Director Reputation Effects of Environmental and Social Failures

Finance Working Paper N° 952/2024
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Abstract

outflows from sustainable investments (Morningstar, 2025). In this dynamic, high-stakes environment, firms have had to pay increasing attention to their ES activities and disclosures. Concurrently, given their central role in monitoring and advising management to help ensure that firms are run in the best interest of shareholders, boards of directors have faced pressure from investors and other stakeholders to take ES-related actions 1 We use the term "ES failures" to refer to failures that result in negative impacts on natural systems and stakeholders other than shareholders. Unlike "traditional" governance failures (restatements, Accounting and Auditing Enforcement Releases, allegations of wrongdoing, option backdating, etc.), these failures may not directly affect

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Director accountability for environmental and social failures

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Abstract: We examine whether outside directors are held accountable for environmental and social (ES) failures. We find that directors at ES failure firms are more likely to turn over relative to directors at firms without such failures, particularly when failures have negative implications for firm value. However, we find no evidence that turnover following failures is more likely at firms with higher ownership by socially responsible investment funds. These results indicate that director departures following ES failures are primarily driven by shareholders' pecuniary preferences. Furthermore, we do not observe elevated turnover among ES committee members, nor reduced turnover when CEOs also leave the firm, suggesting that oversight of ES matters is a collective responsibility shared by the entire board and management. Differences in votes withheld from directors of failure firms are economically negligible relative to votes withheld from directors of firms without failures. Analyses of changes in other outside board positions show that directors who turn over from failure firms are, on average, worse off following ES failures. They are more likely to lose seats than non-failure directors; few of them obtain new seats at other firms; and those that do gain new seats gain them on less prestigious boards. Collectively, our results suggest that labor market incentives provide some ex ante incentives for directors to effectively manage ES activities and risks.

Keywords: Board of directors; corporate governance; director labor market; shareholder voting; ESG

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1. Introduction

We examine whether outside directors are held accountable for environmental or social (ES) failures.[1] ES issues have been subject to debate among investors, corporate and political leaders, and other stakeholders; at times this discourse has revealed opposing or evolving preferences. ES issues gained greater recognition among capital market participants with the introduction of the United Nations' Principles for Responsible Investment in 2006 (Sloan, 2024; United Nations, 2025), which encourages institutional investors to include ES considerations in their investment strategies. Investment in socially responsible funds that purport to incorporate ES issues into the selection of their portfolio firms and often claim to impact the ES behavior of these firms steadily grew over time (Heath et al., 2023; US SIF, 2022). In turn, corporate and economic leaders made commitments to broaden corporate purpose to include all stakeholders (Business Roundtable, 2019; World Economic Forum, 2019). Regulatory bodies also increased ES-related disclosure requirements; e.g., the Securities and Exchange Commission (SEC) adopted a climate-related disclosure rule (SEC, 2024) and amended Regulation S-K to encourage human capital disclosures (SEC, 2020). Recent geopolitical shifts have led these parties to back away from ES activities, including reversals of the SEC climate disclosure requirements (SEC, 2025) and net outflows from sustainable investments (Morningstar, 2025).

In this dynamic, high-stakes environment, firms have had to pay increasing attention to their ES activities and disclosures. Concurrently, given their central role in monitoring and advising management to help ensure that firms are run in the best interest of shareholders, boards of directors have faced pressure from investors and other stakeholders to take ES-related actions

[1] We use the term "ES failures" to refer to failures that result in negative impacts on natural systems and stakeholders other than shareholders. Unlike "traditional" governance failures (restatements, Accounting and Auditing Enforcement Releases, allegations of wrongdoing, option backdating, etc.), these failures may not directly affect shareholders.

and to include ES risks within boards' risk oversight responsibilities (Amiraslani et al., 2025; Dikolli et al., 2022; Diligent Institute & Spencer Stuart, 2022; Flammer, 2015). Against this background, it is important to understand directors' incentives to guide and monitor management's ES activities.

To evaluate whether outside directors are held accountable for ES failures, we first examine whether directors on boards of firms that experience ES failures are more likely, on average, to turn over than those on boards of comparable firms. Prior literature hypothesizes that the director labor market incentivizes outside directors to develop their reputations as effective monitors and advisors (Fama, 1980; Fama & Jensen, 1983), and demonstrates abnormal director turnover following traditional governance failures (Brochet & Srinivasan, 2014; Carver, 2014; Ertimur et al., 2012; Fich & Shivdasani, 2007; Srinivasan, 2005). Loss of board seats can represent substantial penalties given the monetary and non-monetary benefits (e.g., prestige, social status, power) that accrue to directors (Ertimur et al., 2010; Fich & Shivdasani, 2007; Srinivasan, 2005).[2]

Comprehensive measures of ES failures are not well-established. We construct our measure of ES failures based on incidents tracked by the data provider RepRisk. The sample begins with ES failures in 2008 and ends in 2020. We limit our treatment sample to firm-years in which firms experience at least one incident classified as "severe" by RepRisk. Throughout our analyses, we use entropy-balanced control samples as a benchmark. We identify 583 firm-years with at least one failure, corresponding to 3.6% of firm-years in the pooled sample. We refer to firm-years with ES failures as ES failure firms and to firm-years without ES failures as non-failure firms. We use

[2] These reputation concerns are less salient for inside directors, whose primary motivations arise from executive labor market opportunities, rather than those in the director labor market. Further, inside directors are not tasked with monitoring management but instead with representing management and facilitating information transfer to outside directors. Thus, our analyses focus on penalties for outside directors.

the term ES failure director to refer to an outside director who serves on the board of an ES failure firm at the time of the failure.

We find that directors are 2.6% more likely to turn over from failure firm boards in the two-year window following the failure year relative to directors on boards of non-failure firms. This effect is economically significant, representing a 16% increase over the unconditional turnover probability of 16.2%, and is somewhat comparable to the increase in turnover following governance failures (e.g., 3% after revelations of option backdating (Ertimur et al., 2012) and 4.7% for directors named in class-action lawsuits (Brochet & Srinivasan, 2014)).

A natural question is whether the effect we observe is driven by the same factors that underlie penalties for traditional governance failures. We put forward three (not mutually exclusive) factors that can impact when directors are held accountable for ES failures and conduct cross-sectional analyses to determine the extent to which the three factors play a role. These factors capture several ways in which ES failures differ from traditional governance failures, or the extent to which shareholders care differently about ES failures. As such, in addition to providing insight into differential accountability for directors, these analyses allow us to evaluate whether and how director accountability differs between ES failures and governance failures.

First, we examine whether the probability of turnover varies with the likely value implications of ES failures. Shareholders may hold directors accountable only when ES failures have negative firm value implications, as traditional governance failures do. That is, consistent with findings that trading activity around ESG news is primarily shaped by the financial implications of the news (e.g., Li et al., 2024; Serafeim & Yoon, 2022; Sloan, 2024), shareholders' pecuniary preferences may be the driving force behind turnover. Alternatively, shareholders may act on non-pecuniary preferences for ES oversight (e.g., Hart & Zingales, 2022), or non-

shareholder stakeholders could influence director accountability (e.g., Cheng & Zhang, 2024; Hoi et al., 2019). In such cases, we would observe greater turnover even when value implications of failures are negligible, or positive.

To capture potential value implications of ES failures, we rely on short-window cumulative abnormal returns (CAR) around failure dates and whether the failure is in an area that Sustainability Accounting Standards Board's (SASB) investor-oriented sustainability disclosure standards deem material for the firm's industry. The probability of turnover does not vary based on whether CAR is negative, positive or approximately zero. However, we find that ES failure directors experience higher turnover when failures are in areas classified as material in the SASB standards, consistent with turnover following ES failures being driven by failures with likely negative effects on firm value.

Second, we consider whether the likelihood of turnover following ES failures varies with the proportion of shareholders that (claim to) have socially responsible investment (SRI) preferences. SRI funds continue to have sizeable assets under management ($3.16 trillion globally, $329 billion for US sustainable funds as of March 2025) despite recent record outflows (Morningstar, 2025). To the extent shareholders that invest in sustainable funds care more about ES-related issues than other investors *and* sustainable funds live up to their claims (Curtis et al., 2021; Dikolli et al., 2022; Heath et al., 2023; Michaely et al., 2024), accountability for ES failures will be greater at firms with greater sustainable fund ownership. Such a pattern would also draw a distinction between ES failures and traditional governance failures for which accountability is necessarily driven by shareholders' pecuniary preferences. Using two measures of SRI fund holdings based on Heath et al. (2023) and Bubb and Catan (2021), we do not find evidence that the probability of turnover is higher at firms with greater proportions of ownership by SRI-oriented

funds. Taken together with the results for the cross-sectional analyses that consider implications of ES failures for firm value, these findings suggest that turnover following ES failures is driven by shareholders' pecuniary preferences.

Third, we investigate whether turnover likelihood varies with the degree of perceived responsibility over ES outcomes. Prior studies in the context of traditional governance failures find that accountability is greater for directors who are perceived to have greater responsibility over governance outcomes (e.g., Ertimur et al., 2012; Srinivasan, 2005). In a similar vein, we examine whether directors are more likely to be held accountable for ES failures when they are perceived to have greater responsibility for oversight of ES-related outcomes. However, unlike traditional governance failures, where oversight is allocated to the same specific committee across firms (e.g., financial reporting oversight to the audit committee), responsibility for ES oversight is not standardized across firms (Deloitte, 2025; Diligent Institute & Spencer Stuart, 2022; EY, 2024), and may fall to the board as a whole, even in the presence of an ES committee (Amiraslani et al., 2025). Consistent with the latter explanation, we do not find that ES committee members are more likely to turn over following ES failures than other directors.

An additional explanation for this lack of variation in accountability within the board is that the ultimate responsibility for ES failures rests with management. If that is the case, given that one of the key responsibilities of the board is to hire, assess and fire the CEO (Adams et al., 2010), director turnover from ES failure firms may be attenuated when the CEO turns over. Several studies show that management is indeed held accountable following ES failures (Burke, 2022; Colak et al., 2024; Dai et al., 2023). Instead, we find that ES failure directors are more likely to turn over than directors at non-failure firms only when the CEO turns over as well. This result is

consistent with failures that result in CEO turnover being more egregious and leading to penalties for both managers and directors.

Our examination of director turnover suggests ES failure directors are held accountable at failure firms, especially if ES failures are likely to impact firm value. One challenge with interpreting these results is that ES failure directors may depart voluntarily, perhaps to distance themselves from failures or to avoid investing time and effort in addressing the failures (Dou, 2017; Fahlenbrach et al., 2017; Gao et al., 2017). If turnover following failures is voluntary, it may not represent a meaningful penalty. To assess whether turnover following ES failures is more likely to be involuntary or voluntary, and therefore represents a penalty, we broaden the scope of our analyses to include two additional outcomes: votes withheld from directors at ES failure firms and labor market outcomes for ES failure directors on other boards.

Shareholder dissent in the form of votes withheld from directors at uncontested director elections has emerged as an important performance metric and control system over the past two decades (Aggarwal et al., 2019; Ertimur et al., 2018). Directors facing dissent experience negative consequences both at the focal firm, where they are more likely to move to less prominent positions on the board or leave the board altogether, and in the broader director labor market (Aggarwal et al., 2019). Thus, greater votes withheld from directors following ES failures would suggest that turnover is not voluntary. We find dissent is higher for ES failure directors than for non-failure firm directors. This effect is statistically significant but economically negligible, with failure directors experiencing a penalty of less than 1%, far below the 20% threshold that is believed to be necessary to spur board actions (Del Guercio et al., 2008; Ertimur et al., 2012). Such low levels of dissent are unlikely to lead to involuntary turnover.

At the same time, directors may leave ES failure firms in anticipation of strong shareholder dissent or because of behind-the-scenes pressure from stakeholders. Further, failure directors who leave voluntarily could have poor opportunities in the labor market if, for example, some firms prefer directors who provide strong ES oversight. Thus, consistent with related literature that examines directors' career trajectories following traditional governance failures or poor performance (Brochet & Srinivasan, 2014; Carver, 2014; Ertimur et al., 2012; Fich & Shivdasani, 2007; Srinivasan, 2005), we examine outcomes in the broader director labor market – net reductions in other outside seats at public firms and the probabilities of gaining or losing at least one other outside seat – to help clarify the nature of turnover from failure firms and evaluate whether ES failure directors experience market-wide penalties.

We find that ES failure directors experience worse labor market outcomes than non-failure directors in terms of net reductions in seats on other boards and the likelihood of losing at least one other board seat, but only when they turn over from the ES failure firm. In terms of economic significance, directors who turn over from ES failure firms experience an additional net reduction of 0.6 board seats and are 12% more likely to lose at least one board seat relative to non-failure directors.[3] In addition, while failure directors who turn over are more likely to gain at least one other seat relative to non-failure directors, the seats they obtain are less prestigious than the ones they vacate. Taken together, these results suggest that turnover from ES failure boards represents a penalty for at least some ES failure directors.

Our study contributes to the literature on the director labor market as an *ex post* settling up mechanism. Most prior research on the director labor market as a disciplining mechanism focuses on reputation effects of traditional governance failures and the board's responsiveness to

[3] We also find that ES failure directors who do not turn over appear to experience benefits in the labor market, which suggests that "experience is more important than ability" (Harford & Schonlau, 2013) for some directors.

shareholders' preferences for governance structures (Brochet & Srinivasan, 2014; Ertimur et al., 2012; Ertimur et al., 2010; Fich & Shivdasani, 2007; Srinivasan, 2005), whereas we examine ES failures. We find that directors are held accountable at ES failure firms, but only when the failures have negative firm value implications. These results suggest that, consistent with insights from practitioner surveys (Deloitte, 2025; Diligent Institute & Spencer Stuart, 2022; EY, 2024) and emerging academic literature (Amiraslani et al., 2025; Chu et al., 2024), boards indeed consider ES risks to be within their oversight responsibilities. At the same time, our results show that, even during a period characterized by the rise of stakeholder capitalism, in line with their fiduciary duty, boards continue to prioritize shareholder interests. Further, we find that directors who turn over from failure firms are, on average, worse off following ES failures: they are more likely to lose seats on other boards than non-failure directors; few of them obtain new seats at other firms; and those that do gain new seats gain them on less prestigious boards. All told, our results indicate that market mechanisms are at work, at least for a subset of ES failure directors. That some ES failure directors obtain new, albeit less desirable, board seats is consistent with limited supply for qualified directors (Baer et al., 2023; Knyazeva et al., 2013; Nguyen & Nielsen, 2010), which in turn can limit labor market penalties.

We also contribute to the emerging literature on the roles of ES investments, outcomes, and failures in labor markets. These studies provide initial evidence that ES performance is positively associated with directors' and executives' reputations.[4] Against the backdrop of a dynamic environment where there is pressure on boards of US firms to consider ES activities and

[4] For example, Cullinan et al. (2017) show stronger shareholder support at firms with greater CSR strengths, and Colak et al. (2022) document that executive directors at non-US firms with intense negative ESG media coverage experience a decline in other board seats. Dai et al. (2023) show that corporate social performance enhances CEOs' labor market potential, and Dunham et al. (2022) find that retiring CEOs are rewarded in the director labor market for CSR engagement. Burke (2022) documents a positive association between media coverage of ES issues and CEO turnover.

issues, our study focuses on whether non-executive directors are held accountable for ES failures. We adopt a comprehensive approach in which we examine a broad range of outcomes for outside directors of US firms involved in ES failures. Importantly, unlike most of the prior literature, we focus on ES failures rather than overall ES performance or disclosures. We believe examining failures, rather than levels of ES performance, is particularly important because "greenwashing" can bias measures of ES performance and because rewards for good ES performance may not provide sufficient ex ante incentives to directors. We also provide evidence that shareholders' pecuniary preferences are likely the driving force behind ES oversight. This finding suggests that over our sample period boards provided ES oversight with an eye toward protecting shareholder value, consistent with early original calls for institutional investors to consider ES risks and outcomes in an effort to protect firm value (United Nations, 2025).

2. Measurement of ES failures, data and sample

We use the RepRisk ESG Risk Platform to identify ES failures. RepRisk offers one of the most comprehensive ESG databases, screening thousands of data sources daily to identify ESG issues.[5] RepRisk offers several advantages in our setting over other ESG databases such as MSCI, Sustainalytics, and Refinitiv. First, RepRisk has "universal" coverage of ES incidents: rather than following individual companies, RepRisk monitors a wide range of data sources for ES incidents and captures information when any company experiences a risk incident. Thus, the only meaningful sample restriction imposed by utilizing RepRisk is that the database does not begin until 2007. Second, unlike MSCI and Sustainalytics, RepRisk does not utilize self-disclosed information, nor do they offer firms the opportunity to review, comment on, or request adjustments to ESG data, which likely results in less biased or "greenwashed" information on ES failures.

[5] Examples of data sources include print media, non-governmental organizations, government agencies, regulators, and Twitter.

Finally, between RepRisk and Refinitiv, RepRisk's coverage of environmental incidents is broader. Thus, of the commercially available datasets with broad coverage, we believe RepRisk is a good source of data on ES failures.

We make several key research design choices in constructing our measure of ES failures from the incidents captured by RepRisk, and, correspondingly, constructing our treatment sample. The first key research design choice is which risk incidents to classify as environmental or social failures. RepRisk tracks 28 ESG incident types, not all of which represent environmental or social failures. RepRisk classifies the 28 incident types into six environmental (E), 10 social (S), seven governance (G), and five "cross-cutting" issues. Our classification mirrors that of RepRisk with two differences. First, we categorize only events that unequivocally pertain to agency conflicts between managers and shareholders into the G category.[6] This results in six environmental, 15 social, and two corporate governance incident types. Second, we treat cross-cutting issues as ES failures, because these incidents reflect conflicts with non-shareholder stakeholders.

The second key research design choice we make is to identify which ES incidents are sufficiently impactful that they constitute *failures*. A salient feature of the RepRisk ESG Risk Platform is that it captures every ESG incident "that can translate into financial, reputational, and compliance risks" (RepRisk, 2023); RepRisk does not limit their data collection to significant events that would necessarily rise to the level of failures of (or intentional neglect of) ES oversight. Because our objective is to evaluate whether directors incur reputation penalties for ES failures, it is important that our proxy for ES failures captures incidents that are sufficiently important as to

[6] Specifically, we re-categorize "Corruption, bribery, extortion, money laundering", "Misleading communication (including greenwashing)", "Tax evasion", "Tax optimization" and "Anti-competitive practices" incidents out of the G category into the S category because these issues mostly represent conflicts with non-shareholder stakeholders. Assigning incidents to E, S and G categories requires judgement, and we acknowledge that distinctions among the three categories are not clearcut, though we do observe that our categorization is largely consistent with Refinitiv. For example, Refinitiv classifies tax evasion and anti-competitive practices as social issues. They also include business ethics in the social category, which likely overlaps with "Corruption, bribery, extortion, money laundering".

(potentially) merit a consequence. Similar to other third-party datasets, RepRisk does not provide a mapping to the source of incidents it identifies, making it difficult for researchers to independently assess the significance of the incidents.[7] However, RepRisk rates each incident's severity. Specifically, RepRisk assigns a severity score of low, medium or high to each incident based on an evaluation of the consequences (e.g., the incident caused a minor injury vs. a death), the extent (e.g., the number of individuals harmed), and the source of the incident (e.g., negligence vs. intent vs. systematic action).[8] We rely on RepRisk's severity assessment as a proxy for the significance of the incidents and treat only the highest severity ES incidents as ES failures. While some prior studies treat any incident reported in RepRisk as a negative ESG event, regardless of severity (e.g., Derrien et al., 2022; He et al., 2023; Li & Wu, 2020), we believe the construct in our setting – a true failure of oversight – is best captured by treating only the most severe incidents as ES failures. We discuss this design choice further below. Appendix A provides a descriptive analysis that lends further support to this choice and includes results of related robustness tests.

While firms can experience multiple incidents over a given period, sometimes on a given day, we conduct our analysis at the firm-year level. Therefore, the third key research design choice is how to transform the incident-firm-day level RepRisk observations to firm-year observations. We define *ES failure* as an indicator variable that is equal to one if RepRisk captures at least one

[7] For example, Bisetti et al. (2023) are able to identify news sources for only 46% of the incidents in their RepRisk sample.

[8] In addition to severity, RepRisk assigns each risk incident scores for three additional attributes. These attributes are reach, novelty, and unsharp, which capture the visibility of the information source, whether the ES incident pertains to a recurring issue, and whether the ES incident is precisely defined, respectively. The ESG event proxy in some prior studies combines severity with one or more of these other incident characteristics (e.g., Akey et al., 2023; Burke, 2022; Colak et al., 2024; Harjoto et al., 2022; Kölbel et al., 2017; Martin et al., 2022). Following careful consideration, including private correspondence with RepRisk representatives, we conclude that attributes other than severity do not capture the conceptual construct we are after. We confirm that our results are qualitatively and quantitatively similar when we control for these additional incident attributes (not tabulated).

high severity ES risk incident during the firm-year. This approach trades off some nuance for simplicity; we treat firm-years with multiple failures the same as firm-years with a single failure.[9]

In addition to using RepRisk for our measure of ES failures, in our empirical analyses we rely on Refinitiv ESG for overall ES performance/disclosure scores, BoardEx for board composition and director characteristics, and Compustat and CRSP for firm characteristics and performance. Our sample period begins in 2008 and ends with ES failures in 2020 (note that we measure outcomes through 2022). We start in 2008 because RepRisk's coverage became consistent in 2007 and we require one year of lagged ES failures when constructing the control sample (discussed below). Table 1 summarizes the sample construction process. We begin with the 22,234 firm-years at the intersection of RepRisk, Refinitiv ESG, BoardEx, Compustat and CRSP. [10] We restrict this initial set of firm-years to those for which we have data to perform our main analyses, resulting in 20,530 firm-years. We map firm-incident observations in RepRisk to this firm-year sample which yields 7,701 firm-year observations with at least one RepRisk incident. As we discuss above, we limit the treatment sample to firm-years with at least one ES failure (i.e., firm-years where there is at least one high-severity RepRisk incident), resulting in 583 firm-years, corresponding to 5,910 director-firm-years, our unit of observation.[11]

[9] There is indeed some variation in the number of high-severity incidents firms experience over a year. Table A1 in Appendix A displays the distribution of the number of high severity incidents for firm-years with required data for empirical analyses where we observe at least one high severity incident. The mean (median) number of high-severity incidents in this sample is 1.74 (1). In Appendix A we examine whether directors of firms with multiple high-severity incidents in a given year experience greater reputation penalties.

[10] RepRisk claims to provide universal coverage. Nevertheless, we require that firms included in our sample have identifiers (ISIN or company name) in the RepRisk company identifier file that match to Compustat identifiers, resulting in attrition of 200 firm-years from our final sample. Our results are largely qualitatively and quantitatively similar when we include these firm-years in the control sample. The only exception is the test of turnover conditional on CEO turnover following ES failure—the interaction term is not statistically significant (not tabulated).

[11] The number of treatment observations is comparable to studies that examine director accountability in the context of traditional governance failures: 264 income-increasing restatements in Srinivasan (2005) (~53 per year), 805 lawsuit firms in Brochet and Srinivasan (2014) (~54 per year), and 178 backdating firms in Ertimur et al. (2012) (~59 per year).

Additional key decisions pertain to the construction of the control sample. Clearly, firm-years without incidents (12,829 firm-years) are appropriate to include in the control sample. However, because the process via which RepRisk assigns severity levels is opaque, it is less obvious how we should treat firm-years with incidents that RepRisk assesses to be of low or medium severity. We conduct an incident-firm-year descriptive analysis to guide our thinking (see Table A1 and the accompanying discussion in Appendix A). First, we observe that firm-years where the maximum ES incident severity is low (low-severity subsample) are somewhat prevalent (2,688 firm-years, i.e., about 13% of the firm-years with data available for analyses). These firm-years, in turn, have few low-severity incidents. We therefore include the observations in the low-severity subsample in the control sample.

Second, we note that the 4,430 firm-years where the maximum ES incident severity is medium (medium-severity subsample) are distinct from those in both the low-severity subsample and the treatment sample in terms of the frequency of risk incidents. Specifically, firm-years in the treatment sample have many more risk incidents of all severities than observations in the medium-severity subsample, which in turn have many more risk incidents than firm-years in the low-severity subsample. Given these patterns and the fact that we do not have detailed information on how RepRisk sets the thresholds for severity, we do not include the medium-severity subsample in the control sample. Therefore the control sample is comprised of firm-years with no or only low severity RepRisk incidents.[12] We further exclude from the control sample 46 firm-years where the firm experienced a high severity incident in the previous year. This ensures that delayed reactions to ES failures in the previous year do not contaminate our control sample. This results in a control sample of 15,471 firm-years (118,948 director-firm-years). Thus, in the initial sample, 3.6% of

[12] When we include the medium-severity subsample in either the treatment or control sample our results are qualitatively similar. We discuss these analyses in greater detail in Appendix A.

firm-years (4.7% of director-firm-years) experience an ES failure.[13] Some of our analyses also require additional data restrictions, such as ISS Voting Analytics data or hand-collected data. In Sections 3–5, we discuss the construction of each sample in greater detail and present descriptive information.

Table 2, panel A lists the re-categorized incident types and presents descriptive statistics for the 28 incident types RepRisk tracks for the treatment sample. The most common environmental incidents in our sample are "Impacts on landscapes, ecosystems, and biodiversity" and "Local pollution", with 0.63 and 0.47 incidents for the average failure firm-year observation. "Human rights abuses, corporate complicity" and "Impacts on communities" are the most common social incidents; the average failure firm-year observation has 1.262 of "Human rights abuses, corporate complicity" incidents, corresponding to 736 incidents. Among cross-cutting issues, "Violation of national legislation" (0.81 incidents on average) and "Supply chain issues" (0.56 incidents on average) are relatively frequent.

Table 2, panel B presents the frequencies of ES failures among industries.[14] The "Finance" industry has the largest frequency of failures with 101 failure firm-years, followed by "Other", with 78 failure firm-years. However, these frequencies do not take into account the prevalence of the different industries in the sample as a whole. When we scale the number of ES failures by the number of industry firm-year observations, we observe that the "Energy" and "Consumer Non-durables" industries have the highest proportions of ES failures;11.73% and 11.17% of industry-firm-years have ES failures, respectively.

[13] As a benchmark, the incidence of failures in the overall sample is lower than the prevalence of restatements among SEC registrants, which ranged from 6 to 9% during the period from 2001 – 2020, except for the years immediately following the implementation of Sarbanes-Oxley Act. However, material restatements are much less common and have remained under 30% of all restatements since 2013 (Audit Analytics, 2021). The incidence of failures is also somewhat lower than the 4.7% of firm-years with accounting irregularities documented in Omer et al. (2020).

[14] We use the Fama and French 48-industry classification scheme to construct fixed effects for our regressions but present the descriptive statistics in using the 12-industry classification scheme for parsimony.

3. Director turnover from ES failure firms

3.1. Main analyses of director turnover from ES failure firms

To address whether directors are held accountable for ES failures on average, we first examine director turnover from boards of ES failure firms. Specifically, we compare director turnover in the treatment sample of ES failure firm-years to director turnover in the control sample, as defined in Section 2. For this analysis, we exclude 1,761 directors at non-failure firms from the control sample when they sit concurrently on boards of ES failure firms. Excluding these directors removes potential effects of involvement with an ES failure firm on director turnover at non-failure firms. The resulting treatment and control samples are comprised of 5,910 director-firm-years over 583 firm-years, and 117,187 director-firm-years over 15,471 firm-years, respectively.

As with many observational studies, endogeneity concerns can affect the causal interpretation of our findings. In particular, the estimate of the effect of ES failure on director turnover will be biased if ES failures are nonrandom. To alleviate this concern we employ entropy balancing, which reduces bias by making the treatment and control groups more similar on observable characteristics (Hainmueller, 2012). Entropy balancing assigns continuous weights to each observation in the control sample to match the moments of the covariate distributions to those of the treatment sample. We balance on mean, variance, and skewness.

Because ES failures take place at the firm level, we entropy balance on firm-level determinants of the probability of an ES failure. In a study of firms' remedial actions following major violations of environmental law, labor law or consumer safety rules, Cai et al. (2025) predict that the incidence of these violations varies with firm performance and size. Thus, we include firm performance (*ROA*, *Abnormal returns*) and firm size (ln(*Size*)) as determinants of the probability of ES failures. The size measure also addresses the concern that larger, more visible firms have greater media coverage, which increases the likelihood that the media will report on incidents and

therefore that RepRisk will identify incidents for these firms. We also expect ES failures, like governance failures, to vary with the extent of monitoring. We include variables that capture monitoring by the board *(% Outside directors*, *Board size*) and by shareholders (*Institutional ownership*, *Blockholder*) (e.g., Coles & Hoi, 2003; Del Guercio et al., 2008; Denis & Sarin, 1999; Ertimur et al., 2012; Ertimur et al., 2010; Farrell & Hersch, 2005; Farrell & Whidbee, 2000; Ferris et al., 2003; Fich & Shivdasani, 2007; Yermack, 2004). Finally, to account for the possibility that ES failures are more likely for firms that place less emphasis on ES performance, we identify boards with ES committees using committee titles from BoardEx and keywords identified in Chu et al. (2024) and balance on the presence of an ES-focused board committee at the firm (*ES committee at firm*) as well as the level of ES performance using the Refinitiv combined ES scores, *ES score*. We measure firm-level characteristics for entropy balancing in fiscal year t when ES failures take place.[15] Using the entropy-balanced sample, we estimate the following director-firm-year level logistic regression.[16]

$$Turnover_{it+2} = \alpha + \beta_1 ES\ failure_{it} + \sum Controls_{it} + IndustryFE + YearFE + \varepsilon_t \quad (1)$$

The dependent variable, *Turnover*, is an indicator variable that is equal to one if the director turns over from the board between the annual meeting during the ES failure/non-failure year, which we denote fiscal year t, and the second annual meeting following the ES failure/non-failure year (fiscal year t+2), and zero otherwise (see Figure 1 for the timeline). Following Ertimur et al. (2012), we examine turnover between t and t+2 (rather than between t and t+1). This longer

[15] Entropy balancing can assign large weights to some control sample observations to achieve balance, leading to small sample estimation bias where minor changes to the control sample can significantly alter estimated effects (McMullin & Schonberger, 2022). In our case, the maximum observational weight is 21.9. That is, at the extreme, a single non-ES failure observation is "selected" approximately 22 times to serve as the counter-factual.

[16] We cluster standard errors by firm and use entropy-balanced samples in all analyses. We confirm that results are qualitatively similar when we use linear probability model specifications instead of logit specifications (not tabulated). Appendix B provides detailed variable definitions and data sources.

window allows time for turnover in cases in which (i) the annual meeting in t+1 is relatively close to the ES failure event and (ii) it takes longer for the severity of the failure to be understood.[17] The variable of interest is *ES failure*, an indicator variable that is equal to one for ES failure directors, i.e., directors who sit on the board of a firm with one or more ES failures in fiscal year t. $\beta_1>0$ would be consistent with a penalty that manifests as a higher probability of turnover from boards of ES failure firms. Control variables include the firm-level determinants on which we entropy balance. In addition, following prior studies (e.g., Cai et al., 2009; Ertimur et al., 2012; Ertimur et al., 2018), we control for director characteristics (*New director*, *Female*, *Age>65*, *Tenure*, and *Number of other directorships*) that may be associated with director turnover.[18] We also include Fama and French 48-industry and year fixed effects.

Table 3 reports descriptive statistics for the pooled sample, and separately for the treatment and control samples, before entropy balancing. In the pooled sample, the mean probability of turnover is 16.2%, similar to the turnover frequencies of 16.2% and 15.5% in Ertimur et al. (2010) and Ertimur et al. (2012), respectively. The probability of turnover is higher for ES failure directors than for non-failure directors (18.7% vs. 16.1%, $p<0.01$). Director and firm characteristics are also consistent with Ertimur et al. (2010) and Ertimur et al. (2012), though they systematically differ between the treatment and control samples. Most notably in terms of economic significance, ES failure firms are larger (10.418 vs. 7.700, $p<0.01$) and have larger boards than non-failure firms (~12 vs. ~10 directors, $p<0.01$). This could reflect the fact that larger firms are more likely to

[17] On staggered boards, directors may not be up for re-election for up to three years following the ES failure. Because director turnover tends to occur when directors are up for re-election, our turnover window may understate any penalties for these directors.

[18] In sensitivity tests, reported in Appendix C, we control for negative corporate governance events, in addition to board monitoring. Our results are qualitatively similar.

receive media attention, and therefore more likely to be over-represented in the ES failure sample. Larger firms, in turn, tend to have larger boards.

Table 4, panel A presents the results of estimating Eq. (1). The coefficient of *ES failure* is positive and significant (β_1=0.240, $p<0.05$). This finding is consistent with ES failure directors experiencing turnover more frequently than non-failure directors. In terms of economic significance, as *ES failure* goes from zero to one, holding continuous control variables at their means and indicator variables at their medians, director turnover increases by 2.6%. This is a notable effect, representing a 16% increase over the unconditional turnover probability of 16.2%. It is similar in magnitude to the 3% increase in turnover following revelations of option backdating (Ertimur et al., 2012), though somewhat smaller than the 4.7% increase in the probability of turnover following directors being named in a class-action lawsuit (Brochet & Srinivasan, 2014). We also note that the increased probability of turnover is not unrealistically large; it is much smaller than the effect of age (0.240 compared to 0.804).

The control variables load in the expected directions (e.g., Cai et al., 2009; Ertimur et al., 2012). We find the probability of turnover is lower for female directors and those with a greater number of other directorships, when the firm has better accounting or stock performance, and when the firm is larger. The probability of turnover is higher for older directors, for directors with longer tenures, when the firm has a higher proportion of outside directors, and when the board is larger. We also find greater director turnover at firms with higher ES scores on average.

3.2. Cross-sectional analyses

The results in Section 3.1 show that, on average, director turnover from boards of ES failure firms is higher than turnover from boards of a matched control sample of non-failure firms, consistent with directors being held accountable at ES failure firms. However, as we discuss in the

introduction, it is not obvious that all directors will be held accountable for ES failures. For example, it could be the case that board members are not penalized when ES failures are value-enhancing, or do not harm firm value. In this section we perform cross-sectional analyses in which we examine the potential drivers of the turnover we observe following ES failures. Specifically, we investigate whether directors are more likely to turn over following ES failures when those failures have negative implications for firm value, when shareholders have socially responsible investment preferences, and when board members are less likely to have perceived responsibility for ES outcomes. We also examine the possibility that boards take action by removing CEOs – whom shareholders and stakeholders might believe are ultimately accountable for ES oversight – thereby satisfying their responsibilities to shareholders and reducing their own penalties.

3.2.1. Value implications of ES failures

Actions that increase firm-value are not always socially responsible and vice versa (e.g., Benabou & Tirole, 2010; Gillan et al., 2021; Karpoff, 2021). Given the breadth of ES failures in our sample, it is likely that these failures have varying effects on firm value. Prior literature examining market reactions to disclosures of ESG news find that trading activity is shaped by the implications of the news for firm value (e.g., Li et al., 2024; Serafeim & Yoon, 2022; Sloan, 2024), suggesting that shareholders act in accordance with their pecuniary preferences. To the extent these pecuniary preferences are the driving force behind turnover, we would observe greater turnover from boards of ES failure firms only when failures impact value negatively. Alternatively, if shareholders demonstrate non-pecuniary preferences for ES oversight or if non-shareholder stakeholders influence director penalties (e.g., Cheng & Zhang, 2024; Hoi et al., 2019), we would observe greater turnover even when value implications of failures are negligible, or positive.

Therefore, we first examine whether the probability of turnover varies with the likely value implications of ES failures.

Our first proxy for expected value implications is short-window cumulative abnormal returns (CAR) surrounding ES failures. Prior literature relies on short-window abnormal returns surrounding ES news to capture the direction and magnitude of the change in expectations of firm value at the time of the news (Capelle-Blancard & Petit, 2019; Li et al., 2024; Serafeim & Yoon, 2022; Sloan, 2024). In line with Sloan (2024), we assume the market reaction to ES failures captures financially motivated trading rather than investors' ESG preferences. However, short-window return measures may not capture the long-term value implications of failures if, for example, firms strategically obfuscate underlying information to manage market responses, information about ES failures leaks prior to the window, or the market requires additional time to process news about ES failures into returns (Glossner, 2021). Our second proxy aims to overcome these shortcomings by focusing on whether the failure is in an area that falls under Sustainability Accounting Standards Board's (SASB) investor-oriented sustainability disclosure standards for the firm's industry. SASB standards were designed to identify sustainability issues (specifically, disclosure topics and performance metrics) that are reasonably likely to have a material impact on the operating performance and financial condition of companies in a given industry. As such, ES failures that fall under sustainability issues SASB identifies for the failure firm's industry are more likely to have negative firm value implications (Bochkay et al. (2025) provide a discussion of the development of the standards). Using SASB classifications we find that 444 (4,503) firm-years (director firm-years) from the treatment observations in the initial sample have at least one material SASB failure.

We require additional data to calculate CAR, and, to alleviate concerns related to contaminated event days, we exclude ES failure events that overlap with earnings announcements. This reduces the number of treated firm-years (director-firm-years) to 562 (5,693); the control sample is unaffected.[19] We estimate the following expanded version Eq. (1).

$$Turnover_{it+2} = \alpha + \beta_1 ES\ failure - CAR = 0_{it} + \beta_2 ES\ failure - CAR < 0_{it} + \beta_3 ES\ failure - CAR > 0_{it} + \sum Controls_{it} + IndustryFE + YearFE + \varepsilon_t \quad (2)$$

$$Turnover_{it+2} = \alpha + \beta_1 ES\ failure - SASB_{it} + \beta_2 ES\ failure - nonSASB_{it} + \sum Controls_{it} + IndustryFE + YearFE + \varepsilon_t \quad (3)$$

In Eq. (2) the variables of interest are *ES failure – CAR=0*, *ES failure – CAR<0* and *ES failure – CAR>0*. To define these variables, we proceed as follows. First, similar to Li et al. (2024), we calculate CAR over the three-day window surrounding ES failures (i.e., [-1,+1]) using the Fama French momentum model. For firms that experience more than one high severity incident in a given year, we use the average CAR. Table 3 shows that the returns around ES failure announcements are small; the mean return is 0.001 and the median is zero. Second, we categorize ES failure firm-years into three mutually exclusive groups based on the corresponding CAR and the overall distribution of CAR and create indicator variables that capture each group: (i) *ES failure – CAR=0* equals one for ES failure firms where CAR falls within one decile above and one decile below zero, (ii) *ES failure – CAR<0* equals one for ES failure firms where CAR is more than one decile below zero, and (iii) *ES failure – CAR>0* equals one for ES failure firms where CAR is more than one decile above zero.

The intercept in Eq. (2) captures the outcomes for non-failure directors. If ES failure directors are held accountable only when shareholders perceive ES failures to be value-reducing, we expect $\beta_1=0$ and $\beta_2>0$. If directors are rewarded for failures that result in economic benefits to

[19] We entropy balance the control and treatment samples on firm characteristics as in Section 3.1.

shareholders, we also expect $\beta_3<0$. This pattern of coefficients would be consistent with value implications explaining turnover following ES failures, consistent with the prior literature that finds that investors do not trade on their non-pecuniary preferences for ES outcomes (e.g., Li et al., 2024; Serafeim & Yoon, 2022; Sloan, 2024). $\beta_1>0$ or $\beta_3>0$ would suggest that directors turn over even when there is no reduction in firm value due to ES failures, suggesting that stakeholders act on non-pecuniary preferences, or that non-shareholder stakeholders influence turnover even when the association with shareholder wealth is weak or nonexistent.

In Eq. (3) the variables of interest are *ES failure – SASB* and *ES failure – non-SASB*, indicator variables that capture whether or not, respectively, a given ES failure is considered material for the firm's industry per SASB disclosure standards. To construct these indicator variables, we first create a mapping between RepRisk incident categories and SASB General Issue Categories using descriptions provided by RepRisk and SASB (see Table A6 in the Appendix; note that some RepRisk incidents map to multiple SASB General Issue Categories).[20] We set *ES failure – SASB* equal to one for firm-years with at least one high-severity RepRisk incident that maps to at least one SASB incident category considered to be material for the firm's SASB industry, where we rely on Bochkay et al. (2025) to determine a given firm's SASB industry.[21] We set *ES failure – non-SASB* equal to one if all the ES failures in a given firm-year are non-material per SASB. Table 3 shows that the mean of *ES failure – SASB* is 76.2%; approximately three-fourths of ES failure directors experience at least one failure that is material per SASB disclosure standards. If directors are held accountable only when ES failures are financially material, we expect $\beta_1>0$ and $\beta_2=0$. This pattern would be consistent with value implications, rather than non-pecuniary preferences, driving turnover (e.g., Li et al., 2024; Sloan, 2024).

[20] We obtain descriptions of SASB General Issue Categories from https://sasb.ifrs.org/standards/materiality-finder/.
[21] We thank the authors for sharing the SASB firm classifications.

Model (1) in panel B of Table 4 presents the results from estimating Eq. (2). ES failures with no value effect are not associated with director turnover—β_1=0. Contrary to our expectations, turnover is *positively* associated with ES failures with value-increasing effects (β_3=0.272, p<0.05). Turnover is also positively associated with ES failures with value-decreasing effects (β_2=0.214, p<0.10). Wald tests of differences in coefficients show that none of the coefficients differ from one another. Taken together, these results suggest that the value implications of ES failures, as measured by short-window returns around disclosures of ES failures, do not meaningfully affect the probability of director turnover following ES failures.

We present the results of estimating Eq. (3) in model (2) in panel B of Table 4. We find that the coefficient of *ES failure – SASB* is positive and significant (β_1=0.270, p<0.05) and that of *ES failure non-SASB* is not significantly different from zero (β_2=0.160, p>0.10). While the Wald test shows that the coefficients are not different from one another, the pattern of results—significant turnover effects for SASB-classified failures but not for non-SASB failures—suggests that turnover following ES failures is driven by cases where there are likely to be negative long-term implications of failures for firm value. This finding is consistent with the notion that shareholders of failure firms hold directors accountable for ES failures in accordance with their pecuniary preferences, similar to related findings in prior literature (e.g., Li et al., 2024; Serafeim & Yoon, 2022; Sloan, 2024).

3.2.2. Shareholders' responsible investment preferences

Open-end and exchange-traded sustainable funds continue to have sizeable assets under management ($3.16 trillion globally, $329 billion for US sustainable funds as of March 2025) despite the recent record outflows that have accompanied the increasingly complex geopolitical environment (Morningstar, 2025). These SRI funds state that they incorporate ES factors into their

portfolio selection decisions and often also purport to affect the ES behaviors of their portfolio firms (e.g., Curtis et al., 2021; Heath et al., 2023). Presumably, investors choose to invest in these funds precisely because of these claims, though evidence as to whether sustainable funds indeed deliver on their claims is mixed (Curtis et al., 2021; Dikolli et al., 2022; Heath et al., 2023; Michaely et al., 2024). To the extent shareholders that invest in sustainable funds care more about ES-related issues than other investors *and* sustainable funds live up to their claims, accountability for ES failures, if any, should be greater at firms with greater sustainable fund ownership. Thus, in this section we consider whether the probability of turnover differs based on the level of sustainable fund ownership.

We create two measures of sustainable fund ownership. The first, *SRI fund ownership*, relies on the list of SRI funds identified in Heath et al. (2023). The second, *S/H Reform Party ownership*, is the proportion of firm shares held by "Shareholder Reform Party" funds identified in Bubb and Catan (2021). These mutual funds are more likely than other funds to oppose management on governance reform matters including ES-related proposals. For both measures, we match SRI funds to the CRSP Mutual Fund database and then correspond mutual fund portfolios to individual firms in CRSP to calculate ownership by these funds in our sample firms. We then partition the level of institutional ownership, *Institutional ownership*, into ownership by sustainable funds and ownerships by other institutional owners, *Traditional Institutional Ownership*. We add measures of SRI fund ownership to Eq. (1) and estimate the following director-firm-year level logistic regressions.

$$Turnover_{t+2} = \alpha + \beta_1 ES\ failure_{it} * S/H\ preferences_{it} + \beta_2 ES\ failure_{it} + \beta_3 S/H\ preferences_{it} + \sum Controls_{it} + IndustryFE + YearFE + \varepsilon_t \quad (4)$$

We set *S/H preferences* equal to *SRI fund ownership* or *S/H Reform Party ownership*. A positive coefficient on the interaction term (β_1>0) would be consistent with turnover being more

probable following ES failures at firms with more shareholders with demonstrated ES preferences. The control variables are the same as those in prior analyses, with the exception that we replace the *Institutional Ownership* variable with *Traditional Institutional Ownership*.

Table 3 reports summary statistics for the variables used in this analysis, before entropy balancing. In the pooled sample, the *SRI fund ownership* (*S/H Reform Party ownership*) is 0.266% (2.962%), which is similar to the 0.27% reported in Heath et al. (2023), but smaller than the 3.5% reported in Robinson et al. (2025). Mean SRI fund ownership is higher in firms with ES failures (0.509% in the failure sample compared to 0.254% in the non-failure sample) and this difference is significantly different from zero. Conversely, firms with ES failures have lower mean holdings by Shareholder Reform Party funds than non-failure firms do (1.170% vs. 3.052%, $p<0.01$).

We report the results of estimating Eq. (4) in panel C of Table 4. We do not detect associations between the interaction effects of interest and turnover for either measure of SRI mutual fund in either specification: β_1 is not different from zero. This suggests that turnover is not more probable following ES failures at firms with a greater proportion of ownership by SRI-oriented funds. Perhaps this result is not surprising given the low levels of SRI-fund ownership in our sample and mixed evidence from prior literature as to whether SRI funds support of ES-related proposals (Heath et al., 2023; Michaely et al., 2024). Together with the results in Section 3.2.1 that turnover is more likely when ES failures are more likely to be material, these findings suggest that turnover following ES failures is likely driven by effects of ES failures on firm value.

3.2.3. Responsibility for ES oversight

Prior studies in the context of governance failures find that accountability is greater for directors who are perceived to have greater responsibility over governance outcomes. For example, Srinivasan (2005) shows that audit committee members experience higher turnover and larger

reductions in seats on other boards following accounting restatements than other board members of restatement firms, and Ertimur et al. (2012) finds that members of compensation committees receive more votes withheld and turn over more frequently than other board members following option backdating scandals. In a similar vein, we examine whether directors are more likely to be held accountable for ES failures when they are perceived to have greater responsibility for oversight of ES-related outcomes.

We posit that, on boards with ES committees, stakeholders will hold ES committee members more responsible than other directors, as the board explicitly allocates ES oversight to the members of this committee. However, while for traditional governance failures, it is clear where oversight rests (e.g., financial reporting oversight is within the purview of the audit committee), responsibility for ES oversight is not standardized (Deloitte, 2025; Diligent Institute & Spencer Stuart, 2022; EY, 2024). In fact, Amiraslani et al. (2025) find that overall board risk oversight plays a more dominant role with respect to ES-related accountability mechanisms, policies and outcomes than ES committees. To the extent responsibility for ES oversight falls to boards as a whole, even in the presence of ES committees, we will not detect differences in turnover for members of ES committees. To examine whether ES committee members are more likely to be held accountable for ES oversight than non-members, we identify boards with ES committees using committee titles from BoardEx and keywords identified in Chu et al. (2024). We then construct an indicator variable (*Director on ES committee*) set to one if the board has an ES committee and the director was on the committee at the time of the ES failure.

We expand Eq. (1) to include this measure and estimate the following director-firm-year level logistic regression.

$$Turnover_{it+2} = \alpha + \beta_1 ES\ failure_{it} * Director\ on\ ES\ committee_{it} + \beta_2 ES\ failure_{it} + \beta_3 Director\ on\ ES\ committee_{it} + \sum Controls_{it} + IndustryFE + YearFE + \varepsilon_t \quad (5)$$

A positive coefficient on the interaction term (β_1>0) would be consistent with a higher likelihood of turnover following ES failures for directors with more responsibility for ES oversight via ES committee appointments.[22]

We report summary statistics in Table 3. ES committee appointments are relatively uncommon during our sample period; they are present in only 11.5% of director-firm-years for the entire sample. Interestingly, ES committees are more common in firms with ES failures; they are present in more than 50% of the observations in the ES failure sample, compared to only 9.5% in the control sample. Tests of differences in means confirm that these differences are statistically different from zero. We report the results of estimating Eq. (5) in Table 4, panel D. We do not find evidence that turnover is more probable following ES failures for ES committee members, consistent with accountability for oversight falling to the board as a whole even in the presence of an ES committee (Amiraslani et al., 2025).

More broadly, a potential explanation for this lack of greater accountability for ES failures for board members that presumably have greater responsibility for ES oversight is that the ultimate responsibility for ES failures rests with management. To the extent this is the case, stakeholders will expect boards to hold the CEO accountable following ES failures. Evidence from prior studies is indeed consistent with CEOs being penalized for poor ES outcomes (Burke, 2022; Colak et al., 2024; Dai et al., 2023). In turn, penalties for directors who respond to ES failures by holding CEOs accountable should be attenuated. Alternatively, sufficiently egregious ES failures could lead to

[22] We also estimate an alternative specification in which we limit the analysis to the effect of ES committee membership within failure firms with ES committees. We do not detect differences in the probability of turnover between ES committee members and non-members in this alternative specification.

penalties for both the CEO and the directors. To assess these conjectures, we examine whether turnover differs for ES failure directors when the CEO turns over from the firm during the post-failure window (i.e., between t and t+2). We estimate the following expanded version of Eq. (1).

$$Turnover_{it+2} = \alpha + \beta_1 ES\ failure_{it} * CEO\ turnover_{it+2} + \beta_2 ES\ failure_{it} + \sum Controls_{it} + IndustryFE + YearFE + \varepsilon_t \quad (6)$$

CEO turnover is an indicator variable equal to one if the CEO of the ES failure firm turns over in the two-year window following a failure. The coefficient of interest is that of the interaction term, β_1. $\beta_1<0$ ($\beta_1>0$) would be consistent with lower (higher) director turnover when the CEO turns over. Table 3 shows that CEO turnover occurs in 20.2% of the sample. CEO turnover is more common in firms with ES failures; 22.4% of observations vs. 20.1% (difference=0.023, $p<0.01$).

We report the results of estimating Eq. (6) in Table 4, panel E. We find that ES failure directors are more likely to turn over when CEOs turn over from the failure firm relative to directors at ES failure firms where the CEO does not turn over ($\beta_1=0.356$, $p<0.05$) and to directors at non-failure firms ($\beta_1+\beta_2=0.507$, $p<0.01$, not tabulated). In contrast, when CEOs remain in place after ES failures, we do not detect increased director turnover ($\beta_2=0.151$, $p>0.10$). These results suggest that failures that result in CEO turnover are more egregious failures, and that both directors and CEOs are held accountable in such cases.

4. Other accountability outcomes

The results so far suggest ES failure directors are held accountable at failure firms, in particular when ES failures are likely to impact firm value. However, directors could be leaving boards of ES failure firms voluntarily, perhaps to distance themselves from failures or to avoid investing time and effort in addressing the failures (Dou, 2017; Fahlenbrach et al., 2017; Gao et al., 2017). Such voluntary turnover, while triggered by an ES failure, would not necessarily represent a penalty. To explore whether directors are truly penalized by turnover following ES

failures, we broaden the scope of our analyses to include votes withheld from directors at ES failure firms and labor market outcomes for ES failure directors on other boards.

4.1. Votes withheld at ES failure firms

Votes withheld from directors at uncontested director elections, which reflect shareholder dissent, have emerged as an important performance metric and control system over the past two decades (Ertimur et al., 2018). Shareholder dissent has negative consequences for directors at both the focal firm and in the broader labor market. Directors facing dissent are more likely to depart boards and are moved to less prominent positions on the board; they also have fewer opportunities in the director labor market (Aggarwal et al., 2019). Thus, greater votes withheld from directors following ES failures would suggest that turnover is not voluntary.

To examine the effect of ES failures on votes withheld we construct a sample of outside directors that are up for election at annual meetings. We restrict the initial sample of 16,054 firm-years in Table 1 to firm-years with ISS Voting Analytics coverage in which at least one director is up for election, resulting in 14,909 firm-year observations. We compare votes withheld from directors at the treatment sample of ES failure firm-years to votes withheld from directors at the control sample of non-failure firm-years, as defined in Section 2. We exclude 1,162 directors at non-failure firms from the control sample when they sit concurrently on boards of ES failure firms. This results in a treatment sample of 4,243 director election observations in 537 ES failure firm-years and a control sample of 68,551 director election observations in 14,359 non-failure firm-years. We entropy balance this sample on firm characteristics following the approach in Section 3.1 and estimate the following director-firm-year level ordinary least squares regression.[23]

$$Votes\ withheld_{it+1} = \alpha + \beta_1 ES\ failure_{it} + \sum Controls_{it} + IndustryFE + YearFE + \varepsilon_t \quad (7)$$

[23] In this sample, entropy balance assigns a maximum observational weight of 28.4.

The dependent variable is the number of votes withheld from a director scaled by the number of votes cast (*Votes withheld*).[24] The variable of interest is whether the director is an ES failure director (*ES failure*). $\beta_1>0$ would be consistent with greater votes withheld from directors following ES failures, suggesting that turnover following failures is involuntary, rather than voluntary. As in prior analyses, we control for firm-level characteristics on which we entropy balance and director characteristics that may be associated with votes withheld.

Table 3 reports that the mean (median) percentage of votes withheld is 5.1% (2.0%) in the pooled sample, consistent with shareholder dissent being low, on average, at director elections, as documented in prior literature (e.g., in Cai et al. (2009) and Ertimur et al. (2012) votes withheld from directors average 5.5%). While mean and median votes withheld are statistically lower in the ES failure sample, the differences are economically negligible (-1.1% and -0.2%, respectively). Distributions of control variables and differences between failure and non-failure directors in this subsample are consistent with those in Table 3 (not reported).

Table 5 presents the results of estimating Eq. (7). The coefficient of *ES failure* is positive and significant ($\beta_1=0.006$, $p<0.05$), consistent with lower voting support for ES failure directors than for non-failure firm directors. However, the documented effect is economically negligible: failure directors experience a penalty of approximately one-eighth of average votes withheld (5.1%, reported above). In comparison, Ertimur et al. (2012) find that votes withheld from directors of firms involved in option backdating scandals are almost twice as high as votes withheld from directors of firms not involved in such scandals, and votes withheld of 20% or higher are typically

[24] At firms with a plurality voting election system, shareholders can "withhold" votes from directors up for election to express their dissatisfaction. In an uncontested director election at firms with plurality voting systems, a single vote in favor is sufficient to elect a director; thus, there is no option to vote against directors. In contrast, at firms with a majority voting election system, shareholders can vote "against" a director (see https://www.sec.gov/spotlight/proxymatters/voting_mechanics.shtml). We use the term "votes withheld" to refer both votes withheld and votes against directors at uncontested elections.

considered sufficient dissatisfaction to potentially spur board actions (Del Guercio et al., 2008; Ertimur et al., 2012). These results indicate that voting shareholders do not impose economically meaningful penalties on ES failure directors: Such low levels of dissent are unlikely to lead to involuntary turnover or to negatively impact directors' reputations in the labor market.

The control variables load consistently in all specifications, and in the expected directions (e.g., Cai et al., 2009; Ertimur et al., 2012; Ertimur et al., 2018). We find votes withheld are lower for female board members, when the firm has better operating performance, and when the firm has a greater percentage of outside directors. We find that votes withheld are higher when directors have longer tenures or a greater number of other directorships.

4.2. Labor market outcomes

The results in Section 4.1 suggest that director turnover from ES failure boards may be voluntary. At the same time, it is possible that directors leave proactively in anticipation of a negative vote or as a result of behind-the-scenes pressure from stakeholders. In addition, even if turnover from ES failure boards is voluntary, failure directors could have fewer opportunities in the labor market if, for example, some firms have a preference for directors who provide strong ES oversight, in which case even turnover that is technically voluntary would be consistent with a penalty.[25] In this section, we extend our analysis to outcomes in the broader director labor market. This helps us better understand the nature of turnover at failure firms and, regardless of whether turnover from ES failure boards is voluntary or not, evaluate whether ES failure directors experience market-wide penalties.

[25] Levit and Malenko (2016) model a setting where directors affect their firms' governance, and governance determines firms' demand for new directors. In their setting, directors care about two conflicting types of reputation—management-friendly versus shareholder-friendly—and which type of reputation is rewarded more in the labor market depends on the aggregate quality of corporate governance. Importantly, the authors show that there could be multiple equilibria and a labor market that rewards directors for being shareholder-friendly can coexist with one that rewards directors for being management-friendly. We surmise that, in a similar vein, a labor market that rewards directors for overseeing ES activities can coexist with one that rewards directors for not doing so.

4.2.1. Reductions in other board seats

We first investigate changes in the number of other outside directorships ES failure directors hold following an ES failure. We estimate the following ordinary least squares regression.

$$Reduction\ in\ other\ seats_{it+2} = \alpha + \beta_1 ES\ failure_{it} + \mu_1 Turnover_{it+2} + \sum Controls_{it} + IndustryFE + YearFE + \varepsilon_t \quad (8)$$

The dependent variable, *Reduction in other seats*, is the net change in outside board seats at public firms held by the director (other than the board seat at the ES failure firm). We measure *Reduction in other seats* as the number of seats lost less the number of seats gained (so that higher values translate to greater penalties) over the two-year window we use for *Turnover.* By construction, the *Reduction in other seats* variable could obfuscate some changes in director appointments. For example, *Reduction in other seats* will be zero both for directors that neither gain nor lose seats and for those that gain and lose the same number of seats. To obtain a more complete picture of labor market outcomes for ES failure directors, we use logistic regressions to estimate versions of Eq. (8) where the dependent variable is the probability the director gains (loses) at least one other outside board seat, *Pr(Gain other seat)* (*Pr(Lose other seat)*).[26]

The variable of interest is whether the director is an ES failure director (*ES failure*). A positive coefficient on *ES failure* (β_1>0) would be consistent with a reputation penalty that manifests as a reduction in non-failure firm board seats for directors of firms ES failures. We include the director-level control variables from prior analyses to capture the labor market demand for directors as well as their availability to serve on other boards (*New director*, *Female*, *Age>65*, *Tenure*, and *Number of other directorships*). We also control for whether the director turned over

[26] For the *Pr(Lose other seat)* analysis, we limit the sample to 45,347 director-firm-year observations where the director holds at least one other board seat at the time of ES failure (and therefore has a seat she or he can lose). We rebalance this sample as described in Section 3.1.

from the focal firm (i.e., the ES failure firm or the matched control firm), *Turnover*, because leaving the focal firm's board will increase a director's availability to serve on other boards. We note, however, that, if turnover from ES failure firms results from ES failures, including a measure of turnover in this specification may understate labor market penalties associated with ES failures.

Table 3 reports the distribution of *Reduction in other Seats*, *Pr(Gain other seat)* and *Pr(Lose other seat)* for the pooled, treatment and control samples. The mean *Reduction in other seats* for ES failure directors is 0.023 compared to zero for non-failure directors; the difference is statistically significant, suggesting that failure directors incur a penalty in net board opportunities not observed among non-failure directors. In addition, ES failure directors are, on average, more likely to gain and less likely to lose at least one other outside board seat than non-failure directors.

Table 6, panel A, presents the results from estimating Eq. (8). In model (1) the coefficient of *Reduction in other seats* is negative and significant (β_1=-0.031, $p<0.05$), consistent with ES failure directors being *less* likely to have a net loss in other board seats than non-failure directors, which suggests that, compared to non-failure directors, ES failure directors experience *better* labor market outcomes at other firms following failures. We find that ES failure directors are as likely to gain or lose at least one other outside seat as non-failure directors – β_1 is statistically insignificant in models (2) and (3). Taken together, these results suggest that, compared to non-failure directors, ES failure directors experience *better* labor market outcomes at non-focal firms following ES failures. Notably, the coefficient of *Turnover* is positive in models (1) and (3), but not different from zero in model (2). This is consistent with directors who turn over from the focal firm board leaving the director market and suggests that labor market outcomes following ES failures might differ depending on whether the director turns over from the failure firm. We investigate this possibility in Section 4.2.2. The coefficients of director-level control variables are statistically

significant and load in the expected directions in model (1) but exhibit some variation in significance in models (2) and (3).

4.2.2. Labor market outcomes following turnover from ES failure boards

To the extent turnover following ES failures represents a penalty, we would expect labor market outcomes to be worse for directors who turn over from ES failure boards than for non-failure directors and failure directors who do not turn over following ES failures. To explore whether this is the case, we estimate the following expanded version of Eq. (8).

$$\begin{aligned} Reduction\ in\ other\ seats_{it+2} &= \alpha + \beta_1 ES\ failure - turnover\ at\ failure\ firm_{it} \\ &+ \beta_2 ES\ failure - no\ turnover\ at\ failure\ firm_{it} + \sum Controls_{it} + IndustryFE \\ &+ YearFE + \varepsilon_t \end{aligned} \quad (9)$$

ES failure – turnover at failure firm is an indicator variable equal to one for ES failure directors who turn over from the ES failure board and *ES failure – no turnover at failure firm* is an indicator variable that is equal to one for ES failure directors who do not turn over from the ES failure board. We would conclude that turnover following ES failures is associated with worse labor market outcomes – and therefore represents a penalty – if $\beta_1>0$ and $\beta_1>\beta_2$ where the dependent variable is *Reduction in other seats* or *Pr(Lose other seat)*, and/or if $\beta_1<0$ and $\beta_1<\beta_2$ where the dependent variable is *Pr(Gain other seat)*.

Panel B of Table 6 reports the results. We find that ES failure directors are more likely to experience a net reduction in seats and to lose at least one seat relative to non-failure directors ($\beta_1=0.061$, $p<0.05$ in model (1) and $\beta_1=0.752$, $p<0.01$ in model (3)). These differences are economically meaningful: directors who turn over from ES failure firms experience an additional net reduction of 0.6 board seats and are 12% more likely to lose at least one board seat relative to non-failure directors. Further, compared to ES failure directors who do not turn over, directors who lose their seats on ES failure boards are more likely to experience a net reduction in other

outside seats and to lose at least one other outside seat (see Wald tests of differences in coefficients; difference=0.108, $p<0.01$ in model (1) and difference=0.990, $p<0.01$ in model (3)). In model (2) we observe that ES failure directors who turn over are also more likely to gain at least one other board seat relative to non-failure directors and to ES failure directors who do not turn over (β_1=0.358, $p<0.05$ and $\beta_1 - \beta_2$=0.251, $p<0.10$). This result could suggest some form of benefit. It is also consistent with directors who keep their seats at ES failure firms and non-failure directors not having bandwidth to add seats (note that the intercept captures a combination of non-failure directors who turn over and who remain on focal firms' boards), whereas at least some ES failure directors who turn over being able to replace their lost seats. On balance, the results in panel B suggest that directors who turn over following ES failures experience worse labor market outcomes relative to non-failure directors and to their peers who do not turn over.

Surprisingly, we observe that ES failure directors who do not turn over appear to experience benefits in the labor market. These directors are less likely to experience a reduction in seats and less likely to lose at least one seat than directors at non-failure firms (β_2=-0.047, $p<0.01$ in model (1) and β_2=-0.238, $p<0.05$ in model (3)). One interpretation of these findings is that experience associated with ES failures is valuable in the director labor market. This explanation is consistent with Harford and Schonlau (2013), who find that both value-destroying and value-increasing acquisitions are positively associated with the number of board seats CEOs hold after retirement —that is, acquisition "experience is more important than ability."

The key result from the analyses of broader labor market outcomes—that ES failure directors who turn over experience a net reduction in seats compared to ES failure directors who stay and to non-failure directors—suggests that turnover following ES failures represents a penalty. However, a subset of directors who turn over do gain other board seats, so the question

remains whether these newly-gained seats are more- or less- desirable than failure firm seats. The fact that some ES failure directors secure new, though less desirable, board positions aligns with the notion of a limited supply of qualified directors (Baer et al., 2023; Knyazeva et al., 2013; Nguyen & Nielsen, 2010), which can reduce the severity of labor market consequences. To examine whether seats gained following turnover from ES failure firms are less prestigious than the seats directors lost from failure firms, we construct a sample of ES failure directors who depart ES failure firms during the turnover window and join at least one other board over the same window. We identify 117 newly gained seats—only a small fraction of the 1,108 director-turnover events at ES failure firms. It is noteworthy that the overwhelming majority of failure directors who leave the ES failure firm do not gain new seats over the same period. This indicates that, at least in most cases, turnover from failure firms does not stem from a voluntary move to another board.

Following prior literature, we proxy for the prestige of board appointments using firm size (*Size*), measured as market capitalization (Chen et al., 2022; Dou, 2017; Masulis & Mobbs, 2014), director compensation (*Director compensation*), and the connectedness of board members (*Board connectedness*) (Engelberg et al., 2013; Larcker et al., 2013; Wasserman & Faust, 1994). We use the natural log of director compensation because the distribution is right-skewed. We also examine differences in ES scores between the ES failure firm from which the director turned over and boards directors join to assess whether directors move to firms that place different emphasis on ES issues (*ES score*). We measure *ES score* at the ES failure firm in the year of the director's turnover from the failure firm, and in the appointment year for the new board seat. Sample sizes vary across prestige measures because some of the measures impose additional data requirements or because some of the seats are at firms not included in our sample. For each comparison variable, we require the ES failure director to have lost an ES failure board seat and to have gained a seat at a non-

failure firm. The samples for gained seats are larger than those for lost ES failure seats because directors can gain more than one new directorship.

Table 6, panel C presents tests of differences in means and medians of these four measures. We find that directors who leave ES failure firms obtain new directorships at smaller firms (mean difference=-1.735, $p<0.01$; median difference=-1.659, $p<0.01$), and on boards that are less connected (mean difference=-1.082, $p<0.01$; median difference=-1.066, $p<0.01$). These directors tend to earn less compensation at the new seats compared to ES failure firms (mean difference=-0.509, $p<0.05$; median difference=-0.077, $p>0.10$). The results suggest that directors obtain less prestigious board positions following turnover from ES failure firms—consistent with broader labor market penalties—and reinforce the interpretation that turnover following an ES failure is unlikely to be voluntary. Finally, we note that directors who turn over from ES failure firms tend to place on boards with lower ES scores than the ES failure firms they left (mean difference=-0.168, $p<0.01$; median difference=-0.215, $p<0.01$), consistent with these directors joining boards that either place less emphasis on ES outcomes, or who are seeking ES expertise to improve their ES outcomes. We leave investigations of this phenomenon to future research.

5. Conclusion

We examine whether outside directors are held accountable when their firms experience ES failures. We find that directors at ES failure firms are more likely to turn over relative to directors at firms without such failures, concentrated in cases where ES failures are more likely to harm firm value. We find no evidence that directors are more likely to depart firms with greater proportions of SRI-fund ownership. These findings suggest that turnover is driven by shareholders' pecuniary preferences. Further, we do not observe elevated turnover among ES committee members, nor reduced turnover when CEOs also leave the firm, suggesting that oversight of ES matters is a collective responsibility shared by the entire board and management.

To explore whether turnover following ES failures is more likely to be involuntary than voluntary—and therefore more likely to represent a true penalty—we broaden the scope of our analyses to include votes withheld from directors at uncontested elections and labor market outcomes beyond the ES failure firm. We find that votes withheld from failure directors are higher compared to non-failure directors. However, the economic magnitude of the voting penalty is negligible in both absolute and relative terms (e.g., when compared to governance failures, such as involvement in the option backdating scandal), and therefore unlikely to lead to involuntary turnover. Results from changes in other board seats are nuanced. ES failure directors who do not over from failure boards following ES failures enjoy benefits in the broader labor market in terms of additional board seats, and at least some directors who do turn over gain seats on other boards. One interpretation of these findings is that experience associated with ES failures is valuable in the director labor market (Harford & Schonlau, 2013). However, we find that the small number of directors who turn over from ES failure firm boards and gain other board seats do so at less prestigious firms, suggesting that the turnover we observe at ES failure firms is unlikely to be voluntary. Further, these directors experience an overall reduction in their outside board seats relative to both non-failure directors and to failure directors who remain on the ES failure firms' boards.

Collectively, our results suggest that labor market incentives voting may provide some *ex ante* incentives for directors to effectively manage ES activities and risks. Thus, our findings contribute to the literatures on the director labor market as an *ex post* settling up mechanism. We also contribute to the emerging literature on the roles of ES investments, outcomes and failures in executive and director labor markets; our study focuses on whether the directors are held accountable for monitoring and advising management on environmental and social issues.

Appendix A: RepRisk risk incident characteristics

As we discuss in Section 2, we rely on incidents identified by RepRisk and the RepRisk assessment of incident severity to construct our treatment sample. In this Appendix we provide descriptive analysis of RepRisk incidents we use to inform our research design choices.

Risk incident severities

There are 7,701 firm-year observations with at least one RepRisk incident that meet the data availability requirements for inclusion in the analysis (see Section 2). Table A1 displays the distribution of the number of RepRisk incidents in this sample for subsamples of firm-years where the highest severity level is high (high-severity subsample), medium (medium-severity subsample), or low (low-severity subsample). Our treatment sample is comprised of the high-severity subsample of 583 firm-year observations. In a given year, these firms experience, on average, 1.7 high-severity incidents; the 75th percentile is 2 incidents, indicating that relatively few firm-years have more than one high severity incident. The firms in this subsample also experience a high level of other, lower-severity, incidents with a mean (median) of 12.2 (7) medium-severity and 23.4 (10) low-severity incidents.

Table A1 shows that the maximum incident severity in a firm-year is medium for 57% of the firm-year observations with at least one RepRisk incident (4,430 out of 7,701). The firms in this subsample experience 3.1 medium-severity and 5.2 low-severity incidents per year, on average. These frequencies of medium- and low-severity incidents are markedly lower than the corresponding frequencies of medium- and low-severity events in the high-severity subsample: firms in the high-severity subsample experience, on average, four times as many medium severity incidents per year than those in the medium-severity subsample. We exclude firms in this subsample from both the treatment and control samples.

Finally, Table A1 demonstrates that about 35% of the observations fall in the low-severity subsample. The mean number of low-severity incidents per year in this subsample is 1.9, which is much lower than in either the medium- or high-severity samples; firms in the medium-severity subsample experience, on average, more than twice as many low-severity incidents as the low-severity subsample. The low frequency of any incidents in firm-years with only low-severity events lends support to our decision to treat firm-years in the low-severity subsample as potential control observations.

Alternative treatment and control samples

Because there is no empirical bright line guiding our treatment of medium-severity incidents, we perform alternative versions of our primary analysis in which we treat firms in the medium-severity subsample as treatment or control observations. Table A2 presents the results from estimating Eq. (1) where we include the medium-severity subsample in either the control (model (2)) or treatment sample (model (3)). For ease of comparison, we also present results from the original specification, where we exclude the medium severity subsample entirely (model (1)). The results are consistent across the columns, though the coefficient of *ES failure* is smaller when we include medium-severity events in either the control or treatment samples. These results are consistent with the repercussions of medium-severity incidents being weaker than repercussions of high-severity events.

Frequencies of RepRisk incident types for different subsamples

To provide additional transparency on how our research design choices affect the sample composition, in Table A3 we provide descriptive information on the frequencies of RepRisk incident types for different samples. First, we focus on the effects of attrition resulting from data requirements. The first column of Table A3 presents the mean frequency of each RepRisk incident type across severity levels for the 17,214 firm-years in RepRisk with Compustat identifiers. Requiring Compustat identifiers allows us to organize the RepRisk data into firm-years (RepRisk does not provide fiscal-year ends) and limits the sample to firm-year observations with public equity or debt. In the second column, we further condition on data availability for inclusion in our sample (i.e., data from Refinitiv ESG, BoardEx and CRSP and data necessary to calculate regression variables, 7,701 firm-year observations). We note that the mean frequencies of incident types are similar between these two columns, suggesting that conditioning on data necessary for analyses does not meaningfully affect the distribution of incident types.

Second, we examine whether the mean frequencies of incident types differ across the high-, medium-, and low-severity subsamples. This, in turn, allows us to evaluate the extent to which limiting the failure treatment sample to firm-years with at least one high-severity incident and including the firm-years with low severity incidents in the control sample impacts the distribution of underlying incidents. In column (3), we present the frequencies of incident categories in cases only for high severity events; i.e., for our treatment sample of 583 firm-years. The information in this column is the same information presented in in Table 2, panel A. In columns (4) and (5) we present frequencies of incidents where the maximum severity level is medium or low, respectively. Here we note that RepRisk is more likely to categorize certain types of controversies, specifically social controversies, as high-severity than medium- or low-severity. For example, incidents related to child labor, forced labor, and human rights abuses are more prevalent in the high-severity sample than the sample based only on data availability (column (2)), and are more prevalent in the high-severity sample than in firm-years where the maximum incident severity is medium or low. In contrast, incidents in the environmental, governance, and cross-cutting categories are less prevalent in the high-severity sample.

Serial violations

The pattern of clustering of medium- and low-severity incidents with high-severity incidents evident from Table A1 raises the possibility that firms that fall in the high-severity subsample are "serial violators" and high-severity failures are inherent to firm type. To explore this possibility, we examine the number of years a given firm falls in this category. We first limit the subsample of high-severity firms to those for which we have at least three years of data over our sample period, reducing the sample size from 583 to 579 firm-year observations, corresponding to 227 unique firms. A majority of these firms do not appear to be "serial offenders" – 147 firms have only one or two firm-years with high-severity ES incidents (see Figure A1).

While most firms do not regularly experience high-severity ES incidents, 41 of the 227 firm-years in this subsample have ES failures in 5 or more firm-years. A natural question is whether reputation penalties differ for repeat offenders. Penalties for first and subsequent failures could differ for several reasons. For example, to the extent pressure from stakeholders leads to director turnover at ES failure firms in one period, boards may be constrained from penalizing additional members in a subsequent period, as replacing directors is costly (e.g., Knyazeva et al., 2013). In this case,

penalties for subsequent failures would be weaker than for initial failures. This would also be the case if shareholders believe changes to the board will affect ES oversight slowly over time. Alternatively, penalties for subsequent failures could be stronger than for initial failures if shareholders view repeated failures as systematic problems.

To perform this analysis, we construct two mutually exclusive indicator variables, *ES failure – first* and *ES failure – subsequent* that capture whether the ES failure is the first or a repeated failure in a three-year window. This sample begins in 2009 because we require three years of failures to construct the three-year window (i.e., t-2 through t). We entropy balance each subsample and estimate director-firm-year level regressions with standard errors clustered by firm. We would conclude that first failures lead to weaker (stronger) penalties than subsequent failures if the coefficient of *ES failure – first* is smaller (larger) than the coefficient of *ES failure – subsequent*. Table A4 presents the results. Wald tests of differences between the coefficients of *ES failure – first* and *ES failure – subsequent* are not statistically significant. Thus, we do not find evidence of differing penalties for first and subsequent ES failures.

Appendix B: Variable definitions and sources

Variable	Description and source(s)
Outcome variables	
Turnover	An indicator variable equal to one if the director loses her or his board seat, and zero otherwise. We measure turnover between the annual meeting during the ES failure/non-failure year (fiscal year t) and the second annual meeting following the ES failure/non-failure year (fiscal year t+2). Source: BoardEx
Votes withheld	The number of votes withheld from a director scaled by the number of votes cast. Source: Voting Analytics
Reduction in other seats	Net decrease in other outside directorships at public firms (i.e., the number of seats lost less the number of seats gained) measured over the same window as director turnover (e.g., number at fiscal year t less number at fiscal year t+2). Source: BoardEx
Pr(Gain other seat)	An indicator variable equal to one if the director gains at least one board seat at a public firm over the same window as director turnover, and zero otherwise. Source: BoardEx
Pr(Lose other seat)	An indicator variable equal to one if the director loses at least one board seat at a public firm over the same window as director turnover, and zero otherwise. Director must have at least one other seat in fiscal year t. Source: BoardEx
Director compensation	The natural log of (total director compensation, in '000s + 0.001). Sources: BoardEx, Execucomp and hand-collection
Board connectedness	Composite measure of connectedness in the annual board of director networks based on degree centrality, eigenvector centrality, betweenness centrality, and harmonic centrality (variant of closeness centrality). We first construct annual networks using firms as the nodes and shared directors as the edges or links. We calculate degree centrality, eigenvector centrality, and betweenness centrality following Omer et al. (2020), and harmonic centrality following Marchiori and Latora (2000). We then compute *Board connectedness* as the first principal component from a principal component analysis of the four centrality measures. Source: BoardEx
Variables of interest	
ES failure	An indicator variable equal to one for directors at firms with ES failures, and zero otherwise. We classify firms as having an ES failure if RepRisk identifies at least one high-severity environmental, social, or cross-cutting incident during a fiscal year. Sources: BoardEx and RepRisk
ES failure – CAR	Average three-day cumulative abnormal return around ES failures for the fiscal year. Cumulative abnormal returns are estimated using Fama–French 3-factor plus momentum model. Variable is set to zero for directors at non-failure firms. Sources: BoardEx, RepRisk, and CRSP
ES failure – CAR = 0	An indicator variable set to one for directors at firms with ES failures where *ES failure – CAR* falls within a narrow range: specifically, within one decile above and one decile below zero CAR among the distribution of treated firms. This variable identifies directors at firms experiencing near-zero market reactions to ES failure events. Source: BoardEx, RepRisk, and CRSP
ES failure – CAR < 0	An indicator variable set to one for directors at firms with ES failures where *ES failure – CAR* is negative: specifically, below the threshold defined by one decile beneath zero CAR among the distribution of treated firms. This variable identifies directors at firms experiencing negative market reactions to ES failure events. Source: BoardEx, RepRisk, and CRSP

Variable	Description and source(s)
ES failure – CAR > 0	An indicator variable set to one for directors at firms with ES failures where *ES failure – CAR* is positive: specifically, exceeding the threshold defined by one decile above zero CAR among the distribution of treated firms. This variable identifies directors at firms experiencing positive market reactions to ES failure events. Source: BoardEx, RepRisk, and CRSP
ES failure – SASB	An indicator variable set to one for directors at firms with ES failures where the failure is considered material for the firm's industry per SASB standards, and zero otherwise. Source: https://sasb.ifrs.org/standards/materiality-finder/
ES failure – non-SASB	An indicator variable set to one for directors at firms with ES failures where the failure is not considered material for the firm's industry per SASB standards, and zero otherwise. Source: https://sasb.ifrs.org/standards/materiality-finder/
SRI fund ownership	Percentage of firm shares held by mutual funds identified as socially responsible investing (SRI) funds in Heath et al. (2023). Source: CRSP
S/H Reform Party ownership	Percentage of firm shares held by mutual funds identified as "Shareholder Reform Party" funds in Bubb and Catan (2021). Source: CRSP
Director on ES committee	An indicator variable equal to one for directors who serve on ES-related committees, and zero for all other directors. Sources: BoardEx and RepRisk
CEO turnover	An indicator variable equal to one if the CEO turns over, and zero otherwise. We measure CEO turnover in the same window as director turnover. Source: BoardEx
ES failure – turnover at failure firm	An indicator variable equal to one for directors at firms with ES failures who lose her or his board seat, and zero otherwise. Sources: BoardEx and RepRisk
ES failure – no turnover at failure firm	An indicator variable equal to one for directors at firms with ES failures who do not lose her or his board seat, and zero otherwise. Sources: BoardEx and RepRisk
ES failure – first	An indicator variable equal to one for directors at firms where the ES failure is the first failure in a three-year window (i.e., firm did not have ES failures in t-1 or t-2), and zero otherwise. This variable identifies directors at firms experiencing the first ES failure in recent years. Sources: BoardEx and RepRisk
ES failure – subsequent	An indicator variable equal to one for directors at firms where the ES failure is a repeated failure in a three-year window (i.e., firm also had ES failures in t-1 or t-2), and zero otherwise. Sources: BoardEx and RepRisk
Control variables	
New director	An indicator variable equal to one if the director is in his or her first year on the board, and zero otherwise. Source: BoardEx
Female director	An indicator variable equal to one for female directors, and zero otherwise. Source: BoardEx
Age>65	An indicator variable equal to one if the director is older than 65 at the time of the annual meeting, and zero otherwise. Source: BoardEx
Tenure	Number of years the director has been on the board at the time of the annual meeting. Source: BoardEx
Number of other directorships (abbreviated as *N other directorships*)	Number of other boards at public firms on which the director serves as an outside director in the year of the annual meeting. Source: BoardEx

Variable	Description and source(s)
ES committee at firm	An indicator variable equal to one for firms that have at least one board committee responsible for ES-related activities, and zero otherwise. We follow a similar approach to (Chu et al., 2024) to identify ES committees. Source: BoardEx
% Outside directors	Percentage of outside directors sitting on the board at the time of the annual meeting. Source: BoardEx
Board size	Number of directors sitting on the board at the time of the annual meeting. Source: BoardEx
ROA	Earnings before extraordinary items (Compustat data item *ib*) scaled by average total assets. Source: Compustat
Abnormal returns	One-year cumulative abnormal return (CAR). Source: CRSP
Institutional ownership	Percentage of firm shares owned by institutional investors. Source: Thomson Reuters Institutional (13f) Holdings
Blockholder	An indicator variable that is equal to one if there is at least one institution that owns at least 5% of the firm's equity based on 13-F filings, and zero otherwise. Source: Thomson Reuters
Size	Natural log of market value of equity. Source: Compustat
ES score	Composite score from Refinitiv for environment and social performance. Source: Refinitiv.
Traditional institutional ownership	Component of total institutional ownership that is not owned by sustainable funds. Sources: Thomson Reuters Institutional (13f) Holdings, CRSP
Governance failure	An indicator variable set to one if RepRisk identifies at least one high-severity governance incident during a fiscal year, and zero otherwise. Sources: BoardEx and RepRisk
Any ISS withhold recommendation	An indicator variable equal to one if at least one director on the firm who is up for election received a withheld recommendation from ISS at the annual meeting, and zero otherwise. Source: Voting Analytics

Appendix C: The role of governance issues

One concern with our analyses is that traditional governance oversight, i.e., oversight intended to address the classic agency problems associated with the separation of ownership and control at public firms, may be correlated with ES oversight, and differences in the outcomes we observe are attributable to traditional governance failures rather than to ES failures. In our main analyses we include variables that capture monitoring by the board (*% Outside directors* and *Board size*) and by large shareholders (*Institutional ownership* and *Blockholder*), as firms with stronger monitoring environments should be less likely to experience governance failures. In this Appendix, we expand our proxies for monitoring to include two variables that capture governance *problems* as additional controls, though each suffers from a unique research design concern, which is why we do not include them in our primary analyses.

The first proxy is an indicator variable set to one if RepRisk identifies a severe corporate governance incident in year t (*Governance failure*). As RepRisk only identifies two types of governance incidents – "Executive compensation issues" and "Fraud" – this measure likely understates the frequency of corporate governance failures. In the pooled sample, 1% of firms have a governance failure (not tabulated). These failures occur only in the treatment sample (24% of ES failure firms; not tabulated), suggesting that serious governance incidents consistently occur with severe environmental and social incidents in the same year. However, the majority of ES failures do not coincide with governance failures.

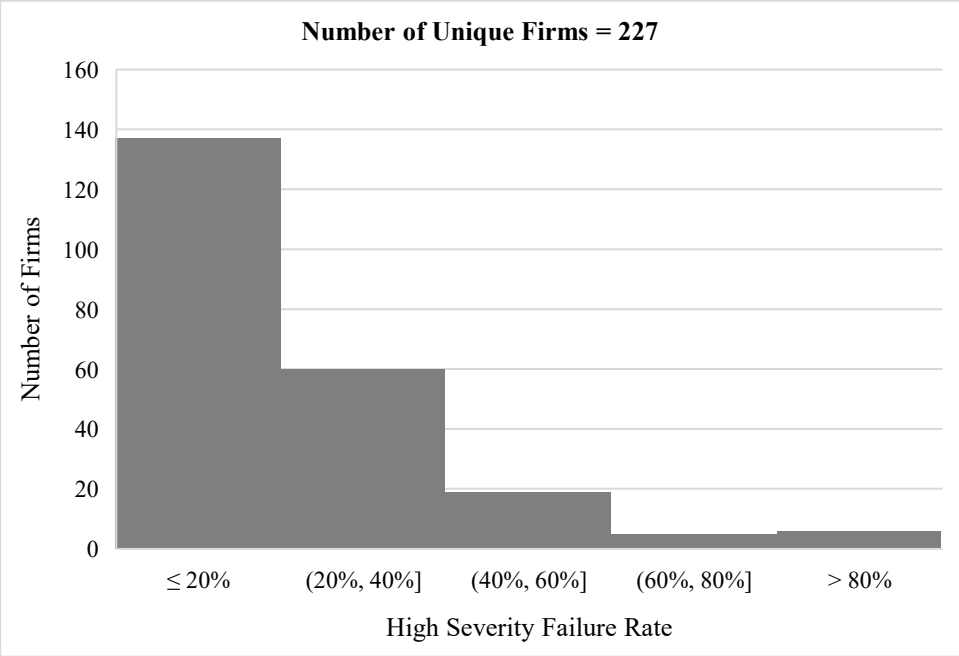
The second proxy is ISS withhold recommendations. Prior literature demonstrates that ISS, the most prominent proxy advisor, recommends withholding votes for an array of governance issues and that these recommendations are economically and statistically significantly associated with voting outcomes (Ertimur et al., 2018). Because not all directors are up for election in a given year at firms with staggered boards, we instead define a variable that captures ISS withhold recommendations at the firm-year level. ISS withhold recommendations can reflect director-, committee-, or board-level concerns, but we cannot determine the underlying rationale for ISS's withhold recommendations without access to their reports. Thus, this measure is a noisy measure of the effect of ISS withhold recommendations on individual director turnover.[28] We set an indicator variable to one if at least one director who is up for election receives a withhold or against recommendation for a given firm-year (*Any ISS withhold recommendation*). In the pooled sample, 17% of firms have at least one ISS withhold recommendation; withhold recommendations are less common in the treatment sample than the control sample (5% vs. 17%, $p<0.01$; not tabulated).

We reperform our multivariate tests by expanding Eqs. (1)-(9) to include these controls for governance events. Table A5, panel A presents the results of the main analyses of turnover. For

[28] ISS withhold recommendations could also reflect ES failures, in which case we would understate the reputation penalties of ES failures when including ISS withhold recommendations as a control variable. While ISS did not explicitly incorporate ES-related considerations into its proxy voting guidelines for director elections until the 2021 proxy season (Institutional Shareholder Services, 2020), ISS did discuss risk oversight considerations beginning in 2012 (Institutional Shareholder Services, 2012), which may have included oversight of risks related to environmental and social activities. To test whether ES failures affect ISS voting recommendations, we replace the dependent variable in Eq. (1) with *Any ISS withhold recommendation*. We do not detect a statistically significant association between *ES failure* and *Any ISS withhold recommendation*. Thus, ISS withhold recommendations appear to capture governance, rather than ES, concerns during our sample period.

parsimony, we present the coefficients of interest and significance levels for the cross-sectional turnover analyses in panel B, and those for the votes withheld and reduction in other board seats analyses in panel C, and present only the specifications in which we include both governance control variables simultaneously. Including these controls does not change the inferences from any analyses; the coefficients of the ES failure variables of interest remain statistically significant in the same direction as in the analyses in Tables 4-6 when we include one or both of these measures as controls. The coefficients of *Governance failure* and *Any ISS withhold recommendation* are not statistically significant in any specification.

Figure A1: Frequency of high severity ES failures per firm



High-Severity Failure Rate	Number of Unique Firms
One ES failure year	102
Two ES failure years	45
3-4 ES failure years	39
5-6 ES failure years	25
More than 6 ES failure years	16
	227

Table A1: Clustering of RepRisk incidents

	Mean	S.D.	P5	P25	Mdn	P75	P95
High-severity subsample (N=583)							
# high severity incidents per year	1.744	1.580	1.000	1.000	1.000	2.000	5.000
# medium severity incidents per year	12.161	14.062	0.000	3.000	7.000	16.000	42.000
# low severity incidents per year	23.360	35.133	0.000	3.000	10.000	27.000	95.000
Medium-severity subsample (N = 4,430)							
# medium severity incidents per year	3.060	4.190	1.000	1.000	2.000	3.000	10.000
# low severity incidents per year	5.178	10.931	0.000	0.000	2.000	6.000	20.000
Low-severity subsample (N = 2,688)							
# low severity incidents per year	1.939	2.177	1.000	1.000	1.000	2.000	5.000

This table presents the distribution of the number of RepRisk incidents by severity for the 7,701 firm-year observations with at least one RepRisk incident and have the data necessary for analysis (see sample selection in Table 1). The high-severity subsample (N = 583) includes firm-years where the highest severity level of an incident is high. The medium-severity subsample (N = 4,430) includes firm-years where the highest severity level of an incident is medium. The low-severity subsample (N = 2,688) includes firm-years where the highest severity level of an incident is low.

Table A2: Turnover and ES failures – main effects with different dispositions of the medium-severity subsample.

Medium severity ES failures are:	Excluded (same as Table 4, panel A)		Included in the control sample		Included in the treatment sample	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Variable	(1)		(2)		(3)	
ES failure	0.240**	2.48	0.152**	2.40	0.096*	1.93
New director	-0.265	-1.31	-0.096	-0.80	-0.149**	-1.98
Female	-0.194**	-2.32	-0.205***	-3.65	-0.146	-1.58
Age>65	0.804***	12.27	0.845***	14.32	0.793***	17.91
Tenure	0.049***	8.60	0.053***	12.21	0.041***	9.88
N Other directorships	-0.093***	-2.76	-0.105***	-3.82	-0.099***	-3.68
ES committee at firm	-0.014	-0.15	-0.036	-0.51	0.038	0.69
Outside directors	1.918***	2.74	2.475***	3.68	1.926***	5.52
Board size	0.111***	6.16	0.112***	7.31	0.084***	6.94
ROA	-1.003*	-1.86	-1.390***	-3.18	-1.567***	-7.03
Abnormal returns	-0.385***	-2.73	-0.336**	-2.57	-0.218***	-3.69
Institutional ownership	-0.002	-1.03	-0.002	-0.73	0.000	0.05
Blockholder	-0.048	-0.39	-0.230**	-2.13	-0.304***	-3.30
Size	-0.074*	-1.80	-0.072**	-2.11	-0.063***	-2.72
ES score	0.696*	1.87	0.545	1.60	0.284	1.58
Observations	123,097		160,522		143,523	
Pseudo R-squared	0.04		0.05		0.05	
Fixed effects	Industry, Year		Industry, Year		Industry, Year	

Table A3: Categories of risk incidents by ES failure severity

Category	Incident type	All firm-years in RepRisk with Compustat identifiers	Conditioned on data availability	Max failure severity for firm-year: High	Max failure severity for firm-year: Medium	Max failure severity for firm-year: Low
		(1)	(2)	(3)	(4)	(5)
Environmental	Animal mistreatment	0.042	0.037	0.027	0.040	0.035
	Impacts on landscapes, ecosystems, and biodiversity	0.723	0.643	0.633	0.872	0.266
	Climate change, GHG emissions, and global pollution	0.362	0.312	0.333	0.408	0.151
	Local pollution	0.539	0.539	0.468	0.718	0.261
	Waste issues	0.203	0.210	0.206	0.285	0.088
	Overuse and wasting of resources	0.067	0.072	0.094	0.099	0.023
Social	Child labor	0.110	0.101	0.384	0.119	0.011
	Discrimination in employment	0.113	0.155	0.134	0.196	0.092
	Forced labor	0.132	0.131	0.487	0.147	0.027
	Freedom of association and collective bargaining	0.097	0.113	0.156	0.158	0.029
	Human rights abuses, corporate complicity	0.573	0.568	1.262	0.653	0.278
	Impacts on communities	0.836	0.777	0.702	1.057	0.331
	Local participation issues	0.197	0.136	0.166	0.198	0.029
	Occupational health and safety issues	0.256	0.295	0.434	0.372	0.137
	Poor employment conditions	0.306	0.381	0.533	0.480	0.186
	Social discrimination	0.032	0.040	0.055	0.034	0.046
	Anti-competitive practices	0.185	0.186	0.019	0.212	0.179
	Corruption, bribery, extortion, money laundering	0.326	0.261	0.293	0.326	0.146
	Misleading communication	0.247	0.225	0.322	0.304	0.074
	Tax evasion	0.091	0.092	0.096	0.135	0.019
	Tax optimization	0.124	0.210	0.017	0.358	0.009
Cross-cutting	Controversial products and services	0.450	0.354	0.324	0.483	0.149
	Products (health and environmental issues)	0.214	0.274	0.115	0.313	0.244
	Supply chain issues	0.301	0.364	0.564	0.427	0.216
	Violation of international standards	0.158	0.132	0.204	0.182	0.032

Category	Incident type	All firm-years in RepRisk with Compustat identifiers	Conditioned on data availability	Max failure severity for firm-year: High	Max failure severity for firm-year: Medium	Max failure severity for firm-year: Low
		(1)	(2)	(3)	(4)	(5)
	Violation of national legislation	1.135	1.252	0.811	1.551	0.854
Governance	Executive compensation issues	0.034	0.030	0.007	0.044	0.012
	Fraud	0.375	0.387	0.280	0.485	0.249
Number of firm-years		17,214	7,701	583	4,430	2,688

This table presents the distributions of ES failures by RepRisk incident type for different firm-year samples. Column (1) includes all firm-years with Compustat identifiers that have at least one risk incident of any severity level reported in RepRisk (N = 17,214). Column (2) conditions the sample on data availability necessary to construct the variables used in the multivariate analyses (N = 7,701). Columns (3)-(5) parses the conditioned sample into subsamples based on the highest severity level per firm-year.

Table A4: Multivariate test of director turnover as a function of repeated ES failures

		Turnover	
	Coefficient		t-statistic
Variable		(1)	
ES failure – first	0.263***		2.67
ES failure – subsequent	0.291**		2.41
New director	-0.325		-1.49
Female	-0.218***		-2.59
Age>65	0.804***		11.39
Tenure	0.049***		8.64
N Other directorships	-0.113***		-3.04
ES committee at firm	0.014		0.16
% Outside directors	1.829***		2.58
Board size	0.104***		5.93
ROA	-1.342**		-2.07
Abnormal returns	-0.260*		-1.86
Institutional ownership	-0.003		-1.02
Blockholder	0.006		0.05
Size	-0.081**		-2.00
ES score	0.907**		2.41
Observations		123,097	
Pseudo R-squared		0.04	
Fixed effects		Industry, Year	
Wald tests	Difference		χ^2
ES failure – first vs. subsequent	-0.028		0.08

This table reports the results for director turnover for first and subsequent ES failures in a three-year rolling window. The sample begins in 2009 because we require two years of RepRisk data to construct the three-year window. *ES failure – first* is an indicator variable equal to one for directors at firms where the ES failure is the first failure in a three-year window, and zero otherwise. *ES failure – subsequent* is an indicator variable equal to one for directors at firms where the ES failure is a repeated failure in a three-year window, and zero otherwise. The remaining covariates are defined in Table 3 and Appendix B. All regressions include fixed year and industry effects and standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table A5: Multivariate tests of the association between ES failures and reputation penalties including controls for corporate governance issues

Panel A: Turnover and ES failures controlling for corporate governance issues

	Turnover		*Turnover*		*Turnover*	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Variable	(1)		(2)		(3)	
ES failure	0.252**	2.55	0.233**	2.46	0.246**	2.53
Governance failure	-0.055	-0.55			-0.056	-0.55
Any ISS withhold recommendation			-0.221	-1.03	-0.221	-1.03
New director	-0.266	-1.31	-0.267	-1.32	-0.267	-1.31
Female	-0.193**	-2.32	-0.195**	-2.34	-0.194**	-2.33
Age>65	0.804***	12.27	0.802***	12.25	0.803***	12.26
Tenure	0.049***	8.60	0.049***	8.60	0.049***	8.59
N Other directorships	-0.092***	-2.76	-0.092***	-2.75	-0.092***	-2.75
ES committee at firm	-0.010	-0.11	-0.024	-0.26	-0.020	-0.22
% Outside directors	1.901***	2.68	1.849***	2.62	1.831**	2.57
Board size	0.111***	6.17	0.112***	6.27	0.112***	6.27
ROA	-1.011*	-1.89	-1.032*	-1.90	-1.039*	-1.92
Abnormal returns	-0.390***	-2.78	-0.372***	-2.70	-0.377***	-2.75
Institutional ownership	-0.002	-1.02	-0.003	-1.13	-0.003	-1.12
Blockholder	-0.051	-0.41	-0.052	-0.44	-0.055	-0.46
Size	-0.072*	-1.76	-0.078*	-1.95	-0.076*	-1.91
ES score	0.701*	1.89	0.676*	1.83	0.680*	1.84
Observations	123,097		123,097		123,097	
Pseudo R-squared	0.04		0.04		0.04	
Fixed effects	Industry, Year		Industry, Year		Industry, Year	

Panel B: Coefficients and significance levels of ES failure and governance proxies for cross-sectional tests of turnover

	Turnover (1)	*Turnover* (2)	*Turnover* (3)	*Turnover* (4)	*Turnover* (5)	*Turnover* (6)
ES failure – CAR=0	0.193					
ES failure – CAR<0	0.217*					
ES failure – CAR>0	0.270**					
ES failure – SASB		0.287***				
ES failure – non-SASB		0.158				
ES failure × SRI fund ownership			-0.054			
ES failure × S/H Reform Party ownership				-0.053		
ES failure × Director on ES committee					0.179	
ES failure × CEO turnover						0.360**
Governance failure	-0.027	-0.079	-0.051	-0.061	-0.057	-0.060
Any ISS withhold recommendation	-0.249	-0.222	-0.221	-0.227	-0.219	-0.203

Panel C: Coefficients and significance levels of ES failure and governance proxies for votes withheld and other board seats

	Votes withheld (1)	*Reduction in other seats* (2)	*Pr(Gain other seat)* (3)	*Pr(Lose other seat)* (4)	*Reduction in other seats* (5)	*Pr(Gain other seat)* (6)	*Pr(Lose other seat)* (7)
ES failure	0.010***	-0.027*	0.083	-0.094			
ES failure – turnover at failure firm					0.065***	0.298*	0.742***
ES failure – no turnover at failure firm					-0.043***	0.046	-0.248**
Governance failure	-0.006	-0.007	0.200**	0.071	-0.007	0.199**	0.060
Any ISS withhold recommendation	0.048***	0.076**	-0.578***	0.219	0.072**	-0.581***	0.169

This table presents tests of the association between ES failures and accountability outcomes controlling for corporate governance issues. *Governance failure* is an indicator variable set to one if RepRisk identifies at least one severe corporate governance incident in year t, and zero otherwise. *Any ISS withhold recommendation* is an indicator variable set to one if at least one director who is up for election receives a withhold or against recommendation, and zero otherwise. Panel A reports the main results for turnover following ES failures. Panel B reports the coefficients and significance levels for the variables of interest for the cross-sectional turnover tests. Panel C reports the coefficients and significance levels for the variables of interest for the votes withheld and reduction in other seats tests. The remaining covariates are defined in Table 3 and Appendix B. All regressions include fixed year and industry effects and standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table A6: Mapping between RepRisk incident categories and SASB General Issue Categories

	SASB Sustainability Dimension: Environment					
RepRisk incident type	GHG Emissions	Air Quality	Energy Management	Water & Wastewater Management	Waste & Hazardous Materials Management	Ecological Impacts
Animal mistreatment						x
Impacts on landscapes, ecosystems, and biodiversity				x		x
Climate change, GHG emissions, and global pollution	x	x				
Local pollution		x		x	x	
Waste issues				x	x	
Overuse and wasting of resources			x			
Child labor						
Discrimination in employment						
Forced labor						
Freedom of association and collective bargaining						
Human rights abuses, corporate complicity						
Impacts on communities						
Local participation issues						
Occupational health and safety issues						
Poor employment conditions						
Social discrimination						
Anti-competitive practices						
Corruption, bribery, extortion, money laundering						
Misleading communication						
Tax evasion						
Tax optimization						
Controversial products and services						
Products (health and environmental issues)						
Supply chain issues						
Violation of international standards						
Violation of national legislation						
Executive compensation issues						
Fraud						

	SASB Sustainability Dimension: Social Capital						
RepRisk incident type	Human Rights & Community Relations	Customer Privacy	Data Security	Access & Affordability	Product Quality & Safety	Customer Welfare	Selling Practices & Product Labeling
Animal mistreatment							
Impacts on landscapes, ecosystems, and biodiversity							
Climate change, GHG emissions, and global pollution							
Local pollution							
Waste issues							
Overuse and wasting of resources							
Child labor							
Discrimination in employment							
Forced labor							
Freedom of association and collective bargaining							
Human rights abuses, corporate complicity	x						
Impacts on communities	x			x			
Local participation issues	x						
Occupational health and safety issues							
Poor employment conditions							
Social discrimination	x			x			x
Anti-competitive practices							
Corruption, bribery, extortion, money laundering							
Misleading communication							x
Tax evasion							
Tax optimization							
Controversial products and services						x	
Products (health and environmental issues)					x		
Supply chain issues							
Violation of international standards							
Violation of national legislation							
Executive compensation issues							
Fraud							

RepRisk incident type	SASB Sustainability Dimension: Human Capital		
	Employee Health & Safety	Employee Engagement, Diversity & Inclusion	Labor Practices
Animal mistreatment			
Impacts on landscapes, ecosystems, and biodiversity			
Climate change, GHG emissions, and global pollution			
Local pollution			
Waste issues			
Overuse and wasting of resources			
Child labor			x
Discrimination in employment		x	
Forced labor			x
Freedom of association and collective bargaining			x
Human rights abuses, corporate complicity			
Impacts on communities			
Local participation issues			
Occupational health and safety issues	x		
Poor employment conditions	x		
Social discrimination			
Anti-competitive practices			
Corruption, bribery, extortion, money laundering			
Misleading communication			
Tax evasion			
Tax optimization			
Controversial products and services			
Products (health and environmental issues)			
Supply chain issues			
Violation of international standards			
Violation of national legislation			
Executive compensation issues			
Fraud			

	SASB Sustainability Dimension: Business Model and Innovation				
RepRisk incident type	Product Design & Lifecycle Management	Business Model Resilience	Supply Chain Management	Materials Sourcing & Efficiency	Physical Impacts of Climate Change
Animal mistreatment					
Impacts on landscapes, ecosystems, and biodiversity					
Climate change, GHG emissions, and global pollution					
Local pollution					
Waste issues					
Overuse and wasting of resources					
Child labor					
Discrimination in employment					
Forced labor					
Freedom of association and collective bargaining					
Human rights abuses, corporate complicity					
Impacts on communities					
Local participation issues					
Occupational health and safety issues					
Poor employment conditions					
Social discrimination					
Anti-competitive practices					
Corruption, bribery, extortion, money laundering					
Misleading communication					
Tax evasion					
Tax optimization					
Controversial products and services					
Products (health and environmental issues)					
Supply chain issues			x		
Violation of international standards					
Violation of national legislation					
Executive compensation issues					
Fraud					

	SASB Sustainability Dimension: Leadership and Governance				
RepRisk incident type	Business Ethics	Management of the Legal & Regulatory Environment	Critical Incident Risk Management	Systemic Risk Management	Competitive Behavior
Animal mistreatment					
Impacts on landscapes, ecosystems, and biodiversity					
Climate change, GHG emissions, and global pollution					
Local pollution					
Waste issues					
Overuse and wasting of resources					
Child labor					
Discrimination in employment					
Forced labor					
Freedom of association and collective bargaining					
Human rights abuses, corporate complicity					
Impacts on communities					
Local participation issues					
Occupational health and safety issues					
Poor employment conditions					
Social discrimination					
Anti-competitive practices					x
Corruption, bribery, extortion, money laundering	x				
Misleading communication					
Tax evasion	x				
Tax optimization		x			
Controversial products and services					
Products (health and environmental issues)					
Supply chain issues					
Violation of international standards		x			
Violation of national legislation		x			
Executive compensation issues					
Fraud	x	x			

This table provides the mapping of RepRisk's risk incident types and the SASB General Issue Categories

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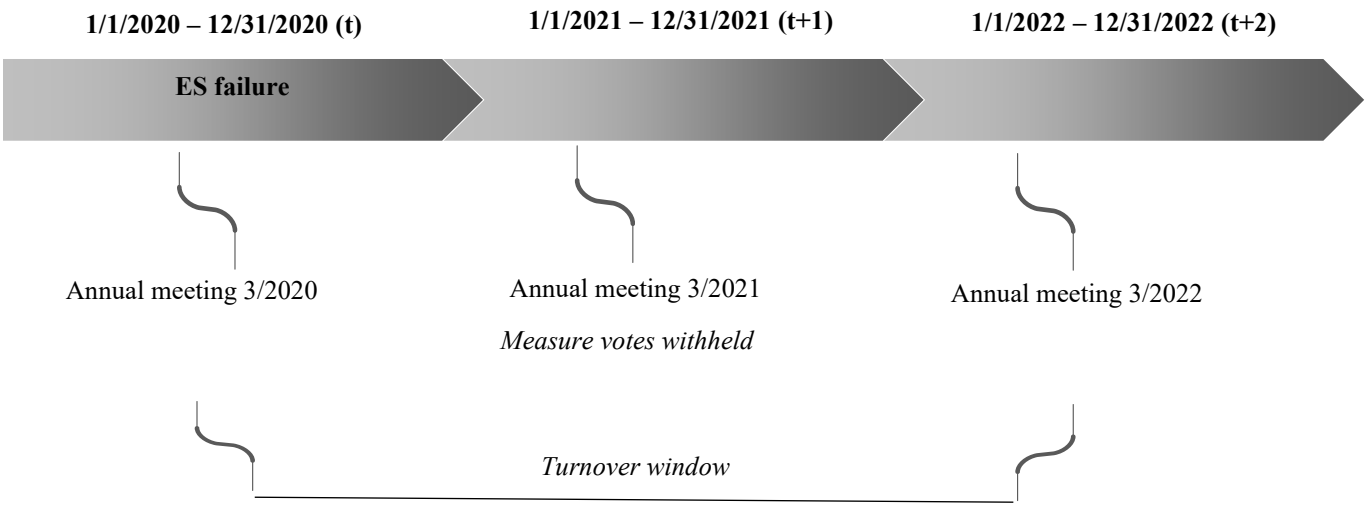
Figure 1: Measurement timing



This figure presents the timing of measurement of ES failures and votes withheld from directors following ES failures, and the window over which we measure director turnover for a hypothetical December fiscal-year-end firm.

Table 1: Sample construction

	Total	Treatment	Control
Firm-years at the intersection of RepRisk, Refinitiv ESG, BoardEx, Compustat and CRSP (2008-2020)	22,234	N/A	N/A
Less: Firm-years without data necessary for analysis	(1,704)	N/A	N/A
Subtotal: Firm-years with data necessary for analysis	20,530		
Firm-years with at least one high severity incident (High-severity subsample)	583	583	
Firm-years with a maximum of medium severity incidents (Medium-severity subsample)	4,430	-	-
Firm-years with a maximum of low severity incidents (Low-severity subsample)	2,688	-	2,688
Firm-years with no incidents (No-incident subsample)	12,829	-	12,829
Less: Untreated firm years with ES failures in t-1	(46)	-	(46)
Total firm-years in the initial sample	16,054	583	15,471
Total director-firm-years in the initial sample	123,097	5,910	118,948

This table summarizes the sample construction process for the initial sample of 16,504 firms-years (123,097 director-firm-years). For analyses that require additional data restrictions, we discuss the construction of each sample in Sections 3–5.

Table 2: Distributions of ES failures

Panel A: ES failure categories

Category	Incident type	Mean	SD	P25	Median	P75	P99
Environmental	Animal mistreatment	0.027	0.164	0	0	0	1
	Impacts on landscapes, ecosystems, and biodiversity	0.633	1.050	0	0	1	5
	Climate change, GHG emissions, and global pollution	0.333	0.703	0	0	1	3
	Local pollution	0.468	0.896	0	0	1	5
	Waste issues	0.206	0.585	0	0	0	3
	Overuse and wasting of resources	0.094	0.326	0	0	0	1
Social	Child labor	0.384	0.827	0	0	1	4
	Discrimination in employment	0.134	0.356	0	0	0	1
	Forced labor	0.487	0.947	0	0	1	5
	Freedom of association and collective bargaining	0.156	0.408	0	0	0	2
	Human rights abuses, corporate complicity	1.262	1.326	1	1	1	7
	Impacts on communities	0.702	1.140	0	0	1	6
	Local participation issues	0.166	0.444	0	0	0	2
	Occupational health and safety issues	0.434	0.750	0	0	1	3
	Poor employment conditions	0.533	0.794	0	0	1	3
	Social discrimination	0.055	0.228	0	0	0	1
	Anti-competitive practices	0.019	0.136	0	0	0	1
	Corruption, bribery, extortion, money laundering	0.293	0.667	0	0	0	3
	Misleading communication	0.322	0.594	0	0	1	3
	Tax evasion	0.096	0.317	0	0	0	1
	Tax optimization	0.017	0.130	0	0	0	1
Cross-cutting	Controversial products and services	0.324	0.652	0	0	1	3
	Products (health and environmental issues)	0.115	0.383	0	0	0	2
	Supply chain issues	0.564	1.061	0	0	1	5
	Violation of international standards	0.204	0.463	0	0	0	2
	Violation of national legislation	0.811	1.015	0	1	1	5

Panel B: ES failures by industry

Industry	ES failures per industry	% of industry firm-years with ES failures
Consumer Non-durables	67	11.17%
Consumer Durables	12	3.07%
Manufacturing	34	2.26%
Energy	63	11.73%
Chemicals & Allied Products	21	5.80%
Business Equipment	62	2.34%
Telecommunications	7	2.13%
Utilities	25	6.74%
Wholesale, Retail, & Some Services	86	6.86%
Healthcare, Medical Equipment, & Drugs	16	0.78%
Finance	101	2.43%
Other	89	4.85%
Total	583	3.63%

This table presents the distributions of the 583 ES failure firm-year observations by incident type and industry. Panel A provides the descriptive information for the 28 risk incident types tracked by the RepRisk database. Panel B provides the distribution of ES failures by Fama and French 12-industry classification.

Table 3: Descriptive statistics

	All directors			ES failure directors			Non-failure directors			Test of differences With ES failures vs. Without ES failures			
	N = 123,097			N = 5,910			N = 117,187			Mean (t-test)		Median (Wilcoxon)	
Variable	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	Diff.	t-statistic	Diff.	z-statistic
Turnover	0.162	0.369	0.000	0.187	0.390	0.000	0.161	0.367	0.000	0.026	5.41***	0.000	5.41***
Votes withheld	0.051	0.082	0.020	0.040	0.061	0.018	0.051	0.083	0.020	-0.011	-9.21***	-0.002	-4.78***
Reduction in other seats	0.001	0.434	0.000	0.023	0.521	0.000	0.000	0.429	0.000	0.023	3.88***	0.000	3.87***
Pr(Gain other seat)	0.074	0.262	0.000	0.106	0.308	0.000	0.072	0.259	0.000	0.034	9.74***	0.000	9.74***
Pr(Lose other seat)	0.202	0.401	0.000	0.231	0.422	0.000	0.199	0.400	0.000	0.032	4.34***	0.000	4.34***
New director	0.097	0.296	0.000	0.098	0.297	0.000	0.097	0.296	0.000	0.001	0.30	0.000	0.30
Female	0.185	0.389	0.000	0.250	0.433	0.000	0.182	0.386	0.000	0.068	13.04***	0.000	13.03***
Age > 65	0.403	0.490	0.000	0.413	0.492	0.000	0.402	0.490	0.000	0.011	1.63	0.000	1.63
Tenure	7.755	6.908	5.600	7.445	6.199	5.800	7.771	6.941	5.600	-0.326	-3.54***	0.200	0.15
N Other directorships	0.570	0.885	0.000	0.876	0.994	1.000	0.554	0.887	0.000	0.322	27.38***	1.000	29.46***
ES committee at firm	0.115	0.319	0.000	0.509	0.500	1.000	0.095	0.293	0.000	0.414	101.70***	1.000	97.68***
% Outside directors	0.860	0.068	0.889	0.887	0.051	0.909	0.858	0.069	0.875	0.029	31.18***	0.034	43.02***
Board size	9.795	2.452	10.000	12.034	2.392	12.000	9.682	2.401	9.000	2.352	73.52***	3.000	70.38***
ROA	0.003	0.158	0.026	0.053	0.073	0.051	0.001	0.161	0.026	0.052	24.77***	0.025	27.49***
Abnormal returns	0.041	0.375	0.021	0.000	0.271	0.006	0.043	0.379	0.021	-0.043	-8.65***	-0.015	-6.87***
Institutional ownership	68.106	31.392	79.017	67.656	23.905	73.338	68.129	31.723	79.599	-0.473	-1.13	-6.261	-18.07***
Blockholder	0.832	0.373	1.000	0.815	0.389	1.000	0.833	0.373	1.000	-0.018	-3.75***	0.000	-3.75***
Size	7.831	1.554	7.868	10.418	1.358	10.534	7.700	1.446	7.794	2.718	141.40***	2.740	106.20***
ES score	0.257	0.142	0.224	0.498	0.134	0.541	0.245	0.132	0.218	0.253	143.99***	0.323	102.27***
ES failure – CAR	—	—	—	0.001	0.023	0.000	—	—	—	—	—	—	—
ES failure – SASB	—	—	—	0.762	0.426	1.000	—	—	—	—	—	—	—
SRI fund ownership	0.266	0.629	0.026	0.509	0.750	0.218	0.254	0.620	0.024	0.255	30.41***	0.194	49.53***
S/H Reform Party ownership	2.962	2.712	2.172	1.170	1.199	0.881	3.052	2.735	2.307	-1.882	-52.65***	-1.426	-55.86***
Director on ES committee	0.050	0.218	0.000	0.221	0.415	0.000	0.042	0.199	0.000	0.179	62.72***	0.000	61.74***
CEO turnover	0.202	0.402	0.000	0.224	0.417	0.000	0.201	0.401	0.000	0.023	4.24***	0.000	4.24***

This table provides the descriptive statistics for the variables used in tests of the association between ES failure and reputation penalties (initial sample of 123,097 director-firm-year observations). *Turnover* is an indicator variable equal to one if the director loses her or his board seat, and zero otherwise. *Votes withheld* is the number of votes withheld from a director scaled by the number of votes cast. *Reduction in other seats* is the net decrease in outside board seats held by the director, excluding the focal firm. *Pr(Gain other seat)* is an indicator variable equal to one if the director gains at least one other outside board seat, and zero otherwise. *Pr(Lose other seat)* is an indicator variable equal to one if the director loses at least one other outside board seat, and zero otherwise. *New director* is an indicator variable equal to one if the director is in his or her first year on the board, and zero otherwise. *Female* is an indicator variable equal to one for female directors, and zero otherwise. *Age > 65* is an indicator variable equal to one if the director is older than 65, and zero otherwise. *Tenure* is the number of years the director has been on the board. *Number of other directorships* (abbreviated as *N Other directorships*) is the number of other boards at public firms on which the director serves

as an outside director. *ES committee at firm* is an indicator variable equal to one if the firm has an ES committee, and zero otherwise. *% Outside directors* is the percentage of outside directors sitting on the board. *Board size* is the number of directors sitting on the board. *ROA* is earnings before extraordinary items scaled by average total assets. *Abnormal returns* is the one-year cumulative abnormal return. *Institutional ownership* is the percentage of firm shares owned by institutional investors. *Blockholder* is an indicator variable equal to one if there is at least one institution that owns at least 5% of the firm's equity, and zero otherwise. *Size* is the market value of equity. *ES score* is a composite score provided by Refinitiv for a firm's environment and social performance. *ES failure – CAR* is the average three-day cumulative abnormal return around ES failures (set to zero for directors at non-failure firms). *ES failure – SASB* is an indicator variable equal to one for directors at firms with ES failures where the failure is considered material for the firm's industry per SASB standards, and zero otherwise. *SRI fund ownership* is the percentage of shares owned by SRI mutual funds. *S/H Reform Party ownership* is the percentage of shares owned by mutual funds identified as "Shareholder Reform Party" funds in Bubb and Catan (2021). *Director on ES committee* is indicator variable equal to one for directors who serve on ES-related committees, and zero for all other directors. *CEO turnover* is an indicator variable equal to one if the CEO turns over, and zero otherwise. Some variables have different sample sizes because of additional data restrictions: N for *Votes withheld*: 72,794 directors, 4,243 ES failure directors, and 68,551 non-failure directors; N for *Pr(Lose other seat)*: 45,347 directors, 3,212 ES failure directors, and 42,135 non-failure directors; N for ES failure – CAR variables: 122,880 directors, 5,693 ES failure directors, and 117,187 non-failure directors.

Table 4: Multivariate tests of the association between ES failures and director turnover

Panel A: Director turnover and ES failures – main effects

		Turnover	
	Coefficient		t-statistic
Variable		(1)	
ES failure	0.240**		2.48
New director	-0.265		-1.31
Female	-0.194**		-2.32
Age>65	0.804***		12.27
Tenure	0.049***		8.60
N Other directorships	-0.093***		-2.76
ES committee at firm	-0.014		-0.15
% Outside directors	1.918***		2.74
Board size	0.111***		6.16
ROA	-1.003*		-1.86
Abnormal returns	-0.385***		-2.73
Institutional ownership	-0.002		-1.03
Blockholder	-0.048		-0.39
Size	-0.074*		-1.80
ES score	0.696*		1.87
Observations		123,097	
Pseudo R-squared		0.04	
Fixed effects		Industry, Year	

Panel B: Director turnover and financial impacts of ES failures

	Turnover		*Turnover*	
	Coefficient	t-statistic	Coefficient	t-statistic
Variable	(1)		(2)	
ES failure – CAR=0	0.201	1.45		
ES failure – CAR<0	0.214*	1.86		
ES failure – CAR>0	0.272**	2.55		
ES failure – SASB			0.270***	2.58
ES failure – non-SASB			0.160	1.30
New director	-0.264	-1.25	-0.268	-1.33
Female	-0.187**	-2.15	-0.193**	-2.32
Age>65	0.807***	12.00	0.803***	12.26
Tenure	0.049***	8.50	0.049***	8.60
N Other directorships	-0.095***	-2.73	-0.092***	-2.75
ES committee at firm	-0.018	-0.20	-0.008	-0.10
% Outside directors	2.080***	2.89	1.910***	2.73
Board size	0.110***	6.09	0.110***	6.11
ROA	-1.027*	-1.90	-1.026*	-1.91
Abnormal returns	-0.424***	-2.86	-0.380***	-2.71
Institutional ownership	-0.003	-1.22	-0.002	-1.04
Blockholder	-0.015	-0.12	-0.047	-0.38
Size	-0.076*	-1.80	-0.075*	-1.83
ES score	0.724*	1.92	0.684*	1.85
Observations	122,880		123,097	
Pseudo R-squared	0.04		0.04	
Fixed effects	Industry, Year		Industry, Year	
Wald tests	Difference	χ^2	Difference	χ^2
ES failure – CAR=0 vs. CAR<0	-0.013	0.01		
ES failure – CAR=0 vs. CAR>0	-0.071	0.31		
ES failure – CAR<0 vs. CAR>0	-0.058	0.33		
ES failure – SASB vs. non-SASB			0.110	0.86

Panel C: Director turnover and shareholder preferences for socially responsible investments

	Turnover			
S/H preferences measured as	*SRI fund ownership*		*S/H Reform Party ownership*	
	Coefficient	t-statistic	Coefficient	t-statistic
Variable	(1)		(2)	
ES failure × S/H preferences	-0.059	-0.77	-0.058	-1.40
ES failure	0.274**	2.41	0.304**	2.43
S/H preferences	0.027	0.48	-0.033	-1.26
New director	-0.265	-1.30	-0.265	-1.30
Female	-0.193**	-2.32	-0.192**	-2.32
Age>65	0.806***	12.28	0.809***	12.35
Tenure	0.049***	8.60	0.049***	8.60
N Other directorships	-0.092***	-2.74	-0.092***	-2.75
ES committee at firm	-0.012	-0.14	-0.016	-0.18
% Outside directors	1.880***	2.68	1.867***	2.70
Board size	0.110***	6.05	0.110***	6.08
ROA	-1.004*	-1.86	-1.001*	-1.85
Abnormal returns	-0.380***	-2.71	-0.390***	-2.75
Traditional institutional ownership	-0.003	-1.37	-0.002	-0.74
Blockholder	-0.006	-0.04	-0.024	-0.18
Size	-0.077*	-1.87	-0.100**	-2.28
ES score	0.713*	1.92	0.670*	1.83
Observations	123,097		123,097	
Pseudo R-squared	0.04		0.04	
Fixed effects	Industry, Year		Industry, Year	

Panel D: Director turnover and ES committee membership

	Turnover	
	Coefficient	t-statistic
Variable	(1)	
ES failure × Director on ES committee	0.181	1.12
ES failure	0.208**	2.22
Director on ES committee	-0.119	-0.97
New director	-0.269	-1.33
Female	-0.191**	-2.32
Age>65	0.804***	12.17
Tenure	0.049***	8.60
N Other directorships	-0.094***	-2.80
ES committee at firm	-0.010	-0.11
% Outside directors	1.904***	2.71
Board size	0.111***	6.15
ROA	-1.008*	-1.88
Abnormal returns	-0.385***	-2.75
Institutional ownership	-0.002	-1.06
Blockholder	-0.047	-0.38
Size	-0.074*	-1.80
ES score	0.693*	1.87
Observations	123,097	
Pseudo R-squared	0.04	
Fixed effects	Industry, Year	

Panel E: Director turnover and CEO turnover following ES failures

	Turnover	
	Coefficient	t-statistic
Variable	(1)	
ES failure × CEO turnover	0.356**	2.20
ES failure	0.151	1.50
CEO turnover	0.077	0.69
New director	-0.269	-1.33
Female	-0.196**	-2.35
Age>65	0.810***	12.43
Tenure	0.049***	8.60
N Other directorships	-0.093***	-2.78
ES committee at firm	-0.024	-0.27
% Outside directors	2.039***	2.98
Board size	0.108***	6.01
ROA	-1.051*	-1.93
Abnormal returns	-0.372***	-2.73
Institutional ownership	-0.002	-0.94
Blockholder	-0.059	-0.47
Size	-0.063	-1.56
ES score	0.649*	1.79
Observations	123,097	
Pseudo R-squared	0.05	
Fixed effects	Industry, Year	

This table presents tests of the association between ES failures and director turnover. Panel A reports the main results for turnover following ES failures. *Turnover* is an indicator variable equal to one if the director loses her or his board seat, and zero otherwise. Panel B reports the results for turnover following ES failures as a function of expected financial impacts. *ES failure – CAR=0* is an indicator variable set to one for directors serving on ES failure firms that experience near-zero market reactions to ES failure events. *ES failure – CAR<0* is an indicator variable set to one for directors serving on ES failure firms that experience negative market reactions to ES failure events. *ES failure – CAR>0* is an indicator variable set to one for directors serving on ES failure firms that experience positive market reactions to ES failure events. *ES failure – SASB* is an indicator variable equal to one for directors at firms with ES failures where the failure is considered material for the firm's industry per SASB standards, and zero otherwise. *ES failure – non-SASB* is an indicator variable equal to one for directors at firms with ES failures where the failure is not considered material for the firm's industry per SASB standards, and zero otherwise. Panel C reports the results for turnover following ES failures as a function of shareholder preferences for socially responsible investments. *SRI fund ownership* is the percentage of shares owned by SRI mutual funds. *S/H Reform Party ownership* is the percentage of shares owned by mutual funds identified as "Shareholder Reform Party" funds in Bubb and Catan (2021). Panel D reports the results for turnover following ES failures as a function of director responsibility for ES oversight. *Director on ES committee* is indicator variable equal to one for directors who serve on ES-related committees, and zero for all other directors. Panel E reports the results for turnover following ES failures as a function of CEO turnover. *CEO turnover* is an indicator variable equal to one if the CEO turns over, and zero otherwise. The remaining covariates are defined in Table 3 and Appendix B. All regressions include fixed year and industry effects and standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table 5: Multivariate tests of the association between ES failures and votes withheld

	Votes withheld	
	Coefficient	t-statistic
Variable	(1)	
ES failure	0.006**	2.00
New director	0.001	0.29
Female	-0.005***	-3.37
Age>65	-0.001	-0.87
Tenure	0.002***	8.59
N Other directorships	0.005***	5.03
ES committee at firm	-0.003	-0.79
% Outside directors	-0.051*	-1.76
Board size	-0.001	-1.22
ROA	-0.049**	-2.02
Abnormal returns	0.000	0.00
Institutional ownership	0.000	0.01
Blockholder	-0.002	-0.20
Size	-0.001	-0.37
ES score	-0.015	-0.91
Observations	72,794	
R-squared	0.13	
Fixed effects	Industry, Year	

This table presents tests of the association between ES failures and votes withheld. *Votes withheld* is the number of votes withheld from a director scaled by the number of votes cast. The remaining covariates are defined in Table 3 and Appendix B. The regression includes fixed year and industry effects and standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table 6: Multivariate tests of the association between ES failures and reductions in other board seats

Panel A: Reductions, gains and losses in other board seats

	Reduction in seats		*Pr(Gain other seat)*		*Pr(Lose other seat)*	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Variable			(1)		(2)	
ES failure	-0.031**	-2.20	0.144	1.61	-0.082	-0.92
Turnover	0.129***	3.23	0.115	0.65	0.977***	5.93
New director	0.022	0.85	0.021	0.10	0.383***	2.59
Female	-0.073***	-4.45	0.441***	4.14	-0.059	-0.63
Age>65	0.093***	6.07	-0.915***	-7.92	0.308***	3.20
Tenure	0.002	1.45	-0.028**	-2.31	0.007	0.84
N Other directorships	0.176***	8.93	0.080	1.23	0.654***	9.41
Observations	123,097		123,097		45,347	
R-squared or Pseudo R-squared	0.13		0.09		0.07	
Fixed effects	Industry, Year		Industry, Year		Industry, Year	

Panel B: Reduction in other board seats: The effect of turnover from the ES failure firm

	Reduction in other seats		*Pr(Gain other seat)*		*Pr(Lose other seat)*	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Variable	(1)		(2)		(3)	
ES failure – turnover at failure firm	0.061**	2.46	0.358**	2.41	0.752***	4.58
ES failure – no turnover at failure firm	-0.047***	-3.12	0.107	1.16	-0.238**	-2.56
New director	0.021	0.83	0.020	0.10	0.373**	2.56
Female	-0.074***	-4.44	0.443***	4.15	-0.094	-1.00
Age>65	0.102***	7.77	-0.917***	-7.61	0.331***	3.48
Tenure	0.003**	2.17	-0.028**	-2.39	0.013	1.50
N Other directorships	0.175***	9.19	0.080	1.24	0.631***	10.34
Observations	123,097		123,097		45,347	
R-squared or Pseudo R-squared	0.13		0.09		0.07	
Fixed effects	Industry, Year		Industry, Year		Industry, Year	
Wald tests	Difference	χ^2	Difference	χ^2	Difference	χ^2
ES failure – turnover vs. ES failure – no turnover	0.108***	15.58	0.251*	3.17	0.990***	34.16

Panel C: Comparison of board seats gained to ES failure firm seats lost

	Characteristics of gained seats				Characteristics of lost seats				Test of differences Gained seat vs. Lost seat: Mean (t-test)		Median (Wilcoxon)	
Variable	Mean	SD	Median	N	Mean	SD	Median	N	Diff.	t-statistic	Diff.	z-statistic
Size	8.871	2.212	8.952	117	10.606	1.660	10.611	108	-1.735	-6.61***	-1.659	-6.21***
Director compensation	12.045	2.208	12.502	105	12.554	0.303	12.579	97	-0.509	2.25**	-0.077	-0.99
Board connectedness	1.939	1.642	1.814	117	3.021	1.896	2.880	108	-1.082	-4.58***	-1.066	-4.45***
ES score	0.384	0.180	0.388	85	0.552	0.118	0.578	82	-0.168	-7.09***	-0.215	-6.19***

This table presents tests of the association between ES failures and changes in other board seats. reports analyses of the changes in board seats following ES failures. Panel A reports the regression results of the association between ES failures and the net reduction in board seats as well as separate estimations of gains and losses in other seats. *Reduction in other seats* is the net decrease in other outside directorships at public firms held by the director. *Pr(Gain other seat)* is an indicator variable equal to one if the director gains at least one non-focal board seat, equal to zero otherwise. *Pr(Lose other seat)* is an indicator variable equal to one if the director loses at least one non-focal board seat, equal to zero otherwise. Panel B reports the regression results for labor market outcomes conditional on turnover at the ES failure firm. *ES failure – turnover at failure firm* is an indicator variable equal to one for directors at firms with ES failures who lose her or his board seat, and zero otherwise. *ES failure – no turnover at failure firm* is an indicator variable equal to one for directors at firms with ES failures who do not lose her or his board seat, and zero otherwise. The remaining covariates are defined in Table 3 and Appendix B. All regressions include fixed year and industry effects and standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Panel C reports univariate tests for variables measuring prestige and ES quality, conditional on a director losing a directorship at an ES failure firm. We compare the measures for the original ES failure firm with those for gained board seats by the same director. We examine the following measures: firm size, director compensation, board connectedness, and ES score. *Size* is the natural logarithm of market value of equity. *Director compensation* is the natural log of total director compensation. *Board connectedness* measures the extent to which the director is connected through the board of directors' network at each respective firm. We calculate a composite score using centrality measures from network analysis. *ES score* is the firm's ES score provided by Refinitiv for a firm's environmental and social performance. *, **, *** represent statistical significance at the 10%, 5%, and 1% levels, respectively, based on t-tests of difference in means or Wilcoxon tests of differences in median.

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