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Does Money Talk? Market Discipline through Selloffs and Boycotts

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Abstract

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

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

JEL Classifications: G15, G23, G30, M14

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conscious investors are expected to have limited effects on stock prices, and in turn, on corporate policies (Broccardo, Hart, and Zingales, 2020; Berk and van Bisbergen, 2021).

In addition, the effectiveness of market discipline may be limited if investors' divestitures affect firm valuations only temporarily. A transitory backlash may not lead to changes in firm policies if managers, w 0 0 1ETQq0.00000912 0 612 792 reW* nBT/F1 12 Tf1 0 0 1 179.08 598. 0 s

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stock price. We conclude that divestitures can be effective in improving E&S policies if a large fraction of a firm's shareholders is E&S-conscious and managers care about the secondary stock price.

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

Second, we provide evidence that

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

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

Taken together, our results indicate that the threat of exit can be effective even if the observed divestitures and their effects on firms'

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can together, o

do not adjust their E&S policies following negative realizations of E&S risks. Thus, improvements in corporate E&S policies appear to be driven mostly by investors, indicating that the demand for firms' stocks is the primary driver of market discipline, possibly because customers have limited information on firms' corporate policies, high switching costs, or short-term memory.

This paper contributes to a growing literature exploring how institutional investors affect firms' E&S policies. Existing work highlights that blockholders engage with management and pressure for changes in corporate ESG policies

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stakeholder, and third-

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

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

In the empirical analysis, we focus on E&S news and control for governance news. Panel A of Table 1 provides summary statistics for the different categories of RepRisk news at yearly frequency. Negative E&S news is fairly infrequent, with 87.5% of quarterly (78% of yearly) firm observations without such coverage.[4] Importantly, the R-squared of the regression of E&S news on the interaction of industry and time dummies or country and time dummies is only 10%; thus, E&S news does not appear to be driven by industry and country factors and primarily reflects idiosyncratic firm shocks.

1.2 Ownership Data and the Classification of Institutional Investors

We obtain institutional ownership data from FactSet LionShares. We conjecture that institutional investors that follow an ESG strategy should be more discontent when negative E&S

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

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

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

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

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

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experiences negative media coverage of its E&S policies. We also explore whether sales in E&S-conscious countries decrease following negative E&S news.

2.1 Institutional Ownership

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

However, any effects of E&S risk through firm fundamentals should affect all investors similarly, irrespective of their preferences. In contrast, if shareholders' non-pecuniary preferences matter, we should observe a disproportionate decrease in the holdings of a firm's E&S-conscious investors following negative realizations of E&S risk. Thus, to evaluate whether E&S preferences matter, we compare changes in ownership by investors with different E&S preferences.

We regress the percentage of shares owned by institutions with different E&S preferences in firm *f* at the end of quarter *t* ( ) on the number of negative E&S news during that quarter ( ):

,

where *type* refers to E&S-conscious and non-E&S-conscious investors, respectively. In all regressions, we include firm ( ) and time ( ) fixed effects, and a host of firm controls measured at the beginning of the quarter ( ), including market value, cash holdings, dividend yield, asset

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tangibility, return on assets, leverage, average return over the previous year, concentration of institutional ownership, Thompson Reuters ESG rating, and an indicator variable for whether the firm has such a rating. Moreover, we control for a firm's

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

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firms with more E&S-conscious investors and customers, anticipation that these firms may improve their E&S policies would tend to reduce the negative price impact.

4. Investors' Preferences and Corporate Policies

4.1 Response to Market Reactions and Negative News Coverage

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along seven environmental and social dimensions. Specifically, companies are evaluated for 1) their eco-efficiency in the use of resources and supply chain management; 2) their commitment

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

In Table 6, we shed light on whether firms indeed respond to the negative market reactions by improving their E&S policies because they have more E&S-conscious investors. We test whether firms that have experienced relatively more negative E&S news have better subsequent E&S policies when their investors are more E&S-conscious. In these specifications, we control for ex-ante higher sales to E&S-conscious countries and measure E&S-conscious institutional ownership at the end of the last quarter of year *t-1*. More importantly, we split the sample distinguishing between firms, whose managers receive equity compensation and should therefore be more concerned about the stock price (*Equity Comp* = 1) and other firms (*Equity Comp* = 0).

Column 1 in Table 6 focuses on the subsample of firms whose managers receive equity compensation. Following an average increase in negative *E&S News* (equal to 11.09 in the subsample of firms that experience news coverage), firms with a one-standard-deviation higher ex-ante E&S-conscious institutional ownership experience an improvement in the *E&S Score* between years *t* and *t+3* by 0.37 points, equal to 7.21% of the average change in *E&S Score* (5.18). The estimate is not statistically significant in column 2 in the subsample of firms whose managers do not receive equity compensation. Results are qualitatively similar in columns 3 and 4, where we gauge improvements in E&S policies considering firms' average E&S incidents between *t+1* and *t+3*. Not only do the reactions to negative E&S news of firms with different levels of E&S-

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conscious institutional ownership differ between firms with and without equity compensation as predicted by theoretical models of governance by exit, but they are also statistically significant.

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

In addition, w

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

In Panel B, we consider the subsample of firms whose managers are less likely to care

greenhouse gas (GHG) emissions, air pollutants, waste, and land and water pollutants. All measures are defined as impact ratios, that is, standardized by the firm's revenues. Actual emissions and other direct environmental costs capture more concrete and harder to manipulate aspects of environmental policies. Changes along these dimensions would support our hypothesis that firms do not greenwash.

In Panel A, we focus on firms whose managers receive equity compensation. We find that following negative environmental incidents, firms with more E&S-conscious investors decrease their environmental impact between years *t* and *t*+3 more than other firms. For example, in column 2, following an average increase in negative *Env News* (equal to 6.27), firms with an ex-ante one-standard-deviation higher E&S-conscious institutional ownership experience a drop in the greenhouse gas (GHG) emission impact ratio of 2.77 percentage points, which is

4.4 Long-Term Effects

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

To evaluate whether the long-term effects are consistent with the existence of market discipline, we focus on firms that experience an E&S incident during our sample period and consider their returns starting from one month after the E&S incident. In columns 1 and 2 of Table 10, we explore how differences in CARs in the 12 and 24 months after the negative E&S news coverage depend on the firm's ownership and on whether the firm has improved its E&S policies. We observe that one year after the E&S incident, firms with a higher proportion of E&S-conscious investors experience higher cumulative monthly abnormal returns, as long as they have improved their E&S policies, as measured by an increase in the *E&S score* during that year. A one-standard-deviation increase in *High Rating IO %* (0.067) is associated with a 3.50% higher cumulative abnormal returns in the next 12 months for firms that improve their E&S policies. In column 2, the estimates are qualitatively similar if we consider the firm's cumulative abnormal returns and improvements in policies in the two years following the E&S incident.

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

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firms with a large proportion of E&S-conscious investors subsequently improve their E&S policies, especially if their managers' compensation is linked to the stock price.

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

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Table 4. Market reactions to negative E&S news

This table reports abnormal stock returns (in percentages) around E&S news

Table 5. Firms' policy responses to negative market reactions

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

This table reports OLS regression estimates of firms' policy responses to E&S risk. Firm policies are measured by the change in a firm's *E&S Score* from year *t* to year *t+3* (columns 1 and 2) and the average E&S news counts between years *t+1* and *t+3* (columns 3 and 4). A higher *E&S Score* indicates improvements in a firm's E&S practices, whereas higher *Avg E&S News* indicates more environmental and social incidents. Odd-numbered (even-numbered) columns include firms that have (have not) awarded equity-based compensation to their executives and directors in year *t*, denoted as *Equity Comp* =1 (*Equity Comp* = 0). The main independent variables are *High Rating IO %* (at the end of the last quarter of year *t-1*) interacted with *E&S News* in year *t*. All models include lagged firm size, ROA, Thomson Rated, and Thomson Rating as controls. Columns (1) and (2) include industry, country, and year fixed effects, whereas columns 3 and 4 include firm and year fixed effects. The t-statistics, calculated with standard errors clustered at the firm level, are reported in parentheses. In the last row, we also report the F-statistics for the difference in the coefficients on the interaction terms between *E&S News* and *High Rating IO %* in the subsamples of firms with and without equity compensation. Statistical significance at the 10%, 5%, and 1% level is10( )-9 Tm0 g0 G[(an)-6(d)-6( )-103(man)-6(a

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

This table reports OLS regression estimates of firms' policy responses to negative E&S news. The unit of observation is firm-year. Panel A (Panel B) includes firms that have (have not) awarded equity-based compensation to their executives and directors in year *t*, denoted as *Equity Comp* =1 (*Equity Comp* = 0). The main independent variables are *High Rating IO %* (at the end of the last quarter of year *t-1*) interacted with *E&S News* in year *t*. We distinguish between news that refers to *Resource Use, Emissions, Workforce, Community, Human Rights,* and *Product Responsibility*. Firm policies are captured by the average RepRisk news counts between years *t+1* and *t+3*, considering the same categories of news. All models include controls for lagged size, ROA, Thomson Rated, and Thomson Rating, and firm and year fixed effects. The t-statistics, calculated with standard errors clustered at the firm level, are reported in parentheses. At the bottom of the table, we alrors cl48756ec c(cq0.,19(nt)3(he)-5(s( )-55W*a)-5(l)8(r)8(or)8(s)-10 1 222.58 453.42 Tm0 g0 G( )] TJQq0.00or0.000011802 0 792 612 ree)-5(0 Tf1 0 0 1)] TJEnesuster02 0

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

	(1)	(2)	(3)	(4)	(5)	(6)
	Resource Use	Emissions	Workforce	Community	Human Rights	Product Responsibility

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

This table investigates the long-term effects of negative E&S news on firm returns and E&S-conscioR4

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Appendix

Table A1. Issues and topics of RepRisk news

This table

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

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

Panel C. Incident Types, classified as in Table 7

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

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Table A2. Examples of RepRisk news

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

Company name	Country of risk incident	News date	Risk incident topic	News summary	Company response
Hasbro Inc.	China	19-Dec-11	Human rights, Working conditions	The Institute for Global Labor and Human Rights publicly accused Hasbro of poor working conditions and inadequate pay for workers at the Jet Fair Factory in China.	Hasbro deployed a team to work with the International Council of Toy Industries to examine the conditions of the facility and continually monitor any deficiencies (Dec 28, 2011)
PNC Bank	USA	30-May-14	Environment, Mountaintop removal	Earth Quaker Action Team (EQAT) protested at PNC Bank's headquarters in Pittsburgh, Pennsylvania, as well as at other PNC branches and PNC events, urging the bank to stop financing mountaintop removal mining, which arguably caused environmental devastation in Appalachia.	PNC Bank announced a shift in its policy as of March 2, 2015 that it will stop financing mountaintop removal coal mining in Appalachia.
BASF SE					

3M Co	Brazil, Estonia, Finland, Indonesia, Latvia, Lithuania, Norway, Russian Federation, Sweden, United States of America	24-Apr-14	Environment, Deforestation, Endangered species

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

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Table A4. Variable definitions

Variable	*Definition*	*Source*
Panel A - RepRisk		
E&S News	The firm's count of news on environmental and social issues.	RepRisk
Environmental News	The firm's count of news on environmental issues.	RepRisk
Governance News	The firm's count of news on governance issues.	RepRisk
Resource Use News	The firm's count of news on issues related to supply chain, local pollution, animal mistreatment, overuse and wasting of recourses, waste, products, and impacts on landscapes ecosystems and biodiversity.	RepRisk
Emissions News	The firm's count of news on issues related to climate change, GHG emissions, global pollution, local pollution, overuse and wasting of resources, waste issues, and impacts on landscapes, ecosystems and biodiversity.	RepRisk
Workforce News	The firm's count of news on issues related to freedom of association and collective bargaining, forced labor, occupational health and safety issues, discrimination in employment, social discrimination, poor employment conditions, and child labor.	RepRisk
Community News	The firm's count of news on issues related to local participation issues and impacts on communities.	RepRisk
Human Rights News	The firm's count of news on issues related to human ri 422.88 Tm0 G2[( )]	

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Equity Comp	A dummy variable that takes the value of one if the firm's executives and directors received equity-linked compensation (stock, restricted stock, or option-based) in the past year, and zero otherwise.	ASSET4
Direct Impact Ratios: Total/GHG/Land and Water/Air/Waste	Impact ratios are measures used to normalize the environmental damage costs of companies to facilitate comparisons. The metrics take a company's direct environmental cost by category (Total/GHG/Land and Water/Air/Waste	

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