Exit or Voice? Divestment, Activism, and Corporate Social Responsibility

Victor Saint-Jean *

October 30, 2024

Abstract

Should ESG-motivated investors screen out non-responsible firms from their portfolio, or should they rather invest in them and engage with management? This paper evaluates the effectiveness of these *exit* and *voice* strategies and uncovers the conditions under which each strategy is most impactful. Using a novel classification framework based on US mutual funds' portfolio holdings and votes on shareholder proposals, I show that voice funds are generally more effective than exit funds in pushing firms towards more socially responsible behavior. The exit strategy relies on the threat of lower stock prices and is effective only in firms with high CEO wealth-performance sensitivity. Voice funds threaten directors' reelection and are more effective when elections are approaching. Taken together, my results point to the financial and career concerns of top management as driving pro-social change when shareholders demand it.

Keywords: exit, voice, divestment, activism, corporate social responsibility, career concerns

*Department of Finance, ESSEC Business School. **Email:** saintjean@essec.edu. I am grateful to my advisor Stéphane Guibaud as well as Pat Akey and Michele Fioretti for continuous support and guidance. For useful comments and discussions, I wish to thank Aleksandar Andonov, Claire Célerier, Ing-Haw Cheng, Nicolas Cœurdacier, Vicente Cuñat, Peter Cziraki, Laurence Daures, Clément de Chaisemartin, Craig Doidge, Alexander Dyck, Samuel Hartzmark, Camille Hébert, Emeric Henry, Nicolas Inostroza, Adrian Lam, Ségal Le Guern Herry, Jan Mahrt-Smith, Charles Martineau, Max Mayer, Paul Momtaz, Jean-Stéphane Mésonnier, Daniel Schmidt, David Thesmar, Boris Vallée, Olivier Wang, Irene Yi, seminar participants at Bayes Business School, Boston University (Questrom), Carlos III, Cunef, ESCP, ESSEC, Goethe, INSEAD, Nova SBE, Queen Mary, Sciences Po, Théma, Toronto (Rotman), Virginia (Darden), and conference participants at the 2023 WFA, 2023 HEC Finance PhD Workshop, 2022 EFA Doctoral Tutorial, 2022 Finance Forum, and 2022 Applied Economics Meeting. I thank the Sciences Po-McCourt Institute for their financial support. All errors are mine.

1 Introduction

More than 5,000 institutional investors, representing $121 trillion in assets under management, have signed the UN's Principles for Responsible Investments.[1] But how can they pressure firms to behave more pro-socially? In his 2020 and 2021 letters to CEOs, Larry Fink invited board directors and managers to think about how the growing trend in responsible investing would affect their company's stock price. He warned that companies that do not embrace more sustainable business practices would face a higher cost of capital in the future. These statements summarize the threat of *exit*:[2] facing potential divestment from their shareholders, firms must act more pro-socially to keep their current stock price high and be able to raise funds at low cost in the future. On the other hand, Fink also claimed that BlackRock would vote against management and directors when they are not making sufficient progress on sustainability matters. This is one way activist investors use their *voice*: they push for change at firms in their portfolio by threatening to wield their voting power. Do firms respond to these exit and voice pressures? Under what conditions?

This paper investigates whether exit and voice strategies can promote pro-social efforts exploiting a novel channel of causation: the financial and career concerns of firm management. Exit shareholders threaten CEOs' compensation via their personal exposure to their firm's stock price, and activist shareholders threaten board directors' reelection through their votes. Executives and directors thus have *personal* incentives to respond to exit and voice pressures. This specific channel would provide an alternative to the cost of capital channel for exit (Berk and van Binsbergen, 2021), and could explain why some ESG-motivated activist campaigns are successful (e.g., Naaraayanan *et al.*, 2021). Yet, an empirical evaluation of these mechanisms faces at least three challenges: *i)* measuring the exit and voice pressures faced by firms, *ii)* finding exogenous variations in these pressures, and *iii)* finding a proxy for firms' CSR efforts.

This paper makes two main contributions. The first contribution is to develop a novel classification of US mutual funds as exit, voice, both, or none. The quarterly classification covers almost 2,000 funds between 2013 and 2020. It allows me to build a firm-level measure of exit and voice pressures, based on the percentage of equity owned by exit and voice funds. Then, I use large redemptions from funds as plausibly exogenous shocks to exit and voice pressures to identify the impact of each strategy on listed US firms' CSR efforts, as proxied by the occurrence of media-reported social controversies.[3] The paper's second contribution is to

[1] UN PRI's 2023 Annual Report.

[2] Following Hirschman (1970)'s terminology.

[3] I focus on the *social* dimension of firms' externalities as most of the ESG-related votes that reflect disagreement among shareholders and with the management fall into the "S" category. Moreover, funds that divest from firms

assess the effectiveness of each strategy and to uncover the conditions under which they are most impactful.

I first identify *exit funds* using portfolio holdings data. I uncover funds' preference for pro-social stocks by applying the framework of Koijen and Yogo (2019). Namely, in each quarter, I regress the weight of each stock in a fund's portfolio on its financial characteristics and its Environmental, Social, and Governance scores. The coefficient on Social score (β_S) indicates whether, all else equal, a fund invests more in stocks with a higher level of CSR. This coefficient correlates with a name-based fund classification. In any given quarter, I define as exit fund any non-index fund with a positive β_S.[4] The share of exit funds among non-index funds rose from 32% in 2013 to 45% in 2018. For every firm in every quarter, I build a measure of the *threat of exit* that the firm faces from its fund shareholders, as the share of its equity owned by exit funds.

I identify *voice funds* using their votes at the Annual General Meetings (AGMs) of firms in their portfolio. Gathering all funds' votes from the Securities and Exchange Commission's website, I focus on S-related shareholder-sponsored resolutions that are opposed by management. A fund's voice score in each quarter is the percentage of times its fund company voted in favor of these resolutions in the previous four quarters. I find that the propensity to vote in favor of CSR-related resolutions increases over my sample period and that most funds either vote always in favor or always against such proposals. To test the correlation of the voice score with alternative proxies, I show that participants in the Principles for Responsible Investment's "Advance" initiative, through which investors take action on social issues at firms in their portfolio, have a significantly higher voice score than others. I create a firm-level measure of voice pressure as the share of equity owned by funds with a voice score greater than 85% (i.e., above proxy advisors' percentage of favorable recommendation on the same set of resolutions).

Then, I develop a portable framework to identify funds' influence on firm policies. As a firm's shareholder composition is endogenous, I causally identify the impact of each strategy on CSR efforts by exploiting plausibly exogenous changes in funds' influence due to large fund redemptions. The idea is that when funds are forced to fire-sell some of their assets, they have less power to exert their threat of exit or their voice. For each firm in each quarter, I compute the hypothetical percentage of its equity sold by exit and voice funds due to large redemptions, as if funds liquidated their assets proportionally. I first use these shocks in an event study design. Then, in the spirit of shift-share instruments (Borusyak *et al.*, 2022), I instrument the

with low environmental standards generally divest from whole industries (e.g., "Fossil Fuel Free" funds) rather than individual stocks. Finally, firms' pro-social efforts are more comparable across corporations and industries than their environmental efforts.

[4]Index funds, by definition, cannot use the threat of exit.

changes in firms' exposure to funds' exit and voice using these large redemptions and estimate their impact on the future behavior of firms.

I measure firms' CSR efforts based on social controversies published in the media. They are my preferred measure of CSR because they are observable at high frequency and allow the date of the underlying misbehavior to be identified. In addition, they reflect all dimensions of CSR, even those that are difficult to measure like corporate culture. Finally, they are publicly observable and thus trigger strong investor reactions in the form of negative abnormal returns and managerial turnover. It is precisely the fear of such punishments that may prompt the firm management to act in response to exit and voice pressures. Upon the occurrence of a controversy, exit funds—and not others—sell the stock, and managerial turnover is concentrated among firms with high voice ownership.

My first result is that, in general, only voice is effective at promoting pro-social efforts. When voice funds are forced to sell 1% of a firm's equity, the probability that the firm faces a controversy over the next year increases by 30%. This result is consistent with the theoretical prediction of Broccardo *et al.* (2022), and is robust to multiple specifications and alternative classifications of exit and voice funds.[5] The result is not driven by a change in media coverage: the number of non-ESG-related news is not impacted by changes in exit and voice pressures. Moreover, the result holds when using alternative measures of controversies such as NGO campaigns, or positive measures of CSR such as ESG scores, charitable donations, board gender diversity, and employees' satisfaction.

My second finding is that the unconditional null effect of exit hides some interesting heterogeneity. I find that firms with high CEO wealth-performance sensitivity (WPS) respond to the threat of exit. However, even among firms in the top quartile of the WPS distribution, the effect of exit is smaller in magnitude than the effect of voice. I do not find evidence that firms with a high cost of capital respond more to the threat of exit. On the contrary, the results, although weakly significant, tend to show that firms with a lower cost of capital are the most responsive.

My third result shows that firms respond more to voice pressure when board directors are seeking reelection. I derive this result by exploiting differences in board structures and exogenous variations in board renewal rates. The majority of US boards are entirely reelected every year, but some companies have board directors organized in "classes" with overlapping three-year terms. I find that this staggered board structure makes firms much less responsive to voice pressure. To (further) establish causality, I exploit year-on-year changes in board renewal rate arising from the fact that all classes of a board do not have the same size. The

[5]This includes alternative *exit* classifications using ESG scores from three different providers.

effect of voice on firms with staggered boards is concentrated in years when larger classes are reelected.

Finally, I illustrate the voice mechanism through firms' reactions to a successful activist campaign in their close vicinity. Specifically, I use the revolt led by activist funds against Seaworld's board chairman as a shock to firms in the same industry and with shared voice ownership. This campaign was motivated by years of degraded reputation due to accusations of animal mistreatment and excessive executive compensation. In response, firms in Seaworld's network significantly improved their CSR behavior in the following quarters.

Overall, this paper develops and applies a portable framework to identify funds' preferences and their influence on firm policies. Taken together, my results indicate that executives and directors respond to their shareholders' demand for pro-sociality only when they have personal incentives to do so. This conclusion sheds light on a crucial mechanism leading firms to maximize shareholder welfare, rather than just profits (Hart and Zingales, 2017).

Literature. This paper falls into the literature studying the influence of shareholders on firms' CSR decisions through pressure on management. Abstracting from investors' motivations to adopt a pro-social investment mandate,[6] I contribute to the literature on the optimal shareholders' strategy to promote social responsibility among firms in their portfolios by studying exit and voice within a single framework. Studying this question in a CSR setting departs from the traditional corporate governance literature on several dimensions. Models of the threat of exit like Admati and Pfleiderer (2009) show that a blockholder's threat of exit has two components: the immediate price impact of a trade, and a signaling component, as other investors observe and learn about the fundamental value of the firm from the blockholder's decision. In a CSR setting, one could expect the threat of exit to be less effective, as CSR-indifferent (or even CSR-adverse) investors can buy back the shares sold by ESG funds due to anti-social behavior. It is also unclear what could motivate shareholders to bear the cost of pro-social activism, where traditional models assume that intervention increases firm value (e.g., Edmans and Manso, 2011).[7] In Broccardo *et al.* (2022), activists' gains come from their altruism: it is an empirical question of whether this altruism is strong enough for shareholders to put significant effort into their engagement. However, as the cost of a pro-social policy is

[6] Potential explanations include image concerns and reputation (Fioretti *et al.*, 2023), value alignment (Pástor *et al.*, 2021, Pedersen *et al.*, 2021, Bonnefon *et al.*, 2022), the concern of having a positive social impact (Barber *et al.*, 2021, Green and Roth, 2021), increasing firm value (Cuñat *et al.*, 2012, Gollier and Pouget, 2014), a mix of social and financial returns (Dyck *et al.*, 2019), and experience of social irresponsibility (von Beschwitz *et al.*, 2022).

[7] Lewellen and Lewellen (2022) quantify those gains in the case of mutual funds.

shared among shareholders, they show that a majority of slightly altruistic investors is enough for voice to be more effective than exit.

This paper sheds light on the mechanisms through which exit and voice investors affect firms' CSR efforts. Previous papers have shown that the optimal strategy may depend on stock liquidity (Edmans *et al.*, 2013) but also on other shareholders, for both strategic complementary and free-riding incentives (Edmans and Manso, 2011, Appel *et al.*, 2019, Brav *et al.*, 2021). The mechanism for voice could explain successful ESG-motivated activist campaigns (Akey and Appel, 2019, Chu and Zhao, 2019, Naaraayanan *et al.*, 2021) which resonates with the literature on career concerns (Dewatripont *et al.*, 1999, Gantchev and Giannetti, 2021, Fos and Tsoutsoura, 2014, Aggarwal *et al.*, 2019). It provides an alternative explanation than the one based on firms' reputation (Dimson *et al.*, 2015), and emphasizes the role of managers in inducing corporate change (Bertrand and Schoar, 2003). Previous mechanisms of the threat of exit include firms' cost of equity (Berk and van Binsbergen, 2021, Hartzmark and Shue, 2022), liquidity (Edmans *et al.*, 2013), and executive compensation (Edmans, 2009, Admati and Pfleiderer, 2009, Bharath *et al.*, 2013, Gantchev *et al.*, 2022).

The fund classification developed in this paper builds on several contributions. The methodology used to identify exit funds relies on the empirical specification adopted by Koijen and Yogo (2019) in their "demand system approach" to asset pricing (see also Koijen *et al.*, 2023). I augment their setting by including ESG scores as additional characteristics affecting funds' portfolio allocation decisions (an idea also implemented in other papers, e.g., Gibson *et al.*, 2020, Noh *et al.*, 2022).[8] The measure of exit is based both on current and past holdings, to capture both "tilting" and complete divestment strategies, although the former is expected to be more effective (Edmans *et al.*, 2022).

To measure shareholder activism, I use mutual fund votes, which are publicly available. My fund-level measure of voice confirms the previous results that most funds do not "blindly" follow proxy advisors' recommendations (Iliev and Lowry, 2015), and tend to be less pro-social than them (Bolton *et al.*, 2020).

Finally, the identification strategy in this paper relies on mutual fund redemptions, in the light of the seminal papers by 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

[8] I refrain from using mutual funds' names to identify exit funds, as mutual fund misclassification is not unheard of (Chen *et al.*, 2021). BNY Mellon have for instance been charged by the SEC for misstatement regarding the ESG considerations of their funds. Appendix B explores the relationship between the main measure of exit and a name-based fund classification.

et al., 2019) but also on shareholder activism (Derrien *et al.*, 2013, Norli *et al.*, 2015).[9] The mutual fund redemptions are used as a "shift" in a shift-share instrument setting (Adao *et al.*, 2019, Goldsmith-Pinkham *et al.*, 2020, Borusyak *et al.*, 2022). Closest to my paper in terms of methodology, Heath *et al.* (2023) use large inflows to SRI funds to identify their impact on CSR, and Green and Vallee (2022) study lending bans to the coal industry in a shift-share instrument setting.

Outline. This paper proceeds as follows. Section 2 develops the classification of US mutual funds along the exit and voice dimensions. Section 3 describes the identification strategy based on large redemptions. Section 4 evaluates the impact of exit and voice on firms' CSR efforts. Section 5 explores the conditions under which each strategy is most impactful. Section 6 concludes.

2 Sample selection, variables and summary statistics

Starting from the whole universe of listed firms and US mutual funds, this section describes the sample selection procedure, data sources, and the measures of exit and voice at the fund and firm level.

2.1 Data and sample selection

Firms. Data on stock prices, firm characteristics, and ESG scores are from Refinitiv and retrieved at the quarterly frequency. I start from the entire universe of US-listed and US-headquartered firms in Refinitiv from 2010 to 2020 and exclude all firms with missing stock prices or number of shares. From that sample of 2,599 firms, I select those with at least 1% of mutual fund ownership in all quarters, and an average of at least 10% over the period. The final sample comprises 1,910 firms. Yearly accounting data, as well as information on board structure, and CEO compensation, are from Refinitiv. From Audit Analytics I recover the dates of directors' terms as well as the reason for ending their term. CEO wealth-performance sensitivity data comes from Alex Edmans' website (Edmans *et al.*, 2009).

[9] Recent studies have questioned the relevance of these shocks to study non-fundamental variations in stock prices, as they are correlated with contemporaneous returns (Wardlaw, 2020), and lead to selection in the fire sales (Berger, 2021). I believe that they are not a threat to my main results as I do not use price or return variables as outcome variables or in the instrument, and I show the robustness of my main result on voice when using only pure index funds, for which there should be no selection bias in the fire sales. I also show that selection bias in the fire sales is unlikely to drive the main result for exit in Appendix B.

Controversies. A firm's social externalities are inherently hard to measure (Fioretti, 2022). My main measure of a firm's CSR efforts is a dummy indicating the occurrence of a social controversy in the media, constructed using Ravenpack's news data. That measure is supposed to capture both firms' observable and unobservable CSR efforts and covers all dimensions of CSR. Starting from the entire universe of news about a firm, I select S-related news reporting a recent misbehavior. Examples of such news include racial and gender discrimination, accusations or legal pursuit for fraud, anti-competitive practices, or employee mistreatment. Distinguishing between the date of the article and the date of the controversial behavior is crucial: for instance, a 2013 article reporting that Abercrombie and Fitch was found guilty of discrimination when they fired an employee wearing a hijab in 2011 does not reflect Abercrombie's CSR efforts in 2013 (EEOC, 2013). To that end, I follow Ravenpack's guidelines (Ravenpack, 2022) to identify controversies about an event that is less than 90 days old. That leaves a sample of more than 11,000 controversies reflecting recent misbehavior (406 firms in the sample are concerned). As the probability of facing a controversy in a given quarter for a firm is low (2.5%), I focus on the occurrence of controversies, rather than their count. Three examples of social controversies can be found in Figure 1, regarding Costco, Starbucks, and Google on topics related to human rights, racial discrimination, and unethical lobbying.

There are several advantages to using public controversies as the main dependent variable. First, they are publicly observed, easy to measure, and available at a high frequency. For these reasons, they matter to investors and managers of the firms. Using controversies allows me to closely link a change in the pro-social reputation of a firm and the personal incentives of executives and directors. I find that a firm facing a public controversy suffers from a 1% *negative* abnormal returns over the following 10 days (Figure 2), and it increases the probability of a director or officer resignation by almost 50% over the following two quarters (bottom panel of Figure 2).[10] Second, controversies are harder to manipulate than ESG scores as they do not rely on self-disclosed data, and also reflect dimensions of CSR that are harder to measure, such as corporate culture (Guiso *et al.*, 2015).[11]

Other CSR measures. As an alternative measure of controversy, I use data on NGO campaigns. The dataset comes from Sigwatch (Koenig, 2017, Hatte and Koenig, 2020), a European

[10]Neither creditors nor consumers seem to react, as measured by the average interest rate (Figure A2) or sales over total assets (Figure A3): only shareholders (and ESG data providers, Figure A4) "punish" controversies.

[11]A recent literature investigates how firms manipulate their scoring: Akey *et al.* (2021) show that firms increase their charitable donations following data breach controversies to rebuild their reputation and increase their Social score, and Duchin *et al.* (2022) show that after an environmental controversy, firms sell their polluting plants to other firms in their supply chain, and increase their Environmental score without decreasing overall pollution.

consultancy tracking and analyzing NGO campaigns around the world. A campaign is defined as an event launched by an NGO against one or several companies on a given topic. The available dataset indicates the date on which a campaign has been made public in a report on an NGO's website, the company(ies) targeted, the topic of the campaign ("GMOs in food" for instance), a measure of the sentiment of the campaign toward the firm(s) from the most negative tone (-2) to the most positive (+2), and the prominence of the firm in the report (whether the firm is mentioned in the headline of the report, elsewhere in the communication, etc). I keep S-related campaigns targeting only one firm listed and headquartered in the US, with the most negative tone ($sentiment = -2$) and in which the firm is mentioned in the headline ($prominence = 4$). I also gather alternative, "positive" measures of CSR from Refinitiv: firms' E, S, and G scores, donations to revenue, and percentage of females sitting at the board. As a measure of board gender diversity, I use that percentage as well as a dummy indicating the absence of female directors (which is the case for 13% of the observations in the sample).[12] Finally, I complement the analysis with company reviews from Glassdoor. Focusing on firms with at least 5 reviews from current employees in each quarter, I collect each review's overall rating of the firm, whether the employee recommends working at the firm, the rating on the firm's *Culture & Values*, and the CEO approval rating.

Funds. Data on US mutual funds and their portfolio holdings come from the *Center for Research in Security Prices* (CRSP), at the quarterly frequency. I exclude all funds specialized in one sector (using their Lipper objective code) as large redemptions from these funds could plausibly be related to controversies in a group of firms (for instance, in the textile industry). I keep funds with at least 80% of their Total Net Assets (TNA) invested in US stocks, and that have at least 20 strictly positive holdings. The final sample of 1,995 US mutual funds owns on average 20% of the firms in the sample, and their ownership typically ranges from 10% to 33% of firms' equity (Table 1). Funds in the sample manage on average USD 2.5 billion of US stocks, driven by large funds as the median is only USD 440 million. They hold on average 147 stocks.

2.2 Measuring exit

An exit fund is defined as a fund that, all else equal, invests more in companies with high social standards. A company with divestors as shareholders might be incentivized to have a more

[12] One could expect the threat of exit to be less effective to motivate positive changes, rather than discouraging bad actions (Admati and Pfleiderer, 2009).

socially responsible behavior, as any decrease in ESG score or any controversy may lead to large share sales from them.

Exit classification at the fund level. The classification relies on demand function estimation, extending the approach of Koijen and Yogo (2019) and Koijen *et al.* (2023) to account for ESG considerations. Funds decide their portfolio allocation in a quarter taking as given stocks' characteristics: Log Market Equity, Log Book Equity, Profitability, Investment, Dividends-to-Book Equity, and Market Beta. The investable universe comprises 2,950 North American firms with non-missing stock price and number of shares, regardless of their mutual fund ownership. The choice of characteristics is motivated by the Five-Factor model of Fama and French (2015) and their construction follows Koijen and Yogo (2019). Any stock with missing baseline characteristics in a given quarter or not listed in the US is considered an "outside asset". I include stocks' Environmental, Social, and Governance scores (ranging from 0 to 100) as additional characteristics from Refinitiv (formerly Asset4).[13] Refinitiv's ESG scores are based on companies' filings and Annual Reports, which give a slowly changing measure of a firm's CSR, as they are typically reviewed once a year. For stocks with missing ESG scores, I attribute them a 0 because of information asymmetry, in the spirit of Noh *et al.* (2022). While ESG scores have recently been criticized for being extremely noisy (Berg *et al.*, 2022), what matters here is not that they correctly measure a firm's pro-sociality, but rather that investors use them in their portfolio allocation decisions. I define the investment universe for each investor as the set of stocks currently held or ever held in the previous 11 quarters. The typical fund has 255 stocks in its investment universe, against 147 in its current portfolio. For each fund in each quarter, 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, using all stocks in the investment universe (including stocks that are not currently held):

$$\frac{w_{i,t}(n)}{w_{i,t}(0)} = \exp\{\alpha_{i,t} + \beta_{1,i,t} \times \hat{\mathrm{m}}_{i,t}(n) + \beta'_{2,i,t} \times \mathrm{x}_t(n) + \beta_{S,i,t} \times \text{ Social score}_t(n)\}\epsilon_{i,t}(n), \tag{1}$$

where $w_{i,t}(n)$ is the weight of asset n in fund 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 (Log Book Equity, Profitability, Investment, Dividends-to-Book Equity, Market Beta, Environmental Score, and Governance

[13] Appendix B.2 shows that using Sustainalyics or MSCI does not change the main results of the paper.

Score). $\beta_{S,i,t}$ is the elasticity of demand to the Social score.

For investors with more than 750 strictly positive holdings in the cross-section, Equation 1 can be estimated directly. For investors with less than 750 holdings, I estimate their demand function using a ridge regression, with the (equal-weighted) average of large investors' coefficients as target coefficients, and a penalty of $\frac{120}{N_{i,t}^{0.7}}$, where $N_{i,t}$ is the number of stocks in the investment universe of fund i in quarter t. In any case, I make sure that $\beta_{1,i,t}$ is strictly less than 1, in line with the empirical evidence that demand functions are downward sloping (Gabaix and Koijen, 2021).[14] As this estimation also includes zero holdings, it takes into account stocks from which the fund exited in the past 11 quarters.

The coefficient $\beta_{S,i,t}$ is of particular interest for this study. It is interpreted as the change in demand of a specific fund in a given quarter when the Social score of a firm changes by 1, and it shows, all else equal, whether a fund invests more in firms with higher Social scores. It is relatively stable over time: the coefficient of correlation between $\beta_{S,i,t}$ and $\beta_{S,i,t-1}$ is 73% (p-value < 1%). I then define as an exit fund in quarter t any non-index fund with:

$$\beta_{S,i,t} > 0.$$

Relevance of the exit measure. Does the exit score actually capture divestment? I test whether funds with higher exit scores are more likely to reduce their investment in a stock facing a controversy. I run an event study of the share of equity owned by exit and non-exit funds around the publication of the controversy. To avoid endogeneity between the exit classification and the controversy, for every controversy faced by a firm n at time t, I fix the exit classification at $t-1$. Then, the ownership level of exit funds in a given quarter is the share of equity owned in that quarter by funds classified as exit as of $t-1$. The estimated coefficients from the event study are plotted in Figure 3. The top panel plots the share of ownership of exit funds around a controversy. The coefficients on $t-4$ to $t-2$ indicate that there is no pre-trend. Then, the coefficient on t is negative and statistically significant at the 1% level, and indicates that exit funds sell 0.15% of the firm's equity after a controversy (7.5% of their position). The coefficients remain negative and significant for the whole year after the controversy and keep on decreasing up until the point where the share of equity owned by exit funds has decreased by almost 20%. The bottom panel of the same figure plots the estimated coefficients from the same exercise, but using all other funds: none of the coefficient is statistically significant. The exit classification thus captures well the divestment behavior of funds when they receive a

[14] I use the algorithm described in Koijen *et al.* (2023). For small funds, when the algorithm does not converge after 200 iterations, I estimate a linear version of equation 1, excluding the zero holdings.

strong negative CSR signal about a firm.

Correlation with a name-based fund classification. In Appendix B, I show that funds with an explicit focus on S (S-labelled funds such as "Social Choice" or "Socially Aware" funds) are significantly more likely to be exit funds. I also show that being an S-labelled fund predicts a significantly higher β_S, but not any other β from regression 1, including β_E and β_G.

Exit pressure at the firm level. In each quarter, I compute the threat of exit faced by firm n from its mutual fund shareholders as

$$\text{Exit}_{n,t} = \sum_i \text{Ownership}_{i,t,n} \times \mathbf{1} \cdot (\underbrace{\text{Exit Fund}_{i,t}}_{\beta_{S,i,t}>0 \text{ \& No index}})$$

where $\text{Ownership}_{i,t,n}$ is the share of equity of firm n owned by fund i in quarter t.

2.3 Measuring voice

Shareholder ESG activism encompasses observable actions (such as votes or activist campaigns declared through 13D forms) as well as unobservable actions (calls with managers for instance). In this study, I use observable actions to proxy for both observable and non-observable ones. An activist fund is defined as a fund that tends to vote in favor of ESG-related shareholder proposals at Annual General Meetings when the management recommends voting against them. Votes are 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. Moreover, mutual funds are legally required to vote, which allows me to ignore considerations related to selection into voting (Cvijanovic *et al.*, 2020)

Voting data. I gathered all the N-PX forms filed between 2011 and 2020, for all mutual funds. Not all mutual funds use the same reporting format, and some investors even change the format of their form from one year to another (differences in format can be due to differences in proxy advisors (Shu, 2024). Figure A5 provides an illustration of two formats used by two different investors. I could process the most widely used formats, and I estimate that my sample covers 90% of the votes reported to the SEC during the period. Moreover, I can only observe votes at the CIK level (a typical CIK covers 6 funds in my sample). I then assume that all funds within

CIK vote similarly on ESG-related issues.[15] 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 the funds in a given CIK (for/against/withhold) and who sponsored the proposal (management or shareholder). The overall sample of shareholder proposals covers more than 12,000 meetings, held by almost 3,000 firms in 60 countries, from 2009 to 2020. Appendix D provides additional details on the coverage of the dataset, as well as a comparison with a commercial dataset, the ISS voting data.

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.[16] I identify whether each proposal is related to ESG using the detection of keywords. The keywords include, for instance, "gender pay gap", "human rights", and "internet privacy" for the "S" category.[17] I find that 32% of shareholder proposals are ESG related, most of them falling into the "S" category. The share of ESG proposals among shareholder proposals is increasing over time (Figure A6). Panels A and B in Figure A5 show the N-PX reports filed by two investors (MassMutual and Green Century) in 2020, with their votes of two of their funds at Facebook's Annual General Meeting. In particular, items 9 to 11 correspond to S-related proposals, pushed by a shareholder, and opposed by the management.

As I am trying to capture the degree to which a fund threatens the career concerns of the directors, one could argue that votes on directors' elections could be more relevant. I do not use them for two reasons. First, it is hard to recover the motivation behind a vote against a director. Yi (2021) develops a methodology to recover funds' preferences from their votes, and argues that only few votes against the directors are ESG-motivated. Secondly, there might already be a selection effect through *who* runs for election, as illustrated by the higher resignation rate after a controversy.

Fund voice. In each quarter, I compute a fund's voice score $V_{i,t}$ as the percentage of times the fund's company has voted in favor of the selected proposals over the past year.[18] Coming back

[15] I find that when several funds in the same CIK vote on the same proposal, they all vote exactly the same more than 90% of the time.

[16] Appendix F proposes an alternative version where the proposals not opposed by the management are included in the calculation.

[17] The full list of keywords can be found in Appendix C.

[18] This paper does not consider the outcomes of the votes, as shareholder proposals generally fail (Bach and Metzger, 2019), and only half of passed CSR resolutions are actually implemented afterward (Flammer, 2015). I also do not look at actual directors' elections, as votes against directors are rarely motivated by pro-social considerations (Yi, 2021), and activism may rely on unobserved communications (Levit, 2019) that push directors to resign before the end of their term.

to the examples in Figure A5, MassMutual voted against items 9, 10, and 11, and thus scores 0/3 on that AGM. Green Century, on the other hand, voted in favor of all three proposals and receives 3/3. Funds vote on average 53% of the time in favor of S-related shareholder proposals opposed by the management, increasing from 45% in 2013 to almost 60% in 2020. However, there exists a great heterogeneity in the measure: most funds vote always "for" or always "against" the proposals, suggesting that funds have a very strong stance in favor or against pushing ESG proposals at firms in their portfolio. A fund's voice score is stable over time: there is a 0.93 coefficient of correlation between a fund's last quarter score and its current score (p-value < 1%).

Correlation with public engagement status. I test the correlation between my voice score and an observable signal of pro-social engagement: being a participant or an endorser of the *Advance* initiative. It is a UN Principles for Responsible Investment's initiative where institutional investors engage with firms on human rights and social issues. I recover the full list of endorsers and participants from the UN PRI's website (as of September 2023). As the date when each investor joined the initiative is not known, I test the correlation between the status and the voice score of funds at the end of my sample period. I find a 0.12 correlation coefficient between a fund's voice score in April 2020 and its *Advance* status in 2023 (p-value <1%). In addition, I do not find any correlation between the status and funds' exit score, in line with Gibson Brandon *et al.* (2022) who document that PRI's signatories do not invest more in firms with higher ESG ratings.

Voice pressure at the firm level. I define as an activist fund in quarter t a fund with a $\%_{i,t}$ greater than 85%, which is above the average "for" recommendation from ISS and Glass Lewis. Therefore, a voice fund is any fund that votes more than proxy advisors in favor of pro-social resolutions at the AGMs of firms in its portfolio. I measure the voice pressure from mutual fund shareholders at firm n in quarter t as:[19]

$$\text{Voice}_{n,t} = \sum_i \text{Ownership}_{n,i} \times \mathbf{1} \cdot \underbrace{(\text{Voice Fund}_{i,t})}_{\%_{i,t}>85\%}.$$

Voice pressure and career concerns. Do firms with higher voice pressure face a greater reelection risk upon the occurrence of a controversy? I run the same event study as in the

[19] I match the N-PX data to CRSP using the fund tickers in the header of the forms. That allows me to create a ticker-by-year mapping table between the two sources, as CRSP provides a direct mapping between tickers and funds.

bottom panel of Figure 2 on two sub-samples: firms with above median voice pressure the quarter before the controversy, and firms with below median voice pressure the quarter before the controversy. Figure 4 plots the results, showing that the probability that a firm has at least one director resignation in the quarter of the controversy increases by 11pp (or by 85%) at firms with high voice pressure. On the contrary, firms with below median exposure to voice do not have a greater resignation rate after a controversy.[20] I make sure that the effect is not driven by mutual fund ownership by doing the same exercise with the share of equity held by voice mutual funds normalized by total fund ownership (Panel (b) of the same figure). I interpret these results as reflecting the pressure exerted by voice funds on directors' careers when their firm misbehaves.

2.4 Stylized facts on fund classification

Table 1 reports the distribution of funds' exit and voice scores in the sample, as well as the share of exit and voice funds over time. The share of exit funds is larger than that of voice funds, and is rising over time (Appendix Figure A7). The share of voice funds is relatively stable over time, despite a decrease in recent years. The share of both exit and voice funds is relatively low: only 7% of the funds use both strategies. That can be explained by the fact that those two groups of funds target different companies. Appendix Table A1 shows that larger, cheaper, less socially responsible, and less liquid firms tend to face more voice pressure than exit pressure. I interpret these results as a sign that voice funds tend to target more mediatized firms that are cheaper to attack, and that have more room for CSR improvement. The crucial role of liquidity echoes the result of Edmans *et al.* (2013): the incentive to adopt an exit strategy increases with liquidity, as the cost of exit can otherwise be too great.

3 Empirical strategy

I model the occurrence of controversies about firm n as resulting from its exposure to exit and voice in the past quarter, time-invariant firm-specific characteristics and time-varying common characteristics:

$$\text{Controversy}_{n,t} = \text{Exit}_{n,t-1} + \text{Voice}_{n,t-1} + \tilde{\delta}_t + \alpha_n + \tilde{u}_{n,t}.$$

[20] Taking a one-year lag for the voice measure instead of a one-quarter lag does not change the results.

As a firm's CSR efforts and its shareholder composition are endogenous, this section details two specifications based on exogenous changes in exit and voice.

3.1 Exogenous variations in exit and voice pressures

To study the impact of voice and exit on firms' behavior, one needs to find changes in firms' exposure to exit and voice unrelated to the change in their anti-social behavior. To that end, I use large redemptions from mutual funds in the spirit of Edmans *et al.* (2012). Variables construction in this subsection follows Dessaint *et al.* (2019). Using CRSP data, I compute quarterly outflows from funds as

$$\text{Flows}_{i,t} = \frac{\text{TNA}_{i,t} - \text{TNA}_{i,t-1} \times (1 + \text{Return}_{i,t})}{\text{TNA}_{i,t-1}}$$

where $\text{Return}_{i,t}$ is computed as the compounded monthly returns of fund i in quarter t. For all mutual funds for which $\text{Flows}_{i,t} < -0.05$, I compute the *hypothetical* sale of asset n by fund i as

$$MFHS_{n,i,t} = \text{Flows}_{i,t} \times \text{Ownership}_{n,i,t-1}.$$

The idea is that when a fund experiences sudden large outflows, it has to liquidate its assets quickly. As the *actual* sales of the fund might be related to firms' CSR, I rely on its *hypothetical* sales, as if the fund liquidated its assets in proportion to their current weights. That leads me to compute the *hypothetical* change in exposure to funds' exit and voice due to large redemptions, as

$$\begin{cases} Z_{n,t}^{\text{Exit}} = \sum_i MFHS_{n,i,t} \times \mathbf{1} \cdot (\text{Exit Fund}_{i,t}) \\ Z_{n,t}^{\text{Voice}} = \sum_i MFHS_{n,i,t} \times \mathbf{1} \cdot (\text{Voice Fund}_{i,t}) \end{cases}$$

When facing large redemptions, funds sell in priority their cash holdings over their stocks (Chernenko and Sunderam, 2016), therefore it may take several months before the effect of a large redemption fully materializes into changes in exit and voice at firms in the portfolio.

3.2 IV specification

Starting from Equation 3, I remove the time-invariant characteristics by considering the change in the occurrence of controversies over two periods:

$$\begin{aligned}\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{\text{Exit}} \overbrace{(\text{Exit}_{n,t+1} - \text{Exit}_{n,t-1})}^{\text{Instrumented by } Z^{\text{Exit}}_{n,t}} \\ + \beta_{\text{Voice}} \underbrace{(\text{Voice}_{n,t+1} - \text{Voice}_{n,t-1})}_{\text{Instrumented by } Z^{\text{Voice}}_{n,t}} + \delta_{t+2} + u_{n,t+2},\end{aligned} \tag{2}$$

where the two-period window is optimally chosen based on funds' behavior following large redemptions (Appendix E). When facing large redemptions in period t, fire sales typically last up to the beginning of period $t+1$. The change in exit and voice thus materializes at the end of period $t+1$, determining the firm's behavior in that same period, leading to fewer or more controversies in $t+2$. Finally, in the spirit of shift-share instruments (Borusyak *et al.*, 2022), I instrument the change in exit and voice over three periods by $Z^{\text{Exit}}_{n,t}$ and $Z^{\text{Voice}}_{n,t}$.

3.3 OLS specification

The IV specification allows to link $Z^{\text{Exit}}_{n,t}$ and $Z^{\text{Voice}}_{n,t}$ to actual changes in exit and voice pressures over a short horizon. It is also important to investigate the impact of those exogenous shocks to exit and voice pressures on the occurrence of controversies longer horizons. I define $\text{Controversy}_{n,[t+\tau:t+\tau+3]}$ as a dummy indicating the occurrence of at least one controversy about firm n over a four quarter period, with τ equal to, alternatively, -2, 2, and 6. I run:

$$\text{Controversy}_{n,[t+\tau:t+\tau+3]} = \beta_{\text{Exit}} \cdot Z^{\text{Exit}}_{n,t} + \beta_{\text{Voice}} \cdot Z^{\text{Voice}}_{n,t} + \delta_t + \gamma_i + u_{n,t}. \tag{3}$$

Running that model with $\tau = -2$ allows to check for pre-trend, while running it with $\tau = 2$ allows to estimate the impact of changes in exit and voice pressures on the occurrence of controversies over a one-year horizon.[21] Finally, setting $\tau = 6$ allows to estimate their impact on the longer term.

[21] Appendix Table A2 also shows that current–and past–controversies cannot predict current shocks to exit and voice pressures.

3.4 Event-study specification

Not all CSR measures will react at time $t+1$ to a change in behavior at time t: Refinitiv ESG scores, for instance, are updated yearly. Therefore, the timing of the impact of a change in exit or voice on the measure is not straightforward. For that reason, I study separately the influence of exit and voice by considering the most negative $Z^{\text{Exit}}_{n,t}$ and $Z^{\text{Voice}}_{n,t}$ as shocks in an event-study specification. I define as a shock any $Z^{X}_{n,t}$ smaller than $\bar{Z}^{X}_{n,t} - 2\sigma(\bar{Z}^{X}_{n,t})$, where $\bar{Z}^{X}_{n,t}$ is the sample average shock and $\sigma(\bar{Z}^{X}_{n,t})$ the sample standard deviation. That leaves me with 799 unique events for exit and 1,161 for voice (between 2 and 3% of the observations). I consider the occurrence of controversies for the year before and the year after the shock, taking the period -1 as a reference. Such a setup allows me to check for pre-trend and propagation over time of a shock to the shareholding composition. The estimating equation is

$$y_{n,t+1} = \sum_{\substack{\tau=-4 \\ \tau\neq -1}}^{\tau=4} \beta_\tau \cdot (\text{Shock}^{X}_{n} \times \mathbf{1} \cdot (\text{Distance} = \tau)) + \delta_t + \gamma_n + u_{n,t}, \tag{4}$$

where $y_{n,t+1}$ is an observable CSR outcome (proxy for the actual CSR efforts at time t), Shock^{X}_{n} is a dummy equal to 1 if firm n has at least one $Z^{X}_{n,t}$ smaller than the sample average minus two standard deviations (X being exit or voice), and $\mathbf{1} \cdot (\text{Distance} = \tau)$ equals 1 if period t is τ quarters away from the closest shock.[22]

4 Results

This section reports the estimated impact of changes in exit and voice on firms' CSR efforts, as well as several robustness checks.

4.1 IV results

Table 2 reports the coefficients from the instrumental variable estimation of the change in controversies on the instrumented changes in exit and voice.[23] The bottom panel of the table provides first-stage statistics, showing that the instruments satisfy the conditions for strong

[22] For the never-treated group, the distance to treatment is set to 0: it allows to keep them in the estimation and the interaction is cancelled by the $\text{Shock}^{X}_{n} = 0$ anyway.

[23] The tables do not report the R-squared, as it is not informative in an IV setting (Wooldridge, 2013).

instruments (Stock and Yogo, 2002, Kleibergen and Paap, 2006).[24] [25] Column 1 indicates that a change in exit has no statistically significant impact on the change in the occurrence of controversies, a result robust to the inclusion of control variables (Column 2) or the use of Quarter × Industry fixed effects (Column 3). On the contrary, the estimated coefficient on the change in voice is negative and statistically significant. The effect is economically large: a standard deviation increase in voice decreases the dependent variable by 28% of a standard deviation.Table A4 illustrates the need for an instrument: Column 1 reports the coefficients from a regression of the change in the occurrence of controversies on a change in voice, and Column 2 reports the same coefficients when the change in voice is instrumented. The "naive" regression reports a positive but statistically insignificant coefficient: an increase in voice pressure *correlates* with more controversies in the future, indicating that activist funds tend to target firms with deteriorating behavior. Instrumenting the change in voice flips the sign.

Media coverage. Can the results above point to a decrease in firms' media coverage? I rule out this alternative by regressing the change in the count of non-ESG news as the dependent variable. The results are reported in Columns 4 and 5 in Table 2. Column 1 reports the estimated coefficients when taking the log count of news as the dependent variable, and Column 2 the count normalized by the firm size. In both cases, there is no statistically significant relationship between exit, voice, and media coverage. I also run the same analysis with the change in the occurrence of "stale" controversies, defined as a controversy for which the underlying event is more than 90 days old. Results are reported in Column 6 of Table 2 and show that neither the instrumented change in exit nor the instrumented change in voice has a significant impact on the occurrence of such news.

Window-dressing. Parise and Rubin (2023) document that ESG funds tend to strategically hold more responsible portfolios just before mandated disclosures. Such behavior could lead me to underestimate the effect of the threat of exit, as some funds classified as exit funds would hold a pro-social portfolio only before the disclosures. While I cannot completely rule out the concern that some funds identified as exit funds are window-dressers, I run the main analysis based on the sample of funds that voluntarily report their holdings at the monthly frequency (as opposed to quarterly), as there should be less suspicion of window-dressing for those funds. Table A5 reports the results, and shows no significant difference with the results based on the full sample.

[24] I report the Kleibergen-Paap statistic for regressions with multiple endogenous regressors, and the effective F-statistic (Olea and Pflueger, 2013) for regressions with only one endogenous regressor, as suggested by Andrews *et al.* (2018).

[25] The first-stage coefficients can be found in Table A3.

"Stable" exit funds. To avoid any concern regarding the persistence of the exit classification could affect the results, I focus on stable exit funds, meaning funds that are classified as exit since the first quarter of 2013 and remain so until the end of the sample (116 funds) or that when they become exit, remain exit until the end of the sample period (423 funds). Regressing the change in the occurrence of controversies on the instrumented change in exit pressure using stable exit funds only does not change the results. The estimated coefficient goes from 0.11 to 0.08, with a p-value ranging from 0.45 to 0.68 (Table A6).

Alternative exit and voice thresholds. Are the main results sensitive to a change in the definitions of exit and voice funds? In Appendix B, I re-estimate model 2 using an exit threshold ranging from 0% to 1.5%: the estimated coefficients are plotted in Figure B1 and show that as the threshold increases, the estimated coefficient does not materially change. In Appendix F, I re-estimate model 2 using a voice threshold ranging from 50% to 95%: as the threshold increases, the estimated coefficient becomes more negative and increases in statistical significance (Figure F1): the coefficient goes from -0.5 to -1.5, and its p-value from 18% to 3%. I find that when choosing a threshold (strictly) below 65%, the estimated coefficient on the instrumented change in voice is negative but insignificant. When the threshold is between 65 and 75%, the coefficient is negative and statistically significant at the 10% level. Finally, any threshold at or above 75% leads to a negative and statistically significant (at the 5% level) coefficient.

4.2 OLS results

Table 3 reports the estimated coefficients from model 3, with the dependent variable and the set of control variables varying by column. The first three columns focus on past controversies to check for any pre-trend effect, while Columns 4 to 6 look at the occurrence of a controversial behavior over the next year, and Columns 7 to 9 in the year after.

Pre-trend. Columns 1 to 3 report the estimated impact of exogenous shocks to exit and voice pressures on current and past controversies. The coefficients on both variables are statistically and economically indistinguishable from zero. This result shows that there is no correlation between current and past controversies with current shocks to exit and voice pressures, confirming their exogeneity.

Horizon of the voice effect. The novelty of this Table is to estimate the effect of an exogenous shock to voice pressure on the occurrence of controversies over a longer horizon. The estimated coefficients in Columns 4 to 6 show that a 1pp increase in voice pressure decreases the occurrence of controversial behavior by 30% over the next year. This result is robust to the inclusion of additional control variables such as the lagged mutual fund ownership and lagged controversies. However, Columns 7 to 9 show that the effect of an exogenous change in voice pressure vanishes after 6 quarters. Indeed, when considering the occurrence of controversies from 6 to 9 quarters after the shock, there seems to be no impact of the exogenous shock to voice pressure.

4.3 Event-study results

Controversies. Figure 5 plots the estimated coefficients for a shock to exit (solid, red lines) or voice (dashed, blue lines) on the occurrence of controversies one quarter later. Each coefficient can thus be interpreted as the probability of observing a controversial behavior, materializing in a public controversy the following quarter. The left panel shows no impact of a negative shock to exit on the occurrence of controversies. The right panel, on the other hand, shows that when voice funds are forced to fire-sell their assets, firms in their footprint are more likely to misbehave 1, 2, and 4 quarters after the shock. The non-statistically significant for periods -4 to -2 confirm that voice shocks are not predicted by controversies.

I also make sure that the results for voice are robust to explicitly take into account the staggered treatment (Sun and Abraham, 2021), the absence of control variables, and the use of *Quarter* × *Industry* fixed effects. The estimated coefficients are plotted in Figure A9, and show that none of these alternatives significantly change the main results.

Other visible CSR efforts. Voice funds' influence extends to other measures of CSR efforts: NGO campaigns, Refinitiv's social score, donations to revenue, and board gender diversity, as depicted in Figure and 6. Board gender diversity is measured by a dummy equal to one if the board has no women. Following an exogenous decrease in voice pressure, the occurrence of NGO campaigns against a firm increases, its social score decreases by 2.5% in the following three quarters, donations to revenue decrease by 10% the next quarter (statistically significant at the 10% level), and board diversity deteriorates significantly and permanently. The null result for exit is attenuated when considering the Social score (Figure A8): a negative shock to exit pressure leads to a 2% decrease in social score the following quarter. However, the effect is short-lived, as the Social score goes back to its pre-shock level two quarters after the shock.

There is no effect of exit on NGO campaigns, donations, and gender board diversity.

Glassdoor reviews. Figure A11 shows that following a negative shock to voice pressure, firms' overall rating as well as their *Culture and Values* rating on Glassdoor decreases by 0.2pp (2%) over the next three quarters, and employees' recommendation decreases by 20%. Finally, the CEO's approval rating decreases by 15% over the same period.

Price impact of exit and voice funds' redemptions. I investigate whether: *i)* these exogenous changes in exit and voice pressures are large enough to have a price impact, *ii)* exogenous changes in exit and voice pressures have a different impact on stock prices. One may worry that the results above are driven by a stock price effect, and that exit and voice funds might have a different price impact. I compute each stock's daily *Abnormal Returns* using a Fama and French (2015) 5-factor model around quarters of negative exit and voice shocks. I then compute their *Cumulative Abnormal Returns* starting 63 days (one quarter) before and plot their estimation on Figure A10. The estimated CARs indicate that both exit and voice funds' redemptions do have a price impact: an extreme exogenous decrease in exit or voice pressure leads to a negative CAR of between 1 and 1.5% over a quarter.[26] The difference in price impact between exit and voice funds is statistically insignificant, ruling out Hypothesis *ii.*

Accounting performance measures. Figure A12 reports the estimated coefficients from similar event studies using accounting performance measures (alternatively, the profit margin, return on equity, and return on assets) as dependent variables. None of these measures seem to be affected by changes in exit and voice pressures.

4.4 Does exit reinforce voice?

I now try to evaluate the extent to which voice needs the threat of exit to be effective. To that end, I run the same analysis using pure index funds, that, by definition, cannot use the threat of exit. I restrict the sample of firms in either the S&P500 or the S&P400. Results are reported in Table A7: as in the main specification, an increase in voice pressure decreases significantly the occurrence of social controversies. The magnitude is even greater: almost two times larger than when considering all funds. A possible explanation is that index funds are on average six times larger than other funds, making them more likely to be blockholders. In addition, they

[26] This price impact is significantly lower than the quarterly price impact of 10% reported in Dessaint *et al.* (2019), as they used all mutual funds, and not a subset of them like in this paper.

are more likely to be shareholder of a firm for a long time: they have exited less than $\frac{1}{3}$ of the firms they were holding 3 years ago, against up to $\frac{1}{2}$ for the other funds.

5 Mechanism

This section explores the incentives that executives and directors respond to when pressured by shareholders to adopt more pro-social practices.

5.1 Exit mechanism

If firms' executives and directors want to retain their shareholders, they could respond more to exit pressure in two cases: *i)* when their cost of capital is high, and *ii)* when their executives have private incentives to keep a high valuation of the firm.

Cost of capital. Firms with higher cost of capital may be more responsive to funds' threat of exit to keep their cost of equity as low as possible. Appendix G tests that assumption by calculating three different versions of firms' Weighted Average Cost of Capital (WACC) based, alternatively, on the CAPM, the Fama-French 3-factor model, and the Gordon growth model. It also considers firms' Standard & Poor's long-term credit rating. For each (lagged) proxy for the cost of capital, I divide the sample in two (above median or below median cost of capital, or speculative bond rating and investment grade), and run the following specification:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{\text{Exit}} \overbrace{(\text{Exit}_{n,t+1} - \text{Exit}_{n,t-1})}^{\text{Instrumented by } Z^{\text{Exit}}_{n,t}} + \delta_{t+2} + u_{n,t+2}. \tag{5}$$

In all cases, firms with a higher cost of capital do not respond more to the threat of exit.

CEO wealth-performance sensitivity. I test whether executives with more personal exposure to their firm's stock price are more likely to comply with their shareholders' pro-social requests. I recover firms' CEO wealth-performance sensitivity from Alex Edmans' website (Edmans *et al.*, 2009). To avoid endogeneity, I compute the average CEO WPS of each firm between 2000 and 2012, and I run, on each WPS quartile sub-sample, equation 5. Table 4 reports the results. The coefficient on the instrumented change in exit is not statistically different from zero for quartiles 1 to 3 (Columns 1 to 3), but the coefficient becomes more negative as we move from the first quartile to the second. Moving to the quartile with the highest WPS (Column 4), the coefficient on the instrumented change in exit is negative and statistically

significant: a 1pp increase in the share of equity owned by exit funds significantly decreases the occurrence of controversies two quarters later. Firms in that quartile do not exhibit major differences with firms in other quartiles in terms of baseline characteristics, as highlighted in the *Comparability* panel of the same table. Therefore, the threat of exit seems to be effective only at firms with high CEO WPS. In addition, I also run an alternative specification with an interaction term:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{\text{Exit}} \times Z^{\text{Exit}}_{n,t} + \beta_{\text{WPS}} \left(Z^{\text{Exit}}_{n,t} \times \text{WPS}_n \right) + \delta_{t+2} + u_{n,t+2}, \tag{6}$$

where *WPS* is the average past CEO WPS, standardized for readability.[27] Table A8 reports the estimated coefficients. As before, β_{Exit} is positive and insignificant, but the coefficient on the interaction term, β_{WPS} is negative and significant. Its magnitude indicates that a 1% increase in exit pressure at firms with a one standard deviation WPS above the mean reduces corporate controversies by 10%. As a robustness to the results above, I also run the same regression with WPS defined as a dummy for each quartile of the WPS distribution. The coefficients are reported in Column 2 of Table A8, and are in line with previous results.

5.2 Voice mechanism

I turn to the mechanism through which voice funds can incentivize firms to adopt more pro-social behavior. Consistent with the hypothesis that the leadership's career concerns drive pro-social effort, I show that firms' directors comply with their shareholders' requests to ensure their reelection. Contrarily to the threat of exit, this strategy is effective at all firms, as the threat is universal.

Board structure. An important feature of US companies' boards is whether they are staggered. A staggered board structure means that directors serve overlapping term lengths, such that not all directors are reelected at the same time. Such a board structure makes board takeovers less likely. In such a structure, directors should be less willing to listen to shareholders, and the effect of voice should be diminished. Using data from Refinitiv, around 41% of the firms in the sample have a staggered board. I run the following specification on the two sub-samples of firms with and without a staggered board:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{\text{Voice}} \overbrace{(\text{Voice}_{n,t+1} - \text{Voice}_{n,t-1})}^{\text{Instrumented by } Z^{\text{Voice}}_{n,t}} + \delta_{t+2} + u_{n,t+2}. \tag{7}$$

[27] Note that the term WPS_n alone does not appear as it is fixed over time.

Results are reported in Columns 3 and 4 in Table 5. As expected, the effect of voice is strong and statistically significant among firms *without* a staggered board, and indistinguishable from zero among other firms.

Exogenous variations in board renewal rate. I further investigate the role of upcoming elections on the relationship between voice and controversies by exploiting within-firm time variation in board renewal rate. At firms with a staggered board, the percentage of directors seeking reelection can vary from one year to another. For instance, Tesla's board had 10 members in 2020, divided into three classes with overlapping three-year terms (Tesla, 2020): if three of them end their term in 2020 (30%), 4 directors (40%) will have to be reelected in 2021 or 2022. As less than half of the firms in the sample have a staggered board and the BoardEx data covers only 1,335 firms in the sample, further subsetting the sample based on board renewal leads my instrument to be weak.[28] Thus, I exploit the time-varying nature of the board renewal rate within 507 firms with a staggered structure and non-missing board data by running:

$$\begin{aligned}\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = {} & Z^{\text{Voice}}_{n,t} \times \mathbf{1} \cdot \left(\text{Board Renewal Rate Above } \textit{Reference}_{n,t}\right) \\ & + Z^{\text{Voice}}_{n,t} + \mathbf{1} \cdot \left(\text{Board Renewal Rate Above } \textit{Reference}_{n,t}\right) \\ & + \delta_t + u_{n,t+2},\end{aligned} \tag{8}$$

where the *Reference* is, alternatively, the firm mean, median, and previous year's board renewal rate. Table 6 reports the result. Column 1 indicates that the raw effect of a voice shock on controversies is insignificant, in line with the results above. Interestingly, the coefficient on the dummy indicating a greater than usual board renewal rate is negative and statistically significant, showing that firms behave better when more board directors seek reelection, regardless of their shareholder composition. The coefficient on the interaction term between the (standardized) shock to voice and the dummy indicating a greater than usual board renewal rate is negative and statistically significant at the 5% level. I interpret this result as evidence that within firms, when more directors than usual are seeking reelection, firms are more prone to be disciplined by voice funds: a one percentage point increase in voice pressure at firms with one standard deviation higher board renewal rate decreases the number of controversies over the next year by 18%.

Voice spillovers. Finally, I show that an activist campaign against a director at a firm

[28] Running model 7 on that sub-sample leads to an F-statistic of 3.

spillovers to other firms through what I call a *threat of voice*. To that end, I exploit an episode of a successful campaign against the reelection of a director and show that firms in the same industry and with a high level of common ownership experienced fewer controversies in the following quarters. In June 2017, Seaworld Chairman since 2010 David D'Alessandro failed to be reelected at the board, collecting only 47% of the casted votes, falling short of the required 50%. Years of tense public relations and degraded reputation since the documentary *Blackfish*, which highlighted the firm's bad treatment of whales and orcas, culminated in 2017 with the death of *Blackfish*'s flagship orca, Tilikum, excessive executive pay, and the opening of two federal investigations over disclosures and trading around the documentary's release (Morgenson, 2017). Activist funds voted massively against the reelection of the director (99% of the activist shares voted against), in an episode labeled as a "shareholder revolt" by the Financial Times (Kwan Yuk, 2019). I investigate how this episode propagated across Seaworld's activist funds' footprint. I measure firms' exposure to Seaworld as:

$$\text{Exposure to Seaworld}_n = \sum_i \text{Ownership}_{i,n} \times \mathbf{1} \cdot (\text{Own Seaworld}_i) \times \mathbf{1} \cdot (\text{Voice Fund}_i),$$

meaning, the share of firm n's equity owned by voice funds also shareholders of Seaworld. As Seaworld's episode happened at the end of the second quarter of 2017, and as the outcome of the vote was –arguably– unpredictable, one can expect firms to adapt their behavior in the third quarter, resulting in fewer controversies in the fourth quarter. One can also expect that the effect is stronger at firms in the same industry as Seaworld. In order to test these assumptions, I run the following regression:

$$\begin{aligned} \text{Controversy}_{n,17:Q4} - \text{Controversy}_{n,17:Q2} = {} & \text{Exposure to Seaworld}_{n,17:Q1} \\ & + \text{Exposure to Seaworld}_{n,17:Q1} \times \mathbf{1} \cdot (\text{Same Industry}_n) \\ & + (\text{Industry} \times \text{State})_n + u_{n,17:Q4}, \end{aligned} \tag{9}$$

where *Same Industry* is defined as having the same Global Industry Classification Standards (GICS) 6-digit Industry classification as Seaworld. 83 firms are classified as such (mainly hotels, restaurants, and leisure).[29] Table A9 reports the results. Column 1 reports the estimated coefficient from the exposure to Seaworld alone, without interaction. The coefficient is negative and statistically significant at the 5% level, indicating that firms more connected to Seaworld through common ownership improved their behavior compared to other firms.

[29] I do not use the TRBC sector classification like before because it is much broader: 507 firms would be classified as being in the same sector as Seaworld.

When interacting the exposure to Seaworld with a dummy equal to one if the two firms are in the same industry (Column 2), we can see that the effect is driven by firms in the same industry: the coefficient on the interaction term is negative and statistically significant at the 1% level, tripling the baseline effect. These results indicate that activist investors do not need to launch a campaign at a firm to improve its behavior: their actions at other firms spillover across their portfolio.

5.3 Discussion

This paper measures the level of exit and voice pressures that firms face from their mutual fund shareholders, and draws a causal link between these pressures, firms' pro-social efforts, and managerial incentives. Social controversies allow to capture firms' observable and non-observable efforts and trigger immediate exit and voice punishments. The above results show that the *threat* of these punishments only leads to efforts when managerial incentives are personal.

The fact that executives improve their behavior only when their wealth is highly dependent on their firm's stock price, and not when the cost of capital is high could be interpreted in two ways. Either executives do not care about their firm's cost of equity, or the price impact of pro-social investors' exit is short-lived. In the first case, what could matter is the threat of a higher cost of debt: it has been shown, for instance, that more polluting firms generally have more tangible capital–that can be used as collateral–and rely more on debt financing (Papoutsi *et al.*, 2021). That channel is corroborated by Figure A2, showing that the cost of debt (measured by the average interest rate) does not respond to controversies. In the second case, in line with Berk and van Binsbergen (2021), managers could care mostly about the short-term decrease in their wealth, and not about the increase in the cost of capital if they do not plan to raise funds in the short term. In that sense, Figure A1 indicates that a firm's valuation returns to normal 6 quarters after a controversy.

Regarding voice, this paper emphasizes that activist investors do not seek to improve firms' pro-sociality by increasing the chances of success of S-related shareholder proposals. This paper considers funds' votes as a signal to firms in their portfolio that they are ready to confront the board on social topics publicly. Such a threat pushes unfavoured directors to resign and not face a reelection vote. Most of the effect captured could be due to behind-the-doors pressures that are rarely observed by the researcher and signaled through the votes. The fact that one's reelection is more effective than threatening their compensation aligns with recent evidence on CEO compensation: Edmans *et al.* (2023) survey executives and report that they care more

about their career and reputation than their salary.

6 Conclusion

How can shareholders promote pro-social behavior at firms they hold in their portfolios? This paper evaluates the effectiveness of the threat of exit (divestment) and voice (activism) in making firms act more pro-socially. It confirms the theoretical prediction of Broccardo *et al.* (2022) that voice is more effective than exit and shows that these strategies are effective only when they are aligned with strong managerial incentives.

Using a sample of almost 2,000 US mutual funds, I identify exit funds using their portfolio holdings. I recover their preference for pro-social stocks using the "demand system approach to asset pricing" and define an exit fund as a fund that, all else equal, invests more in companies with a higher Social score. Then, I identify voice funds based on their votes at companies' Annual General Meetings. In order to capture *activism*, I focus on S-related shareholder proposals opposed by management. I show that these funds push directors to resign in case of misbehavior. To identify the influence of different fund types on firms' pro-social behavior, I use plausibly exogenous changes in funds' influence due to large redemptions.

The main result is that only voice funds successfully discipline firms' behavior. When voice funds are forced to sell 1% of a firm's equity, the probability that the firm faces a social controversy over the next year increases by 30%. The result is robust to alternative specifications and alternative measures of visible CSR efforts. I do not find evidence that firms respond to the shareholders' threat of exit to have a lower cost of capital. I find that exit only works among firms whose executives have a high wealth-performance-sensitivity, and that voice is more effective when directors seek reelection.

Taken together, my results shed light on the optimal shareholders' strategy to influence firms, and on the incentives that managers and directors respond to. In addition, this paper develops a portable framework to infer mutual funds' influence on firms and could be applied in contexts other than Corporate Social Responsibility.

References

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

Adao, R., Kolesár, M. and Morales, E. (2019). Shift-share designs: Theory and inference. *The Quarterly Journal of Economics*, **134** (4), 1949–2010.

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

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

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

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

Andrews, I., Stock, J. H. and Sun, L. (2018). Weak instruments and what to do about them. *Lectures, NBER Summer Institute*.

Appel, I. R., Gormley, T. A. and Keim, D. B. (2019). Standing on the shoulders of giants: The effect of passive investors on activism. *Review of Financial Studies*, **32** (7), 2720–2774.

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

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

Berg, F., Koelbel, J. F. and Rigobon, R. (2022). Aggregate confusion: The divergence of esg ratings. *Review of Finance*, **26** (6), 1315–1344.

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

Berk, J. and van Binsbergen, J. H. (2021). The impact of impact investing. *Available at SSRN 3909166*.

Bertrand, M. and Schoar, A. (2003). Managing with style: The effect of managers on firm policies. *The Quarterly journal of economics*, **118** (4), 1169–1208.

Bharath, S. T., Jayaraman, S. and Nagar, V. (2013). Exit as governance: An empirical analysis. *Journal of Finance*, **68** (6), 2515–2547.

Bolton, P., Li, T., Ravina, E. and Rosenthal, H. (2020). Investor ideology. *Journal of Financial Economics*, **137** (2), 320–352.

Bonnefon, J.-F., Landier, A., Sastry, P. R. and Thesmar, D. (2022). *The moral preferences of investors: Experimental evidence*. Tech. rep., National Bureau of Economic Research.

Borusyak, K., Hull, P. and Jaravel, X. (2022). Quasi-experimental shift-share research designs. *Review of Economic Studies*, **89** (1), 181–213.

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

Broccardo, E., Hart, O. and Zingales, L. (2022). Exit versus voice. *Journal of Political Economy*, **130** (12), 3101–3145.

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

Chernenko, S. and Sunderam, A. (2016). *Liquidity transformation in asset management: Evidence from the cash holdings of mutual funds*. Tech. rep., National Bureau of Economic Research.

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

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

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

Cvijanovic, D., Groen-Xu, M. and Zachariadis, K. E. (2020). Free-riders and underdogs: Participation in corporate voting. *ECGI-Finance Working Paper (649/2020)*.

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

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

Dewatripont, M., Jewitt, I. and Tirole, J. (1999). The economics of career concerns, part i: Comparing information structures. *Review of Economic Studies*, **66** (1), 183–198.

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

Duchin, R., Gao, J. and Xu, Q. (2022). Sustainability or greenwashing: Evidence from the asset market for industrial pollution. *Available at SSRN*.

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

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

—, Fang, V. W. and Zur, E. (2013). The effect of liquidity on governance. *Review of Financial Studies*, **26** (6), 1443–1482.

—, Gabaix, X. and Landier, A. (2009). A multiplicative model of optimal ceo incentives in market equilibrium. *Review of Financial Studies*, **22** (12), 4881–4917.

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

—, Gosling, T. and Jenter, D. (2023). Ceo compensation: Evidence from the field. *Journal of Financial Economics*, **150** (3), 103718.

—, Levit, D. and Schneemeier, J. (2022). Socially responsible divestment. *European Corporate Governance Institute–Finance Working Paper*, (823).

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

EEOC (2013). Abercrombie & fitch liable for religious discrimination in eeoc suit, court says. *Press Release*.

Fama, E. F. and French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, **33** (1), 3–56.

— and — (2015). A five-factor asset pricing model. *Journal of Financial Economics*, **116** (1), 1–22.

Fioretti, M. (2022). Caring or pretending to care? social impact, firms' objectives, and welfare. *Journal of Political Economy*, **130** (11), 2898–2942.

—, Saint-Jean, V. and Smith, S. C. (2023). The shared cost of pursuing shareholder value.

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

Fos, V. and Tsoutsoura, M. (2014). Shareholder democracy in play: Career consequences of proxy contests. *Journal of Financial Economics*, **114** (2), 316–340.

Gabaix, X. and Koijen, R. S. (2021). *In search of the origins of financial fluctuations: The inelastic markets hypothesis*. Tech. rep., National Bureau of Economic Research.

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

—, — and Li, R. (2022). Does money talk? divestitures and corporate environmental and social policies. *Review of Finance*, **26** (6), 1469–1508.

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

Gibson Brandon, R., Glossner, S., Krueger, P., Matos, P. and Steffen, T. (2022). Do responsible investors invest responsibly? *Review of Finance*, **26** (6), 1389–1432.

Goldsmith-Pinkham, P., Sorkin, I. and Swift, H. (2020). Bartik instruments: What, when, why, and how. *American Economic Review*, **110** (8), 2586–2624.

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

Green, D. and Roth, B. (2021). The allocation of socially responsible capital. *Available at SSRN 3737772*.

— and Vallee, B. (2022). Can finance save the world? measurement and effects of coal divestment policies by banks. *Measurement and Effects of Coal Divestment Policies by Banks (April 8, 2022)*.

Guiso, L., Sapienza, P. and Zingales, L. (2015). The value of corporate culture. *Journal of Financial Economics*, **117** (1), 60–76.

Hart, O. and Zingales, L. (2017). Companies should maximize shareholder welfare not market value. *Journal of Law, Finance, and Accounting*, **2** (2), 247–275.

Hartzmark, S. M. and Shue, K. (2022). Counterproductive sustainable investing: The impact elasticity of brown and green firms. *Available at SSRN 4359282*.

Hatte, S. and Koenig, P. (2020). The geography of ngo activism against multinational corporations. *The World Bank Economic Review*, **34** (1), 143–163.

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

Heath, D., Macciocchi, D., Michaely, R. and C. Ringgenberg, M. (2023). Does Socially Responsible Investing Change Firm Behavior?*. *Review of Finance*, p. rfad002.

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

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

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

Kleibergen, F. and Paap, R. (2006). Generalized reduced rank tests using the singular value decomposition. *Journal of econometrics*, **133** (1), 97–126.

Koenig, P. (2017). Notes on sigwatch's ngo campaign database.

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

Koijen, R. S. J., Richmond, R. J. and Yogo, M. (2023). Which Investors Matter for Equity Valuations and Expected Returns? *Review of Economic Studies*, p. rdad083.

Kwan Yuk, P. (2019). Seaworld calls time on chairman after shareholder revolt. *Financial Times*.

Levit, D. (2019). Soft shareholder activism. *Review of Financial Studies*, **32** (7), 2775–2808.

Lewellen, J. and Lewellen, K. (2022). Institutional investors and corporate governance: The incentive to be engaged. *Journal of Finance*, **77** (1), 213–264.

Morgenson, G. (2017). How seaworld disregards its shareholders. *The New York Times*.

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

Noh, D., Oh, S. S. and Song, J. (2022). *Unpacking the Demand for Sustainable Equity Investing*. Tech. rep., Technical Report.

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

Olea, J. L. M. and Pflueger, C. (2013). A robust test for weak instruments. *Journal of Business & Economic Statistics*, **31** (3), 358–369.

Papoutsi, M., Piazzesi, M. and Schneider, M. (2021). How unconventional is green monetary policy. *Accessed September*, **14**, 2022.

Parise, G. and Rubin, M. (2023). Green window dressing. *Available at SSRN 4459352*.

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

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

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

Ravenpack (2022). Introducing the ravenpack esg controversy scoring framework.

Rzeźnik, A., Hanley, K. W. and Pelizzon, L. (2022). Investor reliance on esg ratings and stock price performance.

Shu, C. (2024). The proxy advisory industry: Influencing and being influenced. *Journal of Financial Economics*, **154**, 103810.

Stock, J. H. and Yogo, M. (2002). Testing for weak instruments in linear iv regression.

Sun, L. and Abraham, S. (2021). Estimating dynamic treatment effects in event studies with heterogeneous treatment effects. *Journal of econometrics*, **225** (2), 175–199.

Tesla (2020). Proxy statement pursuant to section 14(a) of the securities exchange act of 1934. *UNITED STATES SECURITIES AND EXCHANGE COMMISSION*.

von Beschwitz, B., Filali Adib, F. Z. and Schmidt, D. (2022). Becoming virtuous? mutual funds' reactions to esg scandals. *Mutual Funds' Reactions to ESG Scandals (November 18, 2022)*.

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

Wooldridge, J. (2013). *Introductory Econometrics: A Modern Approach*. South-Western Cengage Learning.

Yi, I. (2021). Which firms require more governance? evidence from mutual funds' revealed preferences. *Evidence from Mutual Funds' Revealed Preferences (April 2021). European Corporate Governance Institute–Finance Working Paper*, (769).

Tables

Table 1: **Summary Statistics**

Variable	Mean	Median	Q1	Q3	SD
i. Fund-level statistics					
Exit score (β_S, ×100)	-0.29	-0.16	-0.94	0.46	1.25
Voice score (%)	53.09	57.34	16.79	83.24	35.46
Exit fund (0/1, × 100)	28.94	0	0	100	45.35
- 2013	*26.29*	*0*	*0*	*100*	*44.03*
- 2016	*30.87*	*0*	*0*	*100*	*46.20*
- 2020	*28.63*	*0*	*0*	*100*	*45.21*
Voice fund (0/1, ×100)	23.80	0	0	0	42.58
- 2013	*24.19*	*0*	*0*	*0*	*42.83*
- 2016	*26.41*	*0*	*0*	*100*	*44.09*
- 2020	*19.18*	*0*	*0*	*0*	*39.38*
Both exit and voice (0/1, × 100)	7.58	0	0	0	26.47
Market value of US stocks held (USD B)	3.04	0.40	0.10	1.41	20.01
- Exit funds	*1.78*	*0.41*	*0.10*	*1.36*	*4.88*
- Voice funds	*4.74*	*0.36*	*0.10*	*1.42*	*30.83*
Number of stocks currently held	149.96	65	40	148	229.41
- Exit funds	*117.70*	*59*	*38*	*106*	*176.97*
- Voice funds	*129.40*	*57*	*38*	*101*	*221.92*
ii. Firm-level statistics					
Quarter with at least one controversy (0/1,×100)	2.37	0	0	0	15.21
Overall fund ownership (%)	19.84	18.81	14.14	24.06	8.32
Exit fund ownership (%)	3.04	2.28	1.11	4.15	2.77
Voice fund ownership (%)	5.93	5.45	1.87	8.85	4.91
Exit shock (%)	-0.04	-0.01	-0.05	0	0.09
Voice shock (%)	-0.05	-0.01	-0.03	0	0.18

Note: This table displays summary statistics for firms and funds in the sample. The exit score is estimated using the funds' portfolio and running model 1, and a non-index fund is defined as an exit fund if $\beta_{S,i,t} > 0$. The Voice score is the percentage of votes in favor of S-related shareholder proposals opposed by management over the past four quarters. A fund is defined as a voice fund if that score is greater than 85%. Mutual fund data from CRSP.

Table 2: **The impact of changes in exit and voice pressures on controversies and media coverage – IV estimation**

Change in:	Social Controversies			Logged Non-ESG News	Non-ESG News to Assets	Placebo Controversies
Model:	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Instrumented Change in Exit	0.237	0.220	0.168	-0.043	-0.064	0.021
	(0.545)	(0.103)	(0.105)	(0.545)	(0.103)	(0.105)
Instrumented Change in Voice	-1.32**	-1.32**	-1.42**	-0.663	0.076	-0.270
	(0.612)	(0.610)	(0.622)	(0.824)	(0.062)	(0.426)
Controls		✓	✓	✓	✓	✓
Fixed-effects						
Quarter	✓	✓		✓	✓	✓
Quarter × Industry			✓			
Fit statistics						
Observations	37,480	37,480	35,732	36,992	37,043	37,480
Kleibergen-Paap Statistic	21.442	21.332	14.519	20.039	20.078	21.332

Note: This table reports the estimated coefficients from model 2:

$$y_{n,t+2} - y_{n,t} = \beta_{\text{Exit}} \overbrace{(\text{Exit}_{n,t+1} - \text{Exit}_{n,t-1})}^{\text{Instrumented by } Z^{\text{Exit}}_{n,t}} + \beta_{\text{Voice}} \overbrace{(\text{Voice}_{n,t+1} - \text{Voice}_{n,t-1})}^{\text{Instrumented by } Z^{\text{Voice}}_{n,t}} + \delta_{t+2} + u_{n,t+2},$$

where $y_{n,\cdot}$ varies by column. Details on the construction of the variables can be found in the main text. Controversies and Non-ESG News are defined based on Ravenpack data. The sample covers 1,910 US firms from 2013 to 2020. Controls include the changes in Total Assets, Investment, and Social Score. Clustered (firm) standard-errors in parentheses. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 3: **The Impact of Shocks to Exit and Voice Pressures on the Occurrence of Controversies Over Different Horizons**

Dependent Variables:	$\text{Controversy}_{n,[t-2:t+1]}$			$\text{Controversy}_{n,[t+2:t+5]}$			$\text{Controversy}_{n,[t+6:t+9]}$		
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables									
Exogenous Shock to Exit	0.060	0.069	0.910	-1.37	-1.13	-0.941	0.359	0.314	0.089
	(1.49)	(1.45)	(1.47)	(1.60)	(1.56)	(1.60)	(1.63)	(1.63)	(1.70)
Exogenous Shock to Voice	-0.419	-0.418	-0.252	-2.05**	-2.00**	-2.22**	0.305	0.275	0.275
	(0.705)	(0.707)	(0.813)	(0.909)	(0.925)	(0.902)	(0.972)	(1.00)	(1.01)
Lagged Fund Ownership		0.001	0.032		0.037	0.046		-0.008	-0.005
		(0.045)	(0.055)		(0.045)	(0.049)		(0.046)	(0.046)
Lagged Controversy			-0.096***			-0.117***			-0.111***
			(0.017)			(0.017)			(0.018)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fixed-effects									
Quarter	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fit statistics									
Observations	37,482	37,482	37,482	31,900	31,900	30,766	25,259	25,259	24,389
R^2	0.25765	0.25769	0.25782	0.41873	0.41876	0.42730	0.44489	0.44489	0.45464

Note: This table reports the estimated coefficients from model 3:

$$\text{Controversy}_{n,[t+\tau:t+\tau+3]} = \beta_{\text{Exit}} \cdot Z^{\text{Exit}}_{n,t} + \beta_{\text{Voice}} \cdot Z^{\text{Voice}}_{n,t} + \delta_t + \gamma_i + u_{n,t+\cdot}.$$

where τ varies by column. Details on the construction of the variables can be found in the main text. All regressions also include quarter and firm fixed effects. Controls include firms' Total Assets, Investment, and Social Score. *Lagged Controversy* is defined as $\text{Controversy}_{n,[t+\tau-4:t+\tau-1]}$. Controversies are defined based on Ravenpack data. Stock characteristics from Refinitiv. The sample covers 1,110 US firms from 2013 to 2020. Clustered (Firm) standard-errors in parentheses. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 4: **Heterogeneity in Response to Changes in Exit Pressure by Level of CEO Wealth-Performance Sensitivity – IV Estimation**

Dependent Variable:	Controversy$_{n,t+2}$ - Controversy$_{n,t}$			
Lagged *WPS* quartile:	Q1	Q2	Q3	Q4
Model:	(1)	(2)	(3)	(4)
Variables				
Instrumented Change in Exit	0.446*	-0.186	0.992	-0.891**
	(0.255)	(0.454)	(0.924)	(0.405)
Controls	✓	✓	✓	✓
Fixed-effects				
Quarter	✓	✓	✓	✓
Comparability				
Firms	301	301	300	300
Average log Total Assets	21.76	21.97	22.00	21.54
Average Investment (×100)	7.81	6.50	7.61	8.57
Average Social Score	28.22	35.84	36.26	31.80
Fit statistics				
Observations	6,888	6,639	7,225	7,040
Effective F-statistic	34.086	40.041	13.616	46.813

Note: This table reports the estimated coefficients from model 5:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{Exit} \overbrace{(\text{Exit}_{n,t+1} - \text{Exit}_{n,t-1})}^{\text{Instrumented by } Z_{n,t}^{Exit}} + \delta_{t+2} + u_{n,t+2}.$$

on four sub-samples defined by their past (from 2010 to 2012) average Scaled CEO wealth-performance sensitivity (*WPS*, from Edmans *et al.*, 2009), and controls. Controls include firms' changes in Total Assets, Investment, and Social Score. All regressions include quarter fixed effects. Details on the construction of the variables can be found in the main text. Controversies are defined based on Ravenpack data. Stock characteristics from Refinitiv. The sample covers 1,110 US firms from 2013 to 2020. Clustered (firm) standard-errors in parentheses. The *Effective F-statistic* is the Olea and Pflueger (2013) first-stage F-statistic. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 5: **Heterogeneity in Response to Changes in Voice Pressure by Board Structure – IV Estimation**

Dependent Variable:	$\text{Controversy}_{n,t+2}$ - $\text{Controversy}_{n,t}$	
Sample:	Non-staggered board	Staggered board
Model:	(1)	(2)
Variables		
Instrumented Change in Voice	-3.37***	-0.470
	(1.25)	(1.27)
Controls	✓	✓
Fixed-effects		
Quarter	✓	✓
Comparability		
Firms	933	567
Average log Total Assets	21.26	22.26
Average Investment (×100)	9.05	7.17
Average Social Score	26.41	38.63
Fit statistics		
Observations	15,058	10,442
Effective F-statistic	13.697	37.239

Note: This table reports the estimated coefficients from model 7:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{Voice} \overbrace{(\text{Voice}_{n,t+1} - \text{Voice}_{n,t-1})}^{\text{Instrumented by } Z_{n,t}^{Voice}} + \delta_{t+2} + u_{n,t+2},$$

for different sub-samples. Column 1 focuses on firms with a non-staggered board, and Column 2 focuses on firms with staggered board. All regressions include quarter fixed effects. Details on the construction of the variables can be found in the main text. Controls include firms' changes in Total Assets, Investment, and Social Score. Controversies are defined based on Ravenpack data. Stock and board characteristics from Refinitiv. The original sample covers 1,910 US firms from 2013 to 2020. Clustered (firm) standard-errors in parentheses. The *Effective F-statistic* is the Olea and Pflueger (2013) first-stage F-statistic. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 6: **Heterogeneity in Response to Changes in Voice Pressure by Election Cycle**

Dependent Variable:	Controversy$_{n,t+2}$ - Controversy$_{n,t}$		
Reference is firm's:	Median	Mean	Previous Year
Model:	(1)	(2)	(3)
Variables			
Shock to Voice	0.031	0.046	0.027
	(0.029)	(0.037)	(0.040)
% of Directors Seeking Reelection > *Reference*	-0.011**	-0.007*	-0.014**
	(0.004)	(0.004)	(0.005)
Shock to Voice × % of Directors Seeking Reelection > *Reference*	-0.120**	-0.113**	-0.127**
	(0.051)	(0.049)	(0.062)
Controls	✓	✓	✓
Fixed-effects			
Quarter	✓	✓	✓
Fit statistics			
Observations	6,047	6,047	4,191
R^2	0.00748	0.00727	0.00889

Note: This table reports estimated coefficients from model 8:

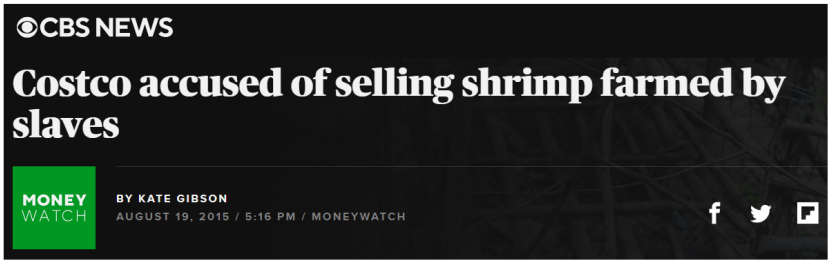
$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = Z^{\text{Voice}}_{n,t} \times \mathbf{1} \cdot \left(\text{Board Renewal Rate} > \textit{Reference}_{n,t}\right) + Z^{\text{Voice}}_{n,t} + \mathbf{1} \cdot \left(\text{Board Renewal Rate} > \textit{Reference}_{n,t}\right) + \delta_t + u_{n,t+2},$$

where *Reference* is either a dummy equal to one if the board renewal rate in that year is above the firm's average (Column 2), median (Column 2), or that in the previous year (Column 3). All regressions include quarter fixed effects. Controls include firms' changes in Total Assets, Investment, and Social Score. Details on the construction of the variables can be found in the main text. Controversies are defined based on Ravenpack data. The sample covers 526 US firms from 2013 to 2020. Stock characteristics from Refinitiv. Clustered (firm) standard-errors in parentheses. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Figures

Figure 1: **Examples of Social Controversies**

(a) Example 1: Costco



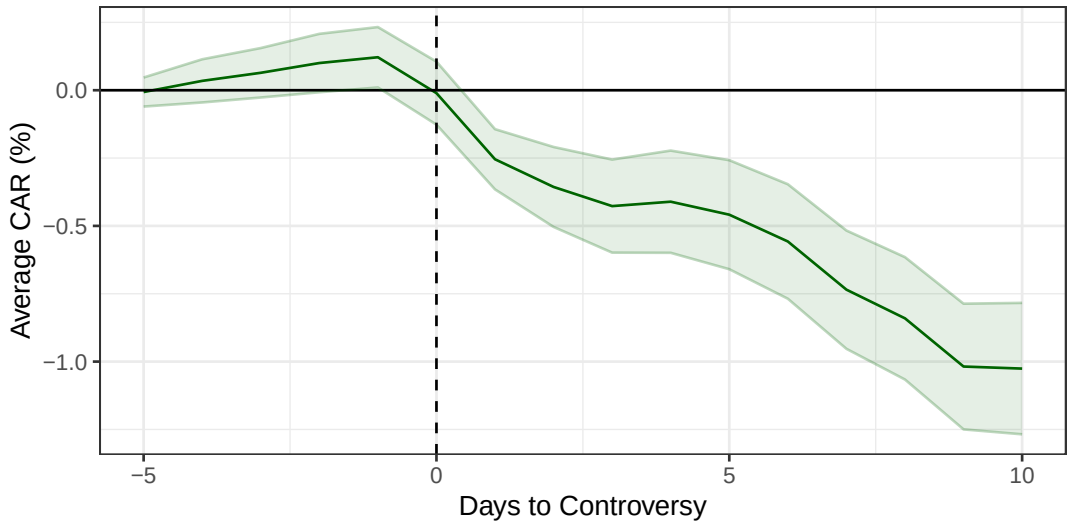
(b) Example 2: Starbucks

(c) Example 3: Google

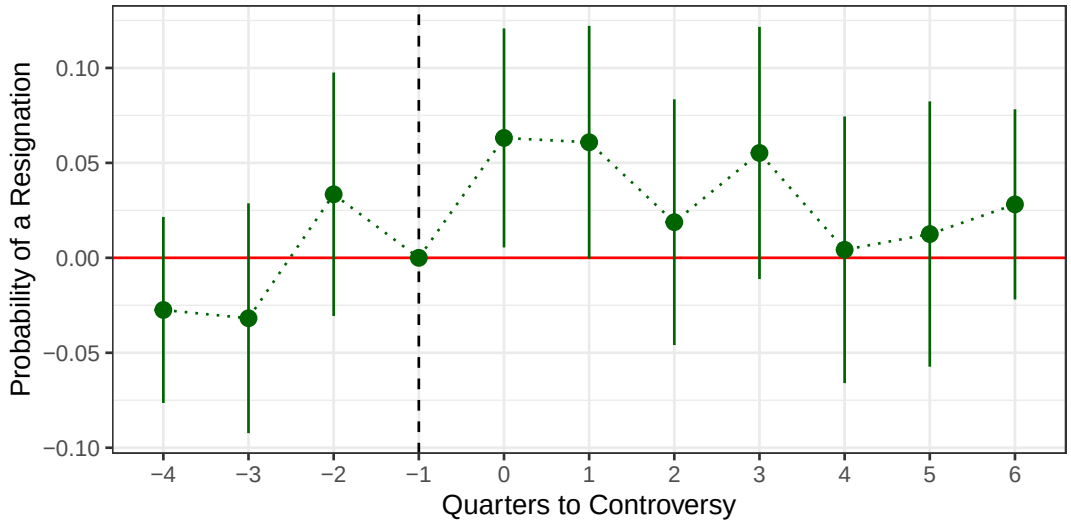
Notes: This figure displays three examples of social controversies. The top panel is a screenshot from a CBS news article published on August 19, 2015. The middle panel is a screenshot from a New York Times' article published on April 15, 2018. The bottom panel is a screenshot from a Financial Times' article published on October 28, 2020.

Figure 2: **Shareholders' Reactions to a Controversy**

(a) Average Cumulative Abnormal Returns around a controversy



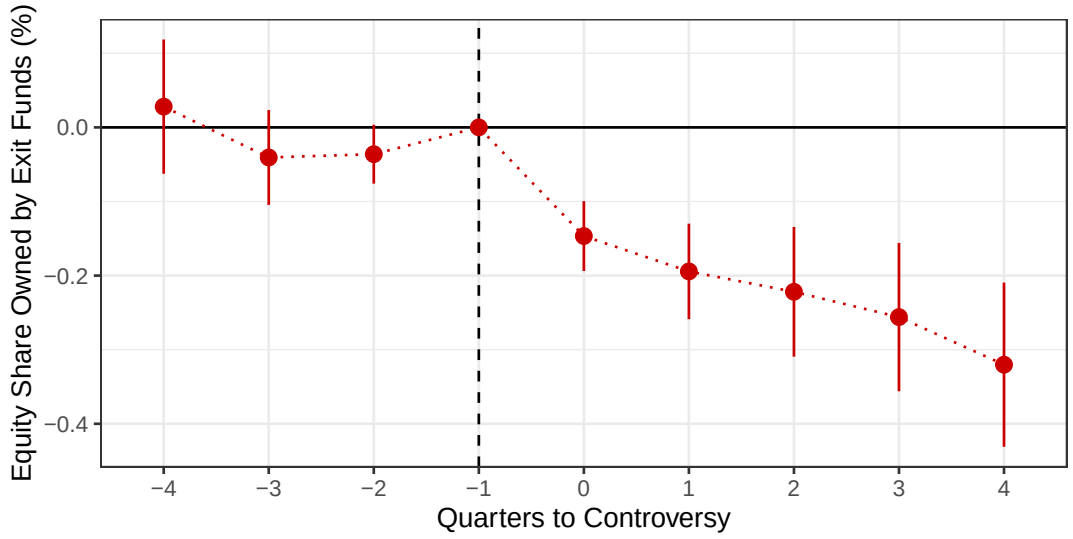
(b) Occurrence of a director or officer resignation around a controversy



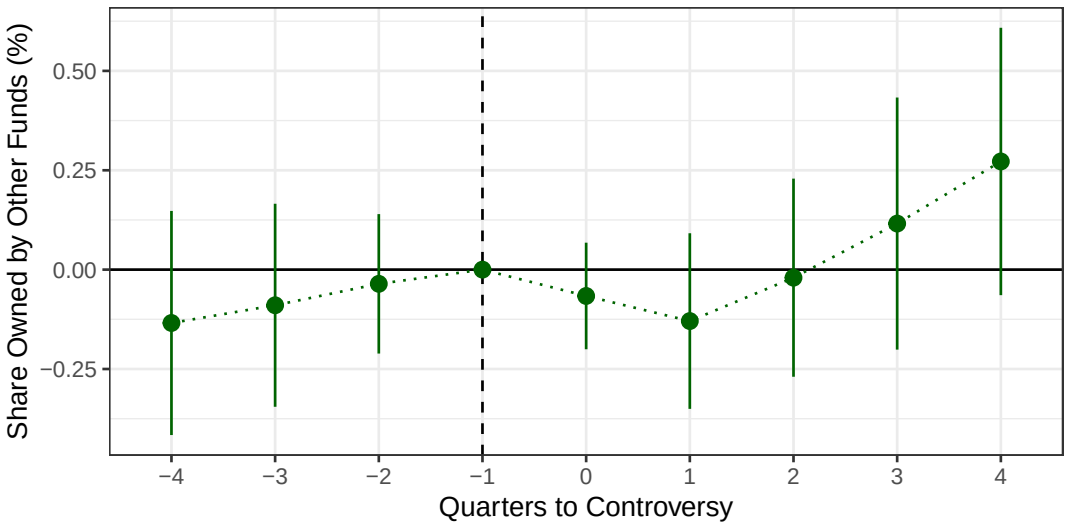
Notes: The top panel displays the Cumulative Average Abnormal Returns around the outbreak of a Social public controversy, from 5 days before to 10 days after its publication. The abnormal returns are computed using a Fama and French (1993) 3-factor model. The solid line represents the estimated coefficient, and the shaded area represents the 95% confidence interval. Stock returns and betas are from CRSP. Portfolio returns and the risk-free rate are from Kenneth French's website. The sample covers 1,910 US firms from 2013 to 2020. The bottom panel displays the estimated coefficients from an event study using a logistic regression, with the occurrence of a director or officer resignation as the dependent variable. The coefficients of interest are the time dummies that indicate the number of quarters to the closest Social controversy. The time dummy -1 is used as a reference. The regression also includes firm and quarter fixed effects. The 95% confidence interval is constructed using standard errors clustered at the firm level. Director resignation data is from Audit Analytics. The sample covers 643 firms from 2013 to 2020.

Figure 3: **Fund Divestment After a Controversy by Exit Status**

(a) Exit funds' ownership around a controversy



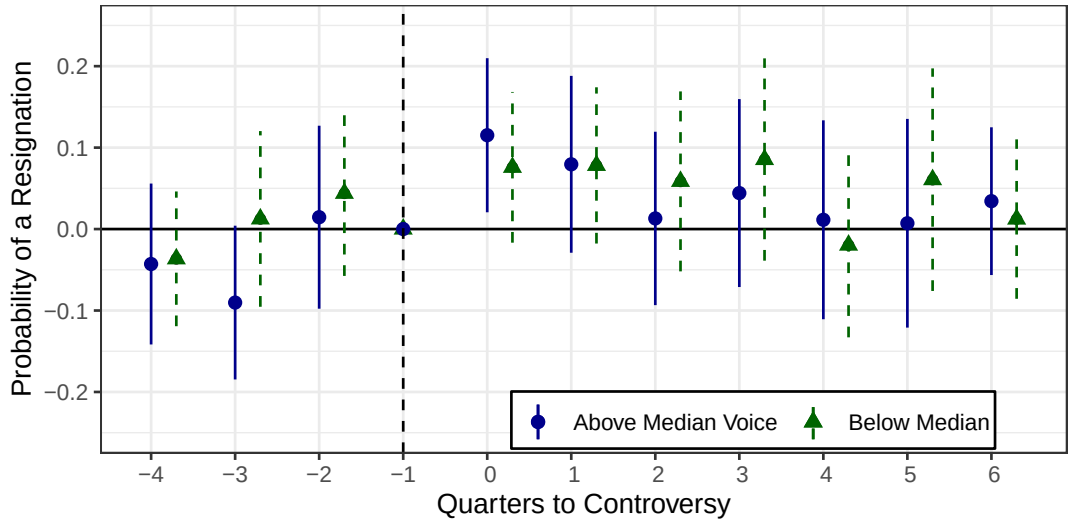
(b) Non-exit funds' ownership around a controversy



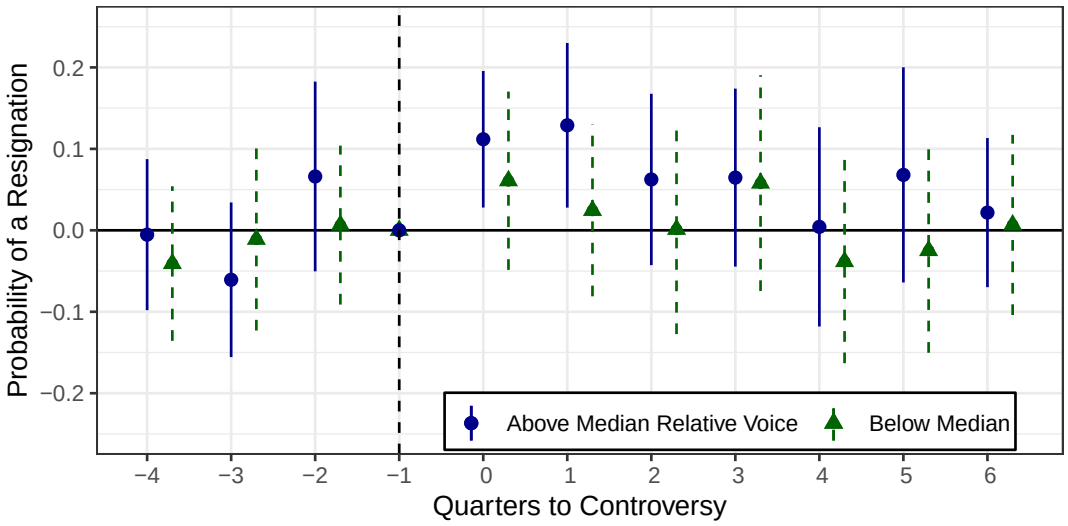
Notes: This figure reports the estimated coefficients of an event study of the share of equity owned by exit funds (as of period $t-1$, top panel) or non-equity funds (as of period $t-1$, bottom panel) around a controversy. The regressions also include time and firm fixed effects. The 95% confidence intervals are constructed using standard errors clustered at the firm level. Controversies are constructed from Ravenpack data. Portfolio holding data from CRSP. The sample covers 1,950 US firms from 2013 to 2020.

Figure 4: **Heterogeneity in Directors and Officers Resignations After a Controversy by Level of Voice Pressure – Event Studies**

(a) Voice pressure defined as percentage of total ownership

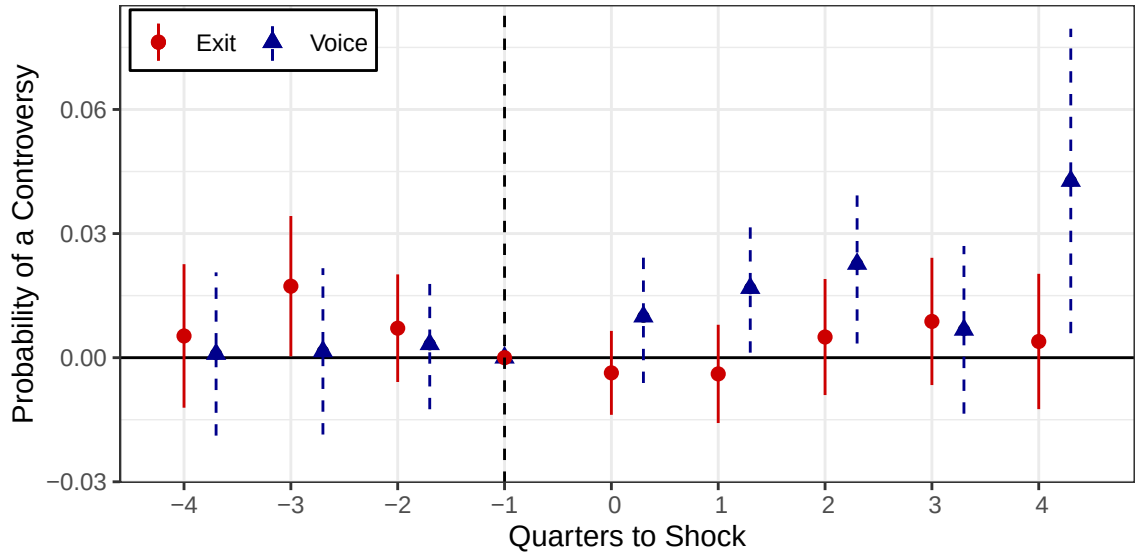


(b) Voice pressure normalized by fund ownership



Notes: This figure plots the equivalent regression of the bottom panel of Figure 2 on two sub-samples: firms with voice pressure above median (blue dots), and firms with voice pressure below median (green triangles). Voice pressure is defined as the percentage of a firm's equity owned by voice funds in panel (a), and the same percentage normalized by total fund ownership in panel (b). Director resignation data is from Audit Analytics. Social controversies are constructed from Ravenpack data. The sample covers 643 firms from 2013 to 2020.

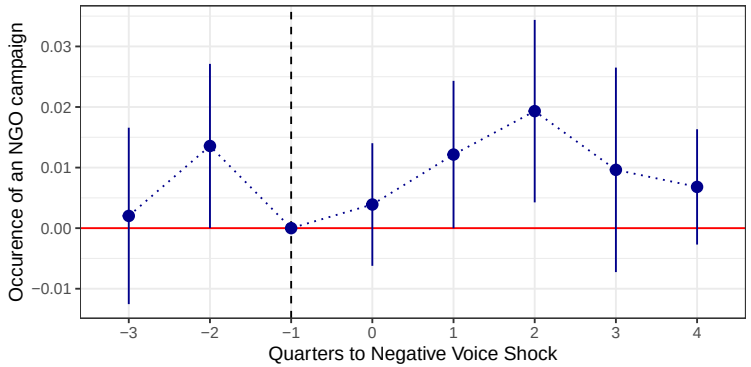
Figure 5: **The Impact of Negative Shocks to Exit and Voice Pressures on the Occurrence of Controversies – Event studies**



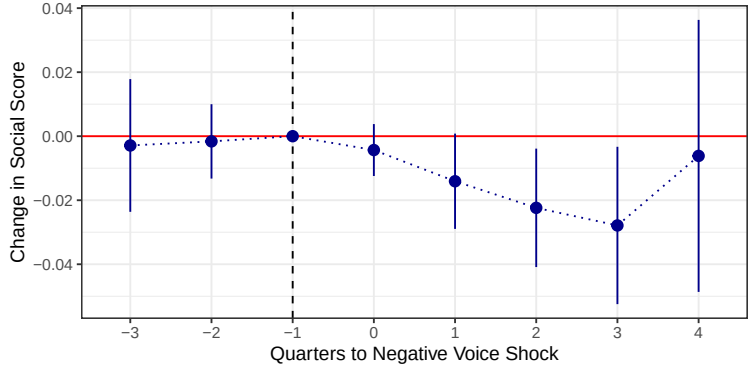
Notes: This figure displays the estimated coefficients from an event study of the occurrence of a controversy in the next period on a time dummy interacted with the occurrence of a large negative exit shock (solid, red line), and negative voice shock (dashed, blue line). The regressions also control of the log of total assets, investment, profitability, dividends to book equity, beta, a dummy indicating an ESG compensation policy, and firm and quarter fixed effects. The 95% confidence interval is constructed from standard errors clustered at the firm level. Accounting data from Refinitiv. Controversies are constructed from Ravenpack data. The sample covers 1,950 US firms from 2013 to 2020.

Figure 6: **The Impact of Negative Shocks to Voice Pressure on Different CSR Measures – Event studies**

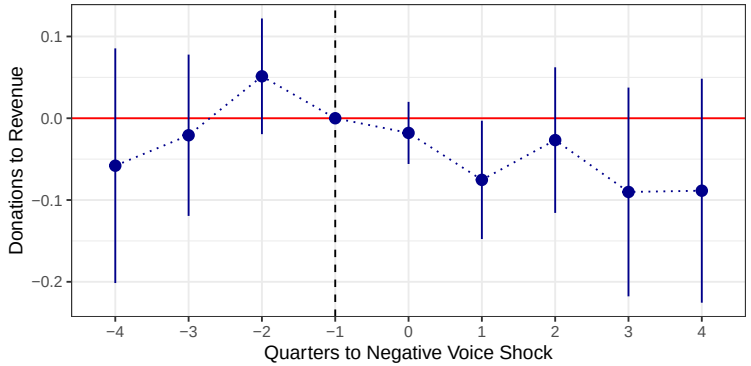
(a) Occurrence of an NGO campaign



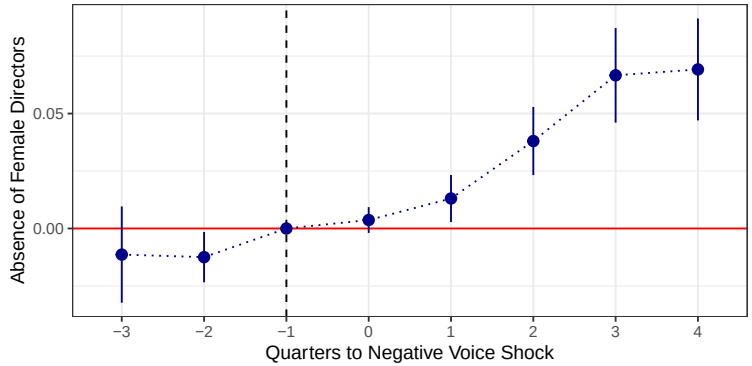
(b) Log Social score



(c) Log Donations to revenue



(d) Absence of female director



Notes: This figure displays the estimated coefficients from four event studies. The dependent variable is, alternatively, the occurrence of a negative NGO campaign next period (panel a), the log of the Social score (panel b), the log of donations to revenue (panel c), and a dummy indicating that there is no women on the board (panel d). Data on NGO campaigns from Koenig (2017). Data for the other dependent variables from Refinitiv. The regressions include time and firm fixed effects. The standard errors used to compute the 95% confidence interval are clustered at the firm level. A voice shock is defined as the expected change in voice due to funds' large redemptions two standard deviations away from the sample mean. The sample covers 1,910 US firms from 2013 to 2020.

Exit or Voice? Divestment, Activism, and Corporate Social Responsibility

Victor Saint-Jean
Department of Finance, ESSEC Business School

Internet appendix

A Omitted Tables and Figures

Table A1: **Firm Characteristics and Exposure to Exit and Voice Pressures**

Dependent Variable:	$100 \times \frac{\text{Exit}}{\text{Exit+Voice}}$
Variables	
Size *(log MC)*	-2.08**
	(0.881)
Cheapness *(BTM)*	-3.04***
	(0.829)
Social Score	1.51**
	(0.743)
Liquidity *(−1 ×Spread)*	2.10**
	(0.833)
Fixed-effects	
Industry	✓
Fit statistics	
Observations	1,858
R^2	0.05991

Note: This table reports estimated coefficients from the regression of the share of exit funds ownership scaled by the share of exit and voice funds ownership, on its average log market capitalization, book-to-market ratio, social score, and (minus one times) average bid/ask spread. The regression includes industry fixed effects. The dependent variable is multiplied by 100 for readability, and independent variables are standardized for comparibility. Details on the construction of the variables can be found in the main text. The sample covers 1,858 US firms from 2013 to 2020. Stock characteristics from Refinitiv. Robust standard-errors in parentheses. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table A2: **The Impact of Controversies on Exogenous Shocks to Exit and Voice pressures**

Dependent Variables:	$Z^{Exit}_{n,t}$		$Z^{Voice}_{n,t}$	
Model:	(1)	(2)	(3)	(4)
Variables				
$Controversy_{n,t}$	0.180	0.149	0.118	0.066
	(0.160)	(0.167)	(0.133)	(0.141)
$Controversy_{n,t-1}$		0.039		-0.039
		(0.170)		(0.149)
$Controversy_{n,t-2}$		-0.098		-0.200
		(0.188)		(0.161)
Fixed-effects				
Quarter	✓	✓	✓	✓
Firm	✓	✓	✓	✓
Fit statistics				
Observations	52,863	48,555	52,772	48,477
Adjusted R^2	0.62579	0.63878	0.63443	0.63973

Note: This table reports estimated coefficients from the regression of shocks to exit (Columns 1 and 2) and voice (Columns 3 and 4), on the occurrence of controversies. All regressions include quarter and firm fixed effects. Details on the construction of the variables can be found in the main text. Controversies are defined based on Ravenpack data. The sample covers 1,910 US firms from 2013 to 2020. Clustered (cusip) standard-errors in parentheses. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table A3: **IV First stage: the Impact of Shocks to Exit and Voice on Changes in Exit and Voice Pressures**

Dependent Variables:	$\text{Exit}_{n,t+1}$ - $\text{Exit}_{n,t-1}$		$\text{Voice}_{n,t+1}$ - $\text{Voice}_{n,t-1}$	
Model:	(1)	(2)	(3)	(4)
Variables				
$Z^{\text{Exit}}_{n,t}$	4.78***	4.74***		
	(0.265)	(0.263)		
$Z^{\text{Voice}}_{n,t}$			1.32***	1.31***
			(0.195)	(0.196)
Controls		✓		✓
Fixed-effects				
Quarter	✓	✓	✓	✓
Fit statistics				
Observations	39,419	39,419	39,419	39,419
R^2	0.05813	0.06114	0.63781	0.63925

Note: This table reports estimated coefficients from the first stage of model 2, the regression of *Change in Exit* (Columns 1 and 2) and *Change in Voice* (Columns 3 and 4), respectively the change in the share of equity owned by divestor and activist funds, on the hypothetical change in those shares due to large redemptions (Z^{Exit} and Z^{Voice}), and controls. Controls include firms' changes in Total Assets, Investment, and Social Score. All regressions include quarter fixed effects. Details on the construction of the variables can be found in the main text. Stock characteristics data from Refinitiv. The sample covers 1,910 US firms from 2013 to 2020. Clustered (cusip) standard-errors in parentheses. *Change in Investment* and *Change in Social Score* are divided by 100 for readability. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table A4: **Bias When the Change in Voice is Not Instrumented**

Dependent Variable:	$\text{Controversy}_{n,t+2}$ - $\text{Controversy}_{n,t}$	
Change in Voice is:	Not Instrumented	Instrumented
Model:	(1)	(2)
Variables		
Change in Voice	0.052	-1.28**
	(0.037)	(0.609)
Controls	✓	✓
Fixed-effects		
Quarter	✓	✓
Fit statistics		
Observations	37,480	37,480
Effective F-statistic	–	43.299

Note: This table reports estimated coefficients from the regression of a change in the occurrence of controversies, on *Change in Voice*, the change in the share of equity owned by activist funds (Column 1), and the same variable instrumented by the hypothetical change in that share due to large redemptions (Column 2). Controls include firms' changes in Total Assets, Investment, and Social Score. Both regressions include quarter fixed effects. Details on the construction of the variables can be found in the main text. Controversies are defined based on Ravenpack data. The sample covers 1,910 US firms from 2013 to 2020. Stock characteristics from Refinitiv. Clustered (cusip) standard-errors in parentheses. *Change in Social Score* is divided by 100 for readability. The *Effective F-statistic* is the Olea and Pflueger (2013) first-stage F-statistic. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table A5: **Window-Dressing and the Impact of Changes in Exit and Voice Pressures on the Occurrence of Controversies – IV Estimation**

Dependent Variable:	$\text{Controversy}_{n,t+2}$ -$\text{Controversy}_{n,t}$	
Model:	(1)	(2)
Variables		
Instrumented Change in Exit	0.209	0.195
	(0.177)	(0.176)
Instrumented Change in Voice	-1.92**	-1.92**
	(0.841)	(0.840)
Controls	✓	✓
Fixed-effects		
Quarter	✓	✓
Fit statistics		
Observations	30,506	30,506
Kleibergen-Paap Statistic	21.442	21.332

Note: This table reports estimated coefficients from model 2:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{Exit} \overbrace{(\text{Exit}_{n,t+1} - \text{Exit}_{n,t-1})}^{\text{Instrumented by } Z^{Exit}_{n,t}} + \beta_{Voice} \overbrace{(\text{Voice}_{n,t+1} - \text{Voice}_{n,t-1})}^{\text{Instrumented by } Z^{Voice}_{n,t}} + \delta_{t+2} + u_{n,t+2}.$$

The regressions only use funds that report their holdings monthly to the SEC, as those funds are less likely to be "window-dressers". All regressions include quarter fixed effects. Controls include firms' changes in Total Assets, Investment, and Social Score. Details on the construction of the variables can be found in the main text. News data from Ravenpack. The sample covers 1,910 US firms from 2013 to 2020. Stock characteristics from Refinitiv. Clustered (cusip) standard-errors in parentheses. *Change in Social Score* is divided by 100 for readability. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table A6: **Stability of the Exit Fund Classification, and the Impact of Changes in Exit Pressure on Controversies – IV Estimation**

Dependent Variable:	$\text{Controversy}_{n,t+2}$-$\text{Controversy}_{n,t}$	
Exit pressure measured using	Stable exit funds	
Model:	(1)	(2)
Variables		
Instrumented Change in Exit	0.083	0.087
	(0.188)	(0.189)
Controls		✓
Fixed-effects		
Quarter	✓	✓
Fit statistics		
Observations	41,105	41,105
Effective F-statistic	39.096	39.562

Note: This table reports estimated coefficients from model 5:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{Voice} \overbrace{(\text{Voice}_{n,t+1} - \text{Voice}_{n,t-1})}^{\text{Instrumented by } Z_{n,t}^{Voice}} + \delta_{t+2} + u_{n,t+2},$$

where *Exit* is measured as the share of firm n's equity owned by stable exit funds, defined as funds that remain classified as exit after their first exit classification (539 funds). All regressions include quarter fixed effects. Controls include firms' changes in Total Assets, Investment, and Social Score. Details on the construction of the variables can be found in the main text. Controversies are defined based on Ravenpack data. The sample covers 1,910 US firms from 2013 to 2020. Stock characteristics from Refinitiv. Clustered (cusip) standard-errors in parentheses. The *Effective F-statistic* is the Olea and Pflueger (2013) first-stage F-statistic. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table A7: **Voice Without Exit: the Impact of Index Funds' Voice on Controversies on Firms in the S&P 400 or 500 – IV Estimation**

Dependent Variable:	Controversy$_{t+2}$ - Controversy$_t$	
Model:	(1)	(2)
Variables		
Change in Voice	-2.27**	-2.26**
	(1.09)	(1.05)
Controls		✓
Fixed-effects		
Quarter	✓	✓
Fit statistics		
Observations	11,364	11,364
Effective F-statistic	9.2238	9.4169

Note: This table reports estimated coefficients from model 7:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{Voice} \overbrace{(\text{Voice}_{n,t+1} - \text{Voice}_{n,t-1})}^{\text{Instrumented by } Z_{n,t}^{Voice}} + \delta_{t+2} + u_{n,t+2},$$

using only index funds in the construction of voice pressure. All regressions include quarter fixed effects. Controls include firms' changes in Total Assets, Investment, and Social Score. Details on the construction of the variables can be found in the main text. Controversies are defined based on Ravenpack data. The sample covers the US firms in either the S&P400 or the S&P500, from 2013 to 2020. Stock characteristics from Refinitiv. Clustered (cusip) standard-errors in parentheses. The *Effective F-statistic* is the Olea and Pflueger (2013) first-stage F-statistic. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table A8: **Heterogeneity in Response to Changes in Exit Pressure, by Level of CEO Wealth-Performance Sensitivity – Robustness**

Dependent Variable:	$\text{Controversy}_{n,t+2}$ - $\text{Controversy}_{n,t}$	
Model:	(1)	(2)
Variables		
Shock to Exit	0.230	1.62
	(1.19)	(1.13)
Shock to Exit×WPS	-0.975**	
	(0.388)	
Shock to Exit×WPS:Q2		-1.66
		(2.10)
Shock to Exit×WPS:Q3		0.724
		(3.27)
Shock to Exit×WPS:Q4		-4.36**
		(1.83)
Change in Total Assets	-0.001	-0.001
	(0.013)	(0.013)
Change in Investment	-0.006	-0.006
	(0.012)	(0.012)
Change in Social Score	0.016	0.016
	(0.015)	(0.015)
Fixed-effects		
Quarter	✓	✓
Fit statistics		
Observations	27,792	27,792
Adjusted R^2	0.00017	0.00017

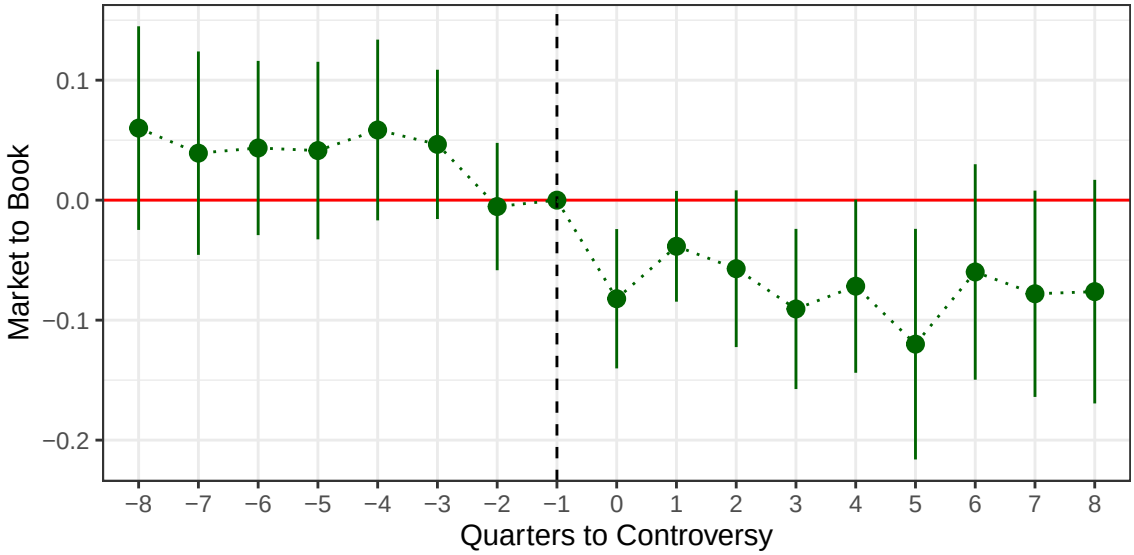
Note: This table reports estimated coefficients from model 6, the regression of a change in the occurrence of controversies on the hypothetical change in the share of equity owned by divestor funds due to large redemptions (*Shock to Exit*) interacted with the past (from 2010 to 2012) average Scaled CEO Wealth-Performance-Sensitivity (*WPS*, from Edmans *et al.* (2009), standardized for readability in Column 1), or a dummy for each quartile of the same variable (Column 2), and controls. All regressions include quarter fixed effects. Details on the construction of the variables can be found in the main text. Controversies are defined based on Ravenpack data. Stock characteristics from Refinitiv. The sample covers 1,110 US firms from 2013 to 2020. Clustered (cusip) standard-errors in parentheses. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table A9: **The Impact of Activist Cross-Ownership with Seaworld on the Occurrence of Controversies, Following the Activist Shareholders' Revolt**

Dependent Variable:	$\text{Controversy}_{n,2017Q4}$ - $\text{Controversy}_{n,2017Q2}$	
Model:	(1)	(2)
Variables		
Exposure to Seaworld	-0.427**	-0.401**
	(0.164)	(0.149)
Exposure to Seaworld × Same Industry		-0.957***
		(0.149)
Fixed-effects		
Industry × State	✓	✓
Fit statistics		
Observations	1,823	1,823
R^2	0.45048	0.45086

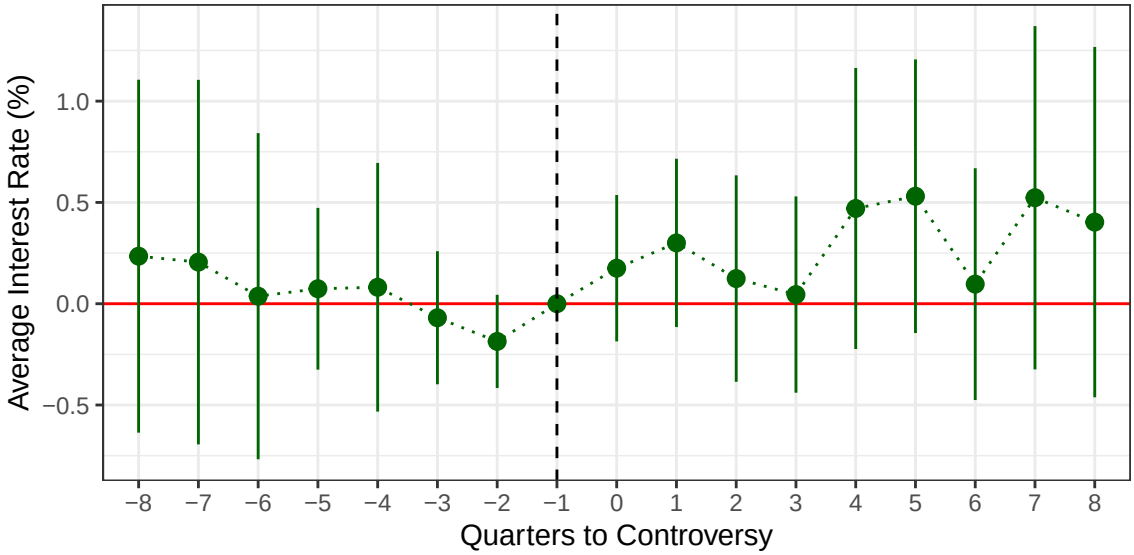
Note: This table estimates the impact of a shareholders' revolt at Seaworld in Jun 2017 on the behavior of firms in the same sector and with shared activist ownership. This table reports estimated coefficients from model 9, the regression of a change in the occurrence of controversies, on a measure of the common ownership between the given firm and Seaworld (*Exposure to Seaworld*), a dummy equal to one if a firm is in the same (GICS) industry as Seaworld (*Same Industry*, Column 2), the interaction between the two terms, and controls. The regression includes industry-by-state fixed effects. Details on the construction of the variables can be found in the main text. Controversies are defined based on Ravenpack data. The sample covers 1,823 US firms. Mutual fund data from CRSP. Stock characteristics from Refinitiv. Clustered (Industry) standard-errors in parentheses. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Figure A1: **Market to Book Ratio Around a Controversy – Event Study**



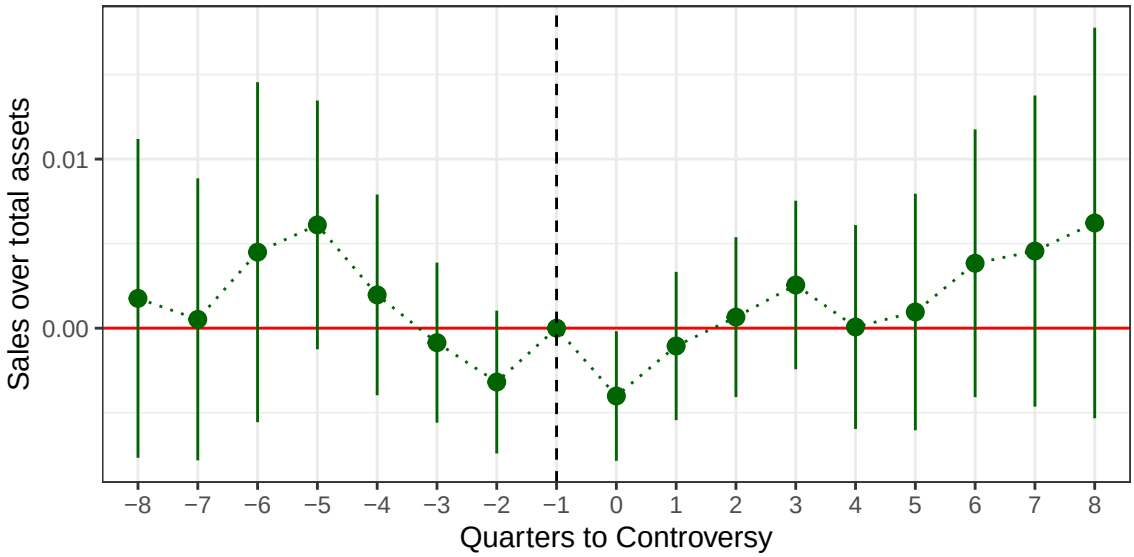
Notes: This figure displays the Market to Book ratio around the outbreak of a Social public controversy, from 2 years before to 2 years after its publication. The solid line represents the estimated coefficient, and the shaded area represents the 95% confidence interval. Accounting data from Compustat. The regression also includes firm and quarter-by-industry fixed effects. Social controversies are constructed from Ravenpack data. The sample covers 1,910 US firms from 2013 to 2020.

Figure A2: **Average Interest Rate Around a Controversy – Event Study**



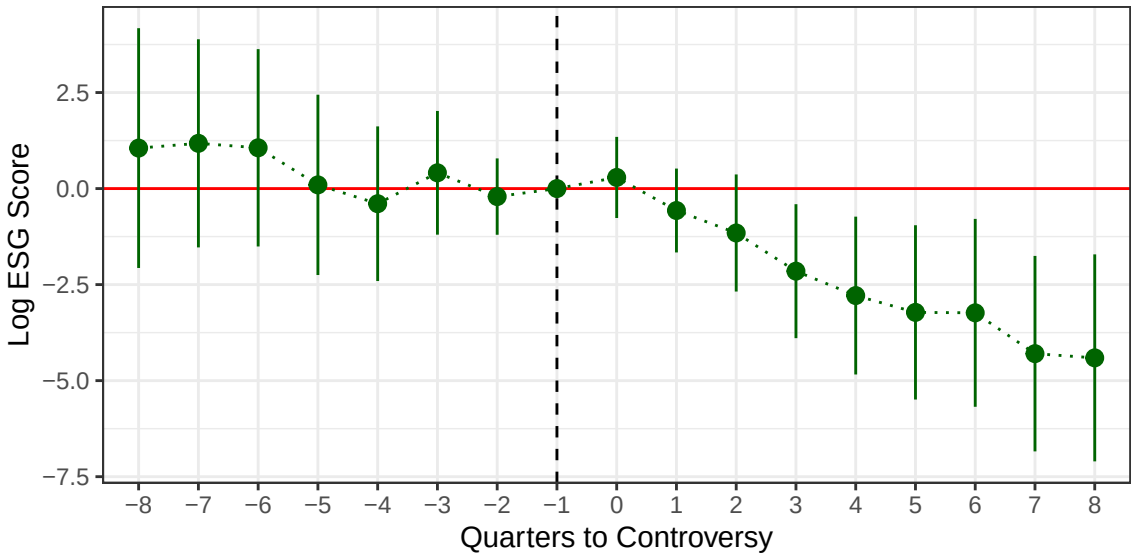
Notes: This figure displays the average interest rate around the outbreak of a Social public controversy, from 2 years before to 2 years after its publication. The average interest rate is defined as interest expenses over total debt. The solid line represents the estimated coefficient, and the shaded area represents the 95% confidence interval. The regression also includes firm and quarter-by-industry fixed effects. Social controversies are constructed from Ravenpack data. Accounting data from Compustat. The sample covers 1,910 US firms from 2013 to 2020.

Figure A3: **Sales Over Total Assets Around a Controversy – Event Study**



Notes: This figure displays sales over assets around the outbreak of a Social public controversy, from 2 years before to 2 years after its publication. The solid line represents the estimated coefficient, and the shaded area represents the 95% confidence interval. The regression also includes firm and quarter-by-industry fixed effects. Social controversies are constructed from Ravenpack data. Accounting data from Compustat. The sample covers 1,910 US firms from 2013 to 2020.

Figure A4: **Change in ESG Score Around a Controversy – Event Study**



Notes: This figure displays the (logged) ESG score around a Social public controversy, from 2 years before to 2 years after its publication. The solid line represents the estimated coefficient, and the shaded area represents the 95% confidence interval. The regression also includes firm and quarter-by-industry fixed effects. Social controversies are constructed from Ravenpack data. ESG score data from Compustat. The sample covers 1,910 US firms from 2013 to 2020.

Figure A5: **Examples of Two N-PX Reports**

(a) MassMutual Diversified Value Fund

FACEBOOK, INC. Agenda Number: 935178221

Security: 30303M102
Meeting Type: Annual
Meeting Date: 27-May-2020
Ticker: FB
ISIN: US30303M1027

Prop.#	Proposal	Proposal Type	Proposal Vote	For/Against Management
1.	DIRECTOR			
	Peggy Alford	Mgmt	Withheld	Against
	Marc L. Andreessen	Mgmt	Withheld	Against
	Andrew W. Houston	Mgmt	Withheld	Against
	Nancy Killefer	Mgmt	Withheld	Against
	Robert M. Kimmitt	Mgmt	Withheld	Against
	Sheryl K. Sandberg	Mgmt	Withheld	Against
	Peter A. Thiel	Mgmt	Withheld	Against
	Tracey T. Travis	Mgmt	Withheld	Against
	Mark Zuckerberg	Mgmt	Withheld	Against
2.	To ratify the appointment of Ernst & Young LLP as Facebook, Inc.'s independent registered public accounting firm for the fiscal year ending December 31, 2020.	Mgmt	Against	Against
3.	To approve the director compensation policy.	Mgmt	Against	Against
4.	A stockholder proposal regarding change in stockholder voting.	Shr	For	Against
5.	A stockholder proposal regarding an independent chair.	Shr	For	Against
6.	A stockholder proposal regarding majority voting for directors.	Shr	For	Against
7.	A stockholder proposal regarding political advertising.	Shr	For	Against
8.	A stockholder proposal regarding human/civil rights expert on board.	Shr	For	Against
9.	A stockholder proposal regarding report on civil and human rights risks.	Shr	For	Against
10.	A stockholder proposal regarding child exploitation.	Shr	For	Against
11.	A stockholder proposal regarding median gender/racial pay gap.	Shr	For	Against

(b) Green Century Balanced Fund

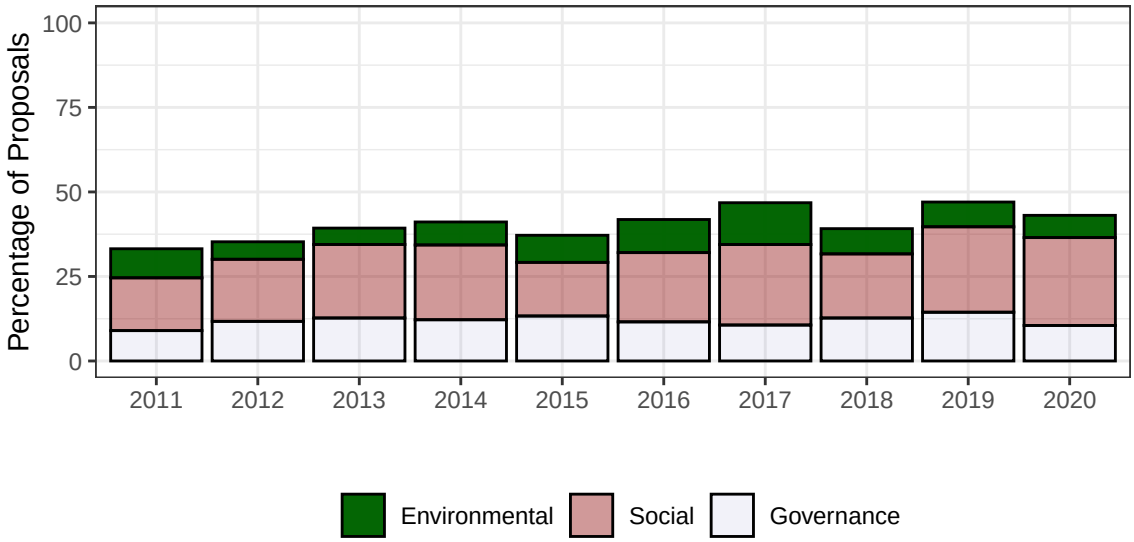
FACEBOOK, INC.

Ticker: FB Security ID: 30303M102
Meeting Date: MAY 27, 2020 Meeting Type: Annual
Record Date: APR 03, 2020

#	Proposal	Mgt Rec	Vote Cast	Sponsor
1.1	Elect Director Peggy Alford	For	For	Management
1.2	Elect Director Marc L. Andreessen	For	Withhold	Management
1.3	Elect Director Andrew W. Houston	For	For	Management
1.4	Elect Director Nancy Killefer	For	For	Management
1.5	Elect Director Robert M. Kimmitt	For	For	Management
1.6	Elect Director Sheryl K. Sandberg	For	For	Management
1.7	Elect Director Peter A. Thiel	For	For	Management
1.8	Elect Director Tracey T. Travis	For	For	Management
1.9	Elect Director Mark Zuckerberg	For	For	Management
2	Ratify Ernst & Young LLP as Auditors	For	For	Management
3	Approve Non-Employee Director Compensation Policy	For	For	Management
4	Approve Recapitalization Plan for all Stock to Have One-vote per Share	Against	For	Shareholder
5	Require Independent Board Chair	Against	Against	Shareholder
6	Require a Majority Vote for the Election of Directors	Against	Against	Shareholder
7	Report on Political Advertising	Against	Against	Shareholder
8	Require Independent Director Nominee with Human and/or Civil Rights Experience	Against	Against	Shareholder
9	Report on Civil and Human Rights Risk Assessment	Against	Against	Shareholder
10	Report on Online Child Sexual Exploitation	Against	Against	Shareholder
11	Report on Median Gender/Racial Pay Gap	Against	Against	Shareholder

Notes: The two panels show examples of N-PX reports filed at the Securities and Exchange Commission. Panel (a) is a screenshot from MassMutual Diversified Value Fund's 2020 N-PX report, with its votes at Facebook's AGM. Panel (b) is a screenshot of Green Century Balanced Fund's votes at the same AGM.

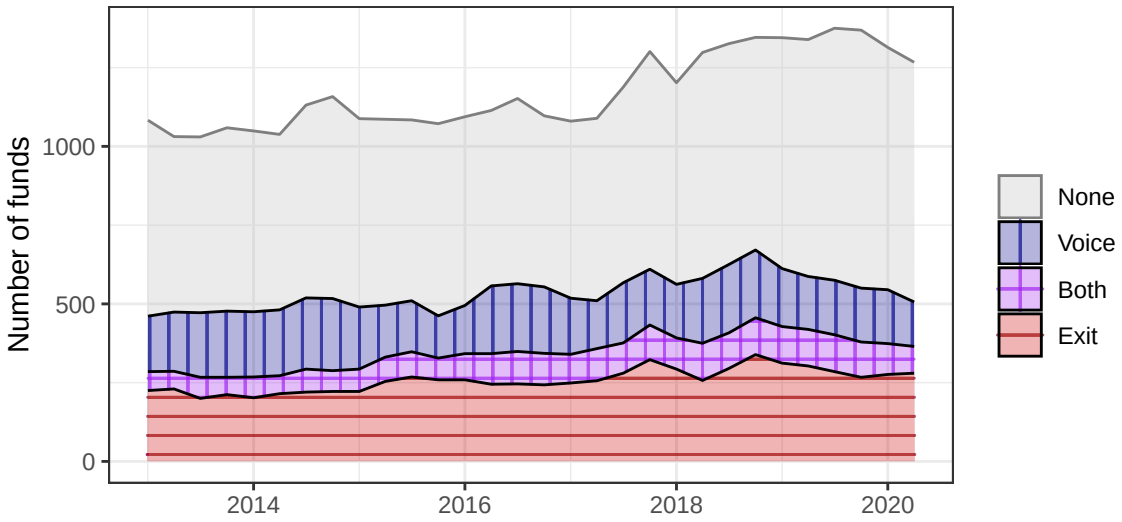
Figure A6: **Proportion of ESG-related Shareholder Proposals Over Time**



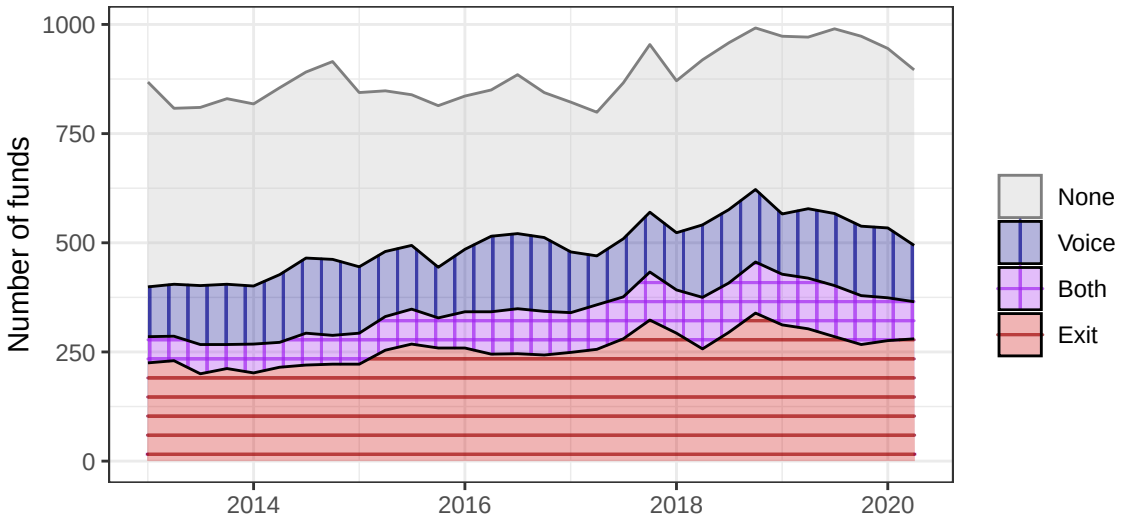
Notes: This figure displays the proportion of ESG-related shareholder proposals among all shareholder proposals from 2011 to 2020. Data from the N-PX forms filed by mutual funds at the Securities and Exchange Commission. The classification of topics as Environmental, Social, or Governance is based on textual analysis of the reported topic of the vote. More details on the classification can be found in Appendix C.

Figure A7: **Distribution of Fund Types Over Time**

(a) Sample: all funds



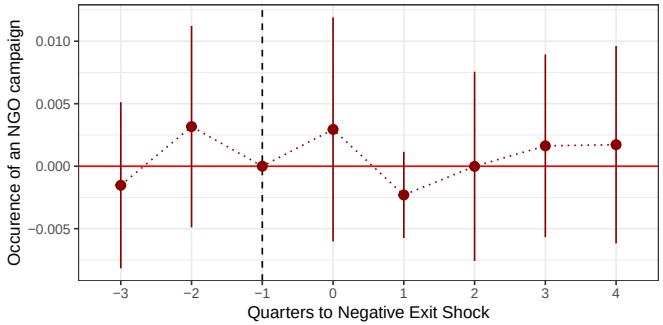
(b) Sample: excluding pure index funds



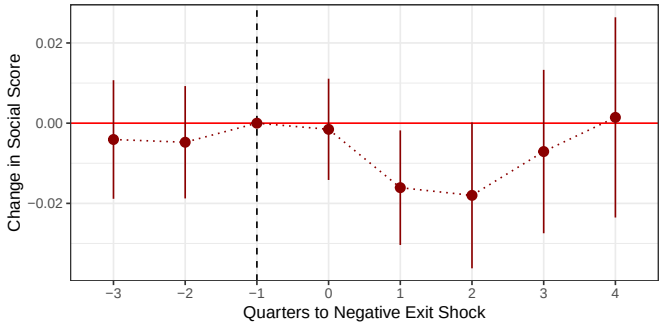
Notes: This figure displays the number of funds in each group over time, focusing on all funds in the top panel and only funds that are not identified as index funds in the bottom panel. The exit classification is based on portfolio holdings data from CRSP. The voice classification is based on voting data from the N-PX files gathered from the SEC website. Details on the construction of the exit and voice scores can be found in the main text. Based on a sample of 1,995 funds between 2013 and 2020.

Figure A8: **The impact of a negative shock to exit pressure on alternative CSR measures – Event studies**

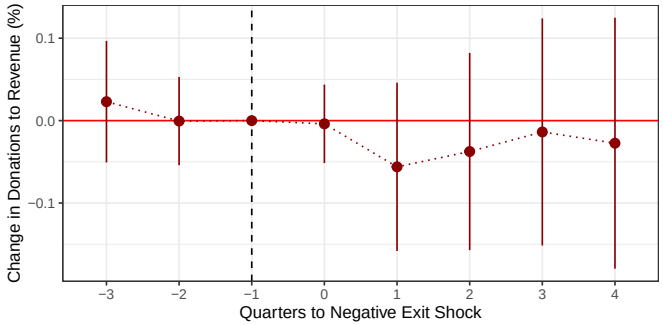
(a) Occurrence of an NGO campaign



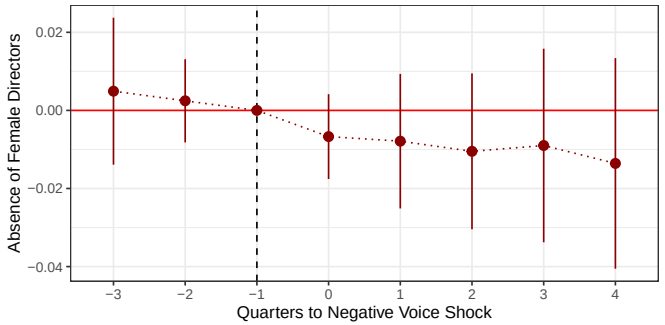
(b) Log Social score



(c) Log Donations to revenue



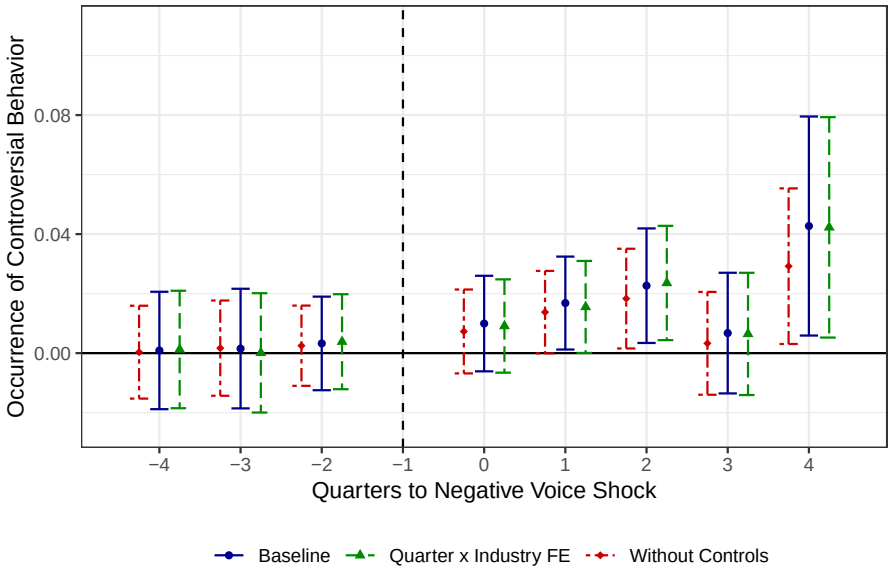
(d) Absence of female director



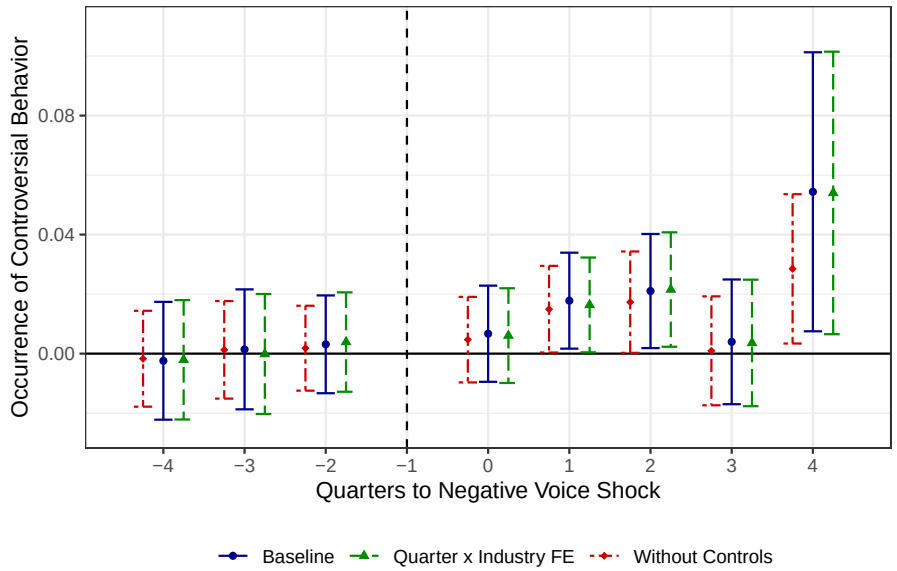
Notes: This figure displays the estimated coefficients from four event studies. The dependent variable is, alternatively, the occurrence of an NGO campaign next period (panel a), the log of the Social score (panel b), the log of donations to revenue (panel c), and a dummy indicating that there is no women on the board (panel d). Data on NGO campaigns from Koenig (2017). Data for the other dependent variables from Refinitiv. The regressions include time and firm fixed effects. The standard errors used to compute the 95% confidence interval are clustered at the firm level. An exit shock is defined as an expected change in exit due to funds' large redemptions two standard deviations away from the sample mean. The sample covers 1,910 US firms from 2013 to 2020.

Figure A9: **The Impact of Negative Shocks to Voice Pressure on the Occurrence of Controversies – Event Study (Robustness)**

(a) Main specification

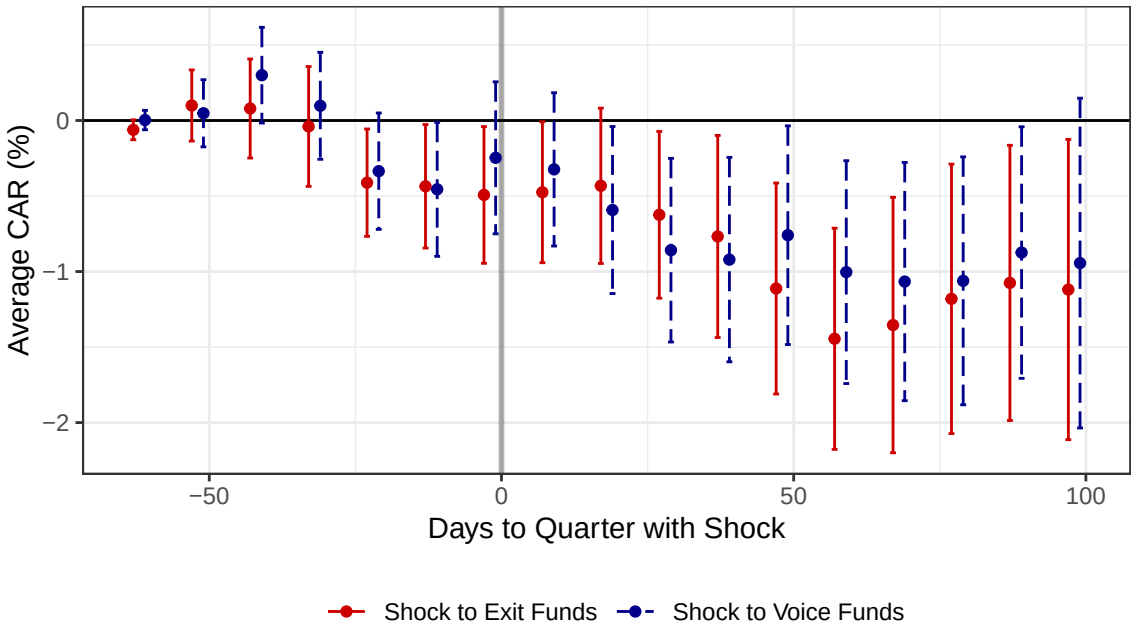


(b) Sun and Abraham (2021) specification



Notes: This figure displays the estimated coefficients from six event studies. The dependent variable is a dummy indicating the occurrence of a controversy the following quarter (based on Ravenpack data). Regressions in panel a) are estimated as detailed in the main text, while regressions in panel b) are estimated using the Sun and Abraham (2021) specification. The regressions include either time and firm fixed effects (baseline and without controls specifications) or firm and Quarter × Industry fixed effects. The standard errors used to compute the 95% confidence interval are clustered at the firm level. An exit shock is defined as an expected change in exit due to funds' large redemptions two standard deviations away from the sample mean. The sample covers 1,910 US firms from 2013 to 2020.

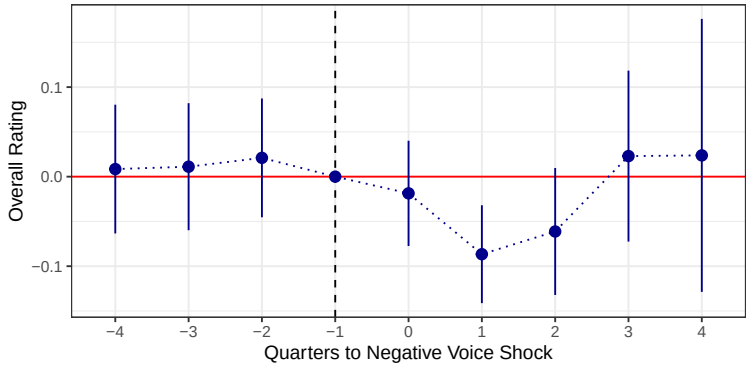
Figure A10: **The Impact of Negative Shocks to Exit and Voice Pressures on Stock Returns – Event Studies**



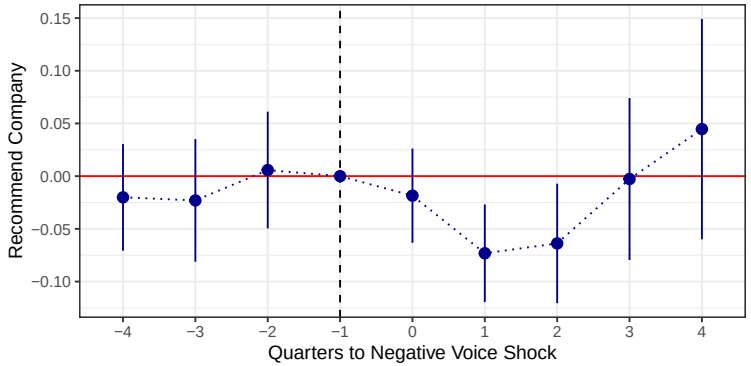
Notes: This figure displays the estimated *Cumulative Abnormal Returns* (CAR, in %), with their 95% confidence interval, of stocks hit by an exogenous decrease in exit pressure (red, solid line) or in voice pressure (blue, dashed line). The CARs are computed using a Fama and French (2015) 5-factor model, starting 63 days (a quarter) before a quarter with a shock to either exit or voice pressure. A shock is defined as an expected change in exit or voice due to funds' large redemptions two standard deviations away from the sample mean. Stock return data from CRSP.

Figure A11: **The Impact of Negative shocks to Voice Pressure on Glassdoor's Reviews – Event Studies**

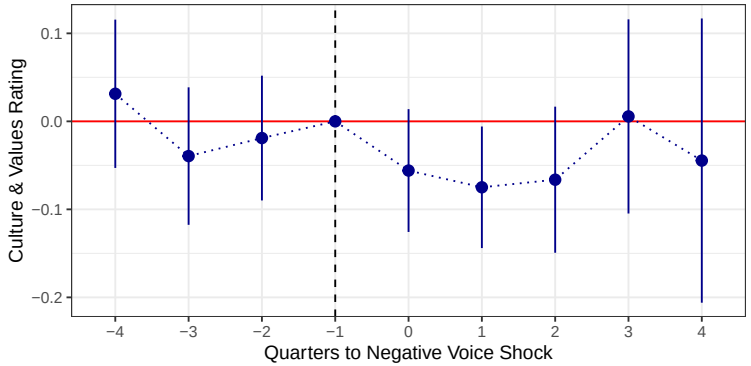
(a) Overall Glassdoor rating



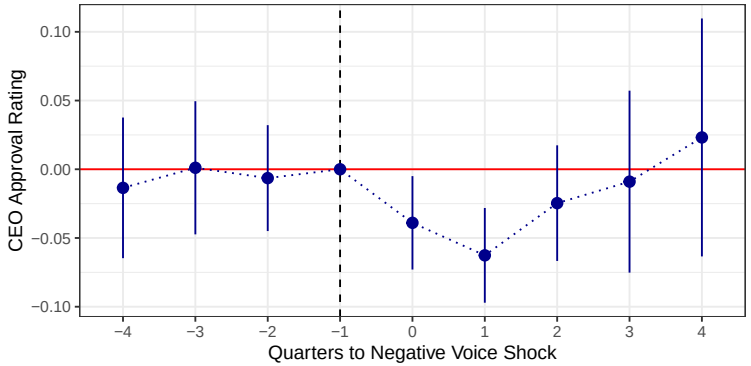
(b) Whether the employee recommends the firm



(c) Culture and Values rating

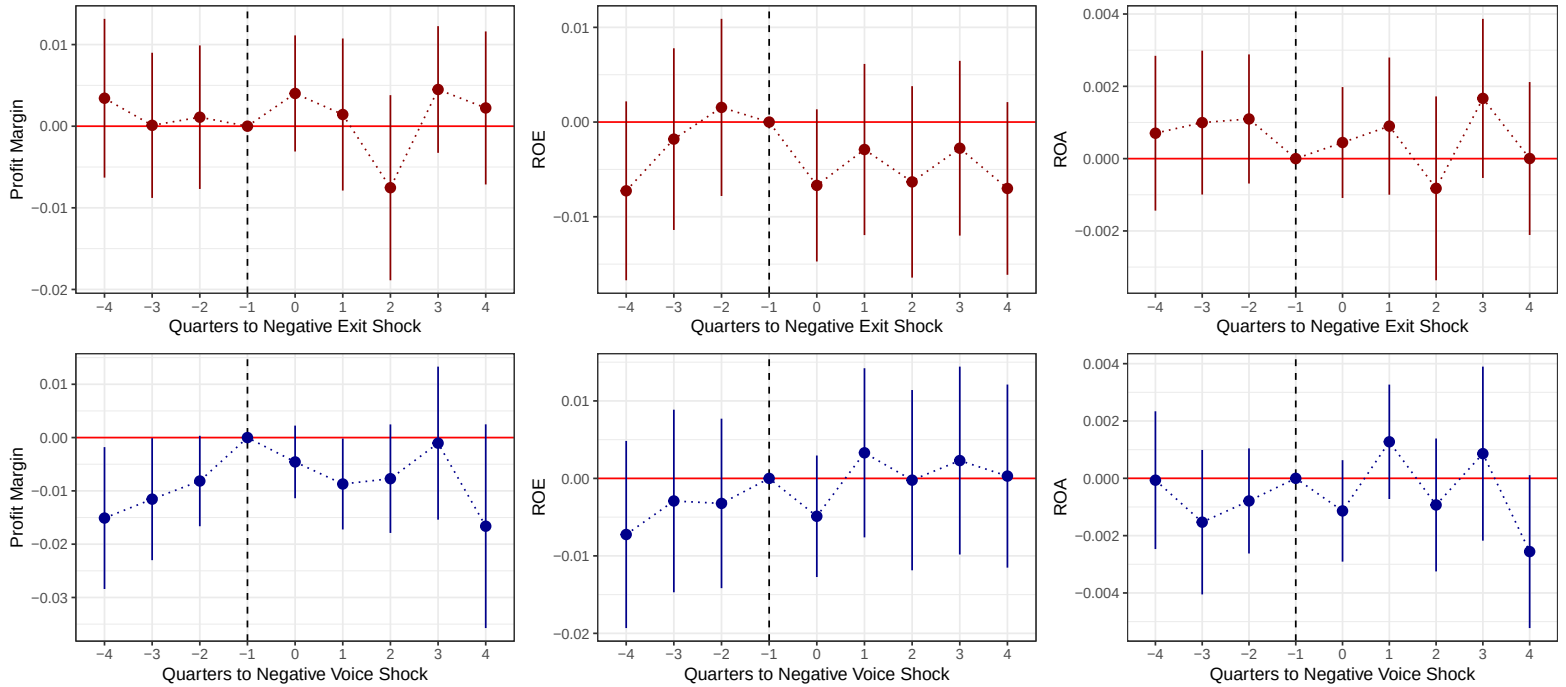


(d) CEO approval rating



Notes: This figure displays the estimated coefficients from four event studies. The dependent variable is, alternatively, the overall Glassdoor rating, the average recommendation, the "Culture & Values" rating, and the CEO approval rating. Data for the other dependent variables from Refinitiv. The regressions include industry ×time and firm fixed effects. The standard errors used to compute the 95% confidence interval are clustered at the firm level. A voice shock is defined as the expected change in voice due to funds' large redemptions two standard deviations away from the sample mean. The sample covers 347 US firms with at least 5 reviews in each quarter from 2013 to 2020.

Figure A12: **The Impact of Negative Shocks to Exit and Voice Pressures on Accounting Performance – Event Studies**



Notes: Notes: This figure displays the estimated coefficients from six event studies. The dependent variable is, alternatively, profit margin (defined as operating income over sales, first column), return on equity (income before extraordinary items over lagged book equity, second column), and return on assets (income before extraordinary items over lagged total assets, third column). All dependent variables are constructed using Compustat data and are winsorized at the 2.5 and 97.5 percentiles. The standard errors used to compute the 95% confidence interval are clustered at the firm level. An exit shock is defined as an expected change in exit due to funds' large redemptions two standard deviations away from the sample mean. The regressions alo include firm and quarter×industry fixed effects. The sample covers 1,910 US firms from 2013 to 2020.

B Alternative exit measures

This section explores the correlation between the fund-level exit measure developed in this paper and other potential, exit measures.

B.1 Main result with alternative exit thresholds

Do the main results still hold when varying the exit threshold? I vary the voice score threshold from 0% to 1.5% and re-estimate model 2 using the new sample of voice funds. I then plot the estimated coefficient on the instrumented change in exit, as well as its 95% confidence interval, in Figure B1. The plot shows that the null result on the threat of exit is robust to variations in the threshold for being an exit fund.

B.2 Main results with alternative ESG scores

This subsection shows that the main results laid out in the paper are not dependent on the source of ESG scores used in the estimation of Equation 1, by using Sustainalytics and MSCI ESG scores.[30] It also compares the exit behavior of exit funds as identified using different ESG score providers.

I re-estimate Equation 1 using ESG scores from Sustainalytics and MSCI, and then classify as an exit fund in quarter t any non-index fund with a positive $\beta_{S,i,t}$. Table B1 shows that the main results on the threat of exit hold when using these classifications. Panel A of the Table reports the coefficients estimated using the main exit fund classification based on Refinitiv scores. It shows that the threat of exit is in general ineffective at curtailing firms' anti-social behavior (Column 1), except at firms with high lagged CEO wealth-performance sensitivity (Column 5). Panels B and C show that those conclusions also hold when estimating those equations using exit fund classifications based on Sustainalytics and MSCI scores, respectively. The main coefficients of interest (in Column 1 and 5) are similar in sign and magnitude across the different panels. However, the statistical significance of the coefficient in Column 5 decreases from 3% in Panel A to 6% in Panel B, and 9% in Panel C.

B.3 Correlation with a name-based fund classification

Alternatively, I identify "S" funds based on their names. Starting from the 25,000 unique CRSP fund names, I classify as "S-labelled fund" any fund with an explicit mention of being S-oriented in its name. Those funds include KLD Social Index tracking funds, as well as funds oriented towards Womens' inclusion. I identify 62 of these funds to be explicitly S-oriented.

[30] Sustainalytics changed their methodology in October 2019 and inverted the scale of their ratings (Rzeźnik *et al.*, 2022). For consistency across time and with the Refinitiv scores, I substract the scores given after October 2019 from 100.

Those funds indeed have a much higher $\beta_{S,i,t}$ than the other funds. Their average $\beta_{S,i,t}$ is 0.2%, against an average of -0.3% for the non "S-labelled" funds. The difference between the two means is statistically significant at the 1% level. Figure B2 plots the distribution of $\beta_{S,i,t}$ by group. It shows that S-labelled funds have a $\beta_{S,i,t}$ distribution shifted to the right compared to other funds.

I also check whether being an S-labelled fund predicts the preference for other financial or ESG characteristics. To that end, I run the following regressions:

$$\beta_{X,i,t} = \mathbf{1} \cdot (\text{S-labelled fund}) + \delta_t + u_{i,t} \tag{B1}$$

for the different β estimated by equation 1, normalized for comparability across columns. Table B2 reports the results. Columns 1 to 6 show that there is no correlation between being an S-labelled fund and preferences for any financial characteristic. Columns 7 to 9 focus on the preference for stocks with high E, S, and G scores: only the coefficient on β_S is statistically significant.

B.4 Alternative exit measures and exit behavior

For firms facing a controversy, I compute the share of equity owned by exit funds (fixed at the quarter before the controversy) every quarter in the year before and the year after the controversy, using different ESG score providers. I run:

$$\log(\text{Ownership}_{n,t}) = \text{Post Controversy}_{n,t} + \delta_t + \gamma_n + u_{n,t}. \tag{B2}$$

The coefficient on $\text{Post Controversy}_{n,t}$ provides an estimate of the percentage of exit funds' ownership that is sold the year after the controversy, compared to the year before.

Table B3 reports the coefficients. It shows that the classification based on Refinitiv ESG scores predicts a 12% decrease in exit ownership at firms facing a controversy. The classification based on Sustainalytics is lower but of the same magnitude, with a 10% decrease in ownership. The classification based on MSCI scores is the smallest in magnitude (6%).

Alternative continuous measures. I consider three alternative measures of exit. First, I consider the "linear" exit, β^l_S, estimated from the linear version of equation 1 and excluding the zero holdings:

$$\ln\left(\frac{w_{i,t}(n)}{w_{i,t}(0)}\right) = \alpha^l_{i,t} + \beta^l_{1,i,t} \times \hat{\text{m}}_{i,t}(n) + \beta^{\prime,l}_{2,i,t} \times \text{x}_t(n) + \beta^l_{S,i,t} \times \text{ Social Score}_t(n) + \ln(\epsilon_{i,t}(n)). \tag{B3}$$

The other continuous measure is the weighted average social score of stocks currently held by a fund:

$$SS^w_{i,t} = w_{i,t}(n) \times \sum_n \text{Social Score}_t(n).$$

I estimate Equation 1 for index funds as well, using, for small funds, target coefficients of 1 for the β on

market cap, and 0 on all other β. I then consider four different definitions of an exit fund: a positive $\beta_{S,i,t}$ and not being an index fund, a positive $\beta_{S,i,t}$ regardless of the index status (referred to as $\beta^{\text{Index}}_{S,i,t}$, a positive $\beta^{l}_{S,i,t}$ and not being an index fund with $SS^{w}_{i,t-1} > 55$.[31]

I then re-estimate Equation B2 by using these alternative classifications. Table B4 reports the results. For the four different measures of exit, the coefficient is negative and statistically significant at least at the 5% level. The coefficient varies from 5% to 17%. The coefficient in Column 1, where the exit status is defined as a positive $\beta_{S,i,t-1}$ and not being an index fund, is consistent with Figure 3. Also including index funds with a positive coefficient significantly reduces the estimate (Column 2), by one-third. Using $\beta^{l}_{S,i,t-1}$ as a reference yields a much smaller coefficient (Column 3). Finally, the coefficient estimated using exit funds defined by their weighted average social score (Column 4) yields an estimate close to the one in Column 1. For consistency, I check whether non-exit funds – as defined by the same criteria – own a smaller share of equity after a controversy (Column 5 to 8). All four coefficients are indistinguishable from zero.

B.5 Selection bias in exit funds' fire sales

Finally, I investigate whether the null effect of the threat of exit can be explained by a selection bias in mutual funds' fire sales. There could be a systematic discrepancy between the actual change in exit pressure for a firm and its predicted value using mutual fund redemptions, in such a way that the instrument would always be greater for certain firms, possibly more likely to face a controversy in the future. For instance, consider the case where exit funds, when facing large redemptions, sell more stocks that will face a controversy in the future: the instrument would always predict a greater (i.e., less negative) change in exit pressure than the actual change for firms with $Controversy_{n,t=2}$ =1.[32]

I test this hypothesis by regressing a dummy indicating the occurrence of a controversy in the next 2, 3, and 4 quarters on the first-stage residuals for the change in exit pressure. Results are reported in Table B5, first without controls and without firm fixed effects (Columns 1 to 3, to capture the cross-sectional variation), then with firm fixed effects (Columns 4 to 6, to capture the within-firm variation), and finally with controls (Columns 7 to 10, to investigate the drivers of controversies). In all cases, the coefficient on the first-stage residuals is economically and statistically insignificant, indicating that exit funds do not sell more firms that are more likely to have a controversy in the near future. One explanation relies on the fact that a firm's Social score is a bad predictor of future controversies, as seen in Columns 7 to 10.

[31] The choice of the 55 threshold is such that 20% of funds in the sample are exit funds, which is around the same distribution as for the other two exit measures excluding index funds.

[32] Note that by the same reasoning, selling more of stocks currently facing a controversy would bias the main estimate (for $Controversy_{n,t=2}$ - $Controversy_{n,t}$) *downwards*.

Table B1: **Exit Regressions Based on Classifications Using Different ESG Scores**

Dependent Variable:	Controversy$_{t+2}$ - Controversy$_t$				
		Lagged *WPS* quartile:			
		Q1	Q2	Q3	Q4
Model:	(1)	(2)	(3)	(4)	(5)
Panel A: Classification using Refinitiv ESG Ratings					
Instrumented Change in Exit	0.105	0.446*	-0.186	0.992	-0.891**
	(0.172)	(0.255)	(0.454)	(0.924)	(0.405)
Controls	✓	✓	✓	✓	✓
Quarter FE	✓	✓	✓	✓	✓
Observations	37,480	6,888	6,639	7,225	7,040
Effective F-statistic	1,189	34.086	40.041	13.616	46.813
Panel B: Classification using Sustainalytics ESG Ratings					
Instrumented Change in Exit	0.123	0.337	-0.017	0.077	-0.485*
	(0.139)	(0.330)	(0.464)	(0.268)	(0.260)
Controls	✓	✓	✓	✓	✓
Quarter FE	✓	✓	✓	✓	✓
Observations	36,940	6,765	6,529	7,130	6,964
Effective F-statistic	737.23	177.01	197.40	69.269	80.467
Panel C: Classification using MSCI ESG Ratings					
Instrumented Change in Exit	0.053	-0.118	0.492	0.674	-0.665*
	(0.158)	(0.447)	(0.381)	(0.547)	(0.393)
Controls	✓	✓	✓	✓	✓
Quarter FE	✓	✓	✓	✓	✓
Observations	36,884	6,737	6,504	7,150	6,941
Effective F-statistic	272.79	117.53	133.71	38.101	29.564

Note: This table reports the estimated coefficients from model 5:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{Exit} \overbrace{(\text{Exit}_{n,t+1} - \text{Exit}_{n,t-1})}^{\text{Instrumented by } Z^{Exit}_{n,t}} + \delta_{t+2} + u_{n,t+2},$$

on the whole sample (Column 1), and on four sub-samples defined by their past (from 2000 to 2012) average Scaled CEO wealth-performance sensitivity (*WPS*, from Edmans *et al.*, 2009), and controls. In each Panel, the provider of the ESG scores used in the exit fund classification varies. All regressions include Quarter FE fixed effects. Details on the construction of the variables can be found in the main text. Controversies are defined based on Ravenpack data. Stock characteristics from Refinitiv. The sample covers 1,110 US firms from 2013 to 2020. Clustered (cusip) standard-errors in parentheses. The *Effective F-statistic* is the Olea and Pflueger (2013) first-stage F-statistic. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table B2: **S-Labelled Funds and the Estimated Demand for Characteristics**

Preference for:	Financial characteristics						ESG scores		
Dependent Variables:	$\beta_{\text{Market Cap}}$	$\beta_{\text{Book Eqy}}$	$\beta_{\text{Profitability}}$	$\beta_{\text{Div to Book}}$	$\beta_{\text{Investment}}$	β_{Beta}	β_{E}	β_{S}	β_{G}
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables									
S-labelled fund (0/1)	-0.220	0.155	-0.029	0.130	0.568	0.077	-0.032	0.650***	-0.082
	(0.372)	(0.437)	(0.210)	(0.181)	(0.360)	(0.407)	(0.267)	(0.153)	(0.181)
Fixed-effects									
Quarter	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fit statistics									
Observations	69,745	69,745	69,745	69,745	69,745	69,745	69,745	69,745	69,745
R^2	0.00530	0.00471	0.00372	0.22104	0.03600	0.02619	0.00321	0.00741	0.00638

Note: This table reports estimated coefficients from model B1, the regressions of funds' preference for stocks with higher market capitalization (Column 1), book equity (Column 2), profitability (Column 3), dividends to book equity (Column 4), investment (Column 5), beta (Column 6), E, S, and G scores (Columns 7 to 9), on a dummy equal to one if the fund has an explicit S-mandate in its name, and quarter fixed effects. Funds' preferences for these characteristics are estimated by Equation 1. All dependent variables are standardized for comparability. The sample covers 1,995 funds from 2013 to 2020. Standard errors clustered at the portfolio level are reported between parentheses. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table B3: **Exit Classifications Using Different ESG Score Providers and Divestment After a Controversy**

Dependent Variable:	Log Ownership					
Sub-sample:	Exit funds			Non-exit funds		
Exit/Non-exit classification uses ESG Scores from:	Refinitiv	Sustainalytics	MSCI	Refinitiv	Sustainalytics	MSCI
Model:	(1)	(2)	(3)	(4)	(5)	(6)
Variables						
Post Controversy	-0.117***	-0.096***	-0.060***	-0.031	-0.029	-0.035
	(0.021)	(0.023)	(0.019)	(0.025)	(0.025)	(0.025)
Fixed-effects						
Quarter	✓	✓	✓	✓	✓	✓
Firm	✓	✓	✓	✓	✓	✓
Fit statistics						
Observations	10,920	10,927	10,927	11,123	11,122	11,123
R^2	0.67896	0.72597	0.72667	0.76242	0.76304	0.76062

Note: This table reports estimated coefficients from model B2, the regressions of the log ownership of exit funds (Columns 1 to 4) or non exit funds (Columns 5 to 8), for different definitions of an exit fund, from one year before to year after a controversy, on a dummy equal to one if period t is on or after a quarter with a controversy. The exit/non exit status is defined the quarter before the controversy, by a positive coefficient on the Social Score when estimating Equation 1. The columns vary the source of ESG scores used in the estimation. The sample covers 1,995 funds from 2013 to 2020. Standard errors clustered at the firm level are reported between parentheses. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table B4: **Different Exit Measures and Divestment After a Controversy**

Dependent Variable:	Log Ownership							
Sub-sample:	Exit funds				Non-exit funds			
Exit/Non-exit status defined by:	$\beta_{S,i,t-1}$	$\beta^{\text{Index}}_{S,i,t-1}$	$\beta^{l}_{S,i,t-1}$	$SS^{w}_{i,t-1}$	$\beta_{S,i,t-1}$	$\beta^{\text{Index}}_{S,i,t-1}$	$\beta^{l}_{S,i,t-1}$	$SS^{w}_{i,t,-1}$
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables								
Post Controversy	-0.122***	-0.088***	-0.054**	-0.168***	-0.023	0.005	-0.031	-0.008
	(0.022)	(0.014)	(0.023)	(0.034)	(0.023)	(0.022)	(0.023)	(0.023)
Fixed-effects								
Quarter	✓	✓	✓	✓	✓	✓	✓	✓
Firm	✓	✓	✓	✓	✓	✓	✓	✓
Fit statistics								
Observations	11,903	12,014	11,865	11,630	13,715	13,711	13,715	13,714
R^2	0.67869	0.80733	0.65011	0.78903	0.78082	0.77605	0.78203	0.78468

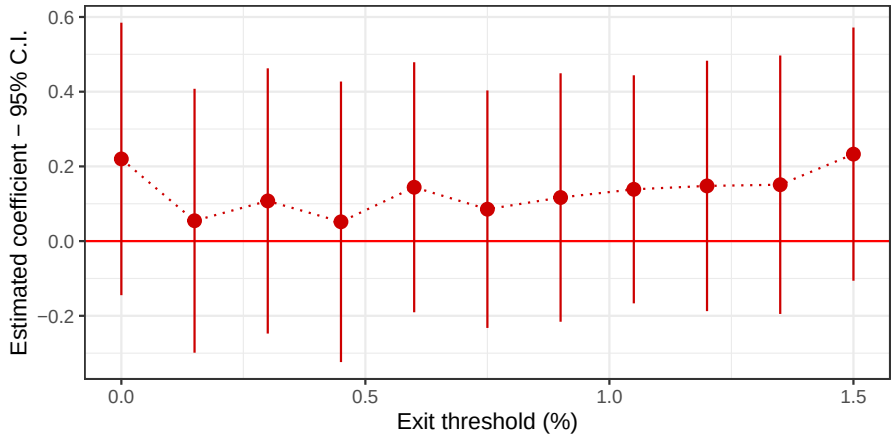
Note: This table reports estimated coefficients from model B2, the regressions of the log ownership of exit funds (Columns 1 to 4) or non exit funds (Columns 5 to 8), for different definitions of an exit fund, from one year before to year after a controversy, on a dummy equal to one if period t is on or after a quarter with a controversy. The exit/non exit status is defined the quarter before the controversy, and by, alternatively: $\beta_{S,i,t} > 0$ and not being an index fund (estimated from model 1, Columns 1 and 5), a positive $\beta_{S,i,t}$ regardless of the index status (referred to as $\beta^{\text{Index}}_{S,i,t}$, Columns 2 and 6), a positive $\beta^{l}_{S,i,t}$ and not being an index fund (estimated from model B3, Columns 3 and 7), and $SS^{w}_{i,t-1} > 55$ (the average social score of stocks in the portfolio, weighted by their portfolio weight, Columns 4 and 8). The sample covers 1,995 funds from 2013 to 2020. Standard errors clustered at the firm level are reported between parentheses. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table B5: **Selection in Exit Fund Fire Sales, and the Occurrence of Controversies**

Dependent Variables:	Controversy$_{n,\tau}$								
τ=	*t+2*	*t+3*	*t+4*	*t+2*	*t+3*	*t+4*	*t+2*	*t+3*	*t+4*
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables									
First-stage residual	-0.030	-0.054	-0.057	0.024	-0.009	-0.029	0.003	-0.041	-0.059
	(0.039)	(0.044)	(0.046)	(0.039)	(0.043)	(0.049)	(0.039)	(0.044)	(0.046)
Controls							✓	✓	✓
Fixed-effects									
Quarter	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm				✓	✓	✓			
Fit statistics									
Observations	25,752	23,970	22,245	25,752	23,970	22,245	25,752	23,970	22,245
R^2	0.00139	0.00169	0.00175	0.27565	0.28357	0.28592	0.03939	0.04147	0.04199

Note: This table reports estimated coefficients from the regressions of a dummy indicating the occurrence of a controversy over different horizons, on *First-stage residual*, the difference between the actual change in exit pressure and the predicted change in exit pressure due to large redemptions, controls (in models 7 to 9), quarter fixed effects, and firm fixed effects (in models 4 to 6). Controversies are constructed using Ravenpack data. Accounting data from Refinitiv. Standard errors clustered at the firm level are reported between parentheses. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Figure B1: **Estimated Effect of Exit on Controversies, by Varying the Threshold for Being an Exit Fund – IV**

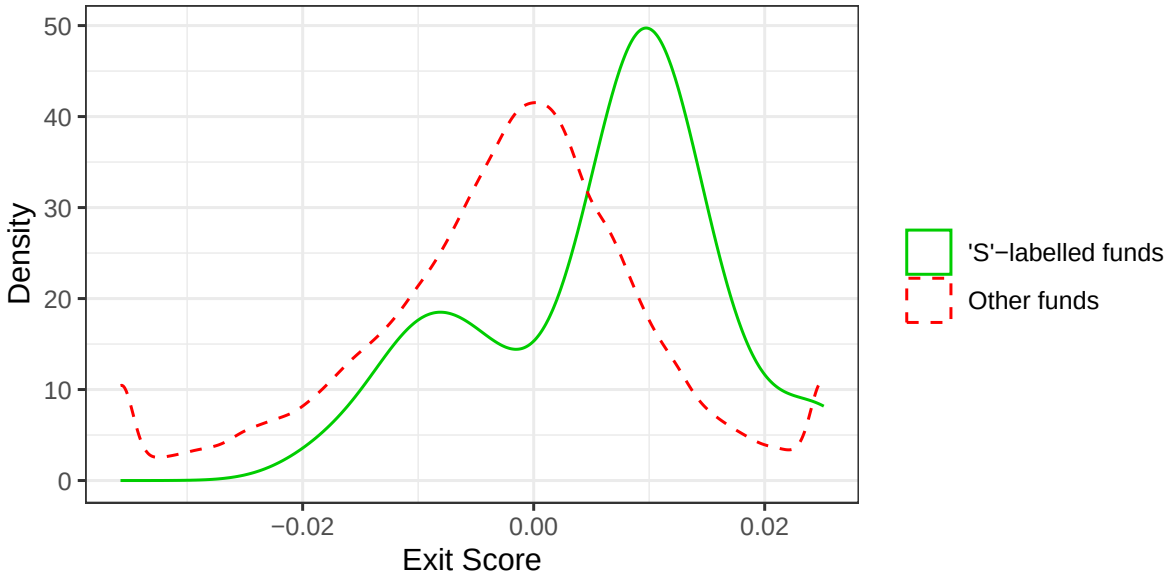


Notes: This figure plots the estimated coefficients on the β_{Exit} estimated in model 2:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{Exit} \overbrace{(\text{Exit}_{n,t+1} - \text{Exit}_{n,t-1})}^{\text{Instrumented by } Z^{Exit}_{n,t}} + \beta_{Voice} \overbrace{(\text{Voice}_{n,t+1} - \text{Voice}_{n,t-1})}^{\text{Instrumented by } Z^{Voice}_{n,t}} + \delta_{t+2} + u_{n,t+2},$$

using different definitions of an exit fund. The threshold for being a voice fund varies from 0% to 1.5%. The 95% confidence intervals are constructed from standard errors clustered at the firm level. The regressions also include: the instrumented change in voice, the change in total assets, the change in investment, the change in social score, as well as quarter fixed effects. Each regression has 37,580 observations. In all cases, the instruments pass the test for strong instruments.

Figure B2: **Distribution of Exit Score by Fund Label**



Notes: This figure displays the distribution of exit score for funds with an explicit pro-Social bias in their name (dark red, solid line) and other funds (black, dashed line). Fund data from CRSP.

C 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 keywords. 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”.

D Additional details on the voting dataset

This section provides additional details on the voting dataset, its coverage, and its differences and similarities with commercial datasets like ISS.

D.1 Coverage

Investors. The dataset covers more than 3 million votes on shareholder proposals from 1,260 fund companies (identified by their CIK), from July 17, 2009 to June 30, 2020. 21% of the votes in the dataset are attributed to a social proposal. On average, a fund company faces at least one vote on a S-related topics at 34 meetings from firms in its portfolio in a year (the median is 22), and only 7% of the CIK times year observations face 0 vote.

Companies. I collect the CUSIP of the firm holding the meeting of interest from the N-PX files. As CUSIPs change over time, I merge the voting dataset with identifiers collected from Compustat Global. I am able to identify 12,490 meetings from 2,993 firms from 60 countries. Meetings held by US firms represent almost 60% of the sample, followed by Chinese, Canadian, and Argentinian firms. This international cross-section allows me to investigate the rate of S-related shareholder proposals by country. I compute the share of meetings that have at least one S-related shareholder proposal. The Netherlands leads the way, with almost half of the meeting having an S-related shareholder proposal. Argentina, Germany, the US, and Canada follow, with more than 25% of meetings with such a proposal. China and Mexico close the ranking, with close to 0% of meetings with an S proposal.

D.2 Comparison with the ISS voting dataset

Mapping my dataset to ISS. While ISS do not report the CIK of funds that voted, they provide an *NPXFileID*, which can be recovered using the links to the N-PX files on the SEC website. As ISS uses the most recently updated CUSIP, using Compustat's company ID is crucial to further link the ISS data to mine.

Differences in coverage. From the ISS voting files, also gathered from the N-PX forms, I select all votes on shareholder proposals between 2013 and the end of 2019. The dataset covers the votes of 1,541 fund companies at 3,036 meetings from 934 firms from 17 countries. 85% of these meetings were held by firms in the US. I select only meetings that are both covered by ISS and my dataset: my dataset covers 96% of ISS' meetings, and the ISS dataset covers 23%

of of the meetings in my dataset. However, ISS has 23% more voting observations, and 30% more fund companies covered.

S-classification and correlation in voice measure. Focusing on meetings from US firms, I select votes on shareholder proposals for which the management recommends voting "against". In my dataset, I detect S-related proposals using the keyword detection detailed in C, with around 21% of shareholder proposals being S-related. In the ISS dataset, I select proposals that are classified as "SRI" by the data provider, and exclude those with a clear environmental focus ("GHG emissions" for instance). 34% of shareholder proposals are then classified as being S-related. Then, I compute the voice score for each fund company, every quarter, using the two datasets. The coefficient of correlation is 85%, statistically significant at the 1% level. When subsetting on fund company times year observations with more than 100 observations in both datasets, the coefficient increases to 93% (p-value < 1%). Using the ISS dataset leads to a similar distribution of voice scores. However, fewer funds would be considered voice funds: among the funds that would be considered here as voice with the ISS data, 95% would also be voice funds in my dataset. However, 19% of the non-voice funds with the ISS data would be considered voice with my dataset.

E Funds' portfolio rebalancing following large redemptions

This section investigates mutual funds' behavior following large investor redemptions. Its objective is to determine how long it takes for a fund to fully rebalance its portfolio following an episode of large redemptions, and so for the instrument developed in Section 3 to materialize in a change in exit and voice pressures. I compute quarterly net flows into funds as a percentage of their Total Net Assets (TNA). I define as a large redemption any quarterly outflow of more than 5% of a fund's TNA. Using an event-study methodology, I explore the change in some key variables following large redemptions, and the timing of the portfolio rebalancing.

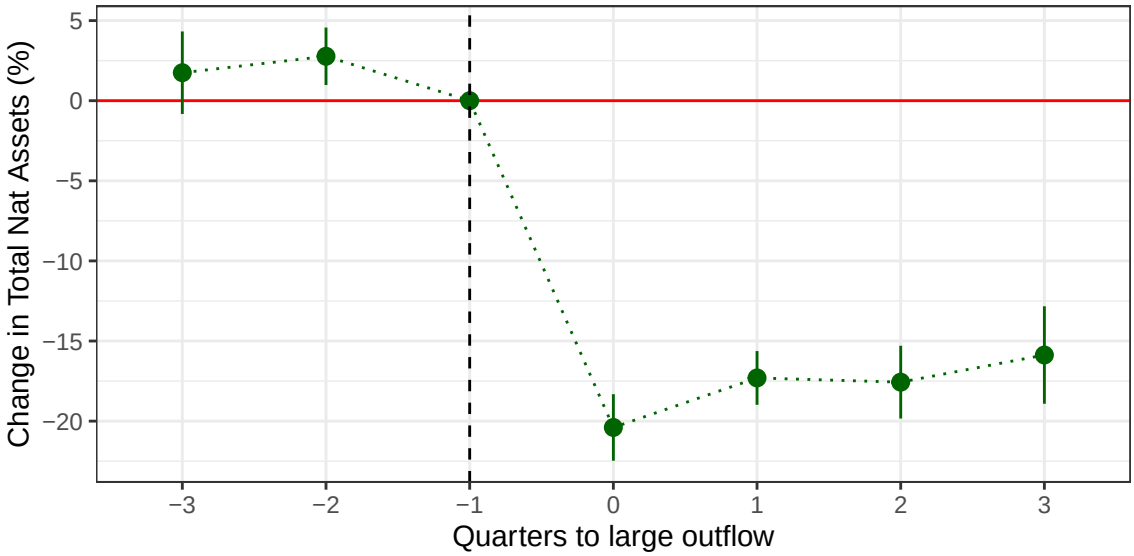
Total Net Assets. I first check that episodes of large redemptions are long-lasting and not preceded by other events of the same type. I run an event study with the log of TNA as a dependent variable, with fund and time fixed effects. The estimated coefficients are reported in Figure E1. The estimated coefficients for periods -3 and -2 are indistinguishable from that on the reference period, indicating the absence of pre-trend. Then, the TNA drop in the quarter of the shock, and slowly increase in the following three quarters but remain well below their pre-shock value. We can thus conclude that large redemptions are not predicted by former large redemptions, and they do not revert quickly.

Share of equity in portfolio. Following redemptions, funds use cash in priority to minimize their price impact (Chernenko and Sunderam, 2016). Thus, changes in exit and voice due to large redemptions might not materialize in the same quarter as the shock. To empirically test that, I run an event study with the share of equity in a fund's portfolio around an episode of large redemptions. Coefficients are plotted in Figure E2. Again, the estimated coefficients for the periods -3 and -2 show no pre-trend. In the quarter of the shock, the share of stocks in the fund's portfolio increases by 1.5pp, before going back to its original level the following quarter. Therefore, when facing large redemptions, funds sell relatively more non-equity assets (typically, cash or treasuries), and relatively more stocks the following quarter. In conclusion, when facing a shock at time t, funds finish their rebalancing at the end of period $t + 1$.

Number of holdings. Finally, I investigate whether funds rebalance their portfolio on the extensive or the intensive margin when they have to fire sell some of their assets. I run an event study with the number of different stocks held around a shock. The results are plotted

in Figure E3: none of the coefficients is statistically distinguishable from zero.[33] That result indicates that funds prioritize an intensive margin readjustment.

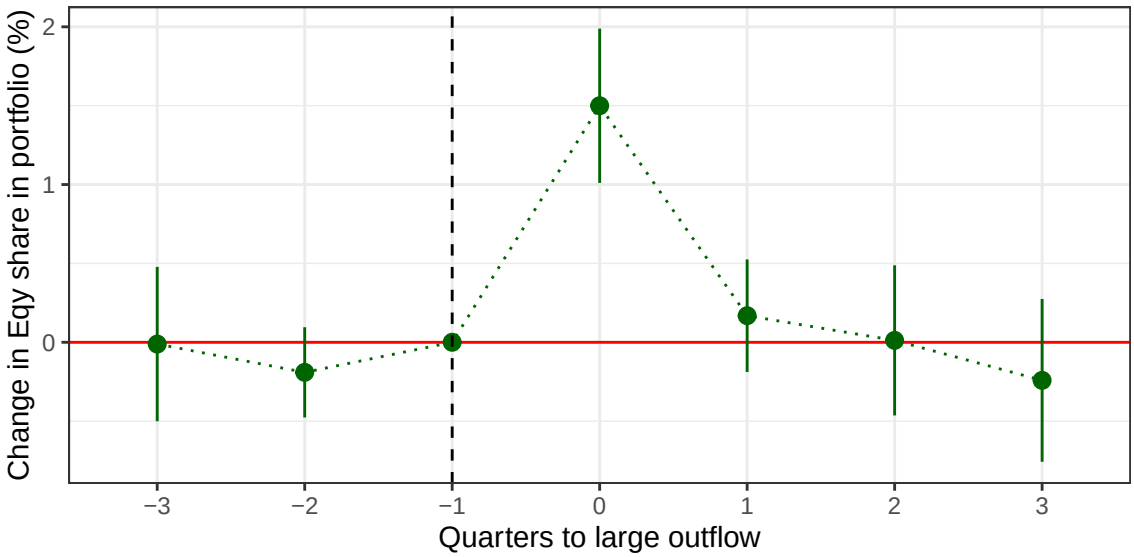
Figure E1: **Total Net Assets Around Large Redemptions – Event Study**



Notes: This figure reports the estimated coefficients and their 95% confidence interval from an event study with a fund's Total Net Assets (logged) as the dependent variable around a quarter of large redemptions. A quarter of large redemptions is defined as any quarter during which a fund experiences an outflow of more than 5% of its TNA. The regression also includes fund and time fixed effects. Standard errors are clustered at the fund level. Data from CRSP.

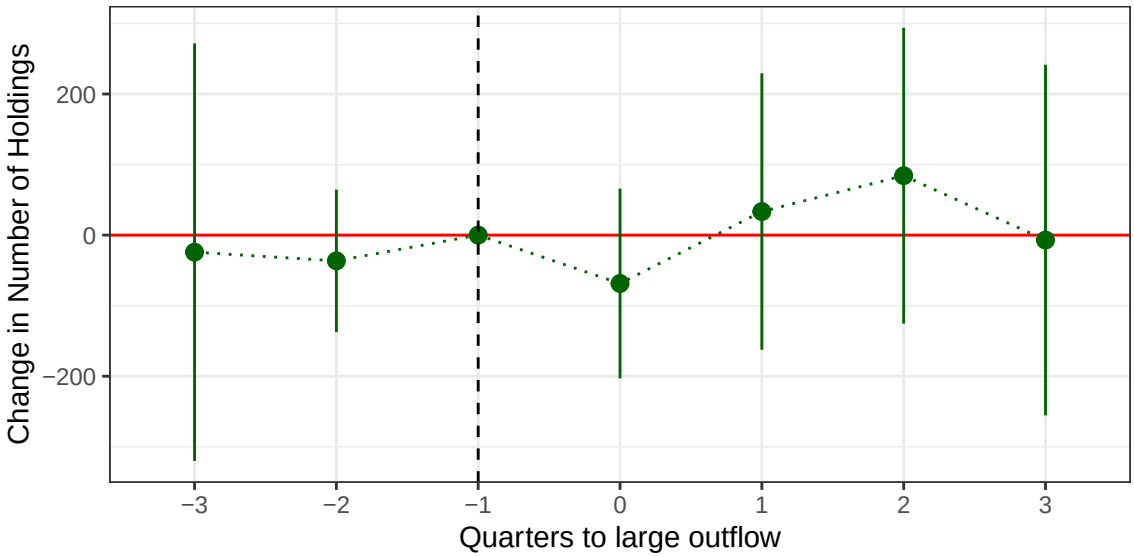
[33] Using the log of the number of different stocks held as the dependent variable does not change the result.

Figure E2: **Equity Share in Portfolio Around Large Redemptions – Event Study**



Notes: This figure reports the estimated coefficients and their 95% confidence interval from an event study with a fund's portfolio share of equity as the dependent variable around a quarter of large redemptions. A quarter of large redemptions is defined as any quarter during which a fund experiences an outflow of more than 5% of its TNA. The regression also includes fund and time fixed effects. Standard errors are clustered at the fund level. Data from CRSP.

Figure E3: **Number of Stocks Held Around Large Redemptions – Event Study**



Notes: This figure reports the estimated coefficients and their 95% confidence interval from an event study with a fund's number of different stocks held as the dependent variable around a quarter of large redemptions. A quarter of large redemptions is defined as any quarter during which a fund experiences an outflow of more than 5% of its TNA. The regression also includes fund and time fixed effects. Standard errors are clustered at the fund level. Data from CRSP.

F Alternative voice measures

This section explores alternative classification for voice funds, and evaluates the robustness of the main results to these alternatives.

F.1 Including shareholder proposals not opposed by management

In the main analysis, I identify voice funds based on S-related shareholder proposals opposed by the management. This sub-section builds an alternative voice score based on all S-related shareholder proposals, regardless of the management recommendation. The main takeaway is that including these proposals changes only marginally the fund classification, as more than 83% of S-related shareholder proposals are opposed by the management. For each fund in each quarter, I compute $V_{i,t}^{\text{Against}} - V_{i,t}^{\text{All}}$, the difference between the baseline voice score and its alternative using all proposals. The difference is equal to 0 for more than 80% of the fund-quarter observations. When the difference is not equal to 0, it is positive 99% of the time, indicating that the baseline voice score overestimates the voice dimension of funds. The results are thus to be regarded as a lower bound of the effect of voice on CSR efforts.

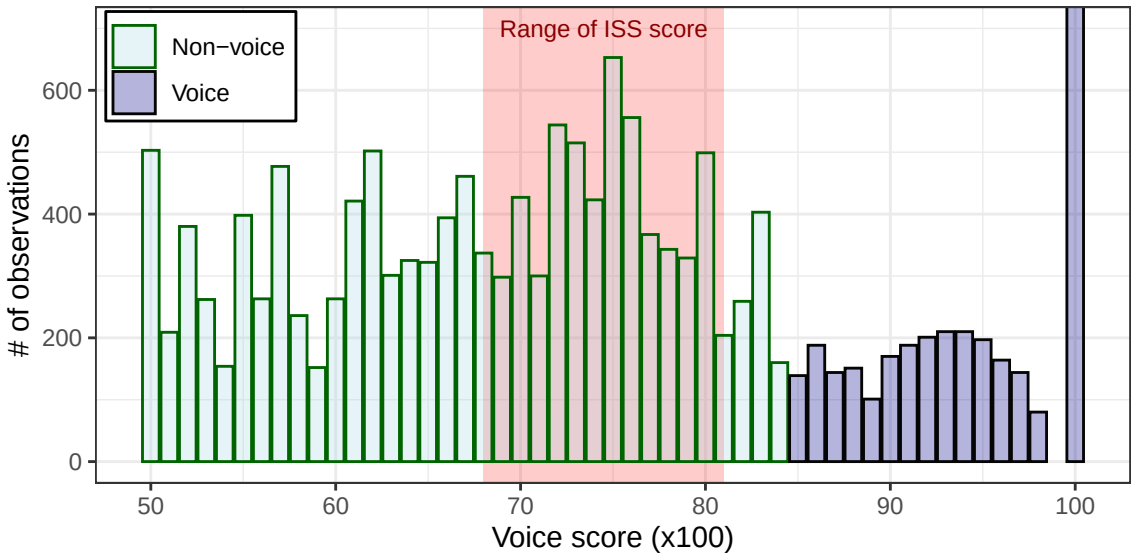
F.2 Alternative voice thresholds

Choice of the baseline threshold. The voice fund classification aims to capture funds that: 1) vote generally in favor of S-related shareholder proposals for which the management recommends voting against (voice score > 50%, and 2) are active voters. Being an active voter means that the classification should exclude funds that "blindly" follow proxy advisors' recommendations. Using ISS data, I estimate that ISS recommends voting in favor of such proposals between 68 and 81% of the time, depending on the quarter and the set of firms chosen (only US firms, or not). Glass-Lewis is meant to be "less pro-social" than ISS (Bolton *et al.*, 2020). As the two combined covers more than 90% of the proxy advisory market, I expect a large number of voice scores to cluster around the proxy advisors' score. Figure F1 shows the number of funds-by-quarter observations for each voice score value, from 50% to 99%. As expected, the distribution peaks at ISS' average "for" recommendation, around 72%. One can also detect a drop in the distribution around a voice score of 83%. The 85% voice score threshold is thus chosen to select funds that seem to be above the cluster of funds that follow proxy advisors most of the time.

Main result with alternative voice thresholds. Do the main results still hold when varying the 85% threshold? I vary the voice score threshold from 50% to 95% and re-estimate model 2

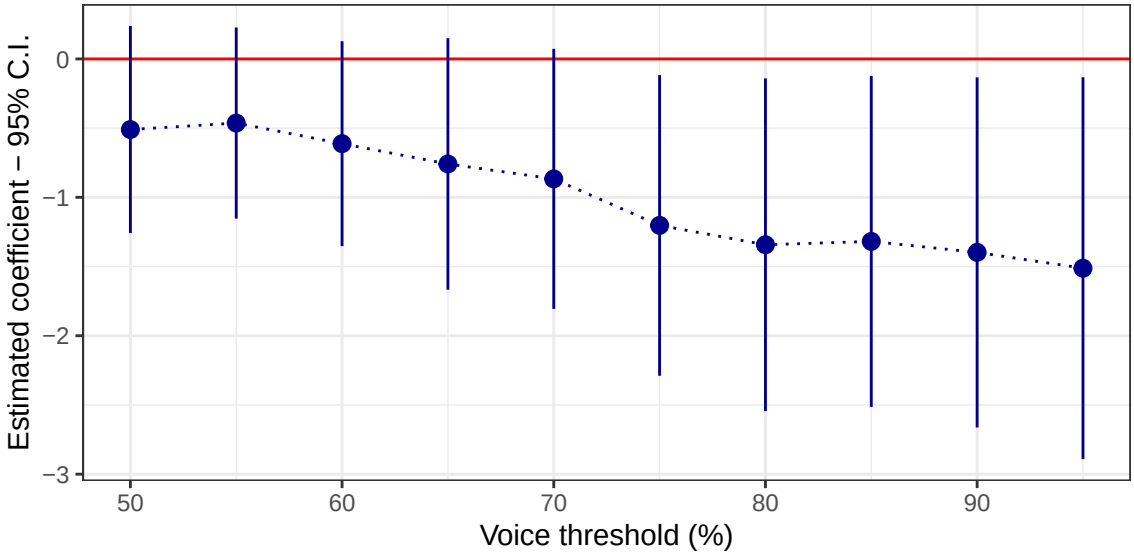
using the new sample of voice funds. I then plot the estimated coefficient on the instrumented change in voice, as well as its 95% confidence interval, in Figure F2. The plot shows that when the threshold is set at 50%, the coefficient on the instrumented change in voice is -0.5 and its p-value is 18%. As the threshold increases, the coefficient becomes more negative and increases in statistical significance. The coefficient becomes statistically significant at the 10% level when the threshold is 65% and at the 5% level above the 75% threshold. When the threshold is set at 95%, the estimated coefficient is below -1.5. These results indicate that the improvement in CSR is due to funds with the highest voice score. It also shows the robustness of the main results: as long as the threshold is set above ISS' average recommendation, the estimated coefficient is statistically significant at the 5% level.

Figure F1: **Distribution of Fund-by-Quarter Observations by Voice Score**



Notes: This figure shows the number of funds-by-quarter observations by voice score in the dataset. The lightblue bars show the distribution of funds that are not classified as voice funds, and the dark blue bars show the distribution of funds that are classified as voice funds. The red shaded area shows the range of ISS' "for" recommendations between 2013 and 2020. ISS recommendations data are from ISS. Funds' voice score are calculated from their votes on S-related shareholder proposals for which the management recommends voting "against", gathered from the N-PX forms filed at the SEC. The sample covers 1,995 funds from 2013 to 2020.

Figure F2: **Estimated Effect of Voice on Controversies, by Varying the Threshold for Being a Voice Fund – IV**



Notes: This figure plots the estimated coefficients on the β_{Voice} estimated in model 2:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{Exit} \overbrace{(\text{Exit}_{n,t+1} - \text{Exit}_{n,t-1})}^{\text{Instrumented by } Z^{Exit}_{n,t}} + \beta_{Voice} \overbrace{(\text{Voice}_{n,t+1} - \text{Voice}_{n,t-1})}^{\text{Instrumented by } Z^{Voice}_{n,t}} + \delta_{t+2} + u_{n,t+2},$$

using different definitions of a voice fund. The threshold for being a voice fund varies from 50% to 95%. The 95% confidence intervals are constructed from standard errors clustered at the firm level. The regressions also include: the instrumented change in exit, the change in total assets, the change in investment, the change in social score, as well as quarter fixed effects. Each regression has 37,580 observations. In all cases, the instruments pass the test for strong instruments.

G Cost of capital and threat of exit

This section investigates whether firms with a higher cost of capital respond more to the threat of exit.

G.1 Cost of capital calculations

Starting from the Weighted Average Cost of Capital (WACC) formula:

$$\text{WACC}_{n,t} = C_{E,n,t} \times (1 - \text{Leverage}_{n,t}) + C_{D,n,t} \times (1 - \tau_{n,t}) \times \text{Leverage}_{n,t}, \tag{G1}$$

where $C_{E,n,t}$ is a firm's cost of equity, $\text{Leverage}_{n,t}$ is total debt over total debt and total equity, $C_{D,n,t}$ is the cost of debt, and $\tau_{n,t}$ is the tax rate. I compute the cost of debt as interest expenses over debt. I consider three models of the cost of equity: one CAPM-based, one based on the Fama-French 3-factor model, and one based on a one-period Gordon growth model. Alternatively, I consider firms' S&P long-term rating.

G.2 Results

I run the main specification on sub-samples of the dataset based on previous period's measure of cost of capital. For the three WACC measures, I divide the sample between above and below median WACC. For the S&P long-term rating, I divide the sample between firms with a speculative grade rating, and firms with an investment-grade rating. Results are reported in Table G1. In Columns 1, 3, 5, and 7, focusing on firms with a plausibly higher cost of capital, the coefficient on the instrumented change in exit is negative only once, but not statistically significant. It is even positive and weakly significant when considering firms with low credit rating. On the contrary, the coefficients in Columns 2, 4, 6, and 8 are positive 3 times out of four, and weakly significant in the case of high credit rating. Thus, I do not find evidence that a higher cost of capital leads to be more prone to listen to exit shareholders.

Table G1: **Heterogeneity in Response to Changes in Exit Pressure, by Level of Cost of Capital – IV Estimation**

Dependent Variable:	$\text{Controversy}_{n,t+2}$-$\text{Controversy}_{n,t}$							
Cost of capital measure:	WACC based on						Long-term credit rating	
	CAPM		FF3		GMM		S&P Rating	
Sub-sample	Above median	Below median	Above median	Below median	Above median	Below median	Junk rating	IG rating
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables								
Instrumented Change in Exit	-0.437	0.306	0.210	-0.211	0.024	-0.061	0.807*	-1.93*
	(0.453)	(0.401)	(0.331)	(0.500)	(0.393)	(0.454)	(0.419)	(1.15)
Controls	✓	✓	✓	✓	✓	✓	✓	✓
Fixed-effects								
Quarter	✓	✓	✓	✓	✓	✓	✓	✓
Fit statistics								
Observations	22,563	22,295	22,738	22,120	23,067	21,788	13,094	18,298
Effective F-statistic	250.60	122.66	136.18	152.76	207.94	133.55	71.471	89.161

Note: This table reports estimated coefficients from model 5:

$$\text{Controversy}_{n,t+2} - \text{Controversy}_{n,t} = \beta_{Exit} \overbrace{(\text{Exit}_{n,t+1} - \text{Exit}_{n,t-1})}^{\text{Instrumented by } Z^{Exit}_{n,t}} + \delta_{t+2} + u_{n,t+2},$$

for different sub-samples. The sub-samples are based on being above or below the (lagged) median cost of capital, for different measures of a firm's cost of capital. Columns 1 to 6 are based on a Weighted Average Cost of Capital (WACC, from Model G1), and on the S&P long-term credit rating in Columns 7 and 8. The WACC is, alternatively, computed using a cost of equity based on: the CAPM (Columns 1 and 2), the Fama and French (1993) 3-factor model (Columns 3 and 4), and the Gordon Growth Model (Columns 5 and 6). Standard errors clustered at the firm level are reported between parentheses. *Change in Social Score* is divided by 100 for readability. The *Effective F-statistic* is the Olea and Pflueger (2013) first-stage F-statistic. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1