Does Money Talk? Divestitures and Corporate Environmental and Social Policies

Finance Working Paper N° 634/2019
April 2022

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ECGI Working Paper Series in Finance

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For useful comments and discussions, we thank Alex Edmans (the Editor), an anonymous referee, an anonymous Co-Editor, Reena Aggarwal, Alexander Dyck, Laurent Fresard, Jillian Grennan, Kai Li, Martin Oehmke, Riccardo Sabbatucci, Laura Starks, Jeffrey Wurgler, and participants at the NBER Summer Institute Capital Markets and the Economy meeting, the American Finance Association annual meeting, the Western Finance Association meeting, the Drexel Corporate Governance Conference, the Toulouse School of Economics Sustainable Finance Center Conference, the CEPR Advanced Forum for Financial Economics (CAFFE), the University of Miami, the Commodity Futures Trading Commission, Nanyang Technological University, the Warwick Business School, the Corporate Finance Webinar, the International Virtual Research Seminars in Finance organized by the University of Bath, the Annual Financial Market Liquidity Conference in Budapest, and the Galatina Summer Meetings. Giannetti acknowledges financial support from the Nasdaq Nordic Foundation, the Swedish House of Finance, and the Jan Wallander and Tom Hedelius Foundation.

Abstract

Can shareholders' divestitures and threats of exit trigger improvements in firms' environmental and social (E&S) policies? We show that E&S incidents are followed by some, but relatively small, divestitures. Nevertheless, following E&S incidents, firms with a one-standard-deviation higher E&S-conscious institutional ownership decrease their greenhouse gas emissions by 36.5% and improve their E&S scores by 7.2% more than other firms if their managers receive equity compensation. We do not observe any improvements associated with sales in E&S-conscious countries. Our results suggest that the threats of future exits and divestitures can improve E&S policies if shareholders are E&S-conscious and managers' compensation is linked to the stock price.

Keywords: Corporate social responsibility; Real effects of financial markets; Institutional investors; Sustainability; Corporate governance

JEL Classifications: G15, G23, G30, M14

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While a growing body of empirical evidence shows that investors affect firms' environmental and social (E&S) policies by engaging with management and pressuring for change, there is an ongoing debate about whether divestitures can influence firms' E&S policies. Theory provides conflicting predictions.

On the one hand, if investors vote with their wallets and spurn firms that fall short of their expectations on E&S standards, such firms are expected to experience a higher cost of capital, which would in turn hamper their ability to invest (Heinkel, Kraus, and Zechner, 2001). Thus, managers may have incentives to react by improving corporate E&S policies in order to enhance their firm's reputation and decrease its cost of capital (Pastor, Stambaugh, and Taylor, 2021).

On the other hand, market discipline is only effective if the impact of investors' preferences is large enough to affect firm valuations. If the proportion of agents who are motivated by E&S concerns is small or the demand by other investors is very elastic, the divestitures of E&S-conscious investors are expected to have limited effects on stock prices, and in turn, on corporate policies (Broccardo, Hart, and Zingales, 2020; Berk and van Bisbergen, 2021).

This debate largely ignores that shareholders discipline managers through their exit decisions (Admati and Pfleiderer, 2009; Edmans, 2009; Edmans and Manso, 2011) and could thus also affect firms' E&S policies. If this were the case, market discipline, that is, the investment decisions of even small E&S-conscious investors, could lead to a more sustainable economy. Our goal in this paper is to understand whether, and under what conditions, investor divestitures and the threat of exit are effective in channeling investors' E&S preferences to firms and triggering changes in firms' E&S policies. At present, such empirical evidence is lacking.

Using an international sample, we show that negative news coverage of corporate E&S policies leads to a higher probability of exit by E&S-conscious investors and lower firm valuations.

While divestitures lead to a relatively small decrease in institutional ownership, we argue that the exits of a few E&S-conscious investors are likely to increase managerial concerns that even more E&S-conscious investors could revise downwards their beliefs about the firm's E&S standards and sell if more E&S incidents were to happen. We provide evidence not only that firms change their E&S policies in response to E&S incidents, but also that the extent of the response depends on the preferences of the firms' shareholders.

Firms may also wish to attract back E&S-conscious investors to improve their valuations. Thus, following an E&S incident, the managers of firms with ex-ante more E&S-conscious investors are expected to have stronger incentives to improve their E&S policies and avoid future E&S incidents, especially if they care about the firms' market valuations because their compensation is linked to the stock price. In accordance with this hypothesis, we find that firms with more E&S-conscious investors improve their E&S policies to a larger extent if their executives' compensation is linked to the stock price.

Our empirical analysis consists of three steps. First, we validate our conjecture that negative news coverage of a firm's E&S policies decreases E&S-conscious investors' demand for the firm's stock. We measure investors' preferences using their portfolios' history of sustainability ratings. We find that E&S-conscious investors decrease their shareholdings in firms experiencing heightened E&S risks to a larger extent than investors that are less concerned about E&S issues, confirming that E&S preferences matter.

Second, we provide evidence that the valuations of firms with more E&S-conscious investors are more affected by negative E&S news coverage, arguably because of their investors' higher disutility from holding firms experiencing E&S incidents. Not only are some E&S-conscious shareholders more likely to exit, but these firms also have a relatively larger proportion

of remaining E&S-conscious investors who may threaten to exit in the future if more negative E&S news arrives. Accordingly, we show that negative realizations of E&S risks trigger more pronounced negative abnormal returns in firms with ex-ante more E&S-conscious investors, suggesting that market prices reflect investors' preferences and discontent with firms' E&S policies.

Finally, we ask whether following negative E&S news, firms attempt to improve their E&S policies in their efforts to attract back the investors that sold and to limit future exits by E&S-conscious investors, who may consider early E&S incidents as bad luck but may update their beliefs and sell upon subsequent E&S incidents.

We show that having experienced larger price drops upon the negative realizations of E&S risks, firms with more E&S-conscious investors react to investors' discontent by improving their E&S policies. Importantly, we demonstrate that firms achieve better E&S policies by using a variety of E&S indicators and by showing that firms make progress specifically along the dimensions in which they experienced negative news coverage.

Consistent with the hypothesis that divestitures and the threat of exit matter, the improvements in E&S policies are driven by firms whose managers fear more *en masse* exits and further drops in the stock price because their compensation is more sensitive to corporate valuations. Importantly, in the years following the initial E&S incidents, companies that improve their E&S policies experience an increase in ownership by E&S-conscious investors and improve their corporate valuations.

Taken together, our results indicate that the threat of exit can be effective even if the observed divestitures and their effects on firms' cost of capital appear small. In firms with a high proportion of E&S-conscious investors, managers fear future divestitures and may adjust the firms'

E&S policies even after small incidents that cause limited damage because they can be attributed to bad luck. The effects are economically large. Following an average increase in negative E&S (environmental) news coverage in a given year, firms with a one-standard-deviation higher ex-ante E&S-conscious institutional ownership and whose managerial compensation is relatively more exposed to the stock price improve their E&S scores by 7.2% (decrease their revenue-adjusted greenhouse gas (GHG) emissions by 36.5%) more than other firms.

Throughout the analysis, we control for a firm's sales in E&S-conscious countries, which decrease in response to E&S risks. However, we find that the stock price response is not significantly affected by a firm's customer base, and firms with more E&S-conscious customers do not adjust their E&S policies following negative realizations of E&S risks. Thus, improvements in corporate E&S policies appear to be driven mostly by investors, indicating that the demand for firms' stocks is the primary driver of market discipline, possibly because customers have limited information on firms' corporate policies, high switching costs, or short-term memory.

This paper contributes to a growing literature exploring how institutional investors affect firms' E&S policies. Existing work highlights that blockholders engage with management and pressure for changes in corporate ESG policies (e.g., Dimson et al., 2015 and 2018; Starks et al., 2018; Krueger, Starks, and Sautner, 2021; Chen, Dong, and Lin, 2019; Chu and Zhao, 2019; Naaraayanan, Sachdeva, and Sharma, 2020). The success of institutional investors' private engagements is largely driven by global institutions with strong preferences for E&S policies (Dyck et al., 2019). We study whether divestitures and the threat of exit can increase the sustainability of corporate policies, while controlling for the presence of large E&S-conscious blockholders who may have the capacity and incentives to engage with management.

Concurrent work on mutual funds' exits provides mixed evidence on the effectiveness of divestitures (Heath et al., 2021; Rohleder, Wilkens, and Zink, 2022). Exploiting shocks to E&S-conscious investors' discontent, we show how a few divestitures and the threat of future exits can discipline firms' E&S policies.

Another strand of the literature shows that companies that violate E&S standards have to provide investors with higher returns, especially in countries with stronger E&S norms where investors underweight these stocks (Hong and Kacperczyk, 2009; Bolton and Kacperczyk, 2021). Negative news about firms' E&S policies is known to be associated with negative abnormal returns (Karpoff, Lott, and Wehrly, 2005; Flammer, 2013; Krueger, 2015; and Serafeim and Yoon, 2020).[1] However, this work is silent on whether companies adjust their policies to meet their investors' preferences. We document for the first time a differential stock price response based on the firm's investor base, which is essential for understanding why firms with different types of investors respond differently to similar negative news about their E&S policies.

Finally, our results are related to, yet distinct from, work showing that firms increase corporate social responsibility (CSR) investment in response to negative shocks affecting their reputation, such as earnings restatements and data breaches (Chakravarty, deHaan, and Rajgopal, 2014; Akey et al., 2021). We provide evidence that firms do not simply engage in CSR to improve public perceptions when things go badly, but rather respond to their shareholders' preferences and adjust their E&S policies accordingly.

[1] Krueger (2015) finds a weakly negative reaction to positive news regarding CSR, suggesting that investors do not appreciate the implementation of CSR policies. Thus, his results are not informative about market discipline because investors on average appear to dislike the adoption of CSR policies.

1. Data Sources and Variable Definitions

1.1 Measuring Discontent

To capture shocks that may lower E&S-conscious investors' stock demand and prompt divestitures, we use negative news coverage of a company's E&S policies from RepRisk, a leading business research provider specializing in measuring environmental, social, and governance (ESG)-related risks.

RepRisk serves the world's largest investors and provides its clients with intelligence on any adverse information about companies' business conduct regarding environmental degradation, child labor, corruption, and other similar risks.[2] RepRisk screens daily over 80,000 media, stakeholder, and third-party sources, including print and online media, NGOs, government bodies, regulators, think tanks, newsletters, social media (e.g., Twitter), blogs, etc., for news related to firms' ESG practices. Starting from 2007, RepRisk compiles daily updates of negative news counts of company-specific issues. A given incident is counted only once, and its reach is classified based on the most influential source in which it appears.

Based on primary ISINs, RepRisk covers 10,171 (non-financial) firms around the world.[3] News is classified into 28 distinct issues, including pollution, poor employment conditions, discrimination, child labor, supply chain problems, etc. These issues are further subdivided into 45 topics, such as asbestos, land grabbing, forest burning, negligence, coal-fired power plants, etc. The classification into issues and topics is performed following a proprietary methodology that combines artificial intelligence and human analysis in 15 different languages. Panels A and B of Table A1 list the issues and broad categories of the news covered by RepRisk and their frequency.

[2] A recent article in *The Economist* mentions RepRisk as a tool used by investors to monitor ESG Risk. See "ESG Investors Get Their Heads around Social Risks", June 4, 2020.
[3] We do not observe any trends of increased ESG news coverage over our sample period.

News items in RepRisk are seldom about dramatic events, such as the BP Gulf of Mexico oil spill, which are infrequent by their very nature. Rather, RepRisk captures violations of national regulations or international standards, poor employment conditions and discrimination, tax evasion, etc. To provide some examples, we search news coverage of the companies and topics corresponding to the news items reported in RepRisk. Table A2 provides examples for companies from a variety of industries and countries. For instance, 3M and Canon are criticized for sourcing their inputs from suppliers with poor environmental records. Adidas and Hasbro are accused of violating human rights and having sub-standard employment conditions directly or through their suppliers.

We also search for news about the companies' responses to the reported risk incidents and find that firms take action. Thus, it is relevant to explore how investors and customers react to the news depending on their preferences, and whether their expected reactions affect stock prices, and in turn, firms' E&S policies.

RepRisk provides information on firms' ESG risks in several different ways. First, it counts a firm's news related to different ESG issues over a month. Since our other data sources predominantly have quarterly or annual frequency, we use this file in most of our tests. Second, RepRisk also provides daily news about firms' ESG risks, again classified into different issues, which we use to verify that the news is consequential for firm valuations.

In the empirical analysis, we focus on E&S news and control for governance news. Panel A of Table 1 provides summary statistics for the different categories of RepRisk news at yearly frequency. Negative E&S news is fairly infrequent, with 87.5% of quarterly (78% of yearly) firm observations without such coverage.[4] Importantly, the R-squared of the regression of E&S news

[4] Thus, even if RepRisk were to miss a few news items, the control sample in our empirical analysis overweights firms without any news coverage.

on the interaction of industry and time dummies or country and time dummies is only 10%; thus, E&S news does not appear to be driven by industry and country factors and primarily reflects idiosyncratic firm shocks.

1.2 Ownership Data and the Classification of Institutional Investors

We obtain institutional ownership data from FactSet LionShares. We conjecture that institutional investors that follow an ESG strategy should be more discontent when negative E&S shocks occur.[5] In order to capture institutional investors' different preferences, we follow the methodology adopted by Morningstar to assign sustainability ratings to mutual funds. Specifically, we consider institutional investors that over the past two years held at least 50 percent of their portfolio in firms with Thomson Reuters ASSET4 ESG ratings, which are proprietary ESG scores ranging from 0 to 100.[6] Approximately 80% of the institutional investors in our sample fit this description. For these investors, we average the ESG ratings of the rated companies held over the previous two years. We set the average portfolio ESG rating equal to zero for the remaining investors (including those whose portfolios do not consist of at least 50% of stocks with ESG ratings). Finally, we classify institutions with average portfolio ESG ratings in the top tercile as E&S-conscious and the remaining investors as non-E&S-conscious. By measuring the sustainability of an investor's past asset holdings, this approach relies on revealed preferences and does not suffer from the widely-discussed concern that some asset managers brand themselves as sustainable without actually pursuing sustainable investments. In our empirical tests, we aggregate

[5] We focus on whether investors incorporate ESG considerations in their investment process, instead of using the much narrower classifications of Impact or Environmental Sector mandates because the latter would apply to too few institutions.

[6] Analysts at Thomson Reuters (now Refinitiv) evaluate firms' environmental policies in three subcategories: Resource Use, Emissions, and Environmental Innovation. Social performance is assessed in four subcategories: Workforce, Human Rights, Community, and Product Responsibility.

institutional ownership by E&S-conscious investors (*High Rating IO %*) and other investors (*Low Rating IO %*) at the firm-quarter level.

Panel B of Table 1 describes our measure of E&S-conscious institutional ownership. Notably, *High Rating IO %* exhibits high variation both between countries and within a country. The majority of investors with highly sustainability-rated portfolios hold less than one percent ownership in the firms they invest in, which suggests that they may find it difficult to engage with management.

1.3 Customer Sales Distribution

We also consider how sales to customers with different E&S preferences are affected by E&S risk. To do so, we use FactSet Revere data on firms' geographical composition of sales. We define sales to countries with high and low sensitivity to E&S issues using the World Value Survey (WVS), a unique data source for analyzing trends in social, political, and cultural values around the world. The survey currently covers about 80 countries and is updated every five years. It consists of a detailed questionnaire (of about 250 questions) administered in face-to-face interviews to an average of 1,400 respondents per country. Importantly for our purposes, individuals are surveyed about their attitudes towards the environment and their willingness to do volunteer work, make donations, and participate in demonstrations in support of E&S causes.

Attitudes towards E&S issues are effectively summarized by the survival/self-expression factor.[7] Survival values are prevalent in societies that do not support gender equality, human rights, and environmental protection. The opposite is true in countries that value self-expression. We

[7] While not all questions are asked in each country in all survey rounds, answers to survey questions tend to cluster in coherent patterns (Inglehart,1997; Inglehart and Baker, 2000). For this reason, we rely on the survival/self-expression factor.

surmise that customers in countries that value self-expression care more about E&S policies. Table A3 lists the self-expression scores of the countries in our sample and our classification of E&S-conscious (*High ENV*) countries.

We consider customers in countries with a WVS self-expression score in the top tercile as having strong preferences in favor of E&S issues. We refer to firms' sales in E&S-conscious countries as *High ENV Sales* and sales to other countries as *Low ENV Sales*. Panel C of Table 1 provides summary statistics. It appears that sales are evenly distributed between E&S-conscious and other countries.

1.4 Other Data

We use several data sources to evaluate firms' outcomes. First, we obtain stock prices and other financial data from Datastream/Worldscope. Second, we evaluate changes in firms' E&S policies using Thomson Reuters ASSET4 E&S scores as well as carbon emissions and other direct environmental costs from S&P Trucost. All these indicators have yearly frequency.

In addition, we use Thomson Reuters ASSET4 to obtain information on the compensation structure of a firm's executives. In its ratings of a company's governance standards, ASSET4 reports information on whether the CEO, the other members of the managerial team, or the directors are awarded equity compensation. We conjecture that executives and directors who are awarded equity care more about the secondary stock price and should consequently be more responsive to divestitures and exit threats.

Finally, we use Ravenpack to explore how institutions react to general negative media coverage of a firm. We exclude news on ESG policies and count firm-specific negative news,

which we define as news with event sentiment scores below 50, i.e., negative sentiment. The correlation between negative news from Ravenpack and E&S News from RepRisk is 28%.

Panels D and E of Table 1 summarize the main variables from Datastream, Ravenpack, and Thomson Reuters. Table A4 provides detailed variable definitions.

2. Do Investors and Customers React to E&S Risk?

Our objective is to evaluate whether firms react to investor and customer discontent about their E&S policies. The first step of this analysis is to identify events that increase the discontent of investors and customers about a firm's E&S policies. To this end, we explore whether investors that we classify as E&S-conscious are more likely to reduce their shareholdings when a firm experiences negative media coverage of its E&S policies. We also explore whether sales in E&S-conscious countries decrease following negative E&S news.

2.1 Institutional Ownership

Our objective is to establish whether negative news coverage of firms' E&S policies increases E&S-conscious investors' discontent. To do so, we need to isolate the effect of investors' preferences, but we face the challenge that negative realizations of E&S risk can also affect firm fundamentals, not least because – as we also posit – E&S risk can hurt the product market. Hence, E&S risk may matter for investment decisions, independently from investors' non-pecuniary preferences.

However, any effects of E&S risk through firm fundamentals should affect all investors similarly, irrespective of their preferences. In contrast, if shareholders' non-pecuniary preferences matter, we should observe a disproportionate decrease in the holdings of a firm's E&S-conscious

investors following negative realizations of E&S risk. Thus, to evaluate whether E&S preferences matter, we compare changes in ownership by investors with different E&S preferences.

We regress the percentage of shares owned by institutions with different E&S preferences in firm *f* at the end of quarter *t* (IO_{ft}^{type}) on the number of negative E&S news during that quarter ($E\&S\ Risk_{ft}$):

$$IO_{ft}^{type} = \alpha + \beta \times E\&S\ News_{ft} + \gamma \boldsymbol{X_{ft-1}} + \boldsymbol{\delta_f} + \boldsymbol{\xi}_t + \varepsilon_{ft},$$

where *type* refers to E&S-conscious and non-E&S-conscious investors, respectively. In all regressions, we include firm ($\boldsymbol{\delta_f}$) and time ($\boldsymbol{\xi}_t$) fixed effects, and a host of firm controls measured at the beginning of the quarter ($\boldsymbol{X_{ft-1}}$), including market value, cash holdings, dividend yield, asset tangibility, return on assets, leverage, average return over the previous year, concentration of institutional ownership, Thompson Reuters ESG rating, and an indicator variable for whether the firm has such a rating. Moreover, we control for a firm's negative governance news as well as other general negative news coverage, which may lead to changes in ownership.

A negative coefficient on $E\&S\ News_{ft}$ captures whether in quarter *t*, in which a firm experiences more negative E&S news, ownership by E&S-conscious or other investors falls below the firm's average ownership by that investor type over the sample period. This timing implicitly assumes that investors' divestitures occur in the same quarter as the negative news coverage.[8]

In Table 2, we separately consider the ownership of institutional investors with high and low sustainability-rated portfolios. In columns 1 to 4, the dependent variable is the percentage of shares outstanding held by institutional investors with average past portfolio sustainability ratings

[8] The interpretation of our findings would not change if some E&S-conscious investors sold in anticipation of heightened E&S risk during the quarter, as the results would still imply that discontent due to E&S risk leads E&S-conscious investors to sell.

in the top tercile – *High Rating IO %.* The percentage of institutional ownership by E&S-conscious investors decreases in quarters in which there is more negative news about a firm's E&S-related activities. In column 1, an average number of E&S news (4.85) is associated with a drop in ownership by E&S-conscious investors of 0.17 percentage points. In contrast, in columns 5 to 8 of Table 2, the shareholdings of investors that we classify as having weaker E&S preferences – labeled as *Low Rating IO %* – are not affected by negative E&S news.

The differential effect of negative E&S news on the ownership of E&S-conscious investors and other investors does not depend on concurrent governance news or other negative news coverage of a firm. Our estimates are qualitatively invariant when we control for other negative news coverage. While negative governance news appears to have a similar effect to negative E&S news on the holdings of E&S-conscious investors, other negative news coverage seems unrelated to institutional ownership (columns 3, 4, 7, and 8).

Overall, the results in Table 2 suggest that E&S-conscious investors are more prone to divest than other investors, even though the effect is relatively small. Thus, these findings may appear to support concerns that divestitures may not be large enough to affect firms' cost of capital and improve their E&S policies. However, existing corporate governance theories (Admati and Pfleiderer, 2009; Edmans, 2009; Edmans and Manso, 2011) imply that the mere threat of exit may affect managerial policies. The managers of firms with a higher proportion of E&S-conscious investors may fear that more E&S incidents will lead the remaining E&S-conscious investors to revise downwards their beliefs about the firm's E&S standards and prompt larger sales by E&S-conscious investors. Managers may thus have incentives to improve their E&S policies even if the actual divestitures appear too small to matter, as for instance, Berk and Van Bisbergen (2021) argue.

2.2 Sales Composition

E&S-conscious customers are also likely to care about firms' E&S policies. Customers' preferences can affect not only firms that sell final products but also firms that sell intermediate goods because firms' ESG ratings and reputation are affected by the E&S policies of their suppliers (Dai, Liang, and Ng, 2019). Specifically, firms in E&S-conscious countries, having E&S-conscious investors and customers, may reduce their dependence on suppliers with higher E&S risk. For this reason, we explore how a firm's (annual) sales in countries with different E&S preferences vary with negative news coverage of the firm's E&S policies, using an empirical model analogous to the one we use to study changes in institutional ownership.

Table 3 shows that a firm's sales to E&S-conscious countries decrease in years in which the firm experiences negative E&S news. For example, in column 1, an average number of yearly *E&S News* (9.68) is associated with a drop in sales of about 1% of the standard deviation of *Ln High ENV Sales*, suggesting that the punishment inflicted by E&S-conscious customers may be too small to provide market discipline. Consistent with the conjecture that customers' preferences matter, in columns 5 to 8, we do not find any effect of negative E&S risk on firm sales in less E&S-conscious countries.

Overall, even though the effects are relatively small, investors and consumers appear to vote with their wallets. These effects may exacerbate managerial concerns that more E&S incidents will increase discontent, prompting larger defections by E&S-conscious investors and customers. To evaluate whether these concerns affect firms' E&S policies, in what follows, we explore whether higher ownership by E&S-conscious investors and higher sales to E&S-conscious countries make firms' valuations more sensitive to negative E&S news. This could be due partly

to investors' contemporaneous divestitures and, possibly to an even larger extent, to the market's expectations of further drops in investor and consumer demand.

We then ask whether companies with a higher proportion of E&S-conscious investors improve their E&S policies because they fear more divestitures in the future or because they want to attract back E&S-conscious investors to improve their valuations. Similar mechanisms could be at play for companies with higher sales in E&S-conscious countries if managers fear that other customers may sever their relations or if firms want to increase sales in E&S-conscious countries.

3. Do E&S-conscious Investors and Customers Affect Stock Prices?

This section explores the market reaction to negative E&S news and whether that reaction depends on the market's anticipation of the actions of E&S-conscious investors and customers.

In Table 4, we perform an event study. In particular, we compute firms' daily abnormal returns as the residuals of either the capital asset pricing model (CAPM) or of the Fama and French (1993) four-factor model, which we estimate over the 252 days before the event. We then cumulate abnormal returns from one (two) day(s) before to one (two) day(s) after the news coverage. The univariate evidence in columns 1 to 4 in Panel A of Table 4 shows that firms experience negative short-term abnormal returns around the realizations of E&S risk, demonstrating the relevance of these occurrences. In column 2, the five-day CAPM-adjusted CARs are -0.096 percent, a negative, but relatively small, return that may cast doubt on the effectiveness of divestitures.

In the rest of Panel A, we split firms based on the cultural values prevailing in the firms' countries of origin. Firms in countries that we classify as more E&S-conscious (using the classification in Table A3) should have more E&S-conscious investors and customers, and hence, should experience more negative abnormal returns upon the revelation of negative E&S news. This

is precisely what we find. The average negative abnormal returns upon the revelation of negative E&S news appear to be driven by firms in E&S-conscious countries. The cumulative abnormal returns of other firms, albeit negative, are not statistically distinguishable from zero (in columns 7 and 8).

In Panel B of Table 4, we investigate to what extent investors' and customers' preferences are associated with firms' market reactions to negative E&S news. We test whether firms with ex-ante larger ownership by E&S-conscious investors, or with ex-ante higher sales in E&S-conscious countries, experience more negative abnormal returns. The specifications include industry fixed effects and firm-level controls as in Table 2.

Given that the ownership data are available only at the quarterly frequency, we are unable to relate actual sales by E&S-conscious investors to price reactions. Arguably, this test would not be the correct one to perform. Even if the sales by E&S-conscious investors occur later in the quarter, market participants would presumably incorporate the anticipated effects of changes in ownership structure. In addition, higher expected returns going forward may compensate the remaining E&S-conscious investors for E&S risk. Therefore, it is more meaningful to ask whether the composition of institutional ownership and the geography of sales are associated with a more negative market reaction when E&S incidents occur.

Panel B of Table 4 shows that firms with more E&S-conscious investors have more negative stock price reactions when they experience negative E&S news. In terms of economic magnitudes, the coefficient on *High Rating IO %* in column 3 of Panel B implies that a one-standard-deviation increase in E&S-conscious institutional ownership (0.0679) is associated with a 0.058% decrease in the five-day CAPM-adjusted CARs. None of the coefficients on *High ENV*

Sales% are statistically significant, suggesting that customers in E&S-conscious countries are unlikely to provide market discipline.

These effects should be interpreted as coming only in part from the actual divestitures by E&S-conscious investors occurring in the quarter of negative news coverage. They may also capture market participants' fears of future investor exits if the company experiences more E&S incidents. Crucially, the price reaction also captures expectations about corporate actions. Thus, while the behavior of investors and customers may be expected to inflict a stronger punishment on firms with more E&S-conscious investors and customers, anticipation that these firms may improve their E&S policies would tend to reduce the negative price impact.

4. Investors' Preferences and Corporate Policies

4.1 Response to Market Reactions and Negative News Coverage

So far, we have shown that firms with more E&S-conscious investors experience more negative market reactions to negative E&S news. If market discipline were effective, we would expect these firms to improve their policies to a larger extent.

We interpret the market reaction to an E&S incident as an early warning for a firm's managers. While a first E&S incident may be interpreted by investors as bad luck and have limited effects on divestitures and corporate valuations, managers may fear *en masse* exits if more negative E&S incidents occur and investors negatively update their beliefs about the firm's E&S standards.

Theory implies that divestitures and exit threats should hurt managers through their equity interest in the firm. Ideally, we would like to estimate the sensitivity of managerial wealth to the stock price (i.e., stock option delta). Unfortunately, detailed information on executive compensation is unavailable outside the US. Based on available data from Refinitiv ASSET4, we

can capture that executives and directors who receive equity compensation should care about the stock price to a larger extent.

We test whether the fear of future exits leads managers who have received equity compensation to improve their firm's E&S policies after a stronger early warning. Specifically, we view a more negative market reaction around E&S incidents as a stronger warning about investor discontent in firms with more E&S-conscious investors. Our empirical models thus relate price reactions in response to negative realizations of E&S risk to subsequent changes in corporate E&S policies. As a first proxy for improvements in E&S policies, we use the change in a firm's *E&S Score* between years *t* and *t+3*. Refinitiv's *E&S score* rates companies along seven environmental and social dimensions. Specifically, companies are evaluated for 1) their eco-efficiency in the use of resources and supply chain management; 2) their commitment and effectiveness in reducing environmental emissions; 3) on whether they innovate to reduce environmental costs by introducing environmental technologies and processes or eco-designed products; 4) on whether they provide a diverse, healthy, and safe workplace as well as development opportunities; 5) on whether they respect fundamental human rights conventions; 6) on whether they are good citizens, protect public health and behave ethically; and 7) on whether they produce quality goods and services, incorporating the customer's health and safety, integrity, and data privacy.

We test whether the change in a firm's *E&S Score* depends on its market reaction to negative E&S news. Specifically, to ease interpretation, we capture heterogeneity in investor discontent in firms with different investor preferences by defining an indicator variable *Very Negative Market Reaction* that takes the value of one if the lowest three-day CARs associated with

any negative E&S news revealed during year *t* belong to the bottom quintile, and zero otherwise.[9] We limit the sample to firms with negative coverage of their E&S policies during the year.

Based on existing theories, managers are expected to respond to the threat of exit because their payoffs are affected by the stock price. If a very negative market reaction to E&S incidents is an early warning for future exits, we would expect managers that receive equity compensation to adapt the firm's E&S policies to a larger extent.

This is precisely what we find in columns 1 and 2 of Table 5. Regardless of the measure of CARs that we use, the *Very Negative Market Reaction* dummy has a positive and statistically significant effect on the change in *E&S Score* between *t* and *t+3*, but only for firms whose managers receive equity compensation and thus care about the company's secondary market valuations. The effect is not only statistically but also economically significant. In column 2, a firm that experiences a very negative market reaction to negative E&S news and whose managers receive equity compensation improves its *E&S Score* by 2.09 points (46% of the average change in *E&S Score*, which is equal to 4.53).

ESG ratings provided by different agencies, albeit positively correlated, are often in disagreement because rating agencies focus on different attributes, measure them differently, or construct the final scores by aggregating attributes using different weights (Berg, Koelbel, and Rigobon, 2019). For this reason, we consider an event-based measure of firm E&S policies based on future E&S incidents. As Li and Wu (2020) argue, the frequency of negative E&S events depends on media coverage and cannot be manipulated as easily. In columns 3 and 4, we use the average number of E&S incidents that a firm experiences between years *t*+1 and *t*+3 to assess

[9] Since we want to capture the effect of investor preferences on actual divestitures as well as on the threat of future exits, it would be inappropriate to explore the effect of actual changes in E&S-conscious institutional ownership on a firm's E&S policies.

changes in E&S policies. Presumably, firms that improve their E&S policies end up experiencing fewer E&S incidents.

In addition to year fixed effects, these specifications include firm fixed effects because firms may have different propensities to be covered in the news. The estimates confirm the results in columns 1 and 2. Negative E&S incidents decrease to a larger extent in firms that experience more negative price reactions to negative E&S news and whose managers receive equity compensation. This supports the conjecture that these firms improve their E&S policies to a larger extent.

The results in Table 5 are obtained controlling for a host of firm characteristics that help to rule out alternative explanations. In particular, the observed improvements in future E&S policies do not depend on the firm's initial E&S rating, as the empirical models in columns 3 and 4 include firm fixed effects.

In Table 4, the main determinant of a negative market reaction to an E&S incident is a firm's investor base. Therefore, we attribute the changes in E&S policies following very negative market reactions to market discipline. If this were the case, we should observe that firms with ex-ante more E&S-conscious investors are more inclined to improve their E&S policies not only because they may want to attract back the investors that sold shares, but also because they may want to avoid further exits of their E&S-conscious investors.

In Table 6, we shed light on whether firms indeed respond to the negative market reactions by improving their E&S policies because they have more E&S-conscious investors. We test whether firms that have experienced relatively more negative E&S news have better subsequent E&S policies when their investors are more E&S-conscious. In these specifications, we control for ex-ante higher sales to E&S-conscious countries and measure E&S-conscious institutional

ownership at the end of the last quarter of year *t-1*. More importantly, we split the sample distinguishing between firms, whose managers receive equity compensation and should therefore be more concerned about the stock price (*Equity Comp* = 1) and other firms (*Equity Comp* = 0).

Column 1 in Table 6 focuses on the subsample of firms whose managers receive equity compensation. Following an average increase in negative *E&S News* (equal to 11.09 in the subsample of firms that experience news coverage), firms with a one-standard-deviation higher ex-ante E&S-conscious institutional ownership experience an improvement in the *E&S Score* between years *t* and *t+3* by 0.37 points, equal to 7.21% of the average change in *E&S Score* (5.18). The estimate is not statistically significant in column 2 in the subsample of firms whose managers do not receive equity compensation. Results are qualitatively similar in columns 3 and 4, where we gauge improvements in E&S policies considering firms' average E&S incidents between *t+1* and *t+3.* Not only do the reactions to negative E&S news of firms with different levels of E&S-conscious institutional ownership differ between firms with and without equity compensation as predicted by theoretical models of governance by exit, but they are also statistically significant.

Overall, these findings support the existence of market discipline. If managers care about the firm's stock price because they are awarded equity compensation, divestitures and the fear of future exits appear to lead the managers of firms with an ex-ante high proportion of E&S-conscious investors to improve firms' E&S policies.

In addition, we find no consistent evidence across specifications that ex-ante higher sales in E&S-conscious countries are associated with improvements in firms' *E&S Score* following negative E&S news. This may reflect that customers do not have access to as much information as investors, who monitor firms' E&S risks using a variety of metrics, including RepRisk. Firms'

costs in switching suppliers may also explain why we find limited evidence of market discipline associated with customers' E&S preferences.

4.2 Additional Proxies for E&S policies

To evaluate whether firms make real efforts to improve their E&S policies or if instead they simply try to enhance their reputation, we investigate whether firms improve in the specific areas in which they experienced the initial problems. To do so, we consider different types of E&S incidents, distinguishing between incidents that refer to resource use, emissions, workforce, community, human rights, and product responsibility, using RepRisk labels. In these tests, we also distinguish between firms, whose managers receive equity compensation and should therefore be more concerned about the stock price, and other firms, as we expect the former group to react more to divestitures and exit threats.

In Panel A of Table 7, we consider the subsample of firms whose managers receive equity compensation. We find that firms that have experienced negative news coverage of a particular issue (e.g., emissions) at time *t* and have higher E&S-conscious institutional ownership at *t-1* experience fewer incidents on that particular issue between years *t*+1 and *t*+3, providing a link between the initial incident and subsequent improvements. Based on column 2, firms with average negative *Emissions News* (equal to 3.99) experience a 0.18 points larger decrease in *Emissions* incidents between years *t+1* and *t+3* if they have an ex-ante one-standard-deviation higher E&S-conscious institutional ownership. This is equivalent to an 18.6% decrease, compared to the three-year average of a firm's incidents related to emissions. Results are qualitatively and quantitatively similar when we consider incidents related to resource use, workforce, community, human rights, and lack of product responsibility.

In Panel B, we consider the subsample of firms whose managers are less likely to care about the stock price because they do not receive equity compensation. The estimated parameters are not statistically significant (with the exception of column 3 where we consider workforce incidents) and always smaller in magnitude than in Panel A. Differences in the coefficients of the interaction terms between the negative news and E&S-conscious institutional ownership are also statistically significant between the two subsamples.

These findings suggest that managers that are most concerned about the stock price adjust their policies to meet investor preferences. The fact that companies experience less negative news coverage on the specific issues of the initial incident also suggests that they improve along those dimensions rather than simply window-dressing as a way to obtain higher E&S ratings.

Finally, Table 8 confirms our results using measures of direct environmental impact, which we obtain from S&P Trucost. Specifically, we consider changes in total environmental costs, greenhouse gas (GHG) emissions, air pollutants, waste, and land and water pollutants. All measures are defined as impact ratios, that is, standardized by the firm's revenues. Actual emissions and other direct environmental costs capture more concrete and harder to manipulate aspects of environmental policies. Changes along these dimensions would support our hypothesis that firms do not greenwash.

In Panel A, we focus on firms whose managers receive equity compensation. We find that following negative environmental incidents, firms with more E&S-conscious investors decrease their environmental impact between years *t* and *t*+3 more than other firms. For example, in column 2, following an average increase in negative *Env News* (equal to 6.27), firms with an ex-ante one-standard-deviation higher E&S-conscious institutional ownership experience a drop in the

greenhouse gas (GHG) emission impact ratio of 2.77 percentage points, which is equivalent to 36.5% of the average three-year change in the GHG impact ratio.

Comparing the results in Panels A and B confirms that firms whose managers receive equity compensation improve their E&S policies to a larger extent. Although the differences in the coefficients on the interaction terms between *Env News* and *High Rating IO %* are not statistically significant at conventional levels between the two subsamples, together with our earlier findings, the evidence on firm emissions is consistent with theories based on the threat of exit.

Overall, these results indicate that firms that experience negative realizations of E&S risk improve their E&S policies if they have a large proportion of E&S-conscious investors and their managers care about the secondary stock price because they receive equity compensation.

4.3. Blockholder Engagements

Our results suggest that investors can exercise market discipline and affect firms' E&S policies. In contrast, existing literature has highlighted that blockholders are able to engage with companies and obtain improvements in E&S policies. A possible concern is that the companies that improve their E&S policies are those in which blockholders engage with management. Thus, these improvements may occur independently from the divestitures and exit threats of E&S-conscious investors.

For this reason, in Table 9, we control for the presence of blockholders that can potentially engage with management and demand improvements in E&S policies. Specifically, we consider changes in the E&S score and future E&S incidents as in Table 6. In columns 2 and 5, we control for the percentage of ownership by E&S-conscious blockholders, defined as E&S-conscious shareholders that own 1% or more of the firm's equity (*High Rating IO Blockholder %*); in

columns 3 and 6, we control for the presence of a large blockholder by including an indicator variable that takes the value of one if a firm has at least one E&S-conscious shareholder with 1% or more of the firm's outstanding shares.

We find no evidence that this alternative mechanism drives our findings. The positive and significant coefficient on the triple interaction between *E&S News*, *High Rating IO %* and *Equity Comp* confirms that firms with ex-ante more E&S-conscious investors and whose managers receive equity compensation improve their E&S policies to a larger extent following E&S incidents, even after controlling for the presence of E&S-conscious blockholders and their aggregate ownership.

This evidence confirms that the effects we document are due to E&S-conscious investors' actual and threatened divestitures rather than to blockholder engagement.

4.4 Long-Term Effects

Our interpretation of the empirical evidence so far is that the managers of firms with more E&S-conscious investors improve their E&S policies following E&S incidents to avoid future investor exits and reduce the negative effect on their stock prices. If the managers' attempts are successful, we should observe that the market valuations of firms improving their E&S policies increase after the initial drop and that E&S-conscious investors come back.

To evaluate whether the long-term effects are consistent with the existence of market discipline, we focus on firms that experience an E&S incident during our sample period and consider their returns starting from one month after the E&S incident. In columns 1 and 2 of Table 10, we explore how differences in CARs in the 12 and 24 months after the negative E&S news coverage depend on the firm's ownership and on whether the firm has improved its E&S policies.

We observe that one year after the E&S incident, firms with a higher proportion of E&S-conscious investors experience higher cumulative monthly abnormal returns, as long as they have improved their E&S policies, as measured by an increase in the *E&S score* during that year. A one-standard-deviation increase in *High Rating IO %* (0.067) is associated with a 3.50% higher cumulative abnormal returns in the next 12 months for firms that improve their E&S policies. In column 2, the estimates are qualitatively similar if we consider the firm's cumulative abnormal returns and improvements in policies in the two years following the E&S incident.

Columns 3 and 4 show that the timing of the performance improvements is consistent with the timing of the changes in E&S-conscious institutional ownership, which increases in firms that improve their E&S policies in the four quarters after the E&S incident, and even further over the following 4 quarters. Even if the increase in E&S-conscious institutional ownership remains below 1%, the estimates suggest that firms that improve their E&S policies manage to regain the investors that had divested.

Taken together, our results show that market discipline is effective: Managers respond to the initial investor divestitures and negative market reactions by improving the firm's E&S policies, and in so doing, they are able to attract back E&S-conscious investors and boost their stock price.

5. Conclusions

We contribute to the heated debate on whether divestitures can increase the sustainability of corporate policies or instead investor engagements are necessary. A number of recent papers raise concerns that divestitures, and their effects on firms' cost of capital, are far too small to affect corporate policies (e.g., Berk and Van Bisbergen, 2021).

We propose that even limited divestitures can have real effects. Following shocks that raise concerns about the sustainability of corporate policies, a few E&S-conscious investors sell. The changes in ownership structure and the impact on firms' stock prices are admittedly small, but companies that have a large proportion of E&S-conscious investors subsequently improve their E&S policies and experience an increase in ownership by E&S-conscious investors.

We interpret these results in light of disciplinary exit theories. Specifically, we conjecture that a firm's first E&S incident may be viewed as bad luck by most investors, but it may raise managerial concerns that E&S-conscious investors will revise downwards their beliefs on the quality of the firm's E&S standards and quit *en masse*, leading to a large drop in the stock price if more E&S incidents occur in the future. Consistent with these theoretical predictions, we find that firms with a large proportion of E&S-conscious investors subsequently improve their E&S policies, especially if their managers' compensation is linked to the stock price.

Our results also have implications about what types of divestment strategies can be successful. Specifically, firms have an incentive to improve their E&S policies only if E&S-conscious investors consider holding the stocks of brown firms that improve their E&S policies. Blanket exclusions of brown industries do not work, as recent theoretical work by Edmans, Levit, and Schneemeier (2022) suggests, because E&S-conscious investors can neither threaten to exit nor consider buying the stocks of brown companies that improve.

Finally, our results have implications about whether managerial compensation should depend on E&S metrics and suggest that if a firm's shareholders care about E&S issues, it is sufficient that managerial compensation depends on the stock price to incentivize improvements in E&S policies. The latter may even be preferable if E&S objectives and risks are hard to define or easy to manipulate.

References

Abramson, P. R., and Inglehart, R. F. (1995) Value change in global perspective, *Working paper*, Ann Arbor: University of Michigan Press.

Akey, P., Lewellen, S., Liskovich, I., and Schiller, C. (2021) Hacking corporate reputations, *Working paper,* Rotman School of Management.

Albuquerque, R., Koskinen, Y., and Zhang, C. (2019) Corporate social responsibility and firm risk: Theory and empirical evidence, *Management Science* 65, 4451–4469.

Berg, F., Kölbel, J. F., and Rigobon, R. (2019) Aggregate confusion: The divergence of ESG ratings, *Working Paper*, MIT.

Berk, J., and van Binsbergen, J. H. (2021) The impact of impact investing, *Working Paper,* Stanford University.

Bolton, P., and Kacperczyk, M. (2021) Do investors care about carbon risk? *Journal of Financial Economics*, in press.

Bond, P., Edmans, A., and Goldstein, I. (2012) The real effects of financial markets, *Annual Review of Financial Economics* 4, 339–360

Broccardo, E., Hart, O., and Zingales, L. (2020) Exit vs. voice, *Working Paper*, Harvard University.

Chakravarthy, J., DeHaan, E., and Rajgopal, S. (2014) Reputation repair after a serious restatement, *Accounting Review*, 89, 1329–1363.

Chen, T., Hui, D., and Lin, C. (2019) Institutional shareholders and corporate social responsibility, *Journal of Financial Economics,* forthcoming.

Chu, Y., and Zhao, D. (2019) Green hedge fund activists, *Working Paper*, Belk College of Business, University of North Carolina, Charlotte.

Dai, R., Liang, H., and Ng, L.K. (2019) Socially responsible corporate customers, *Journal of Financial Economics,* forthcoming.

Dimson, E., Karakaş, O., and Li, X. (2015) Active ownership, *Review of Financial Studies* 28, 3225–3268.

Dimson, E., Karakaş, O., and Li, X. (2018) Coordinated engagements, *Working Paper,* University of Cambridge.

Dow, J., and Gorton, G. (1997) Stock market efficiency and economic efficiency: Is there a connection? *Journal of Finance* 52, 1087–1129.

Dyck, A., Lins, K. V., Roth, L., and Wagner, H. F. (2019) Do institutional investors drive corporate social responsibility? International evidence, *Journal of Financial Economics*, 131, 693–714.

Edmans, A. (2011). Does the stock market fully value intangibles? Employee satisfaction and equity prices, *Journal of Financial Economics*, 101, 621–640.

Edmans, A., and Manso, G. (2011) Governance through trading and intervention: A theory of multiple blockholders, *Review of Financial Studies*, 24, 2395–2428.

Edmans, A., Levit, D., and Schneemeier, J. (2022) Socially responsible divestment, *Working Paper*. London Business School.

Flammer, C. (2013) Corporate social responsibility and shareholder reaction: The environmental awareness of investors, *Academy of Management Journal*, 56, 758–781.

Heath, D., Macciocchi, D., Michaely, R., and Ringgenberg, M. C. (2021) Does socially responsible investing change firm behavior? *Working Paper*, University of Utah.

Heinkel, R., Kraus, A., and Zechner, J. (2001) The effect of green investment on corporate behavior, *Journal of Financial and Quantitative Analysis* 36, 431–449.

Hong, H. G., Kubik, J. D., Liskovich, I., and Scheinkman, J. (2019) Crime, punishment and the value of corporate social responsibility, *Working Paper*, Princeton University.

Inglehart, R. (1997) Modernization and postmodernization: Cultural, economic, and political change in 43 societies, Princeton University Press, Princeton, NJ.

Inglehart, R., and Baker, W. (2000) Modernization, cultural change, and the persistence of traditional values, *American Sociological Review* 65, 19–51.

Jin, L., and Myers, S. (2006) R2 around the world: New theory and new tests, *Journal of Financial Economics,* 79, 257–292.

Kahan, D. M. (2013) Ideology, motivated reasoning, and cognitive reflection, *Judgment and Decision Making* 8(4), 407–424.

Karpoff, J. M., Lott, J. R., and Wehrly, E. W. (2005) The reputational penalties for environmental violations: Empirical evidence, *Journal of Law and Economics*, 48(2), 653–675.

Krueger, P. (2015) Corporate goodness and shareholder wealth, *Journal of Financial Economics* 115, 304–329.

Krueger, P., Sautner, Z., and Starks, L. T. (2021) The importance of climate risks for institutional investors, *Review of Financial Studies*, forthcoming.

Li, J., and Wu, D. A. (2020) Do corporate social responsibility engagements lead to real environmental, social, and governance impact? *Management Science*, forthcoming.

Lins, K. V., Servaes, H., and Tamayo, A. (2017) Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis, *Journal of Finance*, 72, 1785–1824.

Morck, R., Yeung, B., and Yu, W. (2000) The information content of stock markets: Why do emerging markets have synchronous stock price movements? *Journal of Financial Economics,* 58, 215–260.

Mullainathan, S., and Shleifer, A. (2005) The market for news, *American Economic Review*, 95, 1031–1053.

Naaraayanan, S. L., Sachdeva, K., and Sharma, V. (2020) The real effects of environmental activist investing, *Working Paper*. Rice University.

Pastor, L., Stambaugh, R. F., and Taylor, L. (2021) Sustainable investing in equilibrium, *Journal of Financial Economics*, forthcoming.

Pedersen, L. H., Fitzgibbons, S., and Pomorski, L. (2019) Responsible investing: The ESG-efficient frontier, *Working Paper*, New York University.

Rohleder, M., Wilkens, M., and Zink, J. (2022) The effects of mutual fund decarbonization on stock prices and carbon emissions, *Journal of Banking & Finance* 134, in print.

Serafeim, G., and Yoon, A. (2021) Stock price reactions to ESG news: The role of ESG ratings and disagreement, *Working Paper*, Harvard University.

Starks, L. T., Venkat, P., and Zhu, Q. (2017) Corporate ESG profiles and investor horizons, *Working Paper*, University of Texas at Austin.

The Economist. (2020) ESG investors get their heads around social risks, June 4.

Table 1. Summary statistics

This table reports summary statistics of negative E&S news coverage (Panel A), institutional ownership (Panel B), sales (Panel C), cumulative abnormal returns (Panel D), and other firm characteristics (Panel E). The sample period is 2007-2016. *High (Low) Rating IO %* is the percentage of firm ownership by institutional investors with average portfolio sustainability ratings in the top tercile (not in the top tercile). *High ENV Sales* are a firm's sales in countries in the top tercile of the WVS self-expression score. All other variables are defined in Table A4.

Variables	Num Obs	Mean	Std. Dev.	10th Pctl	Median	90th Pctl
Panel A						
E&S News Count	68,788	1.839	7.647	0	0	4
ENV News Count	68,788	0.738	3.267	0	0	1
Resource News Count	68,788	0.558	2.560	0	0	1
Product News Count	68,788	0.303	1.433	0	0	1
Workforce News Count	68,788	0.262	1.182	0	0	1
Emission News Count	68,788	0.421	2.009	0	0	1
Community News Count	68,788	0.338	1.598	0	0	1
Human Rights News Count	68,788	0.218	1.058	0	0	0
Panel B						
Institutional Ownership	150,116	32.75	31.76	2.272	19.65	89.6
High Rating IO %	150,116	5.081	7.45	0.008	1.934	14.2
Low Rating IO %	150,116	15.85	15.61	0.884	9.733	42.38
High Rating IO % - Blockholder	150,116	2.72	5.619	0	0	8.584
Panel C						
Ln High ENV Sales	28,866	18.25	8.034	8.034	8.034	8.034
Ln Low ENV Sales	28,866	18.68	8.496	8.496	8.496	8.496
High ENV Sales %	28,866	0.465	0.382	0.382	0.382	0.382
Panel D						
CAPM-Adj CAR % [-1,+1]	37,805	-0.085	3.458	-3.751	-0.098	3.632
CAPM-Adj CAR % [-2,+2]	37,805	-0.095	4.426	-4.912	-0.105	4.697
FF4-Adj CAR % [-1,+1]	37,805	-0.091	3.460	-3.750	-0.107	3.638
FF4-Adj CAR % [-2,+2]	37,805	-0.101	4.451	-4.951	-0.118	4.730
FF4-Adj Returns (12-mo)	30,883	-0.004	0.345	-0.363	-0.041	0.369
FF4-Adj Returns (24-mo)	29,624	-0.006	0.475	-0.504	-0.077	0.529
Panel E						
E&S Score	26,496	40.340	23.740	10.44	38.41	73.75
Thomson Rated	68,788	0.385	0.487	0	0	1
Thomson Rating	68,788	0.435	0.138	0.265	0.434	0.613
General Neg News	57,083	23.500	38.090	0	11	60
Total Direct Impact Ratio	32,515	3.166	9.717	0.006	0.173	6.665
GHG Direct Impact Ratio	32,515	1.331	4.128	0.004	0.078	2.838
Waste Direct Impact Ratio	32,515	0.058	0.212	0.001	0.014	0.071
Water and Land Direct Impact Ratio	32,515	0.434	1.536	0	0.020	0.869
Air Direct Impact Ratio	32,515	0.460	1.356	0.001	0.027	0.977
Equity Comp	68,788	0.167	0.373	0	0	1

Table 2. E&S-conscious institutional ownership and negative E&S news

This table reports OLS regression estimates of E&S-conscious institutional ownership on E&S news counts. The observations are firm-quarter. The dependent variable is *High (Low) Rating IO %* in columns 1-4 (5-8), which is the percentage ownership by institutional investors with average portfolio sustainability ratings in the top tercile (not in the top tercile) of firm *i* in quarter *t*. Even-numbered columns control for the firm's number of governance news from RepRisk, and columns 3, 4, 7, and 8 control for the firm's number of general negative news from Ravenpack. All models control for lagged firm characteristics and include firm fixed effects and year-quarter fixed effects. The t-statistics, calculated with standard errors clustered at the firm level, are reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	High Rating IO %				Low Rating IO %			
E&S News	-0.034***	-0.020**	-0.034***	-0.019**	0.006	0.001	0.006	0.001
	(-3.684)	(-2.012)	(-3.627)	(-1.985)	(0.455)	(0.059)	(0.455)	(0.059)
G News		-0.045***		-0.045***		0.017		0.017
		(-3.515)		(-3.474)		(0.785)		(0.783)
General Neg News			0.004	0.003			-0.000	0.000
			(1.398)	(1.321)			(-0.013)	(0.003)
Market Value	0.984***	0.982***	0.981***	0.979***	2.044***	2.045***	2.044***	2.045***
	(14.271)	(14.227)	(14.216)	(14.175)	(16.293)	(16.295)	(16.309)	(16.311)
Cash	-0.926**	-0.921**	-0.921**	-0.917**	0.698	0.696	0.698	0.696
	(-2.180)	(-2.168)	(-2.168)	(-2.158)	(1.012)	(1.010)	(1.013)	(1.010)
Dividend Yield	0.077***	0.077***	0.076***	0.076***	0.053**	0.053**	0.053**	0.053**
	(4.256)	(4.283)	(4.216)	(4.244)	(2.187)	(2.180)	(2.187)	(2.179)
Tangibility	0.257	0.254	0.258	0.254	1.510**	1.511**	1.510**	1.511**
	(0.675)	(0.666)	(0.677)	(0.668)	(2.478)	(2.480)	(2.478)	(2.480)
ROA	0.785**	0.782**	0.797**	0.794**	0.422	0.423	0.422	0.423
	(2.515)	(2.506)	(2.554)	(2.543)	(0.785)	(0.787)	(0.784)	(0.786)
Leverage	0.803***	0.809***	0.802***	0.808***	-1.730***	-1.732***	-1.730***	-1.732***
	(3.186)	(3.210)	(3.182)	(3.206)	(-4.380)	(-4.386)	(-4.381)	(-4.387)
Average Return	-2.924***	-2.915***	-2.905***	-2.898***	1.705	1.702	1.705	1.702
	(-4.364)	(-4.350)	(-4.338)	(-4.325)	(1.526)	(1.523)	(1.527)	(1.524)
Thomson Rating	1.820***	1.832***	1.817***	1.829***	-1.909***	-1.914***	-1.909***	-1.914***
	(4.485)	(4.514)	(4.477)	(4.507)	(-3.341)	(-3.349)	(-3.341)	(-3.349)
Thomson Rated	1.191***	1.189***	1.187***	1.186***	-0.363*	-0.362*	-0.363*	-0.362*
	(8.223)	(8.210)	(8.201)	(8.189)	(-1.685)	(-1.681)	(-1.684)	(-1.681)
IO Concentration	-1.619***	-1.621***	-1.619***	-1.621***	-3.613***	-3.612***	-3.613***	-3.612***
	(-6.571)	(-6.574)	(-6.573)	(-6.576)	(-10.082)	(-10.080)	(-10.082)	(-10.080)
Observations	150104	150104	150104	150104	150104	150104	150104	150104
Adjusted R-squared	0.718	0.719	0.718	0.719	0.882	0.882	0.882	0.882
Firm & YQ FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 3. Sales in E&S-conscious countries and negative E&S news

This table reports OLS regression estimates of firm sales in E&S-conscious and non-E&S-conscious countries on E&S news counts. The unit of observation is firm-year. The dependent variables are one plus the natural logarithm of total sales for firm *i* in year *t* in high (low) E&S-conscious countries, defined as those in the top tercile (not in the top tercile) of the World Value Survey (WVS) self-expression score. Even-numbered columns control for the firm's number of governance news from RepRisk, and columns 3, 4, 7, and 8 control for the firm's number of general negative news from Ravenpack. All models control for lagged firm characteristics as reported in Table 2 and include firm and year fixed effects. The t-statistics, calculated with standard errors clustered at the firm level, are reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Ln High ENV Sales				Ln Low ENV Sales			
E&S News	-0.008***	-0.006*	-0.008***	-0.006*	-0.000	0.002	0.000	0.002
	(-2.689)	(-1.896)	(-2.718)	(-1.917)	(-0.005)	(0.361)	(0.005)	(0.366)
G News		-0.004		-0.004		-0.004		-0.004
		(-0.931)		(-0.945)		(-1.023)		(-1.022)
General Neg News			-0.001	-0.001			0.000	0.000
			(-1.001)	(-1.014)			(0.273)	(0.264)
Observations	28704	28704	28704	28704	28704	28704	28704	28704
Adjusted R-squared	0.875	0.875	0.875	0.875	0.936	0.936	0.936	0.936
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4. Market reactions to negative E&S news

This table reports abnormal stock returns (in percentages) around E&S news. Panel A reports univariate t-tests of short-term CARs, cumulated from one (two) day(s) before to one (two) day(s) after the RepRisk news event and calculated as the residuals of the CAPM model (CAPM-adj in columns 1 and 2) or as the residuals of the Fama-French four-factor model (FF4-adj in columns 3-8). The CAPM and the Fama-French four-factor model are estimated over the 252 days before the event day. Columns 5-6 report the FF4-adj CARs for the subsample of firms from E&S-conscious countries (based on the World Value Survey (WVS) self-expression score), whereas columns 7-8 report the FF4-adj CARs for the subsample of firms from non-E&S conscious countries. Panel B presents cross-sectional regression estimates for short-term CARs as a function of *High Rating IO %* and *High ENV Sales %.* All models in Panel B include controls for lagged firm characteristics, as reported in Table 2, and industry fixed effects. The t-statistics, calculated with standard errors clustered at the firm level, are reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Panel A. Univariate statistics

	(1)	(2)	(3)	(4)
	CAPM-adj CARs		FF4-adj CARs	
	[-1,+1]	[-2,+2]	[-1,+1]	[-2,+2]
Mean	-0.085***	-0.096***	-0.09***	-0.101***
t-value	(-4.782)	(-4.19)	(-5.091)	(-4.413)
N	37805	37805	37805	37805

	(5)	(6)	(7)	(8)
Sample Split	*High ENV Country*		*Low ENV Country*	
	FF4-adj CARs			
	[-1,+1]	[-2,+2]	[-1,+1]	[-2,+2]
Mean	-0.108***	-0.125***	-0.049	-0.043
t-value	(-5.444)	(-4.883)	(-1.296)	(-0.893)
N	26765	26765	11040	11040

Panel B. Cross-sectional analysis

	(1)	(2)	(3)	(4)
	CAPM-adj	FF4-adj	CAPM-adj	FF4-adj
	[-1,+1]		[-2,+2]	
High Rating IO %	-0.478*	-0.639**	-0.851**	-1.072***
	(-1.671)	(-2.332)	(-2.256)	(-2.954)
High ENV Sales %	0.110	0.074	0.148	0.093
	(1.475)	(1.018)	(1.457)	(0.925)
Observations	37799	37799	37799	37799
Adjusted R-squared	0.010	0.010	0.016	0.015
Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes

Table 5. Firms' policy responses to negative market reactions

This table reports OLS regression estimates of firms' policy responses to E&S risk. The observations are firm-year and we include in the sample only firms that experienced negative E&S news in year *t*. Firm policies are measured by the change in a firm's *E&S Score* from year *t* to year *t+3* (columns 1 and 2) and the average E&S news counts between years *t+1* and *t+3* (columns 3 and 4). A higher *E&S Score* indicates improvements in a firm's environmental and social practices, whereas higher *Avg E&S News* indicates more environmental and social incidents. The indicator variable *Very Negative Market Reaction* (CAPM-adj/ FF4-adj) is equal to one if firm *i*'s lowest three-day CARs associated with any negative E&S news revealed during year *t* are in the bottom quintile, and zero otherwise. *Equity Comp* is a dummy variable that equals one if a firm awarded equity-based compensation to its executives and directors in year *t*. All models include lagged firm size, ROA, Thomson Rated, and Thomson Rating as controls. Columns 1 and 2 also include industry, country, and year fixed effects, whereas columns 3 and 4 include firm and year fixed effects. The t-statistics, calculated with standard errors clustered at the firm level, are reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

	(1)	(2)	(3)	(4)
	Δ E&S Score		Avg E&S News	
Equity Comp	-0.099	-0.341	0.499	0.768*
	(-0.162)	(-0.555)	(1.096)	(1.703)
Very Negative Market Reaction (CAPM-adj)	-0.831*		-0.143	
	(-1.875)		(-0.620)	
Equity Comp × Very Negative Market Reaction (CAPM-adj)	1.335**		-0.830*	
	(2.006)		(-1.864)	
Very Negative Market Reaction (FF4-adj)		-0.840*		0.115
		(-1.932)		(0.490)
Equity Comp × Very Negative Market Reaction (FF4-adj)		2.087***		-1.558***
		(3.056)		(-3.381)
Observations	4706	4706	5708	5708
R-squared	0.220	0.221	0.917	0.917
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No
Country FE	Yes	Yes	No	No
Firm FE	No	No	Yes	Yes

Table 6. Firms' policy responses, E&S-conscious institutional ownership, and managerial incentives

This table reports OLS regression estimates of firms' policy responses to E&S risk. Firm policies are measured by the change in a firm's *E&S Score* from year *t* to year *t+3* (columns 1 and 2) and the average E&S news counts between years *t+1* and *t+3* (columns 3 and 4). A higher *E&S Score* indicates improvements in a firm's E&S practices, whereas higher *Avg E&S News* indicates more environmental and social incidents. Odd-numbered (even-numbered) columns include firms that have (have not) awarded equity-based compensation to their executives and directors in year *t*, denoted as *Equity Comp* =1 (*Equity Comp* = 0). The main independent variables are *High Rating IO %* (at the end of the last quarter of year *t-1*) interacted with *E&S News* in year *t*. All models include lagged firm size, ROA, Thomson Rated, and Thomson Rating as controls. Columns (1) and (2) include industry, country, and year fixed effects, whereas columns 3 and 4 include firm and year fixed effects. The t-statistics, calculated with standard errors clustered at the firm level, are reported in parentheses. In the last row, we also report the F-statistics for the difference in the coefficients on the interaction terms between *E&S News* and *High Rating IO %* in the subsamples of firms with and without equity compensation. Statistical significance at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

	(1)	(2)	(3)	(4)
	Δ E&S Score		Avg E&S News	
	Equity Comp = 1	*Equity Comp = 0*	*Equity Comp = 1*	*Equity Comp = 0*
E&S News	-0.087*	0.009	0.015	0.062
	(-1.724)	(0.264)	(0.259)	(1.526)
High Rating IO %	-4.258	-1.699	7.240***	-3.302***
	(-0.724)	(-0.458)	(3.462)	(-3.432)
E&S News × High Rating IO %	0.571***	-0.061	-1.475***	0.149
	(2.733)	(-0.296)	(-3.549)	(0.783)
High ENV Sales %	-2.172**	0.980	0.552	-0.223
	(-2.059)	(1.053)	(0.825)	(-0.495)
E&S News × High ENV Sales %	0.039	-0.019	0.202***	0.116*
	(0.580)	(-0.326)	(2.659)	(1.659)
Observations	4636	6706	4530	19552
R-squared	0.180	0.194	0.916	0.894
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	No	No
Country FE	Yes	Yes	No	No
Firm FE	No	No	Yes	Yes
F-statistics	2.1*		13.89***	

Table 7. Firms' responses by E&S incident type

This table reports OLS regression estimates of firms' policy responses to negative E&S news. The unit of observation is firm-year. Panel A (Panel B) includes firms that have (have not) awarded equity-based compensation to their executives and directors in year *t*, denoted as *Equity Comp* =1 (*Equity Comp* = 0). The main independent variables are *High Rating IO %* (at the end of the last quarter of year *t-1*) interacted with *E&S News* in year *t*. We distinguish between news that refers to *Resource Use, Emissions, Workforce, Community, Human Rights,* and *Product Responsibility*. Firm policies are captured by the average RepRisk news counts between years *t+1* and *t+3*, considering the same categories of news. All models include controls for lagged size, ROA, Thomson Rated, and Thomson Rating, and firm and year fixed effects. The t-statistics, calculated with standard errors clustered at the firm level, are reported in parentheses. At the bottom of the table, we also report the F-statistics for the difference in the coefficients on the interaction terms between *E&S News* and *High Rating IO %* in the subsamples of firms with and without equity compensation. Statistical significance at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Panel A. Firms whose managers received equity compensation (*Equity Comp* = 1)

	(1)	(2)	(3)	(4)	(5)	(6)
Avg News Counts by Category	Resource Use	Emissions	Workforce	Community	Human Rights	Product Responsibility
High Rating IO %	2.795***	1.507***	1.156***	1.741***	1.187***	1.816***
	(4.589)	(3.542)	(3.713)	(4.003)	(4.504)	(4.323)
Resource News	0.086***					
	(4.265)					
Resource News × High Rating IO %	-0.991***					
	(-3.980)					
Emissions News		0.066***				
		(3.301)				
Emissions News × High Rating IO %		-0.777***				
		(-3.466)				
Workforce News			0.069***			
			(3.831)			
Workforce News × High Rating IO %			-0.967***			
			(-3.955)			
Community News				0.084***		
				(3.601)		
Community News × High Rating IO %				-0.798***		
				(-3.322)		
Human Rights News					0.032*	
					(1.791)	
Human Rights News × High Rating IO %					-0.495**	
					(-2.374)	
Product Responsibility News						0.075***
						(4.109)
Product Responsibility News × High Rating IO %						-0.753***
						(-2.730)
Observations	6412	6412	6412	6412	6412	6412
R-squared	0.907	0.918	0.876	0.902	0.891	0.892
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes

Panel B. Firms whose managers do not receive equity compensation (*Equity Comp* = 0)

	(1)	(2)	(3)	(4)	(5)	(6)
Avg News Counts by Category	Resource Use	Emissions	Workforce	Community	Human Rights	Product Responsibility
High Rating IO %	-0.489**	-0.249	-0.460***	-0.412***	-0.462***	-0.416***
	(-2.505)	(-1.576)	(-3.508)	(-2.610)	(-3.389)	(-3.101)
Resource News	0.110***					
	(5.473)					
Resource News × High Rating IO %	-0.162					
	(-1.216)					
Emissions News		0.067***				
		(3.696)				
Emissions News × High Rating IO %		-0.203*				
		(-1.718)				
Workforce News			0.059***			
			(3.208)			
Workforce News × High Rating IO %			-0.650***			
			(-3.332)			
Community News				0.056***		
				(3.163)		
Community News × High Rating IO %				-0.005		
				(-0.030)		
Human Rights News					0.052***	
					(2.828)	
Human Rights News × High Rating IO %					-0.190	
					(-1.318)	
Product Responsibility News						0.087***
						(4.072)
Product Responsibility News × High Rating IO %						-0.229
						(-1.625)
Observations	31443	31443	31443	31443	31443	31443
R-squared	0.869	0.883	0.833	0.868	0.838	0.829
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Statistical difference in the coefficients on the interaction terms (Panel A vs. Panel B)						
F-statistics	15.99***	9.06***	8.45***	10.12***	12.68***	10.75***

Table 8. Environmental incidents and changes in firms' emissions

This table reports OLS regression estimates of firms' policy responses to environmental news. The observations are firm-year. Panel A (Panel B) includes firms that have (have not) awarded equity-based compensation to their executives and directors in year *t*, denoted as *Equity Comp* =1 (*Equity Comp* = 0). The main independent variables are *High Rating IO %* (at the end of the last quarter of year *t-1*) interacted with the firm's negative environmental news in year *t*. Firm policies are captured by the changes from year *t* to year *t*+3 of direct environmental impact ratios (defined as the direct costs created by different types of emissions scaled by the firm's revenues), as reported by S&P Trucost. We consider changes in total environmental costs, greenhouse gas (GHG) emissions, air pollutants, waste, and water and land pollutants. All models include controls for lagged size, ROA, Thomson Rated, and Thomson Rating, and industry, country, and year fixed effects. The t-statistics, calculated with standard errors clustered at the firm level, are reported in parentheses. At the bottom of the table, we also report the F-statistics for the difference in the coefficients on the interaction terms between *Env News* and *High Rating IO %* in the subsamples of firms with and without equity compensation. Statistical significance at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Panel A. Firms whose managers received equity compensation (*Equity Comp* = 1)

	(1)	(2)	(3)	(4)	(5)
Change in % Direct Impact Ratio	Total	GHG	Air	Waste	Water & Land
Env News	0.017**	-0.002	0.010	0.028	0.031**
	(2.515)	(-0.724)	(1.057)	(1.352)	(2.316)
High Rating IO %	-0.125	-0.098	0.741	0.659	-0.724
	(-0.261)	(-0.193)	(0.553)	(0.325)	(-0.924)
Env News × High Rating IO %	-0.176***	-0.075**	-0.154*	-0.387*	-0.178*
	(-3.371)	(-1.986)	(-1.793)	(-1.923)	(-1.937)
Observations	4837	4837	4837	4837	4837
R-squared	0.096	0.105	0.055	0.053	0.133
Controls	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes

Panel B. Firms whose managers did not receive equity compensation (*Equity Comp* = 0)

	(1)	(2)	(3)	(4)	(5)
Change in % Direct Impact Ratio	Total	GHG	Air	Waste	Water & Land
Env News	0.006	0.001	-0.010	0.012	0.023**
	(0.895)	(0.190)	(-1.098)	(0.374)	(2.002)
High Rating IO %	-0.145	-0.519	-0.619	-0.244	-0.424
	(-0.431)	(-1.361)	(-0.728)	(-0.210)	(-1.340)
Env News × High Rating IO %	-0.011	-0.038	-0.157	-0.336	0.004
	(-0.204)	(-1.126)	(-1.548)	(-1.279)	(0.038)
Observations	10468	10468	10468	10468	10468
R-squared	0.053	0.069	0.051	0.044	0.068
Controls	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes

Statistical difference in the coefficients on the interaction terms (Panel A vs. Panel B)

F-statistics	1.93	0.87	1.5	0.15	1.06

Table 9. The effects of E&S-conscious blockholders

This table reports OLS regression estimates of firms' policy responses to negative E&S news. Firm policies are measured by the change in a firm's *E&S Score* from year *t* to year *t+3* (columns 1-3) and the average E&S news counts between years *t+1* and *t+3* (columns 4-6). A higher *E&S Score* indicates improvements in a firm's E&S practices, whereas higher *Avg E&S News* indicates more E&S incidents. The main independent variables are *High Rating IO %* (at the end of the last quarter of year *t-1*) interacted with *Equity Comp* and *E&S News* in year *t*. *Equity Comp* is a dummy variable that equals one if a firm has awarded equity-based compensation to its executives and directors in year *t*. Columns 2 and 5 control for the percentage of ownership by E&S-conscious blockholders (*High Rating IO Blockholder %*). Columns 3 and 6 control for the presence of an E&S-conscious blockholder by including an indicator variable that takes the value of one if a firm has at least one E&S-conscious blockholder that owns 1% or more of the firm's equity. All models include controls for lagged firm size, ROA, Thomson Rated, Thomson Rating and *High ENV Sales %*. Columns 1-3 include industry, country, and year fixed effects, whereas columns 4-6 include firm and year fixed effects. The t-statistics, calculated with standard errors clustered at the firm level, are reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Δ E&S Score			Avg E&S News		
E&S News	0.004	0.003	0.005	0.101***	0.093***	0.101***
	(0.167)	(0.125)	(0.223)	(4.378)	(4.079)	(4.360)
High Rating IO %	-2.084	-4.696	-4.877	-1.674*	-16.042***	-2.563**
	(-0.605)	(-0.792)	(-1.331)	(-1.818)	(-5.456)	(-2.502)
E&S News × High Rating IO %	-0.242	-0.229	-0.255	0.188	0.222	0.187
	(-1.274)	(-1.202)	(-1.338)	(0.928)	(1.108)	(0.924)
Equity Comp	0.530	0.549	0.554	-0.140	-0.101	-0.138
	(0.935)	(0.966)	(0.977)	(-0.931)	(-0.668)	(-0.915)
E&S News × Equity Comp	-0.034	-0.034	-0.035	0.075**	0.079**	0.075**
	(-1.385)	(-1.390)	(-1.401)	(2.144)	(2.256)	(2.153)
High Rating IO % × Equity Comp	-2.921	-3.124	-2.939	0.009	0.151	0.134
	(-0.641)	(-0.683)	(-0.645)	(0.008)	(0.133)	(0.117)
E&S News × High Rating IO % × Equity Comp	0.576**	0.579**	0.582**	-0.941***	-0.927***	-0.946***
	(2.206)	(2.225)	(2.222)	(-2.778)	(-2.750)	(-2.779)
High ENV Sales %	-0.642	-0.645	-0.642	-0.023	-0.022	-0.021
	(-0.926)	(-0.931)	(-0.929)	(-0.056)	(-0.051)	(-0.049)
High Rating IO Blockholder %		3.832			19.102***	
		(0.522)			(5.970)	
E&S-conscious Blockholder - Dummy			0.662**			0.195**
			(2.117)			(2.397)
Observations	11354	11354	11354	24501	24501	24501
R-squared	0.167	0.167	0.168	0.901	0.902	0.901
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	No	No	No
Country FE	Yes	Yes	Yes	No	No	No
Firm FE	No	No	No	Yes	Yes	Yes

Table 10. Policy changes and the long-term effects of negative E&S news

This table investigates the long-term effects of negative E&S news on firm returns and E&S-conscious institutional ownership using cross-sectional regressions. We follow firms that have experienced negative E&S news for 12 months (columns 1 and 3) and for 24 months (columns 2 and 4). In column 1 and 2, the dependent variable is a firm's CARs (in percentages) over 12 and 24 months after the negative E&S news. We estimate monthly abnormal returns as the residuals of the four-factor Fama-French model (FF4-adj) over the 60 months before the month of the news. Columns 3 and 4 report the change in *High Rating IO %* between quarters *t* and *t+4* (column 1) and between quarters *t* and *t + 8* (column 2). The main variable of interest is *Policy Improvement*, a dummy variable that takes the value of one if a firm experiences a positive change in its E&S Score from year *t* to year *t+1* in columns 1 and 3 or year *t* to year *t+2* in columns 2 and 4. Columns 1 and 2 include controls for lagged firm characteristics, as reported in Table 2, and industry fixed effects. Columns 3 and 4 also includes year-quarter fixed effects. The t-statistics, calculated with standard errors clustered at the firm level, are reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

	(1)	(2)	(3)	(4)
	FF4-adj Returns (12-mo)	FF4-adj Returns (24-mo)	Δ High Rating IO % (t+4 qtr)	Δ High Rating IO % (t+8 qtr)
Policy Improvement (1 yr)	0.010		0.166*	
	(0.763)		(1.742)	
Policy Improvement (2 yr)		-0.004		0.848***
		(-0.181)		(2.591)
High Rating IO % # Policy Improvement (1 yr)	0.523**			
	(2.504)			
High Rating IO % # Policy Improvement (2 yr)		0.987***		
		(2.952)		
High Rating IO %	0.022	-0.022		
	(0.256)	(-0.132)		
Observations	30877	29620	36328	32344
Adjusted R-squared	0.041	0.068	0.299	0.318
Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
YQ FE	No	No	Yes	Yes

Appendix

Table A1. Issues and topics of RepRisk news

This table describes the characteristics of the news covered by RepRisk between 2007 and 2016. Specifically, we present the frequency of the issues in Panel A and the frequency of the broader categorization in Environmental, Social, and Governance news we use in most of our tests in Panel B. Since some of the news touch on multiple issues, Panel B also reports the number of news that refer to more than one of the broad Environmental, Social, and Governance categories. In Panel C, we present our aggregation of news on different issues, which we use in Table 7 to explore whether firms that experience an incident of a specific type subsequently improve on those specific issues. The specific issues that we include under each label in Panel C are described with the variable definition in Table A4.

Panel A. Issues (RepRisk Classification)

	Freq.	Percent
Animal mistreatment	2,693	0.31
Anti-competitive practices	27,440	3.13
Child labor	8,780	1.00
Climate change, GHG emissions, and global pollution	24,116	2.75
Controversial products and services	33,029	3.77
Corruption, bribery, extortion and money laundering	56,487	6.44
Discrimination in employment	6,953	0.79
Executive compensation issues	4,630	0.53
Forced labor	11,759	1.34
Fraud	52,804	6.02
Freedom of association and collective bargaining	11,711	1.34
Human rights abuses and corporate complicity	52,246	5.96
Impacts on communities	83,138	9.48
Impacts on landscapes, ecosystems and biodiversity	77,405	8.83
Local participation issues	20,518	2.34
Local pollution	50,850	5.80
Misleading communication	14,444	1.65
Occupational health and safety issues	34,067	3.88
Other environmental issues	126	0.01
Other issues	279	0.03
Other social issues	59	0.01
Overuse and wasting of resources	6,845	0.78
Poor employment conditions	35,813	4.08
Products (health and environmental issues)	25,821	2.94
Social discrimination	2,673	0.30
Supply chain issues	27,454	3.13
Tax evasion	10,330	1.18
Tax optimization	4,134	0.47
Violation of international standards	13,560	1.55
Violation of national legislation	158,583	18.08
Waste issues	18,270	2.08
Total	877,017	100

Panel B. Environmental, Social, and Governance Issues (RepRisk Classification)

	Freq.	Percent
Environmental	180,305	20.56
Governance	170,548	19.45
Social	267,717	30.53
Overlapping Issues	258,447	29.47
Total	877,017	100

Panel C. Incident Types, classified as in Table 7

	Freq.	Percent
Resource use	209,338	27.40
Emissions	177,486	23.23
Workforce	111,756	14.63
Community	103,656	13.57
Human rights	72,785	9.53
Product responsibility	88,997	11.65
Total	764,018	100

Table A2. Examples of RepRisk news

This table lists examples of RepRisk news during our sample period and the companies' responses.

Company name	Country of risk incident	News date	Risk incident topic	News summary	Company response
Hasbro Inc.	China	19-Dec-11	Human rights, Working conditions	The Institute for Global Labor and Human Rights publicly accused Hasbro of poor working conditions and inadequate pay for workers at the Jet Fair Factory in China.	Hasbro deployed a team to work with the International Council of Toy Industries to examine the conditions of the facility and continually monitor any deficiencies (Dec 28, 2011)
PNC Bank	USA	30-May-14	Environment, Mountaintop removal	Earth Quaker Action Team (EQAT) protested at PNC Bank's headquarters in Pittsburgh, Pennsylvania, as well as at other PNC branches and PNC events, urging the bank to stop financing mountaintop removal mining, which arguably caused environmental devastation in Appalachia.	PNC Bank announced a shift in its policy as of March 2, 2015 that it will stop financing mountaintop removal coal mining in Appalachia.
BASF SE	Germany, Sweden, Czech Republic	3-Mar-10	Environment, Food supply, Genetically modified cultures	The company won approval for Amflora, its genetically modified potato. Amflora is an industrial potato which is neither allowed nor suitable for use as food. However, the concern was that by-products of its industrial use might be fed to livestock.	The company committed to engage in dialogue with local residents where Amflora was to be planted and to monitor that the crop would not produce any "transgressions".

3M Co	Brazil, Estonia, Finland, Indonesia, Latvia, Lithuania, Norway, Russian Federation, Sweden, United States of America	24-Apr-14	Environment, Deforestation, Endangered species	Two NGOs, Forest Ethics and Greenpeace, alleged that 3M supplied many of its products from endangered forests around the world. The NGOs criticized 3M's current sourcing policies as "vague" and "lacking specific, measurable commitments".	On June 5th, 2014, 3M committed to review its suppliers in high risk countries "for alignment with 3M Supplier Policy and Standards"
Canon Inc.	China, Malaysia	23-Jun-16	Human rights, Forced labor	The company was accused of not having publicly available supply chain code of conduct that required suppliers to adhere to international standards prohibiting forced labor.	The company agreed to enhance its annual surveys of suppliers' compliance and take further actions to evaluate the allegations and improve monitoring.
Kellogg Co	Brazil, Sri Lanka, China, Ghana, India, Indonesia, Ivory Coast, Madagascar, Pakistan, Philippines	2-Aug-13	Environment, Supply chain	Kellogg came under scrutiny over the practice of farming palm oil, which had been devastating rain forests in Southeast Asia. The controversy was expected to hurt Kellogg if "environmental activists could drum up enough publicity around the issue to alarm consumers".	The company announced detailed plans to buy only forest-friendly palm oil and ensure traceability within its supply chain (June 10, 2014).

Adidas AG	Cambodia, China, India, Indonesia, Pakistan, Philippines	9-Oct-12	Poor employment conditions, Human rights	Adidas was accused by the International Union League for Brand Responsibility for "blatant disregard for local labor law and workers' union freedoms" across its supply chain in the mentioned countries. These included failures to comply with local minimum wage laws and ongoing violations of health and safety laws.	In July 2013, Adidas agreed to "implement feasible guarantees of industrial health and safety" and conduct its monitoring in collaboration with local labor administrators.
Carrefour SA	China	1-Feb-11	Price fraud, Supply chain	Carrefour stores in China's mainland were accused of price manipulation. Erroneous or misleading price tags, exaggerated discount advertisements and double-price labeling on numerous products.	Carrefour offered a public apology and restitution. The company also agreed to work with local authorities to enforce higher standards.
Koninklijke Philips NV	South Korea, Japan	24-Jun-12	Anti-competitive practices	Local regulators alleged the company engaged in anti-competitive and unlawful practices by preventing online retailers from selling small electronics items below a certain price.	Philips agreed to improve its policies and pay a fine.

Table A3. Country rankings by E&S-consciousness

This table lists E&S-conscious (High ENV) countries, defined as those in the top tercile of the World Value Survey's self-expression score in the two most recent survey rounds, which were carried out in 2005-2009 and 2010-2014. The self-expression score is equally-weighted across all respondents in a country.

Country	Self-Expression Score	E&S-consciousness
Sweden	1.582	High
Norway	1.437	High
New Zealand	1.294	High
Canada	1.156	High
Australia	1.126	High
Great Britain	1.052	High
Netherlands	0.983	High
Andorra	0.980	High
Finland	0.849	High
United States	0.817	High
Switzerland	0.780	High
France	0.745	High
Germany	0.530	High
Uruguay	0.519	High
Mexico	0.494	High
Spain	0.370	High
Slovenia	0.369	High
Japan	0.365	Low
Czech Rep.	0.349	Low
Israel	0.329	Low
Italy	0.309	Low
Argentina	0.304	Low
Colombia	0.265	Low
Hong Kong	0.137	Low
Brazil	0.105	Low
Chile	0.099	Low
India	0.091	Low
Poland	0.032	Low
South Africa	0.015	Low
Philippines	-0.011	Low
Thailand	-0.036	Low
Viet Nam	-0.039	Low
Singapore	-0.172	Low
South Korea	-0.194	Low
Malaysia	-0.233	Low
Egypt	-0.253	Low
Turkey	-0.259	Low
China	-0.323	Low
Bulgaria	-0.439	Low
Indonesia	-0.499	Low
Russia	-0.584	Low
Ukraine	-0.666	Low
Romania	-0.723	Low
Morocco	-0.732	Low
Belarus	-0.874	Low

Table A4. Variable definitions

Variable	*Definition*	*Source*
Panel A - RepRisk		
E&S News	The firm's count of news on environmental and social issues.	RepRisk
Environmental News	The firm's count of news on environmental issues.	RepRisk
Governance News	The firm's count of news on governance issues.	RepRisk
Resource Use News	The firm's count of news on issues related to supply chain, local pollution, animal mistreatment, overuse and wasting of recourses, waste, products, and impacts on landscapes ecosystems and biodiversity.	RepRisk
Emissions News	The firm's count of news on issues related to climate change, GHG emissions, global pollution, local pollution, overuse and wasting of resources, waste issues, and impacts on landscapes, ecosystems and biodiversity.	RepRisk
Workforce News	The firm's count of news on issues related to freedom of association and collective bargaining, forced labor, occupational health and safety issues, discrimination in employment, social discrimination, poor employment conditions, and child labor.	RepRisk
Community News	The firm's count of news on issues related to local participation issues and impacts on communities.	RepRisk
Human Rights News	The firm's count of news on issues related to human rights abuses and corporate complicity, forced labor, and child labor.	RepRisk
Product Responsibility News	The firm's count of news on issues related to supply chain, animal mistreatment, products, and controversial products and services.	RepRisk
Panel B - Ownership		
Inst Ownership %	The total percentage of firm ownership by institutional investors.	FactSet
High Rating IO %	The total percentage of firm ownership by institutional investors with average portfolio ESG ratings in the top tercile. An institution's average portfolio ESG rating is calculated as the value-weighted ESG ratings of all firms held by the institution in the past two years. The average considers only stocks for which ASSET4 ESG ratings are available. We set the ESG portfolio rating to 0 for all institutions with less than 50% holdings of firms with ESG ratings.	FactSet, Asset4
Low Rating IO %	The total percentage of firm ownership by institutional investors with average portfolio ESG ratings not in the top tercile. An institution's average portfolio ESG rating is computed as described in the definition of High Rating IO %.	FactSet, Asset4
High Rating IO – Blockholder %	The total percentage of firm ownership by institutional investors who hold more than 1% of the firm's shares and whose average portfolio ESG ratings are in the top tercile.	FactSet, Asset4
Panel C - Sales Distribution		
High ENV Sales %	The percentage of firm sales in E&S-conscious countries. We define E&S-conscious countries as those in the top tercile of the self-expression score, calculated as an equally-weighted score for all respondents in the country in the World Value Survey. See Table A3.	FactSet
Ln High ENV Sales	Natural logarithm of one plus total firm sales in E&S-conscious countries. We define E&S-conscious countries as those in the top tercile of the self-expression score, calculated as an equally-weighted score for all respondents in the country in the World Value Survey. See Table A3.	FactSet

Ln Low ENV Sales	Natural logarithm of one plus total firm sales in non-E&S-conscious countries. We define non-E&S-conscious countries as those not in the top tercile of the WVS self-expression score, calculated as an equally-weighted score for all respondents in the country in the World Value Survey. See Table A3.	FactSet
Panel D - Returns		
CAPM-adj CARs	Cumulative abnormal returns over the two alternative windows [-1,+1] and [-2,+2] around the event. Abnormal returns are obtained as the residuals of the CAPM model, estimated over the 252 days before the event day.	Thomson Datastream
FF4-adj CARs	Cumulative abnormal returns over the two alternative windows [-1,+1] and [-2,+2] around the event. The short-term CARs are computed by cumulating the residuals of the four-factor model, estimated using daily returns over the 252 days before the event day. The long-term abnormal returns are estimated from monthly returns as the residuals of the Fama French four-factor model, estimated over the 60 months before the event month, and then cumulated over 12 or 24 months.	Thomson Datastream
Very Negative Market Reaction	An indicator variable that takes the value of one if a firm's three-day CARs belong to the bottom quintile of market reactions of the firms experiencing negative E&S news. The market reaction is estimated using either CAPM-adj CARs or FF4-adj CARs, and we use the most negative market reaction (lowest CARs) if a firm experiences multiple negative E&S news during year *t*.	Thomson Datastream
Panel E - Other Data		
Leverage	(Long Term Debt + Short Term Debt & Current Portion of Long Term Debt) / (Total Capital + Short Term Debt & Current Portion of Long Term Debt) * 100.	Thomson Datastream
Cash	The sum of cash and short-term investments scaled by total assets.	Thomson Datastream
Tangibility	Property, plant, and equipment (PPENT) scaled by total assets. PPENT represents gross property, plant, and equipment less accumulated reserves for depreciation, depletion, and amortization.	Thomson Datastream
ROA	Net Income (before extraordinary items) scaled by total assets.	Thomson Datastream
Average Return	Average monthly stock return in the past year.	Thomson Datastream
Market Value	The share price multiplied by the number of shares outstanding. For companies with more than one class of equity capital, the market value is expressed according to the individual issue.	Thomson Datastream
E&S Score	Score that rates companies along the following seven environmental and social dimensions: 1) eco-efficiency in the use of resources and supply chain management; 2) commitment and effectiveness in reducing environmental emissions; 3) whether they innovate to reduce environmental costs by introducing environmental technologies and processes or eco-designed products; 4) whether they provide a diverse, healthy, and safe workplace as well as development opportunities; 5) whether they respect fundamental human rights conventions; 6) whether they are good citizens, protect public health, and behave ethically; and 7) whether they produce quality goods and services, incorporating the customer's health and safety, integrity, and data privacy.	ASSET4
General Negative News	The total number of firm news with an Event Sentiment Score below 50, i.e., negative sentiment. The news count excludes items related to corporate social responsibility.	Ravenpack

Equity Comp	A dummy variable that takes the value of one if the firm's executives and directors received equity-linked compensation (stock, restricted stock, or option-based) in the past year, and zero otherwise.	ASSET4
Direct Impact Ratios: Total/GHG/Land and Water/Air/Waste	Impact ratios are measures used to normalize the environmental damage costs of companies to facilitate comparisons. The metrics take a company's direct environmental cost by category (Total/GHG/Land and Water/Air/Waste) and divide it by the company's total revenues for the same financial year. The resulting metric quantifies the percentage of a company's annual earnings at risk if the company were held accountable for the corresponding negative environmental impact. Direct damage costs are associated with a company's direct operations.	Trucost

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