ORIGINAL RESEARCH

Do board monitoring and audit committee quality help risky firms reduce CSR controversies?

Cemil Kuzey[1] · Habiba Al-Shaer[2] · Ali Uyar[3] · Abdullah S. Karaman[4]

Abstract

This study focuses on potential inhibiting and driving factors of corporate social responsibility (CSR) controversies including board monitoring intensity and audit committee quality with a particular focus on risky firms. We draw on agency, resource dependence, and slack financial resources theories to explain this association. Using an international sample between 2002–2019 and executing fixed-effects regression and Hayes's moderation analysis methodology, we find that risky firms tend to commit more CSR controversies. Furthermore, CSR performance, firm complexity, and indebtedness exacerbate CSR controversies, whereas larger boards mitigate them. Moreover, while board monitoring intensity and audit committee quality do not prevent committing CSR controversies in absolute terms, they alleviate risky firms' CSR controversies tendency. The findings confirm agency theory and the monitoring function of the board in mitigating CSR controversies. In line with the resource dependence theory, audit committees' independent members and members with different skills and expertise provide critical resources that help prevent CSR controversies.

✉ Ali Uyar
  aliuyar@hotmail.com

  Cemil Kuzey
  cemilkuzey@gmail.com

  Habiba Al-Shaer
  habiba.al-shaer@stir.ac.uk

  Abdullah S. Karaman
  Abdullah.Karaman@aum.edu.kw

[1] Arthur J. Bauernfeind College of Business, Murray State University, Murray, KY, USA

[2] Stirling Management School, University of Stirling, Stirling, Scotland FK9 4LA, UK

[3] Excelia Business School, CERIIM, La Rochelle, France

[4] College of Engineering and Technology, American University of the Middle East, Egaila, Kuwait

Ⓐ Springer

1 Introduction

Corporate social responsibility (CSR) can be considered an essential strategic tool that has value-enhancing benefits which help improve the value of the firm (Malik 2015). These benefits include financial market benefits by lowering the firm's cost of capital and cost of debt and improving stock market returns (Dhaliwal et al. 2011; Wang et al. 2011; Ye and Zhang 2011; Flammer 2013), and product market benefits by improving brand reputation and customer satisfaction which leads to increased sales and achieving the competitive advantage (Brown and Dacin 1997; Singh et al. 2008; Lev et al. 2010; Green and Peloza 2011). Despite these significant profit-related benefits in socially responsible behavior, it remains an open question of whether CSR is of value relevance to shareholders. Indeed, existing research evidence remains inconclusive regarding shareholders' gain or loss from CSR activities (see the recent literature reviews by Huang et al. (2020). Managers will be concerned about whether engaging in CSR activities (or avoiding negative outcomes) is of value to shareholders, and they need to decide the level of CSR activities that leave shareholders best off. The challenge remains how best to deploy resources and effort to engage in CSR to maximize the benefits to shareholders and stakeholders.

The literature on the dark side of CSR is still in the early stages (Godfrey et al. 2024). Corporate social controversies arise when businesses tend to do more harm and fail to meet society's expectations (Herzig and Moon 2013; Anagnostopoulou et al. 2021). This failure is likely to occur when business activities do not meet ethical standards and hurt stakeholders' social welfare (Küberling-Jost 2021). Many companies have been trying to avoid committing controversial social and environmental acts due to their damaging implications on corporate reputation, brand image, and public trust. For example, the Volkswagen (VW) and British Petroleum (BP) cases represent an utter failure of CSR.[1] Hence, it becomes important to understand the potential hindering and driving factors of CSR controversies.[2] In this study, we focus on managerial engagements in controversial social and environmental activities that are damaging firms' reputations and negatively impacting shareholders' wealth rather than on managerial engagements at the minimum level of CSR to align with shareholders' interests. The latter is less likely to be a result of a failure in the corporate governance system.

Previous literature has largely focused on good corporate behavior (i.e., the positive side of CSR) and examined various determinants and consequences of this behavior. Only recently, academic literature has made attention to corporate bad behavior and documented the consequences and risk implications of corporate social irresponsibility (e.g., Kölbel et al. 2017; Lenz et al. 2017; Price and Sun 2017; Godfrey et al. 2024; Jain and Zaman 2020; Dharwadkar et al. 2021). Anagnostopoulou et al. (2021) argue that CSR and CSR controversies are two separate constructs grounded on different conceptualizations. As a result, it is important to draw attention to socially irresponsible behavior to alarm stakeholders (including shareholders) and prevent future CSR controversies. Extant research has

---

[1] The BP oil spill in 2010 was the biggest manufactured ecological disaster in US history and represented a failure of corporate governance and CSR policies. The company pleaded guilty and agreed to pay more than $18.7 billion in fines and penalties (Cherry and Sneirson 2010; Robertson et al. 2015). Moreover, the VW emissions scandal was one of the costliest scandals. The legal penalties and fines for VW have amounted to approximately USD30 billion (Schwartz and Bryan 2017) causing damages to the company's shareholders, reputation, employees, and dealers.

[2] We use CSR controversies and corporate social irresponsibility interchangeably throughout the text.

also focused on the impact of corporate governance mechanisms, including board and audit committee (AC) attributes, on corporate social responsibility (e.g., Jo and Harjoto 2012; Ben-Amar and McIlkenny 2015; Harjoto et al. 2015; Hong et al. 2016; Jain and Jamali; 2016; Al-Shaer and Zaman 2018). However, we still know little about the impact of board monitoring and ACs on CSR controversies. Although two prior studies (Godfrey et al. 2024; Jain and Zaman 2020) investigated the association between board characteristics and CSR controversies, they focused on whether board gender diversity and governance bundle (i.e., board size, board independence, CSR committee, board gender diversity, board meeting attendance) diminish CSR controversies in the US. Hence, we extend those prior studies by using AC quality (i.e., independence and expertise) and a broader board monitoring proxy (i.e., board meeting attendance rate, audit committee quality, and board committee index drawing on audit, nomination, compensation, and corporate governance committees).[3] Our international sample will also provide a global perspective of whether AC quality and board monitoring reduce CSR controversies with more generalizable results and implications. Moreover, the literature on risky firms and their likelihood to be involved in CSR controversies is still in the early stages, and the question of whether board monitoring strength and effective ACs mitigate risky firms' involvement in CSR controversies is unexplored and allows for significant contribution to the literature.

Our study focuses on inhibiting and driving factors of CSR controversies and contributes to the literature in a few ways. *First,* while it is generally recognized that corporate governance mechanisms can affect good corporate behavior, drawing attention to bad behavior is necessary to avert future corporate social irresponsibility and alert stakeholders. In particular, there is a paucity of research on board monitoring and AC quality, and corporate social controversies with a particular focus on risky firms. For example, Jain and Zaman (2020) examine how board composition including board independence, board gender diversity, and board CSR committee influence corporate social irresponsible activities, Godfrey et al. (2024) specifically examine the impact of board gender diversity on corporate social irresponsibility, and Dharwadkar et al. (2021) focus on a specific attribute of the board (the legal background) and its association with corporate social irresponsible incidents. These studies focus on specific attributes of the board of directors and did not explore the effect of AC quality and board monitoring strength on CSR controversies; besides, they do not focus exclusively on risky firms.

Second, the existing literature on CSR controversies is still in its infancy in examining the context-specific effect of the monitoring ability of the firm in preventing controversial social incidents (Godfrey et al. 2024; Jain and Zaman 2020; Dharwadkar et al. 2021). Hence, our study fills the gap in the literature by examining the moderation effect of AC quality and board monitoring intensity on risky firms' social irresponsibility based on the most recent and one of the largest samples of firms and data used in CSR controversies' literature. We cover an international sample of 45,840 firm-year observations across nine sectors and 61 countries for the years between 2002 and 2019 which reinforces the generalizability of the findings. We draw on agency, resource dependence, and slack financial resources theories to explain this association.

Third, from a methodological perspective, assuming that the monitoring function is enabled by the combination of several factors rather than a single or a few board characteristics (Ararat et al. 2015), our board monitoring intensity and AC quality proxies are based on a

---

[3] Please see the Section 3.1 and Table 12 for more detailed definitions of AC quality and board monitoring proxies.

comprehensive set of indicators, unlike prior studies which mostly use single dimensions of the board or AC structure. We measure board monitoring intensity by taking the average of three variables (adapted and modified from Ararat et al. (2015)), board meeting attendance rate, audit committee quality, and board committee index.[4] AC quality is calculated by taking the average of AC independence and expertise (Be´dard et al. 2004; Lee and Fargher 2018). *Fourth,* focusing on risky firms' corporate irresponsibility and how it could be mitigated may help firms better manage the negative situation and also help regulators be extra vigilant about these firms' association with social irresponsibility.

Using a sample of firm-year observations between 2002–2019 included in the Thomson Reuters Eikon database and performing fixed-effects regression analysis and Hayes's moderation analysis methodology, results show that board monitoring and AC quality do not prevent committing CSR controversies contrary to our expectations. However, risky firms tend to commit more CSR controversies. Furthermore, AC quality and board monitoring intensity alleviate risky firms' CSR controversies tendency. Our results suggest that financial difficulties push firms to commit to more controversial CSR practices which could be driven by the lack of sufficient resources to perform in a socially responsible way. Moreover, the strength of ACs and board monitoring has a context-specific effect in preventing CSR controversies; while they do not generate a direct effect on diminishing controversies in absolute terms, they have a moderating effect on risky firms' corporate irresponsibility. Our findings support agency theory and the monitoring function of the board and its committees indicating that they are more likely to provide fundamental control over the firm's actions (Jensen and Meckling 1976; Hill and Jones 1992) and reduce CSR controversies. Findings also support the resource dependence theory (RDT) (Hillman and Dalziel 2003) which suggests that effective ACs comprised of independent directors with different skills and expertise help firms obtain critical resources and prevent CSR controversies. Also, in line with the slack financial resources theory (Waddock and Graves 1997), risky firms might be more inclined to engage in CSR controversies under the pressure of financial constraints.

The remainder of the paper is structured as follows. The next section provides the theoretical framework and outlines the research hypotheses. Section 3 sets out the research methodology in terms of sample, data, and model. In Section 4 we report the empirical results, and in Section 5, we draw conclusions, discuss the results, and suggest implications and future research opportunities.

2 Theoretical framework and hypotheses

2.1 Board monitoring intensity and CSR controversies

Agency theory states that corporate behavior results from organizational or managerial decision-making (Walker et al. 2019). The agency theory supports the monitoring role of the board of directors and its committees suggesting that they are more likely to provide effective monitoring and oversight role over the firm's activities (Jensen and Meckling 1976; Hill and Jones 1992). On the other hand, the RDT suggests that the board and its committees are composed of directors with different knowledge, skills,

---

[4] The index includes audit, nomination, compensation, and corporate governance committees.

and expertise which help bring rich resources to the firm (Hillman and Dalziel 2003; Jensen and Meckling 1976; Shaukat et al. 2016; Helfaya and Moussa 2017, Al-Shaer and Zaman 2018). According to RDT, the composition of the board and its committees can act as essential resources to create value by enhancing firms' reputation and engagement with various stakeholders and easing access to resources (Jizi 2017; Al-Shaer and Zaman 2018).

Companies engaging in CSR controversies can face stakeholder backlash and legitimacy threats which require an increased demand for monitoring mechanisms (Price and Sun 2017; Jain and Zaman 2020; Dharwadkar et al. 2021). Managers may not pursue the best interests of their companies and shareholders and may be driven by their own self-interest (Jain and Zaman 2020). Such behavior could go against stakeholders' interests which creates agency problems (Jensen and Meckling 1976; Fama and Jensen 1983). The board of directors is also accountable for irresponsible corporate behaviors (Neville et al. 2019) which may impact the resource allocation decision and stakeholders' engagement. Therefore, to reduce agency problems and the conflict of interest between managers and various stakeholders, there is a need to increase the board monitoring function which is likely to reduce corporate social irresponsibility.

It is also important to establish effective board committees that bring rich resources to the firm which are likely to reduce CSR controversies. This is because board committees focus on specific tasks and perform with greater competence and pragmatism, strengthening the board monitoring function (Kolev et al. 2019). Prior research has examined the impact of board committees' independence on firm value drawing on agency theory and suggesting that independence increases committees' monitoring skills. For example, Nguyen and Nielsen (2010) and Aggarwal et al. (2011) show that AC independence has a positive effect on market return, and Grove et al. (2011) and Hoechle et al. (2012) show that nomination and compensation committees' independence enhances firm performance. Moreover, existing research suggests that greater expertise of committee members and frequent committee meetings are appropriate governance mechanisms that help reduce management misbehavior and improve accounting practices (e.g., Abbott et al. 2004; Krishnan et al. 2011; Cohen et al. 2014).

Frequent board meetings will generally result in greater CSR engagement (Al-Shaer and Zaman 2018). During their meetings, the board of directors can set up the CSR agenda and allocate the necessary resources for different CSR activities (Jizi 2017), and ensure engagement with different stakeholders (Rowe et al. 2014; Jensen and Meckling 1976). Prior literature suggests that poor attendance at board meetings can be seen as a sign of ineffective monitoring (Cai et al. 2010; Jain and Zaman 2020) which can lead to more involvement in CSR controversies. Low attendance at board meetings means that directors who are missing the meetings will not be engaged in direct discussion and interaction with other board members and managers about various CSR issues (Xie et al. 2003; Cai et al. 2010; Jain and Zaman 2020). Those directors will have a limited view of the firm's activities which can motivate managerial opportunism (Min and Chizema 2018; Jain and Zaman 2020), inversely impact the board monitoring function, and increase the likelihood of committing CSR controversies. Given the foregoing discussion, we propose the first hypothesis as follows:

H1: Board monitoring intensity is negatively associated with CSR controversies.

2.2 Audit committee quality and CSR controversies

Agency theory suggests that to achieve close monitoring of management, companies need an effective AC (Collier and Zaman 2005; Turley and Zaman 2007; Al-Shaer and Zaman 2021). ACs provide substantive oversight and disclosure related to governance (Piot and Janin 2007; Beasley et al. 2009) which tend to reduce information asymmetry and agency costs and increase the transparency of their monitoring (Al-Shaer and Zaman 2021). AC oversight role is not limited to financial reporting (Yu et al. 2016). It can ensure that various corporate strategies are getting sufficient agenda time and attention by the firm (Yu et al. 2016) which leads to enhancing firms' ethical compliance and reducing socially irresponsible practices. ACs review risks associated with CSR and monitor performance through internal control and self-assessment processes (Al-Shaer and Zaman 2018). As a result, the AC risk management duty can be improved by having high-quality ACs on the board. An effective AC is likely to be more successful in allocating resources toward CSR engagement (Al-Shaer and Zaman 2018). ACs comprising independent directors with financial expertise can attract human and relational capital, which leads to better social responsibility (Helfaya and Moussa 2017; Al-Shaer and Zaman 2018). Since corporate social irresponsibility leads to high financial implications, an effective AC is essential in determining a firm's CSR strategies and reducing the risks of irresponsible behavior.

Prior literature shows that the financial expertise of AC members makes ACs' monitoring role more effective (Abbott et al. 2004; Aier et al. 2005). ACs with financial experts have the required skills to ensure compliance with CSR policies and reduce involvement in controversial CSR activities (Yu et al. 2016). Moreover, AC independence improves monitoring quality because independent directors are not involved in the daily management of their companies (Kabir and Thai 2017), which leads to more objective and better oversight of firms' activities. Besides, independent directors are more concerned about their reputation which makes them effective monitors (Kabir and Thai 2017). They can pay attention to long-term strategies and address the needs of all stakeholders (Michelon and Parbonetti 2012; Liu et al. 2015). As a result, they are likely to be more sensitive and responsive to CSR controversies. Given the foregoing discussion, we propose the second hypothesis as follows:

H2: AC quality is negatively associated with CSR controversies.

2.3 Risky firms and CSR controversies

This study focuses on the dark side of CSR and investigates the likelihood that financially distressed firms engage in CSR controversies. CSR controversies can be associated with environmental scandals or social misconduct that capture investors' attention and media coverage (Aouadi and Marsat 2018). Studies that focus on the positive side of CSR show that CSR has a negative impact on financial distress risk as it improves the financing conditions of companies (e.g., Jo and Na 2012; Mishra and Modi 2013; Boubaker et al. 2020; Monti et al. 2022). A few recent studies suggest that irresponsible social behavior is related to corporate risk (Kölbel et al. 2017; Godfrey et al. 2024). We expand the latter strand of research by focusing on distressed firms' tendency to commit controversial CSR acts.

According to slack financial resources theory (Waddock and Graves 1997), a firm with low risk faces fewer financial uncertainties which may enhance environmental and social

engagements and managerial discretion to improve CSR efforts. Engagement in CSR requires the facilitation of resources to provide products and services. Thus, CSR efforts are likely to be susceptible to the availability of slack resources which can affect managers' discretion to engage in CSR activities (Shahzad et al. 2016; Moneva et al. 2020; Dharwadkar et al. 2021). On the contrary, financially distressed firms allocate resources to short-term projects and dedicate less funds to CSR-related issues because they lack the necessary resources to invest in CSR (Orlitzky et al. 2003). Financially distressed firms can be more fragile and susceptible to CSR controversies. Research evidence shows that financially distressed firms tend to engage in earnings management practices (Campa 2015; Li et al. 2020), and disclose misleading inaccurate non-financial information (Uyar et al. 2022). A firm's CSR engagement can provide a cover against financial uncertainties (Godfrey et al. 2009; Minor and Morgan 2011; Shahab et al. 2019). However, since engagement in CSR requires managerial discretion to initiate resources or cease them (Kang et al. 2016) according to the slack financial resources theory (Waddock and Graves 1997), a risky firm might be more inclined to engage in CSR controversies under the pressure of financial constraints. Companies may pursue engaging in reputation management by replicating their peer's behavior (Godfrey et al. 2024) to be seen as socially responsible companies. As a result, such behavior, if persists without effective monitoring, is likely to increase a firm's involvement in CSR controversies. Given the foregoing discussion, we propose the third hypothesis as follows:

H3: Risky firms are more likely to commit CSR controversies.

2.4 The moderation role of board monitoring and audit committee quality in risky firms

Financial difficulties may push firms to commit more controversial CSR incidents which could be driven by saving more costs out of CSR activities and by a lack of slack financial resources to behave in a socially responsible way. Increasing board monitoring function and the effectiveness of ACs are likely to reduce corporate social irresponsibility incidents for risky firms. CSR engagement may increase companies' costs, putting companies at a competitive disadvantage and financial difficulties (McWilliams and Siegel 1997; Islam et al. 2021). Prior literature argues that CSR represents an agency problem as managers may be inclined to use CSR practices as mechanisms to enhance their own interests (Masulis and Reza 2015; Islam et al. 2021). Board monitoring intensity and high-quality ACs perform more critical duty in risky firms and may help to reduce agency costs and monitor management activities profoundly. Such effective corporate governance mechanisms can help promote strategic initiatives including CSR initiatives (Minichilli et al. 2009; Poletti-Hughes and Martinez Garcia 2022), and involve the relevant board and committees' wealth in guiding management efficiently (Valenti and Horner 2019; Poletti-Hughes and Martinez Garcia 2022). As a result, effective corporate governance mechanisms including board monitoring functions and the existence of effective ACs are likely to moderate risky firms' engagement in CSR controversies as they impact both monitoring and the provision of resources which are likely to mitigate corporate irresponsible incidents. Given the foregoing discussion, we propose the fourth hypothesis as follows:

H4: Risky firms with stronger board monitoring and high-quality ACs are less likely to commit CSR controversies.

3 Research methodology

Multiple data analysis approaches are performed. Detailed information about the analysis tools with the relevant justifications is provided in this section. The empirical methodology includes data preprocessing steps, univariate approaches such as sample distribution based on frequency analysis as well as descriptive statistics, and multivariate analysis approaches such as correlation analysis and panel regression analysis. The proposed research models are examined using firm-year FE (Fixed-Effects) regression analysis and moderation analysis. Finally, the robustness section incorporates various analysis approaches.

3.1 Variables

CSR controversies were measured by two variables; one by composite ESG (i.e., environmental, social, and governance) controversies score (ESGconts), and the other is governance controversies (GOVconts) (Dorfleitner et al. 2020; Refinitiv 2021; Agnese et al. 2023a). While the former is used in the baseline analysis, the latter is adopted in the robustness tests. ESGconts (based on 23 metrics) assesses a firm's exposure to environmental, social, and governance controversies and negative events appearing in global media. Normally, the default value of the controversy measure is 0, while companies with no controversies will get a score of 100 in the data source (Thomson Reuters Eikon). However, we reversed the scale by multiplying with -1 to indicate higher score shows higher CSR controversies. Thus, our aggregate CSR controversies score ranges from -100 to 0. Scores closer to -100 indicate fewer governance controversies and scores closer to 0 indicate greater controversies. The calculation of GOVconts variable is based on the average of five governance controversies indicators such as insider dealings controversies, accounting controversies, executive compensation controversies, anti-competition controversies, and bribery corruption and fraud controversies. All these five metrics' scores range from 0 to 100; the default value of each controversy measure is 0, while companies with no controversies will get a score of 100 in the data source (Thomson Reuters Eikon). To get a composite governance controversies score, we summed up these five metrics and then scaled the sum by five. However, we reversed the scale by multiplying with -1 to indicate higher score shows higher governance controversies. Thus, our aggregate governance controversies score ranges from -100 to 0. Scores closer to -100 indicate fewer governance controversies and scores closer to 0 indicate greater controversies.

We have measured the monitoring ability of the firms by two indicators: audit committee quality (AudcomQ) and board monitoring intensity (BoardMon). While AudcomQ is calculated by taking the average of audit committee independence and expertise (Be´dard et al. 2004; Lee and Fargher 2018), BoardMon is calculated by taking the average of three variables (adapted and modified from Ararat et al. (2015)): board meeting attendance rate, audit committee quality, and board committee index. The board committee index is established by the following formula: [(audit committee + nomination committee + compensation committee + corporate governance committee) / 4] * 100. While Ararat et al. (2015) use board meeting frequency in the calculation of the board monitoring index, we use board meeting attendance rate assuming that rather than the number of meetings held, directors'

participation in the meetings is influential in decision-making.[5] Also, instead of using auditor quality, we use audit committee quality based on the audit committee independence score and audit committee expertise score (Uyar et al. 2023) proposing that the auditor is an external monitor, but the audit committee is an internal monitor and an important part of board monitoring. Lastly, as Ararat et al. (2015) did, we incorporate the board committee index. Our modified board monitoring index was recently used by Gerged et al. (2023).

Firm risk is proxied by the rolling standard deviation of return on assets (StdROA) over three years (Hoang et al. 2021) and Zmijewski Financial Score (ZFS) (Zmijewski 1984; Miglani et al. 2015; Charalambakis and Garrett 2019; Habib et al. 2020; Bravo-Urquiza and Moreno-Ureba 2021) which is calculated by the equation:

$$ZFS\ (Zmijewski, 1984) = -4.336 - 4.513 \frac{Netincome\ after\ tax}{Total\ assets} + 5.679 \frac{Total\ debt}{Total\ assets} \\ -0.004 \frac{Total\ current\ assets}{Total\ currentl\ iabilities} \tag{1}$$

Furthermore, we identified several control variables that could affect the extent of committing CSR controversies in firms such as the extent of CSR commitment (ESGscore), board size (Bsize), firm size (Fsize), current ratio (CurrentR), Leverage, Capexpend, RDexpend, free float percentage (FFP), and Worldwide Governance Indicators (WGI) (Tang et al. 2015; Haque 2017; Jain and Zaman 2020; Boubakri et al. 2021; Kılıç et al. 2021; Uyar et al. 2021; Albitar et al. 2022; Hamed et al. 2022). The reason why ESGscore is incorporated as a control variable is based on the moral licensing hypothesis which argues that top leaders accrue moral credits by implementing a CSR strategy that allows them to be less vigilant toward engaging in unethical behavior (Ormiston and Wong 2013).[6] Larger firms are more complex, and hence, they are likely to commit more CSR controversies. Poor liquidity and high leverage might impose financial constraints on firms and may push them to engage with more controversies. Research and development expenditure is considered risky, and risk might trigger greater CSR controversies. Firms with more capital expenditures are exposed to greater public scrutiny which might cause them to avoid controversial CSR acts. Firms with larger boards host greater social board capital which might prevent them to commit CSR controversies. The free float percentage of shares denotes concentrated or dispersed ownership structure, and hence shareholder power in firms may play a role in the extent of CSR controversies. Finally, regulatory quality or weakness measured by WGI might predict controversial corporate acts.

All firm-level data were retrieved from the Thomson Reuters Eikon database. The WGI data were fetched from the World Bank (2020). Further detailed information regarding the list of the variables along with descriptions is provided in Table 12.

3.2 Sample

The sample of the study covers all firm-year observations belonging to non-financial firms included in the Thomson Reuters Eikon database for the years between 2002 and 2019. We excluded financial firms from the sample due to their divergence from non-financial

---

[5] Supporting our argument, Vafeas (1999) found that board meeting frequency has a negative effect on firm value, whereas Chou et al. (2013) found that board meeting attendance has a positive effect on firm performance.

[6] Indeed, this positive relationship between CSR performance and CSR controversies was proven by Ormiston and Wong (2013).

firms' characteristics. The initial year for which ESG data was available is 2002 in the database which is why the study period starts with that year. The data screening process as well as the characteristics of the research sample are examined in this section. It is very crucial to investigate the raw data and pass it through the data screening processes (Hair et al. 2019). Multiple steps are performed including cleaning and preparing the data for the analysis, winsorization, outlier detection, missing value analysis, and data imputation. The raw data is retrieved from the database which was not ready for analysis. The variables of the research are organized where the variable labels on the first row and the records follow the variable names in a spreadsheet layout. Any string values were determined and converted to numerical values. Possible typos or strings within numerical values are cleaned from the data set. The data was prepared for the forthcoming analyses. Second, some of the research variables had extreme values on the tails based on the initial descriptive statistics. Therefore, StdROA, ZFS, Bsize, CurrentR, Leverage, Capexpend, and RDexpend are subject to the winsorization step. At one percent of the two tails are replaced by the extreme values with their winsorized counterpart values. Third, the significant outlier detection phase is performed. For this analysis, minimum covariance determinant-MCD methodology (Verardi and Dehon 2010) is performed. This approach can robustify the Mahalanobis distance (Verardi and Dehon 2010). A final sample size of 45,840 firm-year observations is left for further analysis after removing the significant outliers.

Fourth, the missing values are investigated. The descriptive statistics of the missing value analysis indicated that the ratio of the missing values of some of the variables is relatively small.[7] The ratios of the missing values of the indicated variables are significantly less than 5% which can be inconsequential (Schafer 1999).

Finally, the imputation phase is employed for the missing variables. The indicated variables with the missing values were subject to the imputation step. They were imputed using the Markov chain Monte Carlo method based on linear regression as the model type for scale variables.

BoardMon and StdROA have a high ratio of missing values. Therefore, these two variables were not subject to the imputation step. Furthermore, the authors did not want to minimize the overall sample for only these two variables. Hence, the models including BoardMon and StdROA variables were run on a smaller sample while the other models were run on the full sample.

The final sample is subject to frequency analysis based on Year and Sector. The sample distribution of the final sample is presented in Table 1.[8] Moreover, the country-level sampling distribution indicates that there are 61 countries with 5,898 unique firms and 45,840 data points (Table 13 shows the detailed sample distribution in the Appendix section).

---

[7] The preliminary summary statistics for the missing values show that ESGconts had 0.03%, AudcomQ has 2.30%, ZFS has 1.28%, Bsize has 0.40%, Fsize has 0.18%, CurrentR has 1.26%, Leverage has 0.18%, and FFP has 0.94% missing observations.

[8] Based on the frequency analysis results, 13.1% of the observations are from basic materials, 18.94% are from consumer cyclical, 8.93% are from consumer non-cyclical, 8.76% are from energy, 9.13% are from healthcare, 21.01% are from industrial, 11.32% are from technology, 3.39% are from telecommunication service, and 5.43% are from utility sectors. Moreover, the observations range between 0.71% in 2002 and 12.87% in 2019 based on the years.

Table 1 Sample distribution

Variable	Categories	Frequency	Percent
Sector	Basic Materials	6,003	13.10
	Consumer Cyclicals	8,680	18.94
	Consumer Non-Cyclicals	4,095	8.93
	Energy	4,016	8.76
	Healthcare	4,184	9.13
	Industrials	9,629	21.01
	Technology	5,188	11.32
	Telecommunications Services	1,555	3.39
	Utilities	2,490	5.43
	Total	*45,840*	*100.00*
Year	2002	325	0.71
	2003	519	1.13
	2004	867	1.89
	2005	1,210	2.64
	2006	1,298	2.83
	2007	1,403	3.06
	2008	1,617	3.53
	2009	1,940	4.23
	2010	2,265	4.94
	2011	2,574	5.62
	2012	2,709	5.91
	2013	2,808	6.13
	2014	2,957	6.45
	2015	3,437	7.50
	2016	4,099	8.94
	2017	4,670	10.19
	2018	5,244	11.44
	2019	5,898	12.87
	Total	*45,840*	*100.00*

This table presents sample distribution across sectors and over periods

3.3 Research models

The research models are examined using various analysis approaches. This section includes empirical analysis approaches with relevant justifications. We adopted a firm and year fixed-effects (FE) regression analysis approach to mitigate the risk of potential omitted variable bias. Employing firm-year FE allows for the control of unobservable characteristics that may persist over time (Jiraporn et al. 2016). Moreover, the firm and year FE approach is employed to address unobserved heterogeneity between firms (Wooldridge 2010). In constructing the research model, we employ regression analysis with firm and year FE utilizing the Least Squares Dummy Variable Model approach (Gujarati 2014). The functional relationship between the dependent variable and the independent variables is expressed in Eq. (2) below.

$$Y_{it} = \beta_0 + \beta_1(X)_{it} + \beta_2(Controls)_{it} + Firm\ FE + Year\ FE + \varepsilon_{it} \tag{2}$$

The dependent variable is ESGconts denoted as the "Y_{it}" term in the equation. Moreover, the independent testing variables are AudcomQ, BoardMon, and ZFS which are denoted by the "X_{it}" term. The control variables are ESGscore, Bsize, Fsize, CurrentR, Leverage, FFP, Capexpend, RDexpend, and WGI.

The index "i" denotes the firms as the panel variable. Also, the index "t" denotes the year as the time variable. The "ε_{it}" term is the regular error term.

Moreover, the heteroscedasticity-consistent standard errors using the Huber Sandwich Estimator (Huber 1967) which are also called robust standard errors are reported in the regression analysis. The robust standard errors are used to control the risk of possible heteroscedasticity issues (Wooldridge 2020).

The application of the fixed-effect (FE) analysis provides various advantages: (i) reducing the possible risk of multicollinearity and estimation bias (Baltagi 2005) (ii) controlling the omitted variable bias by evaluating the changes within the panels (firms) across time (years) (Wooldridge 2010).

3.4 Multicollinearity analysis

The variance inflation factors (VIF) are used to investigate if there is any high correlation (i.e., multicollinearity) among the independent variables of the research models. The VIF values range between 1.03 and 2.67 which are significantly less than the suggested cut-off value of 10 (Hair et al. 2019). Accordingly, multicollinearity threat does not exist among the independent variables.

3.5 Moderation roles of AudcomQ and BoardMon

The baseline analysis incorporated moderation analysis to examine the proposed hypotheses with moderating effects. The moderating role of AudcomQ and BoardMon on the relationship between ZFS and ESGconts is investigated in this section. Hayes's (2017) moderation analysis methodology using a Stata module developed by Jose (2013) is used to test the hypotheses related to moderation analysis. The functional relationship between the dependent variable and the independent variables together with the interaction variables is formulated in Eq. (3) below.

$$y_i = \alpha + \beta_1 x_i + \beta_2 M_i + \beta_3(x_i * M_i) + Controls + \epsilon_i \ \ i = 1, \dots, N \tag{3}$$

The dependent variable is ESGconts represented by the "y_i" term. The testing variable of interest is ZFS denoted by the "x_i" term in the formulated equation. Moreover, the moderating variables are AudcomQ and BoardMon denoted by "M_i"; the control variables ESGscore, Bsize, Fsize, CurrentR, Leverage, FFP, Capexpend, RDexpend, and WGI.

4 Findings and results

4.1 Descriptive statistics

The summary of the descriptive statistics of the research variables is presented in Table 2. According to the obtained results, the mean value of ESGconts is (-91.22 ± 22.23),

Table 2 Descriptive statistics

Variable	Obs	Mean	Std. Dev	Min	Max
ESGconts	45,840	-91.22	22.23	-100.00	-0.63
GOVcont	45,840	-53.93	6.09	-58.67	0.00
AudcomQ	45,840	68.69	22.99	1.64	99.91
BoardMon	32,568	82.08	10.98	11.32	99.97
StdROA	34,682	0.02	0.03	0.00	0.15
ZFS	45,840	-3.11	1.20	-5.42	0.82
ESGscore	45,840	40.90	20.67	0.12	95.07
Bsize	45,840	10.01	3.36	4.00	21.00
Fsize	45,840	22.12	1.62	10.65	27.41
CurrentR	45,840	2.02	1.90	0.25	12.90
Leverage	45,840	0.56	0.22	0.05	1.16
FFP	45,840	77.09	24.76	0.00	100.00
Capexpend	45,840	0.06	0.06	0.00	0.42
RDexpend	45,840	0.02	0.05	0.00	0.27
WGI	45,840	1.11	0.59	-1.56	1.97

This table presents the descriptive statistics

GOVconts is (-53.93 ± 6.09), AudcomQ is (68.69 ± 22.99), BoardMon is (82.08 ± 10.98), StdROA is (0.02 ± 0.03), and ZFS is (-3.11 ± 1.20). The ESGconts variable is highly skewed due to the nature of the data. Most of the observations were scored -100 implying that no CSR controversies were reported for the firm while the minority of the observations are scored closer to zero with reported controversies. Prior studies also suffer from the same skewness issue of CSR controversies proxy such as Treepongkaruna et al. (2022), Agnese et al. (2023b), and Issa (2023). Having said that we addressed this skewness issue in the robustness tests by two additional analyses: (1) forming matched samples based on Propensity Score Matching and re-running the model, and (2) running the model with the natural logarithm of ESGconts. Furthermore, the average ESGscore is 40.90, and the board size is 10.01. While the mean current ratio is 2.02, leverage and free float percentage are 56% and 77% respectively.

4.2 Correlation coefficients

The bivariate correlation coefficients between each pair are reported in Table 3. Pearson's correlation analysis is used to obtain the results. The results reveal that GOVconts, AudcomQ, BoardMon, and ZFS have a significant and positive linear correlation with ESGconts ($p < 0.05$) while StdROA does not have a significant linear correlation with ESGconts.

4.3 Baseline analysis results

The proposed research models are examined. We perform firm and year FE regression analysis. The results are provided in Table 4 (Columns #1, 2, and 3). The results reveal that ZFS ($p < 0.01$) has a significant and positive relationship with ESGconts while AudcomQ

Table 3 Correlation analysis

	Variables	1	2	3	4	5	6	7	8
1	ESGconts	1							
2	GOVcont	0.643*	1						
3	AudcomQ	0.096*	0.047*	1					
4	BoardMon	0.078*	0.030*	0.799*	1				
5	StdROA	-0.006	-0.034*	0.051*	0.047*	1			
6	ZFS	0.041*	0.036*	0.050*	0.053*	-0.007	1		
7	ESGscore	0.276*	0.265*	0.088*	0.074*	-0.143*	0.020*	1	
8	Bsize	0.155*	0.154*	-0.107*	-0.026*	-0.179*	0.075*	0.274*	1
9	Fsize	0.319*	0.297*	-0.053*	-0.003	-0.277*	0.124*	0.487*	0.510*
10	CurrentR	-0.093*	-0.083*	0.037*	0.035*	0.200*	-0.234*	-0.199*	-0.206*
11	Leverage	0.124*	0.102*	0.037*	0.026*	-0.120*	0.662*	0.183*	0.199*
12	FFP	0.100*	0.041*	0.256*	0.308*	0.004	0.019*	0.087*	-0.055*
13	Capexpend	-0.018*	-0.023*	0.006	0.009	0.166*	0.021*	-0.075*	-0.063*
14	RDexpend	-0.012*	-0.009*	0.072*	0.045*	0.205*	0.017*	-0.058*	-0.140*
15	WGI	0.039*	0.001	0.117*	0.201*	0.023*	-0.008	0.027*	-0.125*
	Variables	9	10	11	12	13	14	15	
9	Fsize	1							
10	CurrentR	-0.356*	1						
11	Leverage	0.325*	-0.547*	1					
12	FFP	0.002	0.045*	0.033*	1				
13	Capexpend	-0.088*	-0.022*	-0.065*	-0.059*	1			
14	RDexpend	-0.269*	0.342*	-0.176*	0.129*	-0.084*	1		
15	WGI	-0.106*	0.064*	-0.015*	0.424*	-0.009	0.086*	1	

This table presents the correlation analysis. *p < 0.05

and BoardMon do not have a significant association with ESGconts. Thus, the first and second hypotheses (i.e., H1 and H2) are rejected while the third hypothesis is accepted (i.e., H3). Furthermore, firms with more CSR investment, larger, and highly leveraged are more likely to commit more CSR controversies. However, firms having larger board sizes are less likely to commit CSR controversies.

4.4 Moderation analysis results

The moderating role of AudcomQ and BoardMon on the relationship between ZFS and ESGconts is investigated (Table 5; Columns # 1 and 2). The coefficients of the interaction variables are negative and significant. Namely, the results reveal that *ZFS*AudcomQ* (p < 0.05) and *ZFS*BoardMon* (p < 0.01) have a significant negative relationship with ESGconts. Therefore, AudcomQ and BoardMon are significant moderators on the relationship between ZFS and ESGconts. This implies that risky firms with stronger audit committees and board monitoring are less likely to commit CSR controversies. Hence, the fourth hypothesis (i.e., H4) is accepted.

The moderation analysis is also illustrated in Figs. 1 and 2 by plotting the simple slopes at -1SD (Standard Deviation), 0SD, and +1SD of the moderating variables (AudcomQ

Table 4 Audit committee quality, board monitoring, and firm riskiness and CSR controversies

	(1) ESGconts	(2) ESGconts	(3) ESGconts	(4) ESGconts Robustness	(5) ESGconts Robustness	(6) ESGconts Robustness
AudcomQ	0.0028 (0.37)			0.0033 (0.43)		
BoardMon		-0.030 (-1.32)			-0.028 (-1.24)	
ZFS			0.71*** (3.62)			0.67*** (3.39)
ESGscore	0.083*** (7.62)	0.089*** (5.98)	0.082*** (7.62)	0.083*** (7.57)	0.089*** (5.96)	0.082*** (7.59)
Bsize	-0.17*** (-2.81)	-0.071 (-0.77)	-0.17*** (-2.85)	-0.16*** (-2.66)	-0.071 (-0.77)	-0.16*** (-2.70)
Fsize	1.29*** (4.97)	1.89*** (5.74)	1.24*** (4.77)	1.27*** (4.86)	1.92*** (5.81)	1.23** (4.68)
CurrentR	-0.025 (-0.24)	-0.11 (-0.93)	-0.044 (-0.42)	-0.024 (-0.23)	-0.11 (-0.96)	-0.041 (-0.40)
Leverage	4.86*** (4.85)	3.88*** (3.17)	1.60 (1.19)	4.81*** (4.79)	3.78*** (3.08)	1.76 (1.31)
FFP	0.0091 (0.84)	-0.00018 (-0.01)	0.0096 (0.89)	0.0077 (0.71)	-0.00082 (-0.06)	0.0083 (0.76)
Capexpend	-8.08*** (-3.29)	-8.81*** (-2.97)	-7.82*** (-3.18)	-7.87*** (-3.19)	-8.75*** (-2.95)	-7.63*** (-3.09)
RDexpend	9.53 (1.34)	17.8** (2.15)	6.92 (0.97)	9.95 (1.40)	18.0** (2.17)	7.50 (1.05)
WGI	-0.063 (-0.04)	2.13 (0.93)	-0.065 (-0.04)	-0.50 (-0.32)	1.97 (0.86)	-0.49 (-0.32)
Constant	-124.6*** (-20.84)	-136.5*** (-17.61)	-119.3*** (-19.41)	-123.7*** (-20.54)	-137.1*** (-17.58)	-118.6*** (-19.19)
Firm & year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	45,193	31,820	45,193	44,753	31,618	44,753
Adj. R^2	0.315	0.343	0.315	0.314	0.340	0.314
F-stat	14.51***	10.87***	15.82***	14.11***	10.84***	15.25***

This table presents the association between audit committee quality, board monitoring, and firm riskiness and CSR controversies

ESGconts refers to aggregate CSR controversies score ranging from -100 to 0; higher score denotes greater CSR controversies. While AudcomQ refers to audit committee quality proxied by the following formula: (audit committee independence score+audit committee expertise score)/ 2, BoardMon refers to board monitoring intensity proxied by the following formula: (board meeting attendance rate+audit committee quality+board committee index) / 3. ZFS refers to Zmijewski's (1984) financial distress proxy, as computed in Eq. (1). All variables are defined in Table 12. t statistics in parentheses. * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Columns #1, 2, and 3 are based on full sample. Columns #4, 5, and 6 are based on excluding countries with less than 10 firms

Table 5 Moderating role of AudcomQ and BoardMon

	(1) ESGconts	(2) ESGconts	(3) ESGconts Robustness	(4) ESGconts Robustness
ZFS	-0.030 (-0.11)	2.44*** (3.15)	0.017 (0.06)	2.34*** (3.01)
AudcomQ	0.053*** (4.30)		0.048*** (3.91)	
ZFS*AudcomQ	-0.0075** (-2.10)		-0.0089** (-2.46)	
BoardMon		-0.041 (-1.29)		-0.039 (-1.21)
ZFS*BoardMon		-0.038*** (-4.06)		-0.037*** (-3.97)
ESGscore	0.14*** (25.57)	0.15*** (20.58)	0.15*** (25.79)	0.15*** (20.72)
Bsize	-0.010 (-0.30)	0.071 (1.48)	-0.013 (-0.38)	0.061 (1.26)
Fsize	3.70*** (44.39)	4.02*** (39.08)	3.69*** (44.03)	4.00*** (38.76)
CurrentR	0.34*** (5.26)	0.41*** (5.32)	0.35*** (5.36)	0.42*** (5.40)
Leverage	5.61*** (7.72)	5.86*** (6.80)	5.74*** (7.88)	6.06*** (7.02)
FFP	0.042*** (9.40)	0.052*** (9.24)	0.041*** (9.22)	0.050*** (8.78)
Capexpend	9.55*** (5.71)	10.6*** (5.36)	9.58*** (5.71)	10.6*** (5.35)
RDexpend	28.6*** (12.33)	32.3*** (12.06)	28.9*** (12.45)	32.3*** (12.06)
WGI	1.12*** (6.06)	1.69*** (7.24)	1.20*** (6.45)	1.77*** (7.53)
Constant	-193.6*** (-95.07)	-195.8*** (-57.20)	-193.5*** (-94.48)	-195.8*** (-57.05)
N	45,840	32,568	45,395	32,356
Adj. R^2	0.145	0.161	0.145	0.160
F-stat	600.05***	469.53***	597.89***	465.63***

This table presents the moderating role of audit committee quality and board monitoring between firm riskiness and CSR controversies. ESGconts refers to aggregate CSR controversies score ranging from -100 to 0; higher score denotes greater CSR controversies. While AudcomQ refers to audit committee quality proxied by the following formula: (audit committee independence score + audit committee expertise score)/ 2, BoardMon refers to board monitoring intensity proxied by the following formula: (board meeting attendance rate + audit committee quality + board committee index) / 3. ZFS refers to Zmijewski's (1984) financial distress proxy, as computed in Eq. (1). All variables are defined in Table 12. Columns #1 and 2 are for full sample and columns #3 and 4 are based on excluding countries with less than 10 firms. t statistics in parentheses. * $p<0.10$, ** $p<0.05$, *** $p<0.01$
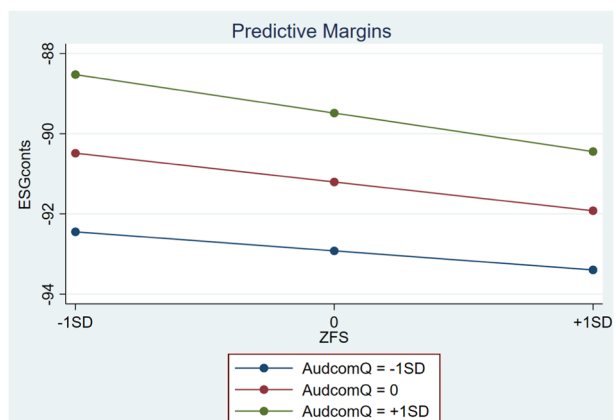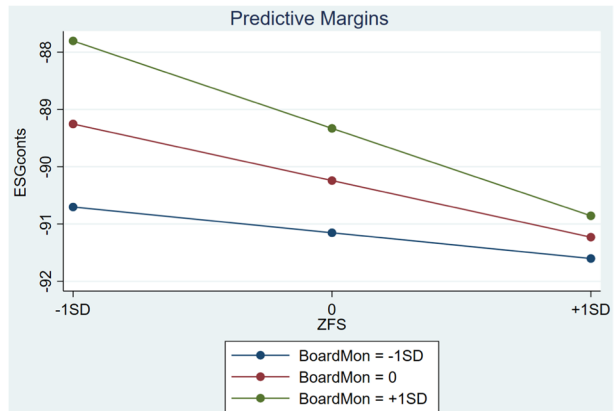
Fig. 1 ZFS x AudcomQ

Fig. 2 ZFS x BoardMon

and BoardMon). The independent testing variable (ZFS) is a continuous numerical variable, thus the ZFS values range from -1SD to +1SD on the x-axis when plotting the simple plots. The figures clearly illustrate that the simple slopes show a negative trend when the values of ZFS increase with the interaction of AudcomQ and BoardMon.

4.5 Robustness tests

In this section, we conduct various additional analyses to assess the robustness of the initial results by employing alternative methodologies, alternative samples, and alternative variables.

First, the baseline research models are re-run by excluding countries with less than 10 firms (Table 4, Columns #4, 5, and 6) since the small number of firms in a country may not produce reliable results. The results confirm the baseline outputs; while firm risk exacerbates CSR controversies, audit committee quality and board monitoring do not reduce it.

Second, the moderating role of AudcomQ and BoardMon is subject to an alternative sample excluding countries with less than 10 firms (Table 5, Columns #3 and 4). The results are in line with the initial moderation analysis in which the interaction variables including ZFS*AudcomQ and ZFS*BoardMon have a significant negative association with ESGconts; thus, audit committee quality and board monitoring help risky firms reduce CSR controversies.

Third, the baseline research models are re-run with an alternative dependent variable of governance controversies (GOVconts) calculated based on five proxies as described in Table 12. Thus, GOVconts is selected as the alternative dependent variable and the baseline analysis is re-run (Table 6, Columns #1, 2, and 3). Accordingly, the results show that the ZFS has a significant and positive relationship with GOVconts ($p < 0.10$).

Moreover, the baseline research models are re-investigated by excluding US firms (Table 6, Columns #4, 5, and 6). The coefficients of AudcomQ and ZFS are significantly positive concerning ESGconts ($p < 0.10$ and $p < 0.01$ respectively). This implies that after the exclusion of the US from the sample, the monitoring ability of the audit committee quality weakens as AudcomQ was insignificant in the whole sample it is weakly positive and significant after the exclusion of the US.

Table 6 Alternative dependent variable and excluding US firms from the sample

	(1) GOVconts	(2) GOVconts	(3) GOVconts	(4) ESGconts	(5) ESGconts	(6) ESGconts
AudcomQ	-0.0017 (-0.79)			0.0075* (1.75)		
BoardMon		-0.0022 (-0.35)			-0.019 (-0.75)	
ZFS			0.083* (1.78)			0.84*** (3.67)
ESGscore	0.016*** (5.04)	0.012*** (3.02)	0.015*** (4.96)	0.074*** (6.04)	0.080*** (4.44)	0.074*** (6.09)
Bsize	-0.016 (-0.95)	0.015 (0.59)	-0.017 (-1.03)	-0.15** (-2.40)	-0.0088 (-0.08)	-0.15** (-2.41)
Fsize	0.38*** (5.17)	0.42*** (4.63)	0.38*** (5.07)	0.86*** (2.93)	1.12*** (2.92)	0.81*** (2.78)
CurrentR	-0.032 (-1.09)	-0.022 (-0.67)	-0.034 (-1.17)	0.071 (0.61)	0.018 (0.13)	0.052 (0.45)
Leverage	0.59** (2.06)	0.16 (0.48)	0.21 (0.56)	4.61*** (3.77)	3.09* (1.94)	0.65 (0.40)
FFP	-0.0028 (-0.91)	-0.0031 (-0.77)	-0.0028 (-0.91)	0.012 (1.06)	-0.00037 (-0.02)	0.013 (1.13)
Capexpend	-1.24* (-1.78)	-0.58 (-0.71)	-1.21* (-1.73)	-8.53*** (-3.29)	-8.66*** (-2.71)	-8.24*** (-3.18)
RDexpend	-1.25 (-0.62)	0.59 (0.25)	-1.55 (-0.76)	8.33 (0.97)	11.8 (1.14)	4.34 (0.50)
WGI	0.22 (0.51)	0.53 (0.84)	0.22 (0.50)	0.19 (0.12)	2.41 (1.00)	0.29 (0.19)
Constant	-62.9*** (-36.92)	-63.9*** (-29.62)	-62.4*** (-35.64)	-116.6*** (-17.86)	-121.9*** (-14.16)	-110.5*** (-16.44)
Firm & year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	45,193	31,820	45,193	30,848	19,070	30,848
Adj. R²	0.261	0.286	0.261	0.293	0.324	0.294
F-stat	7.67***	4.16***	7.83***	8.96***	4.92***	10.22***

This table presents the association between audit committee quality, board monitoring, and firm riskiness and CSR controversies by using an alternative dependent variable and excluding US firms from the sample. GOVconts refers to governance controversies score ranging from -100 to 0; higher score denotes greater governance controversies. Calculation of this variable is based on the average of five governance controversies indicators such as insider dealings controversies, accounting controversies, executive compensation controversies, anti-competition controversies, and bribery corruption and fraud controversies. While AudcomQ refers to audit committee quality proxied by the following formula: (audit committee independence score + audit committee expertise score)/2, BoardMon refers to board monitoring intensity proxied by the following formula: (board meeting attendance rate + audit committee quality + board committee index) / 3. ZFS refers to Zmijewski's (1984) financial distress proxy, as computed in Eq. (1). All variables are defined in Table 12. t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Columns #1, 2, & 3: Alternative dependent variable. Columns #4, 5, & 6: Excluding US firms

Table 7 Moderation analysis with alternative test variable and excluding US

	(1) ESGconts	(2) ESGconts	(3) ESGconts	(4) ESGconts
StdROA	92.2*** (7.05)	238.4*** (6.03)		
AudcomQ	0.092*** (14.43)		0.045*** (3.27)	
StdROA*AudcomQ	-0.44** (-2.52)			
BoardMon		0.13*** (7.78)		-0.045 (-1.28)
StdROA*BoardMon		-2.12*** (-4.47)		
ZFS			0.069 (0.24)	2.52*** (3.08)
ZFS*AudcomQ			-0.0057 (-1.41)	
ZFS*BoardMon				-0.037*** (-3.68)
ESGscore	0.14*** (23.10)	0.15*** (19.18)	0.15*** (22.80)	0.16*** (18.25)
Bsize	0.015 (0.40)	0.088* (1.66)	0.076** (2.20)	0.23*** (4.51)
Fsize	4.14*** (43.77)	4.42*** (38.40)	2.87*** (30.52)	2.93*** (23.99)
CurrentR	0.22*** (2.99)	0.28*** (3.19)	0.24*** (3.12)	0.30*** (3.13)
Leverage	3.65*** (5.99)	3.42*** (4.72)	4.98*** (5.87)	4.86*** (4.60)
FFP	0.045*** (8.89)	0.059*** (9.25)	0.037*** (7.66)	0.049*** (7.61)
Capexpend	4.65** (2.41)	5.32** (2.36)	10.2*** (5.45)	11.9*** (5.18)
RDexpend	24.5*** (8.99)	27.3*** (8.76)	28.3*** (7.42)	35.2*** (7.26)
WGI	0.95*** (4.52)	1.31*** (4.96)	0.92*** (5.14)	1.30*** (5.73)
Constant	-204.2*** (-99.68)	-216.2*** (-78.77)	-174.2*** (-75.59)	-172.5*** (-44.65)
N	39,950	28,832	31,310	19,636
Adj. R^{2}	0.146	0.159	0.125	0.139
F-stat	531.59***	411.52***	359.79***	257.33***

This table presents the moderating role of audit committee quality and board monitoring between firm riskiness and CSR controversies by using an alternative testing variable and excluding US firms from the sample. ESGconts refers to aggregate CSR controversies score ranging from -100 to 0; higher score denotes greater CSR controversies. While AudcomQ refers to audit committee quality proxied by the following formula: (audit committee independence score + audit committee expertise score)/ 2, BoardMon refers to board monitoring intensity proxied by the following formula: (board meeting attendance rate + audit committee quality + board committee index) / 3. StdROA refers to rolling standard deviation of return on assets over three years. ZFS refers to Zmijewski's (1984) financial distress proxy, as computed in Eq. (1). All variables are defined in Table 12. t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Columns #1 and 2: Alternative independent testing variable (StdROA). Columns #3 and 4: Excluding US

Fourth, the research models with moderation analysis are re-run using an alternative independent testing variable of StdROA[9] for firm risk (Table 7, Columns # 1 and 2). Thus, the moderating role of AudcomQ and BoardMon on the relationship between StdROA and ESGconts is investigated. The results show that StdROA*AudcomQ ($p < 0.05$) and StdROA*BoardMon ($p < 0.01$) have a significant and negative relationship with ESGconts. Therefore, AudcomQ and BoardMon are significant moderators of the relationship between StdROA and ESGconts. Hence, the outputs of the baseline moderation analysis and robustness test are consistent.

Furthermore, the baseline research models with the moderation analysis are re-run by excluding US firms (Table 7, Columns #3 and 4). The interaction variable, ZFS*BoardMon,

---

[9] Rolling standard deviation of return on assets over three years.

Table 8 Two-Stage Least Squares (2SLS) regression analysis

Panel A

	(1) AudcomQ 1st stage	(2) ESGconts 2nd stage	(3) BoardMon 1st stage	(4) ESGconts 2nd stage	(5) ZFS 1st stage	(6) ESGconts 2nd stage
AudcomQ		-0.10 (-1.05)				
BoardMon				-3.17 (-1.20)		
ZFS						9.67*** (10.91)
RSE	1.96*** (9.53)		0.17* (1.67)			
RDexpend	3.19 (1.11)	26.2*** (9.65)	-1.37 (-0.95)	22.3*** (3.28)	2.83*** (29.45)	
ESGscore	0.12*** (18.06)	0.15*** (10.90)	0.028*** (7.57)	0.23*** (2.97)	-0.0045*** (-19.94)	0.20*** (29.00)
Bsize	-0.55*** (-13.31)	-0.11 (-1.64)	-0.027 (-1.10)	-0.027 (-0.22)	-0.0043*** (-3.09)	-0.0045 (-0.12)
Fsize	-1.01*** (-10.02)	3.77*** (25.00)	-0.089 (-1.64)	3.94*** (11.41)	0.000096 (0.03)	3.72*** (41.96)
CurrentR	0.47*** (6.16)	0.42*** (4.86)	0.21*** (5.30)	1.06* (1.86)	0.089*** (33.08)	-0.55*** (-4.65)
Leverage	9.06*** (13.85)	4.43*** (4.09)	1.43*** (4.19)	6.82* (1.72)	4.32*** (191.07)	-38.1*** (-9.79)
FFP	0.20*** (41.87)	0.10*** (4.68)	0.12*** (46.40)	0.48 (1.47)	-0.00063*** (-3.44)	0.066*** (14.00)
Capexpend	12.5*** (6.29)	15.1*** (6.64)	5.63*** (5.57)	32.1** (2.08)	1.55*** (22.45)	-4.37** (-2.01)
WGI					-0.016** (-2.18)	1.23*** (6.21)
Constant	59.4*** (23.87)	-185.4* (-24.71)	71.6*** (53.10)	29.3 (0.15)	-5.54*** (-79.00)	-135.3*** (-27.40)
Durbin-Wu-Hausman test of endogeneity		3.40*		5.05**		153.97***
Weak instrument test (F-value)		90.77		21.43		867.265
N	34,076	34,076	25,317	25,317	45,840	45,840
F-stat	383.67***		286.56***		4793.39***	
χ²-stat		5551.02***		1423.80***		5978.84***

This table presents the association between audit committee quality, board monitoring, and firm riskiness and CSR controversies by using 2SLS regression analysis. ESGconts refers to aggregate CSR controversies score ranging from -100 to 0; higher score denotes greater CSR controversies. While AudcomQ refers to audit committee quality proxied by the following formula: (audit committee independence score + audit committee expertise score)/ 2. BoardMon refers to board monitoring intensity proxied by the following formula: (board meeting attendance rate + audit committee quality + board committee index) / 3. ZFS refers to Zmijewski's (1984) financial distress proxy, as computed in Eq. (1). RSE is used as instrumental variable for AudcomQ and BoardMon. RSE denotes regulation of securities exchanges scaling between 1–7 (best) (WEF 2018). RDexpenditure denotes research and development expenditure scaled by total assets. All variables are defined in Table 12. t statistics in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01. We removed WGI in the columns # 1–4 due to the significantly positive correlation between WGI and RSE (p < 0.01). RDexpend is an IV, so we removed it from the controls in column #6

Table 8 (continued)

Panel B: Moderation analysis

	(1) ZFS 1st stage	(2) AudcomQ 1st stage	(3) ZFS*AudcomQ 1st stage	(4) ESGconts 2nd stage	(5) ZFS 1st stage	(6) BoardMon 1st stage	(7) ZFS*BoardMon 1st stage	(8) ESGconts 2nd stage
ZFS				6.40*** (2.59)				47.3*** (3.99)
AudcomQ				-0.12 (-1.16)				
ZFS*AudcomQ				-0.057* (-1.72)				
BoardMon								-1.62** (-3.41)
ZFS*BoardMon								-0.51*** (-3.53)
Intangibility	0.38** (2.06)	-8.98*** (-19.25)	-82.3*** (-5.97)					
CFO_Dummy	-0.24*** (-3.44)	-10.1*** (-57.49)	28.0*** (5.40)					
ZFS_IndMean	0.64*** (23.89)	19.4*** (283.65)	-16.3*** (-8.07)		-1.16*** (-17.33)	-74.2*** (-333.08)	139.4*** (25.03)	
Intangibility*AudcomQ	0.013*** (5.22)	0.12*** (19.14)	2.48*** (13.46)					
CFO_Dummy*AudcomQ	-0.0046*** (-4.94)	0.14*** (59.14)	-0.96*** (-13.46)					
ZFS_IndMean*AudcomQ	-0.0015*** (-5.10)	-0.28*** (-363.07)	0.78*** (34.47)					
RD_Dummy					-0.22*** (-2.64)	-13.4*** (-48.64)	40.5*** (5.89)	
RD_Dummy*BoardMon					0.0031*** (3.11)	0.16*** (48.76)	-0.45*** (-5.39)	
CFO_Dummy*BoardMon					0.0034*** (4.47)	0.91*** (357.33)	-2.59*** (-40.69)	
ESGscore	-0.0051*** (-17.52)	0.00019 (0.25)	-0.41*** (-18.60)	0.12*** (14.64)	-0.0078*** (-21.83)	0.0015 (1.27)	-0.64*** (-21.40)	0.16*** (15.27)
Bsize	-0.0034* (-1.84)	0.0087* (1.82)	-0.30** (-2.16)	0.030 (0.61)	-0.0038 (-1.54)	0.048*** (5.79)	-0.47** (-2.26)	0.17** (2.60)
Fsize	0.030*** (6.65)	-0.013 (-1.14)	2.33*** (6.90)	3.85*** (32.64)	0.052*** (9.97)	-0.10** (-6.05)	4.32*** (10.02)	3.62*** (26.71)
CurrentR	0.094*** (23.66)	-0.0084 (-0.83)	8.06*** (26.97)	0.35** (2.81)	0.085*** (21.37)	0.15*** (11.66)	6.88*** (20.92)	0.064 (0.42)
Leverage	4.22*** (143.01)	-0.11 (-1.52)	305.2*** (137.07)	-5.33*** (-2.15)	4.16*** (126.72)	0.36*** (3.32)	342.8*** (125.76)	-17.0*** (-5.31)
FFP	0.00095*** (4.02)	0.0020*** (3.27)	0.065*** (3.61)	0.049*** (7.78)	0.000052 (0.18)	0.0099*** (10.37)	-0.019 (-0.81)	0.055*** (7.15)
Capexpend	1.09*** (9.62)	1.63*** (5.62)	85.7*** (9.97)	13.6*** (4.46)	1.68*** (15.70)	0.89** (2.50)	135.1*** (15.18)	2.53 (0.85)

Table 8 (continued)

WGI	-0.019** (-2.13)	0.26*** (11.20)	0.28 (0.41)	1.04*** (4.04)	0.038*** (3.25)	-0.092** (-2.34)	4.04*** (4.13)	1.28*** (4.16)
Constant	-4.10*** (-36.88)	69.5*** (244.56)	-295.1*** (-35.13)	-169.5*** (-19.73)	-5.61*** (-54.20)	82.3*** (239.07)	-459.5*** (-53.41)	-27.6 (-0.71)
Durbin-Wu-Hausman test of endogeneity				27.04***				104.16***
Weak instrument test (Minimum eigen-value statistics)				114.87				33.86
N	23,022	23,022	23,022	23,022	20,446	20,446	20,446	20,446
F-stat	2218.94***	197,089.11***	3724.63***		1821.06***	25,935.87***	2006.92***	
χ^2-stat				3378.96***				2924.76***

This table presents the moderating role of audit committee quality and board monitoring between firm riskiness and CSR controversies by using 2SLS regression analysis. ESGconts refers to aggregate CSR controversies score ranging from -100 to 0; higher score denotes greater CSR controversies. While AudcomQ refers to audit committee quality proxied by the following formula: (audit committee independence score+audit committee expertise score)/ 2, BoardMon refers to board monitoring intensity proxied by the following formula: (board meeting attendance rate+audit committee quality+board committee index) / 3. ZFS refers to Zmijewski's (1984) financial distress proxy, as computed in Eq. (1). RSE is used as instrumental variable for AudcomQ and BoardMon. Intangibility refers to the ratio of intangible assets scaled by total assets on the balance sheet. CFO_Dummy is coded as 1 when Cash flow from operations is positive and coded as 0 otherwise. ZFS_IndMean is the industry & year average of ZFS excluding focal firms. RD_Dummy takes 1 if research and development expenditure is positive, and 0 otherwise. All variables are defined in Table 12. t statistics in parentheses. * $p<0.10$, ** $p<0.05$, *** $p<0.01$. The minimum eigenvalue statistics in the output are 114.868 and 33.86>10. These are very high values which suggest that the excluded instruments are jointly strong

has a significant negative relationship with ESGconts while ZFS*AudcomQ does not have a significant relationship with ESGconts. This implies that after the exclusion of the US from the sample, the monitoring ability of the audit committee quality weakens in the sample as ZFS*AudcomQ was negative and significant in the whole sample, it is insignificant now after the exclusion of the US from the sample.

Fifth, we conducted an instrumental variable (IV) analysis using Two-Stage Least Squares (2SLS) regression to mitigate endogeneity concerns (Table 8) in both the linear models and the models with moderating effects. When performing the 2SLS regression analysis for the linear models, RSE[10] is used as an instrumental variable for AudcomQ and BoardMon independent testing variables since audit committee quality and board monitoring are highly likely to be affected by the RSE. Besides, RDexpenditure which denotes research and development expenditure scaled by total assets is used as an instrumental variable for ZFS independent testing variable since RDexpenditure is highly likely to trigger firm risk (Koirala et al. 2020). The results of the first stage, second stage, Durbin-Wu-Hausman test of endogeneity, and weak instrument test are reported. Accordingly, the Durbin-Wu-Hausman test of endogeneity (The null hypothesis: the regressors are exogenous) reveals that AudcomQ, BoardMon, and ZFS are endogenous regressors, thus the 2SLS approach can be utilized. Furthermore, the weak instrument test indicates that the instruments are not weak since the value of the test statistics is greater than the cut-off value of 10 (Stock et al. 2002). Lastly, we utilized a single instrument for each independent testing variable which is acceptable to use a single instrument technically (Wooldridge 2010). Therefore, the results of the overidentifying test are not available since there exist no overidentifying restrictions in the analysis of 2SLS. The results reveal that ZFS has a significant positive relationship with ESGconts while AudcomQ and BoardMon do not have a significant relationship with ESGconts confirming the baseline results (Table 8, Panel A).

In a parallel fashion, we executed the 2SLS regression analysis for the models with moderating effects. Intangibility,[11] CFO_Dummy,[12] ZFS_IndMean,[13] RD_Dummy,[14] along with their interactions with the moderating variables (AudcomQ and BoardMon), were employed as instrumental variables following the suggestion by Wooldridge (2010). Given that we conduct the 2SLS for the moderating variables, there are three dependent variables in the first stage, encompassing the testing variable (ZFS), moderating variables (AudcomQ or BoardMon), and the interaction variables (ZFS*AudcomQ or ZFS*BoardMon). Comprehensive results of the first stages, second stages, and post-estimation test outcomes are outlined in Table 8, Panel B. Correspondingly, the post-estimation test results are satisfied, and the second stage outcomes align with the baseline models featuring moderating effects.

In the sixth test, we utilized the Propensity Score Matching (PSM). To address the skewness in raw ESG controversies score, we created an alternative sample using the PSM with a one-to-one matching approach (Rosenbaum and Rubin 1983; Leuven and Sianesi 2003). We matched observations with ESG controversies scores different from 100 with observations having ESG controversies scores exactly equal to 100. To perform the PSM method,

---

[10] RSE denotes the strength of the regulation of securities exchanges in countries scaling between 1–7 (best) (WEF 2018).

[11] Intangibility refers to the ratio of intangible assets scaled by total assets on the balance sheet.

[12] CFO_Dummy is coded as 1 when the Cash flow from operations is positive and coded as 0 otherwise.

[13] ZFS_IndMean is the industry & year average of ZFS excluding focal firms.

[14] RD_Dummy takes 1 if research and development expenditure is positive, and 0 otherwise.

Table 9 PSM-based sample

Panel A: Table 4

	(1) ESGconts	(2) ESGconts	(3) ESGconts	(4) ESGconts Robustness	(5) ESGconts Robustness	(6) ESGconts Robustness
AudcomQ	-0.0028 (-0.13)					
BoardMon		0.0027 (0.04)		0.0011 (0.05)	0.0073 (0.12)	
ZFS			1.30* (1.94)			1.22* (1.82)
ESGscore	-0.0073 (-0.25)	0.020 (0.51)	-0.0085 (-0.29)	-0.011 (-0.36)	0.016 (0.41)	-0.011 (-0.38)
Bsize	-0.47*** (-3.11)	-0.36 (-1.64)	-0.48*** (-3.15)	-0.48*** (-3.14)	-0.34 (-1.54)	-0.48*** (-3.17)
Fsize	-1.29 (-1.55)	-0.48 (-0.46)	-1.47* (-1.75)	-1.30 (-1.55)	-0.49 (-0.47)	-1.46* (-1.74)
CurrentR	-0.33 (-0.72)	-1.42*** (-2.64)	-0.40 (-0.87)	-0.34 (-0.73)	-1.45*** (-2.68)	-0.40 (-0.86)
Leverage	17.2*** (5.34)	11.8*** (3.03)	11.2** (2.52)	17.3*** (5.37)	11.4*** (2.91)	11.7*** (2.63)
FFP	-0.012 (-0.34)	0.035 (0.77)	-0.0092 (-0.27)	-0.012 (-0.35)	0.038 (0.82)	-0.0097 (-0.28)
Capexpend	-33.3*** (-3.37)	-37.4*** (-3.16)	-31.9* (-3.22)	-32.7*** (-3.29)	-37.5*** (-3.16) Z	-31.3*** (-3.15)
RDexpend	23.4 (0.80)	19.4 (0.51)	23.4 (0.80)	23.6 (0.81)	19.5 (0.51)	23.6 (0.80)
WGI	1.12 (0.26)	-3.35 (-0.52)	1.18 (0.27)	0.71 (0.16)	-3.81 (-0.59)	0.79 (0.18)
Constant	-42.4** (-2.08)	-55.7** (-2.16)	-31.0 (-1.47)	-42.0* (-2.05)	-55.3* (-2.14)	-31.1 (-1.47)
Firm & year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	12,627	9091	12,627	12,522	9040	12,522
Adj. R²	0.306	0.318	0.306	0.304	0.317	0.304
F-stat	5.96***	3.52***	6.34***	5.96***	3.42***	6.29***

This table presents the association between audit committee quality, board monitoring, and firm riskiness and CSR controversies based on PSM. ESGconts refers to aggregate CSR controversies score ranging from -100 to 0; higher score denotes greater CSR controversies. While AudcomQ refers to audit committee quality proxied by the following formula: (audit committee independence score + audit committee expertise score)/ 2, BoardMon refers to board monitoring intensity proxied by the following formula: (board meeting attendance rate + audit committee quality + board committee index) / 3. ZFS refers to Zmijewski's (1984) financial distress proxy, as computed in Eq. (1). All variables are defined in Table 12. *t* statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Columns #1, 2, and 3 are based on full sample. Columns #4, 5, and 6 are based on excluding countries with less than 10 firms

Table 9 (continued)

Panel B: Table 5

	(1)	(2)	(3)	(4)
	ESGconts	ESGconts	ESGconts Robustness	ESGconts Robustness
ZFS	1.11 (1.24)	10.2*** (4.13)	1.13 (1.25)	9.84*** (3.95)
AudcomQ	0.053 (1.44)		0.044 (1.19)	
ZFS*AudcomQ	-0.037*** (-3.26)		-0.040*** (-3.43)	
BoardMon		-0.26*** (-2.74)		-0.26*** (-2.65)
ZFS*BoardMon		-0.14*** (-4.92)		-0.14*** (-4.77)
ESGscore	0.074*** (4.63)	0.052*** (2.70)	0.077*** (4.81)	0.054*** (2.80)
Bsize	-0.11 (-1.17)	-0.061 (-0.51)	-0.12 (-1.32)	-0.084 (-0.70)
Fsize	2.23*** (9.24)	2.62*** (9.23)	2.23** (9.20)	2.59*** (9.08)
CurrentR	0.29 (1.10)	0.32 (1.08)	0.32 (1.21)	0.34 (1.16)
Leverage	15.6*** (7.17)	15.3*** (6.20)	15.9*** (7.30)	15.8*** (6.36)
FFP	0.027** (2.05)	0.046*** (2.89)	0.029** (2.20)	0.043*** (2.70)
Capexpend	9.69 (1.64)	9.48 (1.42)	9.90* (1.67)	9.76 (1.46)
RDexpend	55.4*** (6.71)	57.5*** (6.18)	55.3*** (6.69)	56.9*** (6.10)
WGI	1.84*** (3.32)	2.73*** (4.01)	1.90*** (3.40)	2.85*** (4.15)
Constant	-149.3*** (-23.90)	-133.5*** (-12.92)	-149.7*** (-23.87)	-133.7*** (-12.89)
N	13,712	10,094	13,592	10,032
Adj. R^2	0.056	0.057	0.056	0.056
F-stat	52.52***	35.37***	52.35***	34.70***

This table presents the moderating role of audit committee quality and board monitoring between firm riskiness and CSR controversies based on PSM. ESGconts refers to aggregate CSR controversies score ranging from -100 to 0; higher score denotes greater CSR controversies. While AudcomQ refers to audit committee quality proxied by the following formula: (audit committee independence score+audit committee expertise score)/ 2, BoardMon refers to board monitoring intensity proxied by the following formula: (board meeting attendance rate+audit committee quality+board committee index) / 3. ZFS refers to Zmijewski's (1984) financial distress proxy, as computed in Eq. (1). All variables are defined in Table 12. Columns #1 and 2 are for full sample and columns #3 and 4 are based on excluding countries with less than 10 firms. t statistics in parentheses. * $p<0.10$, ** $p<0.05$, *** $p<0.01$

we formed the treatment group comprising observations with ESG controversies scores different from 100, and we established the control group with observations having ESG controversies scores of 100. PSM enables the balancing of covariate distributions between treatment and control groups, mitigating skewness issues. Propensity scores are employed to match treated and control observations, ensuring similarity in observable characteristics between the two groups which mitigates the selection bias (Rosenbaum and Rubin 1983).

After implementing the PSM and examining the descriptive statistics of ESGconts variable in the matched sample, there are 13,712 matched observations with a mean of -70.63 and a standard deviation of 32.38. The average of ESGconts changed meaningfully, moving from -91.22 to -70.63 following the application of PSM.

The linear and moderation models are re-evaluated using the PSM-matched sample. The outcomes are presented in Table 9, and they align with the initial baseline analysis results.

To mitigate the skewness in the distribution of ESGconts, we also applied the natural logarithm transformation to the raw ESGconts data. First, we divided the raw ESG controversies score by its median. Subsequently, we applied the natural logarithm to the resulting values to obtain Ln_ESGconts_raw to address the skewness.[15] This transformation compresses larger values and expands smaller values, contributing to a more normal distribution (West 2022). We re-ran the baseline research models, introducing the natural logarithm transformation of ESGconts (Ln_ESGconts_raw). The outcomes, as presented in Table 10, align with the initial analysis results.

Finally, the moderating role of AudcomQ and BoardMon on the relationship between ZFS and ESGconts is re-examined using the country-industry-year fixed-effect regression analysis (Table 11). The results reveal that the product terms are significantly negative, which is consistent with the initial baseline moderation analysis results.

In consequence, the findings are largely robust to alternative sub-sample excluding the US, alternative sub-sample excluding countries with less than 10 firms, using an alternative dependent variable, moderation analysis with an alternative testing variable, country-industry-year fixed-effect, and endogeneity concerns.

5 Discussion and conclusion

Although a great number of papers focused on corporate governance mechanisms and CSR performance, studies on CSR controversies (irresponsibility) are scarce (Lin-Hi and Müller 2013; Dharwadkar et al. 2021). While studying positive CSR is essential to stimulate good corporate citizenship behavior, drawing attention to bad corporate behavior is necessary to prevent future corporate social irresponsibility and to alert stakeholders. Hence, we focus on potential inhibiting and driving factors of CSR controversies such as board monitoring, and AC quality with a particular focus on risky firms.

Our findings reveal that board monitoring and AC quality do not prevent committing CSR controversies contrary to expectations. However, risky firms tend to commit more CSR controversies. Furthermore, AC quality and board monitoring intensity alleviate risky firms' CSR controversies tendency. Although the results are robust to most further

---

[15] Ln_ESGconts_raw is based on the raw ESG controversies score. Unlike ESGconts variable used in the baseline analysis which is calculated by multiplying raw ESG scores with (-1), we took raw ESG scores in the calculation of Ln_ESGconts_raw to be able to take natural logarithm. Hence, higher Ln_ESGconts_raw value indicates committing less controversies.

Table 10 Natural logarithm of the dependent variable to address the skewness

Panel A: Table 4

	(1)	(2)	(3)	(4)	(5)	(6)
	Ln_ESGconts_raw	Ln_ESGconts_raw	Ln_ESGconts_raw	Ln_ESGconts_raw Robustness	Ln_ESGconts_raw Robustness	Ln_ESGconts_raw Robustness
AudcomQ	-0.000013 (-0.27)			-0.000016 (-0.32)		
BoardMon		0.00017 (1.18)			0.00016 (1.10)	
ZFS			-0.0043*** (-3.46)			-0.0040*** (-3.22)
ESGscore	-0.00051*** (-7.46)	-0.00055*** (-5.80)	-0.00051*** (-7.46)	-0.00051*** (-7.41)	-0.00055*** (-5.78)	-0.00051*** (-7.41)
Bsize	0.0011*** (2.88)	0.00051 (0.88)	0.0011*** (2.93)	0.0010*** (2.72)	0.00050 (0.86)	0.0010*** (2.77)
Fsize	-0.0080*** (-4.84)	-0.012*** (-5.64)	-0.0077*** (-4.65)	-0.0079*** (-4.73)	-0.012*** (-5.71)	-0.0076*** (-4.55)
CurrentR	0.00013 (0.20)	0.00070 (0.93)	0.00025 (0.38)	0.00013 (0.19)	0.00073 (0.96)	0.00023 (0.36)
Leverage	-0.032*** (-5.05)	-0.026*** (-3.28)	-0.012 (-1.45)	-0.032*** (-4.98)	-0.025*** (-3.19)	-0.013 (-1.56)
FFP	-0.000060 (-0.87)	-0.0000028 (-0.03)	-0.000063 (-0.92)	-0.000052 (-0.75)	0.00000092 (0.01)	-0.000055 (-0.80)
Capexpend	0.050* (3.22)	0.054*** (2.89)	0.049*** (3.12)	0.049*** (3.12)	0.054*** (2.86)	0.047*** (3.03)
RDexpend	-0.060 (-1.35)	-0.11** (-2.13)	-0.045 (-0.99)	-0.063 (-1.41)	-0.11** (-2.15)	-0.049 (-1.07)
WGI	0.00086 (0.09)	-0.014 (-0.94)	0.00087 (0.09)	0.0036 (0.37)	-0.013 (-0.86)	0.0036 (0.37)
Constant	0.85*** (22.30)	0.92*** (18.77)	0.81*** (20.88)	0.84*** (21.99)	0.93*** (18.73)	0.81*** (20.64)
Firm & year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	45,193	31,820	45,193	44,753	31,618	44,753
Adj. R^2	0.312	0.341	0.312	0.311	0.339	0.311
F-stat	14.29***	10.52***	15.48***	13.86***	10.49***	14.89***

This table presents the association between audit committee quality, board monitoring, and firm riskiness and CSR controversies based on natural logarithm of CSR controversies proxy to reduce skewness. For this purpose, we divided the raw ESG controversies score by its median, and subsequently, we applied the natural logarithm to the resulting values to obtain Ln_ESGconts_raw to address the skewness. Unlike ESGconts variable used in the baseline analysis which is calculated by multiplying raw ESG controversies scores with (-1), Ln_ESGconts_raw is based on raw ESG controversies scores to be able to take natural logarithm. Hence, higher Ln_ESGconts_raw value indicates committing less controversies. While AudcomQ refers to audit committee quality proxied by the following formula: (audit committee independence score + audit committee expertise score)/ 2, BoardMon refers to board monitoring intensity proxied by the following formula: (board meeting attendance rate + audit committee quality + board committee index) / 3. ZFS refers to Zmijewski's (1984) financial distress proxy, as computed in Eq. (1). All variables are defined in Table 12. t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Columns #1, 2, and 3 are based on full sample. Columns #4, 5, and 6 are based on excluding countries with less than 10 firms

Table 10 (continued)

Panel B: Table 5

	(1)	(2)	(3)	(4)
	Ln_ESGconts_raw	Ln_ESGconts_raw	Ln_ESGconts_raw Robustness	Ln_ESGconts_raw Robustness
ZFS	-0.000035 (-0.02)	-0.016*** (-3.20)	-0.00032 (-0.18)	-0.015*** (-3.07)
AudcomQ	-0.00031*** (-4.01)		-0.00028*** (-3.62)	
ZFS*AudcomQ	0.000050** (2.20)		0.000059** (2.55)	
BoardMon		0.00028 (1.35)		0.00026 (1.28)
ZFS*BoardMon		0.00024*** (4.11)		0.00024*** (4.03)
ESGscore	-0.00089*** (-24.86)	-0.00092*** (-19.96)	-0.00091*** (-25.06)	-0.00093*** (-20.09)
Bsize	0.00013 (0.59)	-0.00034 (-1.10)	0.00015 (0.67)	-0.00028 (-0.90)
Fsize	-0.023*** (-43.45)	-0.025*** (-38.43)	-0.023*** (-43.10)	-0.025*** (-38.12)
CurrentR	-0.0022*** (-5.33)	-0.0026*** (-5.35)	-0.0023*** (-5.43)	-0.0027*** (-5.43)
Leverage	-0.035*** (-7.63)	-0.037*** (-6.67)	-0.036*** (-7.79)	-0.038*** (-6.89)
FFP	-0.00027*** (-9.44)	-0.00033*** (-9.15)	-0.00026*** (-9.25)	-0.00031*** (-8.68)
Capexpend	-0.060*** (-5.60)	-0.067*** (-5.31)	-0.060*** (-5.61)	-0.067*** (-5.30)
RDexpend	-0.18*** (-12.05)	-0.20*** (-11.89)	-0.18*** (-12.17)	-0.20*** (-11.90)
WGI	-0.0070*** (-5.96)	-0.011*** (-7.16)	-0.0076*** (-6.37)	-0.011*** (-7.47)
Constant	1.28*** (98.55)	1.29*** (59.27)	1.27*** (97.95)	1.29*** (59.11)
N	45,840	32,568	45,395	32,356
Adj. R^2	0.138	0.154	0.139	0.154
F-stat	571.00***	448.03***	568.82***	444.31***

This table presents the moderating role of audit committee quality and board monitoring between firm riskiness and CSR controversies based on natural logarithm of CSR controversies proxy to reduce skewness. For this purpose, we divided the raw ESG controversies score by its median, and subsequently, we applied the natural logarithm to the resulting values to obtain Ln_ESGconts_raw to address the skewness. Unlike ESGconts variable used in the baseline analysis which is calculated by multiplying raw ESG controversies scores with (-1), Ln_ESGconts_raw is based on raw ESG controversies scores to be able to take natural logarithm. Hence, higher Ln_ESGconts_raw value indicates committing less controversies. While AudcomQ refers to audit committee quality proxied by the following formula: (audit committee independence score+ audit committee expertise score)/ 2, BoardMon refers to board monitoring intensity proxied by the following formula: (board meeting attendance rate+audit committee quality+board committee index) / 3. ZFS refers to Zmijewski's (1984) financial distress proxy, as computed in Eq. (1). All variables are defined in Table 12. Columns #1 and 2 are for full sample and columns #3 and 4 are based on excluding countries with less than 10 firms. *t* statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

and alternative tests, we highlight a notable point that the exclusion of the US from the sample produces contrary results for AC quality; it augments CSR concerns (although weakly) and loses its significant effect in mitigating risky firms' controversial CSR acts. Among control variables, CSR performance, firm complexity, research and development intensity, and indebtedness exacerbate CSR controversies, whereas larger boards and engaging with capital expenditures mitigate them.

Taken together with direct results and moderating effects, the ineffectiveness of board monitoring and AC quality in reducing CSR controversies may not necessarily mean the weakness of the internal governance mechanisms but is more related to the firm-specific conditions, institutional environment, and focus of those two monitoring mechanisms. Board monitoring and AC may not prioritize CSR controversies but financial reporting quality. For example, Krishnan et al. (2011), Cohen et al. (2014), and Kusnadi et al. (2016) found that audit committee expertise and quality are drivers of financial reporting quality. Recent evidence also indicates that audit committee expertise and independence reinforce the value relevance of CSR reporting in the stock market (Kuzey et al. 2023). Moreover, board monitoring is influential in preventing corporate financial manipulation and fraud (Sharma 2004; Wahid 2019; Files and Liu 2022). However, the unexpected insignificant finding might be related to the institutional environment as well. Although our global sample did not produce a direct effect of board monitoring and AC mechanisms on reducing CSR controversies, two US-based studies (Godfrey et al. 2024; Jain and Zaman 2020) found that board gender diversity and governance bundle (i.e., board size, board independence, CSR committee, board gender diversity, board meeting attendance) diminish corporate social irresponsibility. However, we want to note that these two cited studies are conducted in the US and their governance metrics are different from the ones we used. The divergence between our results and previous studies' findings in direct effects might be associated with differing board monitoring metrics and the institutional environments in which the research is conducted. Lastly, our insignificant direct effects might signal that board monitoring and AC mechanisms may be prioritizing financial reporting quality and preventing financial fraud rather than CSR controversies.

However, the two monitors (i.e., AC and board monitoring) are extra-vigilant in harnessing CSR controversies in financially distressed firms which are more likely to commit CSR irresponsibility and hence may weaken the already fragile situation of the risky firms. Indeed, prior research points out the contingency's role in the negative effect of CSR controversies. For example, Kölbel et al. (2017) proved that CSR controversies if covered by the media evoke firm risk, and Nardella et al. (2020) found that CSR controversies alone do not trigger reputation loss unless the firm is found culpable by law. In line with these findings, shareholders' reactions to these CSR controversies are also mixed since they may react indifferently (Fisher-Vanden and Thorburn 2011; Lenz et al. 2017), or negatively (Price and Sun 2017; Godfrey et al. 2024), or positively (Aouadi and Marsat 2018; Melinda and Wardhani 2020). Consequently, this evidence might have a relaxing effect on the firm's monitoring function about controversies' negative effect on stakeholders unless the firm is risky. Concerning the CSR controversy and firm risk relationship, there is not much evidence; in the opposite direction of the causality we investigated, Oikonomou et al. (2012) found that controversial CSR augments firm risk; hence, we find evidence for the reverse causality. Taken together, this evidence shows the existence of a bi-directional relationship between controversial CSR and firm risk.

Table 11 Country-industry-year FE regression analysis

	(1) ESGconts	(2) ESGconts
ZFS	0.030 (0.11)	1.47* (1.90)
AudcomQ	-0.023* (-1.81)	
ZFS*AudcomQ	-0.0064* (-1.79)	
BoardMon		-0.11*** (-3.37)
ZFS*BoardMon		-0.026*** (-2.78)
ESGscore	0.13*** (21.67)	0.15*** (18.10)
Bsize	0.13*** (3.49)	0.19*** (3.65)
Fsize	4.41*** (47.65)	4.64*** (40.67)
CurrentR	0.28*** (4.33)	0.34*** (4.35)
Leverage	3.78*** (5.01)	4.97*** (5.56)
FFP	0.022*** (4.36)	0.017*** (2.66)
Capexpend	9.17*** (5.24)	10.5*** (5.09)
RDexpend	24.0*** (8.92)	30.2*** (9.70)
WGI	0.91** (2.09)	1.12** (2.18)
Constant	-195.9*** (-62.96)	-194.9*** (-41.91)
Country, industry, & year FE	Yes	Yes
N	45,840	32,568
Adj. R^2	0.167	0.183
F-stat	95.85***	77.94***

This table presents the moderating role of audit committee quality and board monitoring between firm riskiness and CSR controversies by using Country-Industry-Year FE regression analysis. ESGconts refers to aggregate CSR controversies score ranging from -100 to 0; higher score denotes greater CSR controversies. While AudcomQ refers to audit committee quality proxied by the following formula: (audit committee independence score + audit committee expertise score)/ 2, BoardMon refers to board monitoring intensity proxied by the following formula: (board meeting attendance rate + audit committee quality + board committee index) / 3. ZFS refers to Zmijewski's (1984) financial distress proxy, as computed in Eq. (1). All variables are defined in Table 12. *t* statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Although positive CSR was among the control variables, we find it noteworthy to briefly comment on the positive association between CSR and CSR controversies as it is not much highlighted in the past literature. Ormiston and Wong (2013) explain this connection with moral licensing in such a way that engagement with CSR helps firm managers gather moral credits in society which eventually allows them to commit controversies that are supported by their empirical evidence.

6 Implications and future research avenues

The results suggest several theoretical and practical implications. The findings confirm agency theory and the monitoring function of the board indicating that it is highly likely to provide fundamental control over the firm's actions (Jensen and Meckling

1976; Hill and Jones 1992) associated with CSR controversies. In line with RDT, (Hillman and Dalziel 2003) ACs reinforced with independent members and members with different skills and expertise provide critical resources in preventing CSR controversies. Besides, the results confirm the slack financial resources theory (Waddock and Graves 1997) that risky firms have a higher tendency to commit controversial CSR acts under the pressure of financial constraints.

The findings suggest several practical implications as well. It appears that the strength of AC and board monitoring strength have a context-specific effect in preventing CSR controversies; while they do not generate a direct effect on diminishing controversies in absolute terms, they have a moderating effect on risky firms' corporate irresponsibility. This could be attributable to two factors. First, ACs and board monitoring may not take CSR controversies seriously unless the firm is financially distressed. Second, considering the findings concerning the control variables, CSR concerns are natural outcomes of CSR engagement and firm complexity. Hence, intensive CSR engagement and the complexity of firms' operations induce committing CSR concerns of which ACs and board monitoring cannot further reduce those concerns or do not observe a serious drawback in these controversies.

Moreover, financial difficulties push firms to commit to more controversial CSR practices which could be driven by saving more costs out of CSR practices and by lack of sufficient funds to behave in a socially and environmentally responsible way. This finding may imply closer scrutiny of risky firms' CSR practices by regulatory bodies such as stock market regulators. However, the implication of the moderation analysis is that internal governance and monitoring strength provide a resolution for and barrier to risky firms' controversial activities. Despite the lack of direct effect of board monitoring and AC quality on controversial CSR, the existence of a moderating effect implies that these internal governance attributes pay particular attention to mitigating CSR irresponsibility in risky firms due to the reality that they tend to commit more CSR misconduct. However, we underline that non-US countries and firms need to review and revise their regulations and qualifications concerning ACs so that they can be more influential in reducing financially distressed firms' CSR controversies.

Although the study provides valuable insights concerning the dynamics of CSR concerns, future studies could deepen the investigation by trying several other contingencies. For example, other than board monitoring, the board structure's potential effect on diminishing controversial activities could be tested. Moreover, external governance mechanisms could play a role in dissuading firms from undertaking CSR controversies which is worth investigating to suggest policymaking implications. It is also possible to imitate the approach of the study in particular contexts such as European Union member states, emerging markets, and transition countries which are quite different contexts and may bear different insights. This further investigation is particularly justified by slightly different results between the US and the non-US samples in this study.

Appendix

Table 12 Definitions of the variables

Variables	Description
StdROA	Rolling standard deviation of return on assets over three years
ZFS	Zmijewski (1984) financial distress proxy, as computed in Eq. (1)
BoardMon	Board monitoring intensity proxied by the following formula: (board meeting attendance rate + audit committee quality + board committee index) / 3
AudcomQ	Audit committee quality proxied by the following formula: (audit committee independence score + audit committee expertise score)/ 2. The scale is from 0 to 100
Board committee index	The index is calculated by the following formula: [(audit committee + nomination committee + compensation committee + corporate governance committee) / 4] * 100. The committees are binary variables taking 1 if a committee exists, and 0 if not
Board meeting attendance rate	The overall average attendance percentage of directors in board meetings
ESGscore	Aggregate CSR performance is an overall company score based on the self-reported information in the environmental, social and corporate governance pillars. The score ranges from 0 to 100. Higher score denotes greater CSR engagement
ESGconts	ESG controversies score (based on 23 metrics) assesses a firm's exposure to environmental, social and governance controversies and negative events appearing in global media. Normally, the default value of controversy measure is 0, while companies with no controversies will get a score of 100 in the data source (Thomson Reuters Eikon). However, we reversed the scale by multiplying with -1 to indicate higher score shows higher CSR controversies. Thus, our aggregate CSR controversies score ranges from -100 to 0. Scores closer to -100 indicate fewer governance controversies, and scores closer to 0 indicate greater controversies
GOVconts	Calculation of governance controversies variable is based on the average of five governance controversies indicators such as insider dealings controversies, accounting controversies, executive compensation controversies, anti-competition controversies, and bribery corruption and fraud controversies. All these five metrics' score range from 0 to 100; the default value of each controversy measure is 0, while companies with no controversies will get a score of 100 in the data source (Thomson Reuters Eikon). To get a composite governance controversies score, we summed up these five metrics and then scaled the sum by five. However, we reversed the scale by multiplying with -1 to indicate higher score shows higher governance controversies. Thus, our aggregate governance controversies score ranges from -100 to 0. Scores closer to -100 indicate fewer governance controversies, and scores closer to 0 indicate greater controversies
Bsize	Board size is measured by the total number of board members
Fsize	Firm size denotes natural logarithm of total assets
Leverage	The proportion of total debt to total assets
CurrentR	The ratio of total current assets to total current liabilities
FFP	Free float percentage denoted by the proportion of shares available to shareholders for trading in the stock market without restriction
Capexpend	Capital expenditures scaled by total assets
RDexpend	Research and development expenditures scaled by total assets
WGI	The average of six Worldwide Governance Indicators namely political stability and absence of violence/terrorism, voice and accountability, control of corruption, government effectiveness, regulatory quality, and rule of law (Values range between -2.5 and 2.5)

This table presents the definitions of the variables

Table 13 Country-level sample distribution

	Country	Unique firms	Percent	Data points	Percent
1	Argentina	46	0.78	112	0.24
2	Australia	308	5.22	2,617	5.71
3	Austria	23	0.39	177	0.39
4	Bahrain	2	0.03	9	0.02
5	Belgium	37	0.63	315	0.69
6	Brazil	78	1.32	596	1.30
7	Canada	245	4.15	2,389	5.21
8	Chile	33	0.56	228	0.50
9	China	373	6.32	1,150	2.51
10	Colombia	15	0.25	79	0.17
11	Czech Republic	2	0.03	23	0.05
12	Denmark	37	0.63	362	0.79
13	Egypt	5	0.08	40	0.09
14	Finland	32	0.54	382	0.83
15	France	137	2.32	1,278	2.79
16	Germany	152	2.58	1,211	2.64
17	Greece	17	0.29	137	0.30
18	Hong Kong	187	3.17	1,509	3.29
19	Hungary	4	0.07	33	0.07
20	India	112	1.90	741	1.62
21	Indonesia	33	0.56	268	0.58
22	Ireland; Republic of	8	0.14	71	0.15
23	Israel	9	0.15	104	0.23
24	Italy	71	1.20	487	1.06
25	Japan	375	6.36	5,163	11.26
26	Kazakhstan	2	0.03	4	0.01
27	Kenya	1	0.02	5	0.01
28	Korea; Republic (S. Korea)	117	1.98	922	2.01
29	Kuwait	4	0.07	25	0.05
30	Luxembourg	1	0.02	8	0.02
31	Malaysia	49	0.83	405	0.88
32	Mexico	38	0.64	279	0.61
33	Morocco	1	0.02	11	0.02
34	Netherlands	45	0.76	425	0.93
35	New Zealand	42	0.71	291	0.63
36	Norway	54	0.92	375	0.82
37	Oman	4	0.07	17	0.04
38	Pakistan	2	0.03	6	0.01
39	Peru	26	0.44	91	0.20
40	Philippines	16	0.27	140	0.31
41	Poland	30	0.51	186	0.41
42	Portugal	15	0.25	126	0.27
43	Qatar	8	0.14	42	0.09
44	Russia	35	0.59	327	0.71

Table 13 (continued)

	Country	Unique firms	Percent	Data points	Percent
45	Saudi Arabia	20	0.34	83	0.18
46	Singapore	32	0.54	410	0.89
47	Slovenia	1	0.02	2	0.00
48	South Africa	89	1.51	760	1.66
49	Spain	56	0.95	501	1.09
50	Sri Lanka	1	0.02	10	0.02
51	Sweden	110	1.87	746	1.63
52	Switzerland	98	1.66	758	1.65
53	Taiwan	128	2.17	1,045	2.28
54	Thailand	33	0.56	245	0.53
55	Turkey	43	0.73	192	0.42
56	Uganda	1	0.02	1	0.00
57	United Arab Emirates	4	0.07	23	0.05
58	United Kingdom	312	5.29	3,357	7.32
59	United States of America	2137	36.23	14,530	31.70
60	Vietnam	1	0.02	1	0.00
61	Zimbabwe	1	0.02	10	0.02
	Total	*5,898*	*100.00*	*45,840*	*100.00*

This table presents the sample distribution across countries

Declarations

References

Abbott LJ, Parker S, Peters GF (2004) Audit committee characteristics and restatements. Auditing 23(1):69–87

Aggarwal R, Erel I, Ferreira M, Matos P (2011) Does governance travel around the world? Evidence from institutional investors. J Financ Econ 100(1):154–181

Agnese P, Battaglia F, Busato F, Taddeo S (2023a) ESG controversies and governance: evidence from the banking industry. Financ Res Lett 53:103397

Agnese P, Cerciello M, Giacomini E, Taddeo S (2023b) Environmental, social and governance controversies: the role of European bank boards. Manag Decis 61(12):3739–3754

Aier JK, Comprix J, Gunlock MT, Lee D (2005) The financial expertise of CFOs and accounting restatements. Account Horiz 19(3):123–135

Albitar K, Abdoush T, Hussainey K (2022) Do corporate governance mechanisms and ESG disclosure drive CSR narrative tones? Int J Financ Econ 28(4):3876–3890

Al-Shaer H, Zaman M (2018) Credibility of sustainability reports: the contribution of audit committees. Bus Strateg Environ 27(7):973–986

Al-Shaer H, Zaman M (2021) Audit committee disclosure tone and earnings management. J Appl Acc Res 22(5):780–799

Anagnostopoulou SC, Tsekrekos AE, Voulgaris G (2021) Accounting conservatism and corporate social responsibility. Br Account Rev 53(4):100942

Aouadi A, Marsat S (2018) Do ESG controversies matter for firm value? Evidence from international data. J Bus Ethics 151(4):1027–1047

Ararat M, Aksu M, Cetin AT (2015) How board diversity affects firm performance in emerging markets: evidence on channels in controlled firms. Corp Gov 23(2):83–103

Baltagi BH (2005) Econometric analysis of panel data, 3rd edn. John Wiley & Sons Ltd, Chichester

Be´dard J, Chtourou SM, Courteau L (2004). The effect of audit committee expertise, independence, and activity on aggressive earnings management. Auditing 23(2):13–35

Beasley MS, Carcello JV, Hermanson DR, Neal TL (2009) The audit committee oversight process. Contemp Account Res 26(1):65–122

Ben-Amar W, McIlkenny P (2015) Board effectiveness and the voluntary disclosure of climate change information. Bus Strateg Environ 24(8):704–719

Boubaker S, Cellier A, Manita R, Saeed A (2020) Does corporate social responsibility reduce financial distress risk? Econ Model 91:835–851

Boubakri N, El Ghoul S, Guedhami O, Wang HH (2021) Corporate social responsibility in emerging market economies: determinants, consequences, and future research directions. Emerg Mark Rev 46:100758

Bravo-Urquiza F, Moreno-Ureba E (2021) Does compliance with corporate governance codes help to mitigate financial distress? Res Int Bus Financ 55:101344

Brown TJ, Dacin PA (1997) The company and the product: corporate associations and consumer product responses. J Mark 61(1):68–84

Cai J, Garner J, Walkling R (2010) Shareholder access to the boardroom: a survey of recent evidence. J Appl Financ 20(2):15–26

Campa D (2015) The impact of SME's pre-bankruptcy financial distress on earnings management tools. Int Rev Financ Anal 42:222–234

Charalambakis EC, Garrett I (2019) On corporate financial distress prediction: what can we learn from private firms in a developing economy? Evidence from Greece. Rev Quant Financ Acc 52(2):467–491

Cherry MA, Sneirson JF (2010) Beyond profit: Rethinking corporate social responsibility and greenwashing after the BP oil disaster. Tulane Law Rev 85:983

Chou HI, Chung H, Yin X (2013) Attendance of board meetings and company performance: evidence from Taiwan. J Bank Finance 37(11):4157–4171

Cohen JR, Hoitash U, Krishnamoorthy G, Wright AM (2014) The effect of audit committee industry expertise on monitoring the financial reporting process. Account Rev 89(1):243–273

Collier P, Zaman M (2005) Convergence in European corporate governance: the audit committee concept. Corp Gov 13(6):753–768

Dhaliwal DS, Li OZ, Tsang A, Yang YG (2011) Voluntary nonfinancial disclosure and the cost of equity capital: the initiation of corporate social responsibility reporting. Account Rev 86(1):59–100

Dharwadkar R, Guo J, Shi L, Yang R (2021) Corporate social irresponsibility and boards: the implications of legal expertise. J Bus Res 125:143–154

Dorfleitner G, Kreuzer C, Sparrer C (2020) ESG controversies and controversial ESG: about silent saints and small sinners. J Asset Manag 21(5):393–412

Fama EF, Jensen MC (1983) Separation of ownership and control. J Law Econ 26(2):301–325

Files R, Liu M (2022) Unraveling financial fraud: the role of the board of directors and external advisors in conducting independent internal investigations. Contemp Account Res 39(3):1905–1948

Fisher-Vanden K, Thorburn KS (2011) Voluntary corporate environmental initiatives and shareholder wealth. J Environ Econ Manag 62(3):430–445

Flammer C (2013) Corporate social responsibility and shareholder reaction: the environmental awareness of investors. Acad Manag J 56(3):758–781

Gerged AM, Kuzey C, Uyar A, Karaman AS (2023) Does investment stimulate or inhibit CSR transparency? The moderating role of CSR committee, board monitoring and CEO duality. J Bus Res 159:113762

Godfrey C, Hoepner AG, Lin MT, Poon SH (2024) Women on boards and corporate social irresponsibility: evidence from a Granger style reverse causality minimisation procedure. Eur J Finance 30(1):1–27

Godfrey PC, Merrill CB, Hansen JM (2009) The relationship between corporate social responsibility and shareholder value: an empirical test of the risk management hypothesis. Strateg Manag J 30(4):425–445

Green T, Peloza J (2011) How does corporate social responsibility create value for consumers? J Consum Mark 28(1):48–56

Grove H, Patelli L, Victoravich LM, Xu P (2011) Corporate governance and performance in the wake of the financial crisis: evidence from US commercial banks. Corp Gov 19(5):418–436

Gujarati D (2014) Econometrics by example. Bloomsbury Publishing, New York

Habib A, Costa MD, Huang HJ, Bhuiyan MBU, Sun L (2020) Determinants and consequences of financial distress: review of the empirical literature. Account Finance 60(1):1023–1075

Hair JF Jr, Black WC, Babin BJ, Anderson RE (2019) Multivariate data analysis. Cengage Learning, Hampshire

Hamed RS, Al-Shattarat BK, Al-Shattarat WK, Hussainey K (2022) The impact of introducing new regulations on the quality of CSR reporting: evidence from the UK. J Int Account Audit Tax 46:100444

Haque F (2017) The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms. Br Account Rev 49(3):347–364

Harjoto M, Laksmana I, Lee R (2015) Board diversity and corporate social responsibility. J Bus Ethics 132(4):641–660

Hayes AF (2017) Introduction to mediation, moderation, and conditional process analysis: a regression-based approach. Guilford Publications, Washington

Helfaya A, Moussa T (2017) Do board's corporate social responsibility strategy and orientation influence environmental sustainability disclosure? UK evidence. Bus Strateg Environ 26(8):1061–1077

Herzig C, Moon J (2013) Discourses on corporate social ir/responsibility in the financial sector. J Bus Res 66(10):1870–1880

Hill CW, Jones TM (1992) Stakeholder-agency theory. J Manage Stud 29(2):131–154

Hillman AJ, Dalziel T (2003) Boards of directors and firm performance: integrating agency and resource dependence perspectives. Acad Manag Rev 28(3):383–396

Hoang K, Nguyen C, Zhang H (2021) How does economic policy uncertainty affect corporate diversification? Int Rev Econ Financ 72:254–269

Hoechle D, Schmid M, Walter I, Yermack D (2012) How much of the diversification discount can be explained by poor corporate governance? J Financ Econ 103(1):41–60

Hong B, Li Z, Minor D (2016) Corporate governance and executive compensation for corporate social responsibility. J Bus Ethics 136(1):199–213

Huang K, Sim N, Zhao H (2020) Corporate social responsibility, corporate financial performance and the confounding effects of economic fluctuations: a meta-analysis. Int Rev Financ Anal 70:101504

Huber PJ (1967) The behavior of maximum likelihood estimates under nonstandard conditions. In: Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability, United States, pp 221–233

Islam SMT, Ghosh R, Khatun A (2021) Slack resources, free cash flow and corporate social responsibility expenditure: evidence from an emerging economy. J Account Emerg Econ 11(4):533–551

Issa A (2023) Shaping a sustainable future: the impact of board gender diversity on clean energy use and the moderating role of environmental, social and governance controversies. Corp Soc Responsib Environ Manag 30(6):2731–2746

Jain T, Jamali D (2016) Looking inside the black box: the effect of corporate governance on corporate social responsibility. Corp Gov 24(3):253–273

Jain T, Zaman R (2020) When boards matter: the case of corporate social irresponsibility. Br J Manag 31(2):365–386

Jensen MC, Meckling WH (1976) Theory of the firm: managerial behavior, agency costs and ownership structure. J Financ Econ 3(4):305–360

Jiraporn P, Leelalai V, Tong S (2016) The effect of managerial ability on dividend policy: how do talented managers view dividend payouts? Appl Econ Lett 23(12):857–862

Jizi M (2017) The influence of board composition on sustainable development disclosure. Bus Strateg Environ 26(5):640–655

Jo H, Harjoto MA (2012) The causal effect of corporate governance on corporate social responsibility. J Bus Ethics 106(1):53–72

Jo H, Na H (2012) Does CSR reduce firm risk? Evidence from controversial industry sectors. J Bus Ethics 110:441–456

Jose PE (2013) Doing statistical mediation and moderation. The Guilford Press, New York

Kabir R, Thai HM (2017) Does corporate governance shape the relationship between corporate social responsibility and financial performance? Pac Account Rev 29(2):227–258

Kang C, Germann F, Grewal R (2016) Washing away your sins? Corporate social responsibility, corporate social irresponsibility, and firm performance. J Mark 80(2):59–79

Kılıç M, Kuzey C, Uyar A (2021) An international investigation on assurance of integrated reports: institutions, assurance quality, and assurers. J Int Account Audit Tax 42:100360

Koirala S, Marshall A, Neupane S, Thapa C (2020) Corporate governance reform and risk-taking: evidence from a quasi-natural experiment in an emerging market. J Corp Finan 61:101396

Kölbel JF, Busch T, Jancso LM (2017) How media coverage of corporate social irresponsibility increases financial risk. Strateg Manag J 38(11):2266–2284

Kolev KD, Wangrow DB, Barker VL III, Schepker DJ (2019) Board committees in corporate governance: a cross-disciplinary review and agenda for the future. J Manage Stud 56(6):1138–1193

Krishnan J, Wen Y, Zhao W (2011) Legal expertise on corporate audit committees and financial reporting quality. Account Rev 86(6):2099–2130

Küberling-Jost JA (2021) Paths of corporate irresponsibility: a dynamic process. J Bus Ethics 169(3):579–601

Kusnadi Y, Leong KS, Suwardy T, Wang J (2016) Audit committees and financial reporting quality in Singapore. J Bus Ethics 139:197–214

Kuzey C, Elbardan H, Uyar A, Karaman AS (2023) Do shareholders appreciate the audit committee and auditor moderation? Evidence from sustainability reporting. Int J Account Inf Manag 31(5):808–837

Lee G, Fargher NL (2018) The role of the audit committee in their oversight of whistle-blowing. Auditing 37(1):167–189

Lenz I, Wetzel HA, Hammerschmidt M (2017) Can doing good lead to doing poorly? Firm value implications of CSR in the face of CSI. J Acad Mark Sci 45(5):677–697

Leuven E, Sianesi B (2003) PSMATCH2: stata module to perform full Mahalanobis and propensity score matching, common support graphing, and covariate imbalance testing. Statistical Software Components S432001, Boston College Department of Economics, United States

Lev B, Petrovits C, Radhakrishnan S (2010) Is doing good good for you? How corporate charitable contributions enhance revenue growth. Strateg Manag J 31(2):182–200

Li Y, Li X, Xiang E, Djajadikerta HG (2020) Financial distress, internal control, and earnings management: evidence from China. J Contemp Account Econ 16(3):100210

Lin-Hi N, Müller K (2013) The CSR bottom line: preventing corporate social irresponsibility. J Bus Res 66(10):1928–1936

Liu Y, Miletkov MK, Wei Z, Yang T (2015) Board independence and firm performance in China. J Corp Finan 30:223–244

Malik M (2015) Value-enhancing capabilities of CSR: a brief review of contemporary literature. J Bus Ethics 127:419–438

Masulis RW, Reza SW (2015) Agency problems of corporate philanthropy. Rev Financ Stud 28(2):592–636

McWilliams A, Siegel D (1997) Event studies in management research: theoretical and empirical issues. Acad Manag J 40(3):626–657

Melinda A, Wardhani R (2020) The effect of environmental, social, governance, and controversies on firms' value: evidence from Asia. In: Advanced issues in the economics of emerging markets, vol 27. Emerald Publishing Limited, pp 147–173

Michelon G, Parbonetti A (2012) The effect of corporate governance on sustainability disclosure. J Manage Governance 16(3):477–509

Miglani S, Ahmed K, Henry D (2015) Voluntary corporate governance structure and financial distress: evidence from Australia. J Contemp Account Econ 11(1):18–30

Min BS, Chizema A (2018) Board meeting attendance by outside directors. J Bus Ethics 147(4):901–917

Minichilli A, Zattoni A, Zona F (2009) Making boards effective: an empirical examination of board task performance. Br J Manag 20(1):55–74

Minor D, Morgan J (2011) CSR as reputation insurance: primum non nocere. Calif Manage Rev 53(3):40–59

Mishra S, Modi SB (2013) Positive and negative corporate social responsibility, financial leverage, and idiosyncratic risk. J Bus Ethics 117:431–448

Moneva JM, Bonilla-Priego MJ, Ortas E (2020) Corporate social responsibility and organisational performance in the tourism sector. J Sustain Tour 28(6):853–872

Monti A, Pattitoni P, Petracci B, Randl O (2022) Does corporate social responsibility impact equity risk? International evidence. Rev Quant Financ Acc 59(3):825–855

Nardella G, Brammer S, Surdu I (2020) Shame on who? The effects of corporate irresponsibility and social performance on organizational reputation. Br J Manag 31(1):5–23

Neville F, Byron K, Post C, Ward A (2019) Board independence and corporate misconduct: a cross-national meta-analysis. J Manag 45(6):2538–2569

Nguyen BD, Nielsen KM (2010) The value of independent directors: evidence from sudden deaths. J Financ Econ 98(3):550–567

Oikonomou I, Brooks C, Pavelin S (2012) The impact of corporate social performance on financial risk and utility: a longitudinal analysis. Financ Manage 41(2):483–515

Orlitzky M, Schmidt FL, Rynes SL (2003) Corporate social and financial performance: a meta-analysis. Organ Stud 24(3):403–441

Ormiston ME, Wong EM (2013) License to ill: the effects of corporate social responsibility and CEO moral identity on corporate social irresponsibility. Pers Psychol 66(4):861–893

Piot C, Janin R (2007) External auditors, audit committees and earnings management in France. Eur Account Rev 16(2):429–454

Poletti-Hughes J, Martinez Garcia B (2022) Leverage in family firms: the moderating role of female directors and board quality. Int J Financ Econ 27(1):207–223

Price JM, Sun W (2017) Doing good and doing bad: the impact of corporate social responsibility and irresponsibility on firm performance. J Bus Res 80:82–97

Refinitiv (2021) Environmental, Social and Governance (ESG) scores from refinitiv. Retrieved from https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/esg-scores-methodology.pdf. Accessed 5 Jan 2021

Robertson C, Schwartz J, Peres-Pena R (2015) BP to pay $18.7 billion for deepwater horizon oil spill. Retrieved from https://www.nytimes.com/2015/07/03/us/bp-to-pay-gulf-coast-states-18-7-billion-for-deepwater-horizon-oil-spill.html. Accessed 20 Jan 2023

Rosenbaum PR, Rubin DB (1983) The central role of the propensity score in observational studies for causal effects. Biometrika 70(1):41–55

Rowe AL, Nowak M, Quaddus M, Naude M (2014) Stakeholder engagement and sustainable corporate community investment. Bus Strateg Environ 23(7):461–474

Schafer JL (1999) Multiple imputation: a primer. Stat Methods Med Res 8(1):3–15

Schwartz J, Bryan V (2017) VW's Dieselgate bill hits $30 bln after another charge. Retrieved from https://www.reuters.com/article/idUSKCN1C4270/. Accessed 20 Jan 2023

Shahab Y, Ntim CG, Ullah F (2019) The brighter side of being socially responsible: CSR ratings and financial distress among Chinese state and non-state owned firms. Appl Econ Lett 26(3):180–186

Shahzad AM, Mousa FT, Sharfman MP (2016) The implications of slack heterogeneity for the slack-resources and corporate social performance relationship. J Bus Res 69(12):5964–5971

Sharma VD (2004) Board of director characteristics, institutional ownership, and fraud: evidence from Australia. Auditing 23(2):105–117

Shaukat A, Qiu Y, Trojanowski G (2016) Board attributes, corporate social responsibility strategy, and corporate environmental and social performance. J Bus Ethics 135(3):569–585

Singh J, de los Salmones Sanchez MDMG, del Bosque IR (2008) Understanding corporate social responsibility and product perceptions in consumer markets: a cross-cultural evaluation. J Bus Ethics 80:597-611

Stock JH, Wright JH, Yogo M (2002) A survey of weak instruments and weak identification in generalized method of moments. J Bus Econ Stat 20(4):518–529

Tang Y, Qian C, Chen G, Shen R (2015) How CEO hubris affects corporate social (ir) responsibility. Strateg Manag J 36(9):1338–1357

Treepongkaruna S, Kyaw K, Jiraporn P (2022) Shareholder litigation rights and ESG controversies: a quasi-natural experiment. Int Rev Financ Anal 84:102396

Turley S, Zaman M (2007) Audit committee effectiveness: informal processes and behavioural effects. Account Audit Account J 20(5):765–788

Uyar A, Elbardan H, Kuzey C, Karaman AS (2023) Audit and CSR committees: are they complements or substitutes in CSR reporting, assurance and GRI framework adoption? Int J Account Inf Manag 31(1):1–36

Uyar A, Kuzey C, Kilic M, Karaman AS (2021) Board structure, financial performance, corporate social responsibility performance, CSR committee, and CEO duality: disentangling the connection in healthcare. Corp Soc Responsib Environ Manag 28(6):1730–1748

Uyar A, Pizzi S, Caputo F, Kuzey C, Karaman AS (2022) Do shareholders reward or punish risky firms due to CSR reporting and assurance? Manag Decis Econ 43(5):1596–1620

Vafeas N (1999) Board meeting frequency and firm performance. J Financ Econ 53(1):113–142

Valenti A, Horner SV (2019) Leveraging board talent for innovation strategy. J Bus Strateg 41(1):11–18

Verardi V, Dehon C (2010) Multivariate outlier detection in Stata. Stand Genomic Sci 10(2):259–266

Waddock SA, Graves SB (1997) The corporate social performance–financial performance link. Strateg Manag J 18(4):303–319

Wahid AS (2019) The effects and the mechanisms of board gender diversity: evidence from financial manipulation. J Bus Ethics 159(3):705–725

Walker K, Zhang Z, Ni N (2019) The mirror effect: corporate social responsibility, corporate social irresponsibility and firm performance in coordinated market economies and liberal market economies. Br J Manag 30(1):151–168

Wang M, Qiu C, Kong D (2011) Corporate social responsibility, investor behaviors, and stock market returns: Evidence from a natural experiment in China. J Bus Ethics 101:127–141

WEF (2018) The global competitiveness report 2018. http://reports.weforum.org/global-competitiveness-report-2018/ (accessed 8th February 2019)

West RM (2022) Best practice in statistics: the use of log transformation. Res Methods Psychol 18(1):107–118

Wooldridge JM (2010) Econometric analysis of cross section and panel data, 2nd edn. MIT Press, Cambridge, UK

Wooldridge JM (2020) Introductory econometrics: a modern approach, 7th edn. Cengage, Boston

World Bank (2020) The worldwide governance indicators. http://info.worldbank.org/governance/wgi/ (accessed 15th October 2020)

Xie B, Davidson WN III, DaDalt PJ (2003) Earnings management and corporate governance: the role of the board and the audit committee. J Corp Finan 9(3):295–316

Ye K, Zhang R (2011) Do lenders value corporate social responsibility? Evidence from China. J Bus Ethics 104:197–206

Yu J, Xu Y, Zhang JH (2016) The effects of the existence and financial expertise of audit committees on firms' controversial activities—Evidence from IPOs. J Forensic Investig Account 8(3):400–427

Zmijewski ME (1984) Methodological issues related to the estimation of financial distress prediction models. J Account Res 22:59–82