Exit or Voice? Divestment, Activism and Corporate Social Responsibility

Victor Saint-Jean*

March 2022

Abstract

Should investors screen out non-responsible firms from their portfolio, or invest in them and engage with the management? This paper evaluates the relative effectiveness of those *exit* (divestment) and *voice* (activism) strategies to incentivize firms to adopt more sustainable business practices. Using data on mutual funds, I find that activism is more effective than the threat of divestment to limit anti-social behavior of US firms. I propose a novel quarterly classification of mutual fund companies as *divestor*, *activist*, both, or none, based on their portfolio holdings and votes at companies' meetings on Corporate Social Responsibility (CSR) proposals. Using large investor redemptions as plausibly exogenous shocks to funds' influence, I identify the impact of each group on firms' anti-social behavior, measured by the probability of having a controversy reported in the media. The main result is that only activist funds successfully pressure firms to behave better. I find that when such a fund is forced to sell 1% of a firm's equity, it increases the probability of controversy in the next 10 months by 1%. The effect is concentrated among firms with the lowest level of CSR: for them, the effect increases to 5%, and lasts for more than 15 months. On the contrary, I find no evidence that divestor funds reduce firms' anti-social behavior. Finally, I do not find any spillover effect from pro-social activism to environmental and governance controversies.

JEL Classification: G11, G32, M14

Keywords: exit and voice, divestment, shareholder activism, mutual funds, corporate social responsibility

*Department of Economics, Sciences Po. 28 rue des Saints-Pères, 75007 Paris. I also thank Nicolas Coeurdacier, Michele Fioretti, Stéphane Guibaud, Jean-Stéphane Mésonnier, and participants at various conferences and seminars for useful comments and discussions. All errors are mine.

1 Introduction

In the past decade, companies have come under increasing pressure to adopt more sustainable business practices. The role of shareholders is considered crucial, as demonstrated, for instance, by Larry Fink's 2020 letter to CEOs.[1] Among them, mutual funds companies are especially under the spotlight, as they often advertise the inclusion of Environmental, Social and Governance criteria in their investment decisions, and have quickly developed a range of "Socially Responsible", "Green" or "Sustainable" investment products. Some of those funds pressure managers through the threat of *exit* by excluding from their portfolios the companies that to do not meet certain Environmental, Social, or Governance (ESG) standards. The objective is to increase the cost of capital of excluded firms, and to "subsidize" the financing of sustainable projects. At the same time, other fund companies sell an active ownership to their clients: their purpose is to promote pro-social decisions at the firms they hold in their portfolios by engaging with the management. That *voice* strategy takes multiple forms: votes at the Annual General Meeting, activist campaigns, but also behind-the-doors actions such as private calls with the management.

This paper evaluates the relative effectiveness of the *exit* and *voice* strategies (Hirschman (1970)) to push firms to adopt more socially responsible behavior. Such agenda faces at least three challenges: the measurement of *exit*, the measurement of *voice*, and the fact that the shareholding composition of a firm and its CSR decisions are endogenous. I exploit the rich data available on mutual funds to address those three points. I propose a novel classification of fund companies as *divestor*, *activist*, both or none, using their portfolio holdings data and their votes at companies' meetings. To overcome the endogeneity between shareholders and firms' decisions, I use plausibly exogenous shocks to funds' influence. More precisely, I exploit large and sudden investor redemptions, forcing them to fire sell some of their assets, to identify their influence on firms' behavior. My results show that only *activist* investors reduce firms' negative social externalities. I find that when an activist fund is forced to fire sell 1% of a firm's equity, the probability that a negative Social news about that firm comes out in the next 10 months increases by 1%. When focusing on the sample of firms with the lowest social standards, the effect increases to 5%, and lasts for more than 15 months. On the contrary, I find no effect of a negative shock to divestors' influence on firms' behavior.

I focus on the "S" dimension of firms' externalities for three reasons. First, I find

[1] https://www.blackrock.com/corporate/investor-relations/2020-larry-fink-ceo-letter

that most ESG-related votes at firms' meetings fall in the "S" category. I also find that the Social score of companies is the ESG factor with most explanatory power when estimating a model of investors' portfolio allocation. Finally, funds that divest from firms with low Environmental standards generally divest from whole industries ("Fossil Fuel Free fund") rather than individual stocks. Improving a firm's environmental score also entails investment and, plausibly, changes in the production function. The time it takes to take such decision and to implement a new production process might be less sensitive to temporary change in funds' influence than other dimensions of ESG.

Mutual funds are particularly interesting, as researchers can freely observe their portfolio holdings (through the N-PORT forms filed at the SEC), and their votes at companies' meetings (through the N-PX forms). They are also the largest shareholders of the US stock market, and some large mutual funds families such as BlackRock are often seen as controversial by the media and the public. Finally, mutual funds and Exchange Traded Funds (ETFs) are a preferential investment solution for the large public. Focusing on fund companies rather than individual funds, I build a sample of 252 investors and study their influence on 1,103 American companies between 2015 and 2020. Those investors hold between 15 and 20% of the US stock market, and manage on average 20 billion dollars.

Using mutual funds portfolio holdings data from the *Center for Research in Security Prices* (CRSP), I evaluate the extent to which a fund company divests from companies with low ESG standards. Building on the "demand system approach to asset pricing" (Koijen and Yogo (2019)) to estimate demand functions at the investor level, I find that most investors invest more, all else equal, in firms with higher Social and Governance scores. The demand for higher S and G standards increases over time. Surprisingly, I find that Environmental scores do not play a significant role in investors' portfolio allocation. A possible explanation is that my measure of Environmental score is scaled by industry: most "Green" funds screen out industries rather than individual firms (typically, "fossil fuel-free" funds). In my framework, those investors pressure firms to behave well by threatening to sell some of their stake following a bad ESG news about them.

I measure the level of activism of each fund company using their votes at companies' meetings. To that end, I gathered the N-PX reports filed at the Securities and Exchange Comission (SEC) from 2015 to 2020. I focus on ESG-related shareholder-sponsored resolutions that go against managers' will. I detect whether the topic of a resolution is ESG-related using a set of explicit keywords. I define that a resolution goes against the will of a management by considering only proposals pushed by shareholders, and for which the management recommends voting "Against". My measure of activism is based on the

percentage of times a fund company has voted in favor of those resolutions in the previous four quarters. I find that funds vote in favor of CSR-related resolutions more than half of the time, and that the trend is stable over time. While votes is only one aspect of shareholder activism, I find that this measure seems to capture the positive influence of investors on firms' behavior.

Those two measures of *voice* and *exit* allow me to attribute each investor/quarter observation to one of four categories. *Brown Activists* are investors that target (or, at least, invest more in) firms with low CSR scores, and vote massively in favor of CSR resolutions sponsored by shareholders and that the management does not want to see implemented. *Brown Non Activists* are investors that do not seem to care about ESG issues: they invest primarily in firms with low scores, and consistently vote against CSR resolutions. On the other side of the spectrum, *Green Activists* allocate more wealth to socially responsible firms, and support CSR resolutions. Finally, *Green Non Activists* are the pure divestors: they pressure the firms only through the threat of exit. I document that the vast majority of Assets Under Management (AUM) are allocated to *Green* funds, and that their share increases over time. Within each *Green* and *Brown* categories, the inflows and outflows of *Activists* and *Non Activists* follow similar trends. This can be explained by the fact that most ESG labels, and most definitions of a "Green" fund, mostly rely on the share of their portfolio they allocate to brown firms.

Evaluating the influence of the different investor groups on firms' behavior is not straightforward. Regressing CSR improvement on past ownership suffers from a reverse causality issue: funds can select firms whose management commit to future improvement. I causally identify the effect by exploiting changes in funds' influence that are independent from firms' behavior and funds' will. To that end, I compute monthly outflows and inflows from and in funds, using data from CRSP. In the spirit of Edmans et al. (2012) and Dessaint et al. (2019), I keep monthly outflows of more than 2% of a fund's assets as exogenous shock to a fund's influence. The idea is that following large redemptions, funds are forced to fire sell some of their assets and have less power to exert their voice or their threat to exit. As the actual sales might not be exogenous from firms' level of CSR, I rely on the *Mutual Funds Hypothetical Sales* (*MFHS*), rather than realized sales. I aggregate *MFHS* by investor group every month for each firm, as a measure of a loss of influence of this group on a firm. I make sure that the $MFHS$ are not clustered in a particular industry or time period.

As those shocks are presumably non-fundamental, they are likely to reverse. I rely on a high-frequency measure of CSR to be able to capture the change in behavior during

the time when some investors were not able to exert pressure as well as usual. My high-frequency measure of CSR is the a dummy indicating whether a firm is the subject of a bad ESG news in the following 1 to 15 months following *MFHS*. The data comes from RepRisk, which collects negative ESG news about thousands of firms around the world, from multiple sources and languages.

On a sample of 1,103 US firms, I find that when *Brown Activists* are forced to fire sell 1% of a firm's equity, the probability that a negative ESG-related news about the company comes out in the next 10 months increases by 1%. When I focus on firms at the bottom of the ESG score distribution, the effect increases to 5% and starts being statistically significant 5 months after the shock. I do not find any statistically or economically significant effect for any of the three other groups. Those results indicate that *voice*, targeted to firms with low CSR scores, is the only effective strategy to promote pro social firm behavior.

I show that the results are robust to a range of alternative specifications. First, I build an alternative measure of CSR based on the number of news targeting each firm, scaled by its market capitalization (as larger firms might be under closer media scrutiny) and by industry. I run the analysis on the firms in the bottom 25% of the distribution, and I find that those firms have 5% more chance to have a negative news in the 10 months after an activist fund has been forced to sell 1% of their equity. Then, to alleviate the concern that firms' behavior could trigger the redemptions, I show that the estimated coefficients are similar in magnitude when I focus on a subset of investors holdings at least 500 stocks in the cross section. Those funds are less likely to rely on the behavior of one or a few firms. Finally, I find that defining a large redemption as an outflow of 5% or more of a fund's AUM leads to similar results.

To conclude, I investigate whether there are spillover effects from pro-social activism to environmental and governance behavior. I find that $MFHS$ do not influence the probability of having an E or G news in the future.

Taken together, my findings call for a better monitoring of funds' votes at Annual General Meetings, and for the inclusion of activism criteria when awarding ESG labels or attributing ESG scores to funds. They also encourage investors that would like to pressure firms to become more pro-social to directly engage with the management instead of threatening to exit.

Literature. This paper falls into the literature studying the influence of shareholders on firms' decisions (Gillan and Starks (2000), Gillan and Starks (2003), Ferreira and Matos

(2008), Aggarwal et al. (2011)), and more precisely on their CSR decisions. This paper abstracts from both investors' motivations and firms' motivations (except for their market valuation) to adopt more sustainable business practices. On the former, studies have pointed to image concerns and reputation (Mésonnier and Nguyen (2020), Fioretti et al. (2022)), value alignment (Bonnefon et al. (2022), Pástor et al. (2021), Pedersen et al. (2021)) and the concern of having a positive social impact (Barber et al. (2021)).On the latter, there exist numerous studies showing that pro-social actions by firms increases consumer demand and reduces consumer price sensitivity (Elfenbein et al. (2012), Brown et al. (2006)) and can serve as a hedge against reputation risk (Godfrey et al. (2009), Akey et al. (2021)). While there exists mixed evidence about the overall impact of institutional shareholders on CSR measures (Glossner (2019), Dyck et al. (2019)), recent evidence shows that large, individual shareholding increases the pro-sociality of firms (Fioretti et al. (2022)).

This paper is about the optimal shareholders' strategy to promote CSR measures among firms in their portfolios. The results are consistent with the theoretical prediction of Broccardo et al. (2020) that voice is more effective than exit to pressure the management. Empirical evidence in favor of ESG shareholder activism is not new. Akey and Appel (2019), Chu and Zhao (2019) and Naaraayanan et al. (2021), for instance, find that firms targeted by activist hedge funds reduce their emissions of toxic chemicals, and Dimson et al. (2015) highlight the importance of coordination among activist investors to have a successful campaign. On the other hand, the threat of exit has received mixed evidence (Edmans (2009), Edmans and Manso (2011)). Gantchev et al. (2019) and Noh and Oh (2020) show that the threat of a large price impact in case of divestment from environmentally concerned investors leads firms to lower their greenhouse gas emissions, while Heath et al. (2021) find no improvement in CSR measures following large flows to divestor funds. The main contribution of this paper is to investigate both divestment and activism within the same empirical framework. Focusing on only one of those two strategies may not be suitable as investors employ a mixture of voice and exit to affect firms' behavior (Admati and Pfleiderer (2009), Gollier and Pouget (2014), Oehmke and Opp (2020)).

To measure exit, this paper builds on the "demand system approach" to asset pricing, first developed in Koijen and Yogo (2019) and Koijen et al. (2020). My classification of *divestor* is similar to the definition of a "Green" investor in Noh and Oh (2020), and to the measure of the "sustainability footprint" of investors in Gibson et al. (2020). It stays away from using mutual funds' names to identify the ESG funds, as mutual fund

misclassification is not unheard of (Chen et al. (2021)).

Since mutual fund votes are publicly available, they are a preferential source of measure of shareholder activism. Aggarwal et al. (2019) show that votes are a powerful tool to contest the management on board elections. Despite the growing popularity of proxy voting advisory firms, Iliev and Lowry (2015) estimate that around 75% of mutual funds are "active voters" and do not follow those advisors' recommendations. However, most shareholder proposals are denied (Bach and Metzger (2019)), and only half of passed CSR resolutions are actually implemented afterwards (Flammer (2015)). Michaely et al. (2021) document that SRI funds tend to vote in favor of ESG proposals only when they are likely to win or lose by a large margin, and not when those funds are likely to be pivotal.

Shareholding is endogenous to the outcome of votes (Cuñat et al. (2012), Gantchev and Giannetti (2021)), firms' behavior (Gantchev et al. (2019)) and firms' management (Brav et al. (2021)). Therefore, the identification strategy in this study relies on mutual fund redemptions. Since Coval and Stafford (2007) and Edmans et al. (2012), a large empirical literature has used fire sales to study the impact of stock underpricing or noise trading on corporate decisions such as equity issuances, R&D expenditures or investment (Khan et al. (2012),Hau and Lai (2013),Phillips and Zhdanov (2013),Acharya et al. (2014)) Dessaint et al. (2019)) but also on shareholder activism (Derrien et al. (2013), Norli et al. (2015)). Recent studies have questioned the relevance of those shocks to study non-fundamental variations in stock prices (Wardlaw (2020), Berger (2021)), but, staying away from return variables, the purpose of the present study allows me to abstract from those considerations. Closest to my paper, Heath et al. (2021) use large inflows to SRI funds to identify their impact on CSR, and find no effect of those funds. This paper can be seen as complementary to their study, by quantifying the level of exit and the level activism for each investor, and focusing on fund outflows rather than inflows.

2 Investor Classification

2.1 Definition of an Investor

I distinguish between three investor levels, from smallest to largest: fund (*Vanguard Communication Services Index Fund*), fund company (*Vanguard World Funds*) and fund family (*Vanguard*). I classify mutual funds at the company level, based on their CIK (*Central Index Key*), used to identify the filings of an entity at the Securities and Exchange Commission (SEC). I aggregate mutual funds holdings at the CIK level using a mapping

based on funds'names and SEC's reports. Most fund families can be mapped to one CIK, but large investors typically report through several entities, and so are associated with multiple CIKs (Vanguard Index Funds, Vanguard World Funds, etc). This level of aggregation has the advantage to ensure that each investor holds enough securities to diversify potentially specialized funds. Moreover, the N-PX filings are filed at the CIK level, and I find that votes are largely homogeneous within the same fund company [2] One drawback is that once a CIK has been assigned to one of the four categories, all funds under that CIK are in the same category. This method thus reduces the heterogeneity within the same fund company.

I drop any investor/quarter observation with less than 100 strictly positive holdings. Table 1 provides summary statistics for the investors and their estimated demand function. The final sample comprises 252 investors, managing, on average, 96 portfolios, holding 472 unique stocks, for a market value of 20 billion dollars. Investors in the sample hold on average, between 15 and 20% of the market. On each quarter, I compute the percentage of equity of each firms held by investors in my sample: Figure 1 shows the evolution of the average, first and third quartiles, over time.

2.2 Measuring Exit

A divestor is defined as an investor that, all else equal, invest more in companies with high environmental, social and governance standards. A company with divestors as shareholders might be incentivized to have a socially responsible behavior, as any decrease in CSR score may lead to large share sales from them.

Data. Data on stock prices, shares outstanding and firm accounting are from Compustat. The choice of stock characteristics is motivated by the Fama and French (2015) 5-factor model, and variables construction follows Koijen and Yogo (2019).[3] Mutual funds holdings are from the Center for Research in Security Prices (CRSP), at the quarterly frequency. I merge the holdings data with the CRSP-Compustat data by CUSIP number and drop any holding that do not match. I compute the market value of the holdings as the price times shares held. Assets Under Management (AUM) is the sum of the market value of holdings for each investor. Portfolio weights are computed as the market value of holdings

[2] I find, in my sample, that all the funds in the same CIK vote exactly the same thing more than 97% of the time.

[3] Those characteristics are market equity, book equity, profitability, investment, dividends to book equity and market beta.

divided by the AUM. Environmental, Social and Governance scores are from Refinitiv. Refinitiv's scores are based on companies' filings and Annual Report, which gives a slowly changing measure of a firm's CSR, as they are typically reviewed once a year. Scores are scaled by the size and the industry of the company.

Estimation. The estimation follows Koijen and Yogo (2019) and Koijen et al. (2020). Any stock with missing characteristics on a given quarter is considered an "outside asset". I define the investment universe for each investor as the set of stocks currently held or ever held in the previous 11 quarters. For each investor, I construct an instrument for the market capitalization of each stock based on the investment universe and the AUM of other investors. For each investor and each quarter, I estimate the following characteristic-based demand function:

$$\begin{aligned} \ln\left(\frac{w_{i,t}(n)}{w_{i,t}(0)}\right) &= \beta_{0,i,t}\hat{m}_{i,t}(n) + \beta'_{1,i,t}x_t(n) + \beta_{i,t,env}\text{Environment Score}_t(n) \\ &+ \beta_{i,t,soc}\text{Social Score}_t(n) + \beta_{i,t,gov}\text{Governance Score}_t(n) + ln(\epsilon_{i,t}(n)), \end{aligned} \tag{1}$$

where $w_{i,t}(n)$ is the weight of asset n in investor i portfolio at time t, and $w_{i,t}(0)$ is the weight of the outside asset. $\hat{m}_{i,t}(n)$ is the instrument for asset n's market capitalization for investor i at time t, and $x_t(n)$ are the other characteristics of the stock.$\beta_{i,t,env}$, $\beta_{i,t,soc}$ and $\beta_{i,t,gov}$ are, respectively, the elasticity of demand to ESG characteristics.

To avoid any specialized portfolio, I only keep investors with at least 100 positive holdings. For investors with more than 500 strictly positive holdings in the cross-section, Equation 1 can be estimated by Ordinary Least Squares. For investors with less than 500 holdings, I follow Koijen et al. (2020) and estimate their demand function using a ridge regression, with the (equal-weighted) average of large investors' coefficients as target coefficients. I set the penalty to 0.2, consistently with Koijen et al. (2020). In any case, I make sure that $\beta_{0,i,t}$ is strictly less than 1, in line with the empirical evidence that demand functions are downward sloping (see, for instance, Gabaix and Koijen (2021) for a review).

Results. Figure 3 plots the evolution of the median, first and third quartile of the distribution of each coefficient over time. Panels h, i and j represent the evolution of the demand for higher environmental, social and governance scores. Most investors have a positive coefficient: all else equal, they allocate more wealth to firms with higher ESG scores (Table 1). While the median coefficient for Social and Governance scores increase

over time, the trend for environmental score is flat over the period. For each E, S and G categories, I define as divestor in a given quarter any investor with a positive coefficient on the E, S or G score.

2.3 Measuring Voice

Shareholder ESG activism encompasses observable actions (votes, activist campaigns declared through 13D forms, etc) as well as unobservable actions. In this study, I focus on observable actions, and an activist is defined as an investor who votes in favor of ESG-related shareholder proposals at the Annual General Meeting of a company, when the management recommends voting against. Votes are a direct observation and an objective measure of investors' willingness to implement pro social measures at firms in its portfolio, and are available at high frequency, at all firms and all mutual funds through the N-PX forms filed at the SEC.

Data. I gathered all the N-PX forms filed between 2015 and 2020, for all mutual funds. A limitation of this data collection is that not all mutual funds use the same format, and some investors even change the format of their form from one year to another. I could process the most widely used formats, and estimate that my sample covers 85% of the votes reported to the SEC during the period. For each CIK each year, I am able to collect: the name of the company at which the vote takes place, its Ticker and CUSIP, the date and type (Annual, Special) of the meeting, the topic of the vote, the recommendation of the management (for / against / withhold), the vote of each fund (for / against / withhold) and who sponsored the proposal (management or shareholder). I do not observe the outcome of the vote, but recent evidence shows that very few ESG proposals are passed, and many of them are not implemented (Flammer (2015)).

Keeping shareholder proposals for which the management recommends voting "against" ensures that shareholders are pressuring the management to adopt pro social measures against its will. I identify whether each proposal is related to ESG using the detection of keywords. Those keywords include, for instance, "pollution" for the "E" category, "gender pay gap" for the "S" category, and "board diversity" for the "G" category. I find that 32% of shareholder proposals are ESG related, with most of them falling into the "S" category.

Figure 9 provides an illustration. Panels A and B show the N-PX reports filed by two investors (Natixis Funds and iShares Trust) in 2020, with their votes at Arthur J. Gallagher's Annual General Meeting. The vote we are interested in is Proposal 4: pushed

by a shareholder, the management recommended voted "Against", and the proposal is S-related (detected by the "diversity" keyword). The formats are different, and even the topic of the vote is reported differently. In that vote, Natixis Funds voted "For" and thus scores 1 in Social Activism. iShares voted "Against" and thus scored 0 on that vote.

Measure of Activism. For each investor in each quarter, I compute the E, S and G activism as the percentage of votes in favor of the selected proposals in the past four quarters. As AGMs happen only once a year, and that they are generally staggered around May and June, the four-quarter history makes sure the investors had time to vote at all companies they hold. I define as an E, S or G activist any investor that voted in favor of at least half the E, S or G related shareholder proposals in the previous 4 quarters.

Results. The classification is based on an average of 771 votes (Table 1). I find that half of the investors are Social Activists, and I do not find evidence that their share increases over time (Figure 4).

2.4 Classification

I classify each investor in each quarter as being *Green* or *Brown* based on the sign of its $\beta_{i,t,soc}$, and as being *Activist* or *Non Activist* based on whether its level of Social activism is greater than 50%. I focus on Social divestment and Activism for three reasons. First, most investors only have $\beta_{i,t,soc}$ as a statistically significant elasticity of demand to ESG scores. Secondly, most ESG proposals voted on at firms' AGMs are related to Social topics. Finally, improving the environmental behavior of a firm certainly takes time and requires investment. This classification gives me four groups of investors in each quarter: the *Brown Activists*, *Brown Non Activists*, *Green Activists* and *Green non Activists* in each category. I find that the *Green* investors are larger than the *Brown* investors. Figure 5 is a graphical representation of the classification: each investor/quarter observation is represented as a dot on a *Divestor* / *Activist* plane, where the size of the dot is weighted by the AUM of the investor. Figure 6 shows that over time, the share of AUM managed by *Green* investors increases, while that of *Brown* investors decreases. Within those two groups, *Activists* and *Non Activists* have a similar trend. This may be due, in part, to the common practice of awarding ESG labels, and classifying funds, based on their level of divestment (or share of portfolio allocated to non responsible companies).

3 Empirical Strategy

This section outlines the choice of measure of CSR, and the strategy to identify the influence of each investor category on firms' behavior.

3.1 Measuring CSR

In the analysis above, I used a slow-moving measure of a firm's CSR to estimate the demand functions of investors in the sample. As my identification strategy relies on non-fundamental and potentially temporary decrease in funds' influence, I choose a higher frequency measure of CSR as my dependent variable. Such a measure is necessary to estimate the short-term reaction of firms' behavior to large outflows from mutual funds, and makes it more plausible that the change in behavior is due to those shocks.

Data. I measure prosocial outcomes over time using data from RepRisk. RepRisk screens more than 80,000 media, regulatory, and commercial documents a day in fifteen different languages for negative ESG issues (called "incidents"). I classify incidents as being E, S or G using the "Related issues" and "Related UNCG Principles" variables in the dataset. More details about the classification can be found in Appendix. I aggregate firm-level raw data on the count of ESG incidents per month. Figure 10 provides an example of an S-incident reported in *Business Insider* about Wells Fargo. The universe of firms is all firms with no missing stock characteristics and covered by RepRisk (amounting to 1,103 firms). Summary statistics about those firms and their number of incidents over the whole sample are provided in Table 2. Firms have an average market capitalization of 11 billion dollars, with half of the firms below 2.4 billion. We can see that 66% of the incidents reported in RepRisk are S-related. To avoid double-counting, I will be interested in whether a firm has a news in a given period of time, rather than how many news it got.

3.2 Exogenous Shocks to Funds

To identify the influence of different groups of funds on firms' behavior, I exploit plausibly exogenous changes in its influence, due to large outflows from investors. The use of large mutual funds outflows as a non-fundamental shock has been used, for instance, to study M&A (Edmans et al. (2012)), and investment decisions (Dessaint et al. (2019)).

I compute monthly flows in and out of each fund portfolio using CRSP data. I consider that a portfolio is forced to fire-sell some of its assets when it suffers an outflow greater

than 2% of its Total Net Assets.[4] As the choice of each asset to sell might not be unrelated to a firm's CSR, I follow Dessaint et al. (2019) and compute *mutual fund Hypothetical Sales* (*MFHS)* based on the latest quarterly holdings of that portfolio. Hence, if a portfolio owns 10% of a stock in January 2015, and suffers a 5% outflow in February 2015, I have a measure of *MFHS* equal to 0.5%.

I aggregate the *MFHS* by investor group for each stock, each month. $MFHS_{i,t,BA}$ measures, for instance, the percentage of equity of firm i that is *hypothetically* fire sold by *Brown Activists* at time t. A greater measure of *MFHS* indicates that an investor group loses more influence in a given firm due to large outflows from outside investors. Figures 7 and 8 show the average $MFHS$ by industry and quarter, respectively. They confirm that those shocks are not clustered in one group of firms or a specific period. Those outflows, unrelated to portfolio managers' will, allow me to identify the impact of each investor group on firms' CSR behavior.

4 Empirical Analysis

Using the investor classification described in Section 2, and plausibly exogenous shocks to investors computed in Section 3, I identify the impact of having different investor categories as shareholders on firms' CSR behavior.

4.1 Baseline Results

An important question is how long it takes for a firm to change its behavior following an exogenous change in its shareholding composition. To that end, I will study how a shock to each investor group impacts the probability of having a negative "S" news over different time periods. I run the following logit:

$$News_{i,t,l} = \alpha + \sum_{f=1}^{4} \beta_{lf} MFHS_{i,f,t} + \text{Controls}_{i,t} + \text{Firm}_i + \text{Month}_t + u_{i,t}, \qquad (2)$$

where $News_{i,t,l}$ is the probability that firm i has a negative news between time t and $t+l$, with l ranging from -5 to 15. The negative l checks for pre-trends. $MFHS_{i,f,t}$ is the percentage of equity of firm i that is fire sold by investor group f at time t. $\text{Controls}_{i,t}$

[4] Dessaint et al. (2019) use a threshold of 5% quarterly outflows. My threshold of 2% is a rough approximation of the average monthly outflow induced by a 5% quarterly outflow. My results do not change when I consider 5% quarterly outflows as the threshold to identify fire-sells.

include the five characteristics described above, the company's Social score, and the level of ownership of each investor group. The coefficients of interest are β_{lf}, and are interpreted as the change in probability that a firm has a negative news in the next l months after investor group f is forced to sell 1% of firm i's equity.

Whole Sample. I start by estimating the effect of a large outflow from funds at time t on the probability of having a negative S news in the next 5 months. Table 3 reports the estimated coefficients for $MFHS$ for each fund category without any control (Column 1), then controlling for firm characteristics (Column 2), and finally controlling for the level of ownership of each fund category (Column 3). We are most interest in the coefficients for $MFHS$ for *Brown Activists* and *Green Non Activists* as they represent two distinct shareholder strategies. None of the $MFHS$ is statistically or economically significant. Considering a longer time period, I find that when all controls are included, a 1% of equity fire sold by *Brown Activists* increases the probability of having a negative news in the next 10 months by 1.12% (Table 4). The effect is statistically significant at the 5% level. The effect seems to fade away over time: the coefficient is not statistically significant when I consider the probability of having a negative news over the next 15 months (Table 5).

I check for pre trend by considering the probability of observing a news in the 5 months before, and on the same month as a large redemption. The coefficient on *MFHS Soc Brown A* in the first two columns of Table 6 is not statistically different from zero, indicating that companies' news cannot predict a fire sell.

I also find that on the long term, larger firms (in terms of market capitalization), have a greater probability of having a news. Firms with greater Book Equity also face a greater probability. Another interesting coefficient is that on *Own Soc Brown A*, the level of ownership by *Brown Activists*, when looking at the probability of having a negative news in the 5 months prior to the shock. The coefficient is negative and statistically significant, indicating that the more equity is held by those investors, the less likely it is that the firm behaves badly.

Subsample. One potential issue with the analysis on the whole sample is that different investor groups could hold different firms. In particular, large *MFHS Green NA* should happen mostly at firms that behave better (with a higher Social Score). Also, we are more interested in the influence of those investors on firms that *need* to change, and we can argue that those should be the firms at which they exert most effort. To that end, I run Equation 2 on the bottom 25% of firms in the distribution of Social Score, and

consider alternative rankings in the Robustness Checks subsection. Results are presented in Table 10. Columns 1 and 2 show no statistically significant coefficient, indicating that no variable influences the probability of having a news before and on the month of the shock. I also find that there is no effect of $MFHS$ for any group on the probability of having a news over the next 5 months. Finally, Columns 4 and 5 indicate that a 1% sell of equity of a firm by *Brown Activists* increases the probability of a news in the next 10 and 15 months by 3 and 4.5%, respectively. Those coefficient are statistically significant at the 5% level.

Discussion. Those results allow to estimate the impact of a decrease in funds' influence on long-term firms' behavior. I find that only *Brown Activists* exert pressure on firms to adopt more sustainable business practices. One legitimate question is why there is no effect for the *Green Activists*. One potential explanation might be that those funds invest mainly in already well-behaving firms. Those firms might not need shareholders' pressure to avoid risk incidents. Another explanation could be that the activism measure does not fully capture what is going on behind the scenes. *Brown Activists* are likely to be more engaged shareholders, that target firms to launch campaigns to adopt pro social measures.

4.2 Robustness Checks

Large Institutions. To further alleviate any concern that redemptions could be related to firms' social behavior, I focus on mutual fund companies holding more than 500 stocks in the cross section. Table 11 reports the estimated coefficients of the impact of a large redemption on the probability of having a news over different time horizons, about firms at the bottom 25% of the distribution of Social Score. I document a large and positive coefficient, indicating that when large *Brown Activists* are forced to sell 1% of a firm's equity, the probability of anti-social behavior increases by between 4 and 6.3% in the next 5 to 15 months. The effect is statistically significant at the 1% level.

Other threshold level. I consider an alternative measure of large redemptions. I compute $MFHS$ for each fund category from monthly outflows larger than 5%. As reported in Tables 14 and 15, the estimated coefficients are close to those found above.

Other Social Score Measure. I consider an alternative measure for firms' CSR based on the number of risk incidents it faced. As a measure of news intensity, I compute the

number of months in which a firm has at least one news over the whole sample period. To avoid capturing a size effect, I express this number as the number of months per million dollar of market capitalization. Finally, as firms in different industry might have systematically different levels of CSR, I standardize the measure by 4-digit industry code. I rank firms by this alternative CSR measure and run Equation 2 on the quartile of firms with the highest measure. Results are reported in Table 13. Coefficients are similar as before, although lower in magnitude. I report that a 1% forced sell by *Brown Activists* increases the probability of having a news in the next 5, 10 and 15 months by, respectively, 1.16% (significant at the 10% level), 2% (significant at the 5% level) and 1.7% (significant at the 10% level).

4.3 Spillover Effects on Environmental and Governance Behavior

Finally, I investigate whether the current fund classification helps capture the influence of investors on environmental and governance behavior. To that end, I run Equation 2 with the probability of observing a negative E or G news as a dependent variable.

Tables 16 and 17 show that there is no impact of $MFHS$ of any group at time t on the probability of having a negative E or G news in the future. As before, the only statistically significant predictor or bad behavior is the market capitalization of the company. The absence of effect on Environmental news is not a puzzle: one can argue that improving a company's environmental behavior requires time and investment (as it might induce a change in the production function), that are too "long term" to be influenced by a temporary loss in influence of a shareholder. Good governance could be easier to influence in the short term, and the reason why there is no effect might be that the fund classification, based on Social Score and votes on Social proposals, does not capture Governance activism or divestment.

5 Conclusion

How can shareholders promote pro-social behavior at firms they hold in their portfolio? This paper evaluates the relative efficiency of the two most popular strategies: divestment and activism.

I first classify mutual fund companies as *divestor* by estimating their demand function as in Koijen and Yogo (2019). A social divestor is an investor that, all else equal, invests more in companies with higher social score. Firms might be incentivized to adopt a

pro-social behavior to keep those investors among its shareholders. Then, I classify the companies as *activist* or not based on their votes on proposals related to Corporate Social Responsibility at companies' Annual General Meetings. Those investors are more likely to engage with the management, push and vote in favor of pro-social resolutions.

To identify the influence of those different funds on firms' pro-social behavior, I use plausibly exogenous changes in funds' influence. I use large redemptions as shocks decreasing the influence of a fund on the companies in its portfolio. I find that when an activist fund is forced to sell 1% of the equity of a company, it increases the probability of anti-social behavior in the following 10 months by 1%. The effect is concentrated among firms with the lowest level of CSR: for them, the effect is greater than 4%. On the other hand, I find no effect of an influence of divestor funds on firms' behavior. The results are robust to alternative specifications and alternative measures of CSR. I also document the fact that funds' influence do not pass through to firms' environmental and governance behavior.

Those results point at ESG activism as the only effective way of pressuring firms to adopt more sustainable business practices, and call for a better monitoring of funds' votes at Annual General Meetings, especially when awarding ESG labels to funds.

References

V. Acharya, H. Almeida, F. Ippolito, and A. Perez. Credit lines as monitored liquidity insurance: Theory and evidence. *Journal of financial economics*, 112(3):287–319, 2014.

A. R. Admati and P. Pfleiderer. The "wall street walk" and shareholder activism: Exit as a form of voice. *The Review of Financial Studies*, 22(7):2645–2685, 2009.

R. Aggarwal, I. Erel, M. Ferreira, and P. Matos. Does governance travel around the world? evidence from institutional investors. *Journal of financial economics*, 100(1):154–181, 2011.

R. Aggarwal, S. Dahiya, and N. R. Prabhala. The power of shareholder votes: Evidence from uncontested director elections. *Journal of Financial Economics*, 133(1):134–153, 2019.

P. Akey and I. Appel. Environmental externalities of activism. *Available at SSRN 3508808*, 2019.

P. Akey, S. Lewellen, I. Liskovich, and C. Schiller. Hacking corporate reputations. *Rotman School of Management Working Paper*, (3143740), 2021.

L. Bach and D. Metzger. How close are close shareholder votes? *The Review of Financial Studies*, 32(8):3183–3214, 2019.

B. M. Barber, A. Morse, and A. Yasuda. Impact investing. *Journal of Financial Economics*, 139(1):162–185, 2021.

E. Berger. Selection bias in mutual fund fire sales. *Journal of Financial and Quantitative Analysis*, 2021.

J.-F. Bonnefon, A. Landier, P. R. Sastry, and D. Thesmar. The moral preferences of investors: Experimental evidence. Technical report, National Bureau of Economic Research, 2022.

A. Brav, A. Dasgupta, and R. Mathews. Wolf pack activism. *Management Science*, 2021.

E. Broccardo, O. D. Hart, and L. Zingales. Exit vs. voice. Technical report, National Bureau of Economic Research, 2020.

W. O. Brown, E. Helland, and J. K. Smith. Corporate philanthropic practices. *Journal of corporate finance*, 12(5):855–877, 2006.

H. Chen, L. Cohen, and U. G. Gurun. Don't take their word for it: The misclassification of bond mutual funds. *The Journal of Finance*, 76(4):1699–1730, 2021.

Y. Chu and D. Zhao. Green hedge fund activists. *Available at SSRN 3499373*, 2019.

J. Coval and E. Stafford. Asset fire sales (and purchases) in equity markets. *Journal of Financial Economics*, 86(2):479–512, 2007.

V. Cuñat, M. Gine, and M. Guadalupe. The vote is cast: The effect of corporate governance on shareholder value. *The journal of finance*, 67(5):1943–1977, 2012.

F. Derrien, A. Kecskés, and D. Thesmar. Investor horizons and corporate policies. *Journal of Financial and Quantitative Analysis*, 48(6):1755–1780, 2013.

O. Dessaint, T. Foucault, L. Frésard, and A. Matray. Noisy stock prices and corporate investment. *The Review of Financial Studies*, 32(7):2625–2672, 2019.

E. Dimson, O. Karakaş, and X. Li. Active ownership. *The Review of Financial Studies*, 28(12):3225–3268, 2015.

A. Dyck, K. V. Lins, L. Roth, and H. F. Wagner. Do institutional investors drive corporate social responsibility? international evidence. *Journal of Financial Economics*, 131(3): 693–714, 2019.

A. Edmans. Blockholder trading, market efficiency, and managerial myopia. *The Journal of Finance*, 64(6):2481–2513, 2009.

A. Edmans and G. Manso. Governance through trading and intervention: A theory of multiple blockholders. *The Review of Financial Studies*, 24(7):2395–2428, 2011.

A. Edmans, I. Goldstein, and W. Jiang. The real effects of financial markets: The impact of prices on takeovers. *The Journal of Finance*, 67(3):933–971, 2012.

D. W. Elfenbein, R. Fisman, and B. McManus. Charity as a substitute for reputation: Evidence from an online marketplace. *Review of Economic Studies*, 79(4):1441–1468, 2012.

E. F. Fama and K. R. French. A five-factor asset pricing model. *Journal of financial economics*, 116(1):1–22, 2015.

M. A. Ferreira and P. Matos. The colors of investors' money: The role of institutional investors around the world. *Journal of financial economics*, 88(3):499–533, 2008.

M. Fioretti, V. Saint-Jean, and S. C. Smith. The voice: The shareholders' motives behind corporate donations during covid-19. 2022.

C. Flammer. Does corporate social responsibility lead to superior financial performance? a regression discontinuity approach. *Management Science*, 61(11):2549–2568, 2015.

X. Gabaix and R. S. Koijen. In search of the origins of financial fluctuations: The inelastic markets hypothesis. Technical report, National Bureau of Economic Research, 2021.

N. Gantchev and M. Giannetti. The costs and benefits of shareholder democracy: Gadflies and low-cost activism. *The Review of Financial Studies*, 34(12):5629–5675, 2021.

N. Gantchev, M. Giannetti, and R. Li. Does money talk? market discipline through selloffs and boycotts. *Market Discipline through Selloffs and Boycotts (May 20, 2021). European Corporate Governance Institute–Finance Working Paper*, (634):19–9, 2019.

R. Gibson, P. Krueger, and S. F. Mitali. The sustainability footprint of institutional investors: Esg driven price pressure and performance. *Swiss Finance Institute Research Paper*, (17-05), 2020.

S. Gillan and L. T. Starks. Corporate governance, corporate ownership, and the role of institutional investors: A global perspective. *Weinberg Center for Corporate Governance Working Paper*, (2003-01), 2003.

S. L. Gillan and L. T. Starks. Corporate governance proposals and shareholder activism: The role of institutional investors. *Journal of financial Economics*, 57(2):275–305, 2000.

S. Glossner. Russell index reconstitutions, institutional investors, and corporate social responsibility. *Available at SSRN 3180776*, 2019.

P. C. Godfrey, C. B. Merrill, and J. M. Hansen. The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis. *Strategic management journal*, 30(4):425–445, 2009.

C. Gollier and S. Pouget. The" washing machine": Investment strategies and corporate behavior with socially responsible investors. *TSE Working Paper*, 2014.

H. Hau and S. Lai. Real effects of stock underpricing. *Journal of Financial Economics*, 108(2):392–408, 2013.

D. Heath, D. Macciocchi, R. Michaely, and M. C. Ringgenberg. Does socially responsible investing change firm behavior? *Available at SSRN 3837706*, 2021.

A. O. Hirschman. *Exit, voice, and loyalty: Responses to decline in firms, organizations, and states*, volume 25. Harvard university press, 1970.

P. Iliev and M. Lowry. Are mutual funds active voters? *The Review of Financial Studies*, 28(2):446–485, 2015.

M. Khan, L. Kogan, and G. Serafeim. Mutual fund trading pressure: Firm-level stock price impact and timing of seos. *The Journal of Finance*, 67(4):1371–1395, 2012.

R. S. Koijen and M. Yogo. A demand system approach to asset pricing. *Journal of Political Economy*, 127(4):1475–1515, 2019.

R. S. Koijen, R. J. Richmond, and M. Yogo. Which investors matter for equity valuations and expected returns? Technical report, National Bureau of Economic Research, 2020.

J.-S. Mésonnier and B. Nguyen. Showing off cleaner hands: mandatory climate-related disclosure by financial institutions and the financing of fossil energy. *Available at SSRN 3733781*, 2020.

R. Michaely, G. Ordonez-Calafi, and S. Rubio. Es votes that matter. 2021.

S. L. Naaraayanan, K. Sachdeva, and V. Sharma. The real effects of environmental activist investing. *European Corporate Governance Institute–Finance Working Paper*, (743), 2021.

D. Noh and S. Oh. Are green investors green-inducing? a demand system approach. *A Demand System Approach (June 30, 2020)*, 2020.

Ø. Norli, C. Ostergaard, and I. Schindele. Liquidity and shareholder activism. *The Review of Financial Studies*, 28(2):486–520, 2015.

M. Oehmke and M. M. Opp. A theory of socially responsible investment. Technical report, CEPR Discussion Paper No. DP14351, 2020.

L. Pástor, R. F. Stambaugh, and L. A. Taylor. Sustainable investing in equilibrium. *Journal of Financial Economics*, 142(2):550–571, 2021.

L. H. Pedersen, S. Fitzgibbons, and L. Pomorski. Responsible investing: The esg-efficient frontier. *Journal of Financial Economics*, 142(2):572–597, 2021.

G. M. Phillips and A. Zhdanov. R&d and the incentives from merger and acquisition activity. *The Review of Financial Studies*, 26(1):34–78, 2013.

M. Wardlaw. Measuring mutual fund flow pressure as shock to stock returns. *The Journal of Finance*, 75(6):3221–3243, 2020.

Tables and Figures

Table 1: Summary of Investors

Variable	Mean	Median	Q1	Q3	SD
i. Investor Characteristics					
AUM (USD B)	20.07	4.51	1.32	14.13	98.90
Holdings	471.92	302	168	649	405.54
Portfolios Managed	96	49	17	103	160.12
ii. Estimated Demand Function					
Beta Env	-0.00	0.01	-0.12	0.13	0.23
Beta Soc	0.05	0.04	-0.11	0.20	0.27
Beta Gov	0.02	0.02	-0.09	0.14	0.20
iii. Social Activism					
Soc Vote	771.23	340	101	900	1429.73
Social Activism	0.55	0.57	0.30	0.76	0.29
N = 252 companies					
Quarterly data from 2015 to 2020					

Note: This table provides summary statistics for the 252 investors in the sample. Panel *i.* is based on the CRSP data aggregated at the CIK level. Panel *ii.* comes from the estimation of the characteristic-based demand function 1. Details on the estimation of the characteristic-based demand function can be found in the main text. Finally, Panel *iii.* comes from the data gathered from the N-PX reports filed at the SEC. *Soc Vote* refers to the average number of times an investor has voted on an S-related shareholder proposal at a meeting of a firm in its portfolio, for which the management recommended voting "Against", in the past four quarters. *Social Activism* is the share of votes at which the investor voted "For".

Table 2: Summary Statistics: Firms and News

Variable	Mean	Median	Q1	Q3	SD
i. Accounting Data (Average during period)					
Market Capitalization (USD M)	10,937	2,357	726	7550	36,575
Own Soc Brown A (%)	1.50	1.40	0.80	2.10	1.10
Own Soc Brown NA (%)	1.40	1.30	0.60	2.00	1.10
Own Soc Green A (%)	8.60	9.00	6.00	11.40	3.80
Own Soc Green NA (%)	6.20	5.10	3.20	8.80	4.00
ii. ESG Scores (Average during period)					
ESG Score	37.60	34.30	23.80	48.70	17.90
Social Score	30.50	24.70	12.60	45.30	23.20
Environment Score	19.10	6.30	0.00	31.40	24.80
Governance Score	34.60	31.30	15.80	52.40	23.50
iii. RepRisk Data (Total over the period)					
Number of Incidents	1,126.70	138	45	552	4,331
Number of E-Incidents	196.50	0	0	86	900.80
Number of S-Incidents	746.00	92	38	368	2898.70
Number of G-Incidents	184.10	0	0	46	959.00
N = 1,103 firms					
Quarterly data from 2015 to 2020					

Note: This table provides summary statistics for the 1,103 firms in the sample. Panel *i.* is based on data from Compustat (for the Market Capitalization) and CSRP (for the ownership levels). Details about investor classification in one of the four categories can be found in the main text. Panel *ii.* is based on ESG scores from Refinitiv. Panel *iii.* summarizes data from RepRisk. Each incident is classified as E, S or G based on a lit of keywords that can be found in Appendix.

Table 3: Probability of an S-Incident in the Next 5 months

Dependent Variable:	Probability of Having an S-News		
Model:	(1)	(2)	(3)
Variables			
MFHS Soc Brown A	0.0038	0.0036	0.0047
	(0.0040)	(0.0041)	(0.0043)
MFHS Soc Green NA	0.0024	0.0028	0.0033
	(0.0022)	(0.0021)	(0.0021)
MFHS Soc Green A	0.0002	-0.0007	-0.0009
	(0.0033)	(0.0034)	(0.0033)
MFHS Soc Brown NA	0.0003	-0.0001	0.0014
	(0.0045)	(0.0044)	(0.0046)
Log Market Cap		0.5137**	0.5179**
		(0.2445)	(0.2472)
Log Book Equity		0.3555**	0.3592**
		(0.1496)	(0.1507)
Profitability		0.0262	0.0253
		(0.0404)	(0.0414)
Investment		-0.3519	-0.3448
		(0.2162)	(0.2150)
Div to Book		0.0609	0.0617
		(0.0486)	(0.0490)
Social Score		-0.0558	-0.0570
		(0.0915)	(0.0916)
Own Soc Brown A			-1.383
			(2.563)
Own Soc Brown NA			-2.014
			(2.646)
Own Soc Green A			0.1814
			(1.511)
Own Soc Green NA			-0.8985
			(1.673)
Fixed-effects			
Firm FE	Yes	Yes	Yes
Month FE	Yes	Yes	Yes
Fit statistics			
Observations	33,292	33,292	33,292
Squared Correlation	0.36158	0.36288	0.36303
Pseudo R^2	0.29790	0.29981	0.29991
BIC	38,204.8	38,184.5	38,221.7

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 4: Probability of an S-Incident in the Next 10 Months

Dependent Variable:	Probability of Having an S-News		
Model:	(1)	(2)	(3)
Variables			
MFHS Soc Brown A	0.0106*	0.0098*	0.0112**
	(0.0055)	(0.0056)	(0.0054)
MFHS Soc Green NA	0.0038	0.0038	0.0031
	(0.0025)	(0.0025)	(0.0024)
MFHS Soc Green A	0.0002	-0.0012	-0.0026
	(0.0042)	(0.0044)	(0.0044)
MFHS Soc Brown NA	0.0037	0.0030	0.0036
	(0.0058)	(0.0057)	(0.0056)
Log Market Cap		0.9251***	0.9240***
		(0.3548)	(0.3587)
Log Book Equity		0.5014**	0.4939**
		(0.2120)	(0.2129)
Profitability		-0.0369	-0.0369
		(0.0761)	(0.0761)
Investment		-0.2787	-0.2808
		(0.1902)	(0.1917)
Div to Book		0.0222	0.0204
		(0.1259)	(0.1256)
Social Score		-0.1112	-0.1251
		(0.1194)	(0.1201)
Own Soc Brown A			-1.365
			(3.235)
Own Soc Brown NA			-0.7899
			(3.073)
Own Soc Green A			1.442
			(2.218)
Own Soc Green NA			0.6865
			(2.212)
Fixed-effects			
Firm FE	Yes	Yes	Yes
Month FE	Yes	Yes	Yes
Fit statistics			
Observations	26,310	26,310	26,310
Squared Correlation	0.34978	0.35511	0.35527
Pseudo R^2	0.29258	0.29715	0.29731
BIC	32,263.8	32,158.8	32,193.7

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 5: Probability of an S-Incident in the Next 15 Months

Dependent Variable:	Probability of Having an S-News		
Model:	(1)	(2)	(3)
Variables			
MFHS Soc Brown A	0.0107	0.0081	0.0081
	(0.0067)	(0.0069)	(0.0070)
MFHS Soc Green NA	0.0036	0.0036	0.0028
	(0.0030)	(0.0030)	(0.0030)
MFHS Soc Green A	0.0019	0.0004	-0.0023
	(0.0056)	(0.0059)	(0.0059)
MFHS Soc Brown NA	-0.0009	-0.0018	0.0003
	(0.0066)	(0.0063)	(0.0062)
Log Market Cap		1.269***	1.231***
		(0.4709)	(0.4756)
Log Book Equity		0.7836***	0.7760***
		(0.2869)	(0.2870)
Profitability		-0.0135	-0.0141
		(0.0506)	(0.0510)
Investment		-0.2776	-0.2760
		(0.2034)	(0.2064)
Div to Book		-0.1842	-0.1936
		(0.2282)	(0.2290)
Social Score		-0.0925	-0.1094
		(0.1576)	(0.1573)
Own Soc Brown A		1.168	1.716
		(3.838)	(4.018)
Own Soc Brown NA			-2.482
			(3.551)
Own Soc Green A			3.415
			(3.030)
Own Soc Green NA			0.7314
			(2.751)
Fixed-effects			
Firm FE	Yes	Yes	Yes
Month FE	Yes	Yes	Yes
Fit statistics			
Observations	18,456	18,456	18,456
Squared Correlation	0.26462	0.27756	0.27837
Pseudo R^2	0.21821	0.22838	0.22893
BIC	24,898.3	24,707.9	24,723.3

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 6: Probability of an S-Incident: Whole Sample

Dependent Variable:	Probability of Having an S-News in the Next:				
	-5 Months	0 Month	5 Months	10 Month	15 Months
Model:	(1)	(2)	(3)	(4)	(5)
Variables					
MFHS Soc Brown A	0.0032	-0.0035	0.0047	0.0112**	0.0081
	(0.0056)	(0.0051)	(0.0043)	(0.0054)	(0.0070)
MFHS Soc Green NA	6.99×10^{-5}	-0.0019	0.0033	0.0031	0.0028
	(0.0020)	(0.0027)	(0.0021)	(0.0024)	(0.0030)
MFHS Soc Green A	0.0071*	0.0027	-0.0009	-0.0026	-0.0023
	(0.0037)	(0.0036)	(0.0033)	(0.0044)	(0.0059)
MFHS Soc Brown NA	-0.0171***	-0.0059	0.0014	0.0036	0.0003
	(0.0051)	(0.0043)	(0.0046)	(0.0056)	(0.0062)
Log Market Cap	0.3158	0.0727	0.5179**	0.9240***	1.231***
	(0.2475)	(0.1902)	(0.2472)	(0.3587)	(0.4756)
Log Book Equity	0.3357**	0.4092***	0.3592**	0.4939**	0.7760***
	(0.1523)	(0.1340)	(0.1507)	(0.2129)	(0.2870)
Profitability	-0.0407	-0.0273	0.0253	-0.0369	-0.0141
	(0.0475)	(0.0496)	(0.0414)	(0.0761)	(0.0510)
Investment	0.0642	-0.1618	-0.3448	-0.2808	-0.2760
	(0.2347)	(0.1894)	(0.2150)	(0.1917)	(0.2064)
Div to Book	0.0059	0.0438*	0.0617	0.0204	-0.1936
	(0.0376)	(0.0241)	(0.0490)	(0.1256)	(0.2290)
Social Score	0.0086	0.0300	-0.0570	-0.1251	-0.1094
	(0.0921)	(0.0694)	(0.0916)	(0.1201)	(0.1573)
Own Soc Brown A	-6.032***	-1.744	-1.383	-1.365	1.716
	(2.228)	(2.023)	(2.563)	(3.235)	(4.018)
Own Soc Brown NA	1.569	-1.733	-2.014	-0.7899	-2.482
	(2.726)	(2.179)	(2.646)	(3.073)	(3.551)
Own Soc Green A	-2.402	-2.200**	0.1814	1.442	3.415
	(1.669)	(1.117)	(1.511)	(2.218)	(3.030)
Own Soc Green NA	3.116*	0.6465	-0.8985	0.6865	0.7314
	(1.694)	(1.292)	(1.673)	(2.212)	(2.751)
Fixed-effects					
Firm FE	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes
Fit statistics					
Observations	33,095	40,107	33,292	26,310	18,456
Squared Correlation	0.35969	0.37595	0.36303	0.35527	0.27837
Pseudo R^2	0.29598	0.35455	0.29991	0.29731	0.22893
BIC	38,170.1	30,796.5	38,221.7	32,193.7	24,723.3

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 7: Probability of an S-Incident in the Next 5 Months: Bottom 25% Social Score

Dependent Variable:	Probability of Having an S-News		
Model:	(1)	(2)	(3)
Variables			
MFHS Soc Brown A	0.0060	0.0051	0.0104
	(0.0081)	(0.0090)	(0.0094)
MFHS Soc Green NA	0.0094*	0.0087*	0.0056
	(0.0054)	(0.0053)	(0.0054)
MFHS Soc Green A	0.0042	-1.77×10^{-5}	-0.0045
	(0.0100)	(0.0106)	(0.0111)
MFHS Soc Brown NA	-0.0034	-0.0029	-0.0080
	(0.0125)	(0.0120)	(0.0119)
Log Market Cap		0.9369*	0.8533
		(0.4993)	(0.5395)
Log Book Equity		0.4444	0.4142
		(0.3109)	(0.3080)
Profitability		0.5573	0.5388
		(0.8024)	(0.8211)
Investment		-1.023**	-1.040**
		(0.4554)	(0.4506)
Div to Book		-0.6951**	-0.7194***
		(0.2788)	(0.2759)
Social Score		0.4077	0.3408
		(0.4375)	(0.4397)
Own Soc Brown A			-5.144
			(6.803)
Own Soc Brown NA			6.061
			(4.981)
Own Soc Green A			3.960
			(3.733)
Own Soc Green NA			3.727
			(4.015)
Fixed-effects			
Firm FE	Yes	Yes	Yes
Month FE	Yes	Yes	Yes
Fit statistics			
Observations	5,544	5,544	5,544
Squared Correlation	0.14228	0.15436	0.15693
Pseudo R^2	0.13151	0.14408	0.14714
BIC	5,873.7	5,862.9	5,882.1

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 8: Probability of an S-Incident in the Next 10 Months: Bottom 25% Social Score

Dependent Variable:	Probability of Having an S-News		
Model:	(1)	(2)	(3)
Variables			
MFHS Soc Brown A	0.0252*	0.0260*	0.0311**
	(0.0147)	(0.0156)	(0.0149)
MFHS Soc Green NA	0.0084	0.0075	0.0020
	(0.0066)	(0.0064)	(0.0061)
MFHS Soc Green A	-5.38×10^{-5}	-0.0038	-0.0110
	(0.0097)	(0.0105)	(0.0111)
MFHS Soc Brown NA	0.0073	0.0077	0.0026
	(0.0132)	(0.0116)	(0.0111)
Log Market Cap		1.518**	1.342**
		(0.6667)	(0.6750)
Log Book Equity		0.4043	0.3439
		(0.3990)	(0.3827)
Profitability		0.2081	0.1758
		(0.5848)	(0.5981)
Investment		-0.4998	-0.5187
		(0.4377)	(0.4364)
Div to Book		0.6694***	0.6421***
		(0.1626)	(0.1613)
Social Score		0.2050	0.0616
		(0.5668)	(0.5761)
Own Soc Brown A			-2.955
			(6.655)
Own Soc Brown NA			6.489
			(4.718)
Own Soc Green A			6.955
			(4.588)
Own Soc Green NA			6.518
			(4.898)
Fixed-effects			
Firm FE	Yes	Yes	Yes
Month FE	Yes	Yes	Yes
Fit statistics			
Observations	4,911	4,911	4,911
Squared Correlation	0.20144	0.21918	0.22832
Pseudo R^2	0.16936	0.18485	0.19117
BIC	6,332.3	6,292.0	6,288.7

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 9: Probability of an S-Incident in the Next 15 Months: Bottom 25% Social Score

Dependent Variable:	Probability of Having an S-News		
Model:	(1)	(2)	(3)
Variables			
MFHS Soc Brown A	0.0434***	0.0421***	0.0422***
	(0.0127)	(0.0137)	(0.0136)
MFHS Soc Green NA	0.0077	0.0069	0.0028
	(0.0072)	(0.0067)	(0.0064)
MFHS Soc Green A	0.0076	0.0055	0.0011
	(0.0084)	(0.0088)	(0.0096)
MFHS Soc Brown NA	0.0093	0.0096	0.0085
	(0.0133)	(0.0113)	(0.0119)
Log Market Cap		1.765**	1.637**
		(0.8331)	(0.8292)
Log Book Equity		0.4409	0.3973
		(0.4849)	(0.4743)
Profitability		0.2943	0.2752
		(0.4033)	(0.3760)
Investment		-0.2720	-0.2730
		(0.4430)	(0.4387)
Div to Book		2.111	2.102
		(1.363)	(1.366)
Social Score		-0.0607	-0.1676
		(0.6412)	(0.6303)
Own Soc Brown A		2.670	3.891
		(8.237)	(8.685)
Own Soc Brown NA			2.021
			(5.651)
Own Soc Green A			5.156
			(5.329)
Own Soc Green NA			5.341
			(4.844)
Fixed-effects			
Firm FE	Yes	Yes	Yes
Month FE	Yes	Yes	Yes
Fit statistics			
Observations	4,104	4,104	4,104
Squared Correlation	0.17886	0.20194	0.20711
Pseudo R^2	0.14872	0.16587	0.16902
BIC	5,830.2	5,796.6	5,804.7

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 10: Probability of an S-Incident: Bottom 25% of Social Score

Dependent Variable:	Probability of Having an S-News in the Next:				
	-5 Months	0 Month	5 Months	10 Month	15 Months
Model:	(1)	(2)	(3)	(4)	(5)
Variables					
MFHS Soc Brown A	-0.0142	-0.0240	0.0104	0.0311**	0.0422***
	(0.0121)	(0.0157)	(0.0094)	(0.0149)	(0.0136)
MFHS Soc Green NA	0.0086	-0.0041	0.0056	0.0020	0.0028
	(0.0058)	(0.0075)	(0.0054)	(0.0061)	(0.0064)
MFHS Soc Green A	0.0158	0.0176	-0.0045	-0.0110	0.0011
	(0.0111)	(0.0111)	(0.0111)	(0.0111)	(0.0096)
MFHS Soc Brown NA	-0.0047	-0.0049	-0.0080	0.0026	0.0085
	(0.0141)	(0.0113)	(0.0119)	(0.0111)	(0.0119)
Log Market Cap	0.7416	0.3673	0.8533	1.342**	1.637**
	(0.5689)	(0.4183)	(0.5395)	(0.6750)	(0.8292)
Log Book Equity	0.5259	0.4062	0.4142	0.3439	0.3973
	(0.4541)	(0.3138)	(0.3080)	(0.3827)	(0.4743)
Profitability	-0.5058	-0.0915	0.5388	0.1758	0.2752
	(0.7461)	(0.5958)	(0.8211)	(0.5981)	(0.3760)
Investment	-0.4042	-0.8456	-1.040**	-0.5187	-0.2730
	(0.7451)	(0.6794)	(0.4506)	(0.4364)	(0.4387)
Div to Book	-3.703	-0.4155	-0.7194***	0.6421***	2.102
	(3.487)	(0.9078)	(0.2759)	(0.1613)	(1.366)
Social Score	0.5154	0.3776	0.3408	0.0616	-0.1676
	(0.3920)	(0.2691)	(0.4397)	(0.5761)	(0.6303)
Own Soc Brown A	-0.7252	0.1748	-5.144	-2.955	3.891
	(5.391)	(5.949)	(6.803)	(6.655)	(8.685)
Own Soc Brown NA	3.574	5.849	6.061	6.489	2.021
	(5.194)	(4.970)	(4.981)	(4.718)	(5.651)
Own Soc Green A	0.8473	1.882	3.960	6.955	5.156
	(4.532)	(3.724)	(3.733)	(4.588)	(5.329)
Own Soc Green NA	-2.683	-3.462	3.727	6.518	5.341
	(3.678)	(3.816)	(4.015)	(4.898)	(4.844)
Fixed-effects					
Firm FE	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes
Fit statistics					
Observations	5,578	6,182	5,544	4,911	4,104
Squared Correlation	0.15257	0.07982	0.15693	0.22832	0.20711
Pseudo R^2	0.14173	0.13338	0.14714	0.19117	0.16902
BIC	5,909.8	3,572.3	5,882.1	6,288.7	5,804.7

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 11: Probability of an S-Incident: Large Institutions

Dependent Variable:	Probability of Having an S-News				
	-5 Months	0 Month	5 Months	10 Month	15 Months
Model:	(1)	(2)	(3)	(4)	(5)
Variables					
MFHS Soc Brown A	0.0130	-0.0141	0.0104	0.0257*	0.0185
	(0.0120)	(0.0121)	(0.0127)	(0.0143)	(0.0164)
MFHS Soc Green NA	0.0001	-0.0024	0.0054**	0.0052**	0.0047
	(0.0021)	(0.0030)	(0.0022)	(0.0026)	(0.0031)
MFHS Soc Green A	0.0093*	-0.0055	-0.0026	-0.0012	0.0003
	(0.0050)	(0.0046)	(0.0040)	(0.0053)	(0.0082)
MFHS Soc Brown NA	-0.0087	0.0127	0.0009	0.0002	0.0074
	(0.0180)	(0.0187)	(0.0126)	(0.0128)	(0.0147)
Log Market Cap	0.2726	0.0391	0.5049**	0.9325***	1.268***
	(0.2475)	(0.1935)	(0.2459)	(0.3545)	(0.4690)
Log Book Equity	0.3613**	0.4247***	0.3523**	0.4798**	0.7573***
	(0.1513)	(0.1350)	(0.1513)	(0.2123)	(0.2888)
Profitability	-0.0407	-0.0238	0.0259	-0.0364	-0.0134
	(0.0469)	(0.0493)	(0.0407)	(0.0743)	(0.0495)
Investment	0.0634	-0.1637	-0.3584*	-0.2937	-0.2851
	(0.2343)	(0.1884)	(0.2156)	(0.1934)	(0.2075)
Div to Book	0.0071	0.0440*	0.0617	0.0181	-0.1977
	(0.0374)	(0.0242)	(0.0491)	(0.1275)	(0.2349)
Social Score	0.0054	0.0253	-0.0483	-0.1176	-0.0978
	(0.0923)	(0.0701)	(0.0923)	(0.1204)	(0.1574)
Own Soc Brown A	-10.20**	-5.504	1.579	5.920	11.44*
	(4.825)	(4.155)	(4.816)	(5.893)	(6.673)
Own Soc Brown NA	-5.529	-2.864	7.947	11.53	9.983
	(7.847)	(5.982)	(6.913)	(8.270)	(8.824)
Own Soc Green A	-3.385	-2.330	0.8208	2.862	4.597
	(2.393)	(1.534)	(2.150)	(3.262)	(4.656)
Own Soc Green NA	4.141*	1.029	-1.372	0.3931	0.6762
	(2.341)	(2.070)	(2.367)	(3.298)	(4.345)
Fixed-effects					
Firm FE	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes
Fit statistics					
Observations	33,095	40,107	33,292	26,310	18,456
Squared Correlation	0.35893	0.37607	0.36313	0.35618	0.27970
Pseudo R^2	0.29526	0.35453	0.30007	0.29796	0.22992
BIC	38,201.0	30,797.1	38,215.0	32,169.9	24,698.1

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 12: Probability of an S-Incident: Large Institutions, Bottom 25% Social Score

Dependent Variable:	Probability of Having an S-News				
	-5 Months	0 Month	5 Months	10 Month	15 Months
Model:	(1)	(2)	(3)	(4)	(5)
Variables					
MFHS Soc Brown A	0.0120	0.0073	0.0410***	0.0615***	0.0624***
	(0.0284)	(0.0220)	(0.0142)	(0.0188)	(0.0186)
MFHS Soc Green NA	0.0144**	-0.0033	0.0058	-0.0017	0.0031
	(0.0060)	(0.0085)	(0.0064)	(0.0067)	(0.0070)
MFHS Soc Green A	0.0336***	0.0237	0.0107	0.0131	0.0306**
	(0.0126)	(0.0174)	(0.0129)	(0.0126)	(0.0139)
MFHS Soc Brown NA	0.0680*	0.0322	-0.0023	-0.0130	0.0049
	(0.0384)	(0.0323)	(0.0245)	(0.0303)	(0.0278)
Log Market Cap	0.7581	0.3087	0.7987	1.421**	1.649**
	(0.5397)	(0.3845)	(0.5214)	(0.6451)	(0.7902)
Log Book Equity	0.5876	0.4086	0.4005	0.2866	0.3647
	(0.4272)	(0.2986)	(0.3013)	(0.3823)	(0.4879)
Profitability	-0.3812	-0.1049	0.5317	0.1344	0.2833
	(0.5218)	(0.5449)	(0.8260)	(0.6177)	(0.3838)
Investment	-0.3981	-0.8359	-0.9981**	-0.4503	-0.2799
	(0.7616)	(0.6778)	(0.4393)	(0.4142)	(0.4340)
Div to Book	-3.444	-0.4122	-0.7265**	0.6299***	2.052
	(3.295)	(0.9404)	(0.2854)	(0.1652)	(1.382)
Social Score	0.4974	0.3414	0.3633	0.0551	-0.1117
	(0.3932)	(0.2670)	(0.4441)	(0.5853)	(0.6381)
Own Soc Brown A	-4.684	-1.679	2.993	11.56	16.49
	(12.86)	(9.830)	(11.86)	(12.10)	(10.73)
Own Soc Brown NA	-32.60*	3.451	13.61	12.70	15.21
	(17.09)	(14.07)	(17.33)	(17.29)	(16.94)
Own Soc Green A	-1.443	1.614	9.058	11.50	6.525
	(7.736)	(6.195)	(6.871)	(7.647)	(9.277)
Own Soc Green NA	-0.9236	3.118	3.940	9.066	10.28
	(5.229)	(4.574)	(5.531)	(6.859)	(7.189)
Fixed-effects					
Firm FE	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes
Fit statistics					
Observations	5,606	6,215	5,572	4,934	4,122
Squared Correlation	0.15508	0.07839	0.16023	0.23365	0.21408
Pseudo R^2	0.14531	0.13104	0.15010	0.19707	0.17503
BIC	5,924.1	3,594.9	5,899.3	6,290.4	5,804.4

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 13: Probability of an S-Incident: Alternative Social Score Measure

Dependent Variable:	Probability of Having an S-News in the Next:				
	-5 Months	0 Month	5 Months	10 Month	15 Months
Model:	(1)	(2)	(3)	(4)	(5)
Variables					
MFHS Soc Brown A	0.0141	-0.0001	0.0116*	0.0203**	0.0175
	(0.0093)	(0.0072)	(0.0071)	(0.0091)	(0.0112)
MFHS Soc Green NA	-0.0005	0.0015	0.0034	0.0065	0.0071
	(0.0030)	(0.0038)	(0.0037)	(0.0043)	(0.0050)
MFHS Soc Green A	0.0017	0.0019	0.0067	0.0031	0.0059
	(0.0057)	(0.0052)	(0.0070)	(0.0089)	(0.0103)
MFHS Soc Brown NA	-0.0184*	-0.0060	0.0066	0.0089	0.0144
	(0.0097)	(0.0052)	(0.0088)	(0.0104)	(0.0112)
Log Market Cap	-0.4848	-0.5093*	-0.2136	0.0873	0.1706
	(0.3956)	(0.2831)	(0.3799)	(0.5891)	(0.8200)
Log Book Equity	0.3237	0.6872***	0.4919*	0.7118*	1.198**
	(0.3354)	(0.2520)	(0.2775)	(0.4319)	(0.5632)
Profitability	-0.0400	-0.0472	-0.0805	-0.3108	-0.2531
	(0.0496)	(0.1038)	(0.0500)	(0.2448)	(0.3073)
Investment	0.0410	-0.6604	-1.171**	-0.7534	-0.0906
	(0.4997)	(0.5436)	(0.5817)	(0.5726)	(0.5846)
Div to Book	0.1818	0.1099**	0.1812	-0.0691	-0.9539
	(0.3393)	(0.0454)	(0.3410)	(0.9774)	(1.226)
Social Score	0.1848	0.0335	0.0471	-0.0847	-0.0877
	(0.1582)	(0.1127)	(0.1504)	(0.1980)	(0.2620)
Own Soc Brown A	-3.624	2.627	0.5743	-3.503	-0.4638
	(3.917)	(3.571)	(5.303)	(6.837)	(8.875)
Own Soc Brown NA	3.312	-2.692	-2.486	2.353	3.296
	(4.911)	(3.451)	(4.610)	(5.034)	(5.450)
Own Soc Green A	-2.964	-2.726	3.228	3.123	3.115
	(3.476)	(2.482)	(3.422)	(4.461)	(6.257)
Own Soc Green NA	3.173	-1.177	-3.157	-1.012	-1.686
	(2.788)	(2.149)	(3.215)	(4.643)	(5.255)
Fixed-effects					
Firm FE	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes
Fit statistics					
Observations	9,520	11,805	9,619	7,348	4,974
Squared Correlation	0.33079	0.36943	0.33806	0.33149	0.28044
Pseudo R^2	0.26966	0.33614	0.27778	0.27630	0.22849
BIC	11,895.4	10,381.2	11,907.6	9,452.2	6,906.1

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 14: Probability of an S-Incident: Altnernative MFHS (5%)

Dependent Variable:	Probability of Having an S-News				
	-5 Months	0 Month	5 Months	10 Month	15 Months
Model:	(1)	(2)	(3)	(4)	(5)
Variables					
MFHS Soc Brown A	0.0111	-0.0018	0.0065	0.0156*	0.0102
	(0.0084)	(0.0099)	(0.0078)	(0.0085)	(0.0116)
MFHS Soc Green NA	0.0070*	-0.0030	0.0010	0.0041	0.0086*
	(0.0036)	(0.0046)	(0.0042)	(0.0039)	(0.0044)
MFHS Soc Green A	0.0043	-0.0063	-0.0040	-0.0044	0.0050
	(0.0053)	(0.0057)	(0.0043)	(0.0058)	(0.0074)
MFHS Soc Brown NA	-0.0105	-0.0233**	0.0053	0.0136	-0.0012
	(0.0085)	(0.0107)	(0.0080)	(0.0100)	(0.0112)
Log Market Cap	0.3091	0.0759	0.5193**	0.9293***	1.228***
	(0.2484)	(0.1906)	(0.2469)	(0.3581)	(0.4747)
Log Book Equity	0.3424**	0.4178***	0.3573**	0.4914**	0.7779***
	(0.1522)	(0.1343)	(0.1508)	(0.2120)	(0.2871)
Profitability	-0.0417	-0.0255	0.0255	-0.0366	-0.0132
	(0.0480)	(0.0500)	(0.0413)	(0.0760)	(0.0512)
Investment	0.0701	-0.1533	-0.3490	-0.2852	-0.2815
	(0.2334)	(0.1897)	(0.2151)	(0.1925)	(0.2081)
Div to Book	0.0068	0.0444*	0.0619	0.0227	-0.1906
	(0.0375)	(0.0243)	(0.0492)	(0.1259)	(0.2297)
Social Score	0.0076	0.0279	-0.0593	-0.1258	-0.1047
	(0.0924)	(0.0694)	(0.0916)	(0.1198)	(0.1571)
Own Soc Brown A	-6.112***	-2.101	-0.8032	-0.0306	2.662
	(2.233)	(2.037)	(2.394)	(3.170)	(3.952)
Own Soc Brown NA	-0.0972	-2.062	-2.027	-0.7461	-2.366
	(2.704)	(2.110)	(2.561)	(3.028)	(3.501)
Own Soc Green A	-1.934	-1.787	0.1585	1.237	3.014
	(1.688)	(1.106)	(1.483)	(2.174)	(2.971)
Own Soc Green NA	2.843*	0.3963	-0.5264	0.9606	0.8694
	(1.670)	(1.275)	(1.647)	(2.177)	(2.696)
Fixed-effects					
Firm FE	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes
Fit statistics					
Observations	33,095	40,107	33,292	26,310	18,456
Squared Correlation	0.35929	0.37613	0.36294	0.35514	0.27832
Pseudo R^2	0.29552	0.35468	0.29984	0.29717	0.22895
BIC	38,190.0	30,792.0	38,225.0	32,198.8	24,722.9

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 15: Probability of an S-Incident: Alternative MFHS (5%), Bottom 25% Social Score

Dependent Variable:	Probability of Having an S-News				
	-5 Months	0 Month	5 Months	10 Month	15 Months
Model:	(1)	(2)	(3)	(4)	(5)
Variables					
MFHS Soc Brown A	-0.0069	-0.0131	0.0058	0.0309**	0.0340**
	(0.0165)	(0.0195)	(0.0120)	(0.0157)	(0.0157)
MFHS Soc Green NA	0.0224**	0.0009	0.0110	0.0014	0.0113
	(0.0097)	(0.0159)	(0.0079)	(0.0078)	(0.0090)
MFHS Soc Green A	0.0302*	-0.0166	-0.0068	-0.0189	-0.0068
	(0.0164)	(0.0189)	(0.0152)	(0.0158)	(0.0106)
MFHS Soc Brown NA	-0.0028	-0.0236	-0.0146	-0.0034	-0.0046
	(0.0258)	(0.0280)	(0.0157)	(0.0184)	(0.0197)
Log Market Cap	0.7212	0.3466	0.8438	1.305*	1.548*
	(0.5665)	(0.4215)	(0.5404)	(0.6699)	(0.8256)
Log Book Equity	0.5394	0.4473	0.4095	0.3500	0.4317
	(0.4562)	(0.3165)	(0.3089)	(0.3777)	(0.4773)
Profitability	-0.5280	-0.1062	0.5428	0.1877	0.3048
	(0.7651)	(0.6001)	(0.8270)	(0.5855)	(0.3769)
Investment	-0.4245	-0.8707	-1.046**	-0.5058	-0.2637
	(0.7656)	(0.6836)	(0.4519)	(0.4336)	(0.4329)
Div to Book	-3.684	-0.4186	-0.7103**	0.6426***	2.103
	(3.336)	(0.9120)	(0.2765)	(0.1606)	(1.363)
Social Score	0.5117	0.3473	0.3426	0.0748	-0.1315
	(0.3889)	(0.2708)	(0.4369)	(0.5696)	(0.6331)
Own Soc Brown A	-1.705	-2.205	-3.172	0.8759	8.170
	(5.429)	(5.957)	(6.160)	(6.696)	(8.455)
Own Soc Brown NA	3.100	5.526	5.186	6.522	2.918
	(5.053)	(5.133)	(4.948)	(4.859)	(5.513)
Own Soc Green A	1.722	4.294	3.650	5.929	5.136
	(4.412)	(3.447)	(3.766)	(4.661)	(5.267)
Own Soc Green NA	-2.456	-4.426	4.119	6.904	5.339
	(3.479)	(3.875)	(3.901)	(4.894)	(4.781)
Fixed-effects					
Firm FE	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes
Fit statistics					
Observations	5,578	6,182	5,544	4,911	4,104
Squared Correlation	0.15402	0.07617	0.15685	0.22339	0.20112
Pseudo R^2	0.14232	0.13141	0.14664	0.18804	0.16422
BIC	5,906.8	3,576.4	5,884.6	6,307.2	5,830.4

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative S news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Table 16: Probability of an E-Incident

Dependent Variable:	Probability of Having an E-News				
	-5 Months	0 Month	5 Months	10 Month	15 Months
Model:	(1)	(2)	(3)	(4)	(5)
Variables					
MFHS Soc Brown A	0.0100	-0.0090	-0.0108	-0.0088	-0.0052
	(0.0079)	(0.0091)	(0.0071)	(0.0063)	(0.0074)
MFHS Soc Green NA	0.0021	0.0028	0.0050*	0.0061*	0.0028
	(0.0032)	(0.0040)	(0.0029)	(0.0034)	(0.0038)
MFHS Soc Green A	-0.0051	-0.0007	-0.0045	-0.0008	0.0043
	(0.0046)	(0.0057)	(0.0049)	(0.0055)	(0.0060)
MFHS Soc Brown NA	-0.0004	-0.0093	0.0016	-0.0034	-0.0003
	(0.0070)	(0.0071)	(0.0058)	(0.0076)	(0.0077)
Log Market Cap	1.075***	1.138***	1.135***	1.125**	0.8176
	(0.3858)	(0.3001)	(0.3834)	(0.5136)	(0.6379)
Log Book Equity	0.2390	0.0696	0.0490	0.1601	0.2810
	(0.2202)	(0.1845)	(0.2267)	(0.2671)	(0.3107)
Profitability	0.1104	0.0348	0.1564**	0.0407	0.1343
	(0.0720)	(0.0570)	(0.0720)	(0.0907)	(0.1127)
Investment	-0.1138	-0.2951	-0.5161	-0.4315	0.3038
	(0.4041)	(0.2549)	(0.3209)	(0.3112)	(0.3259)
Div to Book	0.1191***	-0.0309	0.0028	0.1187	0.0081
	(0.0330)	(0.0322)	(0.0484)	(0.0947)	(0.1111)
Social Score	0.2459	0.0449	-0.0245	0.0375	0.0537
	(0.1821)	(0.1356)	(0.1626)	(0.1940)	(0.2355)
Own Soc Brown A	-0.1694	-0.0637	-2.421	-5.127	-5.854
	(3.706)	(3.311)	(4.227)	(4.674)	(4.942)
Own Soc Brown NA	1.554	0.4394	-1.905	-0.8427	-2.311
	(4.457)	(3.440)	(4.051)	(4.722)	(5.147)
Own Soc Green A	-4.228*	-1.174	1.829	0.5610	1.759
	(2.512)	(2.079)	(2.259)	(2.673)	(2.809)
Own Soc Green NA	0.4777	-1.345	-1.933	-0.9484	-0.9047
	(2.943)	(2.145)	(2.501)	(3.031)	(3.749)
Fixed-effects					
Firm FE	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes
Fit statistics					
Observations	16,721	19,584	16,617	13,630	11,061
Squared Correlation	0.32265	0.28687	0.31735	0.26952	0.25080
Pseudo R^2	0.27092	0.30084	0.26592	0.22133	0.20409
BIC	18,898.1	14,249.0	18,967.5	17,814.7	15,206.6

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Note: Logit regressions of whether firm i has had a negative E news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

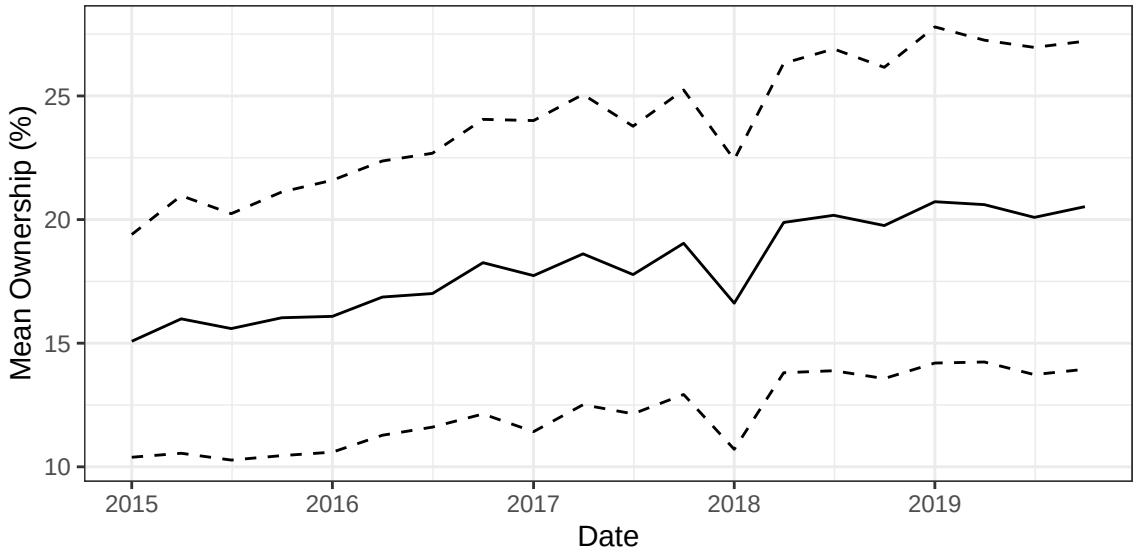
Table 17: Probability of a G-Incident

Dependent Variable:	Probability of Having an G-News				
	-5 Months	0 Month	5 Months	10 Month	15 Months
Model:	(1)	(2)	(3)	(4)	(5)
Variables					
MFHS Soc Brown A	-0.0181	0.0012	0.0052	0.0096	0.0057
	(0.0128)	(0.0093)	(0.0080)	(0.0087)	(0.0080)
MFHS Soc Green NA	-0.0046	-0.0126**	-0.0040	0.0016	-0.0010
	(0.0041)	(0.0063)	(0.0038)	(0.0038)	(0.0041)
MFHS Soc Green A	0.0062	-0.0020	-0.0051	2.12×10^{-5}	-0.0052
	(0.0051)	(0.0067)	(0.0051)	(0.0068)	(0.0085)
MFHS Soc Brown NA	-0.0111*	0.0045	-0.0009	-0.0112	-0.0085
	(0.0066)	(0.0070)	(0.0090)	(0.0078)	(0.0085)
Log Market Cap	-0.0754	-0.1593	0.7482*	1.295**	1.767***
	(0.4253)	(0.3125)	(0.4110)	(0.5236)	(0.6823)
Log Book Equity	1.016***	0.4724**	0.5277*	0.5278	0.3478
	(0.3333)	(0.2269)	(0.2949)	(0.4100)	(0.4953)
Profitability	0.1432	-0.0087	0.1188	0.1993	0.2332*
	(0.0936)	(0.0383)	(0.0755)	(0.1466)	(0.1354)
Investment	-0.6905	-0.9999**	-1.024*	-0.5607	-0.3789
	(0.7739)	(0.4191)	(0.5257)	(0.4732)	(0.3039)
Div to Book	0.0502	0.0579	-0.0204	-0.0510	-0.1423
	(0.0678)	(0.0379)	(0.0687)	(0.1416)	(0.1469)
Social Score	0.1253	-0.0139	-0.0255	0.0495	0.1748
	(0.1440)	(0.1262)	(0.1644)	(0.2091)	(0.2589)
Own Soc Brown A	2.381	3.094	0.4960	-3.830	1.229
	(3.449)	(3.286)	(4.745)	(5.642)	(5.846)
Own Soc Brown NA	-6.575	-6.110*	-5.200	-5.651	-10.91*
	(4.534)	(3.437)	(3.914)	(4.973)	(5.913)
Own Soc Green A	-8.743***	0.9645	-1.764	-3.170	2.371
	(2.748)	(1.966)	(2.145)	(2.953)	(3.574)
Own Soc Green NA	6.034*	-1.106	1.135	2.057	-0.9969
	(3.080)	(2.470)	(3.251)	(3.841)	(4.639)
Fixed-effects					
Firm FE	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes
Fit statistics					
Observations	15,995	18,435	15,995	12,977	10,536
Squared Correlation	0.36735	0.33062	0.36469	0.30639	0.27777
Pseudo R^2	0.30998	0.33561	0.30837	0.25590	0.23183
BIC	17,084.9	12,629.3	17,111.3	15,998.0	13,885.0

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

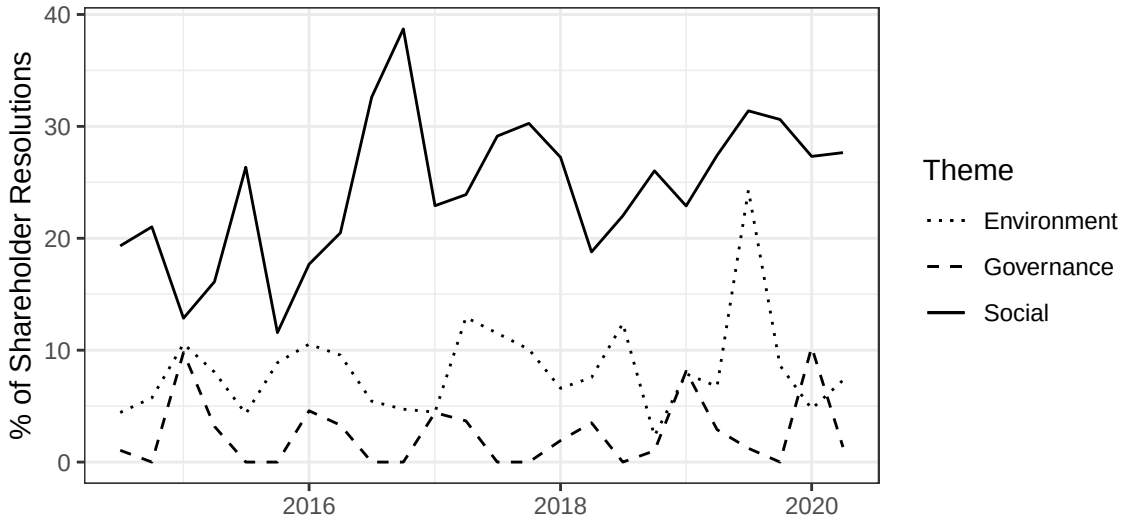
Note: Logit regressions of whether firm i has had a negative G news between time t and $t+l$. All columns include day and firm fixed effects. All continuous stock characteristics are standardized. Standard errors are clustered at the firm level and presented in parenthesis.

Figure 1: Ownership Over Time



Notes: The figure reports the mean (solide line), first and third quartile values (dashed lines) of firm ownership by investors in the sample, by quarter. Holdings data from CRSP and company data from Compustat.

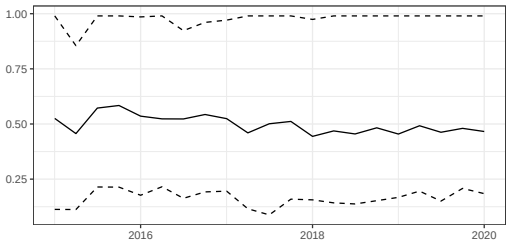
Figure 2: ESG Votes Over Time



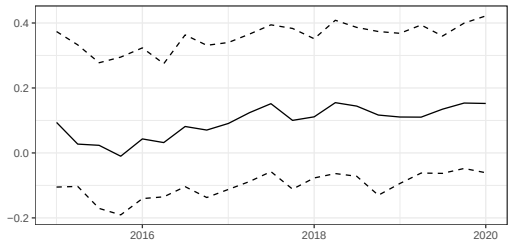
Notes: The figure reports the percentage of shareholder proposals that are related to Environmental, Social or Governance topics. Shareholder proposals are gathered from mutual funds' N-PX reports filed at the SEC. Each topic is assigned to an E, S, G, or none category based on a list of keywords. Keywords are available in Appendix. Note that the distribution of Annual General Meetings is not even over the year.

Figure 3: Estimated Coefficients Over Time

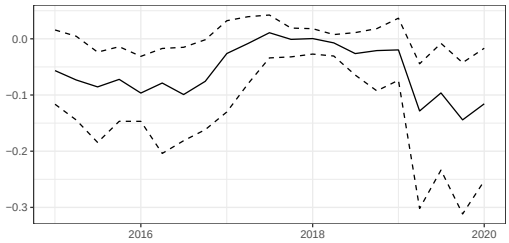
(a) Logged Market Cap (Instrument)



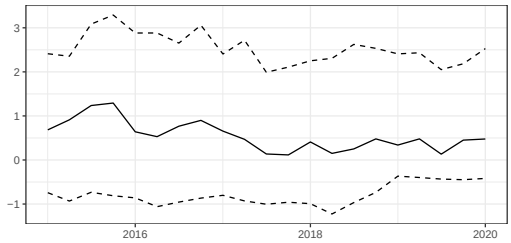
(b) Logged Book Equity



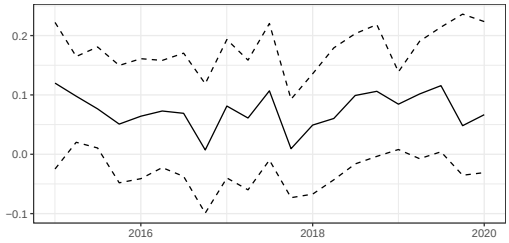
(c) Market Beta



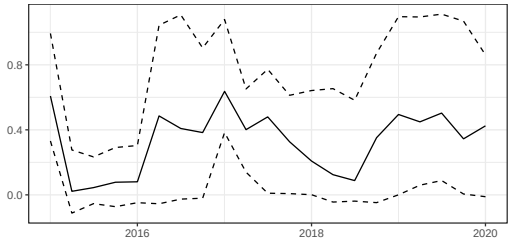
(d) Book to Market



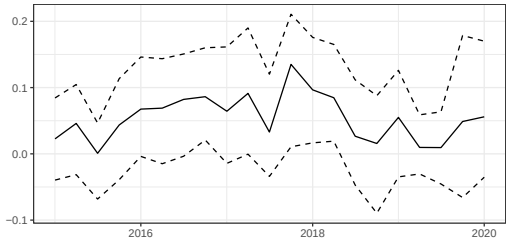
(e) Profitability



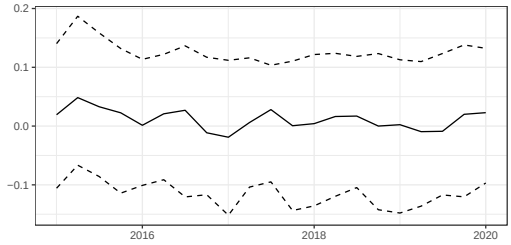
(f) Investment



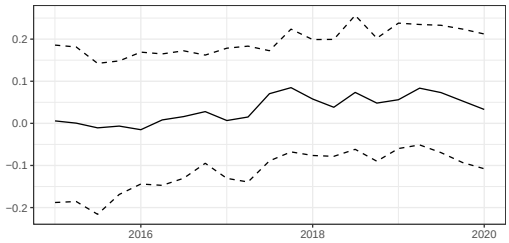
(g) Dividend to Book



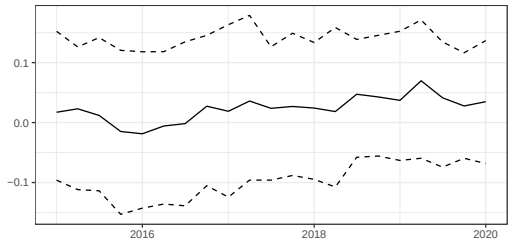
(h) Environmental Score



(i) Social Score

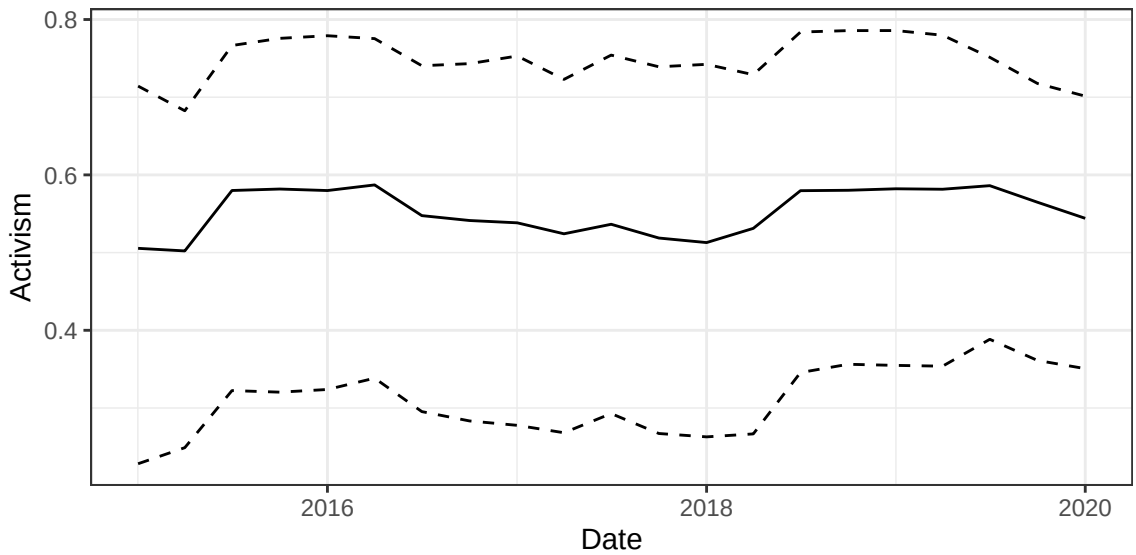


(j) Governance Score



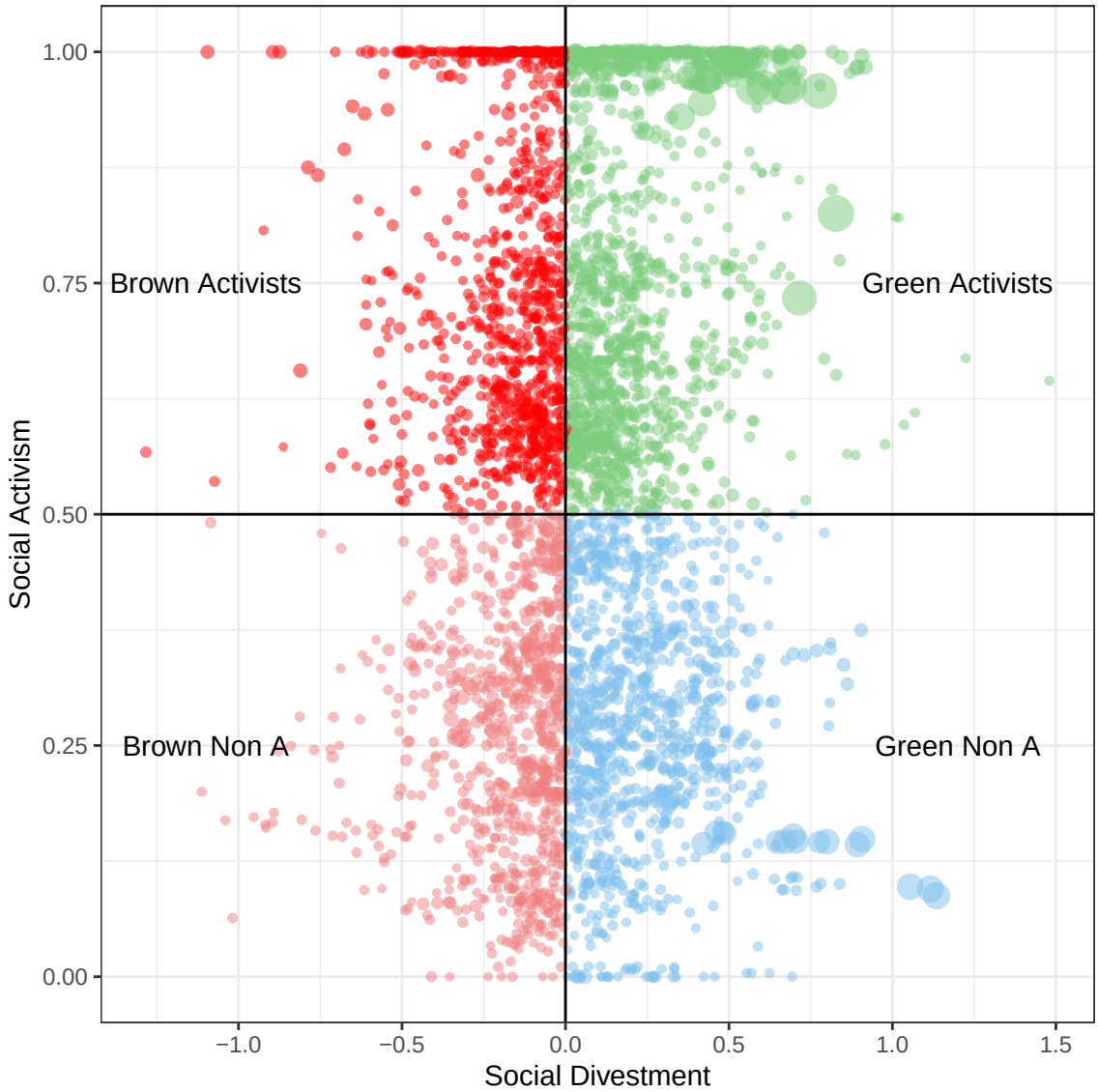
Notes: Coefficients on characteristics. Characteristic-based demand 1 is estimated by OLS. The figure reports the cross-sectional median, first and third quartiles of the estimated coefficients.

Figure 4: Social Activism Over Time



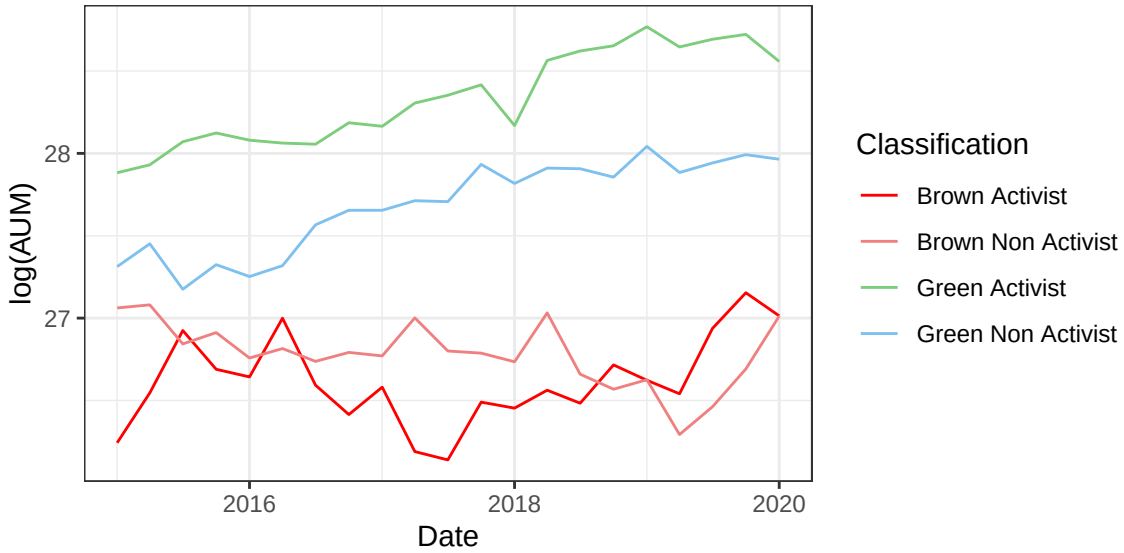
Notes: The figure reports the cross-sectional mean (solid line), first and third quartiles (dashed lines) of the estimated measure of Social activism. Social activism is defined as the percentage of times an investor has voted "for" an S-related shareholder resolution in the past four quarters.

Figure 5: investor Classification



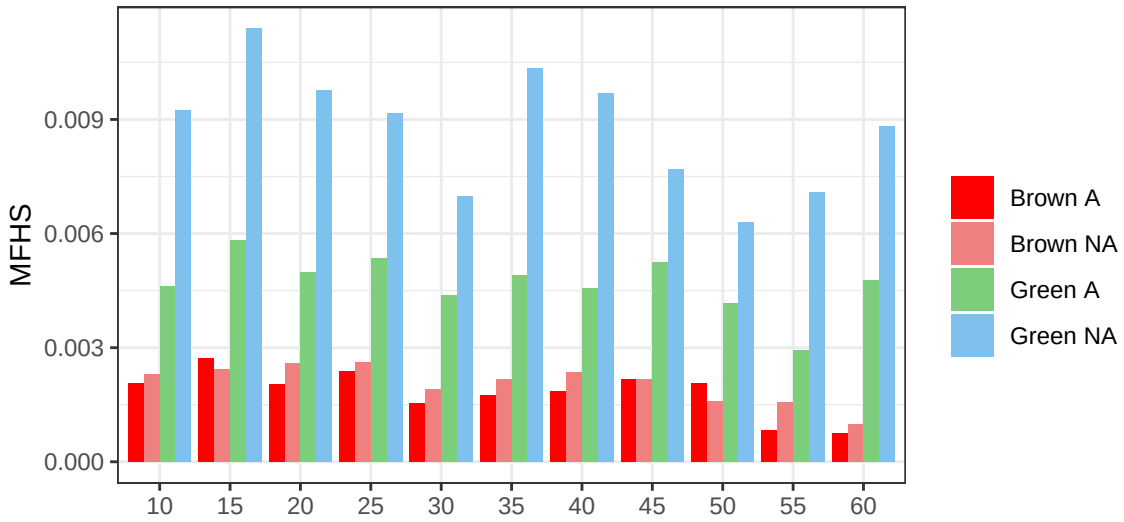
Notes: Investor classification based on their level of activism (Y-axis) and divestment (X-axis). Social activism is defined as the percentage of times an investor has voted "for" an S-related shareholder resolution in the past four quarters. Social divestment is the estimated coefficient from Equation 1 on Social Score. Each dot has a size proportional to the investor's AUM.

Figure 6: AUM of each group Over Time



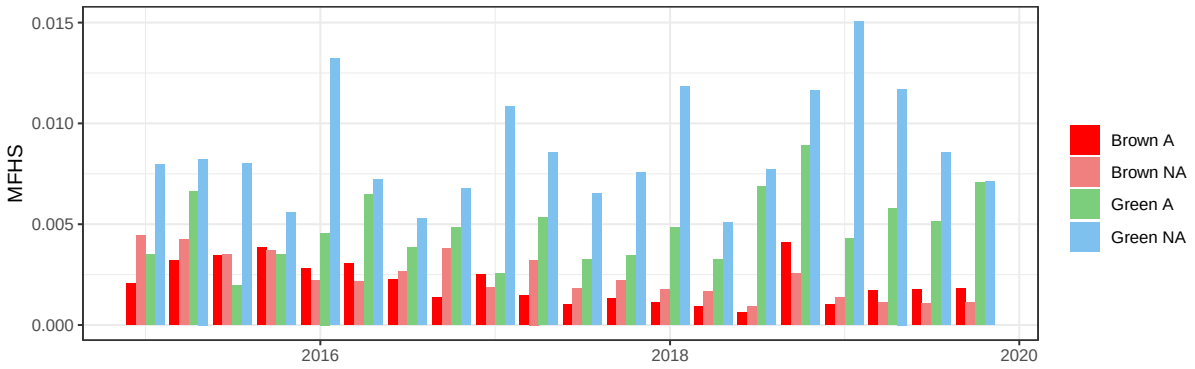
Notes: The evolution of the total logged AUM of each investor category over time. Quarterly data from 2015 to 2020.

Figure 7: Average MFHS by Industry



Notes: Average *Mutual Funds Hypothetical Sales* by industry, based on monthly data from 2015 to 2020. Details of Industry Codes can be found in Appendix.

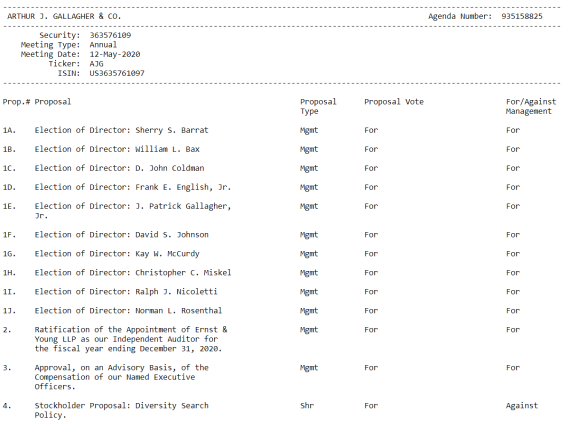
Figure 8: Average MFHS by Quarter



Notes: Average *Mutual Funds Hypothetical Sales* by quarter, based on monthly data from 2015 to 2020.

Figure 9: Differences in N-PX Reports

(a) Natixis Funds 2020 N-PX Report

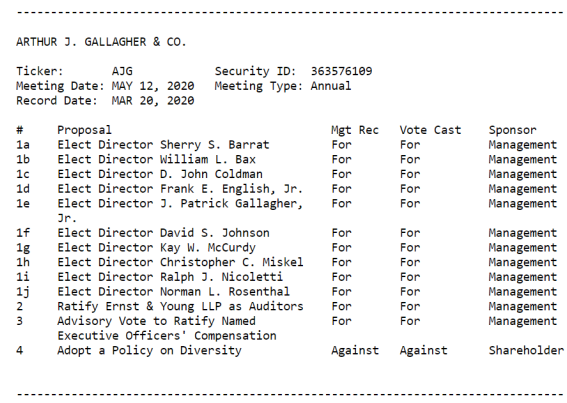


ARTHUR J. GALLAGHER & CO. Agenda Number: 935158825

Security: 363576109
Meeting Type: Annual
Meeting Date: 12-May-2020
Ticker: AJG
ISIN: US3635761097

Prop.#	Proposal	Proposal Type	Proposal Vote	For/Against Management
1A.	Election of Director: Sherry S. Barrat	Mgmt	For	For
1B.	Election of Director: William L. Bax	Mgmt	For	For
1C.	Election of Director: D. John Coldman	Mgmt	For	For
1D.	Election of Director: Frank E. English, Jr.	Mgmt	For	For
1E.	Election of Director: J. Patrick Gallagher, Jr.	Mgmt	For	For
1F.	Election of Director: David S. Johnson	Mgmt	For	For
1G.	Election of Director: Kay W. McCurdy	Mgmt	For	For
1H.	Election of Director: Christopher C. Miskel	Mgmt	For	For
1I.	Election of Director: Ralph J. Nicoletti	Mgmt	For	For
1J.	Election of Director: Norman L. Rosenthal	Mgmt	For	For
2.	Ratification of the Appointment of Ernst & Young LLP as our Independent Auditor for the fiscal year ending December 31, 2020.	Mgmt	For	For
3.	Approval, on an Advisory Basis, of the Compensation of our Named Executive Officers.	Mgmt	For	For
4.	Stockholder Proposal: Diversity Search Policy.	Shr	For	Against

(b) iShares 2020 N-PX Report



ARTHUR J. GALLAGHER & CO.

Ticker: AJG Security ID: 363576109
Meeting Date: MAY 12, 2020 Meeting Type: Annual
Record Date: MAR 20, 2020

#	Proposal	Mgt Rec	Vote Cast	Sponsor
1a	Elect Director Sherry S. Barrat	For	For	Management
1b	Elect Director William L. Bax	For	For	Management
1c	Elect Director D. John Coldman	For	For	Management
1d	Elect Director Frank E. English, Jr.	For	For	Management
1e	Elect Director J. Patrick Gallagher, Jr.	For	For	Management
1f	Elect Director David S. Johnson	For	For	Management
1g	Elect Director Kay W. McCurdy	For	For	Management
1h	Elect Director Christopher C. Miskel	For	For	Management
1i	Elect Director Ralph J. Nicoletti	For	For	Management
1j	Elect Director Norman L. Rosenthal	For	For	Management
2	Ratify Ernst & Young LLP as Auditors	For	For	Management
3	Advisory Vote to Ratify Named Executive Officers' Compensation	For	For	Management
4	Adopt a Policy on Diversity	Against	Against	Shareholder

Notes: Screenshot from two N-PX reports filed at the SEC in 2020. Panel (a) is a screenshot of Natixis Funds Trust II's votes (CIK: 52136). Panel (b) is from iShares Trust (CIK: 1100663).

Figure 10: Example of a Social Controversy

Notes: Screenshot of a *Business Insider* article covering a controversy over Wells Fargo's CEO. Taken from *Business Insider*'s website.

A Appendix on Resolutions Classification

I classify the topics of the votes reported in the form N-PX as being related to the Environment (E), Social (S), or Governance (G), based on a list of keyword. The breakdown of each category is as follows:

- The "E" category includes the following keywords: "GHG emissions", "GHG reduction", "water use", "pollution", "climate", "fossil fuels", "CA100", "packaging", "food waste", "natural gas", "environmental", "oil", "gas", "Paris agreement", "two degree scenario", "carbon", "pesticide", "flaring", "coal", "deforestation", "renewable", "clean energy", "stranded asset", "transition risk", "physical risk", "nuclear", "methane", "protein diversification", "energy risk", "water stewardship", "Bhopal", "green energy","green house", "degree scenario";

- The "S" category covers: : "lobbying", "indigenous", "pay disparity", "political spending", "pharmaceutical pricing", "arbitration", "whistle blower", "health risk", "discrimination", "promotion velocity", "human rights", "hate speech", "privacy risk", "EEO", "equal employment", "public policy advocacy", "sugar", "animal test", "child exploitation", "fake news", "diversity", "inclusion", "biased news", "human capital", "affirmative action", "opioid crisis", "animal welfare", "animal fur", "conflict zone", ""female", "decent work", "privacy protection", "incentive compensation", "sexual harassment", "internet privacy", "content management", "warning labels", "data security", "lgbt", "prison labor", "election spending", "child labor", "gay", "animal feed", "community", "communities", "political contribution", "gender", "charitable", "racial";

- The "G" category covers: "esg", "sustainability", "benefit corporation", "separate chair", "board diversity".

B Appendix on RepRisk Incidents Classification

I classify the incidents RepRisk collects from media outlets as related to *Environmental* (E), *Social* (S), and *Governance* (G) matters using the "Related Issues" and "Related UNCG Principles" variables in RepRisk. The breakdown of each category is as follows:

- The "E" category includes the following issues: "Climate change, GHG emissions, and global pollution", "Local pollution", "Impacts on landscapes, ecosystems and biodiversity", "Waste issues", "Animal mistreatment", "Other environmental issues", "Overuse and wasting of resources";
- The "S" category covers: "Impacts on communities", "Human rights abuses and corporate complicity", "Social discrimination", "Discrimination in employment", "Occupational health and safety issues", "Violation of national legislation", "Products issues", "Forced labor", "Local participation issues", "Controversial products and services", "Corruption, bribery, extortion and money laundering", "Violation of international standards", "Poor employment conditions", "Child labor", "Fraud", "Anti-competitive practices", "Misleading communication", "Other social issues", "Tax optimization", "Tax evasion";
- The "G" category covers: "Executive compensation issues", "Supply chain issues", "Freedom of association and collective bargaining".

Finally, any incident can be reported by multiple outlets. I avoid double counting the same incident by considering the probability of having one incident in a month in the main analysis.