Rebuilding trust: board actions and their effectiveness in the wake of

corporate social irresponsibility

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Abstract

We examine boards' actions in response to reputational damage related to their environmental, social and governance (ESG) factors and whether these actions lead to subsequent improvements in firm and ESG performance. Based on a sample of US firms from 2008 to 2018, we find that boards can adopt a reactive strategy and dismiss the CEO, and/or a proactive strategy by restructuring the CEO's compensation to better align with shareholders' interests, switching got a Big4 auditor, or establishing an ESG committee. Both approaches are effective in addressing corporate social irresponsibility (CSI), as indicated by improvements in future firm and ESG performance. We also find that firms are more likely to switch to a Big 4 auditor following CSI; however, this switch has no impact on subsequent accounting or ESG performance, but does improve subsequent firm value. These results remain robust when applying alternative measures of reputation risk measures and addressing endogeneity concerns.

JEL: G14, G30, G32 KEYWORDS: reputation risk; board structure; CEO compensation; media coverage, market perception; corporate social irresponsibility

1 Introduction

Amidst growing attention to environmental, social and governance (ESG) performance, focus has been directed towards the consequences of firms' ESG misconduct, hereafter referred to as Corporate Social Irresponsibility (CSI). In many cases, the CEO is held accountable and faces dismissal when a firm's CSI is exposed in the media (e.g., Burke, 2022; Bednar, 2012; Joe et al., 2009; Wu, 2004).¹ Auditors are also more likely to resign following negative media coverage related to a firm's governance (Burke, Hoitash and Hoitash, 2019). However, there is scant literature regarding other actions firms take when attempting to rebuild trust following CSI. In this study, we examine what corrective actions firms take following negative ESG reputation events and whether there are any observable benefits flowing from these actions, such as through increased firm and ESG performance in subsequent periods.²

The motivation for this study is twofold. First, media coverage of CSI and any associated board decision-making is an important avenue of research as it illustrates, to some extent, the acknowledgement of ESG risk by the board and attempts to mitigate it. While prior studies have investigated the board's decision to terminate the CEO following negative media coverage of ESG issues, an arguably extreme decision, few studies have examined other corrective actions boards take and whether these actions provide any benefits to the firm. An exception is Asante-Appiah and Lambert (2023) who find that unexpected levels of reputation risk are associated with greater nonaudit service fees which then help to reduce future ESG reputation risk and declines in firm-value. We attempt to fill this void by investigating other actions firms take in response to negative

¹ In contrast, CEOs of firms with strong ESG reputations are more likely to be appointed as directors on outside boards (Cai, Gao, Garrett and Xu, 2020).

² We capture CSI events using the Reputation Risk Index by RepRisk AG, a business intelligence data provider tracking ESG performance of over 55,000 firms (public and private) globally on a daily basis.

ESG coverage in the media, therefore illustrating the extent to which boards factor ESG reputation into their decision making.

Second, among heightened awareness and expectations of consumers, investors, and other stakeholders, ESG considerations have grown from a niche concern to a central element in evaluating corporate performance and risk. This is evidenced by the development of sustainability reporting standards due to take effect in 2024, such as those issued by the International Sustainability Standards Board (ISSB) and the Corporate Sustainability Reporting Directive (CSRD) issued by the European Financial Reporting Advisory Group. While corporations may take actions (such as dismissing the CEO) following CSI, there is little evidence of whether these actions are effective. By empirically analysing corporate responses to ESG reputation risk and the outcomes of these responses, we provide evidence that can guide firms and stakeholders in their assessment of strategies aimed at rebuilding trust and demonstrating a commitment to social responsibility.

Using a sample of 7,406 firm-year observations of US listed firms between the years 2008 to 2018, we find that boards respond to CSI in a number of ways including; dismissing the CEO, changing the CEO's compensation to be less cash- and more equity-based, switching to a big 4 auditor and establishing an ESG committee.³ Of these strategies, dismissing the CEO is marginally significant in moderating the effect of CSI on subsequent firm performance, which suggests that this extreme action is reactive and doesn't necessarily translate to improvements. Similarly, switching to a Big 4 auditor does not moderate the impact of CSI on subsequent accounting or ESG performance, but leads to improvements in firm value. Taken together, these two actions

³ Big 4 is used to refer to the four largest professional accounting firms, Deloitte, PricewaterhouseCoopers (PWC), KPMG, and Ernst & Young (EY), respectively.

could be perceived as driven by boards' desire to legitimize themselves and signal to the market that they are making changes. Restructuring CEO compensation to increase the equity component, moderates the impact of CSI on subsequent accounting and ESG performance but is negatively related to subsequent firm value, measured using Tobin's Q. Last, establishing an ESG committee moderates the effect of CSI and leads to improvements in subsequent firm performance and firm value. Taken together, these results suggest that proactive approaches to CSI taken by boards, can be just as effective as reactive approaches (such as dismissing the CEO or switching to a Big 4 auditor) and arguably less extreme.

Our study makes a number of important contributions to the literature on ESG performance. First, we contribute to the emerging literature on how media coverage affects corporate policy (e.g., Hummel and Schlick, 2016; Becchetti and Manfredonia, 2022) and provide evidence on some reactive and proactive measures taken by firms following negative ESG media coverage. We provide the first empirical evidence, that we are aware of, that firms react to negative media coverage on ESG issues by adjusting Chief Executive Office compensation, switching to a Big 4 auditor, and establishing an ESG committee.

Second, we contribute to the scant literature evaluating the effectiveness of corporate actions taken in response to negative ESG media coverage. We show that adjustments to CEOs' compensation and the establishment of an ESG committee are effective in mitigating reputational damage as evidenced by increased firm value, accounting performance, and ESG performance over the subsequent three years. Therefore, these actions are indicative of firms' commitment to addressing their underlying ESG problems more so than actions such as dismissing the CEO or switching to a Big 4 auditor.

Finally, our study underlies the important role of media as external monitors. By drawing attention to corporate deficiencies in ESG practice, we highlight that the media can have a powerful effect with measurable impacts on corporate governance and subsequent ESG performance. Prior studies show that the penalties of reputational damage outweigh the legal penalties (Armor et al., 2017; Karpoff and Lott, 1993; Stäbler and Fischer, 2020), therefore our work is important for developing a better understanding of how firms can mitigate ESG reputation risk both prior to and following negative ESG events.

The remainder of this paper is structured as follows: Section 2 reviews the literature and develops the hypotheses to be tested; Section 3 describes the data and research methodology; Section 4 discusses the empirical results; Section 5 provides additional analyses and robustness checks, and Section 6 concludes this study.

2 Related Literature and Hypotheses Development

The reputation of an organisation is based on how all stakeholders view the organisation and *reputation risk* is the risk of perception change by its stakeholders (Forman and Argenti, 2005). However, mixed findings in the literature regarding the link between ESG performance and financial performance fail to settle the debate as to whether firms should prioritise ESG risk or maximise shareholder value (Huang 2021).

On one hand, customer's and supplier's perceptions of a firm's reputation are said to be an important source of competitive advantage (Porter, 1980), and responsible corporate social behaviour (CSR) is assumed to provide benefits to firms such as a stronger relationship with stakeholders (Donaldson and Preston, 1995; Jones, 1995), greater innovation and retaining talent (Greening and Turban, 2000) and signalling strong governance quality (Linthicum et al., 2010), all of which implies lower risk and improved performance (Albuquerque et al, 2019). A growing

stream of studies also indicates that corporate reputation can provide companies with competitive advantages and improve employee productivity, access to capital and financial performance (Gatzert, 2015; Deephouse et al., 2016), and that institutional investors and other stakeholders consider ESG risk as vital in understanding the long-term success and financial viability of a firm (Nguyen et al. 2020).

On the other hand, reputation risk arising from corporate social irresponsibility (CSI) is likely to impose penalties due to loss of credibility and higher perception of risk and stakeholder sanctions. These penalties include higher financial constraints and cost of equity, and lower firm value (Deephouse et al., 2016; Kölbel et al., 2017; Stäbler and Fischer, 2020; Becchetti and Manfredonia, 2022; Fafaliou et al., 2022; Hasan et al., 2022; Becchetti, Cucinelli, Ielasi and Rossolini, 2023). Reflecting this risk-based perception, Burke, Hoitash and Hoitash (2019) even find that auditors are likely to resign or charge higher audit fees in response to CSI, especially when governance issues are noted by the media which puts a public spotlight on the misbehaviour of a firm and escalates reputation damage.

In recent years, the surge in social media in addition to the power of traditional media has increased public awareness, demands for transparency, and stakeholder expectations bringing to the forefront the importance of corporate reputation risk. Accordingly, a passive approach to managing corporate reputation is not sustainable in today's corporate environment, especially because of the speed at which information is shared across social and traditional media platforms. Responding to this development, firms are likely to take various actions to address CSI problems and minimise reputational damage. So far, prior literature has found those actions to include firing the CEO (Burke, 2022) and increasing non-audit services other than tax or audit related non-audit services (Asante-Appiah and Lambert 2023). However, given the importance and financial

implications of the issues, we expect firms may take one or several actions to show a commitment to improving ESG performance.

First, firms may adjust executive compensation following CSI. Executive compensation is an important corporate policy as it encourages a level of risk-taking by management that is deemed acceptable to shareholders. As such, executive compensation has been found to influence corporate policies, including cash holdings, investment, and capital structure (e.g. Dittman et al. 2017). Prior studies show that CSR can affect the level of executive compensation (Bachmann et al. 2020; Bachmann and Spiropoulos 2023; Cai et al., 2011; Hong et al., 2016), and some highlight that more socially responsible firms have lower compensation (Cai et al., 2011). However, to date there is no empirical evidence of adjustments to executive compensation following ESG reputation risk even though anecdotal evidence suggests that CEOs can be penalised following CSI by way of pay cuts (Reuters 2016; Jamasmie, 2019).⁴

Since executive compensation is structured in a way that balances short- and long-term incentives, we expect firms will focus on incentivising long-term performance outcomes following media coverage of CSI. While prior research has found that firms are more likely to fire the CEO following CSI, incentivising the CEO to take a longer-term focus may discourage the behaviours that led to CSI in the first place. Therefore, rather than a reactive action (such as firing the CEO) which may or may not change firm behaviour, the board may take a proactive approach and choose to structure CEO incentives differently. According to this view, we state our first hypothesis below:

H1: Following CSI, firms restructure CEO compensation

⁴ BHP Billiton's CEO took a substantial pay cut following the Samarco dam failure in Brazil which caused death and environmental damage, as well as a runaway train a couple of years later causing death and significant damage.

Second, firms may switch to one of the large professional accounting firms (Deloitte, PWC, KPMG, EY, hereafter referred to as the 'Big 4') to take advantage of their expertise and signal to the market an improvement in internal controls related to ESG. Prior research has found that audit quality and fees increase following negative ESG reputation events (Asante-Appiah 2020; Burke et al., 2019) and that the auditor is more likely to resign particularly if governance issues are mentioned (Burke, et al., 2019). Firms may use this opportunity to switch to a Big 4 audit firm since these firms are associated with higher quality audits and carry with them reputational effects that provide a signal to the market (e.g. Eshleman et al. 2014). Accordingly, our second hypothesis is as follows:

H2: following CSI, firms are more likely to switch to a Big 4 auditor

Third, boards may elect to establish an ESG committee following CSI.⁵ Most of the important board matters are dealt with primarily at the subcommittee level, which meet more frequently than the board. For example, the audit and compensation committees are arguably the two most busiest subcommittees and entail significant amounts of additional effort on behalf of directors. A survey of public company directors revealed that many firms don't have an ESG committee and currently view ESG oversight as the boards' responsibility or spread across existing subcommittees (Ashley et al. 2021) Therefore, if boards wish to improve ESG performance following CSI, it is expected that they establish a standalone ESG committee whose sole purpose is to focus on improving these areas, rather than spread the responsibility across an already busy board or subcommittee(s). Accordingly, our third hypothesis is stated below:

H3: following CSI, firms are more likely to establish an ESG committee

⁵ ESG committees are named differently across firms, with some called sustainability committees, environment committees, or CSR committees. We use the term 'ESG committees' to refer to these types of board subcommittees.

Of the actions firms can take in response to CSI (e.g., changing CEO compensation structure, switching to a Big 4 auditor, esatablishing an ESG committee, and also forced CEO turnover), it is unclear which will be effective in lowering subsequent ESG performance and/or improving firm performance, or which are purely reactive and used to save public image.⁶ Therefore, we leave it as an open empirical question as to whether the actions firms take to rebuild trust following CSI are effective.

3 Data and Research Method

3.1 Data sources and sample selection

Our measure of ESG reputation risk is obtained from RepRisk AG, a business intelligence data provider that tracks ESG performance of over 55,000 firms (public and private) globally on a daily basis. RepRisk specialises in ESG and business conduct risks and provides data in monthly format by tracking negative news incidents only, and only from sources external to the firm. Therefore, the risk of news arising from greenwashing and/or endogenous disclosures is minimised. We begin our sample in 2008 and track S&P 1,500 firms over the period 2008-2018. To make it into our final sample, a firm must also be covered in the following databases for financial and governance characteristics: BoardEx, Compustat, ASSET4 and Audit Analytics. We exclude financial firms (SIC codes 6000-6999) due to differences in financial reporting and governance structures, consistent with prior literature. Due to these restrictions, our final sample results in 7,406 firm-year observations.

[INSERT TABLE 1 ABOUT HERE]

⁶ For example, Abdullah, Yamak, Korzhenitskaya and Rahimi (2023) find weak evidence regarding sustainability committees and ESG performance and conclude that they are used to legitimize firms and create positive public images.

Table 1 Panel A describes the sample selection process and Panel B presents an overview of the sample distribution by year, highlighting that no one year dominates the sample.

3.2 Research design

We employ the following pooled logit or ordinary least squares (OLS) regression model to examine the association between CSI and a firm's corrective actions, depending on whether the dependent variable is discrete or continuous:

$$ACTION_{i,t+1} = \alpha + \beta_1 RRI_{i,t} + \beta_{2-X} \sum Controls_{i,t} + Industry Fixed Effects +$$

Year Fixed Effects + $\varepsilon_{i,t}$

(1)

The dependent variable *ACTION* represents the corrective actions boards can take following CSI (i.e., dismiss the CEO, change CEO compensation structure, switch to a Big 4 auditor, or establish an ESG committee). *RRI* represents three different measures of reputation risk, defined below in section 3.3.1. Controls are included based on prior literature and discussed in section 3.3.2.

While we control for many factors that can influence the association between RRI and boards' corrective actions, Asante-Appiah and Lambert (2023) note that it is possible that RRI is correlated with some observed or unobserved firm size and complexity variables because larger and more complex firms attract more media coverage. Accordingly, we also estimate a changes model, where firms serve as their own control to address potential endogeneity arising from unobservable correlated omitted variables (Brown et al. 2011). We re-specify each variable in Model (1) as the difference between the value in year t and the value in year t-1 (prefixed by Δ), resulting in Model (2) below:

$$\Delta ACTION_{i,t+1} = \alpha + \beta_1 \Delta RRI_{i,t} + \beta_{2-X} \sum \Delta Controls_{i,t} +$$

Industry Fixed Effects + Year Fixed Effects + $\varepsilon_{i,t}$

Next, we examine whether the corrective actions taken by the board moderate the effects of reputation risk on future firm performance. To do so, we follow prior literature (e.g., Asante-Appiah and Lambert 2023) and estimate Model (3) below, which examines three-year-out firm performance in relation to the type of corrective action taken by the firm in year t:

$$3YROA(3YESG)_{i,t+1...t+3} = \alpha + \beta_1 RRI_{i,t} ACTION + \beta_{2-X} \sum Controls_{i,t} + Industry Fixed Effects + Year Fixed Effects + \varepsilon_{i,t}$$

(3)

(2)

Where *3YROA* is the natural logarithm of the three-year average ROA for firm *i* in year *t*, calculated from year t+1 to t+3, and *3YESG* is the three-year average ESG score reported by ASSET4, calculated from year t+1 to t+3. We are interested in the interaction between *RRI* and *ACTION*. A positive coefficient indicates that the action following CSI is effective at improving subsequent firm/ESG performance. All variables are as previously defined and discussed in detail below.

Finally, we examine whether corrective actions taken by the board moderate the effects of reputation risk on subsequent firm value. To do so, we replace the dependent variable in Model (3) with three-year average Tobin's Q (*3YTOBINQ*), which is the average of Tobin's Q for firm i in year t, calculated over thee years t+1 to t+3.

3.2. Dependent variables

3.2.1 Forced CEO turnover

Following prior literature (e.g. Coles et al., 2006; Coles et al., 2014; Core et al., 2008; Masulis & Zhang, 2019), the dependent variable *FORCED* is an indicator variable coded 1 if a CEO departs the firm, is younger than 60 years of age, and their departure was not due to retirement or death based on the BoardEx Database, and 0 otherwise.

3.2.2 Dependent variables: CEO compensation

Following prior literature (Frydman and Jenter 2010), we adopt several measures of CEO compensation when examining the relation between reputation risk and compensation: the natural logarithm of total compensation (*TOTAL*), the natural logarithm of total cash compensation (i.e. salary and cash bonus) (*CASH*) and the natural logarithm of executive equity (*EQUITY*).

3.2.3 Dependent variables: choice of audit firm

The audit literature generally documents that the Big 4 audit firms provide audits of higher quality (e.g. Eshleman et al. 2014). Accordingly, we expect that the board may hire one of the Big 4 firms as a corrective action to rebuild their reputation and assess their internal controls in response to higher reputation risk. Accordingly, *BIG4* is an indicator variable coded 1 if the auditor hired by the firm is either, EY, PwC, Deloitte or KPMG, 0 otherwise.

3.2.4 Dependent variable: three-year-out performance

We employ return on assets (ROA) as our measure of firm operating performance, consistent with prior literature (e.g. Asante-Appiah and Lambert 2023). In our model, *3YROA* is calculated as the natural logarithm of the three-year average ROA beginning in year t+1 to t+3.

We also calculate the three-year average of the ESG performance score reported by ASSET4 to supplement this analysis and further examine if actions improve ESG performance (*3YESG*).

3.3 Key independent variable of interest: reputation risk index (RRI)

We adopt reputation risk measures from the RepRisk AG database based on media coverage of ESG issues. RepRisk tracks over 55,000 publicly traded companies globally for news on their ESG platform and employs artificial intelligence technology to independently screen over 80,000 media, stakeholders, and other public sources in 23 different languages on 28 ESG related issues and 101 ESG risk factors. When a relevant negative ESG incident is identified, the incident is given two proprietary scores: (1) *severity*, the harshness of the perceived impact of the incident, and (2) *reach*, the influence or readership expanse of the news outlet. Importantly, the score to capture reach is sensitive to the origin of the news outlet, where an article appearing in, for example The Wall Street Journal, will have a higher reputation risk index score than a blog entry from a local NGO. RepRisk maps its data to international ESG and regulatory frameworks in order to allow investors to assess a company's ESG risk exposure through the lens of a universally used framework and follows a proprietary rules-based system research process that combines AI and machine learning with human intelligence to translate big data into curated research and metrics (RepRisk, 2016).

Using the reputation index from RepRisk has several advantages over data from other providers such as MSCI (formerly KLD). The RepRisk index is a third-party assessment of ESG related reputation risk which is fundamentally different from the way the CSR score by MSCI is created and distributed (Kölbel et al., 2017). While the RepRisk index is constructed by external observers based on systematic search of public information sources and assessment of the media coverage, the MSCI approach gives much more weight on the firm's own documents (e.g., company website, annual report or CSR report) to assess a firm's ESG risks and may be subject to manipulation and misleading information from the management. The approach by RepRisk recognises that the media is an important channel of information which, due to the asymmetric information between firm management and market investors, can keep stakeholders informed about important events (Fombrun and Shanley, 1990; Deephouse, 2000). RepRisk data is also considered to be more timely and objective as RepRisk updates its measures whenever a new ESG issue is reported, while MSCI ratings are only updated annually.

RepRisk employs a rigorous research process to identify ESG incidents and collects information from many information sources to assess ESG and business risk exposure. The use of third-party data is important in evaluating whether or not firm intentions translate into real actions. RepRisk index is not a measure of reputation, but an indicator of firm reputational risks related to ESG issues and business risk which may facilitate better ESG and risk assessment for business, organisations, or governments dealing with one business. Several recent studies adopt RepRisk data to measure ESG related reputation risks (Kölbel et al., 2017; Becchetti and Manfredonia, 2022; Fafaliou et al., 2022; Hasan et al., 2022).

We apply three measures of reputation risks from the RepRisk database in this study. Our first measure, *RRI_CRNT*, is based on the current reputation risk index ('Current RRI' in RepRisk database) as reported by RepRisk which seeks to captures the current level of company's exposure to reputational risks related to ESG. RepRisk reports the current reputation index on a monthly basis, accordingly, *RRI_CRNT* is calculated as the natural logarithm of the annual average of the monthly reputation risk index. In its natural form, the reputation risk index ranges from zero (lowest) to 100 (highest). The higher the value, the higher the reputation risk exposure.

The second measure is the natural logarithm of peak reputation risk (*RRI_PEAK*), which captures the highest level of the reputation risk over the last two years and is a proxy for the firm's overall ESG risk exposure ('Peak RRI' in RepRisk database). The third measure is the RepRisk rating (*RRI_RATING*) which facilitates corporate reputation risk benchmarking against a peer group and the sector with integration of ESG and business conduct risks into business processes. The RepRisk Rating ranges from AAA to D which we convert into numeric values ranging from 1 to 9. For example, AAA, AA and A change to value 1, 2 and 3 denoting low ESG risk exposure; CCC and D change to value 8 and 9 denoting high ESG risk exposure. *RRI_RATING* is the natural logarithm of the average converted monthly values.

To test the real effects of the corrective actions taken by the board, we also calculate ΔRRI , the difference between RRI_PEAK and RRI_CRNT which identifies years where there was an abnormal increase in the reputation risk index. In other words, a greater difference between RRI_PEAK and RRI_CRNT (i.e., higher ΔRRI) will indicate an incident of greater magnitude as the average between the peak an annual average RRI will be greater.

3.4 *Control variables*

A number of control variables are included in Models (1) to (3) to capture firms' complexity, performance, and risk. These include firm size, measured as the natural logarithm of total assets (*SIZE*); accounting return (*ROA*); stock return (*RETURN*); and the standard deviation of ROA over a 3-year period (*SD3ROA*). We also include board-specific factors such as board size (*BOARD SIZE*), board independence (*%INDEP*) and the proportion of common stock held by blockholders (*%BLOCK_OWNERSHIP*), reflecting the incentives for these to actively monitor managerial behaviour (Shivdasani, 1993). Following the literature which highlights the value added by having a diverse board (e.g. Bachmann & Spiropoulos, 2021; Srinidhi et al., 2016), an

additional control variable captures the relative percentage of female representation among independent directors on the board (%*FEMALE*). Finally, a number of control variables capture the level of power a CEO has over the board. These include CEO tenure (*CEO_TENURE*) and CEO shareholdings (%*CEO_SHARES*). In tests where we test the association on the decision to hire a Big 4 auditor, we additionally control for audit fee (*AUDIT_FEE*) as well as the tenure of the incumbent auditor (*AUDIT_TENURE*). We winsorize all firm-level variables at the 1st and 99th percentiles to limit the influence of outliers.

4 Empirical Results

4.1 Descriptive statistics

Table 2 displays the summary statistics of our sample and the reputation risk index. Of the dependent variables, forced CEO turnover occurs in 3 percent of the sample, the majority of observations are audited by a Big4 auditor, and 36 percent of firm-years have an ESG committee. The mean three-year average return on assets is 9.8 percent and the three-year average ESG rating from ASSET4 is 53.9.

Of the reputation risk measures, the mean (median) current-level of reputation risk (*RRI_CRNT*, natural form) in our sample is 11.004 (8.583), implying that firms, on average, are exposed to a relatively low-levels of reputation risk. The maximum reputation risk index is 71.50, which is consistent with prior studies (e.g., Fafaliou et al. 2022). Similarly, the mean (median) value of peak reputation risk (*RRI_PEAK*, natural form) is 23.405 (27.000). The mean (median) value of RepRisk rating (*RRI_RATING*) is 1.242 (2.000), corresponding to a rating between AAA and AA. These figures are comparable with recent studies (e.g., Asante-Appiah and Lambert 2023).

[INSERT TABLE 2 ABOUT HERE]

The reported firm and governance controls are also consistent with prior research (Chen & Moers, 2018; Jiraporn et al. 2009a; Stein & Zhao, 2019). The average board size is approximately 10 members of which 19 percent are female and the average percentage of independent directors is 86.3 percent. Given that listing requirements mandate a majority of independent directors to be present on the board, this high percentage is not surprising. Table 3 displays the pairwise correlations for all main variables used in this study.

[INSERT TABLE 3 ABOUT HERE]

4.2 Multivariate analyses

4.2.1 Association between reputation risk and board corrective actions

Table 4 presents the main results for Model (1), which examines the association between ESG reputation risk and forced CEO turnover, CEO compensation, Auditor, and ESG Committee.

[INSERT TABLE 4 ABOUT HERE]

Initially, we replicate prior studies by examining the association between reputation risk and CEO dismissal (e.g. Burke, 2022). The results are illustrated in Panel A. A positive and significant association is observed between all measures of RRI and forced CEO turnover (*FORCED*), consistent with prior literature. These results indicate that firms with higher ESG reputation risk are more likely to dismiss the CEO, highlighting the severity of the issue at hand and signalling to the market that ESG is considered to be an important issue by the board.

The negative and significant coefficient on *SIZE* indicates that larger firms are less likely to fire the CEO, perhaps because it is more challenging to find a suitable replacement as it requires firm-specific knowledge to run these large corporations. Consistent with managerial power theory, the negative and significant coefficient on *CEO_SHARES* across all columns suggests that CEOs with greater shareholders have greater influence over the board, making it less likely for them to be dismissed.

Panel B of Table 4 displays the results of estimating the relationship between reputation risk and CEO compensation. Higher current reputation risk (*RRI_CRNT*) is negatively associated with all levels of CEO pay. This is contrary to prior studies which document lower executive compensation levels in firms that are more socially responsible (Cai et al., 2011). However, it is in-line with anecdotal evidence of CEOs taking pay cuts following negative ESG events. The largely insignificant coefficients on peak reputation risk (*RRI_PEAK*), which captures events up to two years prior, seem to support this view (i.e., only recent reputation risk/CSI is associated with lower CEO pay).

Panel C displays the results of examining the relationship between reputation risk and auditor. Reputation risk is positively associated with the likelihood of engaging a Big 4 auditor. The control variables are generally consistent with those in prior studies; for example, larger firms are more likely to engage a Big 4 auditor.

Last, Panel D of Table 4 displays the results of estimating the relationship between reputation risk and having an ESG committee. The coefficients for reputation risk are positive and

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significant at te 1% level across all three columns. These results suggest that firms are more likely to have ESG committees following incidents of CSI.

Overall, the results in Table 4 provide some initial support for hypotheses 1, 2 and 3, however a changes model is better suited to control for unobserved correlated omitted variables and to identify if boards have made changers following CSI. Accordingly, the results of estimating model (2) are reported in Table 5.

[INSERT TABLE 5 ABOUT HERE]

The independent variable of interest is Δ RRI, which measures the difference between RRI_PEAK and RRI_CURRENT. In other words, the difference between the highest level of reputation risk over the past two years and current reputation risk. If this difference is great, it indicates that there has been an instance of CSI sometime over the last two years which has generated considerable media coverage. Column (1) of Table 5 indicates that greater changes in reputation risk (more significant CSI incidents) are associated with increased likelihood of forced CEO dismissal, suggesting that boards make reactive decisions following instances of CSI. This result is consistent with prior studies and with those reported in Table 4.

Columns (2) to (4) show the impact of changes in reputation risk on CEO compensation. These results suggest that boards also adopt a proactive approach by altering the types of incnentives provided to the CEO. For example, a negative coefficient observed in Column (3) indicates that cash payments to the CEO are reduced following a rise in reputation risk (β =-0.056, p<0.05). Conversely, Column (4) reports an increase in equity pay (β =0.165, p<0.01). This may indicate that the board is attempting to align the interests of shareholders and the CEO more effectively by tying a greater proportion of compensation to firm value. Consequently, it is not surprising to observe a positive and significant association between the change in share price

(Δ RETURN) and equity pay (Δ EQUITY). In combination with the results reported in Table 4, these findings provide some support for H1.

Column (5) shows that an increase in reputation risk is associated with a greater likelihood of a firm switching to a Big 4 auditor. This result suggests that boards are seeking to leverage the expertise and reputational benefits associated with Big 4 auditors, as well as signalling to the market an improvement in internal controls (e.g. Eshleman et al. 2014). Together with the results in Table 4, this provides support for H2.

Finally, Column (6) shows that an increase in reputation risk is associated with a higher likelihood of establishing an ESG committee. Together with the results in Table 4, this provides support for H3.

4.2.2 Subsequent ESG and firm performance

Table 6 reports the results of examining the moderating effect of boards' corrective actions on future firm performance.

[INSERT TABLE 6 ABOUT HERE]

Columns (1) to (6) examine three-year average accounting returns, while columns (7) to (12) examine three-year average ESG performance scores reported by ASSET4. The variables of interest are the interaction terms between RRI and forced CEO turnover, CEO compensation measures, Big 4 auditor, and ESG committe. Consistent with prior literature, we find that the reactive decision of dismissing the CEO can moderate the effect of CSI on subsequent accounting and ESG perofrmance, as demonstrated by the positive and significant coefficient on *FORCED x RRI* in Columns (1) and (7). However, the coefficients are marginally significant at the 10% level. The interactions between RRI and compensation components (total, cash and equity) are all positive and significant, however the largest effect comes from total and equity compensation, as

indicated by the size of the coefficients. Rather than accounting performance, the greatest effect of these actions appears to be on ESG performance as displayed in columns (8) through (10). Ultimately, this highlights that a more proactive approach in dealing with CSI can be as effective, if not more so, as dismissing the CEO. Columns (5) and (11) show that although switching to a Big 4 auditor has a positive impact on future accounting performance, it does not lead to improvements in ESG performance, nor moderate the effect of CSI. A possible explanation for this result is that audit firms focus on internal controls and financial statement integrity and are not, as of yet, required to assure ESG performance.

4.2.3 Subsequent firm value

Tabel 7 reports the results of examining the moderating effect of firms' actions following CSI, on subsequent firm value, measured as three-year average Tobin's Q.

[INSERT TABLE 7 ABOUT HERE]

Similar to the results reported in Table 6, forced CEO turnover improves subsequent firm value following CSI, but is marginally significant at the 10 percent level. Of note, are the negative and significant coefficients on the interactions between RRI and total compenseation and equity compensation in Columns (2) and (4), respectively. These results differ from those reported in Table 8 and indicate that while CEO compensation can moderate the effect of CSI on accounting and ESG performance, it does not do so for firm value. Therefore, perhaps the performance targets of CEOs' long-term incentives shift towards ESG measures following CSI rather than firm value measures. While the examination of specific performance targets and weightings within CEO compensation is beyond the scope of this study, it could be an interesting avenue for future research. Looking at Column (5), the use of a Big 4 auditor in combination with reputation risk leads to improvements in subsequent firm value. Compared to the results in

Table 6, this finding suggests that Big 4 auditors are used to legitimize firms in the eyes of the market and may have positive signalling effects. Finally, the presence of an ESG committee is able to moderate the impact of CSI and lead to higher subsequent firm value as illustrated in Column (6). When considering the results of Tables 6 and 7 collectively, the only mechanisms that appear to moderate CSI and lead to improvements in firm performance and value, is having an ESG committee and firing the CEO, the latter of which has the weakest effect.

5 Additional Analyses

5.1 Entropy balancing

Consistent with prior literature, we employ entropy balancing to further address potential concerns of endogeneity (Armstrong et al., 2012), using the median reputation risk index in our sample to form the treatment (above median *RRI_CRNT*) and control group (below median *RRI_CRNT*). We match on all control variables used in this study, and include industry and firm fixed effects. Accordingly, any differences in the corrective action taken by the board are more likely to be attributed to differences in ESG reputation risk, rather than differences in other covariates (Armstrong et al., 2012).

[INSERT TABLE 8 ABOUT HERE]

Panel A of Table 8 presents the descriptive statistics of the treatment and control group after matching and highlights that this procedure has been successful. Panel B replicates our main results presented in Table 4 and Panel C replicates our main results presented in Table 5, all of which remain consistent with conclusions drawn from previously reported results in this study.

5.2 Abnormal reputation risk

We follow Asante-Appiah and Lambert (2023) to create a measure of unexplained (or abnormal) ESG reputation risk based on the residual of a model which seeks to estimate the

expected level of RRI by controlling for potential determinants of ESG reputation such as, but not limited to, firm size and industries that are particularly prone to increased ESG risk. This approach seeks to address the concern that our main results might be driven by correlations between the independent variable and the error term (Hribar et al. 2014). Results (not tabulated) remain consistent with our main results across all tests.

5.3 Reputation risk and sustainability assurance

As illustrated in Table 9, we also examine whether firms seek assurance on their sustainability report in response to CSI by applying ESG_AUDIT (ΔESG_AUDIT) and ESG_BIG4 (ΔESG_BIG4) as an alternative dependent variable in model (1) (model (2)). ESG_AUDIT is an indicator variable coded 1 if the firm has had their sustainability report audited, 0 otherwise; ESG_BIG4 is an indicator variable coded 1 if the sustaiability report has been audited by one of the big 4 firms, 0 otherwise.

[INSERT TABLE 9 ABOUT HERE]

As illustrated in Table 9, we generally observe a positive association between various measures of CSI and the decision to have the firm's sustainability report audited. This finding underscores that companies with higher CSI are more likely to seek assurance on sustainability information, possibly as a strategic effort to enhance the legitimacy and credibility of their sustainability practices.

It is important to highlight that obtaining assurance on sustainability reports was voluntary during our sample period. This suggests that the decision to seek auditing could reflect proactive reputation management or signaling efforts to stakeholders. The association is particularly pronounced when the audit is conducted by one of the Big 4 firms, evidenced by a notably larger coefficient. This outcome reinforces the idea that firms may perceive assurance provided by these prestigious firms as more credible and impactful in boosting stakeholders' trust.

5.4 Other corrective actions

In addition to CEO dismissal, change in compensation structure, switching to a Big 4 auditor, or establishing an ESG committee, we also examine whether any restructuring of the board occurs in response to CSI. Specifically, we examine whether it impacts the structure of the board more generally in terms of board independence and find that there is a positive association between RRI and board independence and board size (not tabulated). This result suggests that boards appoint an additional director to the board who is independent.

Given evidence of gender diversity improving ESG performance (e.g., Biswas et al. 2018), we also examine whether a greater number of female directors are hired as a corrective action but find no evidence of this practice. We also find no evidence of incumbent male CEOs being replaced with female CEOs following CSI.

6 Conclusion

An emerging literature provides evidence that ESG reputation risk, arising from corporate social irresponsibility (CSI), affects business risk and firm performance (Chava, 2014; Busch et al., 2016). For example, ESG reputation risk makes it difficult to obtain external financing, and reduces firm growth, valuation and market longevity (Cao et al., 2012; Armor et al., 2017; Qiu and Yin, 2019; Fafalio et al., 2022; Becchetti and Manfredonia, 2022). However, little is known about other actions boards take to alleviate the damages associated with ESG reputation risk, and whether or not they are effective. We provide evidence that boards factor ESG reputation risk into their decision making and take actions that can improve subsequent firm performance and value.

Using a sample of 7,406 firm-year observations of US listed firms between 2008 to 2018, we find that boards respond to CSI by firing the CEO, changing the CEO's compensation to be less cash- and more equity-based, switching to a Big 4 auditor, and establishing an ESG committee. Of these actions, firing the CEO and the presence of an ESG committee moderate the impact of CSI on subsequent firm performance, with the former being the weaker of the two. The use of a Big 4 auditor appears to moderate the impact of CSI on firm value, but not on accounting or ESG performance. This result suggests that Big 4 auditors are used for their reputational effects and to legitimize firms in the eyes of the market. Interestingly, while firms shift CEO compensation from cash to equity following incidents of CSI, this action leads to lower firm value following CSI but greater accounting and ESG performance. Our results are robust to different measures of executive compensation and reputation risk and hold after employing various methods to address endogeneity concerns.

The results of this study contribute to the growing body of research examining corporate governance and reputation risk, highlighting the potential benefits of boards' actions to improve firm reputation and investor trust. These findings have important implications for management, boards and investors as they demonstrate how public firms can structure compensation policy and use a dedicated ESG committee to manage ESG reputation risk. This study also adds to the emerging literature that investigates the governance role of the media in providing external monitoring and bringing firms' ESG actions to the spotlight. Future research may wish to examine changes in performance targets used within CEO compensation contracts following CSI to examine whether reputation risk causes boards to shift focus from market-based performance measures to accounting and non-financial (ESG) measures, as indicated by our results.

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TablesTable 1: Sample selection and distribution

F	Panel	A:	Sampl	e sel	lection
•	00000		Senipi		cenen

	N
Universe of US nonfinancial firms covered in RepRisk from	13,382
fiscal year 2008 to 2018	
Less: observations with missing financial data in Compustat	3,542
files	
Less: observations with missing governance data from	1,720
BoardEx	
Less: observations with other missing data	714
Final sample	7,406

Panel B: Distribution by year

1 aner Bi Bisti te atteit e j jean		
Year	Ν	%
2008	272	3.67
2009	603	8.14
2010	702	9.48
2011	724	9.78
2012	720	9.72
2013	733	9.9
2014	721	9.74
2015	727	9.82
2016	743	10.03
2017	756	10.21
2018	705	9.52
Total	7,406	100

Variable	Ν	Mean	Median	Std. Dev.	Min	Max
Dependent variables						
FORCED TURNOVER	7,406	0.033	0.000	0.179	0.000	1.000
TOTAL	7,406	8.605	8.675	0.924	-6.908	11.958
CASH	7,388	6.820	8.887	1.003	-6.908	9.478
EQUITY	7,394	8.444	8.601	1.138	-0.882	11.939
BIG4	5,257	0.985	1.000	0.120	0.000	1.000
ESGCOM	7,394	0.364	0.000	0.481	0.000	1.000
3YROA	6,428	0.098	0.089	0.077	-0.606	0.768
3YESG	6,428	53.900	54.061	18.043	12.304	87.791
Reputation risk						
RRI_CRNT (natural form)	7,406	11.004	8.583	12.258	0.000	71.500
RRI_CRNT	7,406	1.677	2.260	1.450	0.000	4.284
RRI_PEAK (natural form)	7,406	23.405	27.000	18.766	0.000	79.000
RRI_PEAK	7,406	2.383	3.332	1.665	0.000	4.382
RRI_RATING (natural form)	7,406	2.664	2.000	1.355	1.000	9.000
RRI_RATING	7,406	1.242	1.100	0.327	0.693	2.303
ΔRRI (natural form)	7,406	13.096	13.417	10.407	0.000	61.167
ΔRRI	7,406	2.080	2.670	1.320	0.000	4.130
Control variables						
SIZE	7,406	8.452	8.355	1.573	4.068	14.466
ROA	7,406	0.141	0.132	0.095	-1.691	1.183
RETURN	7,406	0.134	0.101	0.430	-0.966	5.752
SD3ROA	7,406	0.028	0.161	0.045	0.000	1.045
%INDEP	7,406	0.863	0.889	0.068	0.600	1.000
BOARD SIZE	7,406	9.821	10.000	2.091	5.000	16.000
%FEMALE	7,406	0.188	0.182	0.124	0.000	1.000
%BLOCK_SHARES	7,406	0.276	0.185	1.363	0.000	45.700
CEO_TENURE	7,406	1.581	1.590	0.780	0.000	3.411
CEO_SHARES	7,406	1.433	0.249	4.232	0.000	64.385
AUDIT_FEE	5,257	15.205	15.196	0.921	12.713	18.378
AUDIT TENURE	5,257	11.967	12.000	4.186	1.000	19.000

Table 2: Descriptive statistics

This table reports the descriptive statistics of the sample. Definition of the variables is provided in the Appendix.

Table 3: Pairwise correlations

Variables	FORCED	TOTAL	CASH	EQUITY	BIG4	ESGCOM	3YR0	DA RH CR	LINT	RRI_ PEAK	RRI_ RATING	RRI	SIZE
FORCED	1.000												
TOTAL	-0.045***	1.000											
CASH	-0.020*	0.412***	1.000										
EQUITY	-0.039***	0.883***	0.219***	1.000									
BIG4	0.022*	0.070***	-0.010	0.111***	1.000								
ESGCOM	0.001	-0.338***	-0.077***	-0.369***	0.036***	1.000							
3YRROA	-0.036***	0.038***	-0.022*	0.040***	-0.012	-0.102***	1.	.000					
RRI_CRNT	-0.006	0.375***	0.130***	0.390***	0.094***	-0.173***	-0.02	6**	1.000				
RRI_PEAK	-0.004	0.343***	0.122***	0.357***	0.103***	-0.149***	-0.0	0.8	55***	1.000			
RRI_RATING	0.000	0.330***	0.140***	0.340***	0.070***	-0.117***	-0.	.002 0.7	52***	0.689***	1.000		
RRI	0.004	0.269***	0.106***	0.273***	0.084***	-0.120***	-0.	.019 0.6	74***	0.770***	0.532***	1.000	
SIZE	-0.024**	0.581***	0.230***	0.611***	0.123***	-0.425***	-0.143	*** 0.5	66***	0.480***	0.529***	0.346***	1.000
ROA	-0.007	-0.005	-0.037***	-0.004	-0.007	-0.034***	0.621	*** -0	.020* -	-0.033***	0.014	-0.030***	-0.144***
RETURN	-0.008	0.059***	-0.011	0.062***	-0.006	-0.007	0.103	*** -0.0	54*** -	0.039***	-0.069***	-0.031***	-0.035***
SD3ROA	-0.003	-0.043***	-0.024**	-0.066***	-0.051***	0.044***	0.	.000 -0.0)26** -	0.032***	-0.011	-0.024**	-0.119***
%INDEP	-0.007	0.225***	0.096***	0.279***	0.231***	-0.115***	-0.02	.9** 0.2	5***	0.200***	0.187***	0.147***	0.286***
BOARD SIZE	-0.006	0.371***	0.167***	0.400***	0.094***	-0.250***	-0.	.007 0.3	70***	0.312***	0.342***	0.228***	0.598***
%FEMALE	-0.011	0.186***	0.073***	0.202***	0.050***	-0.078***	0.038	*** 0.2	54***	0.254***	0.193***	0.197***	0.231***
%BLOCK_SHARES	0.015	0.014	-0.001	0.008	-0.034**	-0.105***	-0.034	*** (.021*	0.018	-0.001	0.017	0.059***
CEO TENURE	-0.025**	-0.019*	0.003	-0.047***	-0.033**	0.021*	0.	.005 -0.09	. ***0	-0.082***	-0.088***	-0.078***	-0.097***
CEO SHARES	-0.041***	-0.191***	-0.141***	-0.257***	-0.055***	0.119***	0.	.007 -0.09)2*** -	-0.092***	-0.071***	-0.071***	-0.200***
AUDIT FEE	0.001	0.432***	0.219***	0.489***	0.115***	0.111***	-0.118	*** 0.4	32***	0.408***	0.494***	0.269***	0.771***
AUDIT TENURE	-0.035**	0.168***	0.084***	0.190***	0.139***	0.075***	0.	.015 0.2	30***	0.261***	0.169***	0.197***	0.189***
_													
Variables	ROA	RETURN	SD3ROA	%INDE	BOA	RD 8 %FEI	MALE	%BLOCK	CE	0_	CEO_	AUDIT_	AUDIT_
SIZE					512	E		SHARES	TEN	JKE	SHAKES	FEE	TENUKE
POA	1 000												
RETURN	0.063***	1.000											
SD3ROA	-0.183***	0.013	1.000										
%INDEP	-0.054***	-0.055***	-0.059**	** 1.000									
BOARD SIZE	-0.035***	-0.038***	-0.118**	** 0.334	*** 1.00	00							
%FEMALE	0.016	-0.007	-0.087**	** 0.102	*** 0.24	2*** 1.0	000						
%BLOCK_SHARES	-0.051***	-0.002	-0.004	0.009	0.04	7*** 0.0	005	1.000					
CEO_TENURE	-0.003	0.043***	-0.006	-0.143	*** -0.13	8*** -0.0	069***	-0.020*	1.0	00			
CEO_SHARES	0.055***	0.021*	0.012	-0.321	*** -0.18	·-0.	005	-0.022*	0.24	45***	1.000		
AUDIT_FEE	-0.129***	-0.046***	-0.143**	** 0.288	*** 0.50	0.2	244***	-0.031**	-0.0	63***	-0.159***	1.000	
AUDIT_TENURE	0.005	0.006	-0.043**	** 0.147	*** 0.16	60*** 0.2	217***	-0.046***	· -0.0	37***	-0.105***	0.187 * * *	1.000

This table reports the correlations of key variables. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level respectively.

VARIABLES	(1)	(2) FORCED	(3)
RRI_CRNT	0.115**		
RRI_PEAK	(1.974)	0.092* (1.920)	
RRI_RATING		(1.720)	0.166*** (2.816)
SIZE	-0.180***	-0.168***	-0.204***
ROA	(-2.856)	(-2.749)	(-3.217)
	-1.226*	-1.204*	-1.322*
RETURN	(-1.710)	(-1.682)	(-1.832)
	-0.145	-0.150	-0.143
SD3ROA	(-0.872)	(-0.903)	(-0.862)
	-0.258	-0.179	-0.371
%INDEP	(-0.146)	(-0.102)	(-0.211)
	-1.408	-1.408	-1.374
BOARD SIZE	(-1.338)	(-1.338)	(-1.301)
	0.026	0.027	0.024
%FEMALE	(0.661)	(0.680)	(0.607)
	0.007	0.002	0.051
%BLOCK_OWNERSHIP	(0.012)	(0.004)	(0.084)
	0.031	0.031	0.032
	(0.988)	(0.003)	(1.027)
CEO_TENURE	(0.988) -0.055 (0.622)	-0.056	(1.027) -0.052
CEO_SHARES	-0.223***	-0.222***	-0.224***
Constant	(-3.569)	(-3.559)	(-3.585)
	-0.620	-0.690	-1.116
	(-0.424)	(-0.473)	(-0.767)
Year FE	YES	YES	YES
Industry FE	YES	YES	YES
N	7,406	7,406	7,406
Psd. R2	0.136	0.130	0.0631

Table 4: Association between reputation risk and the board's corrective actions
Panel A: CEO Turnover

Panel B: CEO Compensation

VARIABLES	(1)	(2)TOTAL ((+1))	(3)	(4)	(5) CASH(t+1)	(6)	(7)	(8) EOUITY $_{(t+1)}$	(9)
With IDEES		1011 L(l+1)							
RRI CRNT	-0.003**			-0.003*			-0.003***		
	(-2, 608)			(-1 939)			(-2.961)		
RRI PEAK	(2.000)	-0.001*		(100))	0.000		(2.901)	0.001	
		(-2, 203)			(0.960)			(1.595)	
RRI RATING		(2.200)	-0.015**		(0.900)	0.011		(110)0)	-0.022**
			(-2.239)			(1.487)			(-2.694)
SIZE	0.353***	0.332***	0.344***	0.120***	0.105***	0.102***	0.438***	0.417***	0.432***
	(44.333)	(42.267)	(40.047)	(9.808)	(12.385)	(13.028)	(41.201)	(36.881)	(33,494)
ROA	0.646***	0.606***	0.634***	-0.273*	-0.300**	-0.308**	0.884***	0.845***	0.879***
	(4.214)	(3.845)	(4.048)	(-1.715)	(-2.778)	(-2.833)	(6.370)	(6.582)	(6.987)
RETURN	0.178***	0.184***	0.180***	-0.003	0.000	0.001	0.249***	0.254***	0.249***
	(3.688)	(3.769)	(3.734)	(-0.106)	(0.011)	(0.037)	(8.934)	(4.183)	(4.156)
SD3ROA	0.323	0.276	0.302	-0.285	-0.317**	-0.323**	-0.123	-0.169	-0.139
	(1.474)	(1.241)	(1.351)	(-1.039)	(-2.244)	(-2.242)	(-0.513)	(-0.358)	(-0.295)
%INDEP	0.748***	0.729***	0.740***	-0.227	-0.240	-0.242	1.370***	1.352***	1.365***
	(5.568)	(5.564)	(5.550)	(-1.196)	(-1.311)	(-1.325)	(8.280)	(5.882)	(5.982)
BOARD SIZE	0.011*	0.010	0.011*	0.017**	0.017***	0.016***	0.012**	0.012**	0.012**
	(1.856)	(1.748)	(1.845)	(2.398)	(3.682)	(3.593)	(2.015)	(2.873)	(2.999)
%FEMALE	0.219***	0.204***	0.212***	0.123	0.113	0.112	0.371***	0.357***	0.365***
	(3.533)	(3.442)	(3.518)	(1.191)	(1.578)	(1.568)	(4.125)	(9.472)	(9.528)
%BLOCK_OWNERSHIP	0.332***	0.337***	0.334***	0.022	0.026	0.028	0.406***	0.411***	0.406***
	(8.179)	(8.570)	(8.360)	(0.379)	(0.458)	(0.498)	(7.953)	(4.519)	(4.454)
CEO_TENURE	0.081***	0.082***	0.081***	0.090***	0.091***	0.091***	0.087***	0.087***	0.087***
	(7.450)	(7.428)	(7.397)	(6.017)	(5.680)	(5.718)	(6.624)	(8.315)	(8.196)
CEO_SHARES	-0.027***	-0.028***	-0.027***	-0.048***	-0.049***	-0.049***	-0.050***	-0.051***	-0.050***
	(-11.373)	(-11.728)	(-11.821)	(-13.126)	(-8.003)	(-8.059)	(-15.604)	(-10.443)	(-10.416)
Constant	4.423***	4.529***	4.515***	6.111***	6.184***	6.166***	3.010***	3.113***	3.108***
	(34.077)	(38.089)	(37.946)	(24.391)	(42.509)	(42.754)	(13.771)	(16.850)	(17.424)
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Ν	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,406	7,406
Adj. R2	0.437	0.436	0.436	0.115	0.115	0.115	0.478	0.478	0.478

Panel C: Auditor

	(1)	(2)	(3)
VARIABLES		$BIG4_{(t+1)}$	
RRI_CRNT	0.483***		
	(3.275)		
RRI_PEAK		0.465***	
		(3.171)	
RRI_RATING			0.559***
			(3.881)
AUDIT_TENURE	0.239***	0.242***	0.240***
	(5.514)	(5.566)	(5.758)
SIZE	0.699***	0.706***	0.740***
	(2.766)	(2.792)	(3.036)
ROA	-1.258	-1.390	-1.167
	(-0.584)	(-0.632)	(-0.534)
RETURN	0.242	0.188	0.172
	(0.631)	(0.527)	(0.515)
SD3ROA	0.809	0.795	0.913
	(0.503)	(0.517)	(0.577)
%INDEP	13.919***	13.930***	14.147***
	(9.771)	(10.352)	(9.838)
BOARD SIZE	-0.009	-0.008	0.014
	(-0.120)	(-0.107)	(0.190)
%FEMALE	-2 080**	-2.583**	-2 439***
	(-2 360)	(-2,234)	(-2,756)
%BLOCK OWNERSHIP	-0.679	-0.560	-0 539
	(-1 071)	(-0.868)	(-0.937)
CEO TENURE	0 133	0.155	0.125
	(0.558)	(0.665)	(0.550)
CEO SHARES	0.053*	0.041	0.056*
	(1.833)	(1 198)	(1.807)
Constant	-16 615***	-16.831***	-18 /00***
Constant	(-10.015)	(-11, 520)	(-11, 196)
Vear FE	(-10.004) VES	VFS	VFS
Ival I'D Industry FF		VES	VES
Muusuy FE	1 ES 5 257	1 ES 5 257	1 ES 5 257
	5,257	0.425	0,426
PSU. KZ	0.429	0.433	0.420

	(1)	(2)	(3)
VARIABLES	E	SG COMMITTE	E
RRI CRNT	0.016***		
—	(3.943)		
RRI PEAK		0.008**	
—		(2.330)	
RRI RATING		. ,	0.060***
—			(14.086)
SIZE	-0.161***	-0.156***	-0.181***
	(-37.243)	(-37.947)	(-42.242)
ROA	-0.928***	-0.915***	-1.003***
	(-14.536)	(-14.355)	(-15.860)
RETURN	-0.017	-0.018	-0.012
	(-1.503)	(-1.600)	(-1.099)
SD3ROA	-0.607***	-0.591***	-0.656***
	(-5.297)	(-5.160)	(-5.794)
%INDEP	-0.230***	-0.225***	-0.239***
	(-3.087)	(-3.026)	(-3.247)
BOARD SIZE	0.009***	0.009***	0.009***
	(3.440)	(3.470)	(3.437)
%FEMALE	-0.045	-0.043	-0.048
	(-1.095)	(-1.038)	(-1.178)
%BLOCK_OWNERSHIP	-0.029***	-0.029***	-0.029***
	(-8.505)	(-8.476)	(-8.413)
CEO_TENURE	-0.006	-0.006	-0.005
	(-0.926)	(-0.964)	(-0.800)
CEO_SHARES	0.002**	0.002**	0.002
	(1.979)	(2.058)	(1.545)
Constant	2.482***	2.453***	2.386***
	(24.376)	(24.168)	(23.872)
Year FE	YES	YES	YES
Industry FE	YES	YES	YES
Ν	7,406	7,406	7,406
Psd. R2	0.306	0.306	0.322

Panel D: ESG committee

This table reports the panel regression results of board actions on reputation risk and control variables. The dependent variable is CEO turnover in Panel A, CEO compensation in total, cash or equity in Panel B, auditor in Panel C and ESG committee in Panel D. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level respectively.

<u></u>						
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	FORCED	ΔTOTAL	ΔCASH	ΔEQUITY	ΔBIG4	ΔESGCOM
ΔRRI	0.114**	0.171***	-0.056**	0.165***	0.384***	0.399**
	(2.224)	(11.822)	(-2.486)	(14.254)	(3.249)	(2.526)
ΔSIZE	-0.089***	0.183	0.022	0.159	-1.627**	2.394***
	(-2.761)	(1.575)	(1.090)	(1.160)	(-1.972)	(3.742)
ΔROA	-0.363	0.334	-0.012	0.346	0.215	-0.869
	(-0.367)	(0.615)	(-0.026)	(0.737)	(0.119)	(-0.457)
ΔRETURN	-0.087	0.148***	0.071	0.189***	0.163	0.103
	(-0.665)	(4.126)	(1.562)	(4.163)	(0.721)	(0.240)
ΔSD3ROA	-0.183	1.213	-1.420	1.315	5.940*	2.050
	(-0.080)	(1.201)	(-1.417)	(1.471)	(1.901)	(0.616)
Δ%INDEP	-6.747***	0.348	2.282***	-0.460	-3.272	-4.551
	(-3.173)	(0.521)	(2.658)	(-0.483)	(-0.917)	(-0.972)
ΔBOARD SIZE	0.039	0.023	0.002	0.021	0.082	-0.124
	(0.460)	(0.752)	(0.077)	(0.646)	(0.600)	(-0.953)
Δ % FEMALE	-0.573	0.319	0.307	0.097	-2.880	-0.103
	(-0.436)	(0.566)	(0.603)	(0.166)	(-1.177)	(-0.047)
Δ % BLOCK_OWNERSHIP	0.045*	-0.007	-0.018	-0.009	-0.031	0.068**
	(1.720)	(-1.656)	(-1.081)	(-0.486)	(-0.382)	(2.023)
ΔCEO_TENURE	0.058	-0.061	0.034	-0.085*	0.106	-0.186
	(0.561)	(-1.347)	(0.679)	(-2.200)	(0.548)	(-0.685)
ΔCEO_SHARES	0.005	-0.004	-0.035**	-0.001	0.081	-0.115
	(0.524)	(-0.417)	(-2.468)	(-0.079)	(1.303)	(-1.355)
∆AUDIT_FEE					1.232	
					(1.640)	
Δ AUDIT_TENURE					0.260	
					(7.971)	
Constant	-2.668***	7.364***	3.134***	7.522***	-0.531	-6.014***
	(-5.113)	(19.655)	(6.348)	(20.165)	(-0.602)	(-6.522)
Year FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
N	7,406	7,406	7,406	7,406	5,257	7,406
Psd. R2	0.035				0.160	0.122
Adj. R2		0.047	0.042	0.043		

 Table 5: Change in reputation risk

This table reports the panel regression results of change of board actions on change of reputation risk and control variables. The dependent variable board actions include: CEO turnover, change of total CEO compensation, change of cash compensation, change of equity compensation, change of auditor and change of ESG committee. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level respectively.

VARIABLES	(1)	(2)	(3)	(4) ROA	(5)	(6)	(7)	(8)	(9) 3YESG	(10)	(11)	(12)
FORCED x RRI	0.004 * (1.717)						1.490* (1.818)		01200			
TOTAL x RRI	(11717)	0.001*** (2.988)					(11010)	1.234*** (4.077)				
CASH x RRI		(2000)	0.000** (3.081)					(1077)	0.208* (1.858)			
EQUITY x RRI			(5.001)	0.005* (1.862)					(1.020)	0.585*** (2.895)		
BIG4 x RRI				(1002)	-0.005					(210)0)	1.089 (0.314)	
ESGCOM x RRI					(01/00)	0.002** (2.455)					(0.011)	0.916** (2.383)
FORCED	-0.018*** (-3.416)					()	-4.747** (-2.393)					()
TOTAL	()	0.009*** (6.556)					(-0.229 (-0.278)				
CASH		(0.000)	0.001** (2.293)					(• •)	0.235 (0.730)			
EQUITY				0.020*** (3.418)						-1.019* (-1.870)		
BIG4				. ,	0.015* (1.680)						0.750 (0.098)	
ESGCOM					. ,	-0.015*** (-6.834)						-1.867 (-1.324)
RRI	-0.001* (-1.901)	-0.013*** (-3.400)	-0.003* (-2.208)	-0.062*** (-3.368)	-0.004 (-0.649)	0.001** (2.156)	-1.500*** (-3.860)	-9.390*** (-3.547)	-2.139*** (-4.991)	-1.859 (-1.289)	-1.840 (-0.534)	1.294*** (5.123)
SIZE	-0.004*** (-6.584)	-0.004*** (-5.488)	-0.004*** (-4.028)	-0.043*** (-7.797)	-0.009*** (-10.197)	-0.004*** (-5.308)	6.388*** (10.094)	5.499*** (16.482)	6.473*** (20.922)	5.250*** (15.232)	3.090*** (8.316)	6.417*** (21.897)
ROA	0.541*** (64.433)	0.519*** (62.315)	0.541*** (22.382)	2.680*** (38.286)	0.540*** (58.741)	0.593*** (62.799)	24.037*** (2.927)	21.705*** (5.428)	21.736*** (4.641)	39.170*** (7.969)	36.888*** (9.060)	28.629*** (6.593)
RETURN	0.015*** (7.709)	0.012*** (7.155)	0.016* (2.067)	0.064*** (4.566)	0.014*** (7.088)	0.013*** (7.840)	-0.009 (-0.013)	0.210 (0.251)	0.999 (1.142)	0.398 (0.344)	0.225 (0.235)	0.620 (0.744)
SD3ROA	0.035 (1.459)	0.159*** (7.174)	0.080 (0.920)	1.157*** (6.829)	0.049* (1.909)	0.140*** (6.357)	19.292 (1.261)	13.426 (1.318)	28.934** (2.101)	29.377** (2.225)	33.846*** (2.926)	15.111 (1.487)
%INDEP	-0.004 (-0.356)	0.000 (0.005)	-0.008 (-0.858)	-0.017 (-0.164)	0.012 (0.892)	0.007 (0.701)	39.749*** (5.739)	39.562*** (8.180)	40.093*** (7.932)	46.077*** (6.784)	40.445*** (7.102)	38.595*** (7.999)
BOARD SIZE	0.002*** (4.556)	0.001*** (2.717)	0.002*** (4.217)	-0.001 (-0.216)	0.002*** (3.828)	0.001*** (2.944)	0.580* (1.775)	0.499*** (3.079)	0.390** (2.130)	0.426* (1.886)	0.459** (2.535)	0.497*** (3.121)
%FEMALE	0.035*** (5.521)	0.022*** (3.652)	0.033** (2.709)	0.184*** (3.424)	0.015** (2.095)	0.020*** (3.507)	24.665*** (6.590)	20.794*** (8.646)	26.705*** (10.612)	31.059*** (9.729)	30.129*** (11.284)	21.784*** (9.081)
%BLOCK_OWNERSHIP	0.000 (0.124)	-0.000 (-0.201)	0.000 (0.332)	-0.003 (-0.816)	-0.000 (-0.289)	-0.000 (-0.484)	0.201 (0.153)	0.404 (0.475)	0.441 (0.553)	1.554 (1.049)	0.478 (0.490)	0.763 (0.863)
CEO_TENURE	0.001 (1.019)	0.000 (0.118)	0.001 (1.006)	0.052*** (6.186)	0.003** (2.482)	-0.000 (-0.035)	-0.449 (-0.905)	-0.419 (-1.244)	-0.863** (-2.162)	-0.009 (-0.018)	-0.489 (-1.277)	-0.198 (-0.587)
CEO_SHARES	-0.001***	-0.000*	-0.001***	0.001	-0.001***	-0.000***	-0.431***	-0.414***	-0.450***	-0.578***	-0.516***	-0.422***

Table 6: Future firm accounting and ESG performance

	(-3.496)	(-1.800)	(-3.890)	(0.504)	(-2.760)	(-2.661)	(-2.826)	(-5.759)	(-5.525)	(-5.760)	(-5.789)	(-5.843)
AUDIT_FEE					0.008***						3.384***	
					(5.857)						(6.632)	
AUDIT_TENURE					0.000						0.229***	
					(0.421)						(3.265)	
Constant	0.027**	-0.080***	0.022*	0.228**	-0.058***	-0.024	-39.859***	-31.584***	-40.728***	-50.192***	-88.170***	-47.409***
	(2.464)	(-4.819)	(1.876)	(2.339)	(-2.931)	(-1.580)	(-4.825)	(-3.706)	(-7.746)	(-7.120)	(-8.236)	(-8.159)
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Ν	6,428	6,428	6,428	6,428	5,257	6,428	6,428	6,428	6,428	6,428	5,257	6,428
Adj. R2	0.449	0.531	0.455	0.336	0.480	0.541	0.571	0.576	0.561	0.482	0.458	0.576

This table reports the regression results how board actions and CEO compensation impact the firm's future accounting performance and ESG performance. The dependent variable future accounting performance is measured by 3 years ROA and future ESG performance is measured by future RepRisk. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level respectively.

Table 7: Future IIrii value						
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES			3YTC	BINQ		
FORCED x RRI	0.052*					
	(1.875)					
TOTAL x RRI		-0.019**				
		(-2.188)				
CASH x RRI			-0.007			
			(-1.462)			
EQUITY x RRI				-0.014**		
				(-2.004)		
BIG4 x RRI					0.132**	
					(2.243)	
ESGCOM x RRI						0.039**
						(2.211)
FORCED	-0.189***					
	(-3.734)					
TOTAL		0.173***				
		(6.838)				
CASH		× ,	0.004			
			(0.358)			
EOUITY			()	0.063***		
				(3.844)		
BIG4				(21211)	0.147	
2101					(0.939)	
FSGCOM					(0.222)	-0 485***
Locom						(-11 988)
RRI	0.028	0 181**	0 042**	0 119**	-0 103**	0.017
	(1.386)	(2, 381)	(2.248)	(2.419)	(-2, 207)	(1.323)
SIZE	-0.132***	-0.157***	_0 107***	_0 12/***	-0 210***	-0.182***
SIZL	-0.132	-0.137	(-7 785)	-0.12+	(-4.040)	(-1/102)
ROA	(- -	(-11.0 4 0) 6 55 7***	6 520***	7 380***	(- 4 .0 4 0)	7 300***
ROA	(8 555)	$(11 \ 381)$	(35, 745)	(34,401)	(7, 108)	(41,000)
RETURN	0.306***	0 30/***	0 338***	0 280***	0.486***	0 323***
KETOKN	(4.078)	(9.651)	(0.338)	(7, 106)	(5 518)	(10.323)
SD3DOA	(4.078)	(9.031) 5 11/***	(9.550) 5 412***	(7.100) 6 16/***	(J.J18) 5 475**	(10.498)
SDSROA	(2.554)	(12548)	(11.676)	(10.627)	(2, 334)	(11 221)
%INDEP	(2.334) _0 602	(12.J40) _0 873***	_0 033***	(10.027) _0 870***	(2.334) _0.763	(11.221) _0 77 8 ***
/01111/1/17	-0.093	(1120)	-0.735	(2.012)	-0.703	(2720)
BUYD SIZE	0.000	(- 4 .150)	0.004	(-3.012)	0.007	(-3.720) 0.012*
DUARD SILE	(0.112)	(1.225)	(0.004)	(1, 102)	-0.007	(1.800)
	(0.112)	(1.525)	(0.400)	(1.192)	(-0.334)	(1.009) 0.19 5 *
70 FEIVIALE	0.230	0.192^{*}	0.189	(1.291)	(1.299)	(1, (97))
	(0.838)	(1./24)	(1.485)	(1.381)	(1.388)	(1.087)

Table 7: Future firm value

%BLOCK_OWNERSHIP	0.012	0.012	0.014	0.011	-0.012	0.001
	(1.448)	(1.205)	(1.295)	(0.903)	(-1.181)	(0.137)
CEO_TENURE	0.098**	0.083***	0.084***	0.148***	0.131***	0.083***
	(2.417)	(5.041)	(4.277)	(6.523)	(2.729)	(5.154)
CEO_SHARES	-0.004	0.003	0.001	0.003	0.004	0.000
	(-0.516)	(0.963)	(0.273)	(0.796)	(0.383)	(0.082)
AUDIT_FEE					0.061	
					(1.118)	
AUDIT_TENURE					0.025***	
					(3.258)	
Constant	1.400**	-0.110	1.072***	0.393	1.311	1.586***
	(2.068)	(-0.352)	(3.352)	(0.951)	(1.485)	(5.690)
Year FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Observations	6,428	6,428	6,428	6,428	5,257	6,428
Adj. R2	0.349	0.434	0.419	0.444	0.358	0.453

This table reports the regression results how the firm market value are impacted by the reputation risk and CEO turnover and CEO compensation. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level respectively.

		Treat (RRI=1)	Control (RRI=0)			
	Mean	Variance	Skewness	Mean	Variance	Skewness	
SIZE	9.200	2.488	0.453	9.200	1.754	0.651	
ROA	0.132	0.009	-1.411	0.132	0.012	2.858	
RETURN	0.127	0.144	2.095	0.127	0.159	0.935	
SD3ROA	0.024	0.002	9.773	0.024	0.001	5.366	
%INDEP	0.870	0.004	-1.754	0.870	0.004	-1.949	
BOARD SIZE	10.430	4.550	0.193	10.430	4.307	0.431	
%FEMALE	0.204	0.013	0.657	0.204	0.014	0.894	
%BLOCK_SAHRES	0.418	4.301	17.730	0.418	2.949	14.550	
CEO_TENURE	1.557	0.597	0.060	1.557	0.638	-0.025	
CEO_SHARES	1.082	12.980	7.024	1.082	15.020	7.598	
AUDIT_TENURE	11.970	18.980	-0.466	11.970	12.620	-0.153	
AUDIT_FEE	15.250	0.941	0.288	15.250	0.682	0.350	

Table 8: Entropy balanced subsamplesPanel A: Descriptive statistics of entropy balanced samples

Panel B: Association between ESG reputation risk and corrective action

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	FORCED	TOTAL	CASH	EQUITY	BIG4	ESGCOM
RRI	0.116*	-0.003**	-0.061**	0.207***	0.443***	0.029***
	(1.706)	(-3.161)	(-2.507)	(19.798)	(3.359)	(6.149)
SIZE	-0.236***	0.367***	0.004	0.208	-0.502	-0.174***
	(-2.878)	(43.314)	(0.177)	(1.420)	(-0.575)	(-30.879)
ROA	-0.663	0.573***	-0.084	0.432	1.486	-0.988***
	(-0.661)	(3.668)	(-0.163)	(0.843)	(0.619)	(-12.582)
RETURN	-0.099	0.193***	0.063	0.198***	0.229	-0.019
	(-0.603)	(3.407)	(1.230)	(3.510)	(0.861)	(-1.440)
SD3ROA	0.378	0.210	-2.172**	1.708	4.112	-0.562***
	(0.196)	(0.626)	(-1.997)	(1.498)	(1.092)	(-3.023)
%INDEP	-2.532*	0.807***	1.288	-0.081	1.170	-0.168*
	(-1.888)	(5.771)	(1.229)	(-0.107)	(0.227)	(-1.775)
BOARD SIZE	0.065	-0.001	0.018	0.000	0.179	0.010***
	(1.493)	(-0.268)	(0.541)	(0.017)	(1.032)	(3.078)
%FEMALE	0.566	0.280***	0.128	0.100	-1.282	-0.152***
	(0.759)	(3.849)	(0.217)	(0.142)	(-0.353)	(-2.727)
%BLOCK_OWNERSHIP	0.043	0.331***	0.010	0.005	-0.081	-0.031***
	(1.277)	(6.488)	(0.424)	(0.271)	(-0.877)	(-4.582)
CEO_TENURE	-0.061	0.075***	0.020	-0.093**	0.292	-0.011
	(-0.532)	(6.634)	(0.320)	(-2.729)	(1.236)	(-1.392)
CEO_SHARES	-0.201***	-0.021***	-0.034	-0.001	0.055	-0.000
	(-2.589)	(-6.122)	(-1.570)	(-0.069)	(1.379)	(-0.002)
AUDIT_FEE					1.079	
					(1.473)	
AUDIT_TENURE					0.255***	
					(8.182)	
Constant	0.391	4.419***	3.489***	7.480***	-18.327***	2.557***
	(0.233)	(27.974)	(6.086)	(19.497)	(-9.177)	(21.591)

Year FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
N	7,406	7,406	7,406	7,406	5,257	7,406
Psd. R2	0.0527				0.257	
Adj. R2		0.426	0.040	0.068		0.313

Panel C: Changes in RRI

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	FORCED	ΔTOTAL	ΔCASH	ΔEQUITY	ΔBIG4	ΔESGCOM
ΔRRI	0.118**	0.203***	-0.061**	0.207***	0.443***	0.545***
	(2.106)	(13.742)	(-2.507)	(19.798)	(3.359)	(2.932)
ΔSIZE	-0.124***	0.256*	0.004	0.208	-0.502	2.548***
	(-2.713)	(2.108)	(0.177)	(1.420)	(-0.575)	(3.688)
ΔROA	0.725	0.394	-0.084	0.432	1.486	-0.052
	(0.587)	(0.629)	(-0.163)	(0.843)	(0.619)	(-0.022)
ΔRETURN	-0.069	0.137***	0.063	0.198***	0.229	0.248
	(-0.465)	(3.540)	(1.230)	(3.510)	(0.861)	(0.640)
∆SD3ROA	0.986	1.354	-2.172**	1.708	4.112	3.183
	(0.388)	(1.056)	(-1.997)	(1.498)	(1.092)	(0.678)
Δ%INDEP	-7.998***	0.510	1.288	-0.081	1.170	-4.986
	(-3.016)	(0.888)	(1.229)	(-0.107)	(0.227)	(-1.054)
ΔBOARD SIZE	0.130	-0.006	0.018	0.000	0.179	-0.133
	(1.374)	(-0.205)	(0.541)	(0.017)	(1.032)	(-0.902)
$\Delta\%$ FEMALE	-0.186	0.291	0.128	0.100	-1.282	-1.335
	(-0.096)	(0.415)	(0.217)	(0.142)	(-0.353)	(-0.712)
Δ % BLOCK_OWNERSHIP	0.031	0.007	0.010	0.005	-0.081	0.075*
	(1.109)	(1.470)	(0.424)	(0.271)	(-0.877)	(1.791)
ΔCEO_TENURE	0.073	-0.088**	0.020	-0.093**	0.292	-0.097
	(0.609)	(-2.449)	(0.320)	(-2.729)	(1.236)	(-0.311)
ΔCEO_SHARES	0.013	-0.005	-0.034	-0.001	0.055	-0.136
	(1.080)	(-0.682)	(-1.570)	(-0.069)	(1.379)	(-1.552)
ΔAUDIT_FEE					1.079	
					(1.473)	
∆AUDIT_TENURE					0.255***	
	0 ((0 * * *	7 270***	2 400***	7 400***	(8.182)	< 53 0***
Constant	-2.662***	/.3/0***	3.489***	/.480***	-1.320	-6.5/9***
Veen EE	(-4.508) VES	(19.032) VES	(0.080) VES	(19.497) NES	(-1.333) VES	(-0.0/8) VES
I cal FE	I ES VES	I ES VES	I ES VES	I ES VES	I ES VES	IES VES
Muusu'y FE	1 ES 7 406	1 ES 7 406	1 ES 7 406	1 ES 7 406	1 ES 5 257	1 ES 7 406
Pad P2	0.059	7,400	7,400	7,400	0.257	7,400
r su. KZ	0.039	0.065	0.040	0.068	0.237	0.147
Auj. KZ		0.005	0.040	0.000		0.147

This table reports the entropy balanced subsamples regression results of reputation risk on CEO turnover, CEO compensation, audit, ESG committee. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	E	SG_AUDIT		ΔESG_AUDIT		ESG_BIG4		ΔESG_BIG4
RRI CRNT	0.034**				0.079***			
	(2.353)				(3.124)			
RRI PEAK	(0.029**			(01121)	0.084**		
		(2.147)				(2.361)		
RRI RATING		()	0.016			(20001)	0.022*	
			(1.499)				(1.763)	
ΔRRI				0.544***			(0.649***
				(2.945)				(5.328)
SIZE	0.035**	0.040***	0.038**	-1.226	-0.040*	-0.029	-0.030	-1.397
	(2.280)	(2.741)	(2.274)	(-1.510)	(-1.946)	(-1.445)	(-1.366)	(-1.407)
ROA	-0.238	-0.232	-0.249	-0.677	0.112	0.110	0.113	-0.813
	(-1.088)	(-1.060)	(-1.128)	(-0.246)	(0.440)	(0.428)	(0.435)	(-0.431)
RETURN	0.064	0.065	0.067*	-0.083	-0.013	-0.006	-0.002	-0.108
	(1.542)	(1.546)	(1.908)	(-0.323)	(-0.272)	(-0.123)	(-0.040)	(-0.230)
SD3ROA	-0.688	-0.722	-0.729	6.558	0.414	0.411	0.412	-2.410
	(-1.198)	(-1.257)	(-1.398)	(0.927)	(0.739)	(0.729)	(0.728)	(-1.246)
%INDEP	-0.355	-0.335	-0.380	3.712	-1.836***	-	-	-2.993***
						1.821***	1.861***	
	(-1.237)	(-1.165)	(-1.413)	(1.506)	(-5.220)	(-5.149)	(-5.182)	(-2.917)
BOARD SIZE	0.013*	0.012	0.012	0.015	0.016*	0.017*	0.016*	0.225
	(1.668)	(1.640)	(1.632)	(0.165)	(1.819)	(1.876)	(1.731)	(0.898)
%FEMALE	0.148	0.136	0.156	3.210	0.463***	0.461***	0.450**	-0.644
	(1.062)	(0.977)	(1.108)	(1.600)	(2.670)	(2.639)	(2.559)	(-0.127)
%BLOCK_OWNERSHIP	0.016**	0.016**	0.016**	0.116**	-0.006	-0.006	-0.005	0.058*
	(2.017)	(2.061)	(2.223)	(2.006)	(-0.762)	(-0.753)	(-0.615)	(1.883)
CEO_TENURE	0.027	0.026	0.025	0.003	-0.025	-0.028	-0.025	1.166***
	(1.501)	(1.480)	(1.423)	(0.014)	(-1.217)	(-1.364)	(-1.200)	(4.129)
CEO_SHARES	-0.003	-0.003	-0.003	0.019	-0.039***	-	-0.037**	0.022
—						0.038***		

Table 9: Reputation risk and sustainability assurance

	(-0.393)	(-0.355)	(-0.509)	(0.791)	(-2.688)	(-2.599)	(-2.493)	(0.622)
Constant	0.433	0.371	0.409	-4.916***	1.270***	0.989**	1.242***	-4.871***
	(1.421)	(1.228)	(1.443)	(-9.356)	(2.749)	(2.159)	(2.617)	(-3.233)
Observations	1,130	1,130	1,130	1,130	485	485	485	485
Adj. R2	0.382	0.382	0.381	0.100	0.381	0.375	0.371	0.149

This table reports the panel regression results of CSR audit on reputation risk and control variables. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level respectively.

Variable	Definition
Dependent variables	
FORCED TURNOVER	An indicator variable coded 1 if a CEO departs the firm, is younger than 60 years of age, and their departure was not due to retirement or death based on the BoardEx Database, and 0 otherwise.
TOTAL	The natural logarithm of the CEO's total compensation.
CASH	The natural logarithm of the CEO's total cash compensation (i.e. salary and cash bonus).
EQUITY	The natural logarithm of the CEO's equity compensation.
BIG4	An indicator variable coded 1 if the auditor hired by the firm is either, EY, PwC, Deloitte or KPMG, 0 otherwise.
ESGCOM	An indicator variable coded 1 if the firm has established an ESG committee, 0 otherwise.
3YROA	The natural logarithm of the three-year average ROA beginning in year t+1 to t+3.
3YESG	The three-year average of the ESG score reported by ASSET4, beginning in year t+1 to t+3.
Reputation risk	
RRI_CRNT	The natural logarithm of the reputation risk index, reflecting the current level of company's exposure to reputational risks related to ESG and business risk. In its natural form, this ranges from zero (lowest) to 100 (highest).
RRI_PEAK	The natural logarithm of the highest level of the reputation risk index over the past two years, reflecting the overall reputation risk exposure related to ESG issues of a company. In its natural form, this ranges from zero (lowest) to 100 (highest).
RRI_RATING	The numeric conversion of RepRisk Rating ranges from AAA to D. For example, AAA, AA and A change to value 1, 2 and 3 denoting low ESG risk exposure; CCC and D change to value 8 and 9 denoting high ESG risk exposure.
ΔRRI	The difference between RRI_PEAK and RRI_CURRENT.
Control variables	
SIZE	The natural logarithm of total assets.
ROA	Net income divided by total assets.
RETURN	Annual stock return.
SD3ROA	The standard deviation of ROA over a 3-year period.
%INDEP	The proportion of independent directors on the board.
BOARD SIZE	The number of directors on the board
%FEMALE	The number of female directors divided by the number of directors on the board.

APPENDIX Appendix A: Variable definitions

%BLOCK_SHARES	The proportion of common stock held by blockholders.
CEO_TENURE	The natural logarithm of the number of years the CEO has held
	the position of CEO.
CEO_SHARES	The proportion of shares held by the CEO.
AUDIT_FEE	The natural logarithm of the fee charged by the incumbent auditor
AUDIT_TENURE	The number of years for which the incumbent auditor has been
	employed.