Behavioral Agency Model and Corporate Social Irresponsibility

Uncovering the Implication of Fairness in CEO Compensation

Jain, Tanusree; Zaman, Rashid; Harjoto, Maretno

Document Version
Accepted author manuscript

Published in:
Journal of Management

DOI:
10.1177/01492063231174873

Publication date:
2024

License
Unspecified

Citation for published version (APA):
Jain, T., Zaman, R., & Harjoto, M. (2024). Behavioral Agency Model and Corporate Social Irresponsibility: Uncovering the Implication of Fairness in CEO Compensation. *Journal of Management*, *50*(7), 2715-2754. https://doi.org/10.1177/01492063231174873

Accepted for Publication in The Journal of Management, April, 2023

BEHAVIORAL AGENCY THEORY AND CORPORATE SOCIAL IRRESPONSIBILITY: UNCOVERING THE IMPLICATION OF FAIRNESS IN CEO COMPENSATION

Tanusree Jain
Copenhagen Business School

Rashid Zaman
Edith Cowan University

Augus Maretno Harjoto
Pepperdine Graziadio Business School (PGBS)

ABSTRACT

The behavioral agency theory (BAM) posits that executive risk preferences are influenced by losses to their current option wealth relative to gains from their prospective option wealth. Accordingly, current option wealth attenuates risk-taking while prospective option wealth amplifies risk-taking. In the context of corporate irresponsible behaviors, this study attempts to advance BAM by theorizing how the presence of conditions that give rise to distributive and procedural injustice in CEO compensation can further amplify the positive effects of CEO prospective option wealth on risk-taking, thereby destroying stakeholder value. Our findings based on a longitudinal cross-sectional sample of 8,669 firm-year observations for the period 2001-2018 support our theorization that CEO perceptions of unfairness in compensation amplify excessive risk-taking, thereby increasing the likelihood of corporate social irresponsibility. Our study has important implications for advancing BAM and for the study and design of executive compensation.

CEO compensation continues to be a topic of fierce academic and public debate (Finkelstein & Hambrick, 1988; Greve et al., 2010; Hambrick, 2007; Hembree, 2018; Walsh, 2008). Recent studies suggest that stock options—incentive contracts through which an employee is offered the right to buy or sell their company's stock at a specific price—comprise the bulk of CEO compensation (Barrett, 2022), and allow CEOs to earn over several hundred times the compensation of a typical worker (Hess, 2021; Mishel & Wolfe, 2019). One view attempts to rationalize the gargantuan levels of CEO stock options by emphasizing that stock options incentivize CEOs, the latter being key for firm productivity and shareholder value creation (Zolotoy et al., 2022). Another view argues that the way CEOs use stock options reveals a pattern of careless risk-taking in the form of pervasive rule violations (Bouslah et al., 2018). Persistent incidences of corporate scandals exemplified by Enron, WorldCom, the Lehman Brothers bankruptcy, and more recently by Volkswagen, Wells Fargo, and Boeing (Borak, 2018) highlight that such irresponsible behaviors often come at the expense of shareholders (Armstrong et al., 2013; Devers et al, 2008; Zhang et al., 2008) as well as non-investing stakeholders and society (Mena et al., 2016; Scherer & Palazzo, 2007; Zahra et al., 2005), questioning the incentivizing benefits of CEOs stock options. While significant research effort has been made in investigating the performance outcomes of CEO stock options (Hambrick, 2018; Martin et al., 2013; Zolotoy et al., 2022; Zolotoy et al., 2021), this study investigates its implications for corporate social irresponsibility (CSI) (Berenson, 2004; Schnatterly et al., 2018).

The dominant lens to study executive compensation has been the classical agency theory (Jensen & Meckling, 1976), that relies on monitoring costs and incentive alignment between shareholders (principals) and CEOs (agents) (Bratton, 2005; Fama & Jensen, 1983). The agency theory predicts that by linking CEO wealth to the market, CEO stock options positively impact CEO risk-taking that is necessary to reduce agency costs and to enhance

shareholder value (Fama & Jensen, 1983; Jensen & Meckling, 1976; Shleifer & Vishny, 1997). However, limited empirical support of the classical agency theory (Pepper & Gore, 2015; Tosi et al., 2000) led to the emergence of an alternative explanation of agentic behavior under the realm of the behavioral agency model (BAM). The original conceptualization of BAM, drawing on concepts from prospect theory (Kahneman & Tversky, 1979), Wiseman and Gomez-Mejia (1998), suggested that while evaluating their stock option wealth, agents exhibit loss aversion with respect to their option wealth as opposed to risk aversion as assumed by the classical agency theory (Eisenhardt, 1989). In other words, agents are assumed to experience potential losses to their stock option wealth more severely than equivalent potential gains, prompting them to display conservatism in their risk appetite. Accordingly, contrary to classical agency theory, the BAM predicts that by placing perceived CEO wealth at risk due to stock price fluctuations, CEO stock options negatively influence CEO risk-taking.

To resolve this academic impasse between classical agency and BAM, more recent advancements to BAM (e.g., Martin et al., 2013; Pepper & Gore, 2015) suggest that CEOs, while being primarily loss averse, perceive their stock options as mixed gambles. In other words, while holding option wealth the cash value of options is tied to market fluctuations in a firm's stock price. Therefore, at any point in time, there is a possibility of incurring both gains and losses to CEO option wealth. Accordingly, when CEOs pursue strategic decisions under risk, their risk preferences are likely to be influenced by the possibility of losses to their current (endowed) option wealth as well as gains to their prospective (future) option wealth. By extension, CEOs may be risk averse if their current option wealth is of significant value and is exposed to losses due to risk-taking, and CEOs may have a higher appetite for short-term risk-taking when the perceived gains from prospective option wealth are more than their losses from risk-bearing (Pepper & Gore, 2015).

Our study argues that risk preferences are also driven by CEOs' perception of fairness of their current and prospective option wealth. In behavioral studies, it is widely accepted that an individual's satisfaction with their compensation, and hence their contribution towards their work, depends on how they perceive their compensation relative to a specific reference group (i.e., distributive justice) (Adams, 1965; Shafir et al., 1997) and the process to determine their compensation (i.e., procedural justice) (Leventhal, 1980). It is also suggested that perceptions of fairness in compensation applies across all levels of employees, including senior executives (Gomez-Mejia & Wiseman, 1997; Shin, 2016). Notably, while "the problem of fairness" has been identified as an essential element underlying CEO compensation and risk preferences in scholarship dating back to the 1980s (see, Eccles, 1985: 52), agentic behavior in extant BAM literature has largely overlooked these insights (Pepper & Gore, 2015). This is in stark contrast to the rather impressive expansion of the organizational justice literature that explains why agents' perceptions of fairness in compensation matter, with only a handful of studies in management integrating a justice perspective to the determination CEO compensation (e.g., Kolev et al., 2017; Shin, 2016).

Our study theorizes how conditions that give rise to distributive and procedural injustice in CEO compensation shape CEO risk preferences (Gomez-Mejia & Wiseman, 1997; Pepper & Gore, 2015). Building on BAM, we reason that both from a distributive (Adams, 1965) and a procedural justice perspective (Colquitt, 2001; Leventhal, 1980; Leventhal et al., 1980; Thibaut & Walker, 1975), CEOs are likely to be dissatisfied and consequently demotivated if they perceive unfairness in their compensation (Cropanzano et al., 2001). CEOs will attempt to rectify the perceived unfairness by seeking to increase the value of their option wealth that comprises the bulk of their compensation. One way CEOs can do so is by taking higher risks to increase their prospective option wealth. We predict that excessive CEO risk-taking triggered by perceived unfairness in compensation is likely to

manifest in increased corporate irresponsible behaviors (CSI) – defined "as the set of corporate actions that negatively affects an identifiable social stakeholder's legitimate claims" (Strike et al., 2006, p. 852). Our findings are consistent with our theorization through a longitudinal cross-sectional sample consisting of 838 publicly listed U.S. firms and 8,669 firm-year observations for the period 2001-2018.

Our study makes important theoretical contributions to the literature. First, we advance BAM by theorizing that perceptions of unfairness in compensation shapes CEO risk preferences. Drawing on the established literature on organizational justice, we suggest that distributive and procedural injustice in CEO compensation can trigger excessive risk-taking as reflected in an accentuated positive impact of prospective option wealth on CSI. In doing so, we offer an explanation behind why CEO stock options exacerbate, rather than remedy, agency problems, even at a grave personal cost to the CEOs (Bouslah et al., 2018; Zhang et al., 2008). We also extend predictions on the performance implications of CEO compensation (Martin et al., 2019, 2020; Zolotoy et al., 2022; Zolotoy et al., 2019; Zolotoy et al., 2021), specifically CEO stock options, by offering a more complete picture of the conditions under which prospective option wealth further exacerbates agent risk-taking by integrating the justice literature.

Second, we add to BAM by building a richer understanding on how different kinds of justice matter in the process of understanding the incentivizing effect of agent compensation. So far, behavioral agency theory has not considered how different conceptions of justice impact agent's risk preferences. While the problem of fairness in executive compensation has been a topic of discussion for over three decades (Eccles, 1985) and has been studied in the context of employees in general (Daileyl & Kirk, 1992; Folger & Konovsky, 1989; Konovsky, 2000; Korsgaard & Roberson, 1995; Melkonian et al., 2011; Sung et al., 2017), it has not been systematically considered under BAM. In the limited research conducted to date

on the topic, the theoretical focus of BAM has been on distributive justice (Adams, 1965) i.e., the notion that "agents feel that their inputs are fairly and adequately rewarded by outputs" (Pepper & Gore, 2015, p. 1055). We advance BAM by theoretically proposing that beyond the perceived fairness of outcomes themselves, perceptions of fairness of the processes employed to arrive at the distribution of outcomes are also relevant (Leventhal, 1980). That is, even in the case of top executives, both the relative quantum of compensation vis-à-vis peers (distributive justice) and having a voice in the process of establishing compensation (procedural justice) matter (Colquitt, 2001; Cropanzano et al., 2001). Consequently, our study has important managerial implications for designing CEO compensation structures.

Third, while significant scholarly attention has been directed at understanding the impact of CEO compensation on different facets of firm-level performance (see, Busenbark et al., 2016; Hoskisson et al., 2017), we still do not know much about how top managerial compensation structures can attenuate or exacerbate CSI (Schnatterly et al., 2018; Zahra et al., 2005). Existing management research within this domain is largely focused on corporate misconduct from a shareholder perspective, such as higher earnings manipulation (Armstrong et al., 2013; Zhang et al., 2008) and shareholder lawsuits (Peng & Röell, 2008; Shi et al., 2016) – ignoring wider stakeholder interests (Armstrong et al., 2013; Zhang et al., 2008). Studies that focus on CSI are scant, and those that do mostly focus on individual stakeholders, such as customer oriented misconduct (Wowak et al., 2015) or employee oriented misconduct (Anantharaman & Lee, 2014). Our study advances research that investigates the performance implications of executive compensation by focusing on its impact on a broader set of stakeholders.

Finally, extant studies adopting a comprehensive view of CSI rely mostly on the KLD database (Deckop et al., 2006; McGuire et al., 2019) in the form of CSR concerns or weaknesses, that are either self-reported or are measured based on their appearances in

newspapers, NGO releases, or litigation reports (Aouadi & Marsat, 2018), resulting in an under-reporting bias (Jain & Zaman, 2020; Mattingly, 2017). We introduce a novel empirical measure of CSI by employing the Violation Tracker (Good Jobs First, 2020), that covers a wide range of corporate fines and penalties pertaining to violations impacting multiple stakeholders. In this manner, this paper provides a more comprehensive, objective understanding of the relationship between CEO stock options and CSI, while opening opportunities to further research based on this novel database.

THEORY AND HYPOTHESES DEVELOPMENT

CEO Incentives and Stakeholder Outcomes

Classical agency theory argues that separation of ownership and decision control creates a deviation between the manager-agent's and the shareholder-principals' self-interests, causing a difference in their risk preferences (Jensen & Meckling, 1976; Tosi et al., 1997). While shareholders can diversify their investments across a portfolio and are consequently risk neutral between a certain and an uncertain payoff, manager-agents are risk averse as their personal undiversifiable wealth is often tied to firm risk (Jensen, 1998). Based on the contract theory, agency theory prescribes that incentive compensation in the form of stock options for CEOs (agents) can help align these deviating risk preferences in a manner that encourages CEO risk-taking and motivates them to carry out actions that maximize shareholder value and the value of the firm (Certo et al., 2003; Jensen & Murphy, 1990; Johnson et al., 2009). Interestingly, other scholars argue that incentive payments (tied to the market) can exacerbate the risk for CEOs, which will increase, and not decrease, risk aversion (Holmström, 1979; Shavell, 1979).

Nevertheless, in terms of the performance impact of CEO incentives, empirical research finds little support for the predictions of the classical agency theory (Tosi et al., 2000). It is evidenced that CEO incentives (primarily, CEO stock options) destroy

shareholder value and are positively related with shareholder oriented irresponsibility in the form of corporate frauds (Donoher et al., 2007) and earnings misstatements (Harris & Bromiley, 2007; Zhang et al., 2008). Similarly, research exploring the relationship between CEO incentives and non-investing stakeholders also demonstrates that CEO stock options instigate CEOs' pursuit for excessively risk prone short-term behaviors that amplify corporate neglect of other stakeholders as well (Anantharaman & Lee, 2014; Wowak et al., 2015). Thus, the lack of empirical support for the incentivising effect of CEO stock options has challenged the rather simplistic assumptions underlying agent behavior under the classical agency theory (Pepper & Gore, 2015).

As an advancement, Wiseman and Gomez-Mejia (1998) laid the foundation of the behavioral agency model (BAM) that puts agents' (i.e., CEOs) behavior, specifically their risk preferences, at the centre of the agency model. Focussing on CEO stock options, the BAM proposes that when it comes to risk preferences, CEOs are not risk averse but actually loss averse, i.e., agents prefer assured forms of pay over less certain and variable forms of pay (Gomez-Mejia, 1994; Milkovich & Wigdor, 1991). As CEO stock option compensation consists of an endowed current value, BAM predicts that CEOs would prefer to protect their endowed wealth over risking it. Accordingly, CEO stock options are likely to discourage CEO risk-taking (Wiseman & Gomez-Mejia, 1998). Interestingly, empirical studies testing BAM's predictions also show conflicting findings. For example, Larraza-Kintana et al. (2007) find that CEO option wealth, measured by the intrinsic value of their unexercised stock options, is negatively related to CEO risk-taking, whereas Devers et al. (2008) find that CEO option wealth significantly increases strategic risk, although there are differences observed contextually on the nature of equity compensation.

To improve the predictive validity of BAM, recent formulations suggest that CEO option wealth is not a pure gamble as purported by agency theorists or the original BAM

conceptualization (Desjardine & Shi, 2021; Martin et al., 2013; Pepper & Gore, 2015). As Martin et al. (2013) propose, CEO stock options represent a mixed gamble that does not lead to only gain outcomes as theorized by agency scholars, or only loss outcomes as initially suggested under the BAM (Wiseman & Gomez-Mejia, 1998). Rather, stock option wealth fluctuates with market fluctuations and accordingly, comprises of prospective wealth and current wealth. While prospective wealth increases as stock prices increase, current wealth (which is the accumulated value of stock options) is at risk if prospective wealth is pursued, hence CEO stock options represent a mixed gamble. In this manner, CEO risk preferences are "influenced by the wealth that could be lost (current wealth) relative to wealth that could be gained (prospective wealth)" (Martin et al., 2013, p. 455).

Empirically, although still scant, studies find empirical support for the BAM in explaining CEO strategic risk-taking. For example, Martin et al. (2013) find that CEOs' prospective wealth attenuates the negative relationship between their current wealth and risk-taking. Similarly, Zolotoy et al. (2021) show that CEOs current (endowed) wealth is negatively related with corporate tax avoidance when firms' tax rate is lower than peer firms, indicating that the wealth preservation mechanism (i.e., loss aversion) of endowed wealth diminishes risk-taking in the form of tax avoidance. Desjardine and Shi (2021) find that for present focused CEOs, CEO current option wealth is negatively related, and prospective option wealth is positive related, with strategic risk-taking in the form of merger and acquisition spending. There is also some evidence that suggests that CEOs' risk bearing wealth influences their behavior toward non-shareholder stakeholders as well. For example, Martin et al. (2020) find that CEOs are more concerned about employees' pension funding when their current (endowed) wealth increases. We extend this limited literature by suggesting that CEO risk preferences are also influenced by fairness concerns of their

compensation by examining the relationship between CEO option wealth under mixed gambles and corporate social irresponsibility (CSI).

CEO Incentives and the Relevance of Justice

It is widely researched that justice has important consequences for individuals and organizations. A basic tenet across various justice theories is one that links it to compensation and incentives (Wade et al., 2006; Eccles, 1985). Research shows that employees' regularly engage in social comparisons, and that their attitudes, behaviors, and performances in the workplace are significantly determined by their fairness evaluations of what they believe they deserve vis-à-vis their judgments on what others receive and deserve (Adams, 1965; Kruglanski & Mayseless, 1990). Not surprisingly, perceptions of unfairness create feelings of inequity (Fehr & Schmidt, 1999) leading to employees withdrawing effort, leaving the organization, or engaging in retaliation even at the cost of their own welfare (Kale et al., 2014). Here, it is important to note that unfairness may also arise in principal-agent relationships. It is suggested that, much like principals, agents also seek equitable returns or compensation (Adams, 1965; Pepper & Gore, 2015).

Drawing on this argumentation, behavioral theorists (e.g., Martin et al., 2013; Pepper & Gore, 2015) have attempted to further refine BAM by challenging the rather simplistic assumptions around agent rationality and by adding more emphasis on motivation for agent performance. Deviating from the assumption of rationality, the BAM suggests that agents are not narrowly self-interested as purported by agency theorists, but their self-interest is bounded by their perceptions of fairness. Accordingly, agents "seek to maximize their own self-interest, but only so long as perceived norms of fairness are not violated" (Bosse & Phillips, 2016, p. 277) . Concomitantly, Pepper and Gore (2015) note that "an agent's *perceptions* of equitable compensation" is a critical factor impacting agent motivation for work (p. 1049). In other words, justice in compensation becomes relevant for predicting agent

behaviors (Bosse et al., 2009). To assess perceived unfairness, agents engage in comparisons (with similar referent groups) of their efforts expended and simultaneous rewards received (Adams, 1965; Shin, 2016). It is further reasoned that if unfairness is perceived, agents will attempt to rectify it by either lowering their efforts (i.e., input) to match their lower (relative) compensation or more importantly by seeking greater compensation (i.e., output) to match their higher (relative) efforts (Greenberg, 1988).

Interestingly, the majority of the BAM literature emphasizes the Adams ratio (i.e., fair distribution of material outcomes) (Deutsch, 1985) to estimate distributive justice in a social exchange (see, Pepper & Gore, 2015). Yet, social psychology suggests that fairness of compensation structures may also be evaluated on the basis of procedural justice that focusses on the process employed to arrive at the distribution of earnings or income (Alexander & Ruderman, 1987; Colquitt, 2001; Colquitt et al., 2001). Therefore, it is suggested that an agent's perception of fairness is not only based on the outcome distributed but also on the multidimensional processes employed to arrive at this final outcome (Thibaut & Walker, 1975). These aspects include the extent to which agents' opinions are considered in the process of compensation determination, whether the process is consistently applied, whether the information utilized in the process is accurate, and whether there is appeal allowed for rectifying (arguably) unjustifiable decisions (Colquitt, 2001; Cropanzano et al., 2001; Leventhal, 1980).

Although the topic of CEO compensation is much researched, only a few studies have explored the impact of fairness in top executive compensation. One specific strand here relates to the effect of perceived fairness or unfairness of CEO compensation on employees. For example, Wade et al. (2006) demonstrate that CEOs value both fairness as well as self-interest, and that their ability to negotiate over-compensation for themselves (arguably viewed as fair by them) has cascading consequences for increasing the pay of lower-level

managers of the organization. In this manner, fairness in top management (CEO) compensation is important as it tends to permeate downwards through an organization. Relatedly, Corneliben et al. (2011) show that when CEO pay is perceived as excessive and consequently unfair by employees, it adversely affects their morale and increases absenteeism. Another strand of research discusses the impact of unfairness on CEO performance. Here, Fong et al. (2010) find that in the event of CEO underpayment (i.e., distributive injustice) CEOs try to rectify the unfairness by taking actions such as increasing firm size or firm profitability or by withdrawing from the firm. Shin (2016) explores the relevance of managerial power for restoration of fairness in compensation. We expand this line of research by proposing that distributive and procedural injustice in executive compensation is likely to exacerbate CEO strategic risk-taking (to counter the perceived unfairness embedded in compensation structures) manifesting in increased likelihood of CSI.

CEO Stock Options and Corporate Social Irresponsibility

CEO stock options have long been regarded as an incentive alignment mechanism to reduce agency costs that arise from the separation of ownership and decision control (Jensen & Meckling, 1976). By linking CEO compensation to firm performance, CEO stock options are reasoned, under classical agency, to reduce managerial opportunism and promote risk-taking behaviors in a manner that maximizes returns to owner-shareholders (Certo et al., 2003; Jensen & Murphy, 1990; Johnson et al., 2009; Shleifer & Vishny, 1997). Yet, behavioral decision theorists argue that for a decision maker, the potential downside risk to wealth is as important as the upside potential (Kahneman & Tversky, 1979). In fact, it is suggested that even when potential gains and losses are of comparable magnitude, agents are more wary of the potential losses than enthused by potential gains, and accordingly avoiding losses is expected to dominate agent decision making (Tversky & Kahneman, 1985).

CEO stock options risk exposing CEO compensation to losses due to stock market fluctuations. Accordingly, behavioral agency theorists (Wiseman & Gomez-Mejia, 1998) argue that CEOs are loss averse, as opposed to risk averse. Therefore, CEO stock options are expected to reduce managerial risk-taking, casting doubt on the incentive alignment mechanism of stock options under classical agency. Although evidence is still limited, studies based on BAM have uncovered both negative (Larraza-Kintana et al., 2007; Sanders, 2001; Zhang et al., 2008) and positive impact (Devers et al., 2008) of CEO stock options on strategic risk-taking behaviors in various contexts.

Recent advancements in BAM suggest that the influence of CEO stock options on risk-taking is more nuanced than previously conceptualized by Wiseman and Gomez-Mejia (1998). Behavioral theorists propose (see, Martin et al., 2013; Pepper & Gore, 2015) that agent risk preferences are influenced both by the possibility of losses and the possibility of gains (a mixed gamble) associated with strategic choices (Bromiley, 2009, 2010). In other words, when CEO stock options are assessed as mixed gambles, with a current and prospective wealth component, it can both decrease as well as increase their risk-taking behaviors, respectively, depending on the relative value of option wealth *now* and in the future. Therefore, CEO stock options need to be assessed as mixed gambles to accurately uncover CEO risk preferences and their impact on firm level outcomes.

While some recent studies have evaluated the impact of CEO stock options on risk-taking behaviors under the assumption of mixed gambles, the literature has mostly emphasized decision contexts that have an impact on shareholder centric outcomes. These include strategic risk-taking in contexts of mergers and acquisitions (Desjardine & Shi, 2021), earnings manipulation (Zhang et al., 2008), corporate taxation (Zolotoy et al., 2021), and firm productivity (Martin et al., 2020; Zolotoy et al., 2022). Yet, organizations present a ripe playground for intra-stakeholder conflicts of interests (Frooman, 1999; Harrison &

Freeman, 1999) i.e., divergence of interests among two or more stakeholder groups, in particular shareholders and non-investing stakeholders (Mitchell et al., 1997). Notably, both under classical agency theory and BAM formulations, the mechanism to manage agency costs and agent risk-taking are biased solely towards either promoting shareholder value creation or preventing shareholder value destruction (Martin et al., 2013; Martin et al., 2020).

In reality, when CEOs adjust their risk preferences per their stock option valuations, they can have cascading effects on other stakeholders that are fundamentally unaccounted for in extant principal-agency conflicts (Hill & Jones, 1992; Mitchell et al., 2016; Wowak et al., 2015). Extending this argumentation, we reason that CEOs, who receive stock option based incentives, will consider the current value of their stock options to rationalize their strategic risk preferences. If CEOs possess significant amounts of current (endowed) option wealth, they will prefer to preserve their option wealth now, as opposed to attempt increasing their option wealth in the future—an alternative that will be viewed as rather costly. Therefore, higher current option wealth will be associated with loss aversion behaviors.

We further reason that such loss aversion will have consequences for stakeholders, notably in the form of a likely reduction in stakeholder oriented misdemeanours in at least two ways: First, CEOs—driven by the need to protect the accumulated endowed value of their current stock options *now*—are relieved from short-termism by not having to aggressively pursue uncertain future gains (Dasgupta & Maskin, 2005; Desjardine & Shi, 2021; Szwajkowski, 2000). Short-termism in executive behaviors has been found to harm stakeholder value creation (Bansal & DesJardine, 2014; Freeman et al., 2021). In fact, short-termism has been regarded as the reason "for some of the worst excesses of the global financial crisis" including "environmental damage and other negative externalities to society that aren't represented in financial statements" (Chartered Global Management Accountant, 2013, p. 4).

Second, when CEO current option wealth increases, it is likely to trigger risk-aversion behaviors, manifesting in a more cautious decision making approach (Wowak et al., 2015). Cautious behaviors undertaken by CEOs to protect their own current wealth will lead to a temporal re-alignment (Desjardine & Shi, 2021) and reduce reckless behaviors that also negatively affect other non-investing stakeholders (Mitchell et al., 1997; Mitchell et al., 2016). In addition, catering to non-investing stakeholders requires a focus on long-term value creation (Harrison et al., 2020; Reilly et al., 2016; Stout, 2012). Indeed, Paul Polman, Unilever's former CEO, has been famously quoted as saying that short-termism "lies at the heart of many of today's problems" (Confino, 2012), including severely limiting a company's pursuit of more sustainable behaviors that create value for the environment and society. Accordingly, we argue that CEOs will have greater opportunity to attend actively to non-investing stakeholders when they are relieved from short-termism as a result of their current option wealth. Said formally, we propose:

Hypothesis 1: CEO current (endowed) option wealth is negatively related with firm-level CSI.

In contrast, CEOs will tend to exhibit risk-taking behaviors if the loss by risking their current (endowed) option wealth is lower in comparison with the expected gains in their prospective option wealth (Martin et al., 2013). We reason that CEOs are known to strongly influence key decisions that have important implications for firms' stakeholders, such as employee lay-offs, investment in product and operational quality, regulatory compliance, capital and R&D investments in clean technology (Yukl, 2008). A situation that tunnels CEO vision solely towards the substantial gains from risk-taking sets the stage for short-term decision making (Desjardine & Shi, 2021). We propose that such short-termism may prove costly for other stakeholders in at least three ways. First, it could trigger cost-cutting and encourage short-cuts in design, operations, and compliance practices. For instance, experts

have suggested that the recent catastrophic crashes of the Boeing 737 Max aircrafts that resulted in the death of 346 people on board (Kesslen, 2020) were primarily due to excessive cost-cutting measures that compromised aviation safety standards (Robison, 2019). Not only did it result in the departure of Boeing's CEO Dennis Muilenburg, but it also attracted fines and penalty payments worth US$ 2.5 billion (Josephs, 2021). We argue that an increase in CEO risk-taking can lead to lack of thorough decision making (Sanders & Hambrick, 2007), lack of caution (Wowak et al., 2015) and a general unconcern for stakeholders. Indeed, new emerging evidence demonstrates how CEO stock options, that are beneficial for increasing CEO/shareholder wealth, destroy value for employees through pension underfunding (Martin et al., 2020).

Second, an overall increase in CEO risk appetite may result in trivializing risks that could otherwise negatively impact other stakeholders (Marcus, 1989). Anecdotal evidence of Volkswagen reveals how top executives (receiving substantial stock option rewards) actively concealed the installation of emission defeat devices and proclaimed their vehicles to be economically and ecologically superior vis-à-vis competitors. By focussing on the potential upside of their product announcements on stock valuations, executives knowingly discounted the risk of cheating on compliance, that would necessarily negatively affect their customers and the environment. Third, CEOs may even take risks by actively engaging in irresponsible behaviors when the expected cost of those behaviors in the form of penalties and fines are found to be relatively cheaper than the gains to prospective option wealth (Garrett, 2014).

Extending the argumentation that CEO stock option creates consequences for a broader set of stakeholders (beyond shareholders), we argue that when CEOs have lower current (endowed) option wealth and they are set to make substantial gains through their prospective option wealth, it tends to lower their loss aversion by reducing the downside risk to CEO compensation and increasing the upside potential of it. Given that CEOs are known

to exhibit healthy doses of hubris and over-confidence (Hayward & Hambrick, 1997; Tang et al., 2015), it may further amplify their expectations of positive outcomes from their decision making.

Accordingly, we argue that when CEOs expect to make significant gains from their prospective option wealth, it will trigger more aggressive risk-taking (Martin et al., 2013; Wiseman & Gomez-Mejia, 1998). We reason that such aggressive risk-taking will result in potential adverse effects for non-investing stakeholders, especially since the latter are considered voluntary, have no explicit voice in the company, and are vulnerable to risks arising from executive decisions (Clarkson, 1994). Accordingly, we hypothesize:

Hypothesis 2: CEO prospective option wealth is positively related with firm-level CSI.

Distributive Justice and Corporate Social Irresponsibility

It has been argued that conditions that give rise to distributive injustice in compensation can influence an agent's risk preferences (Gomez-Mejia & Wiseman, 1997; Pepper & Gore, 2015). Based on Adams equity theory (1965), distributive justice is defined as an individual's perception of their effort vis-à-vis their reward or in simpler terms, their input-outcome ratio relative to peers. The assessment of distributive justice involves two aspects. One, individuals seek a fair balance between what they put into their jobs or "inputs" and what they get out of their jobs in terms of "outputs". Here, inputs could be viewed in terms of "energy, commitment, intelligence, and skills" (Pepper & Gore, 2015, p. 1055) and similarly, outputs could mean both intrinsic rewards from performing a job such as recognition, appreciation, and personal growth as well as extrinsic rewards such as financial compensation. Two, individuals are engaged in social comparison while making an assessment of distributive justice (Shafir et al., 1997). In other words, individuals compare their input/output ratio with that of their peers to arrive at their perception of fairness or equity of outcomes (Cropanzano et al., 2001).

Scholars suggest that distributive justice matters for top executives as much as it applies to other employees (Gomez-Mejia & Wiseman, 1997; Wade et al., 2006). It is important to note that although justice has a micro-level foundation, in the context of CEO compensation, it is applied at the organizational (meso-) level (Colquitt, 2001; Cropanzano et al., 2001). Furthermore, the calculation of CEO inputs would theoretically involve an assessment of CEOs' direct effort, which is often challenging (Demerjian et al., 2012). In this vein, some studies conceptualize CEO inputs in terms of firm productivity (Zolotoy et al., 2022) based on the premise that CEOs are more generally responsible for their firms' performance. Other studies focus on a broader operationalization of CEO ability, such as industry-adjusted stock returns or return on assets (Fee & Hadlock, 2003), media visibility (Rajgopal et al., 2006), and even CEO outside employment potential (Milbourn, 2003). Although useful, it is widely recognized that these measures of CEO effort, ability and therefore inputs suffer from attribution solely to the CEO and could be endogenous to general market conditions (see, Demerjian et al., 2012 for a detailed review).

Based on Demerjian et al. (2012), we suggest that CEOs' relative input can be conceptualized as their ability to transform corporate resources to revenues, relative to their industry peers. As the authors explain, it is expected that "more able managers better understand technology and industry trends, reliably predict product demand, invest in higher value projects, and manage their employees more efficiently than less able managers" (p.1229). Accordingly, we argue that a CEO could perceive their inputs as relatively more significant than their industry peers when they are high ability CEOs i.e., they are able to generate a higher revenue for a given level of resources or in other words, maximize the resource efficiency of their firms better than their peers, making it a more direct and observable measure of CEO inputs. Furthermore, if a CEO uncovers that a peer CEO in their

industry gets a bigger reward or higher total endowed wealth for the same input as them, the focal CEO will view this as distributive injustice (Bosse & Phillips, 2016).

Applying this measure of distributive injustice, we propose that when high ability CEOs perceive unfairness in their compensation outcomes, one way to rectify this unfairness is by attempting to increase the value of their output or reward (Pepper & Gore, 2015). We reason that CEOs can achieve this by taking greater short-term risks and by pursuing higher prospective option wealth (Greenberg, 1988). We argue that such a risk-taking strategy, aimed at re-establishing distributive justice, that involves seeking a higher value for CEO stock options in the immediate future (Bansal & DesJardine, 2014), can harm the interests of non-investing stakeholders. This is because the latter often requires substantial investments of resources and time (Eccles et al., 2014; Slawinski & Bansal, 2015), which is incompatible with aggressive risk-taking expended to increase CEO prospective option wealth. Hence, we expect that the positive relationship between CEOs' prospective option wealth and CSI will be heightened in the presence of distributive injustice. Said formally:

Hypothesis 3: The positive relationship between CEO prospective option wealth and firm-level CSI will be amplified when high ability CEOs receive lower than industry median of total endowed wealth (distributive injustice).

Procedural Justice and Corporate Social Irresponsibility

Although equity theory (Adams, 1965), and consequently distributive justice, has contributed significantly to organizational justice literature (Greenberg, 1988), it is also criticized for being narrow in its explanations of *how* individuals form judgments regarding fairness (Cropanzano et al., 2001). Beyond equitable outcomes, the justice literature suggests that another kind of justice that boundedly self-interested individuals seek to enforce is procedural justice i.e., that the degree to which they perceive that the decision making process itself is fair (Colquitt, 2001). It is argued that procedural justice focusses an

individual's attention on the fairness of policies that emerge at the organizational level (Masterson et al., 2000). Furthermore, it is also reasoned that similar to distributive injustice, procedural injustice triggers reciprocal behaviors to rectify the perceived unfairness (Blau, 2017). However, such perceived unfairness is more likely to impact an individual's organizational commitment, thereby affecting organizational citizenship behaviors (Cropanzano et al., 2001).

Drawing on Cropanzano et al. (2001), we argue that given the reciprocal entity of an individual's perception of procedural fairness (or lack thereof) in an organization, procedural justice can be particularly important for predicting CEO risk preferences, that have ramifications for the organization as a whole. Interestingly, although developments in justice literature suggest a greater attention towards procedural justice (Cropanzano & Greenberg, 1997), this aspect remains unexplored in the context of top management, with the exception of Bosse and Phillips (2016). As per the original conceptualization by Thibaut and Walker (1975), procedural justice relates to the aspect of process control, and not necessarily decision control. This implies that CEOs would perceive fairness in procedures when they have a voice in decision making, as opposed to control of the decision itself. However, further refinements to justice literature, primarily based on Leventhal (1980), have expanded procedural justice to include the extent to which an individual's opinions are considered in the decision making process, whether the process is consistently executed and the information used in the process is accurate, and if poor decisions resulting from the process can be amended (Colquitt et al., 2001).

Bosse and Phillips (2016) in their application of procedural justice in CEO compensation suggest that CEOs are likely to prefer a situation when their compensation is decided by the board of directors, with whom negotiation is possible, based on accounting measures that they can somewhat control, as opposed to market-based compensation such as

stock options. We contend that compensation that can be negotiated so and decision process that can be controlled so relates more to interactional or inter-personal justice (see, Cropanzano et al., 2001) as opposed to procedural justice. Indeed, extant justice literature notes interactional justice to include fair treatment that hinges on building closer relationships at work and strong interpersonal bonds, such as those between CEOs and the board (Cropanzano & Byrne, 2000). Furthermore, although there is a correlation between procedural and interactional justice (Masterson et al., 2000), there is a strong argument in support for separating the two (e.g., Cropanzano et al., 2001; Masterson et al., 2000).

We build on Leventhal's (1980) work and focus our attention on organizational policies that can shape CEO perceptions of procedural fairness. We argue that an organizational policy that could have fairness implications for executive compensation, namely the clawback provision, is particularly relevant here. As per Section 304 of the Sarbanes-Oxley Act (SOX), the clawback provision provides the Securities and Exchange Commission (SEC) the right to recoup top executive (CEO) incentive compensation in the event the company restates its financial statements. Therefore, the clawback provision is a contractual policy adopted by a company as a way of demanding more accountability from the top management and demands a return of already awarded incentive-based compensation three years prior to an accounting restatement, irrespective of whether the restatement of accounts was due to a misconduct or whether the executive was at fault for the restatement (Babenko et al., 2017; Dehaan et al., 2013).

We argue that the adoption of the clawback provision can be viewed as procedural injustice by CEOs for several reasons. First, while it is adopted by the board of directors in order to improve corporate governance and better align executive incentives with the goals of the organization (Dehaan et al., 2013; Huang et al., 2019), it is a purely voluntary policy that is not consistently adopted by all firms (Securities and Exchange Commission, 2015).

Therefore, a CEO may perceive adoption of a clawback provision that puts their incentive compensation at greater risk than that of another CEO of a company (that has not adopted the provision) as inherently unfair. Furthermore, while a clawback provision may be adopted by boards, it may not necessarily be applied in all cases based on board discretion (Erkens et al., 2018; Huang et al., 2019). This adds further subjectivity to policy implementation further adding to CEO perceptions of unfairness (Babenko et al., 2017). Second, a large proportion of CEO incentive compensation is based on stock options that are subject to market fluctuations (Barrett, 2022). With a view to fulfilling their fiduciary responsibilities to shareholders and delivering superior returns, CEOs are provided with stock option based incentive compensation to take on strategic risks, the outcome of which is not guaranteed. Therefore, recouping a substantial part of this compensation based on the failure of projects that may or may not be solely attributable to lack of CEO effort or ability can be viewed as biased and therefore, procedurally unfair to CEOs (Babenko et al., 2022).

Third, a procedure is generally considered fair when it is based on accurate information (Leventhal et al., 1980). The literature demonstrates that it is difficult to justify this accuracy in the context of clawback provisions as firms are found to substitute real and accrual-based earnings management due to variability in financial reporting standards. This leads to unreliability in the calculation of "true" earnings (Chan et al., 2014). Finally, procedural justice emphasizes the importance of a mechanism to rectify a flawed or inaccurate decision outcome (Colquitt et al., 2001). In case of clawback provisions, there is no appeal or due process that is available to CEOs once the clawback decision is applied by the board.

Overall, we argue that although the clawback provision is intended to curb executive misbehaviors against shareholders by enforcing greater accountability on the part of CEOs (Iskandar-Datta & Jia, 2012), the biases embedded in the clawback policy can be perceived as

procedurally unfair by CEOs. Furthermore, it is the current (endowed) option wealth of CEOs that is at risk of being recouped as a result of the application of clawback provision. Accordingly, the adoption of the clawback provision itself should make CEOs loss averse so as to protect their already endowed incentive wealth. However, we reason that procedural injustice due to the adoption of the clawback provision will lead CEOs to try to rectify the potential loss of current (endowed) option wealth (Bosse & Phillips, 2016) by attempting to increase the value of their prospective option wealth. We sustain that, similar to effects of distributive injustice, such tendencies to increase the value of their prospective option wealth will amplify risk-taking that could harm non-investing stakeholders, reflected in an increased likelihood of CSI. Accordingly, we state the following:

Hypothesis 4: The positive relationship between CEO prospective option wealth and firm-level CSI will be amplified in the presence of a clawback provision (procedural injustice).

MEASUREMENTS, DATA, AND METHODOLOGY

Data and Sample Selection

We derived our data from multiple databases, namely, Violation Tracker, Compustat, Bloomberg, Center for Research in Securities Prices (CRSP), Thomson Reuters Eikon, ExecuComp and BoardEx. We started with the extraction of penalties data for all U.S. listed companies from the Violation Tracker. We then manually matched the company names from the Violation Tracker against the company names in the Bloomberg terminal. We used Google search, information on companies' websites (e.g., annual reports) and stock exchange websites to verify our matching schema. This process allowed us to compile comprehensive and fine-grained data of penalties for 10,527 firm-year observations imposed on 863 companies with Bloomberg tickers, ISINs, and CUSIPs as unique identifiers across the sample period of 2001 to 2018. We then added corporate governance-related control variables (e.g., analyst coverage, CEO duality, ESG bonus, and CEO board membership) to

our penalties data using Bloomberg and Thomson Reuters Eikon databases. All the accounting-related information was downloaded from the Compustat database. Next, we obtained CEO compensation from ExecuComp and generated the measure of CEO current wealth and prospective wealth in accordance with Martin et al. (2013) and Gomez-Mejia et al. (2019). Finally, we used the BoardEx database to extract information related to the board of directors. After merging data across databases, our final sample comprised of 8,669 firm-year observations for 838 U.S. firms for the period 2001-2018. We winsorised our data at 1% level to remove the effect of outliers. Furthermore, following Gomez-Mejia et al. (2019), we standardized our explanatory variables with a mean of 0 and a standard deviation of 1.

Measurements

Dependent variable

Corporate Social Irresponsibility (CSI): Extant literature measures CSI in the form of CSR concerns based on the KLD database. However, recent studies indicate that using CSR concerns as a proxy for CSI suffers from an under-reporting bias (Zaman et al., 2021). CSR concerns are tallied on the basis of either firms' self-reported disclosures or captured through appearances in newspapers or other media headlines. On the one hand, firms may not voluntarily disclose all irresponsible behaviors to stakeholders due to fear of reputational damage (Jain & Zaman, 2020). On the other hand, all CSI incidents may not receive equal and adequate media coverage. Therefore, the scoring of CSR concerns as a measure of CSI does not exhaustively capture firms' CSI involvements, nor does it represent an objective measure, leading to an underestimation of the real economic costs from CSI (Jain & Zaman, 2020).

To avoid these biases and responding to the rising calls for investigations into corporate misconduct impacting multiple stakeholder groups (i.e. as opposed to primarily shareholders) (Schnatterly et al., 2018), we employ a unique database called the Violation

Tracker that captures the actual monetary amount of penalties incurred by firms. Produced by the Corporate Research Project of Good Jobs First, a U.S. policy resource centre (Good Jobs First, 2020), Violation Tracker is the first comprehensive database that covers a wide range of corporate penalties relating to violations in banking, consumer protection, false claims, environment, wages, health and safety, employment discrimination, price-fixing, bribery, and other violation cases filed by more than 50 regulatory agencies under the U.S. Department of Justice from the year 2000 onwards. We introduce two proxies to capture CSI based on the Violation Tracker. The first is the aggregated amount of monetary penalties imposed on firm '*i*' in year '*t*' due to stakeholder violations. The second is the aggregate of the total number of stakeholder related violation incidents that firm '*i*' has been involved year '*t*'.

Independent variables

CEO Current Option Wealth: Following prior literature on BAM (Gomez-Mejia et al., 2019; Martin et al., 2013), we rely on stock options and the notion of mixed gambles to capture CEO risk-taking. Specifically, we capture CEO risk averse behavior using CEO current option wealth. Since CEO current option wealth is endowed, it is subject to losses due to stock price fluctuations. Therefore, it promotes risk averse behavior among executives. We measure CEO current wealth by multiplying the number of options from each option granted to the CEO of a firm '*i*' in year '*t*' to its corresponding spread (for in the money option) on the closing day of the fiscal year '*t*' (Martin et al., 2013).

CEO Prospective Option Wealth: We use CEO prospective wealth to capture CEO risk-taking. Prospective wealth is an estimation of the potential increase in CEO option value, consequential to risk-taking (Gomez-Mejia et al., 2019; Martin et al., 2020). When the gains in prospective wealth are higher compared to the loss in current option wealth (Martin et al., 2013; Wiseman & Gomez-Mejia, 1998), prospective wealth promotes risk-taking behavior

among executives. In line with BAM, we develop the following equation (1) to calculate CEO perspective wealth.

$$CEO\ Prospective\ Wealth =$$

$$Number\ of\ Options\ Held * [(1.0557^{T} * Stock\ Price) - Stock\ Price] \ldots \textbf{Eq (1)}$$

Where $Number\ of\ Options\ Held$ represent the sum of the number of exercisable and unexercisable options held by the CEO of firm '*i*' in year '*t*'. '*T*' is the weighted average time for the expiry of exercisable, unexercisable, and new grants options and is calculated following the process adopted by Core and Guay (2002). *Stock Price* is the price of stock at the end of fiscal year '*t*'. Following, Martin et al. (2013) and Gomez-Mejia, et al. (2019), we use the average annual percentage change in the Dow Jones index over our sample period (i.e., 5.57%) to capture the potential increase in the value of CEO option wealth due to risk-taking.

Control variables

We use several sets of control variables based on previous CSI as well as CEO compensation studies (e.g., Bouslah et al., 2018; Jain & Zaman, 2020; Wowak et al., 2015). Our first set of control variables includes CEOs' individual characteristics. We control for executive compensation linked with CSR performance (i.e., ESG bonus) because prior research suggests that executive compensation linked with CSR performance can influence levels of CSI (Jain & Zaman, 2020). Prior studies also acknowledge that more powerful, influential, and CEOs with a higher career concern may follow riskier business strategies aimed at short-term profit maximization for shareholders, ignoring stakeholder welfare. These types of CEOs are also linked to higher likelihood of corporate misconduct (Chiu & Sharfman, 2018; Oh et al., 2016; Oh et al., 2018). Accordingly, we control for CEO duality (1 if CEO is the chair of the board, otherwise 0), CEO office tenure (number of years for which a CEO holds their position), and CEO career concern (1 if the CEO is close to the

retirement age i.e. 63 years of age and above, otherwise 0) (Busenbark et al., 2016; Krause et al., 2014; Zorn et al., 2017). We control for other social and demographic characteristics that may influence CEO behaviors. For instance, prior studies suggest that executives' gender and educational qualifications are associated with responsible business practice (Jain & Jamali, 2016). Accordingly, we control for CEO gender (1 if the CEO is female, otherwise 0) and CEO education (1 if the CEO has business qualifications otherwise 0) in our empirical models.

Our second set of control variables include board characteristics. Prior literature argues that firms with a large-sized board that is dominated by directors whose appointment in some ways could be controlled by the focal CEO are generally involved in greater misconduct (Zaman et al., 2021). Accordingly, we control for board size (number of directors on board) and CEO- board co-option (i.e., proportion of directors that are appointed after incumbent CEO assumes office to the total directors on board).

Our final set of controls include firm performance and other financial characteristics. We control for firms' profitability (return on assets- ROA) and market performance (market to book ratio- MTB) because of firms' propensity to engage in CSR and CSI for financial gains (Johnson et al., 2009; Köster & Pelster, 2017); we also control for firm size because large firms have more opportunities to commit CSI (McKendall et al., 1999). For financial characteristics, we add variables such as liquidity, cash holding, long-term investments (e.g., capital expenditure (CAPEX)), research and development (R&D) expenditure, and firm age, which are deemed to be associated with CSI in prior literature (Bouslah et al., 2018; Jain & Zaman, 2020; Wowak et al., 2015). Appendix A presents our variables' measurements in detail.

Estimation Method

To examine the impact of CEO option wealth on CSI, we follow equation (2) and use the ordinary least square (OLS) estimation with robust standard errors clustered at the firm-level with industry and year fixed effects. We do so to control for the variations in CEO current and prospective option wealth as well as variations in firms' CSI across different firms, industries and time periods. Following the BAM literature (Martin et al., 2013; Gomez-Mejia, et al., 2019), we include both CEO current option wealth and CEO prospective option wealth (i.e., CEO Compensation) in the regression models. However, CEO compensation can be endogenously determined by CSI and firm characteristics, and both the dependent variable (CSI) and the independent variable (CEO compensation) tend to be serially correlated. To mitigate these concerns, we apply the Fama Macbeth, system generalized method of moments (SGMM), and entropy balancing estimations techniques as robustness tests, which simultaneously account for unobserved heterogeneity, serial correlation, endogeneity problems, reverse causality, and functional form misspecification (Wintoki et al., 2012) in our identification strategies. Our multivariate regression model is as below:

$$CSI = \beta_0 + \beta_1 CEO\ Compensation + \beta_z Controls +$$

$$Year\ Fixed\ Effect + Industry\ Fixed\ Effect + \varepsilon_{it} \ldots \textbf{Eq (2)}$$

Where CSI measures are *Ln stakeholder violations $* and *Ln stakeholder violations number*. We use both the dollar amount of CSI violations and the number (frequency) of violations to account for both the potential bias caused by variations in the monetary value of stakeholder violations and to capture the frequency with which companies violate stakeholders' rights. *CEO compensation* is captured using *CEO current option wealth* and *CEO prospective option wealth.* Controls is a vector of all control variables included in the study. *Industry Fixed Effect* account for all time-invariant industry-level factors that might be jointly related to both our dependent and independent variables. *Year Fixed Effect* account for common

macroeconomic shocks and $\varepsilon_{i,t}$ is the residual of the model (Please see Appendix A for variables descriptions).

Next we examine how distributive injustice impacts the relationship between CEO prospective option wealth and CSI. To capture distributive injustice, we employ the input-output framework (Adams, 1965). While for input we employ Demerjian et al.'s (2012) industry-adjusted CEO ability score; the output is based on industry-adjusted CEO total endowed wealth which comprises of the sum of CEO cash compensation, bonuses, and CEO current option wealth. Our distributive injustice proxy is based on the argumentation that when CEOs with higher inputs (i.e., ability), measured when the CEO ability score is above industry median, receive outputs (i.e., total endowed wealth) that is lower than their peers (i.e., the industry median), they will perceive their compensation as distributively unfair. Accordingly, we create two dummy variables to operationalize industry-adjusted CEO total endowed wealth *below* and *above* industry median. To test the effect of distributive injustice, we run the regression model stated in equation (2) on a sub-sample of firms with high ability CEOs (N=2,656) and interact CEO prospective option wealth with the two dummy variables. The difference in the slope coefficients of these two interaction variables provides an estimation for the presence of distributive injustice. We argue that in the presence of conditions creating distributive injustice, CEOs will attempt to rectify this perceived unfairness by taking greater risks to increase the value of their prospective option wealth. In doing so, the likelihood of CSI increases.

Finally, we examine how procedural injustice impacts the relationship between CEO prospective option wealth and CSI. For this, we use the clawback provision as a proxy to capture the presence of procedural injustice and argue that CEOs perceive the biases embedded in the adoption of a clawback policy as procedurally unfair. We create two dummy variables to operationalize the presence (and absence) of a clawback provision. To test

procedural injustice, we run the regression model stated in equation (2) on our full-sample (N=8,669) and interact the CEO prospective option wealth with the presence (*Clawback*) and absence (*NO Clawback*) of clawback provision in a firm. The difference in the slope coefficients of these two interaction variables provides an estimation for the presence of procedural injustice. Similar to distributive injustice, we argue that in the presence of a clawback provision that creates conditions of procedural injustice, CEOs will attempt to increase the value of their prospective option wealth positively influencing the likelihood of CSI.

Sample Statistics

Table 1 shows the industry-wide distribution of our dependent variables. Our results based on the Fama-French 12 industrial classification demonstrate that, generally, companies operating in healthcare, medical equipment, and pharmaceutical industries are the prime violators with total penalties of USD 19.9 billion between 2001 and 2018. However, manufacturing firms are leaders in terms of the number of CSI violations standing at 2,186 incidents during our study period. Overall, the firms in our sample have paid well over USD 53 billion in penalties for a total of 19,571 stakeholder violations.

Insert Table 1 about here

Table 2 reports the summary statistics and correlations matrix related to the dependent variable (i.e., CSI). Descriptive statistics reported in Panel A suggest that the companies in our sample have paid more than approximately USD 6 million in penalties (calculated from the raw data) for various stakeholder violations. The average number of such violations for these companies was higher than 2 (calculated from raw data), suggesting the presence of recurring instances of corporate violations on an average. The Skewness and Kurtosis results

of our measure of CSI are also within the acceptable threshold (see, Brown, 2015), indicating that our explanatory variable meets normality assumptions. We then compare the descriptive statistics of our novel CSI measure with KLD concerns, the latter is commonly employed by existing studies as a measure of CSI. At the outset, we find that the mean value of KLD concerns score for our sample (i.e., 1.5) is consistent with the prior literature (Dunbar et al., 2020; Doh et al., 2010). Panel B of Table 2 indicates a statistically significant correlation (1%) between the two CSI proxies used in the study i.e., Ln stakeholder violations $ and Ln stakeholder violations number. However, we find an insignificant and weak correlation between KLD concerns and our CSI (Ln stakeholder violations $ and Ln stakeholder violations number) proxies. Such a weak correlation coefficient confirms the concerns expressed in the literature pertaining to self-reported social ratings-based measures, such as the KLD database, of an inherent under-reporting bias (Chatterji et al., 2016) and consequent validity issues.

Insert Table 2 about here

In Table 3, we present the descriptive statistics (before standardization) for variables included in our study. Beginning with our control variables, the value for *ESG bonus* suggests that on an average only 11.3% CEOs receive compensation linked to ESG. About 47% of the CEOs are also chairpersons on the board and on average a CEO retains their position for six and half years. This suggests the presence of a large number of influential and powerful CEOs in our sample. The average values for CEO gender and CEO career concerns confirm the presence of very few female CEOs (4%), and a dominance of CEOs with a higher career concern in our sample (83%). These results indicate that generally our sample companies are dominated by CEO characteristics that are typically associated with high risk-taking.

For the board of directors, we find that, on average, firms in our sample have 10 directors (before log transformations) on their board, of whom a significant proportion (44%) are appointed after an incumbent CEO assumes office i.e., 44% of directors are co-opted and as such boards with such directors are perceived to be associated with weaker managerial monitoring, resulting in higher likelihood of misconduct (Zaman et al., 2021). The average assets (before standardization) for our sample firms stand at USD 13,753 million and average firm profitability (ROA) is about 5%. On average, our sample firms have a market to book value (MTB) of 3.09 with firms' average capital expenditure being USD 728 million (raw value). The average leverage ratio of firms in our sample is 24% and cash holdings are 11%. On average, our sample firms are 41.3 years of age and use approximately 2% of their total assets for R&D purposes. In terms of our explanatory variables, the results indicate that a greater proportion of CEO option wealth is in the form of CEO prospective option wealth (USD 15,129 million), in comparison to an average amount of USD 11,562 million in CEO endowed option wealth.

Insert Table 3 about here

We also perform Pearson correlation to rule out any multicollinearity issues (results available upon request) and find that the Pearson correlation coefficient of all explanatory variables is less than the prescribed threshold (i.e., 0.80).

EMPIRICAL FINDINGS

We begin our analysis with the presentation of our baseline results in Table 4. Models (1) to (3) show the regression results of CEO current option wealth and CEO perspective option wealth on CSI using penalty dollar values (Ln stakeholder violations $), whereas

Models (4) to (6) report similar results for the alternative proxy of CSI i.e., Ln stakeholder violations number.

Insert Table 4 about here

In Models (1) and (2), we regress CEO current option wealth and CEO prospective option wealth (i.e., CEO risk preferences) on CSI individually but with the complete set of control variables. Finally, we run the most robust model specification (Model 3), in which we include both of our explanatory variables i.e., CEO current option wealth and CEO prospective option wealth with all our firm-level control variables, together with industry and year fixed effects. Models (1) and (3) show that the slope coefficient estimates of CEO current option wealth on CSI are negative, which provides support for our Hypothesis 1 that there is a significant negative relationship between CEO current option wealth and CSI. In Model (3), we find the coefficient estimates of CEO current option wealth on CSI is $\boldsymbol{\beta}$ = -0.826 with a significance level of 1% (p-value < 0.01), indicating that with every one standard deviation increase in CEO current option wealth, CSI on average reduces by USD 850,000[1]. Our result suggests that as CEO current (endowed) wealth increases, it lowers risk-taking, consequently reducing the likelihood of CSI.

We also find evidence to support our Hypothesis 2 that there is a significant positive relationship between CEO prospective option wealth and CSI. Specifically, the coefficient estimates of CEO perspective option wealth on CSI in Model (3) is $\boldsymbol{\beta}$ = 0.400 with a significance level of 1% (p-value < 0.01), indicating that with every one standard deviation increase in CEO prospective option wealth, CSI on average increases by USD 400,000.

Our results remain consistent when using the alternative proxy of CSI i.e., Ln stakeholder violations number in Models (4) to (6). Overall, we find strong empirical

evidence supporting our baseline arguments which suggest that increases in CEO current (endowed) option wealth encourage CEO risk aversion behaviors reflected in lower CSI, and increases in CEO prospective option wealth amplify CEO risk-taking reflected in higher CSI. Next, we test Hypotheses 3 and 4, by investigating the relationship between CEO prospective option wealth and CSI in the presence of distributive and procedural injustice, respectively. Specifically, for testing distributive injustice, we focus on the sub-sample of firms where CEOs have higher ability scores than the industry median (N=2656). Next, we interact CEO prospective option wealth with industry-adjusted CEO total endowed wealth both below and above industry median (which reflects lower and higher output compared to industry peers). We then replace the standard CEO prospective option wealth from equation 2 with our two interaction variables and re-run the estimation model for our sub-sample. We report the results in Panel A of Table 5.

Insert Table 5 about here

The results in Panel A of Table 5 reveal that the coefficient estimate on the interaction between *CEO prospective wealth* Lower Total Endowed Wealth* on CSI is positive and significant ($\boldsymbol{\beta} = 0.710$, $p < 0.05$) and the coefficient estimate on the interaction between *CEO prospective wealth* Higher Total Endowed Wealth* on CSI is also positive and significant ($\boldsymbol{\beta} = 0.514$, $p < 0.05$). However, the coefficient in the former case is more positive and significant than the latter. To measure whether the difference between these coefficients is statistically significant, we perform the Wald *F*-test. Our results show that indeed the difference between the two interactions is statistically significant (p-value < 0.01), to the extent of $\boldsymbol{\beta} = 0.196$. This implies that when a higher ability CEO received lower than industry median of total endowed wealth, then CSI on average increases by approximately

USD 260,000. These results suggest that the documented positive relationship between CEO prospective option wealth and firms' CSI is stronger in the presence of our proxy capturing distributive injustice, providing empirical support to our Hypothesis 3. Our results remain consistent when using the alternative proxy of CSI i.e., Ln stakeholder violations number.

Our next step is to examine how procedural injustice in CEO compensation impacts CSI. To do so, we interact the CEO prospective option wealth with the presence (absence) of clawback provision in a firm and re-run equation 2 using the full-sample (N=8,669). The results reported in Panel B of Table 5 indicate that the coefficient estimate on the interaction between $CEO\ prospective\ wealth * Clawback$ on CSI is positive and significant ($\boldsymbol{\beta}$ = 0.582, $p < 0.01$) at a 1 % level as compared with $CEO\ prospective\ wealth * NO\ Clawback$ that remains positive but insignificant ($\boldsymbol{\beta}$ = 0.230, $p > 0.10$). This provides support to our Hypothesis 4 and demonstrates that relationship between CEO prospective wealth and firm-level CSI is positive when CEOs perceive higher procedural unfairness. In economic terms, our results show that when a company adopts a clawback provision as opposed to not adopting one, then CSI is expected to increase on average by USD 510,000. Similar to distributive injustice, these results remain consistent when using the alternative proxy of CSI i.e., Ln stakeholder violations number.

Sensitivity Analysis

Robustness Tests

We conduct several robustness tests to validate our baseline results. To so do, we test whether our main results remain robust when (i) using alternative measurements of dependent variables, (ii) accounting for the global financial crisis (GFC), and (iii) controlling for state fixed effects. Of note, all our robustness tests include the full set of control variables, including year fixed effects as well as industry and country fixed effects. For brevity, we only report coefficients of the variables of interest in Table 6.

Insert Table 6 about here

We start with replacing our standard CSI proxies i.e., Ln stakeholder violations $ and Ln stakeholder violations number with three different proxies and report the result in Panel A. In Model (1), we use the industry adjusted value of Ln stakeholder violations $. This is because of the wide variations of monetary penalties across different industries and to limit industry effects. We calculate the industry-adjusted CSI by adjusting each firm's CSI with the industry average values of monetary penalties for each year based on the Fama-French 12 industrial classification. In line with the process adopted by Eisenberg et al. (1998) and Jain and Zaman (2020), our CSI cost is measured by the natural logarithm transformation of the difference between each firm's CSI cost and the corresponding industry average of CSI costs. In Model (2), we use the stakeholder violations dummy captured as 1 if the company is involved in stakeholder violations in year *'t'* otherwise 0, and in Model 3, we employ CSR controversy scores from Thomson Reuters Eikon Database as an alternative measure of CSI used in prior studies (Aouadi & Marsat, 2018; Jackson et al., 2020). In Panel B, we exclude the 2008 global financial crisis (GFC) because prior studies have reported a shift in management behavior during uncertain times (Jain, 2017; Jain & Zaman, 2020). Another factor that might influence our results is the heterogeneity in state-level legislative structure across the U.S. that could directly influence CSI related fines and penalties. To avoid such bias, we control for U.S. states where firm headquarters are located and present the results in Panel C. All the robustness test results i.e., Panels (A) to (C) of Table 6 are consistent with our baseline results.

Identification Strategies – Endogeneity Issues

The relationship between CEO compensation and CSI may suffer from endogeneity biases because of two important reasons. First, the effects of stakeholder violations (CSI) may persist across years leading to dynamicity bias in our results. Secondly, even though we include a considerable number of control variables in our analysis, there is still a probability that we fail to account for some unobserved firm-specific factors that might otherwise affect both CEO compensation and CSI. To rule out such endogeneity biases, we apply three estimation techniques that are known to address endogeneity issues, namely, Fama MacBeth regression, System GMM and entropy balance estimation (Wintoki et al., 2012; Flannery & Hankins, 2013; Hainmueller, 2012). Of note, all our identification strategies include the full set of control variables, including year fixed effects as well as industry fixed effects. For brevity, we only report coefficients on the variables of interest in Table 7.

Insert Table 7 about here

Panel A reports the regression results for CEO perspective option wealth and CEO current option wealth on CSI for Fama MacBeth regression. In Panel B, we adopt a two-stage GMM approach to account for dynamic endogeneity and reverse causality, while eliminating any potential unobserved firm-specific effects that might otherwise influence both our main dependent and independent variables (Flannery & Hankins, 2013; Wintoki et al., 2012). In Panel C, we follow Hainmueller (2012), and perform entropy balancing of the firms using a dummy variable that takes the value 1 if the CEO's total stock option compensation (above cross-sectional median) and otherwise 0. We prefer entropy balancing over propensity score matching (PSM) because unlike PSM's use of 1 or 0 weighting scheme with a strict exclusion-inclusion criterion that reduces firm-year observations (Shipman et al., 2017), entropy balancing enables balanced covariates distribution for treatment and control groups.

It does this by assigning weights to the observations in the control group (Hainmueller, 2012; McMullin & Schonberger, 2020). This means both the treatment and control group will be comparable for the matched observation without reducing the sample size. We find consistent results across all Panels (A) to (C) of Table 7 strongly confirming our baseline findings and documenting a significant positive (negative) relationship between CEO perspective option wealth (CEO current option wealth) and CSI. These results suggest that our baseline results are not prone to endogeneity concerns.

DISCUSSION

Despite a substantial negative impact on firms' financial health, stakeholders and society, and on CEOs' own reputation and personal wealth, incidents of CSI continue to rise unabated (Borak, 2018; Hambrick, 2007). Our paper sheds light on the nuanced relationship between CEO stock options and CSI by theorizing the impact of justice on this relationship. We suggest that distributive and procedural injustice in compensation impact CEO risk preferences in a manner that amplifies CEO risk-taking behaviors resulting in CSI. Consistent with our theorization, we find that, at the outset, current (endowed) option wealth attenuates risk-taking and therefore it decreases the likelihood of CSI, while CEO prospective option wealth amplifies risk-taking and increases the likelihood of CSI. Furthermore, we find that our proxies of distributive and procedural injustice accentuate the relationship between prospective option wealth and CSI. Our findings have significant implications for the theory and practice of executive compensation and design, that we discuss below.

First, we offer fresh insights on *why* CEO compensation, specifically CEO stock options, exacerbates risk-taking behaviors. The impact of CEO compensation on risk-taking is widely researched and yet lacks consensus (Hoskisson et al., 2017; Pepper & Gore, 2015; Tosi et al., 2000; Wiseman & Gomez-Mejia, 1998). While classical agency theory has described risk averse behaviors as value destroying for shareholders (Eisenhardt, 1989) and

consequently laid the foundation for executive stock options (Sanders, 2001; Shleifer & Vishny, 1997; Zajac & Westphal, 1994), BAM predicts that stock options actually amplify risk averse behaviors by exposing CEO wealth to market fluctuations (Wiseman & Gomez-Mejia, 1998). Notwithstanding these contradictory predictions, executive stock options continue to be the most commonly employed incentive scheme for CEOs (Barrett, 2022; Hess, 2021; Mishel & Wolfe, 2019) and constitute an important research puzzle (Finkelstein & Hambrick, 1988; Greve et al., 2010; Hambrick, 2007; Hembree, 2018; Walsh, 2008). Our findings add further insight to the notion that CEO stock options are mixed gambles (Desjardine & Shi, 2021; Martin et al., 2013; Martin et al., 2016; Pepper & Gore, 2015) by offering a more complete picture of the conditions under which stock options result in aggressive and irresponsible risk-taking. New emerging work under BAM suggests that CEO stock options and risk-taking depends on market fluctuations in stock prices, that can have both a downside (loss) and an upside (gain) potential (Kahneman & Tversky, 1979; Tversky & Kahneman, 1985). This is relevant for CEOs because while CEO prospective option wealth increases with risk-taking, their endowed current option wealth can reduce, and the latter promotes risk averse behaviors. In this context, we explain why boundedly self-interested agents such as CEOs can engage in aggressive risk-taking even when such decisions could cause long-term, irreparable damage to companies and their stakeholders (Bosse & Phillips, 2016). We do so by integrating the conception of distributive and procedural justice in CEO compensation to demonstrate how perceived unfairness further amplifies risky decision making.

Second, we advance behavioral agency research by shifting the focus from how CEO stock options influence risk-taking to theorizing the conditions that sow the seeds for this behavior (Pepper & Gore, 2015). While Bosse and Phillips (2016) have suggested that justice and fairness in compensation can predict agent behaviors at the upper echelon level, the sole

focus of BAM thus far has been to conceptualize perceived fairness from a distributive justice perspective (Adams, 1965; Pepper & Gore, 2015). Integrating the justice literature to the study of agent behaviors (Colquitt, 2001; Cropanzano et al., 2001), we advance BAM by theorizing that beyond perceived fairness of outcomes (distributive justice), agent perceptions of the process employed to arrive at the outcomes (procedural justice) also matter (Leventhal, 1980; Thibaut & Walker, 1975). Our findings move BAM forward by building a richer understanding of how at least two different kinds of justice—distributive and procedural—influence CEO risk-taking. In this manner, we shed a deeper, more nuanced light on performance implications of CEO stock options for organizations and society (see, Busenbark et al., 2016; Hoskisson et al., 2017).

Third, our study enriches agency and behavioral agency research by shifting the focus from shareholders to non-investing stakeholders (Martin et al., 2020). The impact of CEO compensation on different facets of firm-level outcomes has captured the attention of scholars for several decades (see, Busenbark et al., 2016; Hoskisson et al., 2017). Particularly, in the context of organizational misconduct, research on executive compensation has been enriched through its contextualization of risk-taking behaviors for shareholders through earnings manipulation (Armstrong et al., 2013; Zhang et al., 2008), shareholder lawsuits (Peng & Röell, 2008; Shi et al., 2016), and corporate taxation (Zolotoy et al., 2021). Despite advances in the general theorization on stakeholder capitalism (Freeman et al., 2007; Freeman et al., 2020) and a more mainstream acceptance of "firms as a nexus of contracts" (Hill & Jones, 1992) where management "enters into a contract with all other stakeholders" (p.192), neglecting to account for the impact of CEO incentive alignment on stakeholders, beyond shareholders, falls short of exploring the full effects of incentive alignment for both organizations and society (Schnatterly et al., 2018; Zaman et al., 2021). We add to this nascent literature (Martin et al., 2020) by theorizing how and why risk preferences of CEOs,

shaped by their perceptions of unfairness embedded in CEO stock options, can be value-destroying for stakeholders as a whole. In doing so, we expand behavioral agency research to a domain that extends beyond an instrumental view of CEO compensation.

Fourth, from a methodological perspective, we employ a novel empirical measure of CSI that objectively measures stakeholder violations by firms, opening up research opportunities in the field. So far, most existing studies in management that focus on CSI rely on the KLD database (Deckop et al., 2006; McGuire et al., 2019) that measures CSI in the form of CSR concerns or weaknesses, that are either self-reported or are captured through media coverage, NGO releases or litigation reports (Aouadi & Marsat, 2018). By employing a unique comprehensive database for capturing firm-level CSI called the Violation Tracker (Good Jobs First, 2020), that covers a wide range of multi-stakeholder related corporate penalties based on cases filed by the U.S. Department of Justice, we effectively deal with the under-reporting bias prevalent in existing CSI studies (Jain & Zaman, 2020; Mattingly, 2017; Schnatterly et al., 2018).

Finally, our study has important implications for corporate governance and for designing CEO compensation structures. Boards often implement stock options as incentives "with the expressed intention of achieving incentive alignment and altering firm outcomes" (Sanders, 2001, p. 480). We show that even when internal corporate governance is robust (through large boards that are not co-opted, with reduced CEO duality), justice considerations embedded in compensation outcomes and processes can obscure the incentive effects desired by a board (Kosnik, 1987, 1990). Our study encourages board compensation committees and compensation consultants to recognize the importance of processes followed for policy adoption, such as the clawback provision, that could be construed as procedural injustice by executives. Similarly, notwithstanding the controversy around exorbitance of executive compensation, industry pay averages carry important signals for employees, including CEOs

(Colquitt et al., 2001; Edmans et al., 2021; Gartenberg & Wulf, 2017; Smulowitz & Almandoz, 2021; Wade et al., 2006). We believe these transparency measures have the potential to significantly impact excessive risk-taking on the part of executives, consequently reducing corporate involvement in irresponsible behaviors.

LIMITATIONS AND FUTURE DIRECTIONS

Although the design of our study was carefully conceptualized and implemented, this paper has some limitations. It is difficult to precisely measure what each CEO considers "fair" compensation using meso-level data. Our study is based on prevalent reasonable assumptions that individuals perceive unfairness relative to their peers (Shin, 2016) and that conditions when individuals are voiced out of decisions that affect them is against the principles of natural justice and hence also perceived as procedurally unfair (Chhaochharia & Grinstein, 2009; Connelly et al., 2017). Beyond distributive and procedural injustice, there are conditions plausible where firms have implemented distributive justice in compensation structures, but failed to achieve procedural justice, and vice versa, or when both types of injustices are present. Individual agents may weigh these two kinds of injustices differently, and it is likely that those who perceive unfairness in outcomes could still positively respond if they are satisfied with fairness in procedures (Lind & Tyler, 1988). Furthermore, informational and interactional justice that underlie inter-personal work relationships are also important (Cropanzano et al., 2001). Future researchers should explore the interactional effects of different kinds of justice on the performance outcomes of CEO compensation (Bosse et al., 2009). Similarly, future studies could also employ other micro-level measures to gauge CEO perceptions of fairness in compensation such as sophisticated survey instruments, experimental methods, as well as interview-based studies.

Corporate governance literature notes the significance of the role played by board of directors, activist institutional investors, and social movements in both negotiating CEO

compensation as well as disciplining CEOs to curb aggressive risk-taking behaviors (Boivie et al., 2016; Clark et al., 2022; Zaman et al., 2021). We do not consider these actors in our models, and we urge future research to explore these vital interactions. In a similar stance, although we control for board-CEO ties in our empirical models, the quality of board interactions with CEOs could influence perceptions of procedural fairness. Our study does not capture these dynamic negotiations. Future research could expand our model to study the relationship between CEO compensation and CSI, while considering board oversight, monitoring, and interactions (Busenbark et al., 2016; Johnson et al., 2013; Laux, 2010; Schnatterly et al., 2018).

CONCLUSIONS

Notwithstanding an impressive body of literature examining the impact of stock options on CEO risk preferences, research on how unfairness in CEO compensation shapes CEO risk-taking remains scarce. Drawing on the scholarship on organizational justice, our study theorizes that CEO risk preferences are shaped by conditions that give rise to both distributive and procedural injustice. We find that when, relative to their peers, CEO ability (i.e., inputs) is higher in comparison to their endowed option wealth (i.e., outputs), (i.e., distributive unfairness) and when firms adopt a clawback provision (i.e., procedural unfairness), it amplifies CEO risk-taking reflected in an accentuated relationship between prospective option wealth and corporate irresponsible behaviors. By adopting the view of stock options as mixed gambles, we offer novel theoretical insights on how perceptions of unfairness underlying CEO compensation can exacerbate CEO risk-taking behaviors, that can have important implications for stakeholders and society. Broadly speaking, our research is inspired by the call that "organization level policies and management practices be altered to improve the welfare of society" (Bosse & Phillips, 2016, p. 283). Consequently, the

importance of carefully designed CEO compensation structures and governance mechanisms cannot be overstated.

References:

Adams, J. S. (1965). Inequity In Social Exchange. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 2, pp. 267-299). Academic Press. https://doi.org/https://doi.org/10.1016/S0065-2601(08)60108-2

Alexander, S., & Ruderman, M. (1987). The role of procedural and distributive justice in organizational behavior. ***Social Justice Research**, 1*(2), 177-198.

Anantharaman, D., & Lee, Y. G. (2014). Managerial risk taking incentives and corporate pension policy. ***Journal of Financial Economics**, 111*(2), 328-351.

Aouadi, A., & Marsat, S. (2018, 2018/09/01). Do ESG Controversies Matter for Firm Value? Evidence from International Data. ***Journal of Business Ethics**, 151*(4), 1027-1047.

Armstrong, C. S., Larcker, D. F., Ormazabal, G., & Taylor, D. J. (2013, 2013/08/01/). The relation between equity incentives and misreporting: The role of risk-taking incentives. ***Journal of Financial Economics**, 109*(2), 327-350.

Babenko, I., Bennett, B., Bizjak, J. M., & Coles, J. L. (2017). Clawback provisions. *Available at SSRN 2023292*.

Babenko, I., Bennett, B., Bizjak, J. M., Coles, J. L., & Sandvik, J. (2022). Clawback Provisions and Firm Risk. *Available at SSRN*.

Bansal, P., & DesJardine, M. R. (2014). Business sustainability: It is about time. ***Strategic Organization**, 12*(1), 70-78.

Barrett, E. (2022). Executive pay hit a record high for the sixth year in a row in 2021. *Fortune*. https://doi.org/https://fortune.com/2022/05/16/executive-pay-record-high-2021-tesla-apple-expedia/

Ben-Nasr, H., & Ghouma, H. (2018). Employee welfare and stock price crash risk. ***Journal of Corporate Finance***, 48, 700-725.

Berenson, A. (2004). *The number: How the drive for quarterly earnings corrupted Wall Street and corporate America*. Random House Trade Paperbacks.

Blau, P. M. (2017). *Exchange and power in social life*. Routledge.

Boivie, S., Bednar, M. K., Aguilera, R. V., & Andrus, J. L. (2016). Are boards designed to fail? The implausibility of effective board monitoring. ***Academy of Management Annals**, 10*(1), 319-407.

Borak. (2018). Wells Fargo fined $1 billion for insurance and mortgage abuses. ***CNN Money***.

Bosse, D. A., & Phillips, R. A. (2016). Agency theory and bounded self-interest. ***Academy of Management Review**, 41*(2), 276-297.

Bosse, D. A., Phillips, R. A., & Harrison, J. S. (2009). Stakeholders, reciprocity, and firm performance. ***Strategic Management Journal**, 30*(4), 447-456.

Bouslah, K., Liñares-Zegarra, J., M'Zali, B., & Scholtens, B. (2018). CEO risk-taking incentives and socially irresponsible activities. ***The British Accounting Review**, 50*(1), 76-92.

Bratton, W. W. (2005). The Academic Tournament over Executive Compensation [Pay without Performance: The Unfulfilled Promise of Executive Compensation, Lucian Bebchuk, Jesse Fried]. ***California Law Review****, 93*(5), 1557-1584.

Bromiley, P. (2009). A prospect theory model of resource allocation. ***Decision Analysis****, 6*(3), 124-138.

Bromiley, P. (2010). Looking at prospect theory. ***Strategic Management Journal****, 31*(12), 1357-1370.

Brown, T. A. (2015). Confirmatory factor analysis for applied research. Guilford publications.

Busenbark, J. R., Krause, R., Boivie, S., & Graffin, S. D. (2016). Toward a configurational perspective on the CEO: A review and synthesis of the management literature. ***Journal of Management****, 42*(1), 234-268.

Certo, S. T., Daily, C. M., Cannella Jr, A. A., & Dalton, D. R. (2003). Giving money to get money: How CEO stock options and CEO equity enhance IPO valuations. ***Academy of Management Journal****, 46*(5), 643-653.

Chan, L. H., Chen, K. C. W., Chen, T. Y., & Yu, Y. (2014). Substitution between Real and Accruals-Based Earnings Management after Voluntary Adoption of Compensation Clawback Provisions. ***The Accounting Review****, 90*(1), 147-174.

Chartered Global Management Accountant. (2013). *Building world class businesses for the long term*. https://www.cgma.org/content/dam/cgma/resources/reports/downloadabledocuments/cgma-world-class-business-report.pdf

Chatterji, A. K., Durand, R., Levine, D. I., & Touboul, S. (2016). Do ratings of firms converge? Implications for managers, investors and strategy researchers. ***Strategic Management Journal***, 37(8), 1597-1614.

Chhaochharia, V., & Grinstein, Y. (2009). CEO compensation and board structure. ***The Journal of Finance****, 64*(1), 231-261.

Chiu, S.-C., & Sharfman, M. (2018). Corporate social irresponsibility and executive succession: An empirical examination. ***Journal of Business Ethics****, 149*(3), 707-723.

Clark, C. E., Jain, T., Arora, P., & Gabaldon, P. (2022). Call for Papers Corporate Governance: An International Review Special Issue on "Global Social Movements and the Governance of the Firm" Submission Deadline: October 1, 2022.

Clarkson, M. B. E. (1994). A risk based model of stakeholder theory", , . Proceedings of the 2nd Toronto Conference on Stakeholder Theory, Centre for Corporate Social Performance and Ethics, University of Toronto, Toronto.

Colquitt, J. A. (2001). On the dimensionality of organizational justice: a construct validation of a measure. ***Journal of Applied Psychology****, 86*(3), 386.

Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O., & Ng, K. Y. (2001). Justice at the millennium: a meta-analytic review of 25 years of organizational justice research. ***Journal of Applied Psychology****, 86*(3), 425.

Confino, J. (2012). Unilever's Paul Polman: Challenging the corporate status quo. ***The Guardian**, 24*.

Connelly, B. L., Shi, W., & Zyung, J. (2017). Managerial response to constitutional constraints on shareholder power. ***Strategic Management Journal**, 38*(7), 1499-1517.

Core, J., & Guay, W. (2002). Estimating the value of employee stock option portfolios and their sensitivities to price and volatility. ***Journal of Accounting research**, 40*(3), 613-630.

Corneliben, T., Himmler, O., & Koenig, T. (2011). Perceived unfairness in CEO compensation and work morale. ***Economics Letters**, 110*(1), 45-48.

Cropanzano, R., Anthony, E. L., Daniels, S. R., & Hall, A. V. (2017). Social exchange theory: A critical review with theoretical remedies. ***Academy of Management Annals***, *11*(1), 479-516.

Cropanzano, R., & Byrne, Z. S. (2000). Workplace justice and the dilemma of organizational citizenship. In M. van Vugt, M. Snyder, T. R. Tyler, & A. Biel (Eds.), *Cooperation in modern society: Promoting the welfare of communities, states, and organizations* (pp. 142–161). Routledge.

Cropanzano, R., Byrne, Z. S., Bobocel, D. R., & Rupp, D. E. (2001). Moral virtues, fairness heuristics, social entities, and other denizens of organizational justice. ***Journal of Vocational Behavior**, 58*(2), 164-209.

Cropanzano, R., & Greenberg, J. (1997). Progress in organizational justice: Tunneling through the maze. ***International Review of Industrial and Organizational Psychology**, 12*, 317-372.

Daileyl, R. C., & Kirk, D. J. (1992). Distributive and procedural justice as antecedents of job dissatisfaction and intent to turnover. ***Human Relations**, 45*(3), 305-317.

Dasgupta, P., & Maskin, E. (2005). Uncertainty and hyperbolic discounting. ***American Economic Review**, 95*(4), 1290-1299.

Deckop, J. R., Merriman, K. K., & Gupta, S. (2006). The effects of CEO pay structure on corporate social performance. ***Journal of Management**, 32*(3), 329-342.

Dehaan, E., Hodge, F., & Shevlin, T. (2013). Does Voluntary Adoption of a Clawback Provision Improve Financial Reporting Quality? ***Contemporary Accounting Research**, 30*(3), 1027-1062.

Demerjian, P., Lev, B., & McVay, S. (2012). Quantifying managerial ability: A new measure and validity tests. ***Management Science**, 58*(7), 1229-1248.

Desjardine, M. R., & Shi, W. (2021). How temporal focus shapes the influence of executive compensation on risk taking. ***Academy of Management Journal**, 64*(1), 265-292.

Deutsch, M. (1985). *Distributive justice : a social-psychological perspective*. Yale University Press.

Devers, C. E., McNamara, G., Wiseman, R. M., & Arrfelt, M. (2008). Moving closer to the action: Examining compensation design effects on firm risk. ***Organization Science**, 19*(4), 548-566.

Doh, J. P., Howton, S. D., Howton, S. W., & Siegel, D. S. (2010). Does the market respond to an endorsement of social responsibility? The role of institutions, information, and legitimacy. ***Journal of Management***, 36(6), 1461-1485.

Donoher, W. J., Reed, R., & Storrud-Barnes, S. F. (2007). Incentive Alignment, Control, and the Issue of Misleading Financial Disclosures. ***Journal of Management****, 33*(4), 547-569.

Dunbar, C., Li, Z. F., & Shi, Y. (2020). CEO risk-taking incentives and corporate social responsibility. ***Journal of Corporate Finance***, 64, 101714.

Eccles, R. (1985) Transfer pricing as a problem of agency. In J. W. Pratt & R. J. Zeckhauser (Eds.), ***Principals and agents: The structure of business***. Boston: Harvard Business School Press

Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. ***Management Science****, 60*(11), 2835-2857.

Edmans, A., Gosling, T., & Jenter, D. (2021). CEO compensation: Evidence from the field. E CEPR Discussion Paper No. DP16315, Available at;
SSRN: https://ssrn.com/abstract=3886788

Eisenberg, T., Sundgren, S., & Wells, M. T. (1998). Larger board size and decreasing firm value in small firms. ***Journal of Financial Economics****, 48*(1), 35-54.

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. ***Academy of Management Review****, 14*(1), 57-74.

Erkens, M. H. R., Gan, Y., & Yurtoglu, B. B. (2018). Not all clawbacks are the same: Consequences of strong versus weak clawback provisions. ***Journal of Accounting and Economics****, 66*(1), 291-317.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. ***The Journal of Law and Economics****, 26*(2), 301-325.

Fee, C. E., & Hadlock, C. J. (2003). Raids, rewards, and reputations in the market for managerial talent. ***The Review of Financial Studies****, 16*(4), 1315-1357.

Fehr, E., & Schmidt, K. M. (1999). A theory of fairness, competition, and cooperation. ***The Quarterly Journal of Economics****, 114*(3), 817-868.

Finkelstein, S., & Hambrick, D. C. (1988). Chief executive compensation: A synthesis and reconciliation. ***Strategic Management Journal****, 9*(6), 543-558.

Flannery, M. J., & Hankins, K. W. (2013). Estimating dynamic panel models in corporate finance. ***Journal of Corporate Finance****, 19*, 1-19.

Folger, R., & Konovsky, M. A. (1989). Effects of procedural and distributive justice on reactions to pay raise decisions. ***Academy of Management Journal****, 32*(1), 115-130.

Fong, E. A., Misangyi, V. F., & Tosi, H. L. (2010). The effect of CEO pay deviations on CEO withdrawal, firm size, and firm profits. ***Strategic Management Journal****, 31*(6), 629-651.

Freeman, R. E., Dmytriyev, S. D., & Phillips, R. A. (2021). Stakeholder theory and the resource-based view of the firm. ***Journal of Management****, 47*(7), 1757-1770.

Freeman, R. E., Martin, K., & Parmar, B. (2007). Stakeholder capitalism. ***Journal of Business Ethics****, 74*(4), 303-314.

Freeman, R. E., Parmar, B. L., & Martin, K. (2020). The Power of And. In *The Power of And*. Columbia University Press.

Frooman, J. (1999). Stakeholder influence strategies. ***Academy of Management Review****, 24*(2), 191-205.

Garrett, B. L. (2014). Too big to jail: How Prosecutors Compromise with Corporations. In *Too Big to Jail*. Harvard University Press.

Gartenberg, C., & Wulf, J. (2017). Pay harmony? Social comparison and performance compensation in multibusiness firms. ***Organization Science****, 28*(1), 39-55.

Gomez-Mejia, L., & Wiseman, R. M. (1997). Reframing execufive compensation: An assessment and outlook. ***Journal of Management****, 23*(3), 291-374.

Gomez-Mejia, L. R. (1994). Executive compensation: A reassessment and a future research agenda. ***Research in Personnel and Human Resources Management****, 12*(2), 161-222.

Gomez-Mejia, L. R., Neacsu, I., & Martin, G. (2019). CEO risk-taking and socioemotional wealth: The behavioral agency model, family control, and CEO option wealth. ***Journal of Management****, 45*(4), 1713-1738.

Greenberg, J. (1988). Equity and workplace status: A field experiment. ***Journal of Applied Psychology****, 73*(4), 606.

Greve, H. R., Palmer, D., & Pozner, J. E. (2010). Organizations gone wild: The causes, processes, and consequences of organizational misconduct. ***Academy of Management Annals****, 4*(1), 53-107.

Hainmueller, J. (2012). Entropy balancing for causal effects: A multivariate reweighting method to produce balanced samples in observational studies. ***Political Analysis****, 20*(1), 25-46.

Hambrick, D. C. (2007). Upper echelons theory: An update. ***The Academy of Management Review****, 32*(2), 334-343.

Hambrick, D. C. (2018). The fattest of the fat cats: observations on Aguinis and colleagues' findings on CEO pay. ***Management Research: Journal of the Iberoamerican Academy of Management****, 16*(1), 31-37.

Harris, J., & Bromiley, P. (2007). Incentives to cheat: The influence of executive compensation and firm performance on financial misrepresentation. ***Organization Science****, 18*(3), 350-367.

Harrison, J. S., & Freeman, R. E. (1999). Stakeholders, social responsibility, and performance: Empirical evidence and theoretical perspectives. ***Academy of Management Journal****, 42*(5), 479-485.

Harrison, J. S., Phillips, R. A., & Freeman, R. E. (2020). On the 2019 business roundtable "statement on the purpose of a corporation". ***Journal of Management****, 46*(7), 1223-1237.

Hayward, M. L., & Hambrick, D. C. (1997). Explaining the premiums paid for large acquisitions: Evidence of CEO hubris. ***Administrative Science Quarterly***, 103-127.

Hembree, D. (2018). CEO Pay Skyrockets To 361 Times That Of The Average Worker. *Forbes*. https://www.forbes.com/sites/dianahembree/2018/05/22/ceo-pay-skyrockets-to-361-times-that-of-the-average-worker/?sh=55fbfd16776d

Hess, A. (2021). In 2020, top CEOs earned 351 times more than the typical worker. https://www.cnbc.com/2021/09/15/in-2020-top-ceos-earned-351-times-more-than-the-typical-worker.html#:~:text=%E2%80%9CStock%2Drelated%20compensation%20comprises%20around,a%20top%200.1%25%20earner%20made

Hill, C. W., & Jones, T. M. (1992). Stakeholder-agency theory. ***Journal of Management Studies***, *29*(2), 131-154.

Holmström, B. (1979). Moral Hazard and Observability. ***The Bell Journal of Economics***, *10*(1), 74-91.

Hoskisson, R. E., Chirico, F., Zyung, J., & Gambeta, E. (2017). Managerial risk taking: A multitheoretical review and future research agenda. ***Journal of Management***, *43*(1), 137-169.

Huang, S., Lim, C. Y., & Ng, J. (2019). Not clawing the hand that feeds you: the case of co-opted boards and clawbacks. ***European Accounting Review***, *28*(1), 101-127.

Iskandar-Datta, M., & Jia, Y. (2012). Valuation Consequences of Clawback Provisions. ***The Accounting Review***, *88*(1), 171-198.

Jackson, G., Bartosch, J., Avetisyan, E., Kinderman, D., & Knudsen, J. S. (2020). Mandatory non-financial disclosure and its influence on CSR: An international comparison. ***Journal of Business Ethics***, *162*(2), 323-342.

Jain, T., & Jamali, D. (2016). Looking inside the black box: The effect of corporate governance on corporate social responsibility. ***Corporate governance: An International Review***, 24(3), 253-273.

Jain, T. (2017). Decoupling corporate social orientations: A cross-national analysis. ***Business & Society***, 56(7), 1033-1067.

Jain, T., & Zaman, R. (2020). When boards matter: The case of corporate social irresponsibility. ***British Journal of Management***, *31*(2), 365-386.

Jensen, M. C. (1998). *Foundations of organizational strategy*. Harvard university press.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. ***Journal of Financial Economics***, *3*(4), 305-360.

Jensen, M. C., & Murphy, K. J. (1990). Performance pay and top-management incentives. ***Journal of Political Economy***, *98*(2), 225-264.

Johnson, S. A., Ryan, H. E., & Tian, Y. S. (2009). Managerial incentives and corporate fraud: The sources of incentives matter. ***Review of Finance***, *13*(1), 115-145.

Johnson, S. G., Schnatterly, K., & Hill, A. D. (2013). Board composition beyond independence: Social capital, human capital, and demographics. ***Journal of Management***, *39*(1), 232-262.

Josephs, L. (2021). Boeing to pay more than $2.5 billion to settle criminal conspiracy charge over 737 Max. *CNBC*. https://www.cnbc.com/2021/01/07/doj-fines-boeing-over-2point5-billion-charges-it-with-fraud-conspiracy-over-737-max-crashes.html

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. ***Econometrica**, 47*, 263-291.

Kale, J. R., Reis, E., & Venkateswaran, A. (2014). Pay inequalities and managerial turnover. ***Journal of Empirical Finance**, 27*, 21-39.

Kesslen, B. (2020). 737 Max crashes that killed 346 were 'horrific culmination' of failures by Boeing and FAA, House report says. *CNBC*. https://www.nbcnews.com/news/us-news/737-max-crashes-killed-346-were-horrific-culmination-failures-boeing-n1240192

Kolev, K., Wiseman, R. M., & Gomez-Mejia, L. R. (2017). Do CEOs ever lose? Fairness perspective on the allocation of residuals between CEOs and shareholders. ***Journal of Management***, 43(2), 610-637.

Konovsky, M. A. (2000). Understanding procedural justice and its impact on business organizations. ***Journal of Management**, 26*(3), 489-511.

Korsgaard, M. A., & Roberson, L. (1995). Procedural justice in performance evaluation: The role of instrumental and non-instrumental voice in performance appraisal discussions. ***Journal of Management**, 21*(4), 657-669.

Kosnik, R. D. (1987). Greenmail: A study of board performance in corporate governance. ***Administrative Science Quarterly***, 163-185.

Kosnik, R. D. (1990). Effects of board demography and directors' incentives on corporate greenmail decisions. ***Academy of Management Journal**, 33*(1), 129-150.

Köster, H., & Pelster, M. (2017). Financial penalties and bank performance. ***Journal of Banking & Finance**, 79*, 57-73.

Krause, R., Semadeni, M., & Cannella Jr, A. A. (2014). CEO duality: A review and research agenda. ***Journal of Management**, 40*(1), 256-286.

Kruglanski, A. W., & Mayseless, O. (1990). Classic and current social comparison research: Expanding the perspective. ***Psychological Bulletin**, 108*(2), 195.

Larraza-Kintana, M., Wiseman, R. M., Gomez-Mejia, L. R., & Welbourne, T. M. (2007). Disentangling compensation and employment risks using the behavioral agency model. ***Strategic Management Journal**, 28*(10), 1001-1019.

Laux, V. (2010). Effects of litigation risk on board oversight and CEO incentive pay. ***Management Science**, 56*(6), 938-948.

Leventhal, G. S. (1980). What Should Be Done with Equity Theory? In K. J. Gergen, M. S. Greenberg, & R. H. Willis (Eds.), ***Social Exchange: Advances in Theory and Research*** (pp. 27-55). Springer US.

Leventhal, G. S., Karuza, J., & Fry, W. R. (1980). Beyond fairness: A theory of allocation preferences. ***Justice and Social Interaction**, 3*(1), 167-218.

Lind, E. A., & Tyler, T. R. (1988). *The social psychology of procedural justice*. Springer Science & Business Media.

Marcus, A. (1989). The deterrent to dubious corporate behavior: Profitability, probability and safety recalls. ***Strategic Management Journal****, 10*(3), 233-250.

Martin, G. P., Gomez-Mejia, L. R., & Wiseman, R. M. (2013). Executive stock options as mixed gambles: Revisiting the behavioral agency model. ***Academy of Management Journal****, 56*(2), 451-472.

Martin, G. P., Wiseman, R. M., & Gomez-Mejia, L. R. (2019). The interactive effect of monitoring and incentive alignment on agency costs. ***Journal of Management****, 45*(2), 701-727.

Martin, G. P., Wiseman, R. M., & Gomez-Mejia, L. R. (2020). The ethical dimension of equity incentives: A behavioral agency examination of executive compensation and pension funding. ***Journal of Business Ethics****, 166*(3), 595-610.

Martin, G. P., Wiseman, R. M., & Gomez-Mejia, L. R. (2016). Going short-term or long-term? CEO stock options and temporal orientation in the presence of slack. ***Strategic Management Journal****, 37*(12), 2463-2480.

Masterson, S. S., Lewis, K., Goldman, B. M., & Taylor, M. S. (2000). Integrating justice and social exchange: The differing effects of fair procedures and treatment on work relationships. ***Academy of Management Journal****, 43*(4), 738-748.

Mattingly, J. E. (2017). Corporate social performance: A review of empirical research examining the corporation–society relationship using Kinder, Lydenberg, Domini social ratings data. ***Business & Society****, 56*(6), 796-839.

McGuire, J., Oehmichen, J., Wolff, M., & Hilgers, R. (2019). Do contracts make them care? The impact of CEO compensation design on corporate social performance. ***Journal of Business Ethics***, 1-16.

McKendall, M., Sánchez, C., & Sicilian, P. (1999). Corporate governance and corporate illegality: The effects of board structure on environmental violations. ***The International Journal of Organizational Analysis****, 7*(3), 201-223.

McMullin, J. L., & Schonberger, B. (2020). Entropy-balanced accruals. ***Review of Accounting Studies****, 25*(1), 84-119.

Melkonian, T., Monin, P., & Noorderhaven, N. G. (2011). Distributive justice, procedural justice, exemplarity, and employees' willingness to cooperate in M&A integration processes: An analysis of the Air France-KLM merger. ***Human Resource Management****, 50*(6), 809-837.

Mena, S., Rintamäki, J., Fleming, P., & Spicer, A. (2016). On the forgetting of corporate irresponsibility. ***Academy of Management Review****, 41*(4), 720-738.

Milbourn, T. T. (2003). CEO reputation and stock-based compensation. ***Journal of Financial Economics****, 68*(2), 233-262.

Milkovich, G. T., & Wigdor, A. K. (1991). *Pay for performance: Evaluating performance appraisal and merit pay*. National Academy Press.

Mishel, L., & Wolfe, J. (2019). CEO compensation has grown 940% since 1978 Typical worker compensation has risen only 12% during that time. ***Economic Policy Institute*** https://www.epi.org/publication/ceo-compensation-2018/

Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. ***Academy of Management Review****, 22*(4), 853-886.

Mitchell, R. K., Weaver, G. R., Agle, B. R., Bailey, A. D., & Carlson, J. (2016). Stakeholder agency and social welfare: Pluralism and decision making in the multi-objective corporation. ***Academy of Management Review****, 41*(2), 252-275.

Oh, W.-Y., Chang, Y. K., & Cheng, Z. (2016, 2016/01/01). When CEO Career Horizon Problems Matter for Corporate Social Responsibility: The Moderating Roles of Industry-Level Discretion and Blockholder Ownership. ***Journal of Business Ethics****, 133*(2), 279-291.

Oh, W.-Y., Chang, Y. K., & Jung, R. (2018). Experience-based human capital or fixed paradigm problem? CEO tenure, contextual influences, and corporate social (ir) responsibility. ***Journal of Business Research****, 90*, 325-333.

Peng, L., & Röell, A. (2008). Executive pay and shareholder litigation. ***Review of Finance****, 12*(1), 141-184.

Pepper, A., & Gore, J. (2015). Behavioral agency theory: New foundations for theorizing about executive compensation. ***Journal of Management****, 41*(4), 1045-1068.

Rajgopal, S., Shevlin, T., & Zamora, V. (2006). CEOs' Outside Employment Opportunities and the Lack of Relative Performance Evaluation in Compensation Contracts. ***The Journal of Finance,*** *61*(4), 1813-1844.

Reilly, G., Souder, D., & Ranucci, R. (2016). Time Horizon of Investments in the Resource Allocation Process:Review and Framework for Next Steps. ***Journal of Management****, 42*(5), 1169-1194.

Robison, P. (2019). Former Boeing Engineers Say Relentless Cost-Cutting Sacrificed Safety. *Bloomberg*. https://www.bloomberg.com/news/features/2019-05-09/former-boeing-engineers-say-relentless-cost-cutting-sacrificed-safety

Sanders, W. G. (2001). Behavioral responses of CEOs to stock ownership and stock option pay. ***Academy of Management Journal****, 44*(3), 477-492.

Sanders, W. G., & Hambrick, D. C. (2007). Swinging for the fences: The effects of CEO stock options on company risk taking and performance. ***Academy of Management Journal****, 50*(5), 1055-1078.

Scherer, A. G., & Palazzo, G. (2007). Toward a political conception of corporate responsibility: Business and society seen from a Habermasian perspective. ***Academy of Management Review****, 32*(4), 1096-1120.

Schnatterly, K., Gangloff, K. A., & Tuschke, A. (2018). CEO wrongdoing: A review of pressure, opportunity, and rationalization. ***Journal of Management****, 44*(6), 2405-2432.

Securities and Exchange Commission. (2015). *SEC Proposes Rules Requiring Companies to Adopt Clawback Policies on Executive Compensation* https://www.sec.gov/news/pressrelease/2015-136.html

Shafir, E., Diamond, P., & Tversky, A. (1997). Money illusion. ***The Quarterly Journal of Economics****, 112*(2), 341-374.

Shavell, S. (1979). Risk Sharing and Incentives in the Principal and Agent Relationship. ***The Bell Journal of Economics****, 10*(1), 55-73.

Shi, W., Connelly, B. L., & Sanders, W. G. (2016). Buying bad behavior: Tournament incentives and securities class action lawsuits. ***Strategic Management Journal****, 37*(7), 1354-1378.

Shin, T. (2016). Fair pay or power play? Pay equity, managerial power, and compensation adjustments for CEOs. ***Journal of Management****, 42*(2), 419-448.

Shipman, J. E., Swanquist, Q. T., & Whited, R. L. (2017). Propensity score matching in accounting research. ***The Accounting Review****, 92*(1), 213-244.

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. ***The Journal of Finance****, 52*(2), 737-783.

Slawinski, N., & Bansal, P. (2015). Short on time: Intertemporal tensions in business sustainability. ***Organization Science****, 26*(2), 531-549.

Smulowitz, S. J., & Almandoz, J. (2021, 2021/09/01/). Reprint of "Predicting employee wrongdoing: The complementary effect of CEO option pay and the pay gap". ***Organizational Behavior and Human Decision Processes****, 166*, 104-116.

Stout, L. A. (2012). *The shareholder value myth: How putting shareholders first harms investors, corporations, and the public*. Berrett-Koehler Publishers.

Strike, V. M., Gao, J., & Bansal, P. (2006). Being good while being bad: Social responsibility and the international diversification of US firms. ***Journal of International Business Studies****, 37*(6), 850-862.

Sung, S. Y., Choi, J. N., & Kang, S.-C. (2017). Incentive Pay and Firm Performance: Moderating Roles of Procedural Justice Climate and Environmental Turbulence. ***Human Resource Management****, 56*(2), 287-305.

Szwajkowski, E. (2000). Simplifying the principles of stakeholder management: The three most important principles. ***Business & Society****, 39*(4), 379-396.

Tang, Y., Qian, C., Chen, G., & Shen, R. (2015). How CEO hubris affects corporate social (ir)responsibility. ***Strategic Management Journal****, 36*(9), 1338-1357.

Thibaut, J. W., & Walker, L. (1975). *Procedural justice: A psychological analysis*. L. Erlbaum Associates.

Tosi, H. L., Katz, J. P., & Gomez-Mejia, L. R. (1997). Disaggregating the agency contract: The effects of monitoring, incentive alignment, and term in office on agent decision making. ***Academy of Management Journal****, 40*(3), 584-602.

Tosi, H. L., Werner, S., Katz, J. P., & Gomez-Mejia, L. R. (2000). How much does performance matter? A meta-analysis of CEO pay studies. ***Journal of Management****, 26*(2), 301-339.

Tversky, A., & Kahneman, D. (1985). The framing of decisions and the psychology of choice. In *Behavioral decision making* (pp. 25-41). Springer.

Wade, J. B., O'Reilly III, C. A., & Pollock, T. G. (2006). Overpaid CEOs and underpaid managers: Fairness and executive compensation. ***Organization Science****, 17*(5), 527-544.

Walsh, J. P. (2008). CEO compensation and the responsibilities of the business scholar to society. ***Academy of Management Perspectives****, 22*(2), 26-33.

Wintoki, M. B., Linck, J. S., & Netter, J. M. (2012). Endogeneity and the dynamics of internal corporate governance. ***Journal of Financial Economics****, 105*(3), 581-606.

Wiseman, R. M., & Gomez-Mejia, L. R. (1998). A behavioral agency model of managerial risk taking. ***Academy of Management Review****, 23*(1), 133-153.

Wowak, A. J., Mannor, M. J., & Wowak, K. D. (2015). Throwing caution to the wind: The effect of CEO stock option pay on the incidence of product safety problems. ***Strategic Management Journal****, 36*(7), 1082-1092.

Yukl, G. (2008). How leaders influence organizational effectiveness. ***The Leadership Quarterly****, 19*(6), 708-722.

Zahra, S. A., Priem, R. L., & Rasheed, A. A. (2005). The antecedents and consequences of top management fraud. ***Journal of Management****, 31*(6), 803-828.

Zajac, E. J., & Westphal, J. D. (1994). The costs and benefits of managerial incentives and monitoring in large US corporations: When is more not better? ***Strategic Management Journal****, 15*(S1), 121-142.

Zaman, R., Atawnah, N., Baghdadi, G. A., & Liu, J. (2021). Fiduciary duty or loyalty? Evidence from co-opted boards and corporate misconduct. ***Journal of Corporate Finance****, 70*, 102066.

Zhang, X., Bartol, K. M., Smith, K. G., Pfarrer, M. D., & Khanin, D. M. (2008). CEOs on the edge: Earnings manipulation and stock-based incentive misalignment. ***Academy of Management Journal****, 51*(2), 241-258.

Zolotoy, L., O'Sullivan, D., & Martin, G. P. (2022). Behavioral agency and firm productivity: Re-visiting the incentive alignment qualities of stock options. ***Journal of Management Studies***.

Zolotoy, L., O'Sullivan, D., Martin, G. P., & Veeraraghavan, M. (2019). The role of affect in shaping the behavioral consequences of CEO option incentives. ***Journal of Management****, 45*(7), 2920-2951.

Zolotoy, L., O'Sullivan, D., Martin, G. P., & Wiseman, R. M. (2021). Stakeholder agency relationships: CEO stock options and corporate tax avoidance. ***Journal of Management Studies****, 58*(3), 782-814.

Zorn, M. L., Shropshire, C., Martin, J. A., Combs, J. G., & Ketchen Jr., D. J. (2017). Home Alone: The Effects of Lone-Insider Boards on CEO Pay, Financial Misconduct, and Firm Performance. ***Strategic Management Journal****, 38*(13), 2623-2646.

FOOTNOTES

[1] We followed procedure mention in Ben-Nasr and Ghouma (2018) to calculate economic significance for our hypotheses.

TABLE 1
CSI Distribution Across Industries

	Stakeholder Violations Cost (Total)	Stakeholder Violations Number (Total)
Healthcare, Medical Equipment, and Drugs	$19,900,000,000	414
Utilities	$10,100,000,000	903
Oil, Gas, and Coal Extraction and Products	$8,280,000,000	2,016
Wholesale, Retail, and Some Service	$4,480,000,000	1,622
Others (Mines, Constr., Bld. Mt., Trans, Hotels, Bus Serv, Entertainment)	$2,410,000,000	8,812
Telephone and Television Transmission	$2,090,000,000	491
Business Equipment (Computers, Software, and Electronic Equipment)	$1,770,000,000	490
Chemicals and Allied Products	$1,610,000,000	1,049
Manufacturing (Machinery, Trucks, Planes, Off Furn., Paper, Com Printing)	$1,570,000,000	2,186
Consumer Non-Durables (Food, Tobacco, Textiles, Apparel, Leather, Toys)	$706,000,000	1,109
Finance	$460,000,000	118
Consumer Durables (Cars, TV's, Furniture, Household Appliances)	$232,000,000	361
Total	*$53,608,000,000*	*19,571*

This table shows the dollar value of CSI penalties (USD) and the number of CSI penalties using the Fama French 12 industrial classification across the sample period 2001-2018.

Table 2:
Dependent Variable: Corporate Social Irresponsibility: Summary Statistics and Correlations

Panel A: Descriptive Statistics

	Mean	*Std.*	*P25*	*Median*	*P75*	*Range*	*Skewness*	*Kurtosis*
CSI (Ln stakeholder violations $)	6.08	6.03	0.00	8.70	11.04	18.24	0.18	1.45
CSI (Ln stakeholder violations number)	0.61	0.68	0.00	0.69	1.10	2.08	0.74	2.35
KLD Concerns	1.53	1.34	0.00	1.00	2.00	8.00	0.87	3.30

Panel B: Pairwise correlations

Variables	**(1)**	**(2)**	**(3)**
(1) CSI (Ln stakeholder violations $)	1.00		
(2) CSI (Ln stakeholder violations number)	0.886***	1.00	
(3) KLD Concerns	0.004	-0.012	1.00

This table reports the descriptive statistics and Pearson correlation across the different proxies of Corporate Social Irresponsibility (CSI). Panel A presents the descriptive statistics and Panel B shows the results of the Pearson correlation. 1%, 5%, and 10% significance levels of the Pearson correlation coefficients are denoted by ***, **, and *, respectively.

TABLE 3
Descriptive Statistics

	Obs.	Mean	Std.	P25	Median	P75
Panel A: Independent variables						
CEO current option wealth ($000)	8,699	11,562	44,527	0.00	1,167	8,632
CEO prospective option wealth ($000)	8,699	15,129	30,421	1,928	6,610	16,401
Panel B: Control Variables						
ESG bonus	8,699	0.11	0.32	0.00	0.00	0.00
CEO duality	8,699	0.47	0.50	0.00	0.00	1.00
CEO office tenure	8,699	6.59	6.72	2.00	5.00	9.00
CEO career concern	8,699	0.17	0.38	0.00	0.00	0.00
CEO qualification (Business)	8,699	0.21	0.41	0.00	0.00	0.00
Female CEO	8,699	0.04	0.19	0.00	0.00	0.00
CEO board co-option	8,699	0.440	0.28	0.22	0.440	0.625
Board size (Ln)	8,699	2.26	0.22	2.08	2.30	2.40
Firm size	8,699	8.37	1.26	7.31	8.30	9.38
ROA	8,699	0.05	0.09	0.03	0.05	0.09
MTB	8,699	3.09	3.07	1.58	2.37	3.73
CAPEX (Ln)	8,699	5.05	1.75	3.82	4.96	6.23
Leverage	8,699	0.24	0.20	0.11	0.22	0.33
Cash holding	8,699	0.11	0.13	0.03	0.07	0.16
R&D	8,699	0.02	0.04	0.00	0.00	0.02
Firm age	8,699	41.38	18.92	25.00	36.00	58.08

This table presents the descriptive statistics for the study variables. The sample consists of firm-year observations during the 2001-2018 period. Detailed variable definitions are provided in Appendix A.

TABLE 4
CEO Stock Options and CSI: Baseline Model

	Ln stakeholder violations ($)			Ln stakeholder violations (number)		
	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
CEO current option wealth	-0.731**		-0.826***	-0.059*		-0.069***
	(0.339)		(0.279)	(0.031)		(0.027)
CEO prospective option wealth		0.194***	0.400***		0.013**	0.035***
		(0.071)	(0.137)		(0.006)	(0.013)
ESG bonus	0.230	0.275	0.234	0.026	0.039	0.036
	(0.218)	(0.218)	(0.218)	(0.022)	(0.024)	(0.025)
CEO duality	-0.514***	-0.533***	-0.523***	-0.038***	-0.040***	-0.040***
	(0.132)	(0.132)	(0.132)	(0.012)	(0.014)	(0.014)
CEO office tenure	0.133*	0.086	0.121	0.009	0.003	0.005
	(0.080)	(0.080)	(0.080)	(0.007)	(0.008)	(0.008)
CEO career concern	-0.003***	-0.013***	-0.015***	-0.014***	-0.024***	-0.024***
	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)
CEO qualification (Business)	-0.137**	-0.141**	-0.139**	-0.012**	-0.013**	-0.013**
	(0.062)	(0.062)	(0.062)	(0.006)	(0.006)	(0.006)
Female CEO	-0.082	-0.104	-0.077	-0.002	-0.008	-0.006
	(0.331)	(0.331)	(0.332)	(0.030)	(0.031)	(0.031)
CEO board co-option	0.280***	0.170**	0.210***	0.030***	0.040***	0.040***
	(0.075)	(0.075)	(0.075)	(0.007)	(0.008)	(0.008)
Board size (Ln)	0.396***	0.381***	0.388***	0.035***	0.032***	0.033***
	(0.077)	(0.077)	(0.077)	(0.007)	(0.008)	(0.008)
Firm size	0.997***	0.904***	0.930***	0.114***	0.124***	0.125***
	(0.153)	(0.153)	(0.154)	(0.014)	(0.015)	(0.015)
ROA	-0.099	-0.131*	-0.114*	-0.006	-0.009	-0.008

	(0.067)	(0.067)	(0.067)	(0.006)	(0.006)	(0.006)
MTB	-0.143**	-0.169***	-0.153**	-0.017***	-0.020***	-0.019***
	(0.065)	(0.065)	(0.065)	(0.006)	(0.006)	(0.006)
CAPEX	0.628***	0.606***	0.607***	0.068***	0.077***	0.077***
	(0.161)	(0.160)	(0.161)	(0.014)	(0.015)	(0.015)
Leverage	0.040	0.035	0.050	0.001	0.001	0.002
	(0.079)	(0.079)	(0.078)	(0.006)	(0.007)	(0.007)
Cash holding	-0.065	-0.067	-0.073	-0.012*	-0.013*	-0.013*
	(0.080)	(0.079)	(0.080)	(0.007)	(0.007)	(0.007)
R&D	-0.154*	-0.167**	-0.167**	-0.004	-0.001	-0.001
	(0.081)	(0.082)	(0.082)	(0.007)	(0.007)	(0.007)
Firm age	0.175**	0.188**	0.171*	0.012	0.012	0.011
	(0.089)	(0.089)	(0.089)	(0.008)	(0.009)	(0.009)
Industry Fixed Effect	Included	Included	Included	Included	Included	Included
Year Fixed Effect	Included	Included	Included	Included	Included	Included
F-statistics *(P*-value)	0.000	0.000	0.000	0.000	0.000	0.000
Observations	8,669	8,669	8,669	8,669	8,669	8,669
Adjusted R-squared	0.284	0.284	0.285	0.370	0.401	0.402

This table shows the impact of CEO Stock Options on CSI. Models (1) – Model (3) capture the effect of CEO current option wealth and CEO prospective option wealth on CSI using the total cost of penalties imposed on a firm due to its violations of stakeholders' rights (i.e., Ln stakeholder violations $**)**. Models (4) – (6) capture the effect of CEO current option wealth and CEO prospective option on CSI using the number of penalties imposed on a firm due to its violations of stakeholders' rights (i.e., Ln Stakeholder Violations Number). Robust standard errors using firm clustering are reported in parentheses. Industry and year fixed effects are included in all the regressions. 1%, 5%, and 10% significance levels of the coefficients are denoted by ***, **, and *, respectively. See appendix A for all variable definitions.

Table 5:
CEO Stock Options and CSI: Tests for Distributive and Procedural Injustice

Panel A: Distributive Injustice

	CEO Total Endowed Wealth (Above/below Industry median for high CEO ability firms)	
	Ln stakeholder violations ($)	**Ln stakeholder violations (number)**
	Model (1)	**Model (2)**
*CEO prospective option wealth * Lower Total Endowed Wealth (1)*	0.710**	0.068**
	(0.302)	(0.028)
*CEO prospective option wealth * Higher Total Endowed Wealth (2)*	0.514**	0.065***
	(0.210)	(0.021)
CEO current option wealth	-1.167*	-0.131**
	(0.647)	(0.059)
Difference in Coefficient (1) – (2)	0.196**	0.003***
F-Statistics p-value	[0.010]	[0.001]
All other controls	Included	Included
Industry Fixed Effect	Included	Included
Year Fixed Effect	Included	Included
F-statistics *(P*-value)	0.000	0.000
Observations	2,656	2,656
Adjusted R-squared	0.335	0.490

Panel B: Procedural Injustice

	(Clawback/ NO Clawback)	
	Ln stakeholder violations ($)	**Ln stakeholder violations (number)**
	Model (1)	**Model (2)**
*CEO prospective option wealth * Clawback - (1)*	0.582***	0.042***
	(0.166)	(0.016)

*CEO prospective option wealth * NO Clawback- (2)*	0.230	0.028*
	(0.163)	(0.017)
CEO current option wealth	-0.861***	-0.071***
	(0.279)	(0.027)
Difference in Coefficient (1) – (2)	0.352***	0.014**
F-Statistics p-value	[0.002]	[0.017]
All other controls	Included	Included
Industry Fixed Effect	Included	Included
Year Fixed Effect	Included	Included
F-statistics *(P*-value)	0.000	0.000
Observations	8,669	8,669
Adjusted R-squared	0.285	0.402

This table presents the regression results of the relationship between CEO prospective option wealth and CSI in the presence of distributive and procedural injustice respectively. We use Demerjian et al., (2012) managerial ability and CEO total endowed reward (i.e. total endowed reward is the sum of CEO cash compensation, bonuses and CEO's current option wealth) to capture distributive injustice. CEOs with above industry managerial ability score receiving a lower endowed pay compared to industry peers will perceive such pay as distributively unfair. Panel A reports the results on the effects of distributive injustice for the sub-sample of firms with high ability CEOs. Procedural injustice is captured through a firm's voluntary adoption of clawback provisions. Panel B indicates the regression results of CEO prospective option wealth and CSI in the presence of procedural injustice. Robust standard errors using firm clustering are reported in parentheses. Industry and year fixed effects are included in all the regressions. 1%, 5%, and 10% significance levels of the coefficients are denoted by ***, **, and *, respectively. See appendix A for all variable definitions.

Table 6:
CEO Stock Options and CSI: Robustness Tests

Panel A: Alternative dependent variables

	Ln stakeholder violations ($) **(***Industry adjusted***)**	*Stakeholder violations dummy*	*KLD ESG concerns*
	Model (1)	**Model (2)**	**Model (3)**
CEO current option wealth	-0.948**	-0.226***	-0.086*
	(0.484)	(0.067)	(0.051)
CEO prospective option wealth	0.635***	0.072**	0.038**
	(0.131)	(0.032)	(0.016)
All other controls	Included	Included	Included
Industry Fixed Effect	Included	Included	Included
Year Fixed Effect	Included	Included	Included
F-statistics *(P*-value)	0.000	0.000	0.000
Observations	8,669	8,669	8,669
Adjusted R-squared/Pseudo R2	0.156	0.100	0.186

Panel B: Excluding Global Financial Crisis

	Ln stakeholder violations ($)	**Ln stakeholder violations (number)**
	Model (1)	**Model (2)**
CEO current option wealth	-0.858***	-0.082***
	(0.300)	(0.028)
CEO prospective option wealth	0.426***	0.040***
	(0.146)	(0.014)
All other controls	Included	Included
Industry Fixed Effect	Included	Included
Year Fixed Effect	Included	Included
F-statistics *(P*-value)	0.000	0.000
Observations	7,664	7,664
Adjusted R-squared	0.286	0.401

Panel C: Controlling for State Fixed effect

	Ln stakeholder violations ($)	Ln stakeholder violations (number)
	Model (1)	Model (2)
CEO current option wealth	-0.915***	-0.077***
	(0.282)	(0.027)
CEO prospective option wealth	0.381***	0.037***
	(0.140)	(0.014)
All other controls	Included	Included
Industry Fixed Effect	Included	Included
State Fixed Effect	Included	Included
Year Fixed Effect	Included	Included
F-statistics *(P*-value)	0.000	0.000
Observations	8,669	8,669
Adjusted R-squared	0.290	0.412

This Table reports the robustness tests results for the relationship between CEO compensation and CSI. Panel A presents the results for alternative variable of CSI. Panel B exclude the Global Financial Crisis years i.e., 2008-2009. Panel C presents the results after controlling for firms headquarter location states. Robust standard errors using firm clustering are reported in parentheses. Industry and year fixed effects are included in all the regressions. 1%, 5%, and 10% significance levels of the coefficients are denoted by ***, **, and *, respectively. See appendix A for all variable definitions

Table 7:
CEO Stock Options and CSI– Identifications Strategies

Panel A: Fama MacBeth Regression

	Ln stakeholder violations ($)	Ln stakeholder violations (number)
	(1)	(2)
CEO current option wealth	-1.497**	-0.098**
	(0.648)	(0.039)
CEO prospective option wealth	0.556**	0.043**
	(0.211)	(0.018)
All other controls	Included	Included
Industry Fixed Effect	Included	Included
Year Fixed Effect	Included	Included
F test *p* value	0.000	0.000
Observations	8,669	8,669
Adjusted R-squared	0.117	0.123

Panel B: System GMM Results

	Ln stakeholder violations ($)	Ln stakeholder violations (number)
	(1)	(2)
CEO current option wealth	-1.476**	-0.311**
	(0.738)	(0.154)
CEO prospective option wealth	0.940**	0.157***
	(0.458)	(0.056)
Ln stakeholder violations $ t-1	0.061***	
	(0.021)	
Ln stakeholder violations number t-1		0.119***
		(0.028)
All other controls	Included	Included
Industry Fixed Effect	Included	Included
Year Fixed Effect	Included	Included
Hansen J test (P-value)	0.432	0.874

AR (1) test (P-value)	0.000	0.000
AR (2) test (P-value)	0.172	0.255
Number of groups	828	828
F-statistics (P-value)	0.000	0.000
Observations	7,058	7,058

Panel C: Entropy Balancing Method

	Ln stakeholder violations ($)	**Ln stakeholder violations (number)**
	(1)	(2)
CEO current option wealth	-0.818***	-0.063**
	(0.290)	(0.027)
CEO prospective option wealth	0.346**	0.036**
	(0.163)	(0.015)
All other controls	Included	Included
Industry Fixed Effect	Included	Included
Year Fixed Effect	Included	Included
F test *p* value	0.000	0.000
Observations	8,669	8,669
Adjusted R-squared	0.354	0.481

This table reports regression results on the relationship between CEO Stock Options and CSI using alternative estimations methods. Panel A reports the results using Fama MacBeth Regression. Panel B documents the results of system GMM. Panel C presents the results of Entropy Balancing Method. Robust standard errors using firm clustering are reported in parentheses. Industry and year fixed effects are included in all the regressions. 1%, 5%, and 10% significance levels of the coefficients are denoted by ***, **, and *, respectively. See appendix A for all variable definitions.

Appendix:
Variables definitions

Variable	**Definitions**	**Sources**
Dependent variables		
Ln stakeholder violations $	The natural logarithm of one plus the amount of financial penalties in US dollars imposed by regulatory agencies on firm i in year t due to its engagement in corporate stakeholders violations	Authors own calculation based on the Violation Tracker Database.
Ln stakeholder violations number	The natural logarithm of one plus the number of financial penalties in US dollars imposed by regulatory agencies on firm i in year t due to its engagement in corporate stakeholders violations	
Independent variables		
CEO current option wealth	CEO current option wealth is captured by multiplying the number of options from each option granted to the CEO of a firm 'i' in year 't' to its corresponding spread (for in the money option) on the closing day of the fiscal year 't'.	ExecuComp database
CEO prospective option wealth	Prospective option wealth is an estimate of the potential increase in CEO option wealth over and above current wealth due to a future increase in a firm stock price.	ExecuComp database

	Calculated as per process mentioned by Wiseman & Gomez-Mejia, (1998) and Martin et al., (2013)	
Control variables		
ESG bonus	1 if executive compensation is linked with CSR performance, otherwise 0	Bloomberg and Thomson Reuters Eikon
CEO duality	1 if the CEO is also the chair of the board, otherwise 0	Bloomberg and Thomson Reuters Eikon
CEO office tenure	Number of years for which the incumbent CEO holds his/her position	ExecuComp database
CEO career concern	1 if the CEO is atleast 63 years of age or above, otherwise 0	ExecuComp database
CEO qualification (Business)	1 if the CEO has any business degree/qualification, otherwise 0	BoardEx
CEO board co-option	Proportion of board of drectors that were appointed after incumbent CEO assumed office to the total directors on board.	Co-option data are from Lalitha Naveen's webpage: https://sites.temple.edu/lnaveen/data/
Board size (Ln)	Natural Logarithm of number of directors on company board	BoardEx
Firm size	Natural logarithm of total asset	Compustat database
ROA	Return on asset captured as the net income divided by total assets	Compustat database
MTB	Market value of equity to book value of equity	Compustat database
CAPEX	Natural Logarithm of capital expenditure	Compustat database
Leverage	Total debt to total assets	Compustat database
Cash holding	Cash and cash equivalence to total assets	Compustat database
R&D	Ratio of research and development expenditure to total assets	CRSP database
Firm age	Number of years since a firm's name appears in the Compustat database	Compustat database
Additional variables		
CEO ability	Managerial ability as per Demerjian et al.'s (2012)	Demerjian et al.'s (2012)
Clawback provision	1 if the firm adopts a clawback provision, otherwise 0	Bloomberg database