Public Sentiment Decomposition and Shareholder Actions*

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Abstract

Using a novel dataset with unique public sentiment data and a new measure of shareholder concerns, we document a strong relation between public sentiment and shareholder actions. We show that the number of shareholder proposals effectively captures investor dissatisfaction with a firm, particularly because it captures information about firms even without shareholder proposals. Negative sentiment related to financial, environmental, social and governance issues is significantly associated with a larger number of shareholder proposals, and our instrumental variable analysis supports a causal link. Further, firms with more shareholder proposals are associated with higher turnover among CEOs and directors.

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1. Introduction

Public sentiment regarding corporate practices has become increasingly pronounced, particularly with the rise of social media and the broader accessibility of information. This heightened public engagement encompasses a range of issues including, for example, a company's financial performance, product offerings, environmental policies, employee relations, and corporate governance practices. Social media platforms, alongside traditional media outlets, serve as conduits for capturing and disseminating these public opinions about firms. Beyond a potential ability to influence the decisions of a company's leadership, the sentiment can also affect shareholders' actions, including those of large institutional investors such as mutual funds, pension funds, and asset managers. Given their role as stewards of capital, these investors would be expected to integrate public sentiment with their own proprietary research to form their investment and engagement decisions. This might become even more significant in the future as asset managers cut ties with proxy advisors.[1]

Public sentiment can influence institutional investor actions such as exiting their ownership – commonly referred to as voting with their feet – or using their voice, i.e., engaging with firm management. The investor engagement strategies include submitting shareholder proposals to the firm's proxy statement, a right given to shareholders through Rule 14a-8 of the Securities Exchange Act. However, investors typically employ this strategy only after direct engagement with company leadership has been unsuccessful.

In this paper, we examine the extent to which public opinion influences shareholders' engagement actions, as reflected in the submission of shareholder proposals. Alternatively, the

[1] https://www.cnbc.com/2026/01/07/jpmorgan-wont-use-controversial-proxy-advisors-for-shareholder-votes.html

public sentiment might hold little relevance to shareholders' actions, as sophisticated institutional investors may rely primarily on fundamentals-based proprietary research and their own priorities, viewing public sentiment as noisy, short-term, and of low marginal information content or limited relevance to shareholder value. Understanding the relationship between public sentiment and shareholder actions is important, particularly with the growing presence of social media along with traditional media.

In our analysis of the relationship between public sentiment and shareholder actions, we provide two innovative contributions. First, we use unique measures of public sentiment to capture the public's views regarding not only a firm's traditional financial attributes but also other issues that may have financial or non-financial effects such as climate risk and human rights concerns. We obtain our proxies for public sentiment from LSEG's MarketPsych Analytics.[2] MarketPsych generates sentiment data by employing textual analysis as well as machine learning on a large collection of news and social media content on a continuous basis. Unlike investor sentiment measures, MarketPsych's measures are not only broader but also firm and topic specific (separating financial, environmental, social and governance issues) at each point in time.

Second, we introduce a novel approach to assess shareholder dissatisfaction with firm management. Rather than relying on voting outcomes for shareholder proposals, we use the number of shareholder proposals submitted as the primary indicator of shareholder dissent. In any given year, the majority of firms do not have a shareholder proposal included on the ballot, resulting in the absence of a well-defined metric for voting outcomes for these firms. Thus, they must be excluded from analyses that rely on voting outcome metrics. In contrast, the count of shareholder proposals is well defined – for any firm in a given year, the number of proposals equals

[2] https://www.lseg.com/en/data-analytics/financial-data/analytics/marketpsych-analytics

zero when none are submitted. The lack of shareholder proposals on the ballot may indicate an absence of significant shareholder concerns or that dissatisfaction is shown through other means, such as voting against management-nominated directors (e.g., Aggarwal, Dahiya, and Yilmaz, 2024).

The number of shareholder proposals reflects both general shareholder dissent and the range of issues for shareholder concerns. For example, the number of shareholder proposals on Amazon's proxy statements varies from 15 proposals in 2022, 18 in 2023 to 14 in 2024. These proposals address diverse topics such as executive compensation policies, climate goals, racial and gender pay gaps, warehouse conditions, and tax transparency, among others. The relatively large number of proposals compared to other firms represents shareholder dissatisfaction with Amazon's leadership on several dimensions. The approach of using the shareholder proposal count offers a more comprehensive representation of shareholder concerns. In particular, this approach allows us to examine the association between public sentiment and shareholder dissent across all firms, including those without shareholder proposals – where the absence of shareholder proposals itself reflects important information. Unlike proposal voting outcomes, our measure allows us to capture this absence of proposals.[3]

As pointed out by He, Kahraman, and Lowry (2023), although shareholder proposals rarely achieve a majority vote of at least 50 percent, their significance lies in drawing attention to particular issues. Thus, the count of shareholder proposals at a firm provides a more comprehensive measure of shareholder concerns than voting outcomes alone, as it captures the

[3] Additionally, since shareholder proposals are relatively few, especially compared to management-sponsored proposals, and are often withdrawn due to agreements with management, our analysis is conducted both including and excluding the withdrawn proposals.

breadth of issues being raised at all firms.[4] Supporting our approach, Aggarwal, Dahiya, and Yilmaz (2024) document that the mere presence of a shareholder proposal on the ballot reduces the support for even management-sponsored directors in elections.

To further assess the relevance of our metric – the number of shareholder proposals as an indicator of shareholder dissent – we examine whether there exist subsequent consequences for the firm's CEO and the directors. We find a significant relationship between the number of shareholder proposals and forced CEO turnover. Additionally, our measure of shareholder dissent correlates with an increased rate of director turnover. In terms of economic significance, one additional shareholder proposal on a proxy ballot is associated with an 18.9% increase in forced CEO turnover and a 12.2% increase in director turnover, both relative to the corresponding sample mean. Regarding the result on director turnover, we also find a significant association between the number of shareholder proposals and support for directors.

Our empirical evidence shows that measures of negative public sentiment regarding a firm's financial, environmental, social and governance issues are strongly associated with the number of shareholder-sponsored proposals. In addition, we find that environmental and social sentiment as well as governance sentiment – each independently indicate significant relationships with the number of shareholder proposals in their respective categories. Moreover, our data allows us to examine the sentiment reflected in social media sources separately from the sentiment reflected in traditional news sources. We find that both sentiment sources show significant association with the number of shareholder proposals.

[4] Further, the Malenko, Malenko and Spatt (2025) evidence regarding the incentives of proxy advisory firms to distort votes also suggests another benefit to using the count of shareholder proposals rather than the voting outcome.

To assess whether the relationship between public sentiment and shareholder proposals can be interpreted causally, we ideally need variation in public sentiment independent of firm fundamentals that may directly influence shareholder actions. Accordingly, in our baseline specifications, we control for a host of factors capturing firm fundamentals, such as stock returns, firm size, governance characteristics, and profitability, as well as industry–year fixed effects or firm and year fixed effects. Nonetheless, unobservable firm-level factors may still drive the results.

To further address these concerns, we exploit variation in public sentiment arising from the release of scandal movies – films that expose a firm's historical misconduct (Jiang, Kang, Nie, and Zhou, 2024). Given that the scandals depicted occurred in the distant past, the release of these movies is less likely to reflect the firm's current fundamentals but may negatively impact public sentiment toward the firm. Analyzing a sample of firms featured in scandal movies between 2004 and 2020, we observe a decline in public sentiment relative to control firms. Using the presence of a scandal movie as an instrument for public sentiment, we estimate the relationship between exogenously induced variation in public sentiment and shareholder proposals. In this setting, we again find that more negative (instrumented) public sentiment is associated with an increase in the number of shareholder proposals.

Our study contributes to understanding the role of public sentiment as a source of information in financial markets. For example, the media plays a role in financial markets as a collector, aggregator, and disseminator of information (e.g., Dyck, Volchkova and Zingales, 2008; Solomon, Soltes, and Sosyura, 2014). Previous studies also suggest that media coverage improves investment decisions by lowering the cost of information acquisition (Grossman and Stiglitz, 1980), increasing investors' awareness of financial assets (Merton, 1987), facilitating the quicker assimilation of information (DellaVigna and Pollet, 2009), and reducing information asymmetry between

investors and firms (Tetlock, 2010). Our novel contribution to this body of literature lies in our analysis of both traditional and social media coverage of corporations and in relating this combined coverage to shareholder actions. Public sentiment can provide additional power to institutional investors' engagements with firms because it reflects the existence of a wider scale of concerns. Moreover, our public sentiment concept differs conceptually and in measurement from the investor sentiment studied in Baker and Wurgler (2006), Stambaugh, Yi and Yuan (2012) and Devault, Sias and Starks (2019), which is based on the Baker and Wurgler combined measure of investor sentiment. Specifically, our notion of public sentiment captures all available news and social media sentiment on a firm's practices on a specific topic (financial, environmental, social and governance issues) at each point in time. Thus, our sentiment measure captures broader societal sentiment towards a company and is not limited to investor sentiment.

Our paper also contributes to the literature on how investors engage with management using their voice and therefore influence firm policies (Hirschman, 1970; Edmans, 2009; Edmans and Manso, 2011; Edmans and Holderness, 2017; Appel, Gormley, and Keim, 2016). McCahery, Sautner, and Starks (2016) and Krueger, Sautner, and Starks (2020), discuss the role of institutional investor engagement with management. However, if direct engagement fails then some investors use the proxy voting mechanism to express their dissatisfaction by voting against management or by submitting shareholder proposals. Shareholder proposals can also be submitted by smaller investors who might not have the opportunity to directly engage with management. The comparative impact of submitting shareholder proposals and voting versus exiting by institutional investors on firm policies has also been examined (e.g., Parrino, Sias, and Starks, 2003). Our focus is on the shareholder dissent through the number of proposals they submit and through their votes in director elections.

We add to previous research that examines how investors react to shareholder proposals, that is, their voting behavior, e.g., Bethel and Gillan, 2002; Gillan and Starks, 2000; Bolton, Li, Ravina and Rosenthal, 2020; He, Kahraman, and Lowry, 2021; Li, Naaraayanan and Sachdeva, 2023). In particular, even though shareholder proposals almost always fail to achieve a passing grade, He, Kahraman, and Lowry (2021) find that higher voting support for these types of proposals predicts future risk at the firm. They also find that votes in support of these proposals are related to firm value. Two papers conclude that shareholder votes can be influenced a priori. Bach and Metzger (2019a) provide evidence that management can disproportionately influence shareholder votes, which makes it difficult to identify the causal effects of firms' changes generated by shareholder votes through a regression discontinuity design. That is, shareholder voice through voting may not always be an efficient mechanism for initiating change at a firm. Malenko, Malenko, and Spatt (2025) argue that proxy advisors have incentives to provide voting recommendations that increase the chance of close votes, hence increasing the value of proxy advice. This concern is mitigated by using the number of shareholder proposals instead of the voting outcome. Additionally, shareholder proposals are submitted before management takes actions to influence voting or proxy advisors issue their recommendations, and the mechanisms identified by these authors operate primarily through the effects on voting, thus, our measure should not be affected by bias in management influence on voting or in proxy advisor recommendations.

2. Public Sentiment and Shareholder Proposals

2.1 Public Sentiment

Public sentiment could play a significant role in shaping a company's policies, actions, and outcomes. Given that information spreads rapidly through social media and other digital platforms, the public's perceptions of a company can change almost instantaneously. Further, companies may be highly sensitive to public opinion because it can affect their brand image, customer loyalty, and ultimately their bottom line. Positive public sentiment potentially leads to greater customer and employee retention, increased sales, increased productivity, and higher stock prices. Conversely, negative sentiment could result in boycotts, lower employee morale and productivity, reduced sales, and lower stock prices. As a result, companies may adjust their policies and actions to align with the public's expectations and mitigate potential backlash. The retailer Target is an example of a firm that received severe backlash in 2023 with customers boycotting its products, resulting in immediate changes to the company's product offerings. The firm had five shareholder proposals in the subsequent 2024 proxy season as compared to one in the previous year.

Public sentiment can also influence regulatory scrutiny and political pressure. When strong public opinions exist about a company's products or practices, it can prompt lawmakers and regulators to act. For instance, widespread concern over product safety or labor conditions can lead to new investigations or regulations. To avoid such outcomes, companies may proactively adopt policies that address these concerns. This alignment with public opinion not only helps companies maintain a positive image but also supports their long-term viability in terms of a license to operate from society.

2.2 Shareholder Proposals

Shareholder-sponsored proposals are precatory, serving as non-binding recommendations to a company's board. Thus, in concept, and often in practice, a firm's board and management can ignore the voting outcome, even if the proposal receives majority approval. However, the primary objective of the proposal's proponent may extend beyond securing a favorable vote. The proposal itself can serve as a communication tool to convey concerns and priorities to management, shareholders, and other stakeholders. The underlying intent may be to highlight specific issues and exert sufficient influence to drive change within the firm over time. Importantly, given the heightened public and investor focus on shareholder proposals, their influence is not always contingent on obtaining majority support. Evidence of this broader intent is seen in the common practice of the withdrawal of proposals before the vote because the proponents reach agreement with management. For example, in 2024, AFL-CIO trusts filed shareholder proposals requesting greater transparency regarding the use of AI at several companies including Apple, Comcast, Disney, Netflix and Warner Bros. Notably, AFL-CIO withdrew its proposals at Comcast and Disney after securing commitments from the firms to improve disclosure on their AI practices.

As discussed earlier, the count of shareholder votes may be problematic due to management's ability to influence the vote (Bach and Metzger, 2019a). However, even without a board implementing a shareholder proposal, the proposals can have causal real effects due to the coordination device that puts pressure on CEOs and boards (Bach and Metzger, 2019b). Moreover, the inclusion of shareholder proposals on proxy ballots, along with the outcomes of the shareholder votes, can produce indirect consequences for firms, even when the proposals fail to pass. For example, one potential outcome is the triggering of a regulatory response in which Congress enacts new legislation or the SEC implements updated rules that govern corporate conduct. Such

regulatory changes can impose significant costs on firms either through increased constraints or higher compliance costs. A prime example of these types of effects is the say-on-pay provisions of the Dodd-Frank Act, which were enacted a few years after many similar shareholder proposals started appearing on proxy ballots. In this context, the function of shareholder proposals is conceptually aligned with the role of divestment campaigns as discussed by Becht, Pajuste, and Toniolo (2023). Specifically, these authors argue that the goal of divestment campaigns is not necessarily to alter a firm's cost of capital as a mechanism of exerting pressure. Instead, these campaigns gain prominence by drawing public attention to specific issues, which in turn generates broader public pressure on firms to enact changes. Similarly, shareholder proposals, even in the absence of majority approval, can attract attention to the issue, resulting in wider public pressure on companies to make changes.

3. Data and Descriptive Statistics

3.1 Public Sentiment

We obtain firm-level data on public sentiment from the LSEG MarketPsych Analytics database. MarketPsych digitizes meanings and sentiments into machine readable values and signals based on textual analysis of an extensive list of traditional news and social media sources: around 1,000 global financial social media sites, 2,000 top global business news outlets, as well as 3,000 additional specific sources. Utilizing its machine learning tools on these resources, it captures public sentiment toward financial, environmental, social and governance issues for individual firms on a daily or even minute-by-minute basis.

The MarketPsych database encompasses media sources dating back to 1998. With the evolution of social media platforms, the database has incrementally incorporated this newer

content. The social media coverage began with Internet forums and message boards, followed by the inclusion of LexisNexis social media content in 2008, and tweets data in 2009. The database allows us to measure sentiment across various dimensions, including financial, environmental, social and governance aspects. It includes more than 100 metrics such as workplace sentiment and carbon emissions improvement as well as other controversies including tax fraud and industrial accidents.

MarketPsych measures public sentiment on a specific issue – such as emissions – by aggregating positive references to the firm's emissions on a given day, subtracting negative references to the same issue on the same day, and normalizing the net result by the total number of references to the firm's emissions during that day. This approach provides a standardized measure of sentiment directly tied to firm-specific public discourse. For example, suppose that across all traditional news and social media sources on a given day, Amazon Inc., has the following references about workplace sentiment: 1) "Amazon improves working conditions across its fulfillment centers," a positive reference; 2) "Amazon workers report toxic workplace culture," a negative reference; and 3) "Amazon earns praise for handling worker injuries," another positive reference. Then the database will record a sentiment score of (1-1+1)/(1+1+1) = 0.333 for Amazon on the workplace sentiment category for that day. The database will also record the total references to workplace sentiment, 3 in this case, as the total "buzz" on the workplace sentiment category for Amazon Inc.

The MarketPsych database includes social media sources, making it more comprehensive than earlier sentiment databases, which relied solely on traditional news sources (such as RavenPack (e.g., Dang, Moshirian, and Zhang (2015)) and TruValue Lab (e.g., Leung et al. (2023), Li, Watts, and Zhu (2024)). This raises an empirical question, which we address: do social media sources

contribute informative content? To address this question, we examine public sentiment from both news and social media sources analyzing them together as well as separately.

MarketPsych defines their measures of public sentiment on different issues as being "financial" based on financial-focused media, which relies on the algorithm being applied to the global business and investment news alongside social media sources and generates a comprehensive financial-focused measure for each firm. For environmental, social or governance sentiment, the algorithm includes all these sources plus specialized content on environmental, social and governance topics from relevant news providers, watchdog groups, NGOs, and other monitors. By identifying specific keywords within this broader set of sources, the algorithm produces distinct sentiment measures in several categories within this second category that are separate from the financial-focused sentiment measures.

We examine each of the sentiments separately as well as construct an aggregate environmental social and governance sentiment measure by combining the individual sentiment measures using a weighted average, where the weights are industry-specific, and provided by the MarketPsych database administrator.[5] For category-specific sentiment measures, we aggregate sentiment scores for the corresponding subcomponents, weighting them by their respective buzz measures. For example, we calculate the governance sentiment measure as a weighted average of its subcomponents (Management, Shareholders, and CSR Strategy), weights derived from the associated Management buzz, Shareholders buzz, and CSR Strategy buzz. These subcategory buzz and sentiment measures are obtained directly from the MarketPsych database.

[5] We employ industry weights here (as opposed to using the buzz metrics as weights), because it follows the convention among ESG ratings providers to adjust for industry in the weighting. In addition, MarketPsych recommends using industry weights to aggregate big categories like E, S, and G into one single score.

Finally, we construct monthly sentiment measures for each firm by aggregating daily sentiment scores using a weighted average, where the weights are based on the corresponding daily buzz values. As previously mentioned, the buzz metric reflects the total references to a firm's specific topic. Aggregating by the buzz measure ensures consistency in sentiment measurement across different time periods. Moreover, scaling and weighting by the buzz metric confines the sentiment scores within a range of -1 to 1.

3.2 Shareholder Proposals Characteristics

We obtain proxy voting records for all firms in the Russell 3000 Index from the ISS Voting Analytics dataset.[6] The database, which has been tracking the voting records of shareholder proposals since 2003, includes in these records the meeting date, a description of each proposal, whether it is defined as a management or shareholder proposal, the identity of the proponent (person or organization), and whether the proposal was voted on or withdrawn. The voting record also includes the board's voting recommendations as well as the proxy advisory firm, ISS, the number of outstanding shares, and the number of shares voted for, against or abstain on the proposal. Typically, the board recommends voting against the shareholder proposals included on the ballot.

Matched to the voting records, ISS also classifies the shareholder proposals into subcategories. We classify a proposal as an E proposal if its subcategory is "Environmental Proposal," and as an S proposal if its subcategory is "Social Proposal." When E and S are not separable, i.e., the subcategory is "E&S proposal," we record it as an inseparable E&S proposal. Any other

[6] https://wrds-www.wharton.upenn.edu/pages/get-data/institutional-shareholder-services-iss/voting-analytics/company-vote-results-us/

shareholder proposal is considered a G proposal. We also include management proposals on director elections.

For each subcategory, we calculate the number of shareholder proposals per firm year. For the director elections we calculate the average support rate in that firm year. The primary dependent variable in our analysis is the annual count of shareholder proposals appearing on the proxy statement ballot for each firm. By focusing on this measure, we are able to include all firms in the test sample, irrespective of whether they have any shareholder proposals. For firm-years with no proposals in a given category, the count is recorded as zero. While prior studies focus on the average voting support rate for a proposal, we do not adopt this approach because more than 85% of firm-years in our sample don't have any shareholder proposals. It is important not to throw out the important information conveyed by no proposals.

Also, in contrast to previous studies of proxy proposals (e.g., Cai, Garner, and Walkling, 2009; Aggarwal, Dahiya, and Prabhala, 2019), we do not include a control for the recommendation of a proxy advisor. Our primary analyses include firms without shareholder proposals, and a proxy advisor recommendation cannot exist in the absence of a shareholder proposal.

3.3 Sample formation and other datasets

Our sample includes all firm-years with at least one record in the ISS voting database, covering shareholder meetings held between January 2003 and December 2021 (the latest available meeting as per data downloaded in November 2022). We aggregate the ISS voting dataset from the proposal level to the firm-year level, retaining the count of proposals for each firm-year across different categories. Additionally, we analyze the average support rate for those firms with proposals. (Almost every firm includes management-sponsored director election proposals on the ballot annually.)

We merge the firm-year panel with the sentiment variables obtained from the MarketPsych database, which are measured over the twelve months leading up to each firm's shareholder meeting date. This merge yields our primary sample, comprising 4,849 unique firms with complete voting records and public sentiment data for the 2003-2021 period.

To reduce noise, we exclude firms with a total buzz – a proxy for total media attention – below the 25th percentile in the cross-section for each year. This procedure ensures that sentiment measures are not unduly influenced by low-precision estimates arising from minimal media coverage.[7] After this refinement, the final sample consists of 4,063 unique firms over the 2003-2021 period.

As control variables, we obtain firm-specific characteristics from Compustat as well as CRSP. These variables include (measured as of the fiscal year-end preceding the annual shareholder meeting date): natural logarithm of total assets in millions of U.S. dollars (*ln(Assets)*), capital expenditures to total assets (*CAPEX/Assets*), return on assets (*ROA*), book leverage (*Debt/Assets*), institutional ownership percentage (*Inst. Ownership*), and institutional ownership concentration (*Inst. Ownership HHI*). In addition, we control for a firm's annual stock return minus the value-weighted stock market return (*Excess Return*), measured over the 12-month window preceding the firm's shareholder meeting month. We require that firms have non-missing accounting and stock return data for the fiscal year-end preceding the annual shareholders meeting date and we winsorize all ratio variables at the 1st and 99th percentiles, to remove the effect of outliers.

We conduct several robustness tests in which we include additional variables. For example, we do so with Entrenchment Index (Bebchuk, Cohen, and Ferrell (2009)), though this is not in our baseline set of control variables because this index is only available for 60% of our sample. We

[7] As discussed in a later section the Wells Fargo example illustrates how sentiment measures can become volatile when the associated buzz levels are low.

find that our main results remain qualitatively unchanged when controlling for the Entrenchment index as well as additional variables like sales growth and market to book ratio.

Finally, for identification purposes (as detailed later), we collect the incidences of a firm having a scandal movie released during our sample period. Jiang et al. (2024) identified 23 movies released in North America between 1999 and 2020 that re-exposed past scandals of various companies. (We term them scandal movies for short.) We merge this list of movies to our sample, by creating an indicator equaling one for firm-years with a scandal movie released within two years before the firm's shareholder meeting and zero otherwise.[8] This indicator variable serves as our instrument for public sentiment in a two-stage least square analysis of the effect of public sentiment on shareholder voting outcomes. Since a movie often exposed scandals related to multiple firms, we have 34 unique firms affected by a scandal movie in our sample.

3.4 Descriptive Statistics

Table 1 provides descriptive statistics on the sentiment measures, which are illustrated in Figure 1. As the figure shows, all of the sentiment measures demonstrate an upward trend over the sample period. The E category has the highest positive sentiment followed by S, G and then financial. While the overall trend in sentiment is generally rising across categories, the G and financial categories experienced temporary declines. The temporary decline for the financial sentiment occurred around 2009 during the Global Financial Crisis. The temporary decline for the G category occurred in 2017 and 2018., which may have been caused by the data breaches and scandals during that time period (e.g., Equifax, Facebook's Cambridge Analytica scandal, and the Wells Fargo scandals). Although the average sentiment across all firms in the sample remains

[8] The results are slightly weaker but robust to using one year before the firm's shareholder meeting.

relatively stable, there exists notable volatility in sentiment at the individual firm and industry levels, as well as significant differences in sentiment across industries. We show examples of these differences in Figures 2 and 3 which illustrate average sentiment for the oil and gas industry and the banking industry respectively. These two figures show that banks tend to have high environmental sentiment scores while oil and gas firms tend to have low environmental scores, particularly relative to their scores on social and governance sentiment.

Panels A to C of Figure 4 provide examples of time trends in sentiment for three individual companies (Exxon, Tesla, and Wells Fargo). As expected, firm-level sentiment exhibits more volatility than what we observe at the industry level. Further, the figures show periods of negative sentiment. Exxon's environmental sentiment sharply declines during periods of negative news such as the BP Deepwater Horizon spill in 2010. While Tesla's environmental sentiment level stays consistently high throughout the sample period. its social and governance sentiment levels exhibit a decreasing trend towards zero or negative values in more recent years. Wells Fargo's governance sentiment sharply drops in 2016 following revelations of fraudulent sales by its employees.[9]

We also present descriptive statistics on the shareholder proposal counts and voting outcomes in Table 1 Panel A. The volatility of the shareholder proposal counts appears large compared to the mean and this volatility is also demonstrated in Figure 5 Panels A and B, which illustrate the changes in these counts over the sample period. Particularly notable is the increase in the total number of environmental, social and governance shareholder proposals during the 2004-2009

[9] The particularly volatile pattern observed in Wells Fargo's environmental sentiment arises from the limited relevance of environmental issues to the firm's business model, resulting in little media coverage on the topic – fewer than 100 mentions across thousands of sources over the sample period. Such limited media attention (referred to as buzz) leads to a small denominator in the sentiment calculation, which creates larger volatility in the measure. To address this issue, as explained earlier, we exclude firms with very low media attention.

period, followed by a decline over the remainder of the sample period. As Figure 5 Panel B demonstrates, the largest number of shareholder proposals concern governance issues. Further the governance-related proposals account for the large increase and subsequent decline in the total shareholder proposals depicted in Figure 5, Panel A. This pattern is attributable to the changes in shareholder-submitted say-on-pay proposals, which became required management-sponsored proposals in 2010 after passage of the Dodd-Frank Act.[10]

Table 1 Panel A shows that, on average, the support rate for shareholder proposals for all firms is 36.7% compared to 92.6% for management-sponsored proposals. However, as previously discussed, the inclusion of shareholder proposals on the proxy ballot raises awareness of the associated issues and can result in changes at the firm. Further, proxy advisory firms closely monitor proposals that achieve around 30% support or more and they expect management to address the shareholders' concerns even in the absence of a majority vote. Table 1 Panel B provides the correlations between the sentiment measures, and the shareholder proposal counts, which shows a 0.55 correlation between the financial and ESG sentiment measures for firms as well as other instances of substantial correlations between pairs of sentiment measures.

Table 1 Panel A also reports descriptive statistics for the firm characteristics that are employed as control variables in our analyses. The variable definitions are given in the Appendix. We present the correlations between the sentiment measures and these characteristics in Table 1 Panel C.

[10] In the Internet Appendix Figure IA1 illustrates the frequent changes in shareholder proposal counts for the three example firms, Exxon, Tesla and Wells Fargo. There exists variation in the number of proposals on all three dimensions, E, S, and G for the three firms. However, there are no proposals related to the environment throughout our sample period for Wells Fargo, which is consistent with our measurement of its environmental sentiment.

4. Public Sentiment and Shareholder Proposals

4.1 Public Sentiment and Shareholder Proposals Count

To test for the relation between the decision of shareholders to submit proposals to a firm's proxy statement and public sentiment about that firm, we run the following estimation at the firm-year level:

$$ShareholderProposalCount_{i,t} = \beta_0 + \beta_1 \cdot Sentiment_{i,t} + \Gamma \cdot X_{it} + \mu_i + \vartheta_{jt} + \varepsilon_{it}, \qquad (1)$$

where *i* indexes the firm, *t* indexes the year, and *j* indexes the industry of the firm. The dependent variable is the number of shareholder proposals submitted to a firm's proxy statement in a given year.[11] The primary independent variables are the sentiment measures, which consist of the financial sentiment measure, the ESG sentiment measure and the components of the latter. To account for the discrete nature of the dependent variable, we employ a Poisson regression model. The unit of observation is firm-year, and standard errors are corrected for clustering of observations at the firm level.

In each regression specification, we include controls for various firm characteristics – i.e., natural logarithm of total assets, debt to assets, cash holdings to assets, return on assets (ROA), capital expenditures (CAPEX) to assets, annual stock return minus the value-weighted stock market return (Excess Return) in addition to institutional ownership and its concentration (Herfindahl-Hirschman Index of institutional ownership). The firm characteristics are measured using data within a one-year window leading up to the shareholder meeting date. We winsorize the firm characteristic variables (except log assets) at the upper and lower 1% levels. We further standardize the independent variables to have a mean of zero and a standard deviation of one. The

[11] In the primary specification we only include the count of the shareholder proposals on the proxy ballot. In later robustness tests we also include the number of omitted and withdrawn proposals (where the sample is smaller due to data limitations).

sample is restricted to firm-years that have at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year.

We present the results from Equation (1) in Table 3, where Columns (1)-(3) include industry-by-year fixed effects and Columns (4) to (6) include firm and year fixed effects. In the regressions with aggregate ESG sentiment as the primary independent variable (Columns (1), (2), (4) and (5)) the coefficient is negative and statistically significant, which suggests that shareholders are more likely to submit proposals when public perceptions of a firm's ESG profile is relatively unfavorable. The economic magnitude of this effect is large as a one standard deviation decrease in the ESG sentiment is associated with a 29.7% $(exp(0.26) - 1)$ higher shareholder proposal count. Importantly, the coefficient on the ESG sentiment measure remains negative and statistically significant when we include the financial sentiment measure in Column 2. This specification shows that financial sentiment is also important, with a one standard deviation decrease in this sentiment measure leading to 25.9% $(\exp(0.23) - 1)$ increase in the shareholder proposal count.[12] We find similar results using firm and year fixed effects as demonstrated in columns 4 and 5. However, these alternate specifications impose greater restrictions by controlling for within-firm factors constant over time as well as cross-firm factors within a given year. Importantly, firm (year) fixed effects mitigate concerns regarding omitted variable bias as they control for unobserved heterogeneity specific to individual firms (time periods). In other words,

[12] In unreported results, we disaggregate financial sentiment into positive and negative sentiment, as this separation is provided for the financial sentiment by the data vendor. Positive (negative) financial sentiment is associated with fewer (more) shareholder proposals in a specification similar to our baseline, with the effects appearing symmetric in magnitude. Unfortunately, positive and negative sentiments are not provided separately by the data vendor for the ESG sentiment measures.

both the ESG sentiment and the financial sentiment retain statistical significance, even when the identification stems solely from intra-firm variation.[13]

In Columns 3 and 6, we disentangle the individual effects of E, S, and G sentiments and find that all load significantly with firm-year fixed effects, with the results being marginally significant for the E sentiment but stronger and significantly negative for the S and G sentiments.

In Tables 4 and 5, we examine whether the count of E and S shareholder proposals and the G shareholder proposals independently relate to the E, S and G sentiment measures. Table 4 shows that when the dependent variable is the count of E and S shareholder proposals, the coefficient on the aggregate ESG sentiment measure is significantly negative, suggesting that these sentiments are associated with shareholder decisions to submit proposals. The financial sentiment measure similarly exhibits a significantly negative association in Column (2) with the industry year fixed effects, implying that shareholder actions are also influenced by the firm's financial performance. However, the financial sentiment coefficient loses significance in the firm year fixed effects model shown in Column (4). Moreover, the coefficients for the disaggregated E and S sentiments are (marginally) significantly negative, but the G sentiment loses its significance entirely. These findings suggest that the E and S sentiments play a role in explaining the number of E and S shareholder proposals included in proxy statements, while the firm's governance sentiment appears to have no effect on the submission of E and S proposals.[14] Shareholder proposals have to be submitted to the company several months in advance, therefore in unreported results, as a

[13] In unreported results, we repeat the analysis separately for firms with high buzz (buzz is above the median) and low buzz (buzz is below the median) and find that our results are mostly driven by firms that have a high buzz and therefore get more attention.

[14] Although proposal counts may mix pro- and anti-ESG proposals, our analysis uses proposal incidence to capture shareholder dissatisfaction with firm policies rather than the direction of the demand; both types of proposals reflect such dissatisfaction. Our public sentiment measures are constructed analogously and capture sentiment toward firms' policies. For example, a statement such as "Apple's carbon-neutral target imposes excessive costs on shareholders" would be classified by our data provider as negative sentiment toward the firm's environmental policies.

placebo test, we repeat the analysis using public sentiment one month before the annual meeting. We find no significant association between number of shareholder proposals and sentiment during the one-month period. These results make sense because sentiment during this period cannot be responsible for the number of shareholder proposals.

In Table 5 we focus the analysis on the count of governance-related shareholder proposals as the dependent variable. Across most specifications, the coefficient on ESG sentiment remains significantly negative, suggesting public concerns about a firm's environmental, social and governance practices lead shareholders to submit a greater number of governance-related shareholder proposals. Consistent with the results observed in Table 4, the G sentiment measure exhibits significantly negative coefficients in both specifications while the coefficients on the E and S sentiment measures largely lose their significance. Furthermore, these findings provide support for the validity of our measures of public sentiment, indicating that they effectively capture distinct aspects of the firm's overall environmental, social and governance practices.

A key question arising from the analysis is whether differences exist between the relative importance of sentiment measures derived from traditional news media versus those from social media. Given the increasing influence of social media in recent years[15], it is plausible that social media sentiments may play a meaningful role. However, for institutional investors, who dominate the shareholder base of most publicly listed companies, traditional news outlets may still serve as the primary source of information. We examine this distinction in Table 6 by separately estimating results based on sentiment derived from traditional news media (Panel A) and social media (Panel B). The findings in Panel A show that sentiment measures from traditional media exhibit strong

[15] For example, the percentage of people using social media increased from 5% in 2005 to 79% in 2019 according to Our World in Data (https://ourworldindata.org/grapher/technology-adoption-by-households-in-the-united-states?time=2005..2019&country=Social%20media%20usage.

associations with the count of shareholder proposals. In fact, the ESG sentiment, financial sentiment, and the ESG sentiment subcategories are all significantly related to the number of shareholder proposals. A comparison of these coefficients with those from Table 3 suggests similar magnitudes but notably stronger statistical significance. Sentiment measures from social media also appear to be important influences on the number of shareholder proposals, as shown in Panel B. While coefficients on financial sentiment are similar across panels, ESG sentiment results are stronger when we focus on traditional news media rather than social media. The larger and more significant coefficients we observe for the traditional news-based sentiment measures imply that traditional media remains the more influential channel for reflecting public sentiments regarding publicly traded firms.

Our previous analyses of the relationship between the count of shareholder proposals and public sentiment have focused on final proposals on the proxy ballot. Because some submitted proposals are withdrawn or otherwise allowed to be omitted from the proxy ballot, we extend the analysis to consider all submitted shareholder proposals. Proposals are typically withdrawn when an agreement is reached between management and the proposal's sponsor, which indicates that the shareholder concerns have been addressed to some extent. Additionally, during our sample period shareholder proposals could be omitted from the ballot if the SEC approved a "no action" request from the company, indicating that these proposals were deemed unsuitable for the proxy ballot. Thus, with an analysis that includes all submitted proposals we expect a weaker relationship between the number of shareholder proposals and public sentiment. Due to data limitations, this analysis focuses on the S&P 1500 index. As shown in the Internet Appendix Table IA3, the relationship between the number of shareholder proposals and public sentiment is much stronger for the group of firms where the proposals are not withdrawn or omitted and proceed to a final

vote. Nonetheless, the core findings remain robust when we focus on the number of all shareholder proposals submitted to a firm in a year.

4.2 Consequences of Shareholder Proposals

In this section we consider the validity of our count of shareholder proposals as a measure of shareholder dissatisfaction by examining whether this metric can predict subsequent consequences for a firm's CEO and directors. We caution that we are not claiming causality from shareholder proposal submission to consequences, but rather our new metric of shareholder proposal count is an informative signal of governance consequences. Accordingly, concerns about potentially endogenous determination of trading and voting outcomes highlighted by Levit, Malenko, and Malenko (2024) are less relevant for our results. In addition, proposals are submitted prior to the trading, so such trading is less likely to drive the predictive power of the proposal count metric.

We run the following regression on the firm-year observations:

$$Consequences_{i,t+1} = \beta_0 + \beta_1 \cdot ShareholderProposalCount_{i,t} + \Gamma \cdot X_{it} + \mu_i + \vartheta_{jt} + \varepsilon_{it}, (2)$$

where *i* indexes the firm, *t* indexes the year, and *j* indexes the industry of the firm. The dependent variable is one of the three consequences we examine: forced CEO turnover, director turnover or voting support in the director elections. The primary independent variable is the number of shareholder proposals submitted to a firm's proxy statement in a given year. We measure the CEO turnover and director turnover in the one-year window following the shareholder meeting date. We again control for firm characteristics, and the unit of observation is firm-year, and standard errors are corrected for clustering of observations at the firm level.

Table 7 reports the results from these analyses. The sample is larger as we no longer need to restrict to firm-years with sufficient media coverage as this test does not employ the sentiment

measures.[16] The models in columns 1, 3 and 5 of the table have industry-year fixed effects and the models in columns 2, 4 and 6 employ firm and year fixed effects. Columns (1) and (2) show the results from testing for an association between forced CEO turnover and shareholder dissent as captured by the number of shareholder proposals. We find a greater likelihood of CEO turnover when there exists more shareholder dissent, and the economic magnitude is large – one additional shareholder proposal is associated with an 18.9% higher rate of forced CEO turnover relative to the sample mean.

Table 7 Columns (3) and (4) present the results from Equation (2) where the consequence is measured as director turnover, which refers to the percentage of directors that left a firm during the one year following the shareholder meeting. We find a strong relationship between director turnover and the count of shareholder proposals. In each specification the coefficient of the number of shareholder proposals is significant at the 1% level. The coefficients indicate that one additional shareholder proposal is associated with at least a 12.2% higher rate of director turnover relative to the sample mean.[17]

We also employ another measure of consequence related to director turnover, and examine whether the directors of a firm with more shareholder proposals receive less voting support during the annual director elections. The dependent variable in this case is average support for directors at a firm in a particular year. All firms typically have director elections therefore this analysis is also able to include all firms in our sample. As reported in Columns 5 and 6 of Table 7, more shareholder proposals on the ballot are significantly associated with directors at the firm receiving

[16] Results are similar when we impose the restriction of sufficient media attention as in previous tests. In addition, the results are also similar if we control for financial sentiment in every regression specification.

[17] After controlling for proxy fights, the board turnover and support for director elections outcome results continue to hold significantly. For the CEO turnover analysis, the coefficient's sign remains the same, but with lower magnitude and statistical significance (one additional proposal is associated with up to 7.9% higher in the rate of forced CEO turnover relative to the sample mean).

more "no" votes. The coefficients indicate that one additional shareholder proposal is associated with a 7 to 9% standard deviation lower vote in the support rate of directors.[18]

4.3 Voting Outcomes

We additionally investigate the relationship between public sentiment and the voting outcome of shareholder proposals. As pointed out earlier, we do not focus on this relationship because the voting outcomes on shareholder proposals are only available on a small subset of firm-years – those that have at least one shareholder proposal being voted. The small subset also implies that the voting outcomes could be affected by selection concerns, and the outcome remains undefined when a firm does not have any shareholder proposals in a year. Further, it is possible that proposals with a very high probability of passing or a very low probability of passing are already privately negotiated between shareholders and managers, which would leave only relatively neutral proposals on the ballot. In this case, public sentiment may affect whether a proposal is submitted rather than the observed voting outcome of submitted proposals. Also, there may not be sufficient variation in this selected subset of proposals, and we may not find any relationship between public sentiments and voting outcomes for these proposals.

We find results consistent with this speculation. The Internet Appendix Table IA4 shows the results when we conduct the baseline analysis by replacing the dependent variable with the average voting support for shareholder proposals in a firm-year whenever the firm has at least one proposal in that year. Across various specifications, we do not find a significant relationship between voting support for firms' shareholder proposals and public sentiments, be it ESG or financial. This lack of association may be consistent with a threshold-based selection mechanism in which proposal

[18] We interpret the economic magnitude of the effect on director election support relative to sample standard deviation as opposed to sample mean because the literature has documented that the average support rate for director is generally high (above 90%), but the variation (standard deviation) is still meaningful in capturing shareholder dissent.

sponsors submit proposals only when public sentiment has already shifted sufficiently to ensure a minimum level of shareholder support, thereby truncating the distribution of observed voting outcomes.[19] In general, results based on voting support for shareholder proposals versus number of shareholder proposals cannot be compared directly. The two samples are very different and capture different information.

For robustness, we examine voting for director elections for the entire sample of firms. Selection issues are less of a concern because director elections occur for every firm almost every year, we find significant relationships between public sentiments and voting support rates. Table 8 shows that a lower public sentiment predicts a lower support rate for director elections in a firm in a year. All the components of public sentiments, from ESG to financial sentiments, appear to matter for the director support rate in the same direction.

5. Causal Interpretation

The relationship between the public sentiment of a firm and the number of shareholder proposals brought to the firm in a year may not be causal, if other factors, such as firm performance and financial outcomes, simultaneously increase public sentiment about the firm and decrease the dissent and actions by the firm's shareholders. While we control for a large number of firm characteristics and performance indicators to account for this possibility and find robust results, there may still be omitted factors related to firm fundamentals. Therefore, to investigate whether the effect between public sentiment and shareholder actions can be interpreted as causal, we need to examine a shock to the public sentiment of a firm that is unrelated to the firm's performance.

[19] In additional analyses we find that the results on proposal submission are driven primarily by institutional sponsors rather than individual investors. This pattern is consistent with strategic timing based on anticipated shareholder support, to the extent that institutional sponsors are better positioned than individual investors to assess ex ante voting prospects and to condition proposal submission on public signals such as sentiment.

In this section, we attempt to address causal inference by studying scandal movies as a shock to a firm's public sentiment. Esposito et al. (2023) document that widely viewed movies can significantly shift public discourse and even behaviors. We identified 23 movies released in North America between 1999 and 2020 that re-exposed companies' past scandals, which we term "scandal movies," from Jiang et al. (2024). The idea is that while these scandal movies may bring past misconduct of a firm to the public eye and influence the public sentiment associated with the firm, such movies are less likely to directly affect how shareholders decide whether and how many new proposals to bring to the firm.[20] In other words, scandal movies as a shock may satisfy both the relevance and exclusion criteria as an instrument for public sentiment on a firm. Since the nature of these movies is about past corporate misconduct, we expect them to be a relevant instrument for ESG sentiment, more so than for financial sentiment.

We identify 23 scandal movies that affected 49 firm-years in our sample. These 49 firm-years become our treated firm-years. We then match each of these firms in its treatment year with up to five control firms within the same year and industry, based on a nearest neighbor matching procedure using the following variables as matching covariates: total news, social media buzz, ESG sentiment, financial sentiment, and firm size (log assets), all measured with a one-year lag relative to the event date (the movie's wide-release date). Employing this matched sample, we then perform a two-stage least squares regression of the number of shareholder proposals in a year on ESG sentiment measured in the last year and we instrument the ESG sentiment by the interaction between *Treatment* and *Post*, which equals one for firm years with a scandal movie released within

[20] One concern is that scandal movies could increase the salience of regulatory or reputational risks faced by the firm. Because these movies revisit previously known misconduct rather than disclose new information about contemporaneous operations, any such effects are likely to operate through renewed public attention and public sentiment, rather than as independent shocks to firm fundamentals.

the last year and zero otherwise. We additionally control for financial sentiment and the other firm characteristics used in Equation (1).[21]

Table 9 presents the results. In Panel A, the first stage regression suggests that scandal movies have a significant and negative impact on a firm's ESG sentiment. The coefficient on *Treat*Post* is statistically significant at the 1% level, regardless of the regression specification. Consistent with this statistical significance, the second-stage regressions (in Panel B) report first-stage F-statistics of above 19 without any control variables and above the conventional level of 10 after controlling for the firm characteristics. The only specification with an F-stat lower than 10 is the regression that includes all the firm characteristics, which may be overly conservative.

In Panel B, the instrumented ESG sentiment appears to have a strong negative association with the number of shareholder proposals brought to a firm. The coefficient on the instrumented ESG sentiment is significant at the 10% or 5% level, depending on the specification, and economically very large. A one-standard deviation decrease in ESG sentiment is associated with at least 1.9 more shareholder proposals in a given year, which corresponds to roughly one standard deviation of shareholder proposal count in the matched sample. This estimate is larger in magnitude than the corresponding OLS estimate, a pattern consistent with Jiang (2017), who documents that IV estimates often exceed OLS estimates in finance applications. In our setting, the larger IV estimate may reflect a local average treatment effect for firms whose public sentiment is most responsive to scandal-movie releases, as well as attenuation in the OLS estimates due to offsetting endogeneity. For example, larger and more visible firms may experience less negative measured

[21] Without matching, the first stage and second stage results are even stronger, as shown in the Internet Appendix Table IA5.

sentiment due to stronger public relations and media management, while simultaneously attracting more shareholder proposals because of a broader investor base and heightened attention.

6. Conclusion

Our study considers the influence of public sentiment on shareholder actions, with a particular focus on the inclusion of shareholder proposals on the annual proxy ballot. We find that negative public sentiment, whether derived from the traditional news media or social media, is associated with a significant increase in the number of shareholder proposals. This result suggests the extent to which public sentiment can influence shareholder behavior. By disaggregating public sentiment into its ESG and financial dimensions, we demonstrate the importance of both components in understanding the motivations behind shareholder proposals. The innovative use of scandal movies as an instrumental variable offers a step closer to a causal interpretation.

Our findings contribute new evidence on the interconnections among public sentiment, media coverage, and shareholder activism. Specifically, the results emphasize the dual role of traditional news media and social media as not only sources of information, but also as platforms for public engagement, which can significantly influence the corporate governance framework. Institutional investors, as stewards of public capital, appear to integrate sentiment in their engagements with corporate leadership, aligning their actions with broader societal concerns. This study not only helps our understanding of the mechanisms underpinning shareholder activism but also highlights the importance for corporate management to cultivate a positive public image to mitigate potential shareholder conflicts.

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Appendix: Variable descriptions

This table shows detailed description for variables used in our analyses. All variables are at the firm-year level.

Variable	Definition	Source
Financial sentiment	Weighted average of the raw daily overall financial sentiment score (between -1 and 1) from LSEG Market Psych for each firm over the 12 months window ending on the day before the firm's shareholder meeting, using both social media and news sources (unless stated otherwise). The weight is the daily measure of social media and news buzz.	LSEG Market Psych
ESG sentiment	Weighted average of the ESG sentiment scores at the firm-year level, where the weight is industry-specific and provided by the data vendor. It is measured over the 12 months window ending on the day before the firm's shareholder meeting, using both social media and news sources (unless stated otherwise)	LSEG Market Psych
E, S or G sentiment subcategory	Each E (S or G) sentiment score (between -1 and 1) for each firm-year is the weighted average of the subcategory sentiment scores for that firm-year corresponding to that category (for example, emissions, resource use, and environmental innovation scores for the E category), where the weight is industry-specific and provided by the data vendor. Each firm-year sentiment score on each subcategory is the weighted average of the same sentiment score at the daily frequency, from the LSEG Market Psych advanced (ESG) dataset, where the weight is the daily buzz metric. Each metric is measured over the 12 months window ending on the day before the firm's shareholder meeting, using both social media and news sources (unless stated otherwise)	LSEG Market Psych
Count shareholder proposals	Number of shareholder proposals on a firm's ballot in a given year. When a firm has no shareholder proposals in a year, but some record of a shareholder meeting (to vote on director elections and any other matter), the count is simply zero	ISS voting dataset
Support shareholder proposals	The average support rate for all the shareholder proposals a firm receives with available voting results in a year. The support rate for each proposal is the ratio of votes for to the sum of votes for, votes against, and votes abstained.	ISS voting dataset
Support management proposals	The average support rate for all the management proposals a firm has with non-missing voting results in a year. The support rate for each proposal is the ratio of votes for to the sum of votes for, votes against, and votes abstained.	ISS voting dataset
Support director elections	The average support rate for all the director elections a firm has with non-missing voting results in a year. The support rate for each director election is the ratio of votes for to the sum of votes for, votes against, and votes abstained.	ISS voting dataset
Log(assets)	Logarithm of total assets	Compustat
Debt/assets	Total liabilities over total assets; or lt/at	Compustat
Cash/assets	Cash and cash equivalents over total assets; or che/at	Compustat
ROA	Return on assets: EBITDA/lagged assets	Compustat
CAPEX/assets	Capital expenditure over total assets; or capx/at	Compustat

Variable	Definition	Source
Excess return	The buy-and-hold return on a firm's stock over the 12 months ending on the day before the firm's shareholder meeting, minus the market-weighted buy-and-hold return over the same period.	CRSP
Inst. ownership	The percentage of a firm's common equity held by institutional investors	Thomson Reuters 13F
Inst. ownership HHI	The Herfindahl-Hirschman Index of institutional ownership, calculated as the sum of squared ownership shares of each institutional investor in the firm	Thomson Reuters 13F
Entrenchment index	A governance measure (Bebchuk, Cohen, and Ferrell 2009) based on six anti-takeover provisions. Higher values reflect greater managerial protection from shareholder influence.	ISS RiskMetrics

Figure 1: Environmental, social, governance and financial sentiments over time

This figure graphs sentiment over time for the average firm in the full sample, including Environmental (E), Social (S), Governance (G), and Financial sentiment. The sample is restricted to firm-years with at least some shareholder voting data and total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year. Dashed lines represent the E, S, and G components, while the financial sentiment is shown with a solid line.

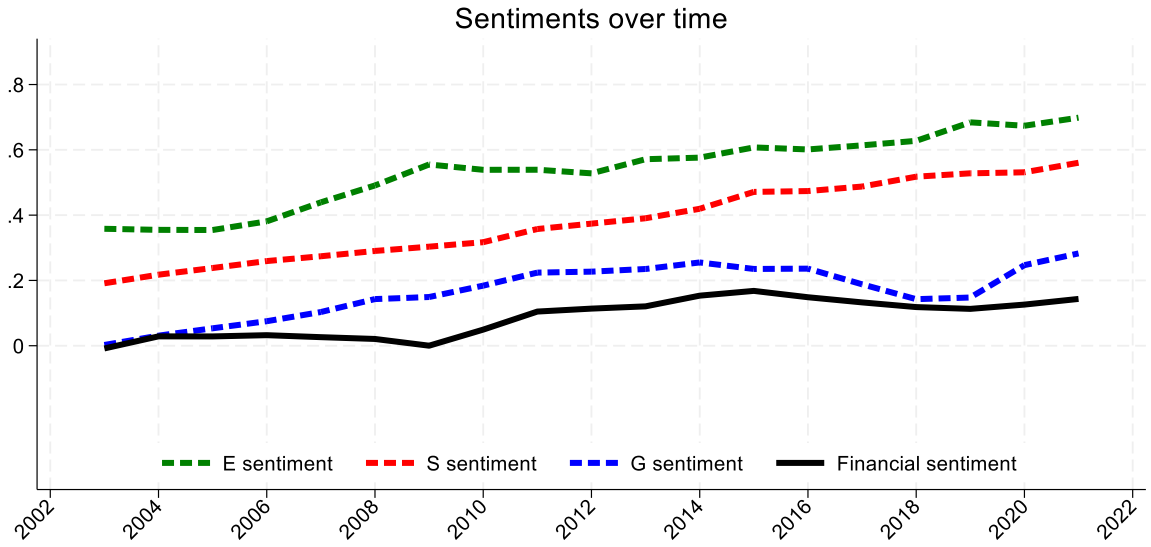


Figure 2: Environmental, social, governance and financial sentiments over time – Oil and gas industry

This figure graphs sentiment over time for the average firm in the oil and gas industry, including Environmental (E), Social (S), Governance (G), and financial sentiment. The sample is restricted to firm-years with at least some shareholder voting data and total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year. Dashed lines represent the E, S, and G components, while the financial sentiment is shown with a solid line.

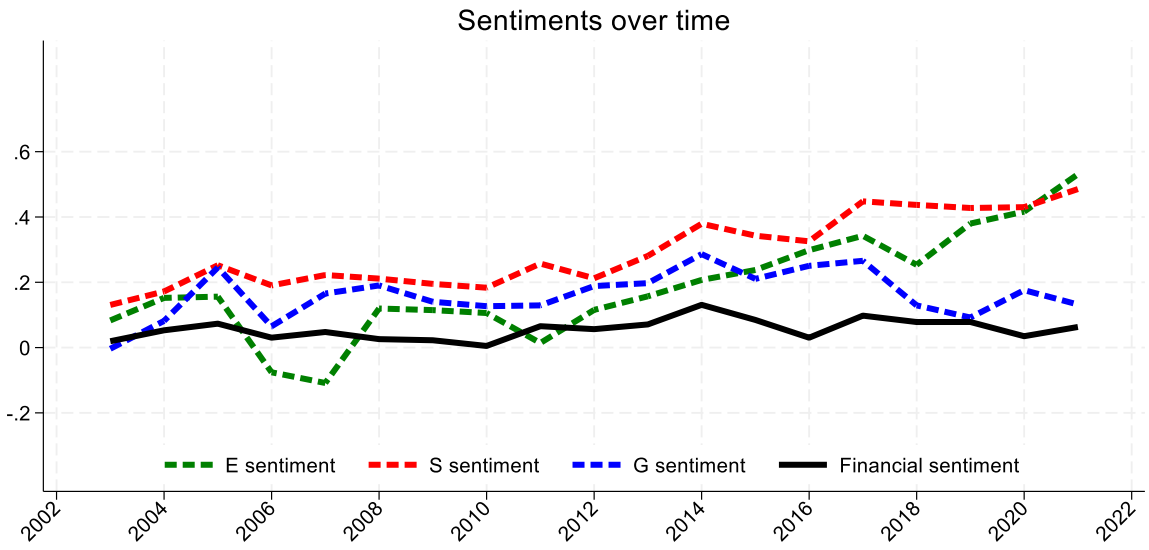


Figure 3: Environmental, social, governance and financial sentiments over time – Banking industry

This figure graphs sentiment over time for the average firm in the banking industry, including Environmental (E), Social (S), Governance (G), and financial sentiment. The sample is restricted to firm-years with at least some shareholder voting data and total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year. Dashed lines represent the E, S, and G components, while the financial sentiment is shown with a solid line.

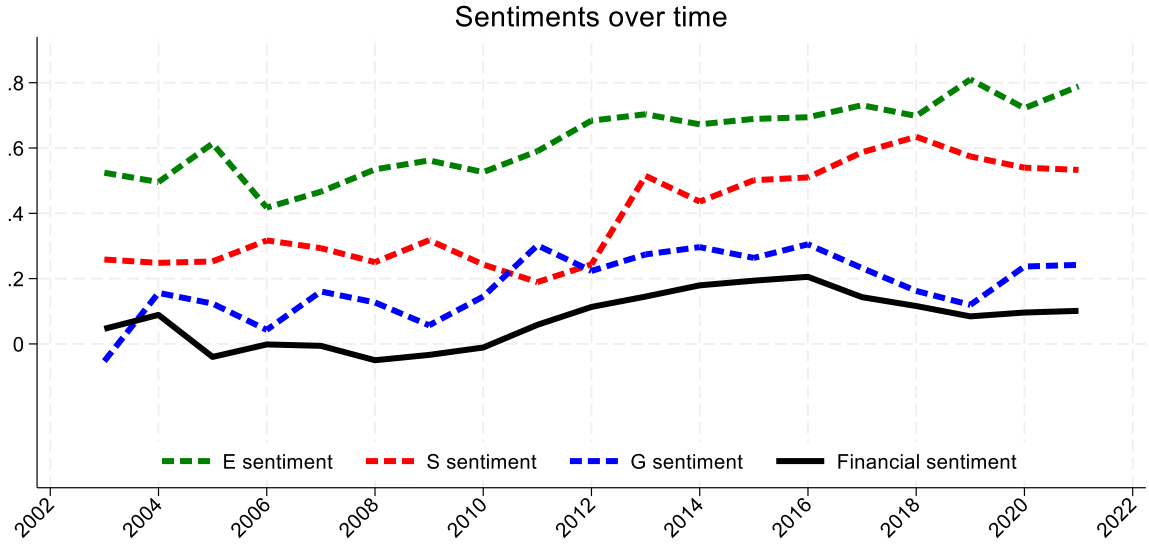
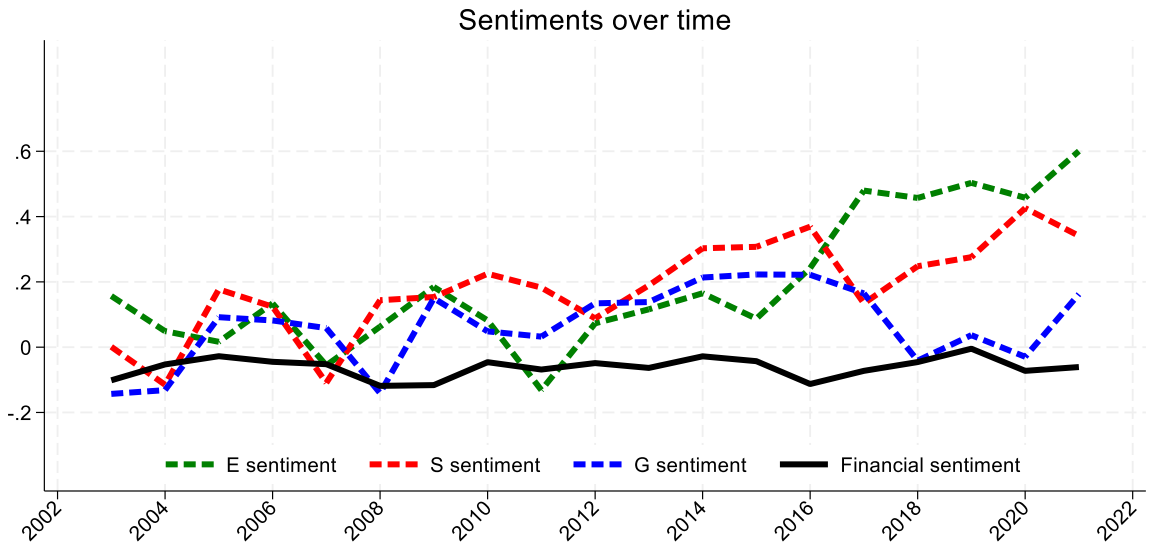


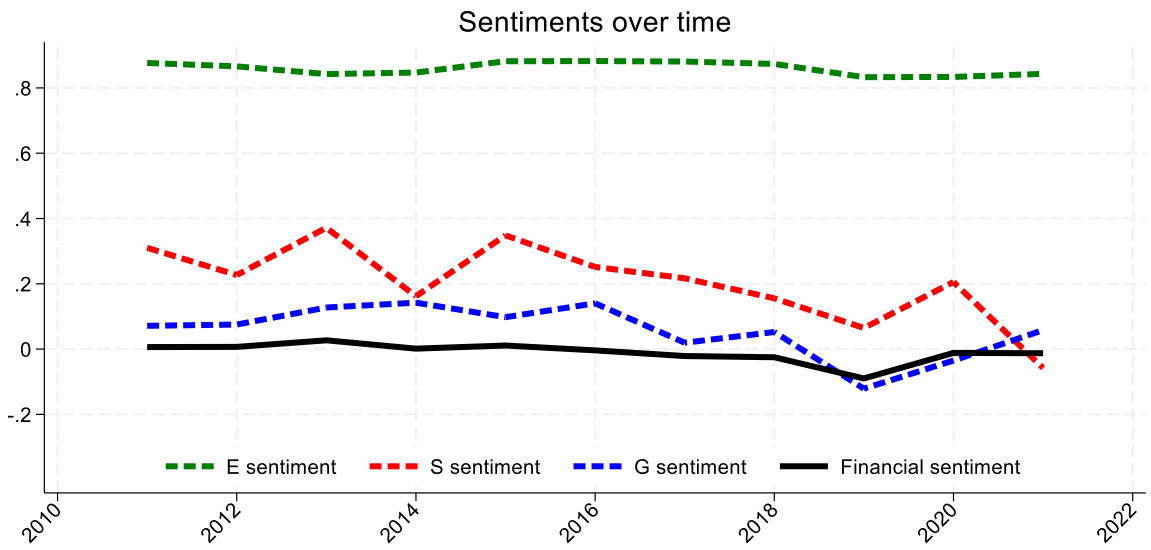
Figure 4: Environmental, social, governance and financial sentiments over time – individual firms

This figure graphs sentiments over time, similar to Figure 1, but for three individual firms: Exxon in Panel A, Tesla in Panel B, and Wells Fargo in Panel C. Each panel includes Environmental (E), Social (S), Governance (G), and financial sentiment for the respective firm. The sample is restricted to firm-years with at least some shareholder voting data and total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year. Dashed lines represent the E, S, and G components, while the financial sentiment is shown with a solid line.

Panel A: Exxon



Panel B: Tesla



Panel C: Wells Fargo

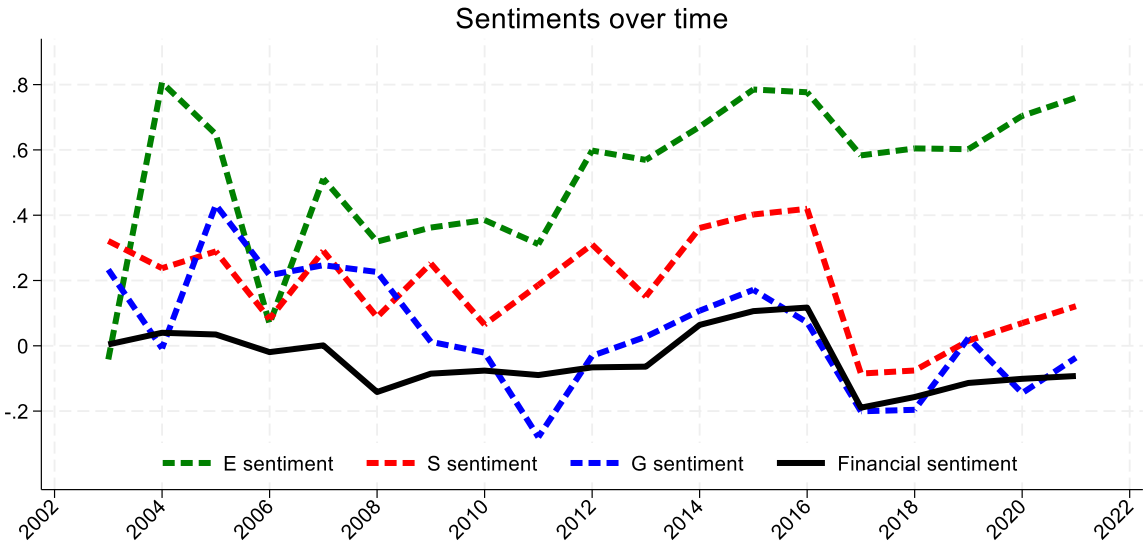


Figure 5: Count of ESG shareholder proposals

Panel A displays the average number of shareholder proposals across the sample firms over time. Panel B shows the average number of proposals, separately for the E, S, and G categories. In Panel B, we remove from our calculations the proposals that cannot be cleanly separated into one single category. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year.

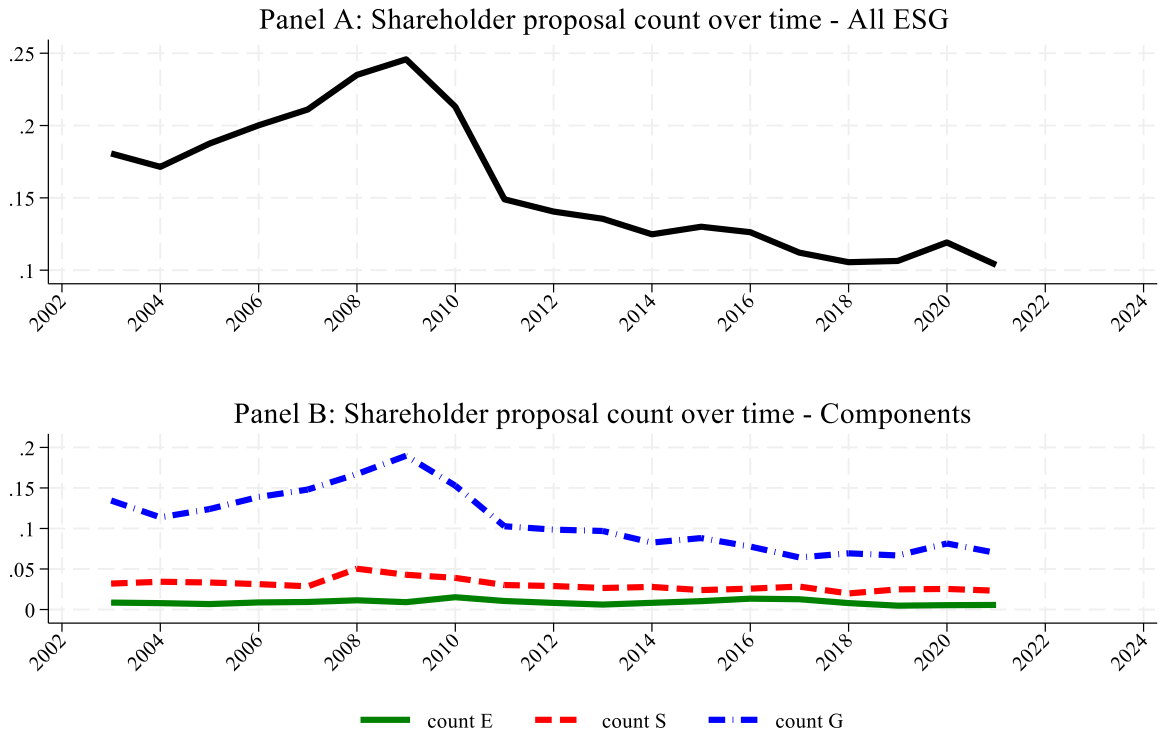


Table 1: Descriptive statistics for sentiment measures and firm characteristics

This table reports the summary statistics and correlation coefficients for the sentiment, proposal measures and firm characteristic measures. Panel A reports summary statistics for all the measures. Panels B and C report the Pearson correlation coefficients between the sentiment measures and proposal measures and the sentiment measures and firm characteristics, respectively. All variables are defined in the Appendix. The unit of observation is firm-year. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year.

Panel A: Summary statistics

	N	Mean	Std. Dev.	min	p10	Median	p90	max
Sentiment measures								
Financial sentiment	37463	.1	0.13	-.49	-.06	.09	.28	.78
ESG sentiment	36896	.38	0.27	-1	.03	.39	.71	1
E sentiment	35011	.57	0.47	-1	-.05	.72	1	1
S sentiment	36893	.42	0.30	-1	0	.45	.79	1
G sentiment	36633	.19	0.38	-1	-.28	.19	.67	1
Proposal measures								
Count shareholder proposals	60727	.17	0.76	0	0	0	0	27
Support shareholder proposals	5459	36.7	23.77	0	7.97	32.6	73.98	100
Support management proposals	55036	92.58	7.93	1.02	82	95.45	99.15	100
Support director elections	53196	94.31	7.67	14.55	85.69	96.98	99.75	100
Firm characteristics								
Log(assets)	56052	6.89	2.13	.26	4.1	6.93	9.65	11.3
Debt/assets	49989	.23	0.24	0	0	.18	.55	1.26
Cash/assets	56049	.21	0.24	0	.01	.11	.61	.96
ROA	53585	.02	0.35	-2.19	-.24	.09	.24	.66
CAPEX/assets	55126	.05	0.07	0	0	.02	.11	.56
Excess return	54739	0	0.12	-.32	-.13	0	.13	.5
Inst. ownership	47833	.61	0.30	0	.12	.69	.96	1.02
Inst. ownership HHI	47833	.13	0.18	.01	.03	.06	.3	1
Entrenchment index	20588	3.27	0.90	0	2	3	4	6

Panel B: Correlations between sentiment measures and voting measures

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Financial sentiment	1.00								
(2) ESG sentiment	0.55	1.00							
(3) E sentiment	0.22	0.56	1.00						
(4) S sentiment	0.54	0.72	0.22	1.00					
(5) G sentiment	0.41	0.71	0.15	0.30	1.00				
(6) Count shareholder proposals	-0.13	-0.06	-0.02	-0.08	-0.03	1.00			
(7) Indicator shareholder proposals	-0.11	-0.03	-0.01	-0.06	-0.01	0.74	1.00		
(8) Support management proposals	0.04	0.05	0.02	0.01	0.06	0.03	0.05	1.00	
(9) Support director election	0.06	0.05	0.02	0.02	0.06	0.01	0.02	0.75	1.00

Panel C: Correlations between sentiment measures and firm characteristics

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Financial sentiment	1.00									
(2) ESG sentiment	0.55	1.00								
(3) E sentiment	0.21	0.56	1.00							
(4) S sentiment	0.54	0.72	0.21	1.00						
(5) G sentiment	0.41	0.70	0.14	0.29	1.00					
(6) Log(assets)	-0.04	0.06	0.05	-0.02	0.07	1.00				
(7) Debt/assets	-0.03	-0.01	-0.00	-0.01	-0.04	0.22	1.00			
(8) Cash/assets	-0.03	-0.07	-0.04	0.02	-0.07	-0.49	-0.30	1.00		
(9) ROA	0.09	0.06	0.02	0.00	0.09	0.41	0.07	-0.51	1.00	
(10) CAPEX/assets	-0.03	-0.06	-0.10	-0.07	0.01	-0.00	0.05	-0.14	0.11	1.00
(11) Excess return	-0.01	-0.00	0.01	-0.00	-0.01	-0.00	0.03	-0.01	-0.00	0.01
(12) Inst. ownership	0.14	0.10	0.04	0.07	0.09	0.39	0.05	-0.18	0.33	0.02
(13) Inst. ownership HHI	-0.08	-0.06	-0.02	-0.02	-0.09	-0.35	0.03	0.15	-0.31	-0.02

Table 2: Descriptive statistics for the count of shareholder proposals

This table shows the summary statistics for the count of shareholder proposals per firm-year. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year.

Pabel A: Summary statistics

	N	Mean	Std. Dev.	min	Median	p90	max
Count shareholder proposals	60727	.17	0.76	0	0	0	27
Count G proposals	60727	.12	0.58	0	0	0	27
Count E and S proposals	60727	.06	0.35	0	0	0	12
Count E and S proposals inseparable	60727	.01	0.12	0	0	0	5
Count E proposals only	60727	.01	0.13	0	0	0	7
Count S proposals only	60727	.03	0.23	0	0	0	6

Panel B: Tabulation of the count on shareholder proposals

Count shareholder proposals	Freq.	Percent	Cum.
0	55268	91.01	91.01
1	3313	5.46	96.47
2	1060	1.75	98.21
3	444	0.73	98.94
4	260	0.43	99.37
5	130	0.21	99.59
6	95	0.16	99.74
7	63	0.10	99.85
8	35	0.06	99.90
9	17	0.03	99.93
10	13	0.02	99.95
11	9	0.01	99.97
12	6	0.01	99.98
13	3	0.00	99.98
14	3	0.00	99.99
15	2	0.00	99.99
17	2	0.00	99.99
20	1	0.00	100.00
23	1	0.00	100.00
26	1	0.00	100.00
27	1	0.00	100.00
Total	60727	100.00	

Table 3: Relationship between the number of shareholder proposals and sentiment

This table reports regressions where the dependent variable is the number of shareholder proposals on a firm's proxy statement in a given year. The regression model is a Poisson model to account for count data. The independent variables include sentiment measures and firm characteristics, all measured using data within a one-year window leading up to a firm's shareholder meeting. The unit of observation is firm-year. The variable definitions are provided in the Appendix. All independent variables are standardized to have a mean of zero and a standard deviation of one. Standard errors, clustered by firm, are reported below each coefficient estimate. Columns (1)-(3) include industry by year fixed effects. Columns (4) to (6) repeat Columns (1) to (3), respectively, using firm and year fixed effects. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year.

	(1)	(2)	(3)	(4)	(5)	(6)
ESG sentiment	-0.26***	-0.12**		-0.21***	-0.15***	
	(0.05)	(0.05)		(0.05)	(0.05)	
Financial sentiment		-0.23***			-0.13***	
		(0.04)			(0.04)	
E sentiment			-0.07			-0.05*
			(0.04)			(0.03)
S sentiment			-0.11***			-0.10***
			(0.04)			(0.03)
G sentiment			-0.19***			-0.10**
			(0.04)			(0.04)
Log(assets)	1.78***	1.72***	1.75***	1.53***	1.52***	1.53***
	(0.05)	(0.05)	(0.06)	(0.14)	(0.14)	(0.14)
Debt/assets	-0.10*	-0.11**	-0.11*	-0.02	-0.03	-0.01
	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)
Cash/assets	0.21***	0.19***	0.20***	-0.10	-0.10	-0.10
	(0.07)	(0.07)	(0.07)	(0.08)	(0.08)	(0.08)
ROA	0.12	0.17	0.14	-0.19*	-0.16	-0.18*
	(0.11)	(0.11)	(0.11)	(0.10)	(0.10)	(0.10)
CAPEX/assets	-0.02	-0.02	-0.02	-0.02	-0.03	-0.02
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Excess return	0.03	0.03	0.03	0.03	0.03	0.03
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Inst. ownership	-0.17***	-0.15**	-0.17***	0.13	0.12	0.12
	(0.06)	(0.06)	(0.06)	(0.10)	(0.10)	(0.10)
Inst. ownership HHI	-0.22**	-0.25**	-0.23**	0.20	0.18	0.19
	(0.11)	(0.12)	(0.11)	(0.14)	(0.14)	(0.13)
Observations	25063	25061	23731	10072	10072	9650
Pseudo R^2	0.40	0.40	0.40	0.37	0.37	0.37
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

Table 4: Relationship between the number of E and S shareholder proposals and sentiment

This table reports regressions where the dependent variable is the number of environmental or social (E or S) shareholder proposals on a firm's proxy statement in a year. The regression model is a Poisson model to account for count data. The independent variables include sentiment measures and firm characteristics, all measured using data within a one-year window leading up to a firm's shareholder meeting. The unit of observation is firm-year. The variable definitions are provided in the Appendix. All independent variables are standardized to have a mean of zero and a standard deviation of one. Standard errors, clustered by firm, are reported below each coefficient estimate. Columns (1)-(3) include industry by year fixed effects. Columns (4) to (6) repeat Columns (1) to (3), respectively, using firm and year fixed effects. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year.

	(1)	(2)	(3)	(4)	(5)	(6)
ESG sentiment	-0.28***	-0.15**		-0.18***	-0.14**	
	(0.07)	(0.07)		(0.07)	(0.07)	
Financial sentiment		-0.20***			-0.07	
		(0.06)			(0.06)	
E sentiment			-0.10*			-0.09*
			(0.05)			(0.05)
S sentiment			-0.18***			-0.10*
			(0.05)			(0.05)
G sentiment			-0.05			0.00
			(0.06)			(0.07)
Log(assets)	2.30***	2.25***	2.29***	2.19***	2.18***	2.19***
	(0.08)	(0.09)	(0.09)	(0.22)	(0.22)	(0.23)
Debt/assets	-0.08	-0.08	-0.07	-0.03	-0.03	-0.02
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Cash/assets	0.42***	0.39***	0.40***	-0.08	-0.07	-0.09
	(0.09)	(0.10)	(0.09)	(0.13)	(0.13)	(0.13)
ROA	0.78***	0.83***	0.77***	-0.14	-0.11	-0.15
	(0.18)	(0.18)	(0.18)	(0.17)	(0.18)	(0.17)
CAPEX/assets	0.01	0.01	0.01	0.03	0.03	0.04
	(0.06)	(0.06)	(0.06)	(0.07)	(0.07)	(0.07)
Excess return	0.09***	0.09***	0.10***	0.08***	0.08***	0.08***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Inst. ownership	-0.20**	-0.18**	-0.19**	0.11	0.11	0.08
	(0.09)	(0.09)	(0.09)	(0.13)	(0.13)	(0.13)
Inst. ownership HHI	-0.64***	-0.68***	-0.63***	-0.14	-0.16	-0.17
	(0.19)	(0.20)	(0.19)	(0.19)	(0.19)	(0.19)
Observations	21899	21897	20678	5385	5385	5257
Pseudo R^2	0.48	0.48	0.47	0.32	0.32	0.32
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Table 5: Relationship between number of G shareholder proposals and sentiment

This table reports regressions where the dependent variable is the number of governance (G, or non-E&S) shareholder proposals on a firm's proxy statement in a year. The regression model is a Poisson model to account for count data. The independent variables include sentiment measures and firm characteristics, all measured using data within a one-year window leading up to a firm's shareholder meeting. The unit of observation is firm-year. The variable definitions are provided in the Appendix. All independent variables are standardized to have a mean of zero and a standard deviation of one. Standard errors, clustered by firm, are reported below each coefficient estimate. Columns (1)-(3) include industry by year fixed effects. Columns (4) to (6) repeat Columns (1) to (3), respectively, using firm and year fixed effects. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year.

	(1)	(2)	(3)	(4)	(5)	(6)
ESG sentiment	-0.25***	-0.10		-0.22***	-0.14**	
	(0.06)	(0.07)		(0.05)	(0.06)	
Financial sentiment		-0.24***			-0.16***	
		(0.05)			(0.05)	
E sentiment			-0.06			-0.03
			(0.05)			(0.04)
S sentiment			-0.07			-0.10**
			(0.05)			(0.04)
G sentiment			-0.22***			-0.14***
			(0.05)			(0.05)
Log(assets)	1.57***	1.51***	1.55***	1.23***	1.21***	1.23***
	(0.06)	(0.06)	(0.06)	(0.17)	(0.17)	(0.17)
Debt/assets	-0.10*	-0.11*	-0.11*	-0.02	-0.02	-0.01
	(0.06)	(0.06)	(0.06)	(0.08)	(0.08)	(0.08)
Cash/assets	0.07	0.05	0.06	-0.13	-0.12	-0.13
	(0.08)	(0.07)	(0.08)	(0.09)	(0.09)	(0.09)
ROA	-0.08	-0.04	-0.06	-0.23**	-0.19*	-0.21*
	(0.09)	(0.10)	(0.10)	(0.11)	(0.11)	(0.12)
CAPEX/assets	-0.03	-0.03	-0.03	-0.05	-0.05	-0.05
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Excess return	0.00	0.01	0.01	0.00	0.00	-0.00
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Inst. ownership	-0.11	-0.10	-0.11*	0.14	0.14	0.14
	(0.07)	(0.07)	(0.07)	(0.13)	(0.13)	(0.13)
Inst. ownership HHI	-0.10	-0.13	-0.11	0.31*	0.29*	0.30*
	(0.12)	(0.12)	(0.12)	(0.17)	(0.17)	(0.16)
Observations	24630	24628	23321	8905	8905	8541
Pseudo R^2	0.31	0.32	0.31	0.28	0.28	0.28
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Table 6: Relationship between the number of shareholder proposals and traditional media versus social media ESG measures

This table reports regressions where the dependent variable is the number of shareholder proposals on a firm's proxy statement in a year. The regression model is a Poisson model to account for count data. The independent variables include sentiment measures and firm characteristics, all measured using data within a one-year window leading up to a firm's shareholder meeting. The unit of observation is firm-year. The variable definitions are provided in the Appendix. All independent variables are standardized to have a mean of zero and a standard deviation of one. Standard errors, clustered by firm, are reported below each coefficient estimate. Columns (1)-(3) include industry by year fixed effects. Columns (4) to (6) repeat Columns (1) to (3), respectively, using firm and year fixed effects. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year. In Panel A, sentiment measures are based on news (traditional media) sources only. In Panel B, sentiment measures are based on social media sources only. Control variables are included in all the regressions, same as the previous regressions, but not shown for simplicity.

Panel A: Traditional (news) media only

	(1)	(2)	(3)	(4)	(5)	(6)
ESG sentiment	-0.24***	-0.12**		-0.18***	-0.11***	
	(0.05)	(0.05)		(0.04)	(0.04)	
Financial sentiment		-0.22***			-0.14***	
		(0.05)			(0.04)	
E sentiment			-0.09**			-0.07**
			(0.04)			(0.03)
S sentiment			-0.09**			-0.08**
			(0.04)			(0.04)
G sentiment			-0.19***			-0.13***
			(0.03)			(0.03)
Observations	24804	24801	20778	9970	9970	8732
Pseudo R^2	0.40	0.40	0.39	0.37	0.37	0.36
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

Panel B: Social media only

	(1)	(2)	(3)	(4)	(5)	(6)
ESG sentiment	-0.17***	-0.06		-0.14***	-0.10**	
	(0.04)	(0.04)		(0.04)	(0.04)	
Financial sentiment		-0.25***			-0.11**	
		(0.05)			(0.05)	
E sentiment			-0.00			-0.02
			(0.04)			(0.03)
S sentiment			-0.16***			-0.10**
			(0.04)			(0.04)
G sentiment			-0.08**			-0.06
			(0.04)			(0.04)
Observations	24872	24872	19672	10044	10044	8352
Pseudo R^2	0.40	0.40	0.41	0.37	0.37	0.37
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

Table 7: Consequence of shareholder proposals

This table reports ordinary least square regressions of different outcomes for a firm's board of directors and CEO in each year on the number of shareholder proposals on the ballot for that firm-year. The outcome variable is either an indicator for forced CEO turnover, board turnover, or voting support in director elections. The CEO turnover indicator measures whether a firm's CEO is forced out of office in the one-year window following each shareholder meeting, scaled by the sample mean rate of forced CEO turnover to facilitate interpretation. Board turnover is defined as the percentage of a firm's directors that left the firm's board in the one-year window after the shareholder meeting, scaled by the sample mean of board turnover for easy interpretation. The support for directors is the percentage vote support rate for all the directors up for election in a firm in a year, scaled by the sample standard deviation. All independent variables, except for the count of shareholder proposals, are standardized to have a mean of zero and a standard deviation of one. Standard errors, clustered by firm, are reported below each coefficient estimate. All regressions include either industry times year fixed effects or firm and year fixed effects.

	(1)	(2)	(3)	(4)	(5)	(6)
	Forced CEO turnover		**Board turnover**		**Support for directors**	
Count shareholder proposals	0.189***	0.221**	0.122***	0.139***	-0.070***	-0.092***
	(0.065)	(0.096)	(0.017)	(0.019)	(0.014)	(0.016)
Log(assets)	-0.107*	0.255	0.056***	0.002	0.179***	-0.084**
	(0.064)	(0.230)	(0.014)	(0.045)	(0.012)	(0.034)
Debt/assets	0.175***	0.152*	0.027**	0.019	-0.017*	-0.016
	(0.051)	(0.085)	(0.011)	(0.019)	(0.010)	(0.012)
Cash/assets	-0.135**	-0.401***	-0.007	-0.049**	0.038***	0.060***
	(0.058)	(0.115)	(0.013)	(0.024)	(0.011)	(0.015)
ROA	-0.315***	-0.308***	-0.098***	-0.056***	0.010	0.008
	(0.091)	(0.102)	(0.013)	(0.021)	(0.011)	(0.014)
CAPEX/assets	-0.018	-0.036	-0.032***	-0.056***	0.028***	0.055***
	(0.046)	(0.059)	(0.010)	(0.016)	(0.008)	(0.009)
Excess return	-0.229***	-0.259***	-0.021***	-0.010	0.023***	0.022***
	(0.040)	(0.040)	(0.008)	(0.007)	(0.005)	(0.005)
Inst. ownership	0.013	-0.160	0.002	-0.092***	0.005	0.054***
	(0.072)	(0.118)	(0.013)	(0.024)	(0.011)	(0.016)
Inst. ownership HHI	0.150	0.154	0.112***	0.055**	0.057***	0.044***
	(0.123)	(0.159)	(0.019)	(0.026)	(0.013)	(0.014)
Constant	0.911***	0.829***	1.023***	1.030***	0.015*	-0.010**
	(0.075)	(0.105)	(0.010)	(0.008)	(0.009)	(0.005)
Observations	22666	22596	36538	36053	40780	40250
R-squared	0.039	0.127	0.060	0.246	0.099	0.406
Fixed Effects	Ind*year	Firm+year	Ind*year	Firm+year	Ind*year	Firm+year

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Table 8: Relationship between sentiment measures and support for director elections

This table reports regressions of voting support for director elections on a firm's proxy statement on sentiment measures and firm characteristics for director elections. The independent variables include sentiment measures and firm characteristics, all measured using data within a one-year window leading up to a firm's shareholder meeting. The unit of observation is firm-year. The variable definitions are provided in the Appendix. All independent variables are standardized to have a mean of zero and a standard deviation of one. Standard errors, clustered by firm and year, are reported below each coefficient estimate. Columns (1)-(3) include industry by year fixed effects. Columns (4) to (6) repeat Columns (1) to (3), respectively, using firm and year fixed effects. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year. ***, **, * denotes significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
ESG sentiment	0.07***	0.03**		0.04***	0.01	
	(0.01)	(0.01)		(0.01)	(0.01)	
Financial sentiment		0.08***			0.09***	
		(0.01)			(0.01)	
E sentiment			0.02*			0.01
			(0.01)			(0.01)
S sentiment			0.04***			0.02**
			(0.01)			(0.01)
G sentiment			0.05***			0.04***
			(0.01)			(0.01)
Log(assets)	0.15***	0.16***	0.15***	-0.08**	-0.07*	-0.09**
	(0.01)	(0.01)	(0.01)	(0.04)	(0.04)	(0.04)
Debt/assets	0.00	0.00	0.00	-0.01	-0.01	-0.01
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)
Cash/assets	0.02	0.02	0.02	0.08***	0.08***	0.07***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
ROA	0.04**	0.03**	0.04***	-0.01	-0.02	-0.01
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
CAPEX/assets	0.03***	0.03**	0.03***	0.06***	0.06***	0.07***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Excess return	0.02**	0.01**	0.01**	0.01**	0.01**	0.01*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Inst. ownership	0.03**	0.02	0.03**	0.07***	0.06***	0.07***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
Inst. ownership HHI	0.04**	0.04**	0.04**	0.02	0.03	0.03
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Observations	25359	25357	24044	25101	25097	23754
R-squared	0.11	0.11	0.11	0.41	0.42	0.42
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1

Table 9: Identification with scandal movies as shocks

This table reports two-stage least square regressions of the number of shareholder proposals in each firm-year on ESG sentiment and firm-characteristics on a matched sample. The sentiment measures and firm characteristics are all measured using data within a one-year window leading up to a firm's shareholder meeting. The ESG sentiment measure is instrumented by an indicator of *Treat*Post* equaling one if a firm has a scandal movie widely released within a two-year window before the firm's shareholder meeting, and zero otherwise. The variable definitions are provided in the Appendix. All independent variables are standardized to have a mean of zero and a standard deviation of one. Standard errors, clustered by firm, are reported below each coefficient estimate. All regressions include firm and year fixed effects. The sample is restricted to a matched sample in which each treated firm, i.e., firm with a scandal movie, is matched with up to five control firms based on a nearest neighbor matching procedure with exact matching on industry and year and the following covariates: total news and social media buzz, ESG sentiment, financial sentiment, and firm size (log assets), all measured by one year lag relative to the event date (movie wide release date). Panel A reports the first stage regressions, while Panel B reports the second stage regressions.

Panel A: First stage

Dependent variable: ESG sentiment	(1)	(2)	(3)	(4)	(5)
Treat*Post	-.25***	-.22***	-.22***	-.18***	-.17***
	(.07)	(.08)	(.08)	(.04)	(.05)
Log(assets)		-.14**	-.14*		-.12**
		(.07)	(.07)		(.05)
Debt/assets		-.04*	-.04*		0
		(.02)	(.02)		(.02)
Cash/assets		-.05	-.05		-.06**
		(.03)	(.03)		(.03)
ROA		.04	.04		-.07*
		(.05)	(.05)		(.04)
CAPEX/assets		.01	.01		.03
		(.02)	(.02)		(.02)
Inst. ownership		.05	.05		.02
		(.04)	(.04)		(.04)
Inst. ownership HHI		-.02	-.02		-.01
		(.05)	(.05)		(.05)
Excess return			.03**	.01	.03**
			(.01)	(.01)	(.01)
Financial Sentiment				.39***	.38***
				(.03)	(.03)
Constant	-.18***	-.07	-.07	-.07***	.06
	(0)	(.08)	(.08)	(.01)	(.06)
Observations	2446	1875	1872	2341	1872
R-squared	.51	.52	.52	.61	.62
Year F.E.	yes	yes	yes	yes	yes
Firm F.E.	yes	yes	yes	yes	yes

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

Panel B: Second stage

Number of shareholder proposals	(1)	(2)	(3)	(4)	(5)
Instrumented ESG sentiment	-2.46**	-1.91*	-1.94*	-3.2**	-2.38*
	(.96)	(.97)	(.99)	(1.37)	(1.25)
Log(assets)		.6**	.63***		.6**
		(.24)	(.24)		(.27)
Debt/assets		-.06	-.07		0
		(.07)	(.07)		(.07)
Cash/assets		-.09	-.1		-.14
		(.11)	(.11)		(.13)
ROA		.06	.06		-.12
		(.13)	(.13)		(.16)
CAPEX/assets		.04	.04		.07
		(.09)	(.08)		(.09)
Inst. ownership		-.01	0		-.02
		(.12)	(.11)		(.11)
Inst. ownership HHI		-.06	-.04		-.03
		(.11)	(.11)		(.12)
Excess return			.14**	.09*	.15**
			(.05)	(.05)	(.06)
Financial Sentiment				1.06*	.7
				(.55)	(.48)
Observations	2446	1875	1872	2341	1872
R-squared	-.73	-.36	-.37	-1.13	-.5
Year F.E.	yes	yes	yes	yes	yes
Firm F.E.	yes	yes	yes	yes	yes
1st-stage F-Stat	19.505	10.658	10.875	11.649	7.979

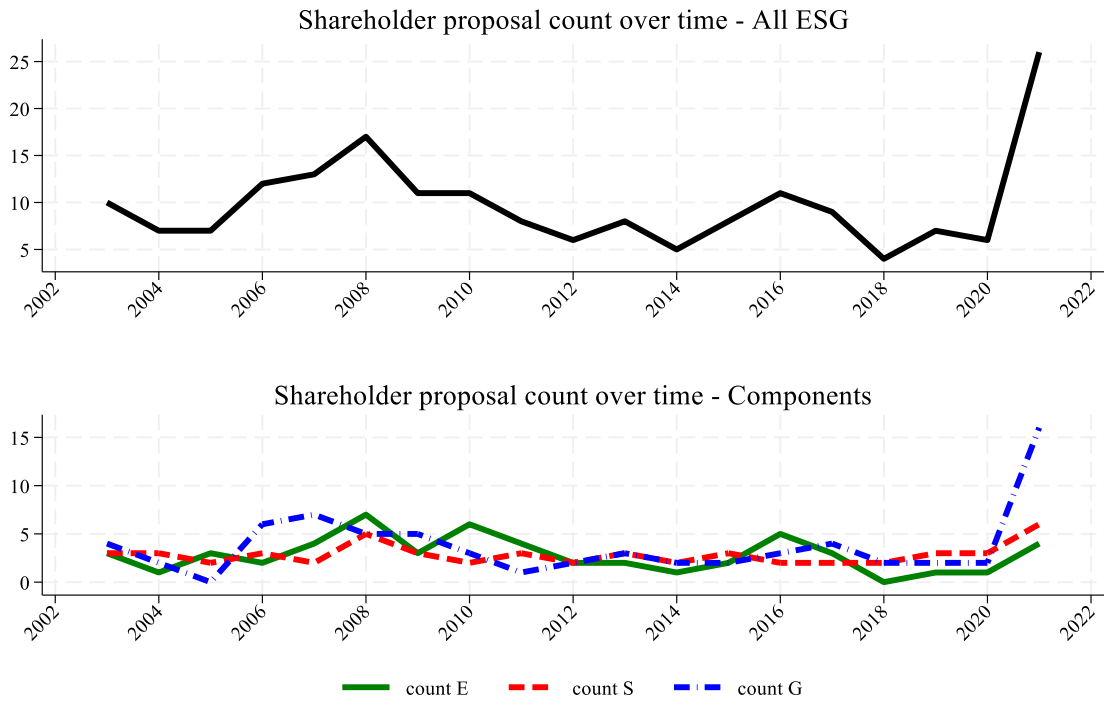
Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Internet Appendix

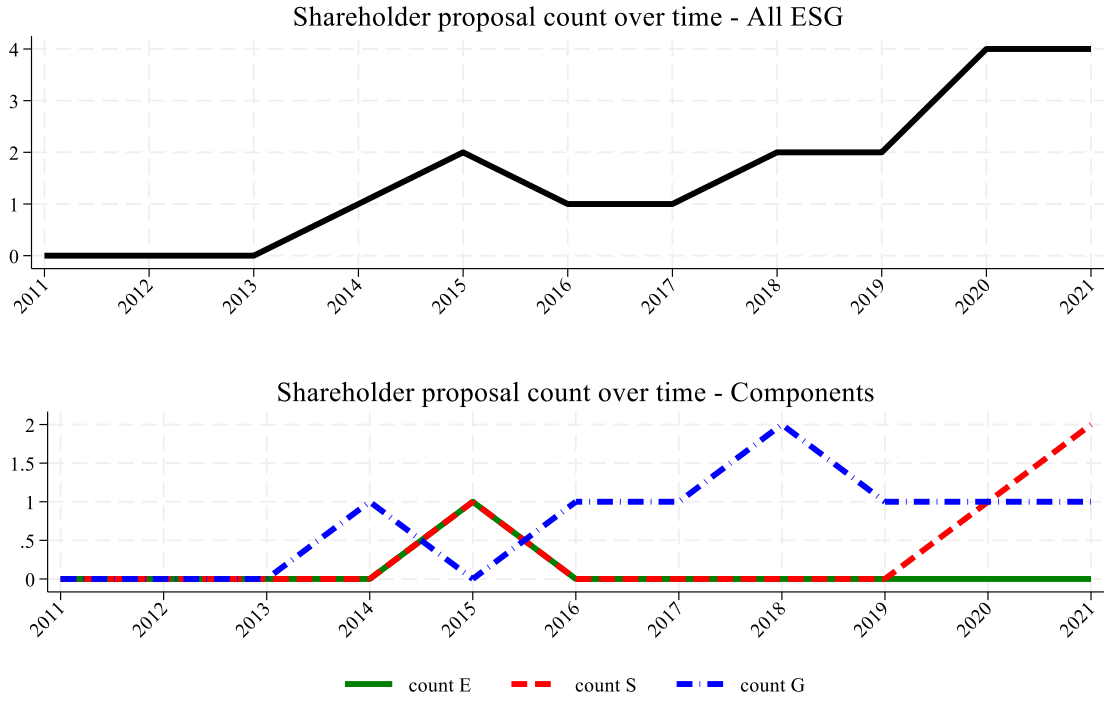
Figure IA1: Examples of the count of ESG shareholder proposals for individual firms

This figure graphs the number of shareholder proposals for three example firms over time with Exxon in Panel A, Tesla in Panel B, and Wells Fargo in Panel C.

Panel A: Exxon



Panel B: Tesla



Panel C: Wells Fargo

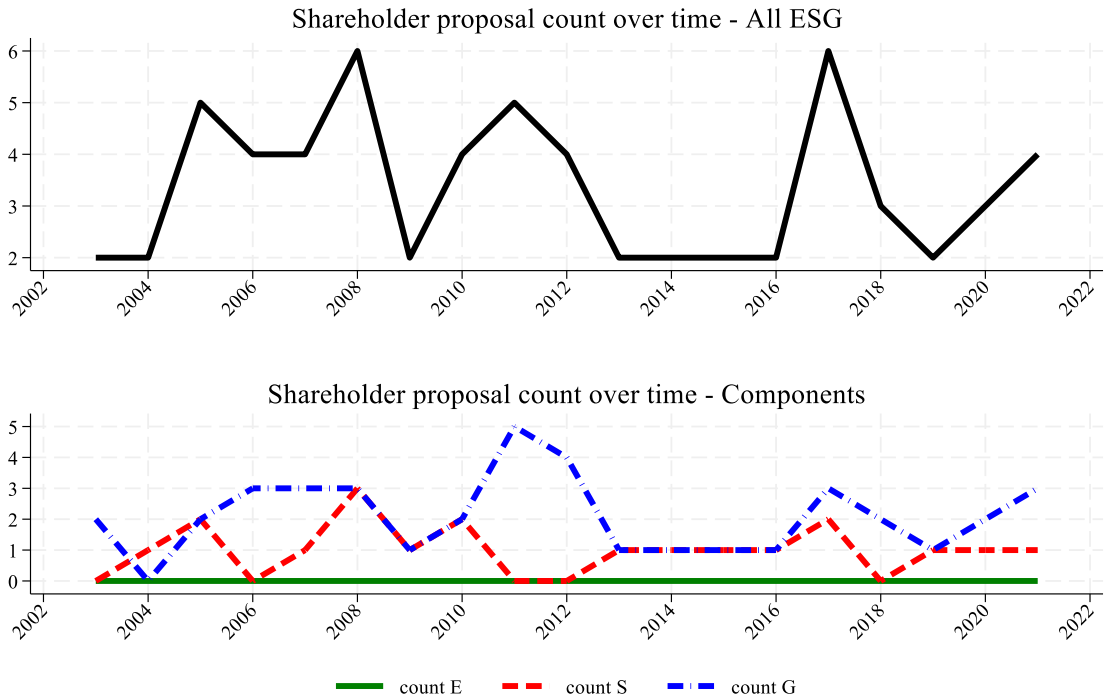


Table IA1: Detailed descriptive statistics for the number of shareholder proposals

Panel A: Count by industry

Industry code	Industry name	N	Count shareholder proposals	count G	count E&S	count E only	count S only
5	Tobacco Products	86	1.40	0.27	1.13	0	1.06
24	Aircraft	306	0.67	0.49	0.18	0.01	0.17
4	Beer & Liquor	163	0.53	0.27	0.26	0.05	0.13
31	Utilities	1538	0.45	0.28	0.18	0.09	0.08
26	Defense	144	0.44	0.23	0.21	0	0.20
29	Coal	157	0.39	0.23	0.16	0.11	0.05
43	Restaurants, Hotels, Motels	944	0.34	0.19	0.15	0.02	0.07
42	Retail	2703	0.34	0.23	0.11	0.02	0.07
23	Automobiles and Trucks	898	0.32	0.24	0.07	0.02	0.04
32	Communication	1434	0.31	0.23	0.08	0.00	0.07
30	Petroleum and Natural Gas	2486	0.31	0.14	0.17	0.08	0.07
2	Food Products	852	0.29	0.12	0.17	0.06	0.06
40	Transportation	1680	0.24	0.17	0.07	0.01	0.05
3	Candy & Soda	164	0.22	0.15	0.07	0.01	0.03
9	Consumer Goods	721	0.21	0.14	0.07	0.01	0.04
48	Almost Nothing	1409	0.18	0.12	0.06	0.02	0.04
18	Construction	790	0.18	0.13	0.05	0.03	0.01
38	Business Supplies	585	0.17	0.13	0.05	0.01	0.03
8	Printing and Publishing	345	0.16	0.15	0.01	0.00	0.01
39	Shipping Containers	158	0.16	0.16	0	0	0
6	Recreation	297	0.15	0.12	0.03	0	0.01
35	Computers	1723	0.14	0.11	0.03	0	0.02
14	Chemicals	1176	0.14	0.11	0.03	0.01	0.01
45	Insurance	2303	0.13	0.08	0.05	0.00	0.05
25	Shipbuilding, Railroad Equipment	151	0.13	0.09	0.04	0	0.03
33	Personal Services	700	0.13	0.11	0.02	0.00	0.02
21	Machinery	1787	0.13	0.10	0.04	0.00	0.02
46	Real Estate	466	0.13	0.11	0.02	0	0.01
28	Non-Metallic and Industrial Metal Mining	330	0.13	0.12	0.02	0.00	0.00
11	Healthcare	924	0.12	0.10	0.02	0	0.01
10	Apparel	640	0.12	0.08	0.05	0.01	0.04
7	Entertainment	756	0.12	0.10	0.02	0.00	0.01
34	Business Services	6665	0.11	0.08	0.03	0.00	0.02
36	Electronic Equipment	3358	0.10	0.08	0.02	0.00	0.02
17	Construction Materials	964	0.10	0.08	0.02	0.01	0.01
13	Pharmaceutical Products	6282	0.10	0.07	0.03	0.00	0.02
44	Banking	7709	0.10	0.07	0.03	0.00	0.02
47	Trading	4964	0.09	0.08	0.02	0.00	0.01

41	Wholesale	1645	0.09	0.08	0.01	0.00	0.01
37	Measuring and Control Equipment	1070	0.08	0.06	0.02	0.00	0.01
19	Steel Works Etc	683	0.08	0.05	0.04	0.00	0.03
27	Precious Metals	183	0.08	0.05	0.02	0.01	0.01
12	Medical Equipment	2038	0.07	0.06	0.01	0.00	0.00
22	Electrical Equipment	870	0.06	0.03	0.03	0.00	0.01
15	Rubber and Plastic Products	286	0.06	0.06	0	0	0
1	Agriculture	132	0.04	0.02	0.02	0	0.02
16	Textiles	128	0.02	0.02	0.01	0	0.01
20	Fabricated Products	109	0	0	0	0	0

Panel B: Top firm-years by count of shareholder proposals

Name	year	Count
Amylin Pharmaceuticals, Inc.	2009	27
Exxon Mobil Corporation	2021	26
Health Management Associates, Inc.	2013	23
CoreLogic, Inc.	2020	20
Exxon Mobil Corporation	2008	17
CSX Corporation	2008	17
Darden Restaurants, Inc.	2014	15
General Electric Company	2004	15
Micrel, Inc.	2008	14
Zoran Corp.	2011	14

Panel C: Top firm-years by count of shareholder proposals – different categories

Name	year	**Count E**
Exxon Mobil Corporation	2008	7
Exxon Mobil Corporation	2010	6
Dominion Energy, Inc.	2012	5
Chevron Corporation	2016	5
Exxon Mobil Corporation	2016	5
ConocoPhillips	2010	5
Dominion Energy, Inc.	2015	5
Dominion Energy, Inc.	2011	4
Exxon Mobil Corporation	2021	4
Exxon Mobil Corporation	2007	4

Name	year	**Count S**
Exxon Mobil Corporation	2021	6
Amazon.com, Inc.	2020	5
Alphabet Inc.	2017	5
Altria Group, Inc.	2004	5
Altria Group, Inc.	2009	5
Exxon Mobil Corporation	2008	5
Amazon.com, Inc.	2021	4
Altria Group, Inc.	2003	4
Altria Group, Inc.	2008	4
Reynolds American, Inc.	2003	4

Name	year	**Count G**
Amylin Pharmaceuticals, Inc.	2009	27
Health Management Associates, Inc.	2013	22
CoreLogic, Inc.	2020	20
CSX Corporation	2008	17
Exxon Mobil Corporation	2021	16
Equity Commonwealth	2014	14
Micrel, Inc.	2008	14
Zoran Corp.	2011	14
Darden Restaurants, Inc.	2014	13
XenoPort, Inc.	2014	13

Table IA2: Double clustering as a robustness check

This table reports regressions where the dependent variable is the number of shareholder proposals on a firm's proxy statement in a given year. The regression model is a Poisson model to account for count data. The independent variables include sentiment measures and firm characteristics, all measured using data within a one-year window leading up to a firm's shareholder meeting. The unit of observation is firm-year. The variable definitions are provided in the Appendix. All independent variables are standardized to have a mean of zero and a standard deviation of one. Standard errors, clustered by firm and year, are reported below each coefficient estimate. Columns (1)-(3) include industry by year fixed effects. Columns (4) to (6) repeat Columns (1) to (3), respectively, using firm and year fixed effects. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year.

	(1)	(2)	(3)	(4)	(5)	(6)
ESG sentiment	-0.26***	-0.12**		-0.21***	-0.15***	
	(0.05)	(0.05)		(0.04)	(0.04)	
Financial sentiment		-0.23***			-0.13***	
		(0.05)			(0.04)	
E sentiment			-0.07			-0.05
			(0.05)			(0.03)
S sentiment			-0.11**			-0.10**
			(0.05)			(0.04)
G sentiment			-0.19***			-0.10**
			(0.04)			(0.04)
Log(assets)	1.78***	1.72***	1.75***	1.53***	1.52***	1.53***
	(0.06)	(0.06)	(0.06)	(0.15)	(0.15)	(0.15)
Debt/assets	-0.10*	-0.11**	-0.11*	-0.02	-0.03	-0.01
	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)
Cash/assets	0.21***	0.19***	0.20***	-0.10	-0.10	-0.10
	(0.07)	(0.06)	(0.07)	(0.09)	(0.09)	(0.09)
ROA	0.12	0.17	0.14	-0.19**	-0.16*	-0.18**
	(0.10)	(0.10)	(0.10)	(0.09)	(0.08)	(0.09)
CAPEX/assets	-0.02	-0.02	-0.02	-0.02	-0.03	-0.02
	(0.05)	(0.05)	(0.05)	(0.04)	(0.05)	(0.04)
Excess return	0.03	0.03	0.03	0.03	0.03	0.03
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Inst. ownership	-0.17**	-0.15**	-0.17**	0.13	0.12	0.12
	(0.07)	(0.07)	(0.07)	(0.10)	(0.09)	(0.10)
Inst. ownership HHI	-0.22**	-0.25**	-0.23**	0.20	0.18	0.19
	(0.10)	(0.11)	(0.10)	(0.16)	(0.16)	(0.15)
Observations	25063	25061	23731	10072	10072	9650
Pseudo R^2	0.40	0.40	0.40	0.37	0.37	0.37
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

Table IA3: Relationship between sentiment measures and count of all shareholder proposals submitted

This table reports regressions where the dependent variable is the number of shareholder proposals submitted to a firm each year (Panel A) or the number of shareholder proposals with a final vote (Panel B), i.e. removing withdrawn and omitted proposals. The regression model is a Poisson model to account for count data. The independent variables include sentiment measures and firm characteristics, all measured using data within a one-year window leading up to a firm's shareholder meeting. The unit of observation is firm-year. The variable definitions are provided in the Appendix. All independent variables are standardized to have a mean of zero and a standard deviation of one. Standard errors, clustered by firm, are reported below each coefficient estimate. Columns (1)-(3) include industry by year fixed effects. Columns (4) to (6) repeat Columns (1) to (3), respectively, using firm and year fixed effects. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year. Control variables are included in all regressions as in the baseline but not shown to save space.

Panel A: Count of all shareholder proposals submitted in a year

	(1)	(2)	(3)	(4)	(5)	(6)
ESG sentiment	-0.15***	-0.03		-0.18***	-0.10**	
	(0.05)	(0.06)		(0.04)	(0.05)	
Financial sentiment		-0.18***			-0.12***	
		(0.04)			(0.03)	
E sentiment			-0.02			-0.05
			(0.04)			(0.03)
S sentiment			-0.10***			-0.09***
			(0.04)			(0.03)
G sentiment			-0.11**			-0.07*
			(0.04)			(0.04)
Observations	23187	23185	22156	8867	8867	8676
Pseudo R^2	0.52	0.53	0.52	0.46	0.46	0.46
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

Panel B: Count of all shareholder proposals with a final vote in a year

	(1)	(2)	(3)	(4)	(5)	(6)
ESG sentiment	-0.24***	-0.12*		-0.23***	-0.19***	
	(0.06)	(0.07)		(0.05)	(0.06)	
Financial sentiment		-0.17***			-0.06	
		(0.05)			(0.04)	
E sentiment			-0.06			-0.06
			(0.05)			(0.04)
S sentiment			-0.14***			-0.12***
			(0.05)			(0.04)
G sentiment			-0.13**			-0.07
			(0.05)			(0.05)
Observations	22360	22358	21330	6423	6423	6282
Pseudo R^2	0.49	0.49	0.48	0.39	0.39	0.38
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

Table IA4: Relationship between sentiment measures and support for shareholder proposals

This table reports regressions where the dependent variable is the average support rate for all the shareholder proposals on a firm's proxy statement in a year. The regression model is OLS. The independent variables include sentiment measures and firm characteristics, all measured using data within a one-year window leading up to a firm's shareholder meeting. The unit of observation is firm-year. The variable definitions are provided in the Appendix. All independent variables are standardized to have a mean of zero and a standard deviation of one. Standard errors, clustered by firm, are reported below each coefficient estimate. Columns (1)-(3) include industry by year fixed effects. Columns (4) to (6) repeat Columns (1) to (3), respectively, using firm and year fixed effects. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year. Panel A focuses on all types of shareholder proposals. Panels B and C break it down to E&S vs. G proposals, respectively.

Panel A: Support for all shareholder proposals in a year

	(1)	(2)	(3)	(4)	(5)	(6)
Support for all shareholder proposals						
ESG sentiment	-0.00	-0.02		-0.06	-0.05	
	(0.04)	(0.05)		(0.04)	(0.05)	
Financial sentiment		0.03			-0.03	
		(0.04)			(0.03)	
E sentiment			-0.01			-0.06**
			(0.03)			(0.03)
S sentiment			0.04			-0.01
			(0.04)			(0.04)
G sentiment			-0.03			0.01
			(0.04)			(0.04)
Log(assets)	-0.48***	-0.47***	-0.49***	-0.30**	-0.30**	-0.29**
	(0.04)	(0.04)	(0.04)	(0.12)	(0.12)	(0.12)
Debt/assets	-0.10***	-0.10***	-0.10***	-0.02	-0.02	-0.01
	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)
Cash/assets	-0.20***	-0.20***	-0.20***	-0.04	-0.04	-0.01
	(0.05)	(0.05)	(0.05)	(0.07)	(0.07)	(0.06)
ROA	-0.10*	-0.11*	-0.12*	0.16	0.17	0.07
	(0.06)	(0.06)	(0.06)	(0.11)	(0.11)	(0.10)
CAPEX/assets	0.02	0.02	0.03	0.05	0.05	0.05
	(0.04)	(0.04)	(0.04)	(0.06)	(0.06)	(0.06)
Excess return	-0.02	-0.02	-0.02	-0.01	-0.01	-0.02
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)
Inst. ownership	0.16***	0.16***	0.13**	-0.00	-0.01	-0.01
	(0.05)	(0.05)	(0.05)	(0.07)	(0.07)	(0.07)
Inst. ownership HHI	-0.09	-0.09	-0.12	-0.19	-0.20	-0.17
	(0.11)	(0.11)	(0.11)	(0.14)	(0.14)	(0.15)
Observations	3045	3045	3003	2940	2940	2902
R-squared	0.33	0.33	0.34	0.50	0.50	0.49
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Panel B: Support for E&S shareholder proposals in a year

Support for E or S shareholder proposals	(1)	(2)	(3)	(4)	(5)	(6)
ESG sentiment	0.02	-0.03		-0.05	-0.04	
	(0.07)	(0.08)		(0.06)	(0.06)	
Financial sentiment		0.06			-0.03	
		(0.06)			(0.04)	
E sentiment			-0.03			-0.07
			(0.05)			(0.05)
S sentiment			0.01			-0.06
			(0.06)			(0.04)
G sentiment			0.06			0.11*
			(0.07)			(0.06)
Log(assets)	-0.29***	-0.28***	-0.29***	-0.23	-0.23	-0.22
	(0.07)	(0.07)	(0.07)	(0.19)	(0.19)	(0.20)
Debt/assets	-0.02	-0.02	-0.02	-0.12	-0.12	-0.12
	(0.05)	(0.05)	(0.05)	(0.07)	(0.07)	(0.07)
Cash/assets	-0.16*	-0.15*	-0.15*	0.10	0.11	0.10
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
ROA	-0.17	-0.18	-0.17	-0.00	0.01	-0.03
	(0.14)	(0.14)	(0.14)	(0.18)	(0.18)	(0.18)
CAPEX/assets	-0.02	-0.02	-0.02	0.13*	0.13*	0.13*
	(0.05)	(0.05)	(0.05)	(0.07)	(0.07)	(0.07)
Excess return	0.01	0.02	0.02	-0.01	-0.01	-0.01
	(0.05)	(0.05)	(0.05)	(0.03)	(0.03)	(0.03)
Inst. ownership	0.18**	0.18**	0.17**	0.00	-0.00	0.01
	(0.08)	(0.08)	(0.08)	(0.12)	(0.12)	(0.12)
Inst. ownership HHI	-0.41***	-0.40***	-0.40***	-0.04	-0.04	-0.02
	(0.13)	(0.13)	(0.13)	(0.20)	(0.21)	(0.22)
Observations	1264	1264	1249	1362	1362	1342
R-squared	0.48	0.48	0.48	0.62	0.62	0.62
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Panel C: Support for governance related (G) shareholder proposals in a year

Support for G shareholder proposals	(1)	(2)	(3)	(4)	(5)	(6)
ESG sentiment	-0.04	-0.07		-0.03	-0.03	
	(0.05)	(0.06)		(0.06)	(0.07)	
Financial sentiment		0.05			-0.00	
		(0.04)			(0.04)	
E sentiment			-0.04			-0.06
			(0.04)			(0.04)
S sentiment			0.02			0.04
			(0.04)			(0.04)
G sentiment			-0.00			0.02
			(0.05)			(0.05)
Log(assets)	-0.50***	-0.49***	-0.50***	-0.36**	-0.36**	-0.35**
	(0.05)	(0.05)	(0.05)	(0.15)	(0.15)	(0.15)
Debt/assets	-0.09**	-0.09**	-0.09**	-0.09	-0.09	-0.08
	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.06)
Cash/assets	-0.18***	-0.18***	-0.18***	-0.08	-0.08	-0.03
	(0.06)	(0.06)	(0.06)	(0.08)	(0.08)	(0.07)
ROA	-0.00	-0.01	-0.03	0.14	0.14	0.02
	(0.06)	(0.06)	(0.06)	(0.13)	(0.13)	(0.13)
CAPEX/assets	0.10**	0.10**	0.10**	0.07	0.07	0.06
	(0.05)	(0.05)	(0.05)	(0.08)	(0.08)	(0.08)
Excess return	-0.01	-0.01	-0.01	-0.02	-0.02	-0.03
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)
Inst. ownership	0.17***	0.17***	0.15**	-0.00	-0.00	-0.01
	(0.06)	(0.06)	(0.06)	(0.08)	(0.08)	(0.08)
Inst. ownership HHI	-0.13	-0.12	-0.15	-0.44***	-0.44***	-0.41***
	(0.14)	(0.14)	(0.15)	(0.15)	(0.15)	(0.16)
Observations	2304	2304	2278	2217	2217	2196
R-squared	0.35	0.36	0.36	0.48	0.48	0.48
Fixed Effects	Ind*year	Ind*year	Ind*year	Firm+year	Firm+year	Firm+year
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Table IA5: Two-stage least squares on the full sample (without matching)

This table reports two-stage least square regressions of the number of shareholder proposals in each firm-year on ESG sentiments and firm-characteristics. The sentiment measures and firm characteristics are all measured using data within a one-year window leading up to a firm's shareholder meeting. The ESG sentiment measure is instrumented by an indicator of *Treat*Post* equaling one if a firm has a scandal movie widely released within a two-year window before the firm's shareholder meeting, and zero otherwise. The variable definitions are provided in the Appendix. All independent variables are standardized to have a mean of zero and a standard deviation of one. Standard errors, clustered by firm, are reported below each coefficient estimate. All regressions include firm and year fixed effects. The sample is restricted to firm-years with at least some shareholder voting data, and a total media attention (news and social media buzz) above the 25th percentile in the cross-section of firms in each year. Panel A reports the first stage regression estimates. Panel B reports the second stage regression estimates.

Panel A: First stage

	(1)	(2)	(3)	(4)	(5)
Dependent variable = ESG sentiment					
Treat*Post	-.26***	-.23**	-.23**	-.19***	-.17***
	(.08)	(.09)	(.09)	(.04)	(.06)
Log(assets)		-.05*	-.05*		.01
		(.02)	(.02)		(.02)
Debt/assets		-.04***	-.04***		-.02***
		(.01)	(.01)		(.01)
Cash/assets		.04***	.04***		.02**
		(.01)	(.01)		(.01)
ROA		.02**	.02*		-.03**
		(.01)	(.01)		(.01)
CAPEX/assets		.02***	.02***		.01
		(.01)	(.01)		(.01)
Inst. ownership		.04***	.04***		.02
		(.01)	(.01)		(.01)
Inst. ownership HHI		-.02	-.02		.01
		(.01)	(.01)		(.01)
Excess return			0	0	0
			(0)	(0)	(0)
Financial Sentiment				.38***	.37***
				(.01)	(.01)
Constant	.01***	-.04***	-.04***	-.01***	-.03***
	(0)	(.01)	(.01)	(0)	(.01)
Observations	36459	25990	25922	33895	25918
R-squared	.44	.45	.45	.53	.53
Year F.E.	yes	yes	yes	yes	yes
Firm F.E.	yes	yes	yes	yes	yes

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

Panel B: Second stage

Dependent variable = Number of shareholder proposals	(1)	(2)	(3)	(4)	(5)
Instrumented ESG sentiment	-2.54***	-2.35**	-2.37**	-3.37***	-3.22**
	(.93)	(1.05)	(1.05)	(1.22)	(1.25)
Log(assets)		.16*	.16**		.31***
		(.08)	(.08)		(.08)
Debt/assets		-.1**	-.1**		-.08**
		(.05)	(.05)		(.04)
Cash/assets		.06	.06		.05
		(.05)	(.05)		(.05)
ROA		.03	.02		-.11**
		(.04)	(.03)		(.05)
CAPEX/assets		.04	.04		.01
		(.03)	(.03)		(.02)
Inst. ownership		.07	.07		.04
		(.05)	(.05)		(.05)
Inst. ownership HHI		-.05	-.05		.03
		(.04)	(.04)		(.04)
Excess return			.01	0	0
			(.01)	(.01)	(.01)
Financial Sentiment				1.26***	1.14**
				(.47)	(.46)
Observations	36459	25990	25922	33895	25918
R-squared	-6.21	-4.94	-5.01	-9.45	-8.03
Year F.E.	yes	yes	yes	yes	yes
Firm F.E.	yes	yes	yes	yes	yes
1st-stage F-Stat	12.735	6.886	7.028	7.307	4.346

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*