i>	.34*	.19	1.41

<sup>a</sup> *N* = 114. Exp(*b*) is the exponentiation of the *b* coefficient that is an odds ratio.

\**p* < 0.05 \*\**p* < 0.01 (one-tailed significance tests).

*Hypothesis 10a* predicted that *external audit firms' size* would negatively relate to *financial corruption*. Table 6 shows that *external audit firms' size* ( $b = -1.66, p < 0.01$ ) negatively relate to *financial corruption*. Accordingly, financially corrupt firms were less likely than compliant firms to be audited by Big N auditors. The results indicated that while holding other variables constant, audits by Big N auditors decreased the odds of *financial corruption* by 81%. Thus, *Hypothesis 10a* was supported.

*Hypothesis 10b* predicted that *external auditors' audit fees* would negatively relate to *financial corruption*. Table 6 shows that *external auditors' audit fees* ( $b = .34, p < 0.05$ ) positively related to *financial corruption*. Accordingly, financially corrupt firms paid higher fees to their external auditors than compliant firms did, while holding other variables constant. Thus, *Hypothesis 10b* was not supported.

In Table 5, I present results of the binomial logistic regression analysis. A binomial logistic regression was performed to ascertain the effects of *SOX* on the relationships between *CEOs' stock options* and *financial corruption* and *CEOs' stocks* and *financial corruption*. In the analysis performed for the subgroups before and after *SOX*, I entered *CEOs' stock options*, *CEOs' stocks*, *directors' independence*, *independent directors' directorship experience*, *independent directors' financial expertise*, *independent directors' bandwidth*, *independent directors' stocks*, *directors' quad-qualification*, *CEOs' tenure*, *independent directors appointed during CEOs' tenure*, *independent directors' tenure*, *boards of directors' meeting frequency*, and *independent directors' gender diversity*.

The model for the before *SOX* subgroup shows the effect of the independent variables on the prediction of *financial corruption* ( $\chi^2 (13) = 48.28, p < 0.01$ ; Nagelkerke  $R^2 = 0.26$ ;  $n = 230$ ). The overall predictive accuracy of correct classification of observations into either financial

corruption or compliance categories is 67.1%. The model for the after-SOX subgroup shows no effect of the independent variables on the prediction of *financial corruption* ( $\chi^2 (13) = 21.89, p > 0.05$ ; Nagelkerke  $R^2 = 0.27; n = 98$ ). The overall predictive accuracy of correct classification of observations into either financial corruption or compliance categories is 63.2%. Although the omnibus test indicates that the explained variance by the model after SOX is not significantly greater than the unexplained variance ( $\chi^2 (13) = 21.89, p > 0.05$ ), this fact does not affect the conclusions that may be drawn from tests of individual variables.

*Hypothesis 11a* predicted that *SOX* would negatively moderate the relationship between *CEOs' stock options* and *financial corruption*. Table 5 shows that the relationship between *CEOs' stock options* and *financial corruption* was different before compared to after SOX ( $\chi^2 (1) = 55.25, p < 0.01$ ). Table 5 shows that *CEOs' stock options* ( $b = .09, p < 0.01$ ) positively related to *financial corruption* before SOX, but *CEOs' stock options* ( $b = .06, p > 0.05$ ) did not relate to *financial corruption* after SOX. Accordingly, CEOs of financially corrupt firms exercised more stock options than CEOs of compliant firms before SOX. After SOX, the number of stock options exercised by CEOs of financially corrupt firms was not different from the number of stock options exercised by CEOs of compliant firms. Thus, *Hypothesis 11a* was supported.

*Hypothesis 11b* predicted that *SOX* would negatively moderate the relationship between *CEOs' stocks* and *financial corruption*. Table 5 shows that the relationship between *CEOs' stocks* and *financial corruption* was different before compared to after SOX ( $\chi^2 (1) = 599.71, p < 0.01$ ). Table 5 shows that *CEOs' stocks* ( $b = .10, p < 0.05$ ) positively related to *financial corruption* before SOX, but *CEOs' stocks* ( $b = .002, p > 0.05$ ) did not relate to *financial corruption* after SOX. Accordingly, CEOs of financially corrupt firms owned larger numbers of stocks than CEOs of compliant firms before SOX. After SOX, the number of stocks owned by

CEOs of financially corrupt firms was not different from the number of stocks owned by CEOs of compliant firms. Thus, *Hypothesis 11b* was supported.



## **V. Discussion**

### **Elaborating the Model of Antecedents of Financial Corruption in Organizations**

Scientific progress in management research requires systematic elaboration and development of existing theory (Pfeffer, 2013). Tensions and contradictions between theories create opportunities to develop better and more encompassing theories (Van de Ven, 1989). In this section, I elaborate the model of antecedents of financial corruption in organizations with the purpose to improve its explanatory and predictive adequacy. I employ structuring (i.e., describing and explaining theoretical relations to increase alignment with empirical observations) and construct specification (i.e., construct specification or refinement to accurately reflect realities and insights that emerge empirically) approaches to theory elaboration (Fisher & Aguinis, 2017) in discussing this study's results that challenge theoretical implications of prior research. Contradictions to the prevailing theory have the potential to generate "interesting" theoretical developments (Davis, 1971; Fisher & Aguinis, 2017). With selective interest of what does not work in the model, I develop interpretations that allow an understanding of the financial corruption phenomenon, using abductive reasoning (i.e., a process of building theory prompted by surprising observations; Alvesson & Kärreman, 2007; Kilduff, Mehra, & Dunn, 2011). I follow the narrative style in specifying and elaborating causal relationships and processes (see Cornelissen, 2017). In Table 7, I summarized hypotheses and outcomes of significance testing.

**Table 7**  
**Hypotheses and Outcomes of Significance Testing**

<b>Hypothesis</b>	<b>Outcome of Significance Testing</b>
Hypothesis 1a: CEOs' stock options will positively relate to financial corruption.	Supported
Hypothesis 1b: CEOs' stocks will positively relate to financial corruption.	Supported
Hypothesis 2: Directors' independence will negatively relate to financial corruption.	Supported
Hypothesis 3a: Independent directors' directorship experience will negatively relate to financial corruption.	Supported
Hypothesis 3b: Independent directors' financial expertise will negatively relate to financial corruption.	Not supported
Hypothesis 4: Independent directors' bandwidth will negatively relate to financial corruption.	Not supported
Hypothesis 5: Independent directors' stocks will negatively relate to financial corruption.	Not supported
Hypothesis 6: Directors' quad-qualification will negatively relate to financial corruption.	Supported
Hypothesis 7a: CEOs' tenure will positively relate to financial corruption.	Not supported
Hypothesis 7b: Independent directors appointed during CEOs' tenure will positively relate to financial corruption.	Not supported
Hypothesis 7c: Independent directors' tenure will negatively relate to financial corruption.	Supported
Hypothesis 8: Boards of directors' meeting frequency will negatively relate to financial corruption.	Not supported
Hypothesis 9: Independent directors' gender diversity will negatively relate to financial corruption.	Not supported
Hypothesis 10a: External audit firms' size will negatively relate to financial corruption.	Supported
Hypothesis 10b: External auditors' audit fees will negatively relate to financial corruption.	Not supported
Hypothesis 11a: SOX will negatively moderate the relationship between CEOs' stock options and financial corruption.	Supported
Hypothesis 11b: SOX will negatively moderate the relationship between CEOs' stocks and financial corruption.	Supported

**Expected gains from financial corruption.** Theoretical models of managerial crimes providing theory to explain the link between monetary rewards and financial crimes are scarce (see Yu, 2013). This study adds to this research in at least two ways. First, this study complements the literature by providing theory explaining the relationships between expected gains and financial corruption. Second, the study improves predictive accuracy of the rational crime theory by developing hypotheses that approximate reality (see Bacharach, 1989). Particularly, I found evidence to substantiate my reasoning that factors contributing to the expected gains from financial corruption positively relate to financial corruption (see Figure 1). Per my predictions, CEOs of financially corrupt firms exercised a higher number of stock options than CEOs of compliant firms. This finding is consistent with prior research demonstrating a positive relationship between CEOs' stock options and financial restatements because of fraud *and* error (e.g., Efendi et al., 2007; Harris & Bromiley, 2007; X. Zhang et al., 2008).

Additionally, this study adds to research investigating nuanced differences in *consequences* because of intentional or unintentional violations (e.g., Hennes, Leone, & Miller, 2008; Wang, Restubog, Shao, Lu, & van Kleef, in press). Particularly, my study extends theoretical understanding of *antecedents* to financial reporting violations by highlighting distinctions between error and corruption. I found evidence to support my argument that CEOs of financially corrupt firms owned larger numbers of stocks than CEOs of compliant firms. This result is consistent with prior research showing a *positive* association between CEOs' stocks and financial restatements because of fraud (Donoher et al., 2007). However, Zhang et al. (2008) found that CEOs' stocks *negatively* related to financial restatements, the majority of which were due to *error* (see Karpoff et al., 2017). Equivalently to my study, Zhang et al. employed the

matched-pairs sample study design and the number of stocks owned by CEOs to measure CEOs' stocks.

The contradiction in results demonstrates the utility of breaking a broad construct into specific constructs. Splitting existing constructs based on observed empirical realities allowed me to advance theory by enhancing the validity and scope of constructs (Fisher & Aguinis, 2017). To refine the financial reporting violation construct, I identified and defined unique dimensions of financial reporting violations (i.e., error, corruption). Error is unintentional violation, while corruption is intentional violation. Error in financial reporting is because of managers' competence failure (e.g., having a lack of adequate control systems) rather than deliberately flouting of the organizations' control systems in cases of financial corruption. Errors may include reporting financial performance lower than actual, leading to a decrease in stock prices before and after revelation of errors (see Gomulya & Mishina, 2017). Therefore, CEOs who own stocks have monetary incentives to take actions that reduce errors in financial reporting (e.g., instituting adequate financial control systems). Simultaneously, because CEOs owning stocks have monetary incentives to increase reported financial performance, they may employ financially corrupt practices to consistently report high levels of financial performance. The theoretical implication is that a general construct of financial reporting violation should be split into multiple specific constructs to improve construct validity and scope. Alternatively, the findings involving antecedents of financial reporting violations may be obscured and lead to inaccurate theoretical linkages being proposed if the distinction between intentional and unintentional violations is neglected.

**Likelihood of detection: Internal individual factors of monitoring financial corruption.** I argued that the effectiveness of directors' monitoring determines the likelihood of

financial corruption detection (see Figure 1). Prior research showed that six characteristics (i.e., independence, directorship experience, financial expertise, bandwidth, stocks, and quad-qualification) may determine directors' effectiveness of monitoring. I found evidence to substantiate my argument that directors' independence, directorship experience, and quad-qualification qualities enhanced effectiveness of monitoring financial corruption. However, I found no evidence to support my prediction that bandwidth enhanced independent directors' effectiveness of monitoring financial corruption. Additionally, the results have shown that the greater independent directors' financial expertise and stocks, the higher the likelihood of financial corruption. To gain a more complete understanding of the complexity of the phenomena, I delineate boundaries of the rational crime theory and employ an alternative explanatory account (i.e., processes or mechanisms through which antecedents are held to have their effects on outcomes; Mayer & Sparrowe, 2013) to broaden these boundaries. By blending different theoretical perspectives and competing explanations, I formulated arguments based on a novel set of theoretical grounds.

Corruption is both a state *and* a process (Ashforth & Anand, 2003). The rational crime theory is a variance theory useful to explain and predict the state of corruption. For instance, perpetrators assess expected benefits and costs from corruption and decide to engage in corruption because of *given* expected benefits and costs. Namely, Becker (1968) did not explicitly address the process component of corruption (e.g., situations when perpetrators proactively alter expected benefits and costs). More recent research demonstrates that corrupt organizational sub-culture is an element essential to sustaining corruption (Ashforth & Anand, 2003; J.-L. Campbell & Göritz, 2014). Corrupt cultures increases concealment of corrupt practices, leading to a lower likelihood of corruption detection (Baker & Faulkner, 1993).

Because perpetrators are motivated to conceal corruption from observers internal and external to organizations, they enlist those accomplices who can determine the effectiveness of concealment. As explained below, empirical evidence suggests that managers use a range of operational controls to decrease the likelihood of financial corruption detection by influencing ISCAs (e.g., sharing financial gains from corruption with employees; Call, Kedia, & Rajgopal, 2016) and ESCAs (e.g., making monetary contributions to lobby the SEC; Correia, 2014).

Ashforth and Anand's (2003) theoretical model (labeled as the process model of corruption from prior research; Palmer, 2008) complements the rational crime theory by focusing on the process component of corruption. The key premise of the model is that well-meaning and socially responsible people can be essential elements in sustaining corruption in organizations. Consistent with the rational crime theory, Ashforth and Anand assume, at initial phases of corruption, managers deliberately assess expected benefits from corruption, as well as the likelihood of detection and severity of punishment for corruption before authorizing corruption. In the latter phases, managers enlist accomplices who can help execute corrupt practices. Ashforth and Anand assume that the effectiveness of enlisting accomplices is enhanced if accomplices *do not* engage in assessing expected benefits from corruption, as well as the likelihood of detection and severity of punishment for corruption *before* engaging in corruption. Social influence is effective in reducing rational reasoning in decision-making. Based on the findings of the present study, I can argue that managers can subtly motivate financially corrupt behaviors and constrain the ability of their recruits to evaluate the merits of engaging in financial corruption, relying on processes of incrementalism (i.e., inducement to gradually escalate financially corrupt behaviors, facilitating cognitive dissonance and attitude change toward financial corruption) and cooptation (i.e., inducement using rewards to skew attitudes toward

financial corruption). In the case of incrementalism, accomplices who inadvertently engage in financially corrupt behaviors tend to incrementally rationalize their behaviors (i.e., develop positive attitudes toward financial corruption), eventually leading to deliberate financially corrupt behaviors. In the case of cooptation, accomplices tend to resolve the ambiguity that surrounds actions and outcomes in a biased and self-serving manner by effectively mitigating cognitive dissonance and guilt using prospective rationalizations that legitimize financial corruption. There is some research providing evidence that CEOs can effectively influence boards of directors (Dalton, Hitt, Certo, & Dalton, 2007) if boards of directors do not have sufficient information-processing capacity to effectively neutralize such influence (Boivie et al., 2016). I have added to the conservation by focusing my inquiry on how CEOs can neutralize effectiveness of monitoring financial corruption by influencing boards of directors.

*Independent directors' financial expertise.* CEOs may influence boards of directors having independent financial experts to support financial corruption, relying on the incremental shaping of financially corrupt behaviors. The judgment of independent monitors who have financial expertise is likely to be biased in a self-serving manner and are vulnerable to corrupting social influence (Bazerman & Sezer, 2016). Ambiguity in interpreting accounting principles stimulates self-serving behaviors, and the role of endorsing or rejecting financial reporting practices makes the self-serving behaviors more prevalent compared to making original judgments (Bazerman, Loewenstein, & Moore, 2002; Shalvi, Gino, Barkan, & Ayal, 2015). Moore et al. (2006) illustrated the process of how incremental adaptation to minor imperfections in financial practices can escalate into knowing perpetration of corruption over four years. As described by Moore et al., the explanation of the process for this study's findings is as follows. The first year, managers can induce independent financial experts to engage in behaviors that

appear harmless and volitional (e.g., approving minor imperfections in financial practices). This behavior may cause cognitive dissonance that financial experts can reduce using rationalizations, such as self-serving altruism (i.e., concluding that no one in particular was really harmed but particular others benefited; Shalvi et al., 2015) that realign attitudes with the behavior.

Rationalizations are highly seductive and can be conveniently provided by managers who may frame corruption as something necessary and desirable (Ashforth & Anand, 2003). The realigned attitudes facilitate escalating behaviors. The second year, financial experts may be ready to deny larger inadequacies (e.g., aggressive accounting). The third year, financial experts may approve material violations of US Generally Accepted Accounting Principles (GAAP) to avoid admitting prior errors of the past two years in the hope that the problem will be resolved before the end of next year. During the fourth year, financial experts will actively aid managers to conceal their financial reporting practices. For instance, Enron Corporation's audit committee included Wendy Gramm, a former chairperson of the US Commodity Futures Trading Commission (Ferguson, 2012). The Commission's mission is to protect the public from fraudulent behaviors in the trading of futures contracts.

Empirical evidence in laboratory settings corroborated the claims that independent financial experts can be influenced to support financial corruption. A set of experimental studies demonstrated that judgments of professional auditors facing problems with ambiguous solutions were easily influenced by affiliation with interested parties (D. A. Moore, Tanlu, & Bazerman, 2010). Particularly, auditors were more likely to conclude that dubious accounting practices followed GAAP if their role was that of a firm's external auditor rather than the role of an adviser to a firm's potential investors. In another experimental study, participants were assigned the role of independent financial advisers and asked to recommend an investment fund (T.



Zhang, Fletcher, Gino, & Bazerman, 2015). Those participants who made an investment decision for their clients before contemplating suspicions about funds were likely to unwittingly choose a fraudulent fund and commit to their decisions even after learning about potential fraud. In another set of laboratory studies, participants in the role to monitor cheating were likely to accept others' unethical behaviors when ethical degradation occurred incrementally (Gino & Bazerman, 2009). Moreover, people were more likely to cheat in large magnitudes as a result of a series of incrementally increasing in severity unethical decisions (Welsh, Ordóñez, Snyder, & Christian, 2015). Prior research provided evidence that both senior managers (e.g., CEOs, CFOs, Presidents) and directors serving on boards of directors are the parties found responsible for financial corruption in US public firms (Gorshunov, Armenakis, Feild, Song, & Vansant, 2018).

***Independent directors' stocks.*** Relying on the process of cooptation, managers can induce independent directors with rewards to skew their attitudes toward financial corruption. Cooptation is a subtle influential approach because people may not be aware that the rewards induced them to solve ambiguous issues in ways benefiting them (Ashforth & Anand, 2003). Unaware people may fail to notice financially corrupt behaviors benefiting them (Gino, 2015; D. A. Moore et al., 2006). Self-serving rationalizations enable people to profit from behaving immorally because they see themselves as behaving morally (Shalvi et al., 2015). Furthermore, the effectiveness of financial monitoring by boards of directors (who own stocks) can be hindered if both independent directors and CEOs have performance-contingent rewards (Dalton et al., 2007). Empirical evidence suggests that owners of stocks can enrich themselves at the expense of shareholders that are oblivious to financial corruption (Wesley & Ndofo, 2013). Moreover, directors who own stocks can be discouraged from whistle-blowing if they are aware of financially corrupt practices because whistle-blowing allegations decrease stock prices. For

instance, researchers found that rank-and-file employees refrained from whistle-blowing on alleged financial reporting violations when they had financial incentives (i.e., stock options) to benefit from such violations (Call et al., 2016).

***Independent directors' bandwidth.*** Ashforth and Anand (2003) emphasized that managers were effective in inducing someone to engage in corruption in situations of ambiguity about merits and ethical implications of courses of actions. Experimental research indicated that being ethically aware is effective to reduce corrupting influence. Particularly, people who did not have sufficient time available were ineffective monitors of fraudulent behavior (T. Zhang et al., 2015) but having sufficient time enhanced moral decision-making (Shalvi, Eldar, & Bereby-Meyer, 2012). Additionally, depletion of self-regulatory resources (i.e., ability to refrain from engaging in undesired behaviors) increased the likelihood of unethical behaviors (Gino, Schweitzer, Mead, & Ariely, 2011).

Recent research implied that independent directors' bandwidth is a boundary condition of relationships between causal factors of directors' monitoring and effectiveness of monitoring (Boivie et al., 2016). Particularly, independent directors' bandwidth influenced how independent directors' ability and motivation to monitor affected outcomes of monitoring. For instance, empirical research provided evidence to suggest that the relationship between directors' independence and effectiveness of monitoring was contingent on independent directors' bandwidth (Fich & Shivdasani, 2006). In other words, independent but busy directors were ineffective in monitoring. As explained below, the findings of this study indicate that high bandwidth of independent directors creates a condition for causal factors of director's monitoring to enhance effectiveness of monitoring financial corruption.

***Directors' quad-qualification.*** Although my findings suggested support for the argument that independent directors' financial expertise and stocks led independent directors support financial corruption, I provided evidence suggesting that having directorship experience and bandwidth in addition to financial expertise and stocks reversed this effect. Namely, quad-qualified directors were effective in deterring financially corrupt practices. Ashforth and Anand (2003) accentuated that managers succeeded in sustaining corruption only when their influence in recruiting accomplices was subtle and consequences of complying with the influence were ambiguous. It appears that quad-qualified directors are able to diminish the impact of managers' financial corrupting influence because of their ability to (a) be aware of such influence that was cultivated by having prior directorships and (b) contemplate potential consequences of compliance by having the requisite time, attention, and energy. Accordingly, decision-making of quad-qualified directors may be aligned with Becker's (1968) assumption of rationality.

Taken as a whole, the findings regarding internal individual factors of monitoring underscore the utility of blending the rational crime theory with the process model of corruption because the theoretical perspectives are inadequate to explain financial corruption in organizations alone. The novel perspective developed in this manuscript improves the explanatory and predictive capacity of existing theory by identifying and broadening its boundaries.

**Likelihood of detection: Internal group factors of monitoring financial corruption.** I argued that effectiveness of directors' monitoring financial corruption is determined by four group-level factors of boards of directors' monitoring: (a) CEOs' tenure and the power balance between CEOs and directors, (b) independent directors' tenure (c) boards of directors' meeting frequency, and (d) independent directors' gender diversity (see Figure 1). I found evidence to

substantiate my argument that independent directors' tenure enhances effectiveness of monitoring financial corruption. However, I found no evidence to support my predictions that CEOs' tenure and the power balance between CEOs and directors, boards of directors' meeting frequency, and independent directors' gender diversity enhance directors' effectiveness of monitoring financial corruption.

A recent review of literature on monitoring by boards of directors proposed that the extent to which individual factors of monitoring relate to effectiveness of monitoring is bounded by board barriers (i.e., the factors that constrain the ability of boards of directors to function as effective information-processing groups; Boivie et al., 2016). Boivie et al. concluded that group-level board barriers such as CEOs' power, boards of directors' diversity (e.g., gender diversity) and meeting frequency are boundary conditions of relationships between causal factors of directors' monitoring (i.e., directors' ability and motivation) and effectiveness of monitoring (Boivie et al., 2016). Particularly, powerful CEOs can neutralize the monitoring ability of boards of directors, while the diversity of boards of directors reduced effective monitoring by limiting directors' information-processing capability. Meeting frequency of boards of directors enhanced the monitoring function by contributing to the cohesion of directors as a decision-making body. Thus, in terms of this study's findings, CEOs' power and diversity of boards of directors may *negatively* moderate relationships between individual factors of monitoring and effectiveness of monitoring financial corruption, while meeting frequency of boards of directors may *positively* moderate the relationships between individual factors of monitoring and effectiveness of monitoring financial corruption. The examination of effects of group-level board barriers as boundary conditions of relationships between individual directors' factors of monitoring and effectiveness of monitoring financial corruption remains an area of future research.

### **Likelihood of detection: External factors of monitoring financial corruption.** I

predicted that monitoring by external auditors contributed to the likelihood of financial corruption detection (see Figure 1). Particularly, external audit firms' size and external auditors' audit fees enhance effectiveness of monitoring financial corruption by external auditors. I found evidence to support my prediction that external audit firms' size enhanced effectiveness of monitoring financial corruption. However, my results have shown that external auditors' audit fees positively relate to the likelihood of financial corruption.

Evidence of a positive association between external auditors' audit fees and financial corruption provided some support for research asserting that the US auditing system is dysfunctional (e.g., Bazerman, Moore, Tetlock, & Tanlu, 2006). External auditors' independence is reduced by practices of auditors' hiring and firing by managers, rotating personnel between auditors and their clients, and auditors' providing non-audit services (D. A. Moore et al., 2006). External auditors may facilitate corruption under the guise of independence from their clients if auditors' incentives to please the clients are stronger than those to maintain the integrity of the audit (Bazerman et al., 2006). Furthermore, incrementalism and cooptation have a mutually reinforcing effect on the effectiveness of inducing people to engage in financially corrupt practices (Ashforth & Anand, 2003). Thus, CEOs may use coopting power of monetary rewards (e.g., high audit fees) to subtly influence auditors to bias their opinion in favor of the client and gradually escalate their behaviors into financial corruption. Indeed, prior research provided evidence that in addition to senior managers and directors serving on boards of directors, external auditors were also found responsible for financial corruption (Gorshunov et al., 2018).

**Severity of punishment for financial corruption.** I argued that the increased severity of punishment under SOX weakens the relationship between expected gains from financial

corruption and incidence of financial corruption (see Figure 1). I found evidence to substantiate my argument that SOX negatively moderated the relationship between CEOs' stock options and financial corruption, as well as CEOs' stocks and financial corruption. This study adds to the conversation of two opposing views (Bazerman et al., 2006; D. A. Moore et al., 2006; Nelson, 2006) regarding effectiveness of SOX to reduce financial corruption. Findings of this study provide evidence that SOX's primary mechanism (i.e., the increased severity of the punishment; Moohr, 2003) is effective in reducing financial corruption.

### **Summarizing Findings**

This study provided evidence that expected gains from financial corruption positively contributed to the likelihood of financial corruption in organizations. Particularly, I found that CEOs' stock options and CEOs' stocks positively related to financial corruption. Additionally, the findings of this study showed that the likelihood of financial corruption detection contributed to the probability of financial corruption. Specifically, among internal individual factors of monitoring financial corruption, directors' independence, directors' experience, and directors' quad-qualification negatively associated with financial corruption, while independent directors' financial expertise and independent directors' stocks negatively related to financial corruption. I found no evidence that independent directors' bandwidth was associated with financial corruption.

Among the internal group factors of monitoring financial corruption, I found evidence that independent directors' tenure negatively related to financial corruption. I found no evidence that CEOs' tenure, independent directors appointed during CEOs' tenure, boards of directors' meeting frequency, and independent directors' gender diversity were associated with financial corruption. Among external factors of monitoring financial corruption, I found that external audit

firms' size negatively related to financial corruption, while external auditors' audit fees positively associated with financial corruption.

Findings of this study showed that the severity of punishment for financial corruption contributes to financial corruption in organizations. Particularly, I found evidence that the strengthened severity of punishment for financial corruption under SOX negatively moderated the relationship between CEOs' stock options and financial corruption, as well as negatively moderated the relationship between CEOs' stocks and financial corruption.

### **Theoretical Implications**

In this study, I investigated antecedents of financial corruption in organizations. I believe theoretical implications of this study have at least three contributions to research on financial reporting violations. First, through this study, I build theory by clarifying and supplementing existing theory. Different perspectives exist on whether the rational crime theory is adequate to understand the corruption phenomenon. One perspective suggests that the theory has sufficient explanatory and predictive adequacy (e.g., Ferraro et al., 2005; Nelson, 2006). An alternative perspective emphasizes psychological processes that influence decisions to engage in corruption (e.g., Bazerman, 2005; Bazerman et al., 2006; D. A. Moore et al., 2006), suggesting that the assumption of rational decision-making excessively bounds the rational crime theory and theoretical implications of prior research in organizational settings. I reconciled these two opposing views on antecedents of corruption in organizations by following the theory elaboration approach. Particularly, I integrated the rational crime theory (Becker, 1968) and theoretical implications of organizational research on financial reporting violations because of fraud and error (e.g., Harris & Bromiley, 2007; X. Zhang et al., 2008) with the process model of corruption in organizations (Ashforth & Anand, 2003) and theoretical implications of laboratory research on

unethical behavior (e.g., Gino & Bazerman, 2009; T. Zhang et al., 2015) to develop a theoretical model of antecedents of financial corruption in organizations. The resulting theoretical model improves explanatory and predictive capacity of the rational crime theory by broadening its boundaries.

Second, the implications of my study have novel theoretical insights into our knowledge about antecedents of financial corruption. This study is a rare quantitative empirical research of financial corruption in real organizational settings (see Graaf, 2007). Although theoretical speculations about root causes of corruption are abundant (D. A. Moore et al., 2006), our knowledge remains inadequate to explain (Ashforth & Anand, 2003) and prevent (Misangyi, Weaver, & Elms, 2008) corruption in organizations. Most empirical research on financial reporting violations has focused on violations because of fraud and error. I added to the conversation by showing that the study of corruption can yield important theoretical and substantive insights into financial reporting violation. One of my key theoretical implications is that a relation structure that normally applies to fraud and error does not apply to corruption. Specifically, antecedents of financial reporting violations because of financial corruption are driven by mechanisms different from those that explain antecedents of violations because of fraud *and* error examined in prior research. I elaborated causal relationships by highlighting corrupt organizational sub-culture as an element that sustains financial corruption. The importance of this implication is significant because prior knowledge about antecedents of financial reporting violations does not extend to antecedents of financial corruption in organizations.

Finally, the implications of this study have scientific utility by providing the continuity that may facilitate communication among researchers. Lack of construct clarity limits our



theoretical knowledge about financial corruption. Constructs that are clearly defined and distinguishable from other similar constructs improve theory (Bacharach, 1989). This study clarified the construct of financial corruption and revealed a nuanced nature of how antecedents of fraud and error financial reporting apply to financial corruption, specifically. This study offers a basis for future directions in extending theoretical knowledge about corruption by improving clarity of the financial corruption construct.

### **Practical Implications**

I believe this study has practical utility. Corruption is perceived to be widespread and deeply ingrained in business thought and practice (Ashforth et al., 2008), while effective solutions for corruption in general remain elusive (Misangyi et al., 2008). Empirical evidence suggests that financial corruption is likely to remain undetected (Zakolyukina, 2018). This study stimulates thoughts about financial corruption in a way that would not normally be anticipated from extrapolations of existing work. For instance, findings of this study provided evidence that the practice required by SOX of having audit committee members who are independent financial experts (Nelson, 2006) may be counterproductive to prevention of financial corruption.

My recommendation for investors, the SEC, auditors, employees, media, and industry regulators who have been shown to identify and prevent financial reporting violations (Dyck et al., 2010) is to consider implications of this research to supplement their approaches in reducing financial corruption. Findings of this study showed that CEOs' stock options and CEOs' stocks positively related to financial corruption. However, the positive relationships of CEOs' stock options and CEOs' stocks with financial corruption vanished after SOX. Among internal factors of monitoring, directors' independence, independent directors' directorship experience, directors' quad-qualification, and independent directors' tenure reduce, while independent

directors' financial expertise and stocks increase the likelihood of financial corruption. Among external factors of monitoring, external audit firms' size decreases, while external auditors' audit fees increase the probability of financial corruption.

### **Potential Boundary Conditions and Limitations**

This study has two potential boundary conditions. First, the investigated cases of financial corruption are within the context of US companies. Prior research suggested that financial corruption prevailed across capitalistic economies worldwide (Leuz et al., 2003). Because of distinctions in financial reporting requirements (Bushman & Piotroski, 2006), the theory developed in this study may not apply to firms incorporated in other countries. Second, the focus of this study was on investigating financial corruption in the financial reporting settings. It is unclear how the model applies to corruption constructs conceptualized in other settings (e.g., violations of the US Clean Air Act by Volkswagen Group). Directions for future research as described below are to identify alternative contexts (e.g., non-US-based companies, environmental compliance) to investigate potential boundary conditions of the model.

Similarly to other theories in the social sciences, the important limitation of theory developed in this study is that it falls short of taking into account a richer class of attitudes, preferences, and calculations because of the incapability of quantification (Hayek, 1989). It is challenging to test most interesting and complex theoretical ideas with empirical data, and empirical results are always debatable (Alvesson & Kärreman, 2007). Because findings are based on observing outcomes, the predictions of this study are subject to alternative explanations. Future research may address this limitation in the explanatory potential by elaborating the theoretical model using a research methodology equipped for such a purpose (e.g., qualitative research).

## **Directions for Future Research**

Suggestions for future research are to identify alternative contexts to investigate potential boundary conditions of the theoretical model developed in this study. Clinard (1990) identified and described corruption in organizations in a variety of contexts, including environmental pollution, manufacture and sale of unsafe products, price fixing, corporate violence, and commercial bribery. It is possible that particular cases of corruption Clinard analyzed were idiosyncratic from populations of corruption cases in given contexts in reliable manners. Thus, it is unclear how implications of research on individual cases would apply to other cases. Future research may use methodological procedures involving multivariate analysis and a diversity of firms that allow implications to be generalizable. For instance, prior research used multivariate analysis and a diversity of firms to investigate wage arrears (i.e., delayed payment of wages to employees) committed by firms in the Russian Federation (Earle, Spicer, & Peter, 2010), cartels (i.e., associations of independent firms in the same industry that are formed to increase joint profits by restricting their competitive activities) involving firms in the European Union (O. Bertrand & Lumineau, 2016; Olivier Bertrand, Lumineau, & Fedorova, 2014), environmental violations committed by firms in the United States (Karpoff, Lott, & Wehrly, 2005), illegal insider trading in the United States (Ahern, 2017), and bribery among firms worldwide (Martin, Cullen, Johnson, & Parboteeah, 2007). Future investigations may employ theory developed in this study and contexts identified by other research as a basis to challenge and extend theoretical knowledge about corruption.

## **Conclusion**

Corruption has extensive adverse impact on society. This study extended research on financial reporting violations by investigating antecedents of violations because of financial corruption. Building on the rational crime theory (Becker, 1968) and the process model of corruption in organizations (Ashforth & Anand, 2003), I developed a theoretical model of antecedents of financial corruption in organizations. I tested predictions of the model using the sample of 328 firms (164 financially corrupt firms plus 164 compliant firms). The theoretical and practical implications described offer important contributions to research on financial corruption.

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