

# Does Money Talk? Market Discipline through Selloffs and Boycotts

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March 2021

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## Abstract

Can market discipline affect corporate environmental and social (E&S) policies? Using novel international data on negative news coverage of corporate E&S risks, we show that E&S-conscious investors divest firms with heightened E&S risk. As a consequence of investors' reactions, firms with more E&S-motivated investors experience temporary declines in valuations and subsequently improve their E&S policies. Sales in E&S-conscious countries also decrease following negative realizations of E&S risk, but firms do not appear to consistently improve their E&S policies to recover market share. Our results indicate that investors' divestitures can trigger changes in corporate policies and reduce negative E&S incidents.

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

JEL Classifications: G15, G23, G30, M14

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Policy discussions often consider market discipline as a way to achieve a more environmentally and socially sustainable economy. The argument goes as follows. Investors are concerned with more than just stock returns; they have ethical and social preferences and may be willing to pay for firms to meet their standards.<sup>1</sup> As a consequence, investors are expected to vote with their wallets and to spurn firms that fall short of their expectations on environmental and social (E&S) norms. In turn, their behavior is expected to affect firms' cost of capital and ability to invest (Pastor, Stambaugh, and Taylor, 2019). If information in stock prices guides managerial actions (as, for instance, in Dow and Gorton, 1997), managers may learn about investors' preferences and react by improving their E&S policies to enhance their reputations and to gain competitiveness.

However, market discipline is only effective if the impact of investors' actions 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 very elastic, E&S-conscious investors' divestitures are expected to have limited effects on stock prices, and in turn, corporate policies (Broccardo, Hart and Zingales, 2020). In addition, even if firm valuations were temporarily affected, managers who are rewarded for long-term profitability may lack incentives to improve corporate E&S policies (Davies and Van Wesep, 2018). Instead, managers may rely on investors' limited attention or memory and expect demand for the firm's stock to quickly recover following a negative shock to its reputation on E&S policies. Thus, a temporary backlash may not result in changes in firm policies, potentially limiting the effects of market discipline.

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<sup>1</sup> For instance, in a 2018 investor survey, 43% of respondents incorporate ESG factors in their decision making, up from 22% in 2013 (see <https://www.callan.com/wp-content/uploads/2018/07/Callans-2018-ESG-Survey.pdf>). Similarly, numerous anecdotes about product boycotts suggest that customers care about firms' ESG standards.

Apart from surveys and anecdotes, we lack large-scale evidence about whether shareholders can exert market discipline and trigger changes in corporate behavior by their divestitures. Existing evidence shows that significant shareholders, typically large institutional investors, are able to negotiate for improved E&S policies with management. There is also evidence that institutional investors use positive screening to select companies that meet their E&S preferences. Crucially, these mechanisms associate improvements in corporate policies with relatively large shareholdings. Little is known, however, about whether investors can impose market discipline and influence corporate E&S policies by selling a firm's stock. Put differently, evidence that firms learn about their shareholders' preferences from stock prices and act upon this information is scarce.

This lack of evidence largely reflects the difficulties in capturing trades motivated by investors' discontent with firms' E&S policies and their consequences. We overcome this obstacle by using a novel dataset, which monitors environmental, social, and governance (ESG) business conduct risks and company-specific violations of internal policies and international standards for listed companies around the world. The data provider 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. We thus capture changes in investor discontent using increased company-specific media coverage of violations of internal or external ESG standards and heightened ESG risks. Importantly, we are also able to isolate E&S risks from broader firm governance risks and to focus on the former.

We then explore how investors with different E&S preferences react to heightened E&S risks. We measure investor preferences using the sustainability ratings of their portfolios, or alternatively, cultural attitudes towards E&S issues in the investors' countries of origin. We show

that E&S-conscious investors tend to sell firms experiencing heightened E&S risks. Theoretically, different realizations of E&S risks can either provide information about a firm's fundamentals or reduce E&S-conscious investors' non-pecuniary benefits from holding the firm's stock. To isolate the effects of the latter, we explore how investors with different E&S concerns trade in the same company at a given point in time. 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, suggesting that divestitures are not merely driven by expected performance. Ownership by non-E&S-conscious investors actually increases, thus confirming that E&S preferences matter. In addition, we show that there is no significant decline in demand from E&S-conscious investors following negative corporate news unrelated to E&S policies, supporting our interpretation that changes in investor behavior are primarily driven by preferences.

Having established that based on their E&S preferences, investors react in different ways to heightened E&S risk, we ask whether firms with more E&S-motivated investors also respond differently. We show that negative realizations of E&S risks trigger more pronounced negative abnormal returns in firms with more E&S-conscious investors. However, the drop in valuations is temporary and firms' investment does not decrease, indicating that there is no permanent increase in the firms' cost of capital.

Nevertheless, firms appear to learn from the temporary price drops triggered by investors' sales. Following an increase in their E&S risks, firms with more E&S-conscious investors improve their E&S policies, as captured by a variety of measures, such as future negative E&S incidents, ESG ratings, carbon intensity, and employee controversies. Using a two-stage least squares methodology, we provide direct evidence that E&S-conscious investors' divestitures following increased E&S risks are associated with subsequent improvements in firms' E&S policies.

Throughout the analysis, we control for a firm's sales in different countries and their changes in response to E&S risks. We find that the sales of firms experiencing heightened E&S risks decrease in countries with stronger pro-E&S attitudes. While ex-ante higher sales in E&S-conscious countries are associated with larger drops in firms' valuations upon negative realizations of E&S risks, we do not find robust evidence of subsequent changes in E&S policies for such firms. Thus, improvements in E&S policies appear to be mostly driven by investors, indicating that the demand for firms' stock is the primary driver of market discipline, possibly because customers have limited information on firms' corporate policies, high switching costs or shorter memory.

Finally, we show that our results are not merely due to the presence of E&S-conscious blockholders, who may improve firms' E&S policies through engaging with management. Indeed, even smaller investors can affect companies' behavior through their purchasing decisions and subsequent impact on stock prices.

Our results reveal that following the initial realization of negative E&S risk, E&S-conscious investors and customers punish firms. While the effects on corporate valuations do not appear to be persistent, the more negative abnormal returns for companies with E&S-conscious investors and customers may act as an early warning. Observing stock price declines and fearing the loss of even more investors in the future, firms have strong incentives to improve their corporate policies (Dow and Gorton, 1997).<sup>2</sup> In fact, the initial reaction to the shock may be limited precisely because market participants anticipate changes in corporate policies. Yet, strong non-pecuniary preferences against E&S risk induce some investors to sell, and hence, market discipline

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<sup>2</sup> Note that in our context the threat of exit is credible not because of information, but because of investors' preferences.



appears to be effective. Enhanced disclosure of E&S risks could facilitate investors' reactions and further improve the E&S policies of companies with E&S-conscious investors.

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, 2019; Chen, Dong, and Lin, 2019; Naaraayanan, Sachdeva, and Sharma, 2020). Dyck et al. (2019) show that the success of institutional investors' private engagements is largely driven by global institutions with stronger preferences for E&S policies. We ask whether investor discontent and trading behavior translate into market discipline. Specifically, we show that agents' purchasing and selling decisions can also have a social impact even if agents do not have large enough stakes to engage with management. To the best of our knowledge, we are the first to document that investors' exits corporate E&S policies. Our results indicate that secondary financial markets have real effects not only on investment policies, as shown by a growing literature (Bond, Edmans, and Goldstein, 2012), but also on E&S policies. In particular, firms appear to learn about their investors' preferences from stock prices and adjust their policies accordingly.

We also contribute to a strand of the literature exploring how investor preferences affect stock prices. Theoretically, Heinkel, Kraus, and Zechner (2001), Pastor, Stambaugh, and Taylor (2019), and Pedersen, Fitzgibbons, and Pomorski (2019) study how firms' ESG standards are related to stock returns when investors have heterogeneous E&S preferences. Theory suggests that if investors have strong E&S preferences, companies with weak E&S policies should have a higher cost of capital. The empirical evidence is, however, mixed. On the one hand, Edmans (2011) and Albuquerque, Koskinen, and Zhang (2019) show that strong E&S policies increase profitability

and stock returns. On the other hand, Hong and Kacperczyk (2009) and Bolton and Kacperczyk (2019) show that companies that violate E&S norms have to provide investors with higher returns and that the effects are more pronounced in countries with stronger E&S norms, where investors underweight these stocks. Consistent with this evidence, institutional investors with stronger pro-E&S motives have been shown to have lower risk-adjusted performance (Riedl and Smeets, 2017; Barber, Morse, and Yasuda, 2018). While demonstrating that investors' E&S preferences matter, this work is silent on whether investors can affect corporate policies. We study how investors' and customers' reactions to heightened E&S risks impact corporate valuations and policies.

Finally, a more recent strand of the literature considers the effects of E&S-motivated customers. Dai, Liang, and Ng (2019) show that customers engage with their suppliers to improve their ESG policies. Aghion, Benabou, Martin, and Roulet (2020) show that in competitive markets, firms attempt to attract customers with stronger E&S concerns by adopting greener technologies. We explore how firms' sales in countries with different E&S norms change following negative E&S risk realizations and how these are related to subsequent changes in corporate policies.

## **1. Data and Descriptive Statistics**

### *1.1 Measuring E&S Risk*

RepRisk is a leading business research provider specializing in measuring 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.

RepRisk screens daily over 80,000 media, stakeholders, 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. News is classified into 28 distinct issues, including pollution, poor employment conditions, discrimination, child labor, supply chain, etc. These issues are further subdivided into 45 topics such as asbestos, land grabbing, forest burning, negligence, coal-fired power plants, etc. In addition, news is designated as high, medium and low severity, as well as high, medium and low reach, based on whether it has been distributed in specialized blogs, national or international media outlets. The classification into issues and topics is performed following a proprietary methodology that combines artificial intelligence and human analysis in 15 different languages. Table A1 lists the issues and topics of the news covered by RepRisk and their frequency.

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 on 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, companies like 3M and Canon are accused of sourcing their inputs from suppliers with poor environmental policies. Adidas and Hasbro are accused of violating human rights and having poor 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, regardless of how severe or widely-covered the accusations are. Thus, it is relevant to explore how investors and customers react to the news depending on their preferences, and whether their reactions affect stock prices, and in turn, firms' E&S policies.

We note that RepRisk provides information on firms' ESG risks in several different ways. First, it aggregates news according to whether they pertain the environment, social or governance issues for each firm over each month. Since most of our other data sources have quarterly or annual frequency, we use this file in most of our tests. Second, RepRisk also provides daily news about firms' ESG risks, which we exploit to verify that the news is consequential for firm valuations. Finally, using a moving average of past news, RepRisk computes a RepRisk index that captures the extent to which a company is exposed to ESG risks. The index uses a proprietary algorithm, ranges between 0 and 100, and takes into account news involving ESG risks over a maximum of two years.

Panel A of Table 1 provides summary statistics for our measures of E&S risk based on counts of different categories of RepRisk news. In the empirical analysis, we separate E&S from governance news and control for past governance news to focus explicitly on firms' E&S risk exposure. Since institutional investors' shareholdings are available at the quarterly frequency, we count the E&S news released over a quarter. Severe and high reach news is fairly infrequent, with over 90% of quarterly firm observations without such risk coverage. Negative coverage of firms' social policies appears to be more frequent than negative coverage of their environmental and governance issues.

Interestingly, similar to the political risk indicator constructed by Hassan, Hollander, van Lent, and Tahoun (2019), the ESG risks captured by RepRisk primarily reflect idiosyncratic firm

shocks. If we regress the natural log of the number of firm-level monthly news on interactions of country and time, industry and time, or even country, industry and time fixed effects, the R-squared remains less than 10 percent. Country factors, with an R-squared of 3 percent, appear somewhat more relevant in explaining RepRisk news realizations than industry factors (whose R-squared is 2 percent).

### *1.2 Ownership Data and the Classification of Institutional Investors*

We obtain ownership data from FactSet LionShares. We proxy for institutional investors' E&S preferences using a methodology inspired by Morningstar's sustainability ratings of investor portfolios. By measuring the sustainability of an investor's asset holdings, we rely on a revealed preference argument to infer the investor's preferences.

Following Morningstar, we classify investors based on the following steps. First, we consider funds that over the past two years, held at least 50 percent of their portfolio in firms with Thomson Reuters ASSET4 ESG ratings. Approximately 80% of the institutional investors in our sample fit this description. For these funds, we average the ESG ratings of the rated companies held over the previous two years. We set the average ESG rating equal to zero for the remaining funds. Finally, we define funds with average portfolio ESG ratings in the top tercile as E&S-conscious (*High Rating IO %*) and the remaining funds as non-E&S-conscious (*Low Rating IO %*).

We also evaluate the robustness of our results to the use of an alternative classification based on the cultural values in the investors' countries of origin. This proxy assumes that the pressure on institutional investors to take into account E&S issues varies with the ESG preferences

of their clients and beneficiaries. Since the latter are largely in the institutions' home countries, the domestic E&S norms should be reflected in the investors' preferences.

We measure cultural values in different countries 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; the average number of respondents is 1,400 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.

While not all questions are asked in each country in all survey rounds, answers to survey questions tend to cluster in a coherent pattern (Inglehart, 1997; Inglehart and Baker, 2000). Attitudes towards E&S issues are effectively summarized by the survival/self-expression factor. 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 surmise that investors in countries that value self-expression care more about E&S policies.

We consider institutional investors from countries with a WVS self-expression score in the top tercile as having strong preferences in favor of E&S issues. We refer to these investors as E&S-conscious (High ENV). We view investors from other countries as less concerned about E&S issues (Low ENV). Table A3 lists the self-expression scores of the countries in our sample and our classification of E&S-conscious investors.

Panel B of Table 1 describes our two measures of E&S-conscious institutional ownership. There is large between-firm variation in E&S-conscious institutional ownership when we use our primary classification based on the sustainability of investors' portfolios. In particular, the extent

of E&S-conscious institutional ownership exhibits great variation both between countries and within a country. Investors with high sustainability-rated portfolios hold somewhat smaller blocks in the firms they invest in, which suggests that they may find it difficult to engage with management.

Ownership by institutions in High ENV countries appears to be much larger on average than ownership by institutions in Low ENV countries. This is expected because affluent countries are more concerned about E&S issues and have more developed asset management industries. Since this alternative classification has a low correlation with the first definition based on the institutions' portfolio sustainability, it may nevertheless provide a useful robustness test for the role of E&S preferences. We also note that the specific classification we use to identify High ENV countries does not affect our results.<sup>3</sup>

### *1.3 Customer Sales Distribution*

We also consider how sales to customers with different social 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, following the same approach we use to classify institutional ownership based on the countries' culture. Panel C of Table 1 describes the sales to High ENV and Low ENV countries.

Sales are more evenly distributed between High ENV and Low ENV countries than institutional ownership. Also, confirming that the geography of institutional ownership and the

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<sup>3</sup> We use the survival/self-expression factor to be able to classify the largest set of countries possible. However, as shown in Table A5, our results are invariant if we focus only on countries with E&S values above and below the median, defined as in Table 5 of Dyck et al. (2019). We are unable to extend their classification to the full set of countries based on the information provided in the paper.

market for a firm's products do not fully overlap, the correlation between High (Low) ENV institutional ownership and High (Low) ENV sales is 54% (46%).

#### *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 annual Thomson Reuters ASSET4 ESG ratings, proprietary ESG scores ranging from 0 to 100.<sup>4</sup>

Third, we obtain ratings on carbon intensity trends and employee-related controversies/incidents from Sustainalytics. Finally, we use Ravenpack to explore how institutions react to general negative media coverage. We exclude news on ESG policies<sup>5</sup> and count firm-specific negative news, which we define as news with Ravenpack event sentiment scores below 25, i.e., extremely negative sentiment. The correlation between negative news from Ravenpack and E&S News (or Total News) from RepRisk is only 16%. Panel D of Table 1 summarizes the main variables from Datastream, Ravenpack, Sustainalytics, and Thomson Reuters ASSET4 ESG.

#### *1.5 Characteristics of Firms with More RepRisk News Coverage*

Our final dataset covers 6,919 firms in 33 countries from 2007 to 2016. In this subsection, we explore the characteristics of firms for which we observe more frequent negative realizations of E&S risk. On the one hand, these could be firms with worse E&S policies, which are more

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<sup>4</sup> Analysts at Thomson Reuters evaluate firms' environmental policies in three subcategories: Emission Reduction, Product Innovation, and Resource Reduction. Social performance is assessed in seven subcategories: Community, Diversity & Opportunity, Employment Quality, Health & Safety, Human Rights, Product Responsibility, and Training & Development.

<sup>5</sup> Ravenpack offers limited coverage of corporate social responsibility news (e.g., only 459 companies have such coverage).



likely to experience incidents, and therefore, negative media coverage. On the other hand, media coverage tends to cater to the interests of readers (Mullainathan and Shleifer, 2005). Since the processing of information about E&S issues is known to be ideologically motivated (Kahan, 2013), it would not be too surprising if firms with more E&S-conscious shareholders and customers experienced more E&S news coverage in RepRisk.

Table 2 shows that firms with more E&S-conscious institutional ownership and higher sales to E&S-conscious countries have higher RepRisk news counts. Also, consistent with the idea that the E&S policies of some firms attract more attention, firms with higher Thomson Reuters ASSET4 ESG ratings during the previous year have more news coverage in RepRisk. Thus, firms experiencing heightened E&S risk in our sample do not have worse E&S policies. Rather, investors' and customers' interest in firms' E&S policies generates higher news coverage in RepRisk.

This interpretation is also supported by the observation that while firms with higher Thomson Reuters ASSET4 ESG ratings are more likely to be covered in RepRisk, they do not have a higher proportion of severe E&S news. Ownership by E&S-conscious investors is unrelated to the severity of the news, whereas the percentage of sales to E&S-conscious countries is positively but only marginally related to severe E&S news.

We also find that firms with more frequent E&S news coverage are larger and have more tangible assets. In what follows, we control for these and other firm characteristics and explore cross-sectional differences in the effects of E&S risk on firms whose investors and customers have different preferences for E&S policies.

## 2. Empirical Strategy

Our objective is to establish whether E&S preferences affect investors' and customers' behavior and whether their behavior in turn influences firms' policies. In this section, we present a roadmap to the hypotheses we test to answer these questions. We defer the discussion of the empirical models and methodological challenges to later sections in which we present the empirical evidence.

Negative realizations of E&S risk can affect firm fundamentals, not least because – as we also posit – E&S risk can hurt firms' product market. Hence, E&S risk may matter for investment decisions independently from investors' non-pecuniary preferences. Any effects of E&S risk through firm fundamentals should affect all investors similarly, irrespective of their preferences. In contrast, if E&S preferences affect shareholders' non-pecuniary benefits, we should observe a disproportionate decrease in the holdings of E&S-conscious investors in a given firm following negative realizations of E&S risk. Thus, in the first part of our analysis, we compare how investors with different E&S preferences behave in the same firm, which helps us to evaluate whether non-pecuniary preferences indeed matter. We also investigate whether following negative realizations of E&S risk, firms experience a larger decline in sales to countries with stronger E&S preferences, suggesting consumer backlash.

In the second part of the analysis, we aim to evaluate whether investors' and customers' actions affect firms in a way that is consistent with market discipline. For this to be the case, we should observe that the behavior of E&S-conscious investors magnifies the effects of heightened E&S risk on firms' valuations and that firms change their policies to avoid more dire consequences in the future. Thus, holding constant the intensity of E&S risk, we test whether firms that are expected to suffer larger decreases in the demand for their stock by E&S-conscious investors

experience more negative abnormal returns when news about E&S risk is reported. Not only do we control throughout the analysis for the differential effect of E&S risk on firms' sales in different countries, but we also evaluate whether there is stronger evidence of market discipline for firms with ex-ante more sales in E&S-conscious countries.

In the final part of our analysis, we explore whether firms that are more exposed to E&S risk realizations due to a particularly E&S-conscious investor or customer base change their E&S corporate practices. On the one hand, the behavior of E&S-conscious investors and customers may serve as an early warning and motivate firms to improve their E&S policies to re-establish their reputations and avoid even worse consequences in the future. On the other hand, managers may rely on customers' and investors' limited attention or memory and just wait to 'get out of the storm' without improving their E&S policies. Thus, to evaluate empirically whether investors' and customers' reactions discipline firms, we explore how the policies of firms with more E&S-conscious investors and customers vary with negative realizations of E&S risk, holding the intensity of the latter constant.

### **3. Do Investors and Customers React to Environmental and Social Risk?**

#### *3.1 Institutional Ownership*

We explore how the composition of institutional ownership is affected by news uncovering negative developments about a firm's E&S policies. We regress the percentage of shares owned by institutions with different E&S preferences in firm  $f$  at the end of quarter  $t$  on the (natural log of one plus the) number of news about E&S risk issues covered during that quarter:

$$IO_{ft}^{type} = \alpha + \beta \times E\&S\ Risk_{ft} + \gamma X_{ft-1} + \delta_f + \xi_t + \varepsilon_{ft},$$

where *type* refers to our different definitions of E&S-conscious and other investors. In all regressions, we include firm ( $\delta_f$ ) and time ( $\xi_t$ ) fixed effects, and a host of firm controls measured at the beginning of the year ( $X_{ft-1}$ ), 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.

Thus, a negative coefficient on  $E\&S\ Risk_{ft}$  captures whether in quarter  $t$ , in which a firm experiences more negative E&S coverage, ownership by E&S-conscious or other investors falls below the firm's average institutional ownership over the sample period. This timing implicitly assumes that investors' divestitures occur in the same quarter as the negative news coverage. This assumption is supported by the evidence in Panel A of Figure 1, which shows that E&S-conscious investors decrease their holdings following negative realizations of E&S risk. As illustrated in the figure, the effects persist and become even larger during the following quarter.

In Table 3, we separately consider the ownership of institutional investors with high and low sustainability-rated portfolios. In Panel A, the dependent variable is the percentage of shares outstanding held by institutional investors with average portfolio ESG ratings in the top tercile – *High Rating IO %*. The percentage of institutional ownership by E&S-conscious investors in a firm decreases in quarters in which there is more negative news coverage of its E&S related activities.<sup>6</sup> The effects are robust when we use different proxies, such as *Total News*, *High Reach News*, and *Severe News*, and when we concentrate separately on E&S risk, controlling for past news about the firm's governance (column 7). Thus, the effect of E&S risk on institutional

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<sup>6</sup> The effect of negative E&S risk realizations on overall institutional ownership mirrors the results we present on *High Rating IO %*. This effect does not appear to be reversed in the subsequent quarter (see Table A4).

ownership does not appear to be driven by negative governance news. The effect is not only statistically but also highly economically significant. For example, in column 1, an average number of news is associated with a drop in ownership by E&S-conscious investors of 22.4%, relative to the within-firm standard deviation of *High Rating IO %*.<sup>7</sup>

To be able to properly interpret the results in Panel A, we need to consider that negative coverage of firms' ESG policies may be capturing fundamentals, rather than an increase in the discontent of E&S-conscious investors. Panel B shows that investors that we classify as having weaker E&S preferences – labeled as *Low Rating IO %* – increase their shareholdings in companies experiencing heightened E&S risk.<sup>8</sup> This evidence indicates that fundamentals are unlikely to explain the changes in ownership we observe.

Panel C of Table 3 shows that the effect of E&S risk on institutional ownership by E&S-conscious investors persists in the following quarter  $t+1$ . The magnitude of the coefficients on the different measures of E&S risk is somewhat smaller but most of the coefficients are still statistically significant at conventional levels. These findings support the interpretation that E&S-conscious investors sell following the realization of negative E&S risk.<sup>9</sup>

Table 4 repeats the tests in Table 3 using the second definition of E&S-conscious investors based on the cultural values in the investors' countries of origin (*High ENV IO %*). Consistent with our earlier results, Panel A shows that investors from E&S-conscious countries react to heightened E&S risk by reducing their shareholdings. This effect is highly significant, both

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<sup>7</sup> The economic magnitude is calculated as  $-0.275 \cdot \ln(1+45)/4.7$ , where the average (quarterly) number of news for firms with non-zero news is 45 and the within-firm standard deviation of *High Rating IO %* is 4.7.

<sup>8</sup> Note that this effect is not mechanical because firms' shares are also held by other shareholders that we do not observe. Thus, a negative realization of E&S risk results in an overall drop in institutional ownership, which is only partially offset by the increase in the ownership of non-E&S-conscious investors.

<sup>9</sup> We note that 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.

statistically and economically. In column 1, an average number of news is associated with a drop in institutional ownership by E&S-conscious investors of 12.5%, relative to the within-firm standard deviation of *High ENV IO %* (2.9).

The opposite is true in Panel B for investors from less E&S-conscious countries. Importantly, the results do not depend on the particular ranking we use to classify countries as more or less E&S-conscious. As shown in Table A5, results are qualitatively similar if we rely on the classification of Dyck et al. (2019). Thus, non-E&S-conscious investors increase their holdings in firms that experience higher E&S risk, partially offsetting the decrease in institutional ownership by investors from countries with pro-E&S attitudes. The differential effects of E&S risk on investors with different E&S preferences suggest that divestitures are driven by discontent with firms' E&S policies rather than negative expectations about the firms' future performance.

To validate this interpretation of the empirical evidence, in Table 5, we consider how investors trade around negative realizations of E&S risk. Importantly, we include interactions of firm and quarter fixed effects to absorb firm-specific shocks. We find that investors with high sustainability-rated portfolios systematically decrease their holdings in companies experiencing negative E&S risk realizations, relative to investors with low sustainability-rated portfolios. This demonstrates that our results are not driven by shocks to firms' fundamentals. Rather, the evidence suggests that negative E&S risk realizations differentially affect the non-pecuniary benefits of investors with different preferences, leading to the observed portfolio reallocations.<sup>10</sup> Interestingly, as we show in Table A6, we observe no differences in trading between domestic and

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<sup>10</sup> In unreported specifications, we also include dummies for the investors' country of origin interacted with quarter fixed effects. The robustness of our results confirms that differences in trading behavior are not driven by country-level attributes (e.g., macro-economic conditions) other than the investors' E&S preferences.

foreign investors, conditional on their E&S preferences, suggesting that our results are not due to investors' over-exposure to domestic news coverage.

Overall, the empirical evidence indicates that heightened E&S risk translates into a drop in ownership by E&S-conscious investors. Such a drop is partially offset by an increase in ownership by non-E&S-conscious investors, resulting in a relatively small decrease in total institutional ownership.<sup>11</sup> It is an empirical question whether such a decline is a sufficient early warning for the market to revise downward firms' valuations, possibly in anticipation of future investor exits.

### *3.2 Sales Composition*

E&S-conscious customers are also likely to care about the policies of the firms that produce the goods they purchase. This behavior can affect not only firms that sell final products but also firms that sell intermediate goods because companies in E&S-conscious countries are likely to have more E&S-conscious investors and customers.<sup>12</sup> Since a firm's ESG rating, and more generally, its reputation is affected by the E&S policies of its suppliers, firms in E&S-conscious countries may reduce their dependence on suppliers with higher E&S risk.

For this reason, we explore how a firm's 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. The plot in Panel B of Figure 1 supports the timing of the effects; sales in E&S-conscious countries evolve similarly across firms

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<sup>11</sup> As shown in column 1 of Table A4, an average number of news is associated with a drop in institutional ownership of slightly over half a percentage point ( $0.59 = \ln(1+45) * 0.153$ ).

<sup>12</sup> Local biases shape the geography of investment and sales (Bernard, Moxnes, and Saito, 2019).

until the negative realization of E&S risk, but then drop dramatically for the firms that experience heightened E&S risk.

Panel A of Table 6 shows that (the natural log of) sales to E&S-conscious countries decrease(s) in years with more negative E&S news.<sup>13</sup> This effect is economically significant; in column 1, an average number of news is associated with a drop in firm sales to E&S-conscious countries of 3%, relative to the within-firm standard deviation of *Ln Sales from High ENV Countries*.<sup>14</sup> Consistent with the conjecture that customers' preferences matter, in Panel B, we do not find any effect of changes in E&S risk on firm sales to less E&S-conscious countries.

### *3.3 Investors' and customers' response to general negative firm news*

We also consider whether our classification of E&S-conscious investors may be reflecting differences in the investors' trading styles in reaction to negative news. Sales in different countries could similarly capture different responses to negative news.

Columns 1 and 2 of Table 7 consider investors' reactions to general negative news. If we were just capturing that some investors are more responsive to negative news, we should observe that institutions with strong E&S preferences react more negatively to all news, not only to news related to E&S risks. On the contrary, in column 1, investors with less sustainable portfolios appear to decrease their holdings after negative news about a company, while in column 2, general negative news coverage is associated with an increase in the shareholdings of E&S-conscious investors, possibly because stock prices over-react and investors purchase underpriced stocks.

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<sup>13</sup> The unit of observation in these specifications is firm-year. To study how firms' sales respond to E&S risk, we use the natural log of sales to High /Low ENV countries instead of *High/Low ENV Sales %* because the latter two measures sum to one.

<sup>14</sup> The economic magnitude is calculated as  $-0.064 \cdot \ln(1+86)/9.54$ , where the average (annual) number of news for firms with non-zero news is 86 and the within-firm standard deviation of *Ln Sales from High ENV Countries* is 9.54.



Thus, the patterns in institutional ownership we highlight are unlikely to be driven by investors' general reactions to negative news coverage and more likely to capture investor preferences on E&S issues.

In column 3, we explore how the proportion of sales to E&S-conscious countries varies with general negative news about a firm. To the extent that E&S-conscious countries are wealthier, customers in these countries may be more concerned about product quality. Thus, their demand may decrease to a larger extent if concerns about a firm's reputation arise, regardless of whether these concerns are due to E&S issues. We find that the percentage of sales to High ENV countries is unaffected. This is in contrast to our earlier finding that only E&S-conscious customers react negatively to heightened E&S risk, confirming our conjecture that their preferences on E&S issues matter.

Overall, these results indicate that investors and consumers vote with their wallets in an attempt to impose their social preferences on the firms they transact with. In what follows, we explore whether higher ownership by E&S-conscious investors and higher sales to E&S-conscious customers make firms' valuations more sensitive to negative realizations of E&S risk. This could be due not only to investors' contemporaneous divestitures but also to the market's expectations of further investor exits and reduced consumer demand if more negative news arrives. We also ask whether companies, fearing worse consequences in the future, take actions to improve their reputations.

#### **4. Do E&S-conscious Investors and Customers Affect Stock Prices?**

Firms' cost of capital as well as managers' compensation and job security depend on corporate valuations. Thus, investors' divestitures and consumers' backlash can provide market

discipline if they affect stock prices. Even if the negative news coverage we exploit does not reflect dramatic events, the managers of firms with more E&S-conscious investors and customers may change corporate policies to prevent worse long-term consequences and further price drops.

This section explores how E&S risk affects stock returns and how this relation depends on the market's anticipation of the reactions of E&S-conscious investors and customers, holding constant the intensity of E&S risk.

In Table 8, we perform an event study around negative news coverage of E&S risk. In particular, we compute firms' daily abnormal returns either by subtracting the market return or as the residuals of a Fama and French (1993) three-factor model, estimated over the 252 days before the event. We then cumulate abnormal returns from one day before to one day after the news coverage. The univariate evidence in Panel A of Table 8 clearly shows that firms experience negative short-term abnormal returns around the realizations of E&S risk, demonstrating the relevance of these occurrences.

In Panel B of Table 8, we investigate the cross-sectional determinants of firms' stock price responses to heightened E&S risk. We test whether firms with an ex-ante larger ownership by E&S-conscious investors or with ex-ante greater sales in E&S-conscious countries experience more negative abnormal returns. 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. 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 as well as those of the expected changes in corporate policies, which are more likely in firms with ex-ante relatively more E&S-conscious investors that sell their shares to a larger extent.

To ease the interpretation, we define two dummy variables that are equal to one if a firm is in the top quintile for ownership by E&S-conscious investors or sales in E&S-conscious countries, respectively. The parameter estimates are obtained by including interactions of country and year fixed effects as well as industry fixed effects and a wide range of firm-level controls.

Firms with more E&S-conscious investors and customers have more negative stock price reactions when they experience negative realizations of E&S risk. This effect is accentuated if we consider severe or high reach news. Both ownership by E&S-conscious investors and sales in E&S-conscious countries are statistically significant when included together in the case of more severe realizations of E&S risk. Thus, the market appears to anticipate the independent effects of both investors' selloffs and customers' backlash.

In terms of economic magnitudes, the estimates in column 3 of Panel B, focusing on severe or high reach news, imply that a firm with *High Rating IO %* experiences 0.22% lower three-day market-adjusted returns. Similarly, a firm with *High ENV Sales %* experiences 0.22% lower three-day market-adjusted returns. We obtain similar results when we use the Fama-French three-factor model as the benchmark.

These effects should be interpreted as depending only in part on the actual divestitures by E&S-conscious investors and sales drops in E&S-conscious countries occurring in the quarter of negative news coverage. They may also capture market participants' fears of future investor exits and sales drops if the company's reputation deteriorates further in subsequent quarters. Crucially, the price reaction also captures expectations about corporate actions.<sup>15</sup> Thus, while the behavior of investors and customers may be expected to inflict a stronger punishment on firms with more

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<sup>15</sup> See Bond, Goldstein, and Prescott (2010) for a model in which market prices incorporate firms' corrective actions. In our context, the threat by customers and suppliers remains credible not because they have non-public information, but because of their preferences towards E&S policies.

E&S-conscious investors and customers, expectations that these firms may attempt to improve their E&S policies to a larger extent would tend to reduce the negative price impact. These considerations, together with the results on the changes in corporate policies we present in Section 5, are therefore crucial in interpreting the cross-sectional differences in the valuation effects of negative E&S risk.

Interestingly, the firm's ESG rating (which we do not present in Panel B for brevity) is not significantly related to the stock price reaction triggered by negative E&S risk. This indicates that while corporate social responsibility may be able to shield firms from shocks unrelated to E&S policies (Lins, Servaes, and Tamayo, 2017; Hong, Kubik, Liskovich, and Scheinkman, 2019), such mitigating effects are not present when the firm's reputation on E&S policies is at risk.

In Panel C, we consider firms' abnormal returns in the year following the negative news coverage to evaluate whether the negative effects on firm valuations are persistent. We compute firms' monthly abnormal returns as the residuals of a Fama and French (1993) three-factor model, estimated over the 36 months before the event, and report the average abnormal monthly return over the 12 months including the event. The results show that the punishment inflicted by investors and customers is temporary, as we find no differences in the long-term returns of firms with more E&S-conscious investors and customers following heightened E&S risk. Thus, the larger temporary price drops for firms with more E&S-conscious investors and customers appear to be fully reversed in the months after the negative realizations of E&S risk.

This finding may raise concerns that the effects of market discipline may be limited. It is also possible, however, that investors' divestitures and customers' backlash act as an early warning even for firms experiencing relatively less severe E&S risks. Firms may act upon these early warnings and change their subsequent E&S policies in an attempt to repair their reputations and

reverse the negative impact. The magnitudes and lack of persistence of the price drops may simply reflect the policy improvements of firms with more E&S-conscious investors and customers. The evidence in the next section supports this interpretation.

## **5. Effects of Investors' and Customers' Backlash on Corporate Policies**

In this section, we explore the long-term effects of investors' and customers' behavior on corporate policies. If market discipline were effective, firms with E&S-motivated investors and customers, experiencing decreases in E&S-conscious investors' ownership and sales in E&S-conscious countries, and hence, temporary decreases in stock prices, should improve their policies to a larger extent to avoid long-term consequences.

We start testing these hypotheses by estimating reduced-form regressions in which we relate measures of corporate policies at  $t+1$  to our RepRisk measures of E&S risk at  $t$  and investors' and customers' E&S preferences at  $t-1$ . To ease the interpretation, as in the earlier tests, instead of continuous variables, we define dummy variables that equal one if a firm is in the top quintile for ownership by E&S-conscious investors or sales in E&S-conscious countries. In Panel A of Table 9, we do not find that firms more exposed to investors' and customers' backlash reduce their investment following negative realizations of E&S risk. This is consistent with the evidence in Panel C of Table 8 that there are no permanent effects on firms' valuations, and hence, cost of capital. In fact, firms with more E&S-conscious institutional owners invest more, suggesting that they are taking actions to improve the sustainability of their policies. The rest of Table 9 provides evidence in this direction.

In Panel B, we consider a firm's Thomson Reuters *CSR Strategy Score* at  $t+1$ . Companies that experience heightened E&S risk and have ex-ante more E&S-conscious investors improve

their ESG ratings over the next year. The effect is not only statistically but also highly economically significant. In column 1, firms with an ex-ante higher proportion of E&S-conscious investors improve their *CSR Strategy Score* by 3.4 points (relative to the within-firm standard deviation of 11.5) following an average increase in E&S risk (equal to  $\ln(87)$ ).

We find less consistent evidence across specifications that ex-ante higher sales in E&S-conscious countries are associated with improvements in firms' *CSR Strategy Score* at  $t+1$  following the realizations of negative E&S risk. Nevertheless, in column 5, firms with a higher proportion of sales to E&S-conscious countries experience an improvement in their *CSR Strategy Score* of 2.2 points; the economic magnitude of the effect and its statistical significance are even larger in column 4.

Importantly, Panel C of Figure 1 shows that before the negative realization of E&S risk, there are no differences in the evolution of CSR ratings between firms with more E&S-conscious investors and other firms. Firms with more E&S-conscious investors start improving their CSR ratings to a larger extent only after experiencing the negative shocks, suggesting that the price drops triggered by investors' sales indeed affect corporate policies.

We obtain our results controlling for a wide-range of firm characteristics. In particular, one may wonder whether firms always react to poor performance by improving their ESG policies, perhaps to maintain or gain investors' trust. For this reason, we control for the firm's average stock returns over year  $t$ . This control (coefficient not reported) does not appear to be systematically related to the firm's ESG policies and, in fact, its effect is negative, refuting this alternative explanation.

The improvements in future ESG policies also appear to depend on customers' and investors' backlash rather than on the firm's initial ESG rating, as all results include firm fixed

effects. Firm fixed effects also capture systematic differences in E&S policies related to the firms' countries of origin, industries, and legal environments (Liang and Renneboog, 2017). Thus, our results suggest that firms, fearing further negative consequences due to the composition of their ownership and customer base, use their ESG policies to repair their reputations following negative realizations of E&S risk.

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). Firms could also manipulate ratings. For this reason, we consider a range of proxies for E&S policies, including an event-based measure of firm-level negative ESG incidents, based on RepRisk. As Li and Wu (2020) argue, the frequency of negative ESG events cannot be manipulated because it depends on news coverage. In Panel C, we report tests using the RepRisk index to assess ESG risk. It is comforting that the estimates confirm the results in Panel B. In the year following negative news coverage of E&S risks, negative ESG incidents, captured by a higher RepRisk index, decrease to a larger extent in firms with more E&S-conscious investors. The results appear weaker for E&S-conscious customers, as we do not find statistically significant effects for firms with ex-ante more sales in E&S-conscious countries, especially when we consider ownership by E&S-conscious investors in the same regression. This may reflect the fact 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.<sup>16</sup> Firms' costs in switching suppliers may also explain why we find more limited evidence of market discipline associated with customers' E&S preferences.

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<sup>16</sup> 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.

Such an interpretation is confirmed in Panels D and E, in which we capture improvements in firms' policies by using the Sustainalytics ratings on carbon intensity trends and employee-related controversies. Based on carbon emissions and actual disputes with employees, these ratings, whose increase indicates an improvement, are also harder to manipulate than broader CSR ratings. The results suggest that firms more exposed to investors' backlash appear to react by improving their E&S policies. We do not find analogous effects for firms with ex-ante larger sales to E&S-conscious countries, suggesting that market discipline is exercised more effectively by investors.

While so far we have estimated reduced-form regressions, in Table 10, we directly relate changes in ownership by E&S-conscious investors and sales in E&S-conscious countries to corporate policies. Decreases in E&S-conscious investors' ownership and sales in E&S-conscious countries due to negative realizations of E&S risk allow us to capture the intensity of market discipline that investors and customers impose. We expect that these changes should be related to larger improvements in corporate E&S policies. As different proxies for firms' ESG policies provide similar conclusions, we concentrate on *CSR Strategy Score* and *RepRisk Index*.

To focus on changes driven by discontent about a firm's E&S policies, we predict changes in E&S-conscious institutional ownership and sales to E&S-conscious countries following heightened E&S risk using the levels of E&S-conscious institutional ownership and sales in E&S-conscious countries, respectively, at  $t-1$  and the interactions of these variables with the realizations of negative E&S risk.

Table 10 presents the estimates of the second stage from a two-stage least squares (2SLS) regression of firms' policy responses.<sup>17</sup> The estimates show that following negative realizations of

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<sup>17</sup> The reported  $F$ -statistics indicate that our instruments are not weak.



E&S risk, both *High Rating IO %* and *High ENV Sales %* result in statistically and economically significant improvements in firms' E&S policies. For example, in column 1 (column 2), a one-standard-deviation drop in *High Rating IO %* (*High ENV Sales %*) leads to 0.53 (2.54) point increase in firms' *CSR Strategy Score* following an average increase in *Total News* (equal to  $\ln(87)$ ).<sup>18</sup> Similarly, based on column 4 (column 5), a one-standard-deviation drop in *High Rating IO %* (*High ENV Sales %*) results in 1.60 (6.02) point decrease in firms' *RepRisk Index* following an average increase in E&S risk. This evidence provides a direct link between the punishment inflicted by investors and customers and the subsequent changes in firm policies.

## 6. Alternative Explanations: Market Discipline versus Blockholder Engagements

Our results so far suggest that investors, and to a certain extent customers, 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 achieve the observed improvements in E&S policies are the ones in which blockholders take the most active role and engage with management. Thus, these improvements may occur independently from the behavior of E&S-conscious investors.

Table 11 explores the role of blockholders that can potentially engage with management and push for improvements in E&S policies following negative realizations of E&S risk. We find no evidence that this alternative hypothesis is at work. Columns 1-5 in Panel A show that small E&S-conscious investors divest firms following heightened E&S risk. Contrary to prior findings showing that blockholders – defined as institutional shareholders with ownership above 5% –

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<sup>18</sup> The economic magnitude in column 1 is calculated as  $(0.147 - 0.047 \cdot \ln(87)) \cdot 8.47 = -0.53$ , where 8.47 is the standard deviation of *Change in High Rating IO %*. Similarly, in column 2, the economic magnitude is calculated as  $(0.014 - 0.043 \cdot \ln(87)) \cdot 14.28 = -2.54$ , where 14.28 is the standard deviation of *Change in High ENV Sales %*.

affect companies mostly by engaging with them, in columns 6-10, we find that large E&S-conscious investors also reduce their shareholdings following heightened E&S risk.<sup>19</sup>

Panel B shows that consistent with the existence of market discipline, the improvements in E&S policies are concentrated in firms with small E&S-conscious investors (columns 3 and 4). In fact, E&S-conscious blockholders appear to play a more limited role, as seen by the statistically insignificant interaction between *High Rating IO – Large %* and *Total News* or *E&S News*. This evidence suggests that the effects we document here are primarily due to E&S-conscious investors' actual and threatened divestitures rather than to blockholder engagement.

## 7. Conclusions

We show that the effects of negative news coverage of firms' E&S policies on corporate valuations are magnified in firms with more E&S-conscious investors and customers. Since managers care about stock prices and fear even worse consequences in the future, firms take steps to repair their reputations. Following negative realizations of E&S risk, firms that experience more investor divestitures improve their E&S policies, regardless of their initial E&S ratings. Overall, our results indicate that market discipline can play a powerful role in improving firms' E&S policies, thus offering important policy implications.

Market discipline works as long as investors and customers are able to evaluate firms' E&S policies. Hence, better disclosure may enhance market discipline. Yet, despite strong pressure from institutional investors, regulatory agencies have been reluctant to impose uniform disclosure standards regarding E&S policies.<sup>20</sup> Driven by increased interest in E&S issues, the media and

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<sup>19</sup> In unreported tests, we also find no evidence that new blockholders arrive following negative realizations of E&S risk.

<sup>20</sup> See "SEC urged by institutions to mandate ESG disclosure", October 2, 2018, *Pensions and Investments*.

private data providers have stepped in to provide information on firms' long-term sustainability policies. Still, mandated standards of disclosure may enhance market discipline and become a powerful instrument in incentivizing firms to adopt E&S-friendly policies.

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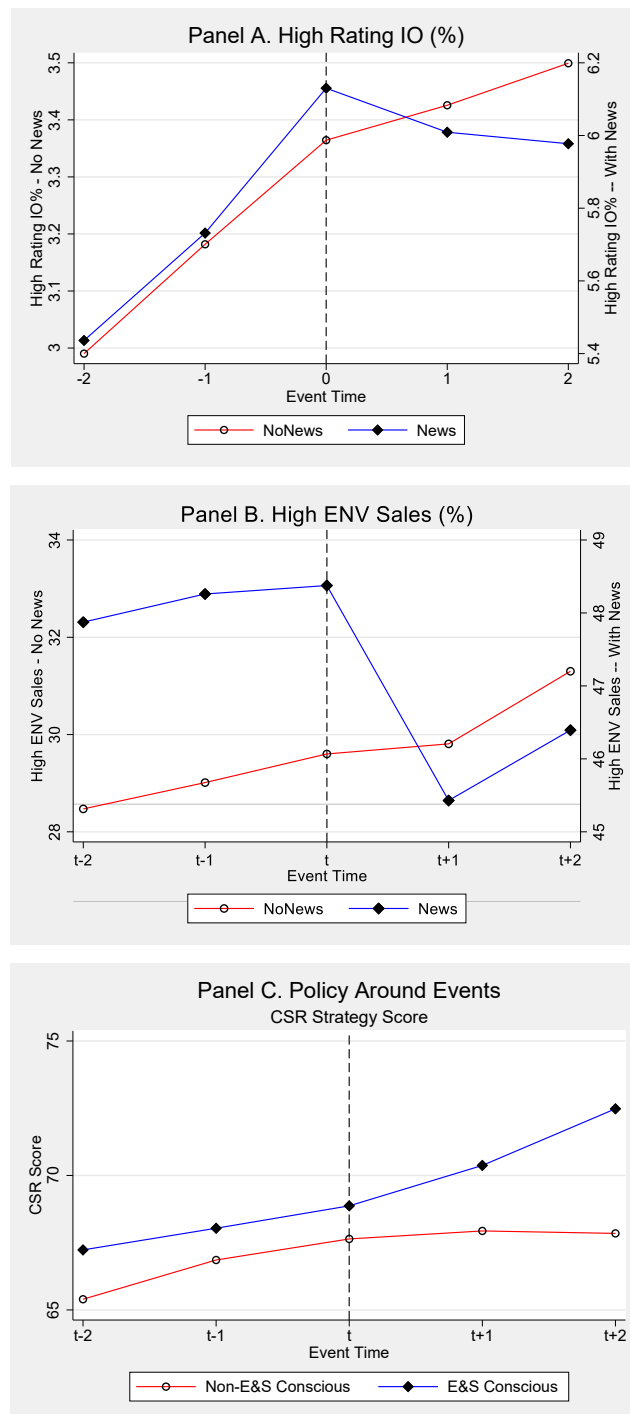
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## Figure 1. E&S-conscious institutional ownership, sales, and CSR policies

Panel A plots institutional ownership by E&S-conscious investors (*High Rating IO %*) in firms with no RepRisk news in quarter  $t$  (left y-scale, red line with hollow circle markers) and firms with RepRisk news in quarter  $t$  (right y-scale, blue line with solid diamond markers). Panel B plots sales by E&S-conscious customers (*High ENV Sales %*) in firms with no RepRisk news in year  $t$  (left y-scale, red line with hollow circle markers) and firms with more than 5 RepRisk news in year  $t$  (right y-scale, blue line with solid diamond markers). Panel C compares the *CSR Strategy Score* of firms with E&S-conscious investors (blue line with solid diamond markers) and firms with non-E&S-conscious investors (red line with hollow circle markers), considering firms with more than 5 RepRisk news in year  $t$ .



**Table 1. Summary statistics**

This table reports summary statistics of E&S risk news coverage (Panel A), institutional ownership (Panel B), sales (Panel C), and other firm characteristics (Panel D). The sample period is between 2007 and 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 (Low) ENV IO %* is the percentage of firm ownership by institutional investors from countries in the top tercile (not in the top tercile) of the World Value Survey (WVS) self-expression score. *High ENV Sales %* is the percentage of firm sales in countries in the top tercile of the WVS self-expression score. All other variables are defined in the Appendix.

Variable	Num Obs	Mean	Std Dev	10th	90th
<b>Panel A – E&amp;S Risk</b>					
<i>RepRisk</i>					
RepRisk Index	235,552	0.064	0.104	0.000	0.223
Total News	235,552	5.672	64.986	0.000	2.000
Severe News	235,552	3.365	39.119	0.000	0.000
High Reach News	235,552	1.932	23.506	0.000	0.000
Environment News	235,552	1.459	16.154	0.000	0.000
Social News	235,552	2.451	32.820	0.000	0.000
Governance News	235,552	1.762	22.755	0.000	0.000
<b>Panel B – Ownership</b>					
<i>FactSet</i>					
Inst Ownership %	228,893	29.321	31.862	0.797	88.013
High Rating IO %	229,387	5.499	14.294	0.000	17.937
Low Rating IO %	229,387	11.718	23.293	0.000	55.804
High ENV IO %	228,893	19.210	34.376	0.000	86.814
Low ENV IO %	228,893	0.089	0.305	0.000	0.154
High Rating IO - Small %	228,893	1.961	5.304	0.000	6.383
High Rating IO - Large %	228,893	1.424	5.030	0.000	5.335
IO Concentration	228,891	23.342	28.049	3.072	71.937
<b>Panel C – Sales</b>					
<i>FactSet Revere</i>					
High ENV Sales %	48,142	42.683	39.798	0	100
Ln Sales	48,142	22.304	2.968	18.990	26.416
Ln High ENV Sales	48,142	16.089	9.829	0.000	23.928
Ln Low ENV Sales	48,142	18.220	8.667	0.000	26.200
<b>Panel D - Other Data</b>					
<i>Datastream</i>					
Leverage	225,730	0.341	0.273	0.000	0.674
Tangibility	226,087	0.328	0.235	0.051	0.684
ROA	226,389	0.017	0.144	-0.079	0.123
Cash	226,389	0.083	0.109	0.004	0.235
Dividend	226,648	1.700	2.220	0.000	4.480
Average Return	226,690	-0.001	0.042	-0.051	0.046
Market Value	226,631	8.507	2.839	5.021	12.358
Thomson Rated	235,552	0.373	0.484	0.000	1.000
Thomson Rating	85,025	56.898	29.846	12.850	92.880
Raw Return (%)	656,694	0.237	12.515	-13.571	14.918
Market Excess Return (%)	656,694	-0.430	12.111	-13.622	14.315
<i>Ravenpack</i>					
Total Negative News	191,895	0.551	1.730	0.000	2.000
<i>Thomson Reuters ASSET4 ESG</i>					
CSR Strategy Score	20,974	55.246	27.509	19.15	91.43
<i>Sustainalytics</i>					
Carbon Intensity Trend	9,185	27.662	34.585	0	75
Employee Incidents	14,518	94.312	14.855	80	100



**Table 2. Environmental and social (E&S) risk and E&S-conscious institutional ownership and sales**

This table reports Fama-MacBeth regressions of E&S risk, measured by RepRisk news counts, on E&S-conscious institutional ownership - *High Rating IO %* - and the percentage of sales to E&S-conscious countries - *High ENV Sales %* at *t*-1. The observations are firm-quarter in odd-numbered columns, and firm-year in even-numbered columns. *Proportion of Severe News* is the number of severe news divided by the number of total news. All models include lagged firm controls. The *t*-statistics, calculated with Newey-West standard errors with three lags, are reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is denoted by \*, \*\*, and \*\*\*, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Total News		E&S News		Proportion of Severe News	
High Rating IO %	0.017*** (7.010)		0.016*** (7.168)		-0.000 (-0.119)	
High ENV Sales %		0.008*** (9.392)		0.007*** (7.824)		0.001* (2.349)
Thomson Rating	0.043*** (8.923)	0.017*** (30.400)	0.033*** (12.842)	0.016*** (26.555)	-0.008*** (-4.755)	-0.001*** (-5.161)
Thomson Rated	-0.003 (-0.110)	0.608*** (22.533)	-0.031* (-1.858)	0.504*** (22.239)	0.102** (2.337)	-0.002 (-0.286)
Market Value	0.015*** (5.657)	0.152*** (10.190)	0.016*** (5.351)	0.122*** (14.426)	0.002 (1.034)	-0.006** (-2.541)
Cash	0.152*** (9.217)	-0.026 (-0.412)	0.217*** (10.742)	-0.131*** (-3.565)	-0.040* (-1.892)	0.131 (1.606)
Dividend	-0.213*** (-7.188)	0.015** (3.044)	-0.178*** (-8.707)	0.020*** (3.874)	0.098*** (3.084)	-0.004 (-1.344)
Tangibility	0.112** (2.339)	0.360*** (5.915)	0.060* (1.734)	0.585*** (19.509)	0.046* (1.818)	-0.013 (-0.640)
ROA	-0.283 (-1.536)	-0.206*** (-4.451)	-0.115 (-0.802)	-0.104 (-1.508)	0.147 (1.216)	0.096*** (7.046)
Leverage	-0.045*** (-3.484)	0.406* (2.355)	-0.037*** (-3.439)	0.237* (1.924)	-0.049* (-1.716)	0.038** (2.511)
Average Return	0.380*** (12.018)	-1.072** (-2.524)	0.312*** (13.607)	-0.826* (-1.896)	-0.006 (-0.500)	0.067 (0.313)
IO Concentration	0.010*** (14.636)	-0.005*** (-8.729)	0.008*** (17.204)	-0.004*** (-9.134)	-0.000 (-1.291)	-0.001 (-1.565)
Constant	-0.879*** (-9.652)	-2.183*** (-13.032)	-0.772*** (-11.397)	-2.016*** (-13.084)	0.717*** (15.410)	0.690*** (7.687)
Observations	186633	29215	186633	29215	26946	10947
Average R-squared	0.165	0.270	0.154	0.245	0.040	0.028

**Table 3. Institutional investors with sustainable portfolios and E&S risk**

This table reports OLS estimates of E&S-conscious institutional ownership on E&S risk, measured by RepRisk news counts. The observations are firm-quarter. In Panel A (Panel B), the dependent variable is *High (Low) Rating IO %* for firm *i* in quarter *t*, which is the percentage of firm ownership by institutional investors with average portfolio ESG ratings in the top tercile (not in the top tercile). In Panel C, the dependent variable is *High Rating IO %* for firm *i* in quarter *t*+1. Column (7) of Panel A and column (5) of Panels B and C control for the firm's number of governance news in the past four quarters. All models include lagged firm controls, year-quarter fixed effects, and firm 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							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	High Rating IO % ( <i>t</i> )						
Total News	-0.275*** (-4.770)						
High Reach News		-0.417*** (-6.252)					
Severe News			-0.249*** (-3.970)				
Environment News				-0.582*** (-5.491)			
Social News					-0.214** (-2.510)		
E&S News						-0.259*** (-3.770)	-0.264*** (-3.873)
Past Governance News							0.023 (0.241)
Market Value	0.439*** (4.193)	0.438*** (4.186)	0.437*** (4.178)	0.443*** (4.232)	0.437*** (4.172)	0.439*** (4.196)	0.440*** (4.198)
Cash	-3.670*** (-4.797)	-3.675*** (-4.805)	-3.674*** (-4.802)	-3.663*** (-4.789)	-3.679*** (-4.808)	-3.674*** (-4.801)	-3.675*** (-4.803)
Dividend	0.231*** (8.742)	0.231*** (8.738)	0.232*** (8.753)	0.232*** (8.751)	0.231*** (8.730)	0.231*** (8.739)	0.231*** (8.732)
Tangibility	0.188 (0.319)	0.202 (0.344)	0.190 (0.323)	0.227 (0.386)	0.198 (0.338)	0.204 (0.347)	0.208 (0.354)
ROA	1.329**	1.335**	1.336**	1.320**	1.336**	1.332**	1.332**

	(2.462)	(2.474)	(2.475)	(2.444)	(2.475)	(2.468)	(2.468)
Leverage	4.096***	4.092***	4.092***	4.088***	4.086***	4.090***	4.088***
	(8.148)	(8.138)	(8.141)	(8.131)	(8.132)	(8.138)	(8.133)
Average Return	-10.013***	-9.996***	-9.975***	-10.029***	-9.957***	-9.986***	-9.982***
	(-8.931)	(-8.914)	(-8.896)	(-8.943)	(-8.885)	(-8.910)	(-8.908)
Thomson Rated	8.343***	8.332***	8.337***	8.331***	8.342***	8.341***	8.342***
	(19.195)	(19.166)	(19.179)	(19.160)	(19.193)	(19.191)	(19.198)
Thomson Rating	0.058***	0.058***	0.058***	0.058***	0.058***	0.058***	0.058***
	(6.821)	(6.792)	(6.809)	(6.801)	(6.802)	(6.810)	(6.798)
IO Concentration	0.005***	0.005***	0.005***	0.005***	0.005***	0.005***	0.005***
	(2.698)	(2.678)	(2.688)	(2.685)	(2.669)	(2.676)	(2.666)
Constant	-6.682***	-6.688***	-6.691***	-6.718***	-6.698***	-6.706***	-6.714***
	(-6.168)	(-6.173)	(-6.177)	(-6.204)	(-6.185)	(-6.192)	(-6.197)
Observations	190814	190814	190814	190814	190814	190814	190814
Adjusted R-squared	0.618	0.618	0.618	0.618	0.618	0.618	0.618
Firm & YQ FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B					
	(1)	(2)	(3)	(4)	(5)
Low Rating IO % ( <i>t</i> )					
Total News	0.207*** (3.519)				
High Reach News		0.358*** (5.297)			
Severe News			0.197*** (3.005)		
E&S News				0.180*** (2.594)	0.202*** (2.968)
Past Governance News					-0.113 (-1.228)
Observations	190814	190814	190814	190814	190814
Adjusted R-squared	0.854	0.854	0.854	0.854	0.854
Controls	Yes	Yes	Yes	Yes	Yes
Firm & YQ FE	Yes	Yes	Yes	Yes	Yes
Panel C					
	(1)	(2)	(3)	(4)	(5)
High Rating IO % ( <i>t</i> +1)					
Total News	-0.159*** (-2.842)				
High Reach News		-0.261*** (-4.068)			
Severe News			-0.109* (-1.816)		
E&S News				-0.106 (-1.557)	-0.142** (-2.102)
Past Governance News					0.188* (1.856)
Observations	184528	184528	184528	184528	184528
Adjusted R-squared	0.617	0.617	0.617	0.617	0.617
Controls	Yes	Yes	Yes	Yes	Yes
Firm & YQ FE	Yes	Yes	Yes	Yes	Yes

**Table 4. Institutional ownership from E&S-conscious countries and E&S risk**

This table reports OLS estimates of E&S-conscious institutional ownership on E&S risk, measured by RepRisk news counts. The observations are firm-quarter. In Panel A (Panel B), the dependent variable is *High (Low) ENV IO %* for firm *i* in quarter *t*, which is the percentage of firm ownership by institutional investors from countries in the top tercile (not in the top tercile) of the World Value Survey (WVS) self-expression score. Column (5) controls for the firm's number of governance news in the past four quarters. All models include lagged firm controls, year-quarter fixed effects, and firm 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					
	(1)	(2)	(3)	(4)	(5)
	High ENV IO %				
Total News	-0.095*** (-2.686)				
High Reach News		-0.097** (-2.371)			
Severe News			-0.100** (-2.468)		
E&S News				-0.115*** (-2.676)	-0.091** (-2.237)
Past Governance News					-0.123** (-2.409)
Observations	190775	190775	190775	190775	190775
Adjusted R-squared	0.976	0.976	0.976	0.976	0.976
Controls	Yes	Yes	Yes	Yes	Yes
Firm & YQ FE	Yes	Yes	Yes	Yes	Yes
Panel B					
	(1)	(2)	(3)	(4)	(5)
	Low ENV IO %				
Total News	0.016*** (9.346)				
High Reach News		0.019*** (9.431)			
Severe News			0.020*** (9.873)		
E&S News				0.017*** (8.748)	0.012*** (7.268)
Past Governance News					0.025*** (9.653)
Observations	190775	190775	190775	190775	190775
Adjusted R-squared	0.750	0.749	0.750	0.749	0.752
Controls	Yes	Yes	Yes	Yes	Yes
Firm & YQ FE	Yes	Yes	Yes	Yes	Yes

**Table 5. Investor preferences *versus* firm fundamentals**

This table reports OLS regressions of the change in institutional holdings by E&S-conscious institutions (captured by the indicator variable *High Rating IO Inst*) and other investors as a function of *Total News* and *E&S News*. In odd-numbered columns, we use the natural logarithm of one plus *Total (E&S) News*, whereas in even-numbered columns, we use indicator variables for whether *Total (E&S) News* is greater than 0. *Change in Institutional Holdings* is defined as an institution's holdings in quarter  $t+1$  minus holdings in quarter  $t-1$  divided by holdings in quarter  $t-1$ . The observations are at the institution-firm-year-quarter level, and all specifications include firm-year-quarter fixed effects, with standard errors clustered at the institution level. Statistical significance at the 10%, 5%, and 1% level is denoted by \*, \*\*, and \*\*\*, respectively.

	(1)	(2)	(3)	(4)
	Change in Institutional Holdings			
High Rating IO Inst	-0.010 (-1.366)	-0.009 (-1.237)	-0.011 (-1.487)	-0.010 (-1.340)
High Rating IO Inst # Total News	-0.003*** (-2.853)			
High Rating IO Inst # Total News Dummy		-0.015*** (-3.242)		
High Rating IO Inst # E&S News			-0.003*** (-2.754)	
High Rating IO Inst # E&S News Dummy				-0.014*** (-3.140)
Observations	14,934,078	14,934,078	14,934,078	14,934,078
Adjusted R-squared	0.029	0.029	0.029	0.029
Controls	No	No	No	No
Firm*YQ FE	Yes	Yes	Yes	Yes

**Table 6. Sales in E&S-conscious countries and E&S risk**

This table reports OLS regression estimates of firm sales in E&S-conscious countries on E&S risk, measured by RepRisk news counts. The observations are firm-year. The dependent variable in Panel A (Panel B) is one plus the natural logarithm of total sales in high (low) E&S-conscious countries for firm  $i$  in year  $t$ . Column (7) controls for the firm's number of governance news in the past year. All models include lagged firm controls, and 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.

Panel A							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Ln Sales from High ENV Countries						
Total News	-0.064** (-2.349)						
High Reach News		-0.149*** (-5.007)					
Severe News			-0.081*** (-2.911)				
Environment News				-0.082** (-2.098)			
Social News					-0.110*** (-3.069)		
E&S News						-0.071** (-2.295)	-0.057* (-1.868)
Past Governance News							-0.129*** (-3.660)
Observations	39109	39109	39109	39109	39109	39109	39109
Adjusted R-squared	0.804	0.804	0.804	0.804	0.804	0.804	0.804
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Ln Sales from Low ENV Countries						
Total News	-0.009 (-0.494)						
High Reach News		-0.016 (-0.722)					
Severe News			-0.004 (-0.179)				
Environment News				-0.005 (-0.155)			
Social News					-0.027 (-1.037)		
E&S News						-0.011 (-0.537)	-0.015 (-0.722)
Past Governance News							0.034 (1.176)
Observations	38422	38422	38422	38422	38422	38422	38422
Adjusted R-squared	0.933	0.933	0.933	0.933	0.933	0.933	0.933
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Table 7. E&S-conscious institutional ownership/sales and general negative firm news**

This table reports OLS regression estimates of E&S-conscious and non-E&S conscious institutional ownership and sales in E&S-conscious countries on general negative news from Ravenpack. The observations are firm-quarter in columns (1) and (2) and firm-year in column (3). All models include lagged firm controls, and firm and year-quarter fixed effects in columns (1) and (2) and firm and year fixed effects in column (3). 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)
	Low Rating IO %	High Rating IO %	High ENV Sales %
General Negative News	-0.731*** (-8.518)	0.920*** (10.461)	0.029 (0.273)
Observations	190814	190814	32840
Adjusted R-squared	0.854	0.618	0.923
Controls	Yes	Yes	Yes
FE	Firm & YQ	Firm & YQ	Firm & Year



**Table 8. Stock returns and E&S risk**

This table reports abnormal stock returns (in percentages) around E&S risk events, measured by RepRisk news. Panel A reports univariate *t*-tests of short-term CARs, cumulated from one day before to one day after the RepRisk news event and calculated by subtracting the value-weighted market index or as the residual of a three-factor Fama-French model, estimated over the 252 days before the event day. Panel B presents cross-sectional regression estimates for short-term CARs. Panel C presents cross-sectional regression estimates for long-term CARs, estimated as the average monthly abnormal returns over the 12 months including the event month. Monthly abnormal returns are the residuals of a three-factor Fama-French model, estimated over the 36 months before the event month. The main independent variables are dummies that take the value of one if a firm's institutional ownership (sales) is (are) in the top quintile of *High Rating IO %* or *High ENV Sales %*. All models include lagged firm controls, country-by-year fixed effects, 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 – Short-term CARs		
Sample	<i>All News</i>	<i>High Reach or Severe News</i>
<i>Market adjusted CARs (-1,1)</i>		
Mean	-0.142	-0.171
<i>t</i> -value	-13.8	-11.9
N	113349	57716
<i>FF3 adjusted CARs (-1,1)</i>		
Mean	-0.142	-0.166
<i>t</i> -value	-14.2	-11.8
N	113349	57716

Panel B. Cross-sectional analysis - Short-term CARs

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR (-1,+1) - Market adjusted			CAR (-1,+1) - FF3 adjusted		
	All News					
High Rating IO	-0.132*** (-2.846)		-0.130*** (-2.802)	-0.088* (-1.892)		-0.086* (-1.834)
High ENV Sales		-0.053 (-0.972)	-0.049 (-0.896)		-0.066 (-1.227)	-0.063 (-1.174)
Observations	71215	71215	71215	71215	71215	71215
Adjusted R-squared	0.011	0.011	0.011	0.009	0.009	0.009
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Ctry*Year & Ind FE	Yes	Yes	Yes	Yes	Yes	Yes
	Severe or High Reach News					
High Rating IO	-0.226*** (-3.256)		-0.216*** (-3.100)	-0.160** (-2.394)		-0.150** (-2.226)
High ENV Sales		-0.224*** (-2.817)	-0.215*** (-2.707)		-0.231*** (-2.903)	-0.225*** (-2.821)
Observations	35669	35669	35669	35669	35669	35669
Adjusted R-squared	0.014	0.014	0.014	0.011	0.011	0.011
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Ctry*Year & Ind FE	Yes	Yes	Yes	Yes	Yes	Yes

Panel C. Cross-sectional analysis - Long-term CARs

	(1)	(2)	(3)	(4)	(5)	(6)
		<i>All News</i>			<i>Severe or High Reach News</i>	
	Monthly return (FF3)					
High Rating IO	0.013 (0.141)		0.013 (0.148)	-0.057 (-0.555)		-0.055 (-0.546)
High ENV Sales		-0.015 (-0.138)	-0.015 (-0.143)		-0.038 (-0.330)	-0.036 (-0.313)
Observations	69054	69054	69054	34644	34644	34644
Adjusted R-squared	0.479	0.479	0.479	0.503	0.503	0.503
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Ctry*Year & Ind FE	Yes	Yes	Yes	Yes	Yes	Yes

**Table 9. Firms' policy responses**

This table reports OLS regression estimates of firms' policy responses to E&S risk, measured by RepRisk news counts. The observations are firm-year. The main independent variables are dummies that take the value of one if a firm's institutional ownership (sales) is (are) in the top quintile of *High Rating IO %* or *High ENV Sales %* in year  $t-1$ . In Panel A (Panel B / Panel C), the dependent variable is the firm's *Capital Expenditures/Total Assets* (*CSR Strategy Score / RepRisk Index*) in year  $t+1$ . Higher *CSR Strategy Score* indicates improvements in companies' environmental and social practices, whereas higher *RepRisk Index* indicates worse environmental and social risks. In Panel D (Panel E), the dependent variable is the firm's carbon intensity (employee controversies) Sustainalytics score in year  $t+2$ ; increases in these scores indicate improvements along these dimensions. All models include lagged firm controls, and 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.

Panel A						
	(1)	(2)	(3)	(4)	(5)	(6)
	Capital Expenditures/Total Assets					
Total News	-0.163*** (-3.518)	-0.112** (-2.516)	-0.167*** (-3.510)			
E&S News				-0.100* (-1.827)	-0.032 (-0.697)	-0.118** (-2.079)
High Rating IO	-0.391* (-1.694)		-0.385* (-1.671)	-0.287 (-1.235)		-0.282 (-1.211)
High ENV Sales		-0.224 (-1.049)	-0.158 (-0.732)		-0.209 (-1.013)	-0.179 (-0.869)
High Rating IO # Total News	0.271*** (4.121)		0.263*** (3.951)			
High ENV Sales # Total News		0.094 (1.344)	0.021 (0.296)			
High Rating IO # E&S News				0.324*** (3.826)		0.288*** (3.546)
High ENV Sales # E&S News					0.210** (2.200)	0.121 (1.316)
Observations	35451	35451	35451	35451	35451	35451
Adjusted R-squared	0.562	0.562	0.562	0.562	0.562	0.562
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Panel B

	(1)	(2)	(3)	(4)	(5)	(6)
	CSR Strategy Score					
Total News	0.032 (0.173)	0.201 (1.231)	0.009 (0.049)			
E&S News				-0.346* (-1.673)	-0.184 (-1.110)	-0.379* (-1.792)
High Rating IO	-0.288 (-0.305)		-0.275 (-0.290)	0.332 (0.362)		0.335 (0.366)
High ENV Sales		-0.049 (-0.071)	0.218 (0.315)		0.095 (0.147)	0.182 (0.279)
High Rating IO # Total News	0.764*** (3.030)		0.733*** (2.911)			
High ENV Sales # Total News		0.341 (1.517)	0.134 (0.602)			
High Rating IO # E&S News				0.674** (2.404)		0.590** (2.067)
High ENV Sales # E&S News					0.495* (1.882)	0.294 (1.101)
Observations	15947	15947	15947	15947	15947	15947
Adjusted R-squared	0.782	0.782	0.782	0.782	0.782	0.782
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Panel C

	(1)	(2)	(3)	(4)	(5)	(6)
	RepRisk Index					
Total News	3.742*** (35.086)	3.515*** (33.866)	3.762*** (34.087)			
E&S News				3.160*** (23.630)	2.643*** (22.097)	3.131*** (22.645)
High Rating IO	0.741* (1.721)		0.732* (1.695)	0.341 (0.809)		0.351 (0.832)
High ENV Sales		0.042 (0.110)	-0.265 (-0.683)		-0.158 (-0.416)	-0.324 (-0.855)
High Rating IO # Total News	-1.230*** (-8.018)		-1.203*** (-7.551)			
High ENV Sales # Total News		-0.464*** (-3.149)	-0.112 (-0.737)			
High Rating IO # E&S News				-1.624*** (-8.323)		-1.684*** (-8.171)
High ENV Sales # E&S News					-0.345* (-1.688)	0.199 (0.924)
Observations	36850	36850	36850	36850	36850	36850
Adjusted R-squared	0.499	0.498	0.499	0.486	0.485	0.486
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Panel D

	(1)	(2)	(3)	(4)	(5)	(6)
	Carbon Intensity					
Total News	-0.485 (-0.973)	0.456 (1.051)	-0.317 (-0.616)			
Environmental News				-0.034 (-0.049)	0.939 (1.557)	0.163 (0.228)
High Rating IO	-1.135 (-0.397)		-1.010 (-0.352)	0.740 (0.270)		1.009 (0.367)
High ENV Sales		-6.327*** (-2.756)	-5.319** (-2.284)		-6.645*** (-3.049)	-6.204*** (-2.810)
High Rating IO # Total News	1.845*** (2.588)		1.974*** (2.688)			
High ENV Sales # Total News		-0.402 (-0.607)	-0.902 (-1.353)			
High Rating IO # Environmental News				1.583 (1.641)		1.753* (1.731)
High ENV Sales # Environmental News					-0.462 (-0.506)	-0.918 (-0.985)
Observations	6924	6924	6924	6924	6924	6924
Adjusted R-squared	0.431	0.431	0.432	0.430	0.431	0.432
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Panel E

	(1)	(2)	(3)	(4)	(5)	(6)
	Employee Controversy					
Total News	-0.772*** (-5.206)	-0.594*** (-4.613)	-0.804*** (-5.240)			
Social News				-1.123*** (-5.470)	-0.813*** (-4.659)	-1.147*** (-5.441)
High Rating IO	-1.002* (-1.896)		-0.955* (-1.813)	-1.049** (-1.999)		-1.018* (-1.950)
High ENV Sales		-0.336 (-0.661)	-0.025 (-0.050)		-0.269 (-0.527)	0.031 (0.061)
High Rating IO # Total News	0.723*** (3.569)		0.664*** (3.168)			
High ENV Sales # Total News		0.417* (1.886)	0.228 (1.000)			
High Rating IO # Social News				1.048*** (3.736)		0.999*** (3.470)
High ENV Sales # Social News					0.455 (1.502)	0.187 (0.604)
Observations	10929	10929	10929	10929	10929	10929
Adjusted R-squared	0.723	0.723	0.723	0.724	0.723	0.724
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes

**Table 10. Firms' policy responses (2SLS)**

This table reports the second-stage estimates from a two-stage least squares (2SLS) regression of firms' policy responses to E&S risk, measured by RepRisk news counts. The observations are firm-year. The main independent variables are the *instrumented* changes in *High Rating IO %* or *High ENV Sales %*, and their *instrumented* interactions with RepRisk news counts. The changes in *High Rating IO %* (*High ENV Sales %*) are instrumented by the lagged levels of these variables in year  $t-1$  and interactions of the latter with RepRisk news at  $t$ . The dependent variables are the firm's *CSR Strategy Score* and *RepRisk Index* in year  $t+1$ . Higher *CSR Strategy Score* indicates improvements in companies' environmental and social practices, whereas higher *RepRisk Index* indicates worse environmental and social risks. All models include lagged firm controls, and 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)
	CSR Strategy Score			RepRisk Index		
Total News	0.284*	0.315**	0.332**	3.135***	3.048***	2.989***
	(1.851)	(2.067)	(2.183)	(29.496)	(28.693)	(27.013)
Change High Rating IO %	0.147**		0.143**	-0.057		-0.041
	(2.566)		(2.518)	(-1.583)		(-1.143)
Change High Rating IO % # Total News	-0.047**		-0.044**	0.055***		0.048***
	(-2.432)		(-2.295)	(3.382)		(2.814)
Change High ENV Sales %		0.014	0.016		-0.034***	-0.043***
		(0.814)	(0.848)		(-4.205)	(-4.704)
Change High ENV Sales % # Total News		-0.043*	-0.049*		0.102***	0.125***
		(-1.791)	(-1.823)		(5.714)	(5.678)
Kleibergen-Paap rank Wald F-statistic	88.546	37.497	30.855	73.634	49.307	27.51
Observations	14948	14952	14948	28762	29058	28762
R-squared	0.031	0.028	0.028	0.023	0.033	0.008
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes



**Table 11. Market discipline *versus* blockholder engagements**

In Panel A, the dependent variable is a firm's E&S-conscious institutional ownership of small (large) investors, defined as investors with less than 1% (more than 5%) ownership of the firm's shares. E&S-conscious institutional ownership is defined as the percentage of firm ownership by institutional investors with average portfolio ESG ratings in the top tercile. Observations are firm-quarter. Columns (5) and (10) control for the firm's number of governance news in the past four quarters. All models include lagged firm controls, and firm and year-quarter fixed effects. In Panel B, the dependent variable is the *CSR Strategy Score* for firm *i* in year *t*+1. Observations are firm-year. All specifications include lagged firm controls, and 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.

Panel A										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	High Rating IO - Small %					High Rating IO - Large %				
Total News	-0.071*** (-3.424)					-0.082*** (-4.455)				
High Reach News		-0.141*** (-6.023)					-0.087*** (-4.005)			
Severe News			-0.059** (-2.540)					-0.076*** (-3.791)		
E&S News				-0.066*** (-2.649)	-0.074*** (-3.072)				-0.078*** (-3.532)	-0.073*** (-3.384)
Past Governance News					0.040 (1.160)					-0.028 (-0.928)
Observations	190797	190797	190797	190797	190797	190797	190797	190797	190797	190797
Adjusted R-squared	0.672	0.672	0.672	0.672	0.672	0.479	0.479	0.479	0.479	0.479
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm&YQ FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B						
	(1)	(2)	(3)	(4)	(5)	(6)
	CSR Strategy Score					
Total News	-0.197 (-1.281)		-0.230 (-1.478)		-0.511* (-1.898)	
High Rating IO %	-0.101** (-2.039)	-0.079* (-1.789)				
High Rating IO % # Total News	0.035*** (3.045)					
E&S News		-0.431** (-2.323)		-0.476** (-2.475)		-0.887*** (-2.707)
High Rating IO % # E&S News		0.034*** (3.096)				
High Rating IO - Small %			-0.144 (-1.230)	-0.086 (-0.817)		
High Rating IO - Small % # Total News			0.082*** (3.672)			
High Rating IO - Small % # E&S News				0.075*** (3.421)		
High EVN Sales %					-0.037 (-1.440)	-0.032 (-1.274)
High EVN Sales % # Total News					0.009** (2.327)	
High EVN Sales % # E&S News						0.010** (2.276)
High Rating IO - Large %	-0.051 (-0.505)	-0.069 (-0.818)	-0.157* (-1.945)	-0.156** (-2.243)	-0.213*** (-2.725)	-0.188*** (-2.741)
High Rating IO - Large % # Total News	-0.011 (-0.347)		0.024 (0.917)		0.053** (2.150)	
High Rating IO - Large % # E&S News		-0.005 (-0.131)		0.031 (0.928)		0.060* (1.808)
Observations	16015	16015	16015	16015	15149	15149
Adjusted R-squared	0.768	0.768	0.768	0.768	0.777	0.777
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm & Year FE	Yes	Yes	Yes	Yes	Yes	Yes

## Appendix. Variable definitions

### Panel A – E&S Risk

<i>Variable</i>	<i>Definitions</i>	<i>Source</i>
Total News	Natural logarithm of one plus the count of news on ESG issues of a company.	RepRisk
Environmental News	Natural logarithm of one plus the count of news on environmental issues of a company.	RepRisk
Social News	Natural logarithm of one plus the count of news on social issues of a company.	RepRisk
Past Governance News	Natural logarithm of one plus the count of news on governance issues of a company in the previous year.	RepRisk
Severe News	Natural logarithm of one plus the count of news of high severity ESG issues of a company. The severity is determined based on the consequences, extent and cause of the risk incidents.	RepRisk
High Reach News	Natural logarithm of one plus the count of high reach news on ESG issues of a company. Low influence sources include local media, smaller NGOs, local government bodies, etc. Medium influence sources include most national and regional media, international NGOs, and state, national, and international government bodies. High influence sources include international media (e.g., the FT, NY Times, WSJ, BBC, etc.)	RepRisk
RepRisk Index	The RepRisk Index is obtained from a proprietary algorithm developed by RepRisk, which dynamically captures and quantifies a company's exposure to ESG and business conduct risks, associated with financing, investing, or doing business with a particular company. The Current RRI denotes the current level of firm-specific media and stakeholder coverage related to ESG issues. The RRI ranges from 0 to 100. The higher the value, the higher the risk exposure: 0-25 = low risk exposure; 26-49 = medium risk exposure; 50-59 = high risk exposure; 60-74 = very high risk exposure; 75-100 = extremely high risk exposure.	RepRisk

### Panel B - Ownership

Inst Ownership %	The total percentage of firm ownership by institutional investors.	FactSet
High ENV IO %	The total percentage of firm ownership by institutional investors from countries that are E&S-conscious. We define as E&S-conscious countries that are in the top tercile of the World Value Survey's self-expression score over the two most recent survey rounds of 2005-2009 and 2010-2014. The self-expression score is equally-weighted across all respondents in each surveyed country. See Table A3.	FactSet, World Value Survey (WVS)
Low ENV IO %	The total percentage of firm ownership by institutional investors from countries that are not in the top tercile of the WVS self-expression score.	FactSet, WVS
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. We set the ESG portfolio rating to 0 for all institutions with less than 50% holdings of firms with ESG ratings.	FactSet, Thomson Reuters ASSET4
Low Rating IO %	The total percentage of firm ownership by institutional investors with average portfolio ESG ratings not in the top tercile.	FactSet, ASSET4
High Rating IO – Small %	The total percentage of firm ownership by institutional investors who hold less than 1% of the firm's shares and whose average portfolio ESG ratings are in the top tercile.	FactSet, WVS

High Rating IO – Large %	The total percentage of firm ownership by institutional investors who hold more than 5% of the firm's shares and whose average portfolio ESG ratings are in the top tercile.	FactSet, WVS
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#### Panel C - Customer Sales Distribution

High ENV Sales %	The percentage of firm sales in E&S-conscious countries. We define as E&S-conscious countries that are in the top tercile of the self-expression score, calculated as an equally-weighted score for all respondents in each 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 as E&S-conscious countries that are in the top tercile of the self-expression score, calculated as an equally-weighted score for all respondents in each country in the World Value Survey.	FactSet
Ln Low ENV Sales	Natural logarithm of one plus total firm sales in non-E&S-conscious countries. We define as non-E&S-conscious countries that are not in the top tercile of the WVS self-expression score.	FactSet
Ln Sales	Natural logarithm of one plus total firm sales.	FactSet

#### Panel D - Other Data

Leverage	$(\text{Long Term Debt} + \text{Short Term Debt} \& \text{ Current Portion of Long Term Debt}) / (\text{Total Capital} + \text{Short Term Debt} \& \text{ Current Portion of Long Term Debt}) * 100.$	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 ordinary shares outstanding. For companies with more than one class of equity capital, the market value is expressed according to the individual issue.	Thomson Datastream
Return	Monthly stock return.	Thomson Datastream
CSR Strategy Score	A score reflecting a company's practices regarding the economic (financial), social and environmental dimensions of its day-to-day decision-making processes.	Thomson ASSET4
General Negative News	Natural logarithm of one plus the total number of news with an Event Sentiment Score below 25, i.e., extremely negative sentiment, of a firm. The news count excludes items related to corporate social responsibility.	Ravenpack
Carbon Intensity Trend	Carbon intensity trend tracks a company's carbon emissions over time to provide information regarding the effectiveness of its carbon emissions reduction programs. An increase in the score indicates a decrease in emissions.	Sustainalytics
Employee Controversies	Employee controversies track incidents related to a company's employee recruitment, development, diversity, engagement, and labor relations. An increase in the score indicates a decrease in controversies.	Sustainalytics

**Table A1. RepRisk news by issues and topics**

This table reports the frequency of the issues (in Panel A) and topics (in Panel B) of the news covered by RepRisk between 2007 and 2016. *Severe* news refers to firm-specific news of high severity based on the consequences, extent and cause of the risk incidents. *High Reach* news refers to firm-specific news reported in influential sources (e.g., the FT, NY Times, WSJ, BBC, etc.).

Panel A. Issues			
Issue	Total News	Severe	High Reach
Animal mistreatment	6554	78.8%	39.2%
Child labor	19388	29.6%	38.7%
Controversial products and services	234861	61.2%	29.3%
Discrimination in employment	27119	70.1%	29.2%
Forced labor	22682	31.2%	37.0%
Freedom of association and collective bargaining	28646	48.1%	53.5%
Global pollution (including climate change and GHG emissions)	120391	65.7%	42.5%
Human rights abuses and corporate complicity	168070	46.4%	40.7%
Impacts on communities	322139	53.9%	45.8%
Impacts on ecosystems/landscapes	271141	54.1%	44.1%
Local participation issues	64492	46.1%	55.3%
Local pollution	165125	54.0%	40.4%
Occupational health and safety issues	78089	48.2%	36.0%
Other environmental issues	332	47.3%	14.5%
Other issues	1760	91.4%	49.0%
Other social issues	249	43.0%	20.5%
Overuse and wasting of resources	19220	46.6%	53.4%
Poor employment conditions	104057	56.4%	38.2%
Products (health and environmental issues)	76262	76.1%	21.1%
Social discrimination	27491	77.7%	25.4%
Supply chain issues	94437	58.4%	33.7%
Violation of international standards	43088	31.0%	50.4%
Violation of national legislation	773065	65.4%	19.1%
Waste issues	45130	52.3%	41.7%
Total E&S News	2707234	60.3%	30.7%

Panel B. Topics

Topic	Total News	Severe	High Reach
Abusive/Illegal fishing	717	42.3%	27.2%
Agricultural commodity speculation	4786	89.6%	49.5%
Alcohol	486	85.0%	42.2%
Animal transportation	181	78.5%	28.2%
Arctic drilling	4443	84.8%	24.4%
Asbestos	3773	71.5%	60.3%
Automatic and semi-automatic weapons	396	87.4%	42.4%
Cluster munitions	13110	10.8%	70.7%
Coal-fired power plants	38770	64.0%	36.0%
Conflict minerals	4174	38.7%	48.5%
Coral reefs	2444	47.6%	50.8%
Deep sea drilling	3276	51.8%	31.0%
Depleted uranium munitions	252	66.7%	46.4%
Diamonds	413	49.9%	74.6%
Drones	456	82.0%	35.1%
Endangered species	16575	33.2%	47.6%
Forest burning	2993	61.4%	21.8%
Fracking	14847	81.9%	45.6%
Gambling	877	84.3%	10.4%
Genetically modified organisms (GMOs)	14382	68.1%	58.9%
Genocide/Ethnic cleansing	4683	32.6%	62.5%
High conservation value forests	2993	39.4%	25.1%
Human trafficking	1248	31.2%	36.8%
Hydropower (dams)	15289	46.4%	61.2%
Illegal logging	4143	28.7%	49.6%
Indigenous people	59963	42.9%	53.1%
Involuntary resettlement	11010	23.3%	49.2%
Land grabbing	32990	30.1%	55.2%
Land mines	722	8.0%	79.8%
Migrant labor	6900	30.8%	28.5%
Monocultures	3236	29.3%	62.0%
Mountaintop removal mining	12889	73.0%	32.7%
Negligence	22039	52.7%	30.3%
Nuclear power	20272	75.7%	35.1%
Oil sands	12229	63.3%	40.8%
Palm oil	18832	37.0%	38.6%
Pornography	629	75.5%	19.6%
Predatory lending	14401	71.5%	27.6%
Privacy violations	26756	94.2%	17.0%
Protected areas	20246	40.3%	48.5%
Rare earths	82	72.0%	42.7%
Seabed mining	124	38.7%	21.0%
Soy	3142	52.4%	41.9%
Tobacco	8327	79.5%	27.0%
Water scarcity	8999	43.0%	57.5%

**Table A2. Examples of RepRisk news**

This table lists examples of RepRisk news stories over 2007-2016, and the companies' responses. Severity refers to the consequences, extent, and cause of the risk incidents. Reach refers to the level of coverage of the risk incidents. Detailed definitions are provided in the Appendix.

Company name	Country of risk incident	News date	Risk incident topic	News summary	Severity	Reach	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.	Low	Medium	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.	Medium	Low	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.	Low	High	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".	Medium	Low	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.	Low	Medium	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".	Medium	Medium	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 failure to comply with local minimum wage laws and ongoing violations of health and safety laws.	Medium	High	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.	Medium	Medium	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.	Medium	Medium	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 over the two most recent survey rounds of 2005-2009 and 2010-2014. The self-expression score is equally-weighted across all respondents in each surveyed 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. Institutional ownership and E&S risk**

This table reports OLS regression estimates of institutional ownership on E&S risk, measured by RepRisk news counts. The observations are firm-quarter. Firm controls are lagged by one quarter relative to institutional ownership. Columns (6) - (8) also control for a firm's number of governance news in the past four quarters. All specifications include year-quarter fixed effects, and firm 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								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Institutional Ownership % (t)							
Total News	-0.153*** (-3.554)							
High Reach News		-0.150*** (-3.111)						
Severe News			-0.158*** (-3.317)					
Environment News				-0.235*** (-3.170)		-0.236*** (-3.183)		
Social News					-0.196*** (-3.085)		-0.193*** (-3.050)	
E&S News								-0.165*** (-3.240)
Past Governance News						-0.508** (-2.459)	-0.502** (-2.429)	-0.503** (-2.434)
Observations	190775	190775	190775	190775	190775	190775	190775	190775
Adjusted R-squared	0.954	0.954	0.954	0.954	0.954	0.954	0.954	0.954
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm & YQ FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Institutional Ownership % (t+1)							
Total News	-0.128*** (-3.051)							
High Reach News		-0.098** (-2.046)						
Severe News			-0.135*** (-2.934)					
Environment News				-0.182** (-2.489)		-0.182** (-2.499)		
Social News					-0.150** (-2.428)		-0.147** (-2.392)	
E&S News								-0.123** (-2.491)
Past Governance News						-0.477** (-2.311)	-0.472** (-2.288)	-0.473** (-2.292)
Observations	184467	184467	184467	184467	184467	184467	184467	184467
Adjusted R-squared	0.955	0.955	0.955	0.955	0.955	0.956	0.956	0.956
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm & YQ FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Table A5. Alternative classification of E&S-conscious countries**

This table reports OLS estimates of E&S-conscious institutional ownership on E&S risk, measured by RepRisk news counts. The observations are firm-quarter. In Panel A (Panel B), the dependent variable is *High (Low) ENV IO% (alt)* for firm *i* in quarter *t*, which is the percentage of firm ownership by institutional investors from countries above (below) the median of the *World Value E&S Index* from Dyck et al. (2019). Column (5) controls for the firm's number of governance news in the past four quarters. All models include lagged firm controls, year-quarter fixed effects, and firm 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					
	(1)	(2)	(3)	(4)	(5)
	High ENV IO% (alt)				
Total News	-0.086** (-2.358)				
High Reach News		-0.087** (-2.092)			
Severe News			-0.086** (-2.090)		
E&S News				-0.106** (-2.414)	-0.087** (-2.066)
Past Governance News					-0.102* (-1.928)
Observations	190797	190797	190797	190797	190797
Adjusted R-squared	0.975	0.975	0.975	0.975	0.975
Controls	Yes	Yes	Yes	Yes	Yes
Firm & YQ FE	Yes	Yes	Yes	Yes	Yes
Panel B					
	(1)	(2)	(3)	(4)	(5)
	Low ENV IO% (alt)				
Total News	0.003*** (3.319)				
High Reach News		0.004*** (3.255)			
Severe News			0.004*** (3.206)		
E&S News				0.004*** (2.929)	0.002** (2.112)
Past Governance News					0.006*** (3.912)
Observations	190797	190797	190797	190797	190797
Adjusted R-squared	0.699	0.699	0.699	0.699	0.699
Controls	Yes	Yes	Yes	Yes	Yes
Firm & YQ FE	Yes	Yes	Yes	Yes	Yes

**Table A6. Investor preferences – domestic *versus* foreign investors**

This table reports OLS regressions of the change in institutional holdings by E&S-conscious institutions (indicator *High Rating IO Inst*) on *Total News (E&S News)* distinguishing between investors that are or are not from the same country as the firm (as captured by the dummy *Same Country*). *Change in Institutional Holdings* is defined as an institution's holdings in quarter  $t+1$  minus holdings in quarter  $t-1$  divided by holdings in quarter  $t-1$ . Similar to Table 5, in columns (1) and (2), we use natural logarithm of one plus *Total (E&S) News*, and in columns (3) and (4), we use indicator variables for whether *Total (E&S) News* is greater than 0. The observations are at the institution-firm-year-quarter level and all specifications include firm-year-quarter fixed effects, with standard errors clustered at the institution level. The  $t$ -statistics are reported in parentheses. Statistical significance at the 10%, 5%, and 1% level is denoted by \*, \*\*, and \*\*\*, respectively.

	(1)	(2)	(3)	(4)
	Change in Institutional Holdings			
	Ln News Counts		Dummy if News > 0	
High Rating IO Inst	-0.010 (-0.946)	-0.011 (-1.089)	-0.009 (-0.929)	-0.010 (-1.044)
Same Country	-0.033** (-2.267)	-0.034** (-2.328)	-0.034** (-2.295)	-0.035** (-2.365)
High Rating IO Inst # Same Country	-0.004 (-0.442)	-0.004 (-0.389)	-0.003 (-0.329)	-0.003 (-0.288)
High Rating IO Inst # Total News	-0.004*** (-2.599)		-0.015** (-2.524)	
Same Country # Total News	-0.001 (-0.525)		-0.003 (-0.297)	
High Rating IO Inst # Same Country # Total News	0.001 (0.600)		0.000 (0.002)	
High Rating IO Inst # E&S News		-0.004** (-2.476)		-0.014** (-2.387)
Same Country # E&S News		-0.002 (-0.561)		-0.003 (-0.236)
High Rating IO Inst # Same Country # E&S News		0.001 (0.522)		-0.001 (-0.094)
Observations	14,934,078	14,934,078	14,934,078	14,934,078
Adjusted R-squared	0.030	0.030	0.030	0.030
Controls	No	No	No	No
Firm*YQ FE	Yes	Yes	Yes	Yes

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