

Do Employees Have Useful Information About Firms' ESG Practices?

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Abstract

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Keywords: ESG, greenwash, employees, NLP, Glassdoor, window-dress, investors

JEL Classifications: G30, G34, M14, M40, D22

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1. Introduction

Despite recent backlashes, ESG investing, or investing with environmental, social, and governance criteria, has become mainstream (Edmans (2023)). Among many concerns with ESG investing, reliable measurement of corporate ESG practices remains challenging – an issue that Grewal and Serafeim (2020) consider as the least developed area of research. Given measurement issues with commercial ESG ratings (e.g., Berg, Koelbel, and Rigobon (2022)), many have moved beyond them to analyze alternative data such as ESG negative news (e.g., He, Kahraman, and Lowry (2023)). However, both the commercial ESG ratings and the newer approach examine firms' ESG practices from an outside view – which may be incomplete. This raises the question of whether an inside view of firms' ESG practices could add value.

Specifically, this paper investigates whether employees have useful information about firms' ESG practices. Answering this question is important because it could help investors and stakeholders assess corporate ESG practices more holistically. In addition, employees' ESG perspectives merit direct examination, given their demonstrated willingness to work for ESG-friendly firms and even accept lower wages there (Krueger, Metzger, and Wu (2023), Cen, Qiu, and Wang (2024)).

On the one hand, employees often write anonymous reviews about firms on public platforms like Glassdoor.com and Indeed.com. These reviews have been shown to contain substantial information about firms' financial aspects (Green et al. (2019), Huang, Li, and Markov (2020), Sheng (2022)), so they may contain insights into firms' ESG aspects too. Unlike ESG rating agencies and news aggregators, employees can observe and experience ESG practices as a by-product of their work (Dyck, Morse, and Zingales (2010)), potentially gaining them unique insights that go beyond external ESG assessments. In addition, while commercial ratings and news metrics may reveal ESG-related practices or scandals at a lag, employees write reviews on a daily basis, which could allow them to capture more timely information. Finally, since reviews are anonymous, they may be less prone to window-dressing than firms' disclosures, news, and ESG ratings.¹

On the other hand, employees may still have incentives to present the firm positively – for instance, to enhance their career prospects – and firms themselves may attempt to manipulate reviews too (Mayzlin, Dover, and Chevalier (2014), Gong and Thomas (2023)). In addition, reviews may not be representative,

¹ Though such biases may not severely affect the informativeness of both employee reviews and external sources, as reputation concerns and repeated interactions may help limit them.

and many employees may not mention ESG topics at all, limiting their usefulness. Even when ESG issues are discussed, employees may view these issues differently from investors or simply echo firm disclosures, reducing their incremental value relative to commercial ESG ratings tailored specifically to investors. Moreover, employees' views are inherently subjective, and their personal preferences or ESG salience may add noise or bias, limiting the informativeness of any single review. However, when many employees independently report their experiences, a wisdom-of-crowds effect may emerge (Surowiecki (2005)), enabling them to collectively reveal insights that structured metrics may miss. Given these conflicting priors, this study examines whether employee-generated content provides ESG information that complements existing approaches and how this varies across the E, S, and G dimensions.

To answer these questions, this paper extracts ESG content from 10.4 million employee reviews on Glassdoor, a leading employer rating platform. To identify ESG content, we use a word-embedding approach from Li et al. (2021) and also evaluate larger language models like OpenAI's ChatGPT, which Section 3 details. The results reveal that 43% of reviews mention at least one ESG key word, so employees do care about ESG issues. They pay more attention to S issues than E issues, with 22% of reviews mentioning S terms, such as *harassment* and *social justice*, compared to under 2% for E terms, such as *emissions* and *recycling*. Surprisingly, employees pay substantial attention to G issues, with 29% of reviews mentioning G terms, such as *compliance* and *malfeasance*.

To evaluate whether employees have reliable ESG information, we construct inside view measures from employees' written comments on E, S, and G topics separately, and examine whether these measures are associated with future realizations of ESG-related outcomes. We focus on outcomes that are not solely self-reported or verified by firms, as firms have incentives to maintain a positive image (e.g., Cornaggia and Cornaggia (2023)). Our first contribution is to ensemble a comprehensive list of ESG outcomes, many of which are hard-to-manipulate indicators, or metrics derived from sources beyond firms' control and constructed by third parties. For example, to our knowledge, this is the first paper to use emissions estimates based on satellite imagery and AI tools developed by scientists across various industries (Climate Trace).

The existence of hard-to-manipulate ESG outcomes does not diminish the potential value of employees' ESG inside views. Our test examines whether these views contain information about *future* ESG outcomes, thereby assessing whether employees possess forward-looking insights. The ESG outcomes we use for validation are inherently backward-looking, constructed after the fact by third parties. If

employee perceptions today are informative about these outcomes years in advance, it suggests that employees hold forward-looking, ex-ante ESG insights – exactly the kind Edmans (2023) highlights as valuable. It would also imply that employee views are more timely than traditional, backward-looking ESG indicators. Moreover, unlike the hard-to-manipulate ESG metrics available, employee reviews cover a broader range of topics and firms – including private firms typically excluded from commercial ESG ratings – making them a potentially scalable, underutilized source of ESG-relevant information.

The main findings are as follows. First, although employees mention E issues infrequently, their insights carry meaningful information about a firm’s satellite-based emissions estimates and toxic release intensity in the future. Second, consistent with the greater volume and richness of S and G-related reviews, employee views on these dimensions are even more strongly associated with future hard-to-manipulate outcomes, such as inclusion on the Best Companies for Diversity list (based on independent surveys) and internal control weaknesses (reported by auditors). As a benchmark, the inside view measures have significant information beyond the MSCI ESG rating, the most widely used ESG indices, in all the ESG categories, and strongly outperform in most.² Third, a better inside view, mostly on the G category, correlates with better firm financial outcomes, such as higher valuation, lower risk, and higher stock returns. This last result and further analyses suggest that the inside views contain ESG information beyond what the market knows. Finally, the inside views appear robust to ESG cheap talk. Across multiple settings, low-cost changes in firms’ ESG commitments do not affect the inside view while more expensive changes do.

Several points are worth noting about the informativeness of the inside view measures. First, all the tests follow Li et al. (2021) to select fixed effects and control variables, which include firm size and operating performance. These control variables help alleviate the concern that firms with more resources may have happier employees (better inside views) and also achieve better ESG-related outcomes, even though the firms may not care about ESG practices per se. Second, the results are similar after controlling for factors that prior studies have shown to be important for ESG practices, such as industry and governance attributes. Third, the analysis extends previous research because the text-based measures provide substantial information beyond the overall company rating and other ratings on Glassdoor, such as work-life balance rating, compensation rating, and management rating. Fourth, most results hold after controlling for a firm’s lagged ESG outcomes, despite their short time-series, suggesting that the ESG inside view measures do not

²The results are similar with the Refinitiv ESG ratings as an alternative benchmark.

merely reflect persistent current or past performance. Finally, consistent with Glassdoor having many policies to ensure reviews are less prone to typical selection concerns with online reviews (Marinescu et al. (2021)), the findings appear robust to different selection concerns, as discussed in Section 6.

Importantly, the inside view appears to capture genuine ESG information rather than omitted factors correlated with future ESG outcomes. Any single omitted factor, such as general sentiment or management quality, is unlikely to explain the results, as the inside view on each ESG category has significant information about ESG indicators only on the same category. For example, the inside view on the E category is significantly associated with a firm's future emissions, but the inside view on the S or G category is not. In addition, in later tests, an exogenous shock to ESG practices improves the corresponding inside views, further suggesting that they capture accurate ESG information but not omitted factors.

The findings so far suggest that employees possess genuine ESG information about companies. Two potential mechanisms can explain this phenomenon. First, employees may observe public signals about firms' ESG issues and reflect these observations in their reviews. Second, employees can observe and experience ESG practices beyond public signals as a by-product of their work (Dyck, Morse, and Zingales (2010)), allowing them to incorporate unique insights into their anonymous reviews.

Several findings suggest that the first mechanism is unlikely to be the primary source of employee insights. First, as discussed above, the informativeness of the inside view remains significant after controlling for a host of variables, including the lagged ESG performance indicators, which should span a significant portion of public information relevant to each ESG outcome. Second, leveraging a database that uses advanced text analytics to aggregate news and social media from comprehensive sources to capture public sentiment on each firm's E, S, and G issues, our analysis shows that the inside view measures remain similarly informative after controlling for these comprehensive public ESG sentiments.

Furthermore, if employees simply echo public information, their inside views may be affected by ESG commitments that firms widely broadcast to the public. We examine two such public commitments, one that is more clearly cheap talk, and another that is less likely so. The first setting is firms signing the 2019 Business Roundtable (BRT) statement, committing to serve all stakeholders rather than just shareholders. Bebchuk and Tallarita (2020) argue that this BRT statement is likely cheap talk, as it is a one-time public statement with no follow-up obligations. The second setting is firms joining the UN Global Compact (UNGC). Unlike the BRT commitment, UNGC participation requires ongoing accountability through

annual reports on sustainability, where non-reporting leads to public expulsion from the program. We find that neither public statement substantially affects the inside views. There is some evidence of improved governance-related inside view after the UNGC statement – likely due to its reporting and transparency requirements – but no significant change across any ESG dimensions following the BRT statement. This supports the idea that the inside view is not easily influenced by corporate public relations (PR) efforts.

Next, we examine whether employees' views reflect substantive ESG changes rather than symbolic gestures by exploiting a shock to firms' economic incentives to address workplace harassment, a key social issue. Firms are liable for workplace harassment only if the harasser is legally considered a supervisor. Before 2013, courts in the Second, Fourth, and Ninth Circuits applied a broad definition of "supervisor," exposing firms to greater liability. The 2013 Supreme Court decision in *Vance v. Ball State* narrowed this definition, forcing those circuits to adopt a narrower standard and thereby reducing firms' incentive to manage harassment. This setting enables a classic difference-in-differences test. Our measurement captures inside views on harassment specifically and shows that employees' views on harassment – and S issues more broadly – significantly worsened for treated firms relative to others after 2013, while E and G views did not. So, the inside view appears responsive to meaningful ESG changes, and on the relevant category.

Overall, the results suggest employees possess genuine insider information about firms' ESG practices beyond public signals. This raises an important question for future work: have investors fully incorporated employee insights into ESG investing? Investors' widespread use of commercial ESG ratings, despite employee insights containing substantial additional information, suggests they have not. Investors may struggle to process unstructured employee data, and ratings may omit such insights due to conflicts of interest (Cornaggia and Cornaggia (2023), Tang, Yan, and Yao (2022)). Employee insights instead appear to offer complementary information on firms' meaningful ESG commitments and future ESG outcomes.

2. Related literature

This paper contributes to several literatures. First, it adds to the literature on ESG information and measurement. It is well-known that investors use commercial ESG ratings extensively and these ESG ratings contain substantial noise (Chatterji et al. (2016), Berg, Koelbel, and Rigobon (2022)). While some have attempted to resolve this noise issue using econometric modeling of the commercial ESG ratings (e.g., Berg et al. (2023)), this paper shows that unstructured data from alternative sources like employee-

generated texts could help increase our collective information about firms' ESG practices. This way, the paper relates to the literature that uses text to capture hard-to-measure constructs in economics, such as product differentiation (Hoberg and Phillips (2016)), political risk (Hassan et al. (2019)), climate change exposure (e.g., Sautner et al. (2023)), biodiversity risk (Giglio et al. (2023)), investment plans (Jha et al. (2023)), and investor trading strategies (Chen, Peng, and Zhou (2024)).

Second, this paper contributes to the literature on corporate cheap talk or window-dressing. A long-standing literature documents corporate earnings management, or a firm's practice of manipulating its financial numbers (see Healy and Wahlen (1999) for a review). Unlike financial aspects with established reporting framework and regulation, ESG reporting has been largely voluntary and without external verification, so ESG window-dressing is likely to be more pervasive. While previous studies have documented ESG rating management and poor ESG performance among self-proclaimed socially responsible firms (e.g., Cornaggia and Cornaggia (2023), Baker et al. (2023), Raghunandan and Rajgopal (2023), Heath et al. (2023)), they have relied mostly on outside views of firms. Efforts to use alternative data sources such as negative ESG news incidents (e.g., Li and Wu (2020), He, Kahraman, and Lowry (2023)) are also based on outside assessors (news reporters). This paper documents that insider views could add to a more complete picture of firms' ESG practices – beyond comprehensive public ESG signals. In doing so, it introduces a novel set of hard-to-manipulate ESG indicators, such as satellite imagery data to track global emissions, providing future researchers tools to evaluate genuine ESG information.

Third, the paper joins the literature on stakeholders' attitudes towards corporate ESG practices, focusing on employees as key stakeholders. Previous studies have yielded mixed results using various approaches: Bonelli, Brière, and Derrien (2022) infer French employees' ESG preferences from their capital reallocation following negative ESG news, finding an emphasis on social issues, while Colonnelli et al. (2023) conduct a survey with Brazilian job seekers, revealing a preference for environmental practices. By contrast, this paper infers whether employees care about ESG issues by whether they discuss these issues in online anonymous reviews. Since employees are likely to discuss only issues that are relevant to their job satisfaction, our estimate of 43% of reviews discussing ESG issues is likely a lower bound of how much employees care about ESG issues. Surprisingly, employees mention governance issues most often.

Fourth, the paper contributes to the literature on the informativeness of employee reviews. Existing papers, such as Green et al. (2019), Sheng (2022), and Welch and Yoon (2020), show that employee reviews

are informative about firms' future financial performance. However, this finding does not necessarily imply that employee reviews have reliable ESG information, as ESG performance is multidimensional, often opaque, and subject to greater disagreement than financial metrics (Berg, Koelbel, and Rigobon (2022)). In addition, these existing papers focus on the numerical ratings on Glassdoor, while this paper produce text-based measures that have information beyond all the Glassdoor numerical ratings.

Our approach differs from Hacamo (2023) and Campbell and Shang (2022). Hacamo (2023) extracts racial discrimination complaints – a single social issue – from employee reviews, while our approach is more comprehensive: it captures a wide range of ESG issues. Even within the S pillar, we cover broader topics such as community involvement and employee health. Campbell and Shang use reviews to predict firms' regulatory violations, but like Hacamo, their focus is only on negative aspects of firms' practices. In contrast, we capture both positive and negative views on ESG, showing their informativeness for a broader set of outcomes and underscoring the value of covering the full spectrum rather than focusing narrowly on racial complaints or regulatory risks. Regulatory violations reflect only severe, ex-post observable failures – a narrow signal likely representing just the tip of the iceberg (Dyck, Morse, and Zingales (2024)). Our measures offer forward-looking insights with direct relevance for ESG rating agencies and investors. Although G differs conceptually from E and S and from traditional governance, examining ESG as a whole aligns our study with broader literature and allows direct comparisons.

3. Data, measurements, and descriptive statistics

3.1. Data

Employee reviews are obtained from Glassdoor, a site launched in 2008, aiming to collect anonymous reviews from employees about employers. Glassdoor quickly became so popular that it started to provide job search services as well and became the number 2 job search site by user base in 2017. Glassdoor claims to review every contribution by its users to control quality. We collect 10.4 million Glassdoor reviews for over 300,000 employers as of May 2021. A typical Glassdoor review contains a review title, date written, employee title, employee status (former vs. current), city and state of location, years in the company, numerical ratings for overall, work-life balance, culture, compensation, and management, and text fields containing the pros and the cons of working at the company. The Internet Appendix IA3 shows an example.

To capture an outside view of firms' ESG practices, we collect the MSCI (formerly KLD) ESG ratings, which have been used extensively in the ESG literature. MSCI employs over 100 analysts to annually rate companies on ESG issues. For each issue, the analysts record a firm's strengths and weaknesses on that issue. We take the number of strengths relative to weaknesses, and scale it by the sum of both, to be the main MSCI ESG ratings (Gao, He, and Wu (2021)).

Finally, we collect firms' internal control weaknesses from Audit Analytics, stock returns from CRSP, accounting data from Compustat, institutional ownership from WRDS Thomson Reuters Stock Ownership, COVID exposure from Koren and Peto (2020), the list of cyber-attacks from Kamiya et al. (2021), among others. Hard-to-manipulate ESG indicators are collected and described in Section 4.

To construct our sample, we start with 7,851 US companies having 100 or more Glassdoor reviews as of July 2020. We match these firms to Compustat during 2008-2020 using company names to arrive at our main sample of 1,936 public firms. This sample is larger than those in other studies using Glassdoor data, such as Green et al. (2019) with 1,238 firms.³ Our sample's industry composition (Internet Appendix Table IA1) appears similar to that of similarly sized Compustat firms in the same period, except that our sample has more business services and retail firms and fewer banking and pharmaceutical firms, like Green et al. (2019). The sample is merged with the MSCI (KLD) ESG ratings, as detailed in the Internet Appendix IA1.

The final sample is a panel of 27,104 firm-years between 2008, Glassdoor inception year, and 2021, with 12,360 non-missing observations for the MSCI ESG ratings and 22,186 non-missing observations for the Glassdoor reviews data. This sample covers 2,444,040 Glassdoor reviews in total. Table 1 shows the summary statistics for the main variables.

3.2. Measuring an inside view of ESG practices

To measure employees' inside view of ESG practices, we extract ESG content from employee reviews. There are three possible approaches. One is supervised learning, such as BERT (Devlin et al. (2018)), to train a model to label reviews as positive or negative on various ESG categories. A second approach is using generative AI like ChatGPT to read reviews and extract ESG content (e.g., Jha et al. (2023)). A third approach is to use word embedding (e.g., word2vec, as in Li et al. (2021)), to develop ESG dictionaries and analyze the frequency of these ESG dictionary words in the pros versus cons sections of the reviews.

³ Green et al. (2019) uses a cutoff of minimum 15 reviews per quarter for their sample. When we use a similar cutoff, the sample still has above 1,600 firms, likely because firms tend to have more reviews as Glassdoor user base grows.

The first approach, supervised learning, requires labeled training data, where we must manually label reviews as describing E, S, and G issues or not. As Rajan, Ramella, and Zingales (2023) point out, this reliance on manual labeling is time-consuming and generates limited training data. Typical supervised learning relies on a team of research assistants to read and label texts, with uncertainty and low replicability.

The second and third approaches are more suited to our task, each with its own trade-offs. Unlike word2vec, generative AI can understand the same word differently in different contexts. However, it is expensive to run due to subscription and usage-based costs, and less replicable because of server execution variability. Word2vec, in contrast, is free, requires little time and no servers. Generative AI is more complex, while the word2vec approach is more transparent as we know which words contribute to measurement. Gen AI is flexible for general tasks, but word2vec is uniquely suited to our setting, as reviews are pre-set into pros and cons, eliminating the need for sentiment classification. Moreover, while generative AI models are pre-trained on general corpora, word2vec is trainable directly on employee reviews, allowing it to capture specific ESG language employees use.

Given these considerations, we construct our ESG inside-view measures using both the word2vec and generative AI approaches and compare their performance in correlating with future ESG outcomes. We find that both approaches perform similarly well, with generative AI performing better on some indicators and word2vec on others (Internet Appendix Table IA13). Thus, we adopt the word2vec-based measure as our baseline due to its lower cost and greater replicability. Below, we outline the steps for this baseline measure and describe the generative AI approach in more detail in Internet Appendix IA7.

3.2.1. Preparing the seed word lists for ESG topics.

To prepare the seed word lists for ESG topics, clearly defined lists of E, S, and G issues are collected from various sources. Industry expert sources include ESG rating agencies studied in Berg, Koelbel, and Rigobon (2022): MSCI, Refinitiv, RobecoSAM, Sustainalytics, and Vigeo-Eiris. RepRisk and CSRHub are added for their aggregation of negative ESG news and synthesis of ESG issues from multiple agencies, respectively. Academic expert sources include Bessec and Fouquau (2021) for E issues and Baier, Berninger, and Kiesel (2020) for ESG words from annual reports. In total, 37 lists of ESG issues are obtained, as shown in the Internet Appendix Table IA2.

We next identify the words and phrases appearing most frequently across the ESG word lists above. Each term is ranked by how often it appears in one ESG category relative to the other two. For each category, we select the top 25 unigrams and top 25 bigrams, forming a list of 50 terms commonly used by industry experts and academic papers (Table IA2 Panel B). A cutoff of 25 is used because beyond this point, many terms have tied ranks. Raw frequencies are adjusted using the tf.idf convention. This step is used solely to construct initial seed lists, which guide the expansion of ESG-specific terms in the next step.

3.2.2. *Extending the ESG word lists using machine learning*

To make the ESG word lists comprehensive, we follow Hanley and Hoberg (2019) and Li et al. (2021) to find the words that share similar meanings to the ESG seed words, by training word2vec (Mikolov et al. (2013)) on 10.4 million employee reviews. Word2vec is a two-layered neural network that predicts neighboring words for an input word, with its middle layer representing the word's vector. The text data cleaning and word2vec training process follows Li et al. (2021), as detailed in Internet Appendix IA4.

After training, we use the word2vec model to refine the seed word lists. We calculate the average vector of seed words in each ESG category to represent that category. We consider diversity issues as S issues, removing diversity-related words from the G seed word list. Additional noisy words are removed to create the final seed word lists shown in Table 2 Panel A.⁴ The refined lists include meaningful ESG words such as 'biodiversity' and 'carbon footprint' for E topics, 'community' and 'age discrimination' for S topics, and 'corruption' and 'tax evasion' for G topics.

We extend each ESG category's dictionary to 500 words that are most similar to the category's average vector, following Li et al. (2021). Words appearing in multiple categories are removed, resulting in 1,346 unique words total. This adds meaningful words like 'biofuel' (E), 'social justice' (S), and 'embezzlement' (G) (Table 2 Panel B). Extending to 1000 words per category still yields relevant additions (see Table IA3).

3.2.3. *Scoring firms by counting ESG words*

The inside view for each ESG category is measured for each review by calculating the percentage of category words in the pros section, minus the same percentage in the cons section. This choice not only follows the common practice in textual analysis to scale word count by document length (Loughran and

⁴ Specifically, we remove words outside of the 1000 words with the highest cosine similarity with the category's average vector. Changing the cutoff from 1000 to 500 changes the final seed word lists by less than 7%.

McDonald (2016, p. 1200)) but also gives a natural interpretation of net percentage ESG inside view. Without scaling, our measure would be biased towards the cons section, as it is often longer than the pros section. Nonetheless, we have a robustness measure without scaling and find that it is informative about future ESG outcomes, but it does not outperform our baseline measure (Tables IA15 and IA16). Finally, all review-level measures are averaged within each firm-year to construct the main inside view measure.

Our approach is novel in two ways: It distinguishes between positive and negative views of ESG practices, unlike previous studies (e.g., Li et al. (2021)), and it exploits Glassdoor's pros and cons sections, eliminating the need for supervised learning or sentiment analysis. While employees may occasionally mention pro-ESG practices in the cons section, such cases are rare (see Section 6). In addition, we find that both the pros and cons sections are incrementally informative about future ESG outcomes (Table IA21).

3.3. *How does the inside view look like?*

This section examines descriptive statistics of employees' inside views. First, it evaluates how much attention employees pay to ESG issues, as the inside view can only be useful if employees discuss these matters. Second, it assesses whether ranking firms based on the inside view produces sensible results.

3.3.1. *Employees' attention to ESG issues*

The analysis reveals that employees pay substantial attention to ESG issues, with greater focus on S and G topics than E topics. Table 1 Panel B shows 43% of reviews mention at least one word from the ESG dictionaries developed in Section 3.2. Specifically, 29% of reviews mention G category words, 22% mention S category words, while 2% mention E keywords. These results remain almost identical in the full sample of 10.4 million reviews, including both public and private firms. Even with a limited 250-word ESG list per category, over 34% of reviews mention ESG topics.⁵

Moreover, while the frequency of ESG catchphrases like *ESG*, *CSR*, and *sustainability* in reviews has increased substantially between 2008 and 2021, the employees' attention to broader ESG topics, measured using my full ESG dictionaries, has remained stable, suggesting that the employees have cared about ESG issues throughout the period. The employees' attention, nonetheless, spiked around major ESG-related

⁵ The low attention to E contrasts with findings by Colonnelli et al. (2023) that Brazilian job seekers care a lot about E issues. This difference may reflect (1) cross-country variation in ESG preferences (Matos (2020), Bialkowski, Starks, and Wagner (2024)) or (2) contextual factors—employee reviews tend to focus on job satisfaction, and E issues may be less salient to daily work satisfaction than say S issues (Bonelli, Brière, and Derrien (2022)).

events, such as the Paris Agreement, the COVID Crisis, and the death of George Floyd. The Internet Appendix IA5 provides further detail on employees' aggregate attention to ESG issues over time.

3.3.2. Top and bottom firms by the inside view

This section examines firms with the highest and lowest inside view on each ESG category. Table 3 shows the top 5 and bottom 5 firms (2014–2018) among the 500 largest by average assets.

For the E category, SunEdison Inc. (solar energy) ranked top, while Pioneer Natural Resources (coal producer) ranked bottom. SunEdison reviews (Internet Appendix Exhibit IA1) highlight solar sector acceleration and wind energy expansion. One employee noted: "excellent energy storage technology". Even a one-star review acknowledged the firm's "potential to address global energy shortage". Pioneer Natural Resources reviews cited poor oil field management and "shifting focus to horizontal drilling", known for greater environmental impact. Another employee stated Pioneer could "do more analysis and research."

For S practices, Old National Bank (a regional bank) ranked top, while Pepco Holdings (an electric utility) ranked bottom. Old National reviews praised "community involvement" and "training programs" for employees. Pepco reviews highlighted "lack of gender equality" and poor work-life balance with "too many hours required to be worked".

Regarding governance, LinkedIn ranked first, while FirstMerit (a bank that was acquired in 2016) ranked last. LinkedIn reviews cited "outstanding leadership" and "culture and values" that were "felt throughout the organizations", while FirstMerit reviews indicated "bureaucracy" and "no accountability."

4. Do employees have additional ESG information beyond existing metrics?

This section assesses whether employee reviews provide ESG information beyond existing metrics by examining associations between inside view measures and a host of ESG indicators that are not reported or verified solely by firms. Ideally, such an indicator is derived from data sources beyond firms' control and are constructed by third parties incentivized for accuracy. The final two subsections also examine how ESG inside views relate to firms' future financial performance and public signals on ESG topics.

For each ESG indicator, we regress its value in year $t+1$, $t+2$, or $t+3$ on the inside view of the same ESG category in year t , with multiple controls. Following Li et al. (2021), controls include industry times

year fixed effects, firm size, and operating performance (ROA), all measured in year t .⁶ Glassdoor's overall rating is also controlled for, as prior research shows that it informs future firm performance. Doing so also addresses the reverse causality concern that employees optimistic about a firm's future prospects may share rosier views, as the overall rating should capture such optimism. For benchmarks, we control additionally for the ESG ratings by MSCI, the largest ESG rating provider by revenue (Berg et al. (2023)). The focus on future outcomes reflects the importance of forward-looking ESG information (Edmans (2023)).⁷

We do not include firm fixed effects for two main reasons. First, our research question is cross-sectional: Can inside view measures help investors screen for ESG-friendly firms? This aligns with the dominant ESG investing approach – screening – highlighted by Matos (2020) (Figure 7). Our goal is to test whether firms with better inside views today exhibit better future ESG outcomes, following the approach of Li et al. (2021). Second, firm fixed effects are designed to capture within-firm variation, but most ESG metrics change slowly and are only available for short time spans (≤ 5 years). As a result, adding firm fixed effects severely reduces sample size (e.g., by 94% for the Best Diversity indicator), since firms with no variation in the dependent variable are dropped by the fixed effects estimator. This greatly limits statistical power. As robustness, we control for the lagged dependent variable instead, which avoids the large drop in sample size but remains constrained by the limited time-series variation. We find robust results there.⁸

4.1. Hard-to-manipulate environmental indicators

It is difficult to find environmental (E) performance indicators that are not prone to corporate greenwashing, since data like carbon emissions often come from firms' own disclosures. Fortunately, in November 2022, climatetrace.org, a non-profit, introduced a new database that tracks companies' global emissions, estimated by industry scientists using advanced AI tools on satellite data. Because the data source is satellite imagery, it is beyond firms' control. The database is also constructed by scientists across industries aiming to provide independent estimates of greenhouse gas emissions, making it less susceptible

⁶ Unlike Li et al. 2021, I use the Fama French (FF) 48-industry instead of the FF 12-industry classification as ESG practices may vary a lot across specific industries. The results are similar with the 12-industry classification.

⁷ We use MSCI's legacy ratings (KLD) to avoid potential look-ahead bias from MSCI's 2020 major update and also align more with prior research. This mitigates issues like Refinitiv's ad-hoc historical revisions (Berg, Fabisik, and Sautner (2021)). By contrast, Glassdoor reviews are unchangeable after 1 month of posting.

⁸ For example, Internet Appendix Tables IA6, IA7 and IA8 show that results remain similar when controlling for the lagged outcome in analyses of emissions, the Best Diversity list, and product controversies.

to firms' greenwashing incentives. Nonetheless, three caveats exist: (1) it covers only the top global emissions sources, and even those are not yet comprehensively covered as the database is still developing; (2) it focuses on direct emissions, potentially missing firms that sell pollutive assets (Duchin, Gao, and Xu (2022)); and (3) even the scientists involved may still exhibit measurement bias. Despite these limitations, Climate Trace data remains the closest to a hard-to-manipulate E indicator among existing sources.

We collect Climate Trace data for 768,774 unique emissions sources globally, including 8,950 parent companies from 2015 to 2022, featuring both private and public companies. Emissions are aggregated to the parent-firm level, weighted by ownership, and merged with the main sample. Firms without Climate Trace records are assigned zero estimated emissions. This choice reflects the idea that only firms with large enough emissions sources are tracked by Climate Trace, so having no record in the database is by itself information that a firm's emissions are not large enough.⁹ In other words, this choice allows us to test for both the extensive margin (having significant emissions sources) and the intensive margin (how much emissions there are conditional on having a significant emissions source). The Internet Appendix Table IA5 shows that our results come from both margins.

Table 4, Panel A shows that one standard deviation (SD) higher in the inside view on the E category is associated with around 19% lower satellite-estimated emissions for a firm in the following year. This relationship remains significant at the 5% level when controlling for MSCI E rating, industry times year fixed effects, firm size, and operating performance. For two-year ahead emissions, the association is consistently significant at 1%, even after controlling for the overall Glassdoor rating. In contrast, MSCI E rating shows no statistically significant association with future satellite-estimated emissions. In addition, there is a negative association between inside view and estimated emissions intensity (emissions scaled by total assets) two and three years ahead (Internet Appendix Table IA6). A one SD higher in inside view corresponds to a 3-4% SD decrease in emissions intensity, statistically significant at 10% for two-year ahead intensity after various controls. The MSCI E rating shows an opposite, insignificant relationship.¹⁰

In addition to satellite-based emissions, we use data from the Environmental Protection Agency (EPA)'s Greenhouse Gas Reporting Program (GHGRP), which covers emissions from large U.S. sources.

⁹ <https://climatetrace.org/news/how-to-understand-asset-level-emissions-by-country>.

¹⁰ An alternative is that MSCI's E rating blends multiple E dimensions, weakening its link to emissions. Its emissions sub-score, however, is not significantly associated with satellite-based emissions (see Internet Appendix Table IA30).

Although not directly comparable to Climate Trace, which includes global sources, we test whether employees' E inside view contains meaningful information about future EPA-reported emissions. Table 4, Panel B shows it does. One SD higher inside view (E) is associated with 7% higher emissions one year ahead, significant at the 5% level after controlling for MSCI E rating and other factors. A similar, though smaller and less significant, association appears for two-year ahead emissions. The MSCI E rating also shows a negative relationship with future emissions, but it is not statistically significant.

Finally, we examine the EPA's Toxics Release Inventory (TRI) as a third measure of environmental (E) performance. To match the firm-level nature of the E inside view and other validation tests, we aggregate TRI data to the firm-year level. Before aggregation, we scale total toxic releases by total toxic produced at the facility-chemical level, improving comparability across chemicals and firms and avoiding known issues with production-growth-ratio scaling (Akey and Appel (2021)), which is likely more problematic in a cross-sectional setting.¹¹ Moreover, panel analyses at the facility-chemical-year level are disproportionately influenced by a few large firms – about 20% of firms account for over 80% of facility-chemical-year observations – mostly concentrated in oil and energy sectors. Aggregating to the firm level reduces this skew and enables a more representative test of whether the E inside view reflects meaningful firm-level environmental outcomes.

Table 4 Panel C shows that one standard deviation higher in the E inside view is associated with between 0.59 and 0.84 percentage points lower in the average chemical release ratio (total toxic releases scaled by total toxic produced across chemical-facility pairs in each firm-year) for the one, two, or three years ahead. These relationships are statistically significant at the 5% level in most specifications. The MSCI E rating also shows a negative association with future chemical release ratio, but it is not statistically significant at conventional levels.¹²

The results are quite robust. For example, in tests with future estimated emissions from the Climate Trace database, the findings remain similar after various controls. These include governance structures such as the entrenchment index (Bebchuk, Cohen, and Ferrell (2009)), and institutional ownership (Dyck et al.

¹¹ Weighting toxic releases using EPA IRIS toxicity weights is another approach, but such weights are available for only about half of facility-chemical-year observations. Missing weights may reflect extreme toxicity (requiring separate EPA tracking), uncertainty, or lack of testing.

¹² We further consider abatement activities from the EPA P2 dataset, measured by the number of source reductions across facility-chemicals in each firm-year, and find no association between either the E inside view or MSCI E rating and source reductions, with or without scaling by firm size (total assets or chemical-facility pairs).

(2019)), as well as additional firm characteristics like sales growth, cash ratio, debt ratio, and Tobin's Q. The E inside view coefficient remains significant even after controlling for all numerical Glassdoor ratings beyond the overall rating. Controlling for lagged emissions does not change the significance of the results either. Placebo tests show no significant association between S or G inside views and satellite-based emissions (the Internet Appendix Table IA6).

4.2. *Hard-to-manipulate social indicators*

Finding reliable social performance indicators is also challenging due to potential window-dressing. However, some independently created and externally verified indicators exist. These include the Best Companies for Diversity list by Fortune Magazine, based on anonymous surveys of minority workers (women, LGBTQ employees, people of color, and those with disabilities), and the Best 100 Companies to Work For list, constructed by the Great Place to Work Institute from anonymous employee surveys. The latter's informativeness has been verified in multiple studies (e.g., Edmans (2012)). We also collect media-based indices on workplace controversies and product controversies, two key social issues, from a comprehensive database used in Aggarwal et al. (2024).

Table 5 shows the informativeness of the inside view regarding S issues. Panel A shows that a one standard deviation increase in S inside view is associated with over 2.5 times higher odds ($\exp(0.96) - 1$) of appearing on the Best Companies for Diversity list one year ahead. This relationship remains significant at the 1% level after controlling for industry and year fixed effects, firm size, operating performance, MSCI S rating, and Glassdoor overall rating, and it persists over two and three years ahead.¹³ The MSCI S rating shows a weaker association, and replacing it with the MSCI diversity sub-score does not improve the result.

Panel B reveals a similarly and consistently significant (1% level) association between S inside view and the future likelihood of joining the Best Company list. The MSCI S rating also shows a strong association here. Panel C shows that a higher S inside view is significantly associated with more media-exposed controversies regarding the workplace in one and two years ahead. The MSCI S rating also shows some negative association with future workplace controversies. The association between the S inside view

¹³ We use industry and year fixed effects in logit regressions to reduce computation time, as industry-by-year (high dimensional) fixed effects in logit regressions takes drastically more time to compute. Results are even stronger with industry-by-year fixed effects in the Best Diversity List test (Internet Appendix Table IA7).

and media-exposed *product* controversies, such as product recall and safety issues, is even more significant, but we keep this test to the Internet Appendix Table IA8 to save space in Table 5.

Beyond these indicators, we also consider the number of complaints filed with the Consumer Financial Protection Bureau (CFPB) and the number of CFPB enforcement actions (which are rarer but more serious) as additional measures of firms' social performance. We find that a higher S inside view is significantly associated with fewer CFPB complaints and a lower likelihood of future enforcement actions. Since these outcomes are only relevant for firms offering consumer financial products, they apply to a narrower subset of our sample. Thus, we leave these results in Internet Appendix Table IA8.¹⁴

Overall, the S inside view is highly informative about firms' future social performance indicators and has information beyond existing metrics like the MSCI S rating. These results are quite robust. For example, in tests with the Best Diversity list, the results are similar after controlling for additional factors such as institutional ownership, entrenchment index, more firm-level controls, previous list inclusion (lagged dependent variable), and all Glassdoor numerical ratings. By contrast, the MSCI S rating shows a weaker association that often becomes statistically insignificant once additional controls are included (Table IA7).

The Internet Appendix Table IA7 also reveals that the inside view on an unrelated category, the E (Environmental) dimension, is not significantly associated with the Best Diversity list. This result suggests that the inside view measures effectively capture ESG information within their respective categories.

4.3. Hard-to-manipulate governance indicators

For indicators that are relatively harder for firms to manipulate on governance issues, we examine: (1) the number of internal control weaknesses, reported annually by external auditors under the Sarbanes-Oxley Act of 2002, using data from Audit Analytics; (2) misstatement risk, inferred using Bertomeu et al. (2021)'s machine learning model based on accounting numbers and market conditions (hence harder for firms to directly control);¹⁵ and (3) the number of Forms 13D filed by activist shareholders. Shareholders must file this form when acquiring over 5% ownership with intent to influence firm policy. A high number of Forms

¹⁴ Similarly, Internet Appendix Table IA29 shows that the S inside view is significantly associated with workforce gender pay gap, CEO-to-employee pay ratio, and workforce gender diversity (small sample due to limited disclosure).

¹⁵ We also examine SEC enforcement actions (AAERs), but these are about 10 times less frequent than misstatements (Bertomeu et al. 2021) and often lag actual irregularities by years. Thus, we use Bertomeu et al.'s misstatement risk as our main measure. Nonetheless, Table IA11 shows that the MSCI G rating is significantly associated with AAERs one year ahead, while the G inside view shows stronger associations two to five years ahead.

13D signals significant shareholder dissatisfaction, potentially indicating poor governance. Edmans (2009) argues that dissatisfaction from large, informed shareholders is especially informative of governance quality, as they likely conduct deeper research than a firm's broader shareholder base.

Table 6 Panel A shows a standard deviation increase in G inside view correlates with 32% ($1 - \exp(-0.39)$) lower expected count of control weaknesses next year. This association is significant at the 1% level and persists after controlling for MSCI G rating, Glassdoor overall rating, industry times year fixed effects, firm size, and operating performance. The association remains strong and highly significant for two and three years ahead. In contrast, the MSCI G rating shows poor associations, often insignificant or with the wrong sign, consistent with the evidence in Moffitt, Patin, and Watson (2023).

Panel B demonstrates that the G inside view is negatively and significantly associated with a firm's misstatement risk one, two, and three years ahead. This relationship holds after controlling for MSCI G rating, Glassdoor overall rating, industry-year fixed effects, and firm characteristics, and is even stronger in the two and three years ahead. The MSCI G rating shows no significant relationship with future misstatement risk. These results remain robust after controlling for all numerical Glassdoor ratings, distinguishing them from prior research like Ji, Rozenbaum, and Welch (2017), which shows Glassdoor culture rating predicts future accounting issues.

Table 6 Panel C shows that a one standard deviation increase in G inside view predicts 13% to 0.16% fewer activism events (Forms 13D) over the next one to three years, significant at the 1% level. The effect remains large and significant after controlling for MSCI G rating and Glassdoor overall rating, especially over three years. This suggests employees often detect governance issues years before shareholder activists act. The MSCI G rating shows insignificant power across all regressions.

The results are quite robust. For example, results with internal control weaknesses remain significant or strengthened after controlling for institutional ownership, entrenchment index, firm characteristics (cash ratio, debt ratio, sales growth, valuation), broader industry classification, all Glassdoor numerical ratings, and lagged dependent variables (Internet Appendix Table IA9).

4.4. Why do employees have significant ESG insights?

The analyses so far indicate that employees provide valuable ESG-related information about their companies. This result can arise through two main channels. First, employees may simply reflect public

perceptions of their firms' ESG performance, which are often shaped by objective signals reported on media sources. Second, employees may contribute unique perspectives based on their firsthand experience with ESG practices at work. When aggregated, these subjective views can yield accurate and objective information through the “wisdom of crowds” mechanism (Surowiecki (2005)). This section tests the relevance of these two mechanisms.

To test whether employee insights simply reflect public sentiment, we follow Aggarwal et al. (2024) to use a novel database that tracks thousands of news and social media sources to measure public sentiments on individual companies' E, S, and G practices separately. We then perform the previous regressions controlling additionally for such public ESG sentiments. To save space, Table 7 shows the results for one key indicator per ESG category.

The employee inside view's informativeness remains significant – and sometimes strengthens – even after accounting for comprehensive public sentiments from news and social media. Table 7 illustrates this across several hard-to-manipulate ESG metrics: the inside view consistently correlates with future satellite-implied emissions, Best Diversity list membership, and internal control weaknesses after controlling for public sentiments. Notably, for emissions, the public sentiment coefficient is positive, suggesting potential corporate greenwashing. For other indicators, public sentiment shows the correct sign but often with similar or slightly lower magnitude and significance compared to the inside view. These results suggest that employees contribute valuable insider ESG knowledge beyond public information.

In addition, Panel D in Table 7 shows that the ESG inside view measures are indicative of public ESG sentiments in the future, suggesting that employees may have ESG information before it is revealed to the public – consistent with our earlier conjecture that employees' ESG inside views may be timelier than existing public signals. The MSCI ESG ratings also show a significant relationship with future public ESG sentiments, but mostly in the E and S categories (vs. only S and G for the inside views).

Next, we examine the wisdom-of-crowds mechanism by testing whether ESG inside views are more strongly associated with future ESG outcomes when firms have more employee reviews. The number of reviews per firm-year proxies for crowd size – a key condition for the wisdom-of-the-crowd effect, assuming individual views are reasonably independent. On Glassdoor, this independence is likely met due to its “give-to-get” policy, which requires users to post a review before seeing others'. However, the effect may differ across ESG categories. It likely holds more for S and G, where employees observe issues

directly. For E, issues like emissions are less visible, so employees may rely on shared external signals, making their reviews more correlated and reducing the crowd's independence.

We find results consistent with this hypothesis. Internet Appendix Table IA12 shows that the association between inside view measures and future S and G outcomes is significantly stronger when a firm has an above-median number of reviews. For E, a similar pattern emerges only for three-year-ahead satellite-inferred emissions. Importantly, even in firms with fewer reviews, the inside view measures still contain significant information about future ESG outcomes beyond public ESG sentiments (Table IA32). Overall, the findings suggest employees hold meaningful ESG information not by echoing public signals, but through unique day-to-day observations aggregated via the wisdom-of-the-crowd mechanism.

4.5. Financial performance indicators

This section examines whether employees' ESG insights are indicative about firms' future financial performance as well. Tests are similar to the previous sections, but the dependent variables are firms' future valuation, downside risk, and stock return. Valuation is captured by Tobin's Q, following Aggarwal et al. (2009). Downside risk is measured using two metrics from Hoepner et al. (2020). Stock returns are calculated as the buy-and-hold return during a calendar year.

Regarding valuation, the expected direction of the relationship is theoretically ambiguous. On the one hand, ESG practices like charity donations could reflect agency problems and undermine financial performance (Masulis and Reza (2015)). On the other hand, ESG practices may signal investment in intangibles (Edmans (2023)), attract investor demand (Pástor et al. (2021), Pedersen et al. (2021)), and lower firm risk (Hoepner et al., 2020), all of which would raise firm value. Moreover, employees may possess forward-looking insights into their firm's performance (Green et al. (2019)); if they anticipate strong future outcomes, they may express more positive ESG views. This would imply a correlation between ESG inside views and future valuation, even if the ESG practices themselves are not drivers of firm value. To disentangle this, we control for general employee sentiment by the Glassdoor overall rating.

Table 8 presents the results. Panel A, column (1) shows higher S and G inside views correlate with higher Tobin's Q one year ahead, with G having a larger economic impact (12% standard deviation increase in Tobin's Q per one standard deviation increase in G inside view). These effects remain significant at the 1% level after controlling for past ROA, size, industry-year fixed effects. They persist when controlling for

MSCI ESG ratings (column 2). Controlling for Glassdoor overall rating (column 3) maintains G inside view's significance, while S loses significance, suggesting S matters for valuation due to its association with employee satisfaction, which positively links to firm value (e.g., Edmans (2011)). MSCI ESG ratings also correlate significantly with future valuation but on the E and S categories instead.

Panel B examines downside risk, which is theoretically less ambiguous, as many prior papers have suggested that ESG practices can reduce firm risk. It shows that higher G inside view correlates with lower future downside risk, significant at 1% across all horizons (columns 1, 4, 7), persisting after controlling for MSCI ESG ratings (columns 2, 5, 8) and Glassdoor overall rating for the two-year-ahead test (columns 6). The MSCI ESG ratings show similar results but only for the one-year-ahead downside risk.

Future stock returns provide an especially interesting outcome, as they could reflect both risk and mispricing. If ESG inside views capture practices that reduce firm risk – including systematic risk – then, under market efficiency, lower expected returns would follow, leading to a potentially negative correlation between ESG inside views and realized returns. However, if ESG inside views do not correlate with systematic risk but instead reflect information not yet priced in by investors, firms with stronger ESG inside views may have unexpected returns (positive alphas). Positive flows into ESG investing could also cause high unexpected returns (e.g., Pástor, Stambaugh, and Taylor (2022)).

Panel C shows the results. The inside view on the G (but not E or S) category positively correlates with one-year-ahead stock returns (1% significance), maintaining significance after controlling for MSCI ESG ratings and Glassdoor overall rating. Two- and three-year horizons also show significance, but slightly weaker. MSCI ESG ratings show some association with future returns, but only for the E category and with lower significance (up to 5%). The results are similar using alternative measures of returns.¹⁶

To more directly test whether the inside view's correlation with future returns is due to its association with expected returns, we control for expected returns using implied cost of capital (ICC) estimates from Eskildsen et al. (2024).¹⁷ We find that the G inside view's positive association with future realized returns persist after controlling for ICC (panel D), suggesting that this association is unlikely to reflect expected return. If anything, the Internet Appendix Table IA10 shows that a higher inside view (G) is associated with

¹⁶ Internet Appendix Table IA22 shows that the G inside view is significantly associated with future Carhart alpha and Sharpe ratio – these measures account for risk in a different manner from our next test of controlling for ICC.

¹⁷ Eskildsen et al. provide ICC estimates by four different models. We take the average across these estimates, whenever available, as in Mohanram and Gode (2013).

a lower expected return (ICC). Overall, employees' ESG views are indicative of firms' future financial performance, in a manner consistent with employees possessing information not yet known to the market.

5. Is the inside view robust to ESG window dressing?

This section tests whether employees' ESG inside views merely reflect firms' public messaging or instead respond to substantive, costly ESG changes. If employees simply echo corporate messaging, their views should shift following widely publicized commitments. We examine two such pledges: the 2019 Business Roundtable (BRT) statement, often viewed as symbolic, and participation in the UN Global Compact (UNGC), which entails ongoing reporting requirements. Each pledge may reflect one of four possibilities: (1) cheap talk, possibly in response to negative publicity or employee sentiment; (2) selection by firms with already strong ESG practices and limited room for further improvement; (3) selection by firms already on an upward ESG trajectory, where the pledge aligns with ongoing improvements; or (4) the pledge itself causes firms to improve. Only (3) and (4) predict rising ESG inside views post-pledge. Pre-pledge ESG levels help distinguish (1) from (2). We use this framework to guide our tests.

Finally, we turn to a legal shock that altered firms' incentives to address workplace harassment – a key social issue, providing a sharper test of whether the inside view detects more substantive ESG changes.

5.1. When CEOs subscribe to the Business Roundtable's stakeholder view

In 2019, nearly 200 CEOs signed the Business Roundtable's (BRT) new Statement on the Purpose of a Corporation, emphasizing "a fundamental commitment to all stakeholders," contrasting its 1997 statement asserting that "corporations exist principally to serve shareholders. Prior literature suggests the BRT statement is likely window-dressing (Bebchuk and Tallarita (2020)), and signatory firms had poor ESG records (Raghunandan and Rajgopal (2021)). Post-signing, these firms showed little change in bylaws or compensation schemes to advance stakeholders' interests (Bebchuk and Tallarita (2022)).

So, we regress the change in the inside view from 2018 to 2020 on a BRT indicator and firm characteristics. The change regression effectively controls for firm fixed effects. From the list of signatory firms on the BRT website, we find stock identifiers for 183 firms with 143 matches to our sample.

Table 9 Panel A shows signing the BRT statement is not associated with significant changes in the inside view. The *BRT* indicator coefficient is statistically indistinguishable from zero in columns (1) to (3). Columns (4) to (6) allow the *BRT* coefficient to vary with indicators of institutional ownership, analyst

coverage, organizational complexity, advertising intensity, or COVID exposure (Koren and Peto (2020)). The only statistically significant result is that BRT firms with high complexity saw a larger decline in the inside view of E&G practices relative to other firms. Panel B shows that BRT firms did not have better inside views than others before 2019, which is inconsistent with firms with already good employee views selecting into signing the statement. Results are similar with propensity score matching as in Raghunandan and Rajgopal (2021), featuring substantially more balanced covariates (Internet Appendix Table IA23). Overall, the results imply that employees do not view the BRT statement as a credible ESG pledge.¹⁸

5.2. *When firms commit to the United Nations Global Compact*

The United Nations Global Compact (UNGC), claiming to be the world's largest corporate sustainability initiative, supports firms in aligning with ten principles across areas like human rights and anti-corruption. Over 22,000 companies joined UNGC between 2000 and 2020, explicitly committing to ESG practices. Unlike the BRT commitment, UNGC requires ongoing accountability. UNGC has publicly expelled over 40% of participants for not submitting an annual report on the ten principles, implying some reputational cost for non-reporting. Thus, firms might be more likely to improve ESG practices after joining UNGC compared to similar non-participating firms. Nonetheless, reporting itself may only improve governance (transparency issues), and may not induce real improvement in other ESG aspects.

The list of UNGC participants was obtained from the UNGC website. Among the companies joined by 2021, 965 are domiciled in the US. This was narrowed to 203 US public firms with valid CUSIP identifiers. After matching with Glassdoor and Compustat, the sample includes 162 UNGC firms.

Since UNGC participation is staggered across years, matching is essential to select control firms and assign each a pseudo-treatment year.¹⁹ We conduct propensity score matching to identify appropriate control firms for each firm that ever joined the UNGC, by using a logit model based on firm size, ROA, and lagged ESG inside views. Each UNGC firm in its first participation year is matched with up to 10 control firms using propensity scores within a 0.1 caliper in the same year and industry. The final sample includes 612 unique control firms for 122 UNGC firms. Control firms have never joined UNGC, so the

¹⁸ We cannot analyze how the MSCI ESG ratings changed after the BRT commitment because MSCI discontinued their legacy ESG ratings in 2019 to start a new set of ESG ratings, with proprietary changes.

¹⁹ This contrasts with the BRT setting, where all firms signed in the same year, allowing untreated firms to share a common comparison period even without matching.

analysis avoids caveats with using already-treated firms as controls (Goodman-Bacon (2021)). The average E, S, or G inside view change is calculated from three years before to three years after a firm joins UNGC. This is regressed on a *UNGC* indicator, essentially running a diff-in-diff test using a stacked regression design (Baker, Larcker, and Wang (2022)), with time series information collapsed into pre- and post-periods to reduce false discovery risk (Bertrand, Duflo, and Mullainathan (2004)) while making the tests more comparable to the BRT tests. Again, the change regression implicitly controls for firm fixed effects.²⁰

Table 10 Panel A shows UNGC firms improve their S and G inside views by 11% to 18% standard deviation more than control firms (columns 1-3), but significant at the 5% level for only the G inside view. The results remain similar after controlling for size and ROA (columns 4 to 6). Interactions with firm characteristics show employees view governance improving slightly less in UNGC firms with already high institutional ownership, likely because such firms already have better governance.²¹ Panel B shows that firms that joined UNGC did not have better inside views before joining.²² By contrast, the MSCI ratings do not show any significant improvement for UNGC firms vs. control firms but exhibit significantly higher levels before joining (Internet Appendix Table IA24). Overall, the results indicate that employees' views reflect some credibility in UNGC participation regarding governance improvements, though evidence for broader substantive ESG changes remains limited.

5.3. *ESG inside views after a substantive ESG shock*

Next, we examine whether employees' views reflect substantive ESG changes rather than symbolic gestures by exploiting a shock to firms' economic incentives to address workplace harassment, a key social issue. In the United States, employers can be held liable for workplace harassment if the harasser has a supervisory role under Title VII of the Civil Rights Act of 1964.

Before 2013, U.S. circuit courts differed in defining "supervisors." The First, Seventh, and Eighth Circuits applied a narrow standard – only employees with the power to hire, fire, promote, demote, transfer, or discipline qualified. Under this view, harassment by low-level supervisors or those directing daily work

²⁰ Table IA25 shows treated and control firms are comparable, except treated firms are larger and less volatile. As the treatment–volatility link vanishes after controlling for size, including size in Table 10 effectively accounts for both.

²¹ In our sample, institutional ownership is positively correlated with the G inside view, consistent with prior literature that institutional ownership is associated with stronger corporate governance (e.g., Chung and Zhang (2011)).

²² This result could be an artifact of matching on pre-treatment outcomes. However, even before matching, lagged ESG inside views do not predict firms' likelihood of joining the UNGC.

triggered employer liability only if the employer was negligent. In contrast, the Second, Fourth, and Ninth Circuits used a broader definition, classifying anyone who oversaw another's daily work as a supervisor, making it easier to hold employers vicariously liable (Sheldon-Sherman (2021)).

In 2013, the Supreme Court resolved this circuit split in *Vance v. Ball State*, adopting the narrow definition. This forced the Second, Fourth, and Ninth Circuits to adopt the stricter standard, reducing firms' liability exposure and thus their incentive to address harassment. Sheldon-Sherman (2021) documents that *Vance* led to a 20% drop in successful harassment claims. The decision was a close 5–4 ruling, making it difficult to anticipate and thus a strong candidate for an exogenous shock.

We expect harassment to worsen (or improve less) in firms headquartered in the Second, Fourth, and Ninth Circuits relative to those in the First and Eighth after *Vance*.²³ We measure employees' inside view on harassment using the same approach as our baseline ESG measurement. Our test follows a standard difference-in-differences design, incorporating firm and industry times year fixed effects, covering three years before and after the *Vance* ruling (excluding the ruling year). Control variables include lagged firm size, ROA, and the number of Glassdoor reviews per firm-year.

Table 11 presents the results. The coefficient on the Treat*Post interaction is negative and statistically significant at the 5% level, indicating that employees perceive workplace harassment to worsen (or improve less) in treated firms relative to control firms after *Vance*. The effect is economically meaningful: a 12.5% standard deviation decline in the harassment inside view. Column (2) breaks down the Post indicator into individual years and shows that the decline in harassment views persists across all three post-shock years. Column (3) includes interactions with pre-shock indicators and finds no significant pre-trends. Columns (4) to (6) report the same regressions for the E, S, and G inside views, showing a significant decline in the S category more broadly, with no change in the E or G categories. Overall, the results support the view that employees' ESG inside views are responsive to substantive shifts in firm incentives.

6. Discussion and robustness

This section discusses the correlation between the inside view measures and outside ESG ratings as well as addresses robustness tests, considering potential measurement and selection issues.

²³ Firms in other circuits are excluded due to their lack of clear supervisor-definition precedents before 2013, and the Seventh Circuit is excluded because its same-year ruling on *Lambert v. Peri Formworks* (2013) created a circuit-specific development that could confound the effect of *Vance*.

6.1. Correlation with existing ESG ratings

This section discusses the correlation between employees' ESG inside view and existing ESG ratings from MSCI (formerly KLD) and Refinitiv. Berg, Koelbel, and Rigobon (2022) document that correlations among five widely used ESG ratings are low, averaging 0.54, despite using similar information sources (Chatterji et al. (2016), Christensen, Serafeim, and Sikochi (2021)). Thus, the correlation between the inside view and existing ESG ratings is expected to be low, potentially even lower due to employees' different perspectives relative to ratings relying heavily on outside views. This expectation is confirmed. Table 1 Panel C shows that the rank (Spearman) correlation between the inside view and MSCI rating is -0.02, 0.09, and 0.06 for the E, S, and G categories, respectively, with similarly low correlations across different industries. The correlation with Refinitiv's ESG rating is similarly low.

Measurement noise in the inside view could explain the low correlation. However, among firm-years with more reviews (above sample median) and thus less noise when averaging across reviews, the rank correlation between the inside view and MSCI rating remains low at -0.01, 0.10, and 0.07 for the E, S, and G categories, respectively. In subsamples with low dispersion in the inside view, the link between the inside view and firm's policies and ratings remains weak. Similar results are found when constructing the inside view using reviews with at least one ESG keyword or high frequency of ESG words.

The weak correlation may arise because employees and rating agencies focus on different ESG topics. However, this cannot explain the results since the inside view measures only ESG topics commonly considered by major rating agencies. Restricting the inside view to a narrow ESG issue, such as emissions or diversity shows similarly low correlation (detailed in Internet Appendix IA6).

Another possibility is that Glassdoor reviewers may not represent a firm's entire workforce, potentially making inside view measures less informative. However, section 4 shows these measures are highly informative. In firm-years with an above-median ratio of reviews to employee count, the correlation remains similarly low. Overall, the inside view has a low correlation with existing ratings.

6.2. Selection concerns

Two groups of potential selection issues with the inside view are: selection into writing a review and selection into viewing ESG issues differently.

Regarding selection into writing a review, one concern is that reviews might be predominantly written by people with extreme views, such as disgruntled employees. However, Figure IA1 Panel A shows a bell-shaped distribution for the inside view on each ESG category, indicating a low frequency of extreme values. This distribution is consistent with the bell-shaped distribution of numerical ratings on Glassdoor.

Regarding selection into viewing ESG issues differently, employees from different firms might write differently about ESG practices due to political leanings, job functions, skill levels, or industries. For instance, ESG-related industries like oil and gas might see more discussion of ESG issues. To control for this, industry fixed effects are included in all tests. Also, higher-ranked and more educated employees might be more pro-ESG and write differently about ESG issues. However, results remain similar when reviews from high-ranked employees are removed, using an algorithm described in Internet Appendix IA4.

Relatedly, employees' views are inherently subjective. As discussed in Section 4.4, if such subjectivity is large enough and averaging across many employees (wisdom of the crowd) does not substantially eliminate subjective biases, then the inside view measures may be uninformative. However, our core finding is that the inside view measures are informative about future hard-to-manipulate ESG outcomes, suggesting that the potential subjectivity bias in individual reviews is not too severe in our sample. Nonetheless, we assess how the employee's subjective lens may interfere with interpretation of ESG practices in a typical review. In particular, if employees view ESG issues differently based on their worldview, the most damaging possibility for our methodology is that some ESG policies may be seen as pros by some (e.g., a Democratic-leaning employee) but cons by others (e.g., a Republican-leaning employee). Using ChatGPT model 4o to identify such instances in our main sample of 2.4 million reviews, we find that only 1.58% of the ESG discussions ChatGPT identifies are mismatches – meaning they involve either negative ESG content in the pros section or positive ESG content in the cons section.²⁴

6.3. Manipulation concerns

A separate concern is firms attempting to manipulate reviews (e.g., Mayzlin, Dover, and Chevalier (2014)). Gong and Thomas (2023) infer review manipulation from abnormal numbers of 5-star reviews on Glassdoor. Despite this potential manipulation, our baseline results show that the inside view measures are highly informative. Excluding 5-star reviews yields inside view measures with a strong correlation with the

²⁴ Example mismatches involve reviewers using concessions – mentioning a positive ESG point before negatives in cons, or vice versa. Even then, such reviews usually cover multiple ESG aspects, with all but one correctly classified.

baseline, exceeding 0.88 for each ESG category, and with significant – albeit slightly less – information about future ESG outcomes (Internet Appendix Table IA17). Gong and Thomas (2023) also argue that firms with higher employee growth are more likely to manipulate reviews, but our measures remain highly informative about future ESG outcomes in this subsample (Internet Appendix Table IA18).

Additionally, employees might window-dress their firm’s image for better career prospects. If true, the inside view measures would not predict hard-to-manipulate ESG outcomes and would be affected by ESG cheap talk. However, our previous tests show the opposite. Focusing only on reviews by current employees, who account for 67% of reviews and may have stronger career concerns, the inside view measures are still highly informative about future ESG outcomes (Internet Appendix Table IA19).

On the other hand, inside views from former employees – such as those who were downsized – could be overly negative. In Internet Appendix Table IA26, we formally test this and find significant differences between current and former employees’ inside views. However, the economic magnitude is modest, especially after controlling for overall rating (former employees’ inside views are less than 0.05 SD lower). When we residualize review-level inside views by the former employee indicator and overall rating (using year-by-year regressions to avoid look-ahead bias), the resulting firm-level measures remain highly correlated with the baseline (above 0.96 for each ESG category) and show similar associations with future ESG outcomes (Table IA27). In direct comparisons, the residualized measures underperform (with flipped coefficient signs) the baseline measures (Table IA28), suggesting that former employees’ perspectives add incremental information – supporting our decision to retain them in our baseline.

Going forward, the usefulness of employees’ ESG inside view may change as companies become aware that the inside view is being measured, similar to the Lucas critique in macroeconomics (Lucas Jr (1976)). Firms may try harder to manipulate employee reviews. However, the incentive to manipulate reviews has existed for years, given the popularity and influence of review sites like Glassdoor among job seekers. This incentive was likely stronger in recent years as Glassdoor's popularity increased. However, the inside view remained similarly informative in the post-2015 period (Internet Appendix Table IA20).

6.4. Other concerns

Another concern with review data is the halo effect (Thorndike (1920)), where a reviewer's overall sentiment affects their judgment across all rating categories. If prevalent, many reviews would show all

high or all low inside views across categories. However, Figure IA1 Panel B shows that under 0.2% of reviews indicate a positive view across all three ESG categories, and under 2% indicate a positive view for two out of three ESG dimensions. Similar results are found for negative views. The fraction of all-positive or all-negative reviews is also low for numerical ratings (under 10%). Removing these reviews changes the inside view little, with a resulting measure correlation of 0.97 with the baseline. Also, only 30% of reviews have ratings all below 3 or all above 3, indicating most employees consider both positives and negatives.

In addition, there may be a look-ahead bias since reviews from the entire sample period are used to construct ESG word lists. A robustness check using reviews only up to 2016 to construct these lists finds that the inside view measures continue to significantly predict many future ESG-related outcomes, like the Best Diversity List, during the 2016-2021 period.

Lastly, while our results suggest that employees' views contain substantial information about firms' ESG practices, we caution against directly interpreting employees' ESG views as factual information, especially for individual employees' views. Nonetheless, our results suggest that when aggregated across many employees, their views or satisfaction regarding ESG issues end up quite informative.

7. Conclusion

This paper analyzes 10.4 million anonymous employee reviews and finds that employees possess useful information about firms' ESG practices, substantially complementing and often outperforming outside view measures of ESG practices. The employees' inside view aligns with various hard-to-manipulate indicators of a firm's future ESG-related outcomes, on all the ESG categories. The inside view is robust to ESG cheap talk as well.

This paper has significant implications for industry practices and academic research. Investors and rating agencies should not rely solely on firms' voluntary disclosures when assessing ESG practices. ESG rating agencies could incorporate employee perspectives into their methodology. Future research can explore the gap between external ESG ratings and the inside view, and whether public ownership affects ESG practices. This approach to measuring ESG practices could also be applied to traditionally hard-to-assess issues like discrimination and fraud.

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Table 1: Summary statistics

This table presents summary statistics for the main variables in the paper. Panel A reports statistics at the firm-year level for publicly listed firms, with all scaled firm-year variables winsorized at the 1st and 99th percentiles. Panel B provides review-level statistics for the same sample, with scaled variables winsorized at the 0.1st and 99.9th percentiles to more conservatively limit outlier influence given the much larger number of review-level observations. Panel C shows Spearman rank correlations between the inside view and ESG ratings from MSCI or Refinitiv at the firm-year level, for each ESG category and the combined (equally weighted) ESG score. Correlations are calculated only for public firms, as MSCI and Refinitiv ratings cover these firms exclusively. Panel D lists correlations by industry, using the Fama-French five-industry classification. See the Internet Appendix for variable descriptions.

Panel A: Summary statistics at the firm-year level

	N	Mean	SD	p10	Median	p90
No. of reviews	22186.00	108.46	360.30	3.00	28.00	206.00
Inside view E	22186.00	-0.00	0.37	-0.18	0.00	0.14
Inside view S	22186.00	0.07	1.49	-1.40	0.00	1.59
Inside view G	22186.00	-0.24	2.28	-2.70	-0.13	2.20
MSCI rating of E	12225.00	0.21	0.48	0.00	0.00	1.00
MSCI rating of S	12224.00	0.12	0.73	-1.00	0.00	1.00
MSCI rating of G	12005.00	-0.10	0.52	-1.00	0.00	0.00
Emissions (Climate Trace)	12999.00	437738.09	10860393.36	0.00	0.00	0.00
Emission intensity (Climate Trace)	11061.00	16.60	513.77	0.00	0.00	0.00
Fortune Best Companies indicator	25998.00	0.02	0.13	0.00	0.00	0.00
Best Diversity indicator	9285.00	0.02	0.13	0.00	0.00	0.00
Number of IC weaknesses	20462.00	0.16	1.21	0.00	0.00	0.00
Misstatement risk	20085.00	0.04	0.05	0.00	0.03	0.07
Shareholder activism filings	20507.00	0.10	0.44	0.00	0.00	0.00
Tobin's Q	17976.00	2.09	1.53	0.99	1.56	3.83
Downside volatility	19170.00	0.02	0.01	0.01	0.02	0.03
Tail risk	19177.00	0.08	0.05	0.03	0.06	0.13
Yearly buy-and-hold return	19177.00	0.05	0.46	-0.45	0.10	0.50
Institutional ownership	18125.00	0.73	0.25	0.36	0.81	0.98
Entrenchment index	14165.00	3.26	0.86	2.00	3.00	4.00
Leverage	20020.00	0.29	0.26	0.00	0.24	0.69
Tobin's Q	17976.00	2.09	1.53	0.99	1.56	3.83
Sales growth	19375.00	0.06	0.19	-0.12	0.05	0.27
Cash/assets	20085.00	0.16	0.17	0.01	0.10	0.42
Glassdoor overall rating	22186.00	3.23	0.64	2.46	3.24	4.00
BRT	25998.00	0.08	0.27	0.00	0.00	0.00
UNGC	25998.00	0.04	0.20	0.00	0.00	0.00

Panel B: Summary statistics at the review level - public firms sample

Variable	Obs	Mean	Std. Dev.	Min	Max
Review contains ESG word	2444040	0.43	0.50	0.00	1.00
Review contains E word	2444040	0.02	0.13	0.00	1.00
Review contains S word	2444040	0.22	0.42	0.00	1.00
Review contains G word	2444040	0.29	0.45	0.00	1.00
Word count - Pros	2444040	10.56	11.97	1.00	1184.00
Word count - Cons	2444040	15.16	25.47	1.00	2555.00
Word count - Total	2444040	25.72	31.67	2.00	2610.00
Inside view E	2444040	-0.02	1.54	-100.00	75.00
Inside view S	2444040	0.19	5.98	-100.00	100.00
Inside view G	2444040	0.08	7.73	-100.00	100.00
Employee high-ranked	2444040	0.18	0.38	0.00	1.00
Overall rating not extreme	2444040	0.67	0.47	0.00	1.00

Panel C: Correlation between the inside view and major ESG ratings

Correlation with the MSCI ESG rating

	Full sample	Consumer	Manufacturing	High tech	Healthcare	Others
ESG	0.09***	0.06***	0.03	0.14***	0.07*	0.12***
E	-0.02**	-0.04*	-0.04	0.05**	-0.02	-0.04**
S	0.09***	0.10***	0.04	0.11***	0.13***	0.10***
G	0.06***	0.04*	0.01	0.10***	0.02	0.08***

Correlation with the Refinitiv ESG rating

	Full sample	Consumer	Manufacturing	High tech	Healthcare	Others
ESG	0.03***	0.06**	0.05**	0.02	-0.04	0.09***
E	-0.04***	-0.05**	-0.02	0.02	-0.06	-0.05**
S	0.09***	0.10***	0.08***	0.06***	0.09**	0.10***
G	-0.01	0.01	-0.00	-0.00	-0.03	0.01

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 2: ESG word lists

Panel A presents the seed word lists on ESG topics. We obtain these lists by selecting the most frequently used words and phrases across ESG rating methodologies and select academic papers, as detailed in Section 3.2. Panel B presents the 50 words and phrases with the highest cosine similarity with the average vector representing each ESG category's seed word list. The full ESG dictionaries are in Table IA3.

Panel A: Seed word lists

Environmental	Social	Governance
environmental, emission, energy, water, carbon, biodiversity, pollution, green, packaging, renewable, footprint, recycle, disposal, greenhouse, raw material, renewable energy, carbon footprint, oil spill, global footprint, global warming, environmental protection, environmental sustainability, drinking water, noise pollution, fossil fuel, air pollution, electric vehicle, solar panel, wind turbine, plastic bag, solar energy, industrial automation, nuclear power	human, employee, health, safety, labor, community, labour, social, relation, philanthropy, workforce, citizenship, occupational, human capital, corporate citizenship, occupational health, community involvement, race ethnicity, discrimination harassment, medicaid medicare, collective bargaining, human resource, age discrimination, human trafficking, gender racial, racial ethnic, unfair dismissal, threat violence, gender age, diversity, gender equality, gender diversity, cultural diversity	board, governance, shareholder, ethic, practice, corruption, instability, bribery, committee, executive, esg, transparency, ownership, audit, level, management, business, code conduct, board director, insider trading, daytoday operation, tax evasion, policy procedure, track record, regulatory scrutiny, unethical behavior, nepotism cronyism, law violation

Panel B: Top 50 words added

Environmental	Social	Governance
co2, natural gas, biofuel, hydrocarbon, irrigation, fertilizer, ethanol, pollutant, geothermal, recycling, purification, agricultural, electricity, ammonia, thermal, hydroelectric, fracke, dioxide, forestry, petrochemical, compost, landfill, pesticide, herbicide, lubricant, mining, agriculture, compressor, polymer, chemical, biodegradable, consumption, lng, wastewater, gas turbine, filtration, coolant, contamination, electric utility, biomass, ewaste, nuclear, aluminium, industrial, recyclable, transmission, electrification, inhalation, aluminum, pneumatic	equality, gender equality, diversity equality, social justice, cultural diversity, diversity, racial, gender ethnic, lgbt, cultural competency, inclusivity, gender race, race gender, diversity inclusivity, glbt, racial equity, lgbt community, cultural awareness, gender diversity, lgbtq, gender sexuality, diversity inclusiveness, sex race, sexual orientation, lgbtq community, latino, gender, ethnicity gender, lbgt, gender ethnicity, age gender, antiracism, age race, indigenous, ethnic, bame, racial justice, unconscious bias, gay lesbian, reproductive health, race sex, lgbti, lgbtqia, ethnic minority, nondiscrimination, transgender, dei, africanamerican, raciaethnic, minority	leadership, unethical practice, compliance, impropriety, cronyism, legal compliance, embezzlement, integrity, doj, stakeholder, regulator, organization, csuite, conflict interest, organizational, fraudulent activity, cronyism nepotism, questionable ethic, money laundering, collusion, bod, strategic planning, accountability, decisionmake, strategic, antitrust, hypocrisy, mismanagement, scandal, dishonesty, irresponsibility, unethical behaviour, dysfunction, gross negligence, misuse fund, cfpb, illegal activity, investigation, strategy, regulatory, risk aversion, indict, political infighting, gross incompetence, partnership, decision making, due diligence, operational, nepotism, principle

Table 3: Top and bottom firms by the inside view

This table shows the top 5 firms and bottom 5 firms based on their average inside view of E, S, or G practices between 2014 and 2018. Before ranking the firms, we restrict the sample to the largest 500 firms by the average total assets between 2014 and 2018. Internet Appendix Exhibit IA1 shows excerpts from two actual reviews of the top and bottom firms in each category. These excerpts are from the pros (for the top firms) and the cons (for the bottom firms) of the reviews.

Environmental	Social	Governance
Top 5		
SunEdison	Old National Bancorp	Linkedin
American Water	Investors Bank	Salesforce
Ashland	Cummins	Ceridian
Portland General Electric	Banner Bank	Microchip Technology
EOG	Gap Inc.	Yum!
Bottom 5		
Freeport-Mcmoran	Vulcan Materials	Capital Bank
Chemours	Trinity Industries	Elanco
Southwestern Energy	Precision Castparts	Navistar
Alpha Natural Resources	Capital Bank	Sterling Bancorp
Pioneer Natural Resources	Pepco Holdings	FirstMerit

Table 4: Hard-to-manipulate environmental performance indicators.

This table reports firm-year regressions of environmental (E) performance indicators in years t+1, t+2, or t+3 on E inside view and MSCI E rating at year t. Panel A's dependent variable is global emissions (estimated via satellite by Climate Trace); Panel B uses emissions reported to the EPA (US facilities only); Panel C uses the average toxic release ratio across facility-chemical pairs (from EPA). Panel A and B use Poisson regressions to account for zeros and count nature of levels of emissions; Panel C uses OLS. Controls include Fama-French 48 industry $\times$ year fixed effects, size, and ROA (Li et al. 2021), all at year t. Missing MSCI ratings are replaced by lagged values. All variables (except indicators and percentage toxic release ratio) are standardized. Standard errors (in parentheses) are clustered by firm.

Panel A: Global Emissions (Climate Trace)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.18** (0.07)	-0.19** (0.08)	-0.19 (0.11)	-0.27*** (0.09)	-0.22*** (0.08)	-0.24*** (0.06)	-0.11 (0.21)	-0.10 (0.18)	-0.07 (0.15)
MSCI E		-0.18 (0.16)	-0.20 (0.16)		-0.17 (0.15)	-0.17 (0.15)		-0.11 (0.19)	-0.09 (0.17)
Overall rating			0.12 (0.40)			-0.16 (0.31)			0.52 (0.33)
Observations	1632	1354	1273	1584	1282	1281	1586	1265	1263
Pseudo R ²	0.73	0.74	0.75	0.74	0.75	0.75	0.71	0.73	0.73
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: US Emission (EPA)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.07 (0.04)	-0.05 (0.04)	-0.07** (0.04)	-0.06 (0.04)	-0.06 (0.04)	-0.07* (0.04)	-0.04 (0.04)	-0.04 (0.04)	-0.04 (0.03)
MSCI E		-0.10 (0.12)	-0.10 (0.12)		-0.10 (0.12)	-0.11 (0.12)		-0.12 (0.11)	-0.12 (0.12)
Overall rating			-0.05 (0.14)			0.03 (0.11)			0.02 (0.10)
Observations	9074	7170	6900	9958	7786	7481	10677	8295	7987
Pseudo R ²	0.65	0.66	0.66	0.65	0.66	0.66	0.65	0.66	0.66
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Toxic release ratio (from EPA)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.68** (0.32)	-0.68** (0.32)	-0.74** (0.33)	-0.59* (0.34)	-0.60* (0.35)	-0.63* (0.35)	-0.74** (0.36)	-0.80** (0.37)	-0.84** (0.38)
MSCI E		-0.31 (0.98)	-0.31 (0.96)		-0.24 (0.98)	-0.25 (0.96)		-0.49 (0.99)	-0.36 (0.97)
Overall rating			-0.15 (1.15)			-0.03 (1.21)			-0.13 (1.16)
Observations	3351	3055	2960	3061	2784	2741	2764	2508	2465
R-squared	0.33	0.33	0.34	0.33	0.33	0.33	0.33	0.34	0.34
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 5: Hard-to-manipulate social performance indicators.

This table shows the regressions at the firm-year level of social (S) performance indicators in year t+1, t+2, or t+3 on the inside view on S practices and the MSCI S rating at year t. The dependent variable is an indicator whether a firm is in the Best Companies for Diversity list in a year for Panel A, and an indicator whether a firm is in the Fortune's Best 100 Companies to Work For in a year for Panel B, and a media-based index on workplace controversies for Panel C. Regressions are estimated with OLS with industry*year fixed effects in Panel C, and Logit with industry plus year fixed effects in Panels A and B. Industries are based on Fama-French 48 industries. All regressions include as controls: size and operating performance (ROA), following Li et al. (2021), all measured at year t. All variables except for indicator variables are standardized to have a zero mean and a unit standard deviation. Missing MSCI S ratings are imputed by their lagged values. Standard errors (in parentheses) are clustered by firms.

Panel A: Indicator whether firm lands in Best Companies for Diversity list.

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.96*** (0.12)	0.95*** (0.14)	0.61*** (0.14)	0.91*** (0.12)	0.83*** (0.12)	0.53*** (0.12)	0.69*** (0.11)	0.66*** (0.12)	0.41*** (0.12)
MSCI S		0.39** (0.17)	0.40** (0.19)		0.39** (0.19)	0.39* (0.21)		0.38* (0.21)	0.34 (0.22)
Overall rating			1.44*** (0.23)			1.44*** (0.22)			1.12*** (0.19)
Observations	4844	4018	4017	4821	3900	3899	4736	3790	3780
Pseudo R ²	0.19	0.19	0.26	0.19	0.18	0.25	0.17	0.17	0.22
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator whether firm lands in Fortune Best 100 Companies list.

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.61*** (0.07)	0.62*** (0.10)	0.35*** (0.10)	0.57*** (0.07)	0.57*** (0.09)	0.31*** (0.10)	0.51*** (0.07)	0.49*** (0.09)	0.27*** (0.09)
MSCI S		1.17*** (0.13)	1.27*** (0.14)		1.13*** (0.13)	1.23*** (0.14)		1.05*** (0.15)	1.11*** (0.17)
Overall rating			1.45*** (0.13)			1.50*** (0.13)			1.34*** (0.13)
Observations	12198	9914	9812	10977	8821	8719	9652	7629	7529
Pseudo R ²	0.17	0.22	0.31	0.16	0.21	0.31	0.15	0.20	0.28
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Media-based workplace controversy index

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	-0.03*** (0.01)	-0.03** (0.01)	-0.02** (0.01)	-0.02** (0.01)	-0.02** (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)
MSCI S		-0.02* (0.01)	-0.02 (0.01)		-0.02* (0.01)	-0.02 (0.01)		-0.03** (0.01)	-0.03** (0.01)
Overall rating			-0.04*** (0.01)			-0.04*** (0.01)			-0.02* (0.01)
Observations	12071	10654	10343	11114	9702	9621	10081	8684	8591
R-squared	0.09	0.10	0.10	0.06	0.07	0.07	0.06	0.07	0.07
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 6: Hard-to-manipulate governance performance indicators.

This table presents firm-year level regressions of governance (G) indicators in years t+1, t+2, or t+3 on the G inside view and MSCI G rating at year t. Dependent variables are: internal control weaknesses (Panel A), misstatement risk (Bertomeu et al. (2021)) (Panel B), and shareholder activism filings (Panel C). Regressions use Poisson for counts, and OLS otherwise. Controls include Fama-French 48 industry times year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Standard errors are clustered by firms. Detailed variable descriptions are in IA2. Leading zeros are sometimes omitted for table fit.

Panel A: Number of Internal Control Weaknesses.

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.34*** (0.06)	-0.33*** (0.07)	-0.29*** (0.08)	-0.25*** (0.06)	-0.27*** (0.08)	-.21** (0.09)	-.23*** (0.06)	-.29*** (0.09)	-.28*** (0.09)
MSCI G		-0.09 (0.12)	-0.09 (0.12)		0.08 (0.11)	0.04 (0.12)		-0.00 (0.11)	-0.02 (0.11)
Overall rating			-0.18** (0.07)			-.23** (0.09)			-.15* (0.09)
Observations	11808	8811	8713	10568	7560	7454	9212	6576	6461
Pseudo R ²	0.16	0.17	0.18	0.15	0.17	0.17	0.14	0.16	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Misstatement Risk.

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.03*** (0.01)	-0.02** (0.01)	-0.01 (0.01)	-0.04*** (0.01)	-0.05*** (0.01)	-0.04*** (0.01)	-.03*** (0.01)	-.03*** (0.01)	-.02** (0.01)
MSCI G		-0.01 (0.01)	-0.00 (0.01)		0.01 (0.01)	0.01 (0.01)		0.00 (0.01)	0.00 (0.01)
Overall rating			-0.06*** (0.02)			-0.03** (0.01)			-.03** (0.01)
Observations	15673	12897	12723	13924	11373	11221	12225	9881	9731
R-squared	0.13	0.16	0.16	0.14	0.15	0.15	0.14	0.15	0.15
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Number of Shareholder Activism Filings.

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.17*** (0.04)	-0.11** (0.04)	-0.08* (0.04)	-0.14*** (0.04)	-0.10** (0.05)	-0.07 (0.05)	-.18*** (0.03)	-.13*** (0.04)	-.13*** (0.04)
MSCI G		-0.06 (0.07)	-0.05 (0.07)		-0.14* (0.07)	-0.12 (0.07)		-0.11 (0.08)	-0.11 (0.08)
Overall rating			-0.09* (0.05)			-0.14*** (0.05)			-0.05 (0.05)
Observations	13426	10431	10222	11830	9021	8873	10496	7702	7563
Pseudo R ²	0.09	0.10	0.09	0.09	0.10	0.10	0.10	0.11	0.11
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 7: Controlling for public ESG sentiments.

This table presents firm-year level regressions of hard-to-manipulate ESG indicators in years t+1, t+2, or t+3 on the inside view and MSCI rating on the corresponding ESG category at year t, controlling for public sentiments on firms' ESG practices. Dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses count (Panel C). Panel D differs from the rest by having future public ESG sentiment measure on the left-hand side and the ESG inside views and the MSCI ESG ratings on the right-hand side. Controls include Fama-French 48 industry and/times year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicator, and OLS otherwise. Standard errors (in parentheses) are clustered by firms. See IA2 for detailed variable descriptions. Leading zeros are sometimes omitted for table fit.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.18** (0.08)	-0.18** (0.09)	-0.18 (0.12)	-0.30*** (0.08)	-0.23*** (0.07)	-0.25*** (0.06)	-0.13 (0.20)	-0.08 (0.16)	-0.06 (0.14)
Public sent. E	0.26 (0.18)	0.23 (0.19)	0.20 (0.21)	-0.08 (0.34)	-0.11 (0.29)	-0.11 (0.29)	0.63*** (0.18)	0.61*** (0.18)	0.57*** (0.17)
MSCI E		-0.20 (0.16)	-0.21 (0.16)		-0.17 (0.15)	-0.17 (0.15)		-0.17 (0.18)	-0.15 (0.15)
Overall rating			0.11 (0.42)			-0.17 (0.31)			0.45 (0.33)
Observations	1315	1211	1143	1280	1180	1179	1264	1159	1157
Pseudo R ²	0.72	0.74	0.75	0.73	0.75	0.75	0.72	0.74	0.74
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	1.02*** (0.14)	0.99*** (0.15)	0.66*** (0.15)	0.93*** (0.14)	0.82*** (0.14)	0.53*** (0.13)	0.69*** (0.13)	0.64*** (0.14)	0.40*** (0.14)
Public sent. S	0.88*** (0.19)	0.79*** (0.20)	0.54*** (0.17)	0.81*** (0.21)	0.78*** (0.22)	0.53*** (0.20)	0.64*** (0.21)	0.59*** (0.22)	0.42** (0.21)
MSCI S		0.36** (0.18)	0.41** (0.20)		0.38** (0.19)	0.45** (0.21)		0.40* (0.22)	0.41* (0.23)
Overall rating			1.38*** (0.22)			1.47*** (0.24)			1.15*** (0.20)
Observations	4122	3631	3630	3963	3449	3448	3789	3273	3264
Pseudo R ²	0.22	0.22	0.27	0.21	0.21	0.27	0.19	0.18	0.23
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-.34*** (0.06)	-.31*** (0.08)	-.28*** (0.09)	-.26*** (0.07)	-.25*** (0.09)	-.20** (0.10)	-.25*** (0.07)	-.28*** (0.09)	-.27*** (0.10)
Public sent. G	-.36*** (0.07)	-.37*** (0.08)	-.35*** (0.08)	-.22*** (0.07)	-.27*** (0.07)	-.25*** (0.07)	-0.05 (0.07)	-0.15** (0.07)	-0.12 (0.08)
MSCI G		-0.12 (0.13)	-0.12 (0.13)		0.08 (0.12)	0.04 (0.13)		0.02 (0.12)	0.00 (0.13)
Overall rating			-0.11 (0.08)			-0.19* (0.10)			-0.15 (0.10)
Observations	9017	7359	7285	8069	6368	6285	7149	5664	5574
Pseudo R ²	0.18	0.19	0.19	0.17	0.18	0.19	0.16	0.17	0.17
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel D: Future public ESG sentiment vs. the ESG inside views

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	0.01 (0.01)	0.00 (0.01)	0.00 (0.01)
Inside view S	0.05*** (0.01)	0.05*** (0.01)	0.03*** (0.01)	0.05*** (0.01)	0.04*** (0.01)	0.03*** (0.01)	0.05*** (0.01)	0.04*** (0.01)	0.03*** (0.01)
Inside view G	0.06*** (0.01)	0.06*** (0.01)	0.03*** (0.01)	0.06*** (0.01)	0.05*** (0.01)	0.02** (0.01)	0.06*** (0.01)	0.05*** (0.01)	0.02* (0.01)
MSCI E		0.10*** (0.02)	0.09*** (0.01)		0.10*** (0.02)	0.10*** (0.01)		0.10*** (0.02)	0.09*** (0.02)
MSCI S		0.11*** (0.02)	0.10*** (0.02)		0.11*** (0.02)	0.10*** (0.02)		0.10*** (0.02)	0.09*** (0.02)
MSCI G		0.03** (0.01)	0.03** (0.01)		0.02 (0.01)	0.02 (0.01)		0.02 (0.01)	0.02 (0.01)
Overall rating			0.13*** (0.01)			0.11*** (0.02)			0.11*** (0.02)
Observations	14876	12912	12486	13634	11709	11572	12311	10467	10331
R-squared	0.22	0.23	0.24	0.21	0.22	0.23	0.20	0.22	0.22
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 8: Financial performance indicators.

This table presents firm-year level OLS regressions of financial performance indicators in years t+1, t+2, or t+3 on the governance inside view and MSCI governance rating at year t. Dependent variables are: Tobin's Q (Panel A), downside risk (average of lowest 5% daily returns – results are similar with the other measure of downside risk) (Panel B), and stock return (annual buy-and-hold) (Panel C; as well as Panel D with implied cost of capital as a control). Controls include Fama-French 48 industry and year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Standard errors (in parentheses) are clustered by firms. See IA2 for detailed variable descriptions. Leading zeros are sometimes omitted for table fit.

Panel A: Tobin's Q (valuation)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Inside view S	0.02*** (0.01)	0.03*** (0.01)	-0.01 (0.01)	0.03*** (0.01)	0.02** (0.01)	-0.01 (0.01)	0.03*** (0.01)	0.02** (0.01)	-0.00 (0.01)
Inside view G	0.12*** (0.01)	0.12*** (0.01)	0.07*** (0.01)	0.11*** (0.01)	0.10*** (0.01)	0.06*** (0.01)	0.09*** (0.01)	0.08*** (0.01)	0.05*** (0.01)
MSCI E		0.07*** (0.01)	0.06*** (0.01)		0.08*** (0.01)	0.06*** (0.01)		0.07*** (0.02)	0.06*** (0.02)
MSCI S		0.06*** (0.02)	0.05*** (0.02)		0.06*** (0.02)	0.05*** (0.02)		0.06*** (0.02)	0.05*** (0.02)
MSCI G		-0.02 (0.01)	-0.02 (0.01)		-0.02* (0.01)	-0.02* (0.01)		-0.01 (0.01)	-0.01 (0.01)
Overall rating			0.18*** (0.02)			0.17*** (0.02)			0.14*** (0.02)
Observations	14827	12340	12171	13219	10894	10745	11605	9466	9322
R-squared	0.26	0.29	0.31	0.25	0.28	0.30	0.24	0.28	0.29
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Downside Risk

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
Inside view S	-0.00 (0.01)	0.00 (0.01)	0.01 (0.01)	0.00 (0.01)	0.01 (0.01)	0.01* (0.01)	-0.00 (0.01)	0.01 (0.01)	0.02** (0.01)
Inside view G	-0.03*** (0.01)	-0.02** (0.01)	-0.01 (0.01)	-0.03*** (0.01)	-0.02*** (0.01)	-0.02** (0.01)	-0.02*** (0.01)	-0.02** (0.01)	-0.01 (0.01)
MSCI E		-0.01 (0.01)	-0.01 (0.01)		-0.01 (0.01)	-0.01 (0.01)		-0.01 (0.01)	-0.01 (0.01)
MSCI S		-0.01 (0.01)	-0.01 (0.01)		-0.02 (0.01)	-0.02 (0.01)		-0.02 (0.01)	-0.02 (0.01)
MSCI G		-0.02** (0.01)	-0.02** (0.01)		-0.01 (0.01)	-0.01 (0.01)		-0.01 (0.01)	-0.01 (0.01)
Overall rating			-0.03*** (0.01)			-0.02** (0.01)			-0.03*** (0.01)
Observations	15612	13014	12858	13975	11508	11354	12305	10004	9852
R-squared	0.46	0.49	0.49	0.46	0.49	0.49	0.47	0.50	0.50
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel C: Stock Return

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.00 (0.01)	-0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Inside view S	-0.00 (0.01)	-0.01 (0.01)	-0.02*** (0.01)	0.01* (0.01)	0.00 (0.01)	0.00 (0.01)	0.01 (0.01)	0.00 (0.01)	-0.00 (0.01)
Inside view G	0.03*** (0.01)	0.03*** (0.01)	0.02*** (0.01)	0.03*** (0.01)	0.02*** (0.01)	0.01* (0.01)	0.03*** (0.01)	0.01* (0.01)	0.00 (0.01)
MSCI E		0.00 (0.01)	0.00 (0.01)		0.01 (0.01)	0.01 (0.01)		0.02** (0.01)	0.02** (0.01)
MSCI S		0.01 (0.01)	0.01 (0.01)		0.01 (0.01)	0.01 (0.01)		-0.00 (0.01)	-0.01 (0.01)
MSCI G		-0.01 (0.01)	-0.01 (0.01)		-0.00 (0.01)	-0.01 (0.01)		0.01 (0.01)	0.01 (0.01)
Overall rating			0.03*** (0.01)			0.03*** (0.01)			0.03*** (0.01)
Observations	15612	13014	12858	13975	11508	11354	12305	10004	9852
R-squared	0.21	0.24	0.24	0.21	0.23	0.23	0.21	0.23	0.23
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel D: Stock Return - controlling for implied cost of capital (ICC)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Inside view S	-0.00 (0.01)	-0.01 (0.01)	-0.02** (0.01)	0.01* (0.01)	0.01 (0.01)	0.00 (0.01)	0.01 (0.01)	0.00 (0.01)	-0.01 (0.01)
Inside view G	0.02*** (0.01)	0.02*** (0.01)	0.02*** (0.01)	0.02*** (0.01)	0.02** (0.01)	0.01 (0.01)	0.02*** (0.01)	0.01* (0.01)	0.00 (0.01)
ICC	-0.02* (0.01)	-0.02 (0.01)	-0.02 (0.01)	-0.03** (0.01)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.01)	-0.01 (0.01)	-0.01 (0.01)
MSCI E		0.01 (0.01)	0.00 (0.01)		0.01 (0.01)	0.01 (0.01)		0.02** (0.01)	0.01** (0.01)
MSCI S		0.01 (0.01)	0.01 (0.01)		0.00 (0.01)	0.00 (0.01)		-0.01 (0.01)	-0.01 (0.01)
MSCI G		-0.01 (0.01)	-0.01 (0.01)		-0.00 (0.01)	-0.01 (0.01)		0.00 (0.01)	0.01 (0.01)
Overall rating			0.03*** (0.01)			0.02*** (0.01)			0.03*** (0.01)
Observations	14214	12493	12342	12692	11093	10944	11183	9696	9549
R-squared	0.24	0.25	0.25	0.22	0.24	0.24	0.23	0.24	0.24
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 9: Do employees view ESG practices to improve after the Business Roundtable

Panel A in this table presents coefficient estimates from cross-sectional regressions where the dependent variable is the change in employees' view of E, S, or G practices between 2018 and 2020, before and after a firm signed the Business Roundtable's new statement emphasizing a corporation's purpose to serve all stakeholders rather than just shareholders. The explanatory variables are *BRT*, an indicator for whether a firm signed the Business Roundtable's statement in 2019, and firm characteristics as controls, including size (log of total assets), market-to-book ratio of assets (Tobin's Q), ROA, leverage, and sales growth, all measured in 2018. All regressions include Fama-French 48 industry fixed effects. Some specifications allow the *BRT* indicator to interact with indicators of whether a firm has above-sample-median institutional ownership, analyst coverage, organizational complexity, or advertising intensity during 2014-2018. Panel B shows results from regressing firms' ESG inside views measured in 2018 (before BRT commitment in 2019) on the *BRT* indicator and control variables as in Raghunandan and Rajgopal (2021), but omitted in the table to save space.

Panel A: Change in ESG inside view

	(1) E	(2) S	(3) G	(4) E	(5) S	(6) G
BRT	-0.02 (0.11)	-0.00 (0.10)	0.00 (0.10)	1.10*** (0.26)	-0.28 (0.28)	0.74*** (0.25)
BRT x High institutional ownership				0.05 (0.23)	0.06 (0.28)	-0.10 (0.23)
BRT x High analyst coverage				0.16 (0.36)	-0.49* (0.28)	0.19 (0.31)
BRT x High complexity				-1.33*** (0.27)	0.62 (0.39)	-0.84*** (0.30)
BRT x High advertising intensity				-0.20 (0.19)	0.27 (0.29)	-0.01 (0.24)
BRT x High COVID exposure				0.13 (0.21)	-0.10 (0.33)	0.16 (0.22)
Observations	1022	1022	1022	880	880	880
R-squared	0.07	0.04	0.06	0.07	0.06	0.07
Controls	yes	yes	yes	yes	yes	yes
Industry F.E.	yes	yes	yes	yes	yes	yes

Panel B: ESG inside views before the BRT commitment

	(1) E inside view	(2) S inside view	(3) G inside view
BRT	-.07 (.08)	.05 (.07)	-.03 (.07)
_cons	-.03 (.06)	-.09 (.06)	.16* (.09)
Observations	1337	1337	1337
R-squared	.11	.08	.16
Ind*year FE	yes	yes	yes
Controls	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 10: Do employees view ESG practices to improve after firms join the UN Compact?

Panel A of this table presents coefficient estimates from regressions where the dependent variable is the change in the average E, S, or G inside view 3 years before to 3 years after a firm joins the UN Global Compact. The main explanatory variable is an indicator (*UNGC*) equaling one for firms that join the UN Global Compact, and zero for control firms. Some specifications allow the *UNGC* indicator to interact with indicators of whether a firm has a high average institutional ownership, analyst coverage, organizational complexity, or advertising intensity in the three years before joining the UNGC. Up to 10 control firms are selected for each firm that ever joins the UNGC based on propensity scores estimated using a logit model with covariates including lagged ESG inside views and other firm characteristics. Control firms must belong to the same year and Fama-French 48 industry classification as the UNGC firm, with a propensity score gap smaller than 0.1. If a firm is selected as a control in multiple years, only the first year is kept as a pseudo-treatment year. All regressions include Fama-French 48 industry fixed effects. Control variables, when included, are size and ROA. Panel B shows results from regressing firms' ESG inside views measured in three years before the UNGC commitment on the *UNGC* indicator and control variables. Robust standard errors, clustered by firms, are reported in parentheses.

Panel A: Change in ESG inside views.

	(1) E	(2) S	(3) G	(4) E	(5) S	(6) G	(7) E	(8) S	(9) G
UNGC	-0.08 (0.08)	0.11 (0.07)	0.18** (0.08)	-0.07 (0.08)	0.08 (0.07)	0.16** (0.08)	-0.21 (0.24)	-0.02 (0.23)	0.44* (0.23)
x High inst. ownership							0.20 (0.19)	0.01 (0.15)	-0.28* (0.16)
x High analyst coverage							-0.08 (0.24)	0.07 (0.18)	0.00 (0.18)
x High complexity							0.17 (0.21)	-0.03 (0.17)	-0.19 (0.17)
x High advertising intensity							-0.02 (0.16)	0.07 (0.15)	0.00 (0.14)
Observations	723	723	723	723	723	723	674	674	674
R-squared	0.08	0.08	0.08	0.09	0.09	0.08	0.10	0.10	0.11
Controls	no	no	no	yes	yes	yes	yes	yes	yes
Industry F.E.	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: ESG inside views before the UNGC commitment

	(1) E	(2) S	(3) G
UNGC	0.00 (0.05)	0.07 (0.05)	-0.01 (0.06)
Observations	1295	1295	1295
R-squared	0.10	0.04	0.05
Controls	yes	yes	yes
Industry F.E.	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 11: Do employees view ESG practices to improve after a court ruling?

This table examines changes in employees' inside view of workplace harassment (Columns 1–3) and of E, S, and G practices (Columns 4–6) for firms headquartered in the Second, Fourth, and Ninth Circuit states (treated) relative to those in the First and Eighth Circuits (control) following the 2013 *Vance v. Ball State* Supreme Court ruling. The ruling narrowed the definition of “supervisor” under Title VII, reducing firms’ liability exposure for workplace harassment and thus their incentive to address it. The analysis follows a difference-in-differences design, covering three years before and after the ruling (excluding the ruling year – 2013). Column (1) reports an average post-treatment effect; Columns (2) and (3) break the post period into individual years and test for pre-trends. Columns (4) to (6) repeat the analysis for the broader ESG inside views. All regressions include firm and industry*year fixed effects, and control for lagged firm size, ROA, and the number of Glassdoor reviews. Standard errors are clustered at the state level.

	(1)	(2)	(3)	(4)	(5)	(6)
	Harassment	Harassment	Harassment	E	S	G
Treat * Post	-0.125** (0.056)					
Treat * Post (t)		-0.188* (0.096)	-0.236** (0.110)	-0.125 (0.082)	-0.230** (0.086)	-0.071 (0.072)
Treat * Post (t+1)		-0.134** (0.065)	-0.182** (0.074)	0.011 (0.063)	-0.089 (0.105)	0.069 (0.074)
Treat * Post (t+2)		-0.126** (0.052)	-0.174** (0.073)	-0.057 (0.063)	-0.087 (0.062)	0.046 (0.079)
Treat * Post (t+3)			-0.121 (0.100)	0.163 (0.102)	-0.067 (0.112)	-0.110 (0.103)
Treat * Pre (t-3)			-0.068 (0.123)	0.024 (0.093)	-0.182* (0.097)	-0.205* (0.117)
Observations	7066	7409	7409	7409	7409	7409
R-squared	0.259	0.254	0.254	0.309	0.299	0.406
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

INTERNET APPENDIX

Supplement to Manuscript “Do Employees Have Useful Information about Firms’ ESG Practices?”

IA1: Sample construction and merging across datasets.

The dataset includes 7,851 US-headquartered companies with at least 100 Glassdoor reviews as of July 2020. Each firm on Glassdoor has a unique ID, which is matched to other databases using firms’ tickers and names. This process results in 1,780 firms with unique stock tickers. For firms without unique tickers, fuzzy matching based on names is conducted using the matchit package in Stata, removing common string patterns (e.g., Inc., Co., Limited) to improve quality. Matches are manually verified, keeping only those with above 95% similarity. In cases of multiple CUSIP matches, the firm with the highest total assets is retained.

Firm-year data is also matched with the MSCI KLD dataset using tickers and names. About 70% of US firms in the MSCI dataset during 2008-2018 have unique tickers, allowing for exact matches with the Glassdoor-Compustat dataset. For the remaining 30% and those without a ticker match, fuzzy matching is performed using the matchit package, again removing common string patterns. Matches are manually verified, with a cutoff of 89% similarity due to high matching quality observed up to that point.

IA2: Variable description

This table shows detailed description for variables used in my analyses. All variables are at the firm-year level. All scaled variables are winsorized at the 1st and 99th percentiles.

Variable	Definition	Source
No. of reviews	The number of reviews per firm-year	Glassdoor
Inside view (E, S, or G)	At the review level, it is the percentage of environmental, social, or governance key words in the pros section minus the percentage of environmental, social, or governance key words in the cons section in the review, respectively; Averaging this measure across all reviews in a firm-year gives the inside view (E, S, or G) at the firm-year level.	Glassdoor
MSCI (rating E, S, or G)	The number of environmental (E), social (S), or governance (G) strengths minus the number of E, S, or G concerns per firm-year, scaled by the sum of strengths and concerns per category. When no strengths or concerns are recorded, the measure is set to zero if the firm has a record in the MSCI database that year, but set to missing otherwise.	MSCI (KLD)
BRT	An indicator equaling 1 for firms whose CEOs signed the Business Roundtable statement in 2019	BRT website
UNGC	An indicator equaling 1 for firm-years during which a firm is a member of the UN Global Compact	UNGC website
Level of emissions	CO2-equivalent missions (20 years horizon) estimated by Climate Trace based on satellite imagery, aggregated to the parent firm-year level using ownership fraction as the weight. The value is set to zero if missing.	Climate Trace
Emissions Intensity	The level of emissions scaled by total assets.	Climate Trace
Fortune Best Companies indicator	An indicator equaling one if a firm belongs to Fortune's Best 100 Companies to Work For in a year	Alex Edman's website
Best Diversity indicator	Indicator equaling one for firms on the Best Companies for Diversity list in different years, zero otherwise.	Fortune Magazine
Number of IC weaknesses	The number of internal control weaknesses a firm's auditor reports about the firm in a year.	Audit Analytics
Number of IC weaknesses	The number of internal control weaknesses reported by a firm's auditor in a year	Audit Analytics
Misstatement risk	the probability of the firm's having a material accounting error in a year, estimated from its accounting numbers and market conditions in that year using a machine learning model as in Bertomeu et al. (2021)	Bertomeu et al. (2021)'s website
Number of shareholder activism filings	The number of Forms 13D filed with a firm in a year for which Audit Analytics classifies as concern, dispute, control, or discussion (following Klein and Zur (2009), Guo et al. (2021))	Audit Analytics
Yearly buy-and-hold return	Stock return for a firm during a calendar year.	CRSP
Downside volatility	The standard deviation of daily returns that are negative in year for a firm's stock	CRSP
Tail risk	The average absolute value of the 5% lowest daily returns in a year for a firm's stock	CRSP
Size (log assets)	Logarithm of a firm's total assets in millions, the latest accounting number available in a year	Compustat

Variable	Definition	Source
Tobin's Q	(total assets + market value of equity – total common equity – deferred taxes)/total assets; or (at-ceq-txdite+mkvalt)/at	Compustat
ROA (return on assets)	EBITDA/lagged assets	Compustat
Leverage	Total liabilities over total assets; or lt/at	Compustat
R&D	Research and Development expense (xrd) over total assets, and zero if missing xrd.	Compustat
Sale growth	The change in the logarithm of a firm's net sales in a year relative to its lag	Compustat
Institutional Ownership	The sum of dollar value of institutional ownership, divided by the sum of market value across securities per firm-year	Thomson Reuters 13F
High institutional ownership	An indicator equaling one if a firm has an above-sample-median institutional ownership in a year and zero otherwise.	Thomson Reuters 13F
High analyst coverage	An indicator equaling one if a firm has an above-sample-median analyst coverage in a year and zero otherwise; where analyst coverage is the number of unique analysts making at least one earnings forecast for the firm in that year.	I/B/E/S
High complexity	An indicator equaling one if a firm has an above-sample-median complexity score in a year and zero otherwise; where the complexity score is the first factor in a factor analysis of business segments, natural logarithm of sales, and leverage (see Coles, Daniel, and Naveen, 2008).	Compustat; Compustat Segments
High advertising intensity	An indicator equaling one if a firm has an above-sample-median advertising over sales in a year and zero otherwise; firm-years with missing advertising data is assumed to have zero advertising.	Compustat
High COVID exposure	An indicator equaling one if a firm belongs to a NAICS-3-digit industry with a COVID exposure score above median across industries; where the COVID exposure score is the communication_interact_share score provided by Koren and Peto (2020).	Koren and Peto (2020)
Public sent. E(SG)	Public sentiment of a firm's E(S, or G) practices in a given year. The sentiment is measured by an algorithm that reads through all sentences across over 6,000 news and social media sources to identify mentions of individual firms on different issues, classified into E, S, or G topics.	LSEG Market Psych

IA3: Glassdoor review data

This appendix has two panels. Panel A shows an example of a Glassdoor review. Panel B shows the types of employers with at least one review on Glassdoor as of July 25, 2020.

Panel A: example review of Amazon



"Hit or miss"

3.0 ★ ★ ★ ★ ★ ▼ Current Employee - Delivery Driver in Austin, TX

Work/Life Balance
★ ★ ★ ★ ★

Culture & Values
★ ★ ★ ★ ★

Diversity & Inclusion
★ ★ ★ ★ ★

Career Opportunities
★ ★ ★ ★ ★

Compensation and Benefits
★ ★ ★ ★ ★

Senior Management
★ ★ ★ ★ ★

☒ Recommends ☒ Positive Outlook ☒ Approves of CEO

I have been working at Amazon full-time

Pros
The atmosphere is overall pretty good.

Cons
Long hours, management not on the same page. Cut corners as far as safety is concerned.

Advice to Management
Please listen to employees ideas more.

Panel B: Types of employers reviewed on Glassdoor

	At least 1 review	At least 10 reviews
Company - Private	197,992	58,834
Company - Public	31,131	9,804
Nonprofit	19,853	6,221
Subsidiary/Segment	8,205	4,835
Government	7,235	2,560
Private Practice	6,508	1,088
School	5,592	1,271
College	3,790	2,629
Contract	3,464	594
Franchise	3,020	852
Hospital	2,614	1,253
Self-employed	1,127	88
Other Organization	4,470	829
Unknown	6,550	1,105
Total	301,551	91,963

IA4: Training the word2vec model.

Before feeding reviews into the word2vec model, several preprocessing steps are applied to clean the raw data. Reviews are converted to lower-case, punctuations removed, and transformed into lists of individual words. Lemmatization is applied to convert words to their standard dictionary forms. Using Spacy, digits and stop words (e.g., a, an, the, too, all) are removed. Commonly used two-word phrases (bigrams) are identified using the Phraser module from the Genism library, with phrases retained if they appear at least 50 times in all reviews. These steps follow Li et al. (2021) , but only bigrams are modeled to reduce computational costs.

The word2vec model is trained on 10.4 million English reviews, each containing pro and con sections, resulting in 20.8 million text units. Default word2vec settings are used, except the vector size is set to 300 and the number of training iterations (epochs) to 20, as in Li et al. (2021).

The word2vec model is used to classify employees into high-ranked and low-ranked categories in one robustness test. Employees are classified based on the similarity of their titles to lists of high-ranked and low-ranked job titles from Glassdoor's official guide. C-suite and manager titles are grouped into the high-ranked list, while individual contributors and entry-level titles are in the low-ranked list. Titles are transformed into bigrams or unigrams, keeping only those in the word2vec vocabulary. The average vector representing words in each list is compared to determine if an employee's title indicates a high rank. If a title is anonymous or unknown, the employee is deemed low-ranked. It is found that 17% of reviews were written by high-ranked employees. Removing these reviews changes the inside view measure little, with a resulting correlation above 0.93 with the baseline measure.

IA5: Employees' attention to ESG issues over time.

The recent rise in ESG investing has led employees to mention ESG catchphrases more frequently over time. Figure IA2a illustrates this trend, showing a significant increase in the frequency of terms like ESG, CSR, sustainable, and sustainability between 2008 and 2021. The word ESG itself did not appear in employee reviews until 2015.

However, employees' overall attention to ESG issues, as captured by comprehensive ESG dictionaries, has remained stable over time. Many ESG concerns, such as employee treatment and business ethics, have likely always been important to employees regardless of investor interest. Figure IA2b confirms this stability. An alternative story might be that the ESG dictionaries over-represent earlier period ESG words,

flattening the trend. Yet, training the model on reviews from 2015-2021 shows a 94% overlap with baseline dictionaries, implying stable attention to ESG.

Employees' attention spiked around major ESG events. Attention to environmental issues peaked in 2008 during Barrack Obama's election and in 2015 with the signing of the Paris Agreement. Social issues saw spikes in 2020 due to the Global Pandemic and George Floyd's death, leading to racial protests. Governance attention peaked during the 2008 Financial Crisis and the 2020 Pandemic. Unreported graphs with higher frequency zoom-ins show ESG attention aligning with these events' timings.

IA6: An inside view of a narrower ESG issue: emissions, harassment, or diversity and inclusion

To measure employees' inside view on any ESG subtopic, such as emissions, harassment, diversity and inclusion, we follow the baseline measurement of the broader E, S, or G category.

For example, on diversity and inclusion (D&I) practices, the steps for measuring the inside view are as follows, with some modifications. The seed words for the D&I topic include diversity, inclusion, discrimination, inequality, and related terms such as diverse, inclusive, and discriminating. The main results remain unchanged if discrimination, inequality, and their related words are omitted, or if seed word lists for D&I and discrimination/inequality are kept separate.

The seed word list for each ESG topic has 50 words, so the D&I seed word list is expanded to 50 similar words using Google's pretrained word2vec model on a news dataset. From this expanded list, the word2vec model trained on 10.4 million employee reviews identifies the top 500 most similar words to form the final D&I dictionary. Using this dictionary, D&I words in reviews are counted, and the average D&I word frequency in the pros vs. the cons sections across reviews per firm-year is calculated to measure the D&I inside view. The correlation between the D&I inside view and D&I ratings from Refinitiv and MSCI is found to be low, at 0.19 and 0.10, respectively.

The process for constructing the inside view measure on harassment and emissions are similar. The only difference is that the seed words for harassment include *harassment* and *workplace harassment*, and the seed words for emissions are *emissions*, *carbon emissions*, and *toxic emissions*.

IA7: ESG inside view measurement with Generative AI

As a robustness check, we construct ESG inside view measures using Generative AI. Specifically, we use OpenAI's gpt-4o-mini model to analyze employee reviews and assess whether they indicate that a firm is performing well or poorly on environmental (E), social (S), and governance (G) dimensions. We provide the model with detailed ESG definitions and prompt it to return structured outputs identifying whether each category is mentioned positively or negatively, along with specific keywords cited in support.

We select the gpt-4o-mini model, rather than the full gpt-4o model, because it is significantly more cost-effective – approximately five times cheaper – and computationally faster by roughly an order of magnitude. However, this comes with tradeoffs. The smaller model is less advanced and more prone to shortcuts. For example, we find that it occasionally classifies phrases like “good environment” as positive signals in the environmental category, even though they refer to workplace atmosphere rather than environmental impact. We test this behavior and confirm it occurs despite our prompt explicitly discouraging such misclassifications.

Due to the high cost of using generative AI on scale, we limit our analysis to approximately 2.4 million reviews in our main sample, as opposed to the 10.4 million reviews. Even with the mini model, processing this smaller sample takes several days and incurs API costs in the thousands of dollars (as of early 2025 pricing). We run the code using asynchronous Python calls and store results in an SQLite database, with concurrency and write-ahead logging enabled for efficiency. Batches are processed in parallel with retries for failures, allowing us to work through server limitations without halting the full task.

Following the literature, we set temperature = 0 to limit randomness and increase replicability. Despite this, we still observe occasional variation in responses to the same input when submitted at different times or on different days. To further reduce variability, we set top_p = 0 and seed = 42. This helps by constraining the model to select only the highest-probability tokens and by fixing the randomization seed across runs. Nevertheless, some randomness remains, likely due to non-deterministic elements in the model architecture or server-side variability beyond user control. In addition, the OpenAI API experienced periodic disruptions, typically once or twice per week, which caused some batch failures. Our code is designed to recover from such interruptions without affecting the remaining batches, and we ultimately achieve a completion rate of over 95 percent for the sample. The remaining less than 5 percent of reviews are unprocessed due to server timeouts or connectivity issues. Given the high cost and long processing time,

we do not attempt to further increase coverage. We acknowledge that this may result in a loss of information.

We reproduce below the exact prompt submitted to the model for each review. Note that in this prompt, we provide exact definitions of E, S, and G categories, using direct quotes from Matos (2020). For each review, we process one single piece of text, combining the review's title, pros, and cons sections. This approach will allow the model to discern whether positive content and negative content are mentioned in the overall review, regardless of whether the review's writer correctly assigns positive content to the pros section and the negative content to the cons section or not:

Prompt submitted to GPT-4o-mini:

Task:

Analyze the following review an employee writes about a firm and assess whether it indicates that the firm is performing well or poorly on the following categories.

Definitions:

The environmental (E) category measures a company's impact on the natural ecosystem, which comprises its emissions (e.g., greenhouse gases), the efficient use of natural resources in the production process (e.g., in terms of energy, water, or materials), pollution and waste (e.g., spills), and innovation efforts to eco design its products.

The social (S) category covers a company's relations with its workforce, customers, and society. It includes efforts to maintain loyal workers (e.g., employment quality, health and safety, training, and development), satisfy customers (e.g., producing quality goods and services that keep customers safe), and being a good citizen in the communities where it operates.

The governance (G) category captures the systems in place for management to act in the best interests of its long-term shareholders, which include safeguarding shareholder rights (e.g., limiting anti-takeover defenses), having a functioning board (e.g., with experienced, diverse, and independent members), maintaining well-designed executive compensation policies, and avoiding illegal practices, such as fraud and bribery.

For each category (environmental, social, governance):

Determine if the review suggests the firm is performing well on some issues belonging to that category (answer Yes/Not Sure). If Yes, list all the specific words/phrases that support your decision. If Not Sure, leave the list of key words blank.

Determine if the review suggests the firm is performing badly on some issues belonging to that category (answer Yes/Not Sure). If Yes, list all the specific words/phrases that support your decision. If Not Sure, leave the list of key words blank.

Guiding Principles:

Strict Evidence-Based Approach: Only assign a category if the text contains direct and clear references that match the definition.

Avoid Misclassification:

Mentions of "work environment," "good environment," "bad environment," or simply "environment" do not belong in the Environmental category, because Environmental category is about a firm's impact on the planet and natural environment.

Assign "Environmental" only if the review explicitly mentions emissions, pollution, resource use, eco-initiatives, or other clear references to the firm's impact on the planet.

If the review lacks sufficient details, classify it as "Not Sure."

Output Format: Provide a list of dictionaries, structured as:

```
[  
  {"category": "<category_name>", "aspect": "<doing_well/doing_badly>", "answer": "<Yes/Not  
Sure>", "keywords": ["<keyword1>", "<keyword2>", ...]},  
  ...  
]
```

Return only the list without code blocks, explanations, or additional text.

Review:

{review_text}

Unlike previous literature, we capture all the key words mentioned as positive or negative aspect on each ESG category, allowing it us to increase the variability in our measure beyond simple yes, no, or maybe categories. Thanks to this choice, we can construct a GenAI-based inside view measure that resembles our baseline measure – for the purpose of comparability. For example, our GenAI-based inside

view measure on the S category is the total length of the positive key words for the S category scaled by the length of the pros section, minus the total length of the negative key words for the S category scaled by the length of the cons section. Similar to our baseline, we winsorize each GenAI-based inside view measure at the review and the firm-year level to limit the effect of outliers.

We check the informativeness of our GenAI-based inside view measures in correlating with key future ESG outcomes (Table IA13) and then compare that with our baseline measures in a horse race setup (Table IA14). First, the GenAI-based ESG inside measures are significantly associated with future outcomes on the S category (Best Diversity list) and the G category (Internal Control Weaknesses) in several years ahead – with or without controlling for the MSCI ESG ratings, overall employee sentiment, and other firm characteristics – consistent with our baseline results. On the E category, the GenAI-based measure is negatively associated with future satellite-inferred emissions (correct sign), though the relationship is not statistically significant.

In the horse race between the GenAI-based and baseline (word2vec) measures, the baseline measure outperforms in the E category, which is expected. For the S and G categories, both measures perform similarly. The GenAI-based measure has a larger coefficient when predicting one-year-ahead outcomes, but its statistical significance weakens at longer horizons. Overall, the GenAI and word2vec-based measures demonstrate comparable informativeness on average. They also appear to capture complementary aspects of employee insights, suggesting that our baseline estimates may understate the full extent of ESG-related information embedded in employee reviews.

Exhibit IA1: Selected employee reviews for top and bottom firms by the inside view

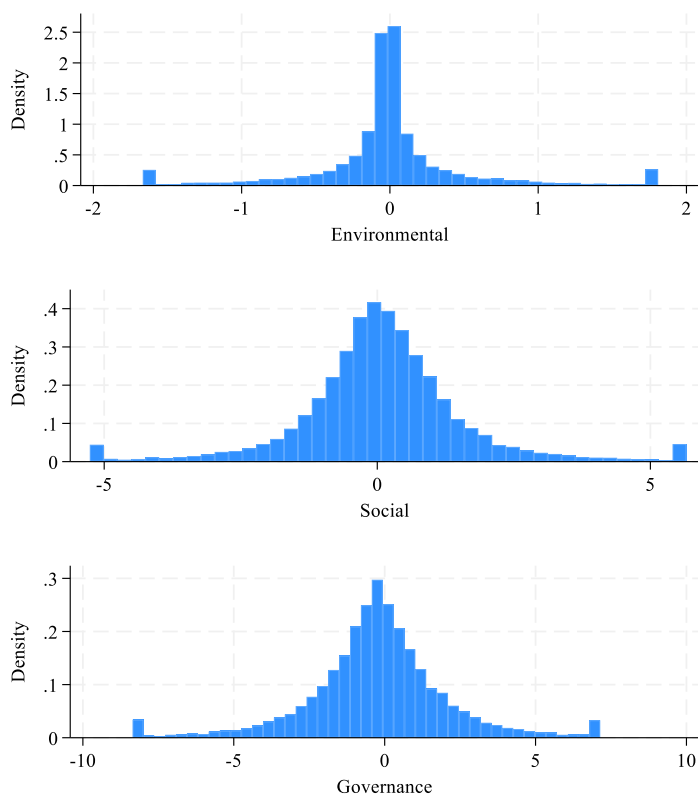
This exhibit presents excerpts from employee reviews at the top and bottom firms in each ESG category—Environmental (E), Social (S), and Governance (G)—based on their average inside view scores between 2014 and 2018. For each category, we show selected quotes from the *pros* section for top firms and the *cons* section for bottom firms.

Company	Employee title	Year	Overall rating	Select text
Top E - SunEdison	Business Development	2015	5.0	Company has excellent potential to capture market share in a rapidly growing sector (renewable energy). With the recent acquisition of First Wind the company is now expanding beyond solar into wind energy . Combined with our work on energy storage technology ...
	Project Engineer	2014	1.0	It's solar . Great way to help the world's energy shortage and go green . Some very excellent and helpful employees...
Bottom E - Pioneer Natural Resources	Anonymous Employee	2016	4.0	They need to do more core analysis and research for better reservoir characterization .
	Operations Technician	2015	4.0	Poor management in Field Operations . Going through a change in focus currently by shifting focus to horizontal drilling ...
Top S - Old National Bancorp	Senior Teller	2016	5.0	Leadership team is great! ONB is dedicated to their community involvement and all employees participate ...
	Anonymous Employee	2018	1.0	Great training programs for employees
Bottom S - Pepco Holdings	Anonymous Employee	2015	4.0	Work ethics and bad management . No gender equality .
	Tax Accountant	2016	5.0	Management doesn't listen to lower level employees, too many hours are required to be worked, bad work life balance
Top G - LinkedIn	Sales	2014	4.0	... Jeff Weiner is an inspiration, and the other execs are all driving towards a shared vision . The culture and values of the company are held in high esteem and they're felt throughout the organizations...
	Anonymous Employee	2017	5.0	Company values and adherence to them (be open, honest & constructive). Transparency is not just a word, it's shown in actions by the executive team. The outstanding leadership team and commitment to developing leaders within the company...
Bottom G - FirstMerit	Anonymous Employee	2014	3.0	no organization , no accountability , need to update systems
	Programmer Analyst	2015	3.0	Slow decision making and lots of Bureaucracy

Figure IA1: Distribution of ESG inside views

In this figure, Panel A plots the histogram for the inside view on each ESG category at the firm-year level. In constructing these histograms, firm-years with no mentioning of ESG topics in their reviews are excluded. The inside view measure at the firm-year level is the average inside view measure across reviews in that firm-year. The inside view measure at the review level is the percentage of E, S, or G words in the review's pros relative to cons sections. Panel B shows the percentages of reviews in our sample that have all positive or all negative views or ratings across categories.

Panel A: Distribution of ESG inside views



Panel B: The percentage of all positive or all negative reviews

	N	Percentage
Mentioning at least one ESG word	2,444,040	43.20
All positive on E, S, and G	2,444,040	0.03
All negative on E, S, and G	2,444,040	0.10
Positive 2 out of 3 E-S-G	2,444,040	1.82
Negative 2 out of 3 E-S-G	2,444,040	3.05
All numerical ratings are 5	2,444,040	9.05
All numerical ratings are 1	2,444,040	2.60
All ratings above 3	2,444,040	24.99
All ratings below 3	2,444,040	6.18

Figure IA2: Trends in employees' attention to ESG issues

Figure a plots the percentage of ESG catchphrases, namely *ESG*, *CSR*, *sustainable*, and *sustainability*, in an average review from 2008 to 2021. Figure b plots the average attention to E, S, and G issues across reviews for each quarter between 2008 and 2021. Before aggregating to the quarter level, we measure the attention to each ESG category for each review by the percentage of words on each category, from our comprehensive ESG dictionaries, in each review.

Figure IA2a: Attention to ESG catchphrases

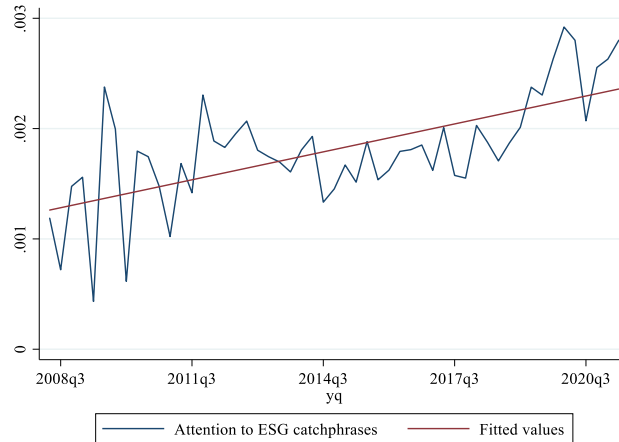


Figure IA2b: Attention to E, S, and G issues more broadly

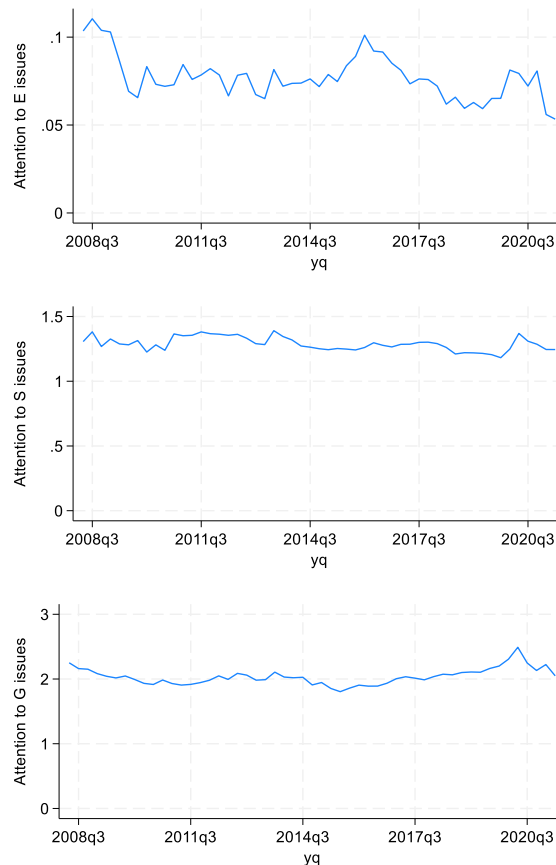


Table IA1: Industry composition of the main sample

This table shows the number and frequency of firms in different industries among my sample of 1,936 unique US publicly listed companies. For comparison, I also report the frequency of different industries in a sample of Compustat firms with a non-missing market value and an average total asset during 2008-2020 that exceeds the minimum average total assets of firms in my sample.

Fama-French industry code	Freq.	My sample Percent	Compustat Percent
Business Services	414	21.38%	11.29%
Retail	151	7.80%	3.23%
Banking	99	5.11%	11.15%
Electronic Equipment	83	4.29%	4.23%
Trading	76	3.93%	6.16%
Computers	70	3.62%	2.20%
Insurance	67	3.46%	2.33%
Wholesale	62	3.20%	2.48%
Restaraunts, Hotels, Motels	56	2.89%	1.29%
Communication	52	2.69%	2.07%
Transportation	52	2.69%	2.59%
Machinery	48	2.48%	1.94%
Healthcare	43	2.22%	1.51%
Pharmaceutical Products	43	2.22%	11.78%
Medical Equipment	38	1.96%	3.13%
Petroleum and Natural Gas	37	1.91%	5.00%
Utilities	35	1.81%	1.53%
Automobiles and Trucks	29	1.50%	1.03%
Food Products	28	1.45%	1.23%
Consumer Goods	28	1.45%	0.84%
Apparel	28	1.45%	0.78%
Chemicals	28	1.45%	1.59%
Personal Services	28	1.45%	0.89%
Measuring and Control Equipment	28	1.45%	1.15%
Construction Materials	25	1.29%	1.19%
Entertainment	23	1.19%	1.26%
Electrical Equipment	20	1.03%	1.21%
Almost Nothing	20	1.03%	5.30%
Construction	19	0.98%	0.88%
Printing and Publishing	15	0.77%	0.38%
Steel Works Etc	14	0.72%	0.72%
Business Supplies	14	0.72%	0.59%
Real Estate	14	0.72%	1.10%
Aircraft	12	0.62%	0.32%
Shipping Containers	9	0.46%	0.15%
Recreation	8	0.41%	0.51%
Rubber and Plastic Products	6	0.31%	0.43%

Defense	6	0.31%	0.13%
Candy & Soda	5	0.26%	0.23%
Beer & Liquor	5	0.26%	0.17%
Non-Metallic and Industrial Metal Mining	4	0.21%	1.44%
Agriculture	3	0.15%	0.31%
Tobacco Products	3	0.15%	0.05%
Textiles	3	0.15%	0.15%
Shipbuilding, Railroad Equipment	3	0.15%	0.16%
Fabricated Products	2	0.10%	0.13%
Coal	2	0.10%	0.35%
Precious Metals	1	0.05%	1.44%
Unclassified	77	3.98%	0.00%
Total	1936	100.00%	100.00%

Table IA2: Lists of ESG issues from industry and academic sources

In this table, Panel A shows the detailed sources where we obtain the lists of ESG issues to create an initial seed word list for each ESG category. Panel B shows the top 25 unigrams and top 25 bigrams that are most frequently used among these sources on each ESG category and also present in the vocabulary of the *word2vec* model trained on 10.4 million employee reviews as described in Section 4. These form the initial seed word lists on ESG topics.

Panel A: Source texts containing lists of ESG issues

Source	Category	Location	Source name	Link
MSCI	E	Page 4	MSCI ESG Ratings Methodology Executive Summary MSCI ESG Research September 2019	https://www.msci.com/documents/1296102/14524248/MSCI+ESG+Ratings+Methodology+-+Exec+Summary+2019.pdf
	S	Page 4		
	G	Page 4		
MSCI	E	Page 18-25	MSCI ESG KLD Stats: 1991-2015 Data Sets	https://libguides.uml.edu/ld.php?content_id=59552417
	S	Page 25-39		
	G	Page 39-41		
Refinitiv	E	Page 10	Environmental, Social and Governance (ESG) Scores from Refinitiv April 2020	https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf
	S	Page 10		
	G	Page 10		
Refinitiv	E	Datastream	Variable Names in Asset4 Dataset	Datastream variable search
	S	Datastream		
	G	Datastream		
S&P Global (RobecoSAM)	E	Figure 4	Measuring Intangibles RobecoSAM's Corporate Sustainability Assessment Methodology	https://www.spglobal.com/spdji/en/documents/additional-material/robeco-sam-measuring-intangibles.pdf
	S	Figure 4		
	G	Figure 4		
S&P Global (RobecoSAM)	E	Page 2-3	CSA Companion 2021 Corporate Sustainability Assessment	https://portal.csa.spglobal.com/survey/documents/CSA_Companion.pdf
	S	Page 3		
	G	Page 3-4		
Sustainalytics	E	All	Descriptions of Material ESG Issues and Corporate Governance	https://www.sustainalytics.com/docs/default-source/meis/definitions-of-meis.pdf?sfvrsn=8e7552c0_4
	S	All		
	G	All		
Vigeo Eiris	E	Page 1	Eiris Sustainability Ratings	https://www.vigeo-eiris.com/wp-content/uploads/2016/11/EIRIS_SustainabilityRatings.pdf
	S	Page 1		
	G	Page 1		
Vigeo Eiris	E	Page 5	ESG Assessment Methodology Executive Summary	https://prodtest-01.vigeo-eiris.com/wp-content/uploads/2021/05/VE_ESG-Assessment-Summary_2021.pdf
	S	Page 5		
	G	Page 5		
RepRisk	E	Page 1	RepRisk Research Scope: ESG Issues, August 2020	https://www.reprisk.com/media/pages/static/2738025864-1618582399/reprisk-esg-issues-definitions.pdf
	S	Page 2-3		
	G	Page 3-4		
CSRHub	E	All	CSRHub Data Schema Description	https://esg.csrhub.com/csrhub-esg-data-schema
	S	All		
	G	All		
	E	Table 3		

Source	Category	Location	Source name	Link
Baier, Berninger, and Kiesel (2020)	S	Table 3	Environmental, Social and Governance Reporting In Annual Reports: A Textual Analysis	https://onlinelibrary.wiley.com/doi/full/10.1111/fmii.12132
	G	Table 3		
Bessec and Fouquau (2021)	E	Table 1	Green Sentiment in Financial Markets: A Global Warning, Date Written: October 13, 2020	https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3710489

Panel B: Top 50 words from the source texts on ESG topics

Environmental	Social	Governance
environmental, emission, waste, climate, energy, water, carbon, biodiversity, pollution, change, use, green, resource, impact, risk, material, packaging, renewable, toxic, recycle, footprint, environment, land, disposal, greenhouse, raw material, renewable energy, carbon footprint, oil spill, efficiently effectively, supply chain, east asia, global footprint, global warming, environmental protection, national park, environmental sustainability, drink water, noise pollution, fossil fuel, electric vehicle, solar energy, solar panel, plastic bag, green belt, air pollution, wind turbine, nuclear power, natural gas, fluorescent lighting	human, right, employee, health, safety, labor, community, labour, social, relation, access, development, capital, indicator, child, responsible, philanthropy, training, fundamental, standard, workforce, privacy, citizenship, occupational, employment, human capital, corporate citizenship, occupational health, supply chain, community involvement, race ethnicity, discrimination harassment, turnover rate, medicaid medicare, performance indicator, collective bargaining, human resource, minimum wage, safe secure, working condition, warning letter, age discrimination, gender racial, racial ethnic, unfair dismissal, human trafficking, threat violence, business model, charitable donation, charitable giving	board, governance, shareholder, ethic, practice, corruption, instability, compensation, structure, code, bribery, tax, corporate, committee, executive, esg, transparency, ownership, audit, level, management, independence, diversity, director, business, code conduct, gender diversity, financial instability, board director, insider trading, financial institution, daytoday operation, tax evasion, false advertising, money laundering, cultural diversity, wide spectrum, policy procedure, 3rd party, regulatory scrutiny, track record, unethical behavior, law violation, nepotism cronyism, hold accountable, government agency, stock price, accountable action, notice period, golden parachute

Table IA3: From seed word lists to final ESG dictionaries

The tables illustrate the refinement of seed word lists and the final ESG dictionaries. Panel A shows the seed word lists after removing noisy words, defined as those outside the top 1000 in cosine similarity to the average vector of the initial seed words. Additionally, supply chain is removed from E, fundamental from S, and financial institution, government agency, and diversity-related words from G. Panel B displays the last twenty words of the dictionaries with different size cutoffs, retaining words only in the most similar category if they appear in multiple dictionaries. Panel C lists the words most commonly used in employee reviews for each ESG category.

Panel A: The seed word lists after removing noisy words.

Environmental	Social	Governance
environmental, emission, energy, water, carbon, biodiversity, pollution, green, packaging, renewable, footprint, recycle, disposal, greenhouse, raw material, renewable energy, carbon footprint, oil spill, global footprint, global warming, environmental protection, environmental sustainability, drinking water, noise pollution, fossil fuel, air pollution, electric vehicle, solar panel, wind turbine, plastic bag, solar energy, industrial automation, nuclear power	human, employee, health, safety, labor, community, labour, social, relation, philanthropy, workforce, citizenship, occupational, human capital, corporate citizenship, occupational health, community involvement, race ethnicity, discrimination harassment, medicaid medicare, collective bargaining, human resource, age discrimination, human trafficking, gender racial, racial ethnic, unfair dismissal, threat violence, gender age, diversity, gender equality, gender diversity, cultural diversity	board, governance, shareholder, ethic, practice, corruption, instability, bribery, committee, executive, esg, transparency, ownership, audit, level, management, business, code conduct, board director, insider trading, daytoday operation, tax evasion, policy procedure, track record, regulatory scrutiny, unethical behavior, nepotism cronyism, law violation

Panel B: Comparing different cutoffs for the final ESG dictionaries' size.

	Environmental	Social	Governance
Last in top 250	gmos, sawdust, deepwater, vapor, pulp, toxin, graphite, residential commercial, furnace, combustible, soil, masonry, underground, fiberglass, dredging, drilling, enclosure, aerial, cardboard, refining	trans, folx, allege, transphobia, societal, microaggression, disadvantaged, religion, abortion, traumainforme, discrimination retaliation, ageism, culturally diverse, queer, environmentalism, nationality, lgbtiq, assault, plan parenthood, ethnically diverse	belief, appropriation, inefficiency, foundation, regulation, lawsuit, forgery, inaction, lawsuit file, bullying, valuation, founder, governmental, misrepresentation, whistleblower, harassment bullying, business acuman, unconscionable, inclusion, identity
Last in top 500	radiation, water leak, actuator, geotech, spillage, exelon, sprinkler, bicycle, biotechnology, kiln, welding, stove, ubiquitin, quarry, puddle, fermentation, chassis, pathogen, solidstate, netzero	whistleblower, subconscious, marginalization, warfighte, widespread, nonviolent, mindfulness, hispanic, descriminate, affinity, unconscious, atheist, rampant sexism, nonminoritie, cultural exchange, minorite, racism, serve nation, intergenerational, malfeasance	business unit, workplace violence, border unethical, fsa, liability, investigate, mechanism, judiciary, avoidance, directive, pende lawsuit, grantmake, diplomacy, hiringpromotion, ethically morally, egotism, modus operandi, legalize, alliance, upper echelon
Last in top 1000	railcar, transplantation, spiderwebs, mechatronic, electricalelectronic, tap water, ghana, watt, residue, refineries, topside, porosity, importer, ev charge, herbal, leak, cyber security, biohazardous, busted, kazakhstan	ethnocentric, communityoriente, antigovernment, mobbing, antimale, terrorist, premarital, developmental disability, misdeed, nonwestern, commonwealth, antiretaliation, represent, physicalsexual, incountry, biblical, worldview, africa, unfairness, institutionally	moral, institution, pcaob, intolerance, stovepiping, statement, kushner, adultery, public affair, doublespeak, posture, democratic, carelessness, sex discrimination, retaliatory, nepotismcronyism, result, merger acquisition, investigative, charlatan

Panel C: Most frequently used ESG key words in employee reviews.

Environmental	Social	Governance
plant, water, construction, manufacturing, green, manufacture, oil, industrial, environmental, oil gas, planet, storage, chemical, manufacturer, utility, solar, engine, footprint, electrical, recycle, lighting, electric, plastic, steel, packaging, battery, metal, mining, pipe, nuclear	employee, health, community, workplace, diversity, safety, social, workforce, human, personnel, human resource, legal, cultural, mental health, discrimination, welfare, harassment, population, wellbeing, minority, regulation, advocate, diversity inclusion, youth, sexual harassment, wellbeing, evidence, racism, society, discriminate	culture, business, leadership, organization, CEO, leader, decision, executive, practice, strategy, operation, financial, ethic, innovation, partner, transparency, initiative, organization, ownership, administration, accountability, action, board, behavior, integrity, engagement, appear, president, professionalism, nepotism

Table IA4: Persistence in the ESG inside view

This table shows the regressions at the firm-year level of the inside view at year t on its value at year t-1, for the E, S, and G categories separately. Control variables, when included, are the numerical ratings on Glassdoor, all averaged across reviews to the firm-year level, measured at year t. Industry fixed effects are based on the Fama French 48 industry classification. Detailed variable descriptions are in Appendix B in the main paper. Robust standard errors are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)
	E inside view		S inside view		G inside view	
Lagged E inside view	0.108*** (0.014)	0.100*** (0.015)				
Lagged S inside view			0.138*** (0.009)	0.098*** (0.010)		
Lagged G inside view					0.234*** (0.009)	0.135*** (0.010)
Rating - overall		-0.023** (0.011)		0.027 (0.050)		0.235*** (0.067)
Rating - balance		-0.011 (0.007)		0.030 (0.026)		-0.239*** (0.036)
Rating - culture		-0.005 (0.009)		0.417*** (0.039)		0.464*** (0.049)
Rating - career		0.023** (0.009)		-0.115*** (0.039)		0.002 (0.049)
Rating - compensation		-0.010* (0.006)		0.108*** (0.023)		-0.265*** (0.031)
Rating - management		0.006 (0.010)		-0.062 (0.041)		0.629*** (0.056)
_cons	0.004** (0.002)	0.021 (0.058)	0.170*** (0.007)	-1.433*** (0.219)	0.114*** (0.009)	-2.526*** (0.234)
Observations	19740	16295	19740	16295	19740	16295
R-squared	0.012	0.042	0.021	0.120	0.056	0.276
Industry FE	no	yes	no	yes	no	yes

Robust standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA5: Climate Trace Emissions Estimates – Extensive vs. intensive margins

This table reports firm-year regressions of emissions metrics from Climate Trace database in years t+1, t+2, or t+3 on E inside view and MSCI E rating at year t, separating the extensive and intensive margins. Panel A's dependent variable is an indicator for whether Climate Trace reports emissions (extensive margin); Panel B uses the level of estimated emissions conditional on being nonzero (intensive margin). Panel A uses logistic regressions, Panel B Poisson regressions. Controls include Fama-French 48 industry $\times$ year fixed effects, size, and ROA (Li et al. 2021), all at year t. Missing MSCI ratings are replaced by lagged values. All variables (except indicators) are standardized. Standard errors (in parentheses) are clustered by firm.

Panel A: Extensive margin

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.14*	-0.17**	-0.16**	-0.11	-0.12*	-0.11	-0.05	-0.06	-0.04
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)
MSCI E		-0.08	-0.08		0.07	0.07		0.09	0.09
		(0.16)	(0.17)		(0.14)	(0.15)		(0.14)	(0.14)
Overall rating			0.43			0.50*			0.44
			(0.28)			(0.28)			(0.29)
Observations	1628	1354	1273	1578	1282	1281	1578	1265	1263
Pseudo R2	0.29	0.34	0.34	0.29	0.33	0.34	0.29	0.32	0.33
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Intensive margin

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.11**	-0.10**	-0.12***	-0.18**	-0.21***	-0.24***	-0.11	-0.13	-0.13
	(0.05)	(0.05)	(0.04)	(0.08)	(0.06)	(0.05)	(0.10)	(0.10)	(0.10)
MSCI E		0.11	0.13		0.00	0.01		-0.02	-0.02
		(0.09)	(0.09)		(0.15)	(0.14)		(0.19)	(0.18)
Overall rating			0.04			-0.32*			0.01
			(0.28)			(0.19)			(0.28)
Observations	145	130	124	135	118	118	122	101	101
Pseudo R2	0.83	0.83	0.87	0.74	0.75	0.75	0.73	0.72	0.72
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table IA6: Robustness to Table 4 on Environmental performance

This table reports firm-year regressions analogous to Table 4, with separate panels for various robustness checks. To keep this table manageable, we focus on our main result about levels of estimated emissions from Climate Trace (the first Panel in Table 4). Panel A adds governance controls, including the entrenchment index (Bebchuk, Cohen, and Ferrell, 2009) and institutional ownership (Dyck et al., 2019). Panel B includes additional firm characteristics such as sales growth, cash ratio, debt ratio, and Tobin's Q. Panel C controls for all numerical Glassdoor sub-ratings beyond the overall rating. Panel D adds lagged emissions as a control. Panel E presents placebo tests using the S or G inside views instead of the E inside view. Panel F is the only exception where the dependent variable is emissions intensity based on Climate Trace estimates.

Panel A: Controlling additionally for governance attributes

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.18** (0.08)	-0.19** (0.09)	-0.19 (0.13)	-0.26*** (0.07)	-0.26*** (0.07)	-0.28*** (0.06)	-0.12 (0.20)	-0.11 (0.18)	-0.08 (0.16)
Inst. own	-0.52 (1.41)	-0.29 (1.51)	-0.25 (1.54)	-1.69 (1.14)	-2.62 (1.66)	-2.61 (1.67)	0.18 (1.46)	-0.42 (1.49)	-0.57 (1.41)
E-index	-0.09 (0.29)	-0.09 (0.29)	-0.11 (0.31)	-0.15 (0.27)	-0.12 (0.25)	-0.09 (0.24)	-0.02 (0.29)	0.00 (0.30)	-0.10 (0.28)
MSCI E		-0.18 (0.15)	-0.19 (0.15)		-0.16 (0.15)	-0.16 (0.15)		-0.13 (0.19)	-0.10 (0.17)
Overall rating			0.17 (0.42)			-0.17 (0.32)			0.56* (0.30)
Observations	1095	1068	1011	1050	1028	1028	1020	1002	1001
Pseudo R ²	0.73	0.74	0.75	0.75	0.75	0.75	0.71	0.72	0.73
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Controlling additionally for more firm characteristics

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.07 (0.09)	-0.05 (0.09)	-0.07 (0.10)	-0.18** (0.09)	-0.14 (0.10)	-0.16* (0.08)	-0.11 (0.18)	-0.11 (0.17)	-0.09 (0.15)
Leverage	-0.85* (0.48)	-0.75 (0.59)	-0.84 (0.64)	-1.33*** (0.40)	-1.42*** (0.53)	-1.45*** (0.53)	-0.72 (0.49)	-0.82 (0.59)	-0.89 (0.61)
Tobin's Q	-0.91 (0.97)	-0.66 (0.94)	-0.81 (0.88)	-0.81 (0.62)	-0.89 (0.60)	-0.90 (0.61)	1.06 (0.73)	0.82 (0.70)	0.74 (0.65)
Sales growth	-0.53** (0.23)	-0.53** (0.23)	-0.64** (0.30)	-0.29 (0.33)	-0.42 (0.31)	-0.40 (0.32)	0.05 (0.18)	0.12 (0.19)	0.08 (0.17)
Cash/assets	0.39 (0.59)	0.84 (0.74)	0.54 (0.67)	0.54 (0.47)	1.24** (0.53)	1.26** (0.55)	0.28 (0.51)	0.77 (0.52)	0.61 (0.57)
MSCI E		-0.16 (0.16)	-0.15 (0.15)		-0.08 (0.15)	-0.07 (0.14)		-0.01 (0.20)	0.02 (0.18)
Overall rating			-0.09 (0.36)			-0.16 (0.37)			0.45 (0.28)
Observations	1520	1314	1235	1483	1244	1243	1470	1226	1224
Pseudo R ²	0.76	0.77	0.79	0.77	0.79	0.79	0.72	0.74	0.75
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel C: Controlling additionally for all numerical Glassdoor ratings beyond the overall rating

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.03 (0.11)	-0.09 (0.11)	-0.10 (0.11)	-0.20*** (0.07)	-0.19*** (0.07)	-0.19*** (0.07)	-0.05 (0.13)	-0.05 (0.09)	-0.05 (0.09)
Rating balance	0.88* (0.47)	0.85** (0.43)	0.85** (0.43)	0.16 (0.30)	0.26 (0.32)	0.32 (0.32)	0.40 (0.32)	0.40 (0.31)	0.51* (0.28)
Rating culture	-0.98** (0.50)	-1.43*** (0.49)	-1.34** (0.58)	0.11 (0.44)	-0.35 (0.52)	-0.11 (0.53)	-0.47 (0.40)	-0.75* (0.44)	-0.60 (0.46)
Rating career	-1.03 (0.78)	-0.89 (0.71)	-0.87 (0.70)	-0.91* (0.52)	-0.44 (0.51)	-0.37 (0.52)	-0.67* (0.39)	-0.52 (0.42)	-0.31 (0.38)
Rating pay	1.04** (0.42)	1.06*** (0.39)	1.12*** (0.36)	1.03** (0.46)	1.12** (0.47)	1.20** (0.47)	0.79* (0.42)	0.77* (0.46)	0.89* (0.46)
Rating mgmt.	0.68 (0.52)	0.95** (0.48)	0.97** (0.45)	-0.22 (0.42)	-0.32 (0.42)	-0.17 (0.47)	0.71 (0.58)	0.79 (0.70)	0.99 (0.75)
MSCI E		-0.30*** (0.11)	-0.30*** (0.10)		-0.28*** (0.10)	-0.29*** (0.09)		-0.07 (0.20)	-0.09 (0.20)
Overall rating			-0.18 (0.32)			-0.65 (0.55)			-0.84 (0.60)
Observations	1540	1271	1271	1582	1280	1280	1579	1259	1259
Pseudo R ²	0.79	0.81	0.81	0.78	0.79	0.79	0.75	0.77	0.77
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel D: Controlling additionally for lagged emissions

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.18** (0.07)	-0.17** (0.09)	-0.17 (0.12)	-0.27*** (0.09)	-0.22** (0.09)	-0.28*** (0.07)	-0.11 (0.21)	-0.11 (0.16)	-0.08 (0.12)
MSCI E		-0.19 (0.17)	-0.21 (0.17)		-0.21 (0.18)	-0.20 (0.17)		-0.20 (0.20)	-0.17 (0.17)
Emissions (t)		0.00 (0.00)	-0.00 (0.00)		-0.00 (0.00)	0.00 (0.00)		-0.00* (0.00)	-0.00** (0.00)
Overall rating			0.13 (0.44)			-0.39 (0.39)			0.69 (0.48)
Observations	1632	1240	1159	1584	1054	1054	1586	929	929
Pseudo R ²	0.73	0.75	0.75	0.74	0.76	0.76	0.71	0.74	0.74
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel E: Placebo: emissions association with S and G inside views

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.27 (0.23)	0.16 (0.22)	0.14 (0.21)	0.01 (0.31)	-0.03 (0.31)	-0.04 (0.31)	0.09 (0.31)	-0.04 (0.37)	-0.22 (0.32)
Inside view G	0.18 (0.24)	0.20 (0.28)	0.13 (0.27)	0.09 (0.33)	0.03 (0.27)	-0.00 (0.31)	0.04 (0.32)	0.04 (0.29)	-0.27 (0.31)
MSCI S		0.14 (0.22)	0.11 (0.24)		0.03 (0.19)	0.02 (0.20)		0.06 (0.41)	-0.01 (0.38)
MSCI G		0.18 (0.19)	0.14 (0.18)		0.13 (0.14)	0.13 (0.13)		0.08 (0.20)	0.10 (0.18)
Overall rating			0.14 (0.28)			0.15 (0.52)			0.88** (0.36)
Observations	1632	1341	1261	1584	1271	1270	1586	1256	1254
Pseudo R ²	0.72	0.74	0.74	0.72	0.74	0.74	0.70	0.72	0.74
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel F: Emissions intensity

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.03 (0.02)	-0.04* (0.02)	-0.04* (0.02)	-0.03 (0.03)	-0.04 (0.04)	-0.04 (0.04)
MSCI E		0.00 (0.02)	0.00 (0.02)		0.01 (0.02)	0.01 (0.02)		0.00 (0.02)	0.00 (0.02)
Overall rating			0.01** (0.01)			0.01 (0.01)			0.02* (0.01)
Observations	10125	8705	8407	9807	8328	8326	9471	7934	7918
R-squared	0.11	0.14	0.14	0.11	0.14	0.14	0.11	0.14	0.14
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA7: Robustness to Table 5 on social performance – Best Diversity List

This table reports firm-year regressions analogous to Table 5, with separate panels for various robustness checks. To keep this table manageable, we focus on our main result about Best Diversity List (the first Panel in Table 5). Panel A adds governance controls, including the entrenchment index (Bebchuk, Cohen, and Ferrell, 2009) and institutional ownership (Dyck et al., 2019). Panel B includes additional firm characteristics such as sales growth, cash ratio, debt ratio, and Tobin's Q. Panel C controls for all numerical Glassdoor sub-ratings beyond the overall rating. Panel D adds lagged emissions as a control. Panel E presents placebo tests using the E inside view. Panel F presents results with industry times year fixed effects (which often take too long to complete for logit).

Panel A: Controlling additionally for governance attributes

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	1.23*** (0.20)	1.20*** (0.20)	0.82*** (0.20)	1.04*** (0.19)	1.00*** (0.18)	0.66*** (0.18)	0.99*** (0.17)	0.96*** (0.17)	0.69*** (0.19)
Inst. own	1.31 (1.47)	1.28 (1.50)	1.58 (1.55)	1.10 (1.47)	1.03 (1.50)	1.45 (1.60)	0.99 (1.46)	0.87 (1.53)	1.16 (1.64)
E-index	0.48** (0.25)	0.45* (0.25)	0.55** (0.26)	0.63*** (0.24)	0.60** (0.24)	0.78*** (0.26)	0.64*** (0.22)	0.63*** (0.23)	0.77*** (0.24)
MSCI S		0.30 (0.20)	0.28 (0.23)		0.23 (0.21)	0.17 (0.23)		0.16 (0.23)	0.08 (0.24)
Overall rating			1.61*** (0.31)			1.68*** (0.29)			1.35*** (0.25)
Observations	2658	2611	2611	2593	2545	2545	2531	2475	2471
Pseudo R ²	0.23	0.23	0.29	0.23	0.23	0.30	0.22	0.22	0.27
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Controlling additionally for more firm characteristics

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.96*** (0.13)	0.98*** (0.15)	0.64*** (0.14)	0.92*** (0.13)	0.85*** (0.13)	0.56*** (0.12)	0.72*** (0.12)	0.71*** (0.14)	0.44*** (0.14)
Leverage	-0.30 (0.26)	-0.25 (0.28)	-0.08 (0.29)	-0.25 (0.27)	-0.20 (0.29)	-0.04 (0.30)	-0.15 (0.29)	-0.08 (0.32)	0.02 (0.33)
Tobin's Q	0.43*** (0.14)	0.48*** (0.14)	0.33* (0.17)	0.32** (0.16)	0.36** (0.15)	0.18 (0.17)	0.29* (0.16)	0.30** (0.15)	0.16 (0.17)
Sales growth	0.16 (0.12)	0.13 (0.13)	-0.00 (0.17)	0.39*** (0.14)	0.34** (0.16)	0.20 (0.20)	0.30** (0.13)	0.29* (0.16)	0.18 (0.19)
Cash/assets	-0.12 (0.18)	-0.17 (0.18)	-0.35* (0.20)	-0.13 (0.19)	-0.12 (0.18)	-0.31 (0.20)	0.02 (0.18)	0.01 (0.18)	-0.12 (0.20)
MSCI S		0.42** (0.19)	0.42** (0.20)		0.43** (0.21)	0.42* (0.22)		0.36 (0.23)	0.30 (0.22)
Overall rating			1.41*** (0.24)			1.45*** (0.25)			1.08*** (0.22)
Observations	4393	3738	3737	4169	3502	3501	4068	3396	3386
Pseudo R ²	0.23	0.23	0.28	0.23	0.22	0.27	0.21	0.20	0.23
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel C: Controlling additionally for all numerical Glassdoor ratings beyond the overall rating

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.48*** (0.14)	0.49*** (0.16)	0.50*** (0.16)	0.51*** (0.14)	0.42*** (0.14)	0.42*** (0.14)	0.30** (0.12)	0.31** (0.14)	0.31** (0.14)
Rating balance	-0.28 (0.30)	-0.11 (0.34)	-0.06 (0.33)	-0.14 (0.29)	-0.04 (0.32)	-0.05 (0.32)	-0.03 (0.24)	0.07 (0.28)	0.03 (0.29)
Rating culture	2.06*** (0.44)	1.79*** (0.47)	1.88*** (0.48)	1.49*** (0.44)	1.30*** (0.45)	1.28*** (0.47)	1.14*** (0.34)	0.93** (0.37)	0.83** (0.38)
Rating career	0.03 (0.27)	0.19 (0.32)	0.30 (0.39)	0.23 (0.27)	0.30 (0.30)	0.29 (0.33)	0.09 (0.22)	0.20 (0.28)	0.10 (0.32)
Rating pay	0.30 (0.29)	0.30 (0.30)	0.34 (0.32)	0.20 (0.25)	0.28 (0.26)	0.27 (0.28)	0.32 (0.24)	0.35 (0.26)	0.30 (0.28)
Rating mgmt.	-0.62 (0.41)	-0.66 (0.46)	-0.56 (0.50)	-0.32 (0.39)	-0.34 (0.46)	-0.36 (0.48)	-0.28 (0.32)	-0.34 (0.38)	-0.44 (0.40)
MSCI S		0.33* (0.20)	0.33 (0.20)		0.34 (0.21)	0.34 (0.21)		0.30 (0.22)	0.30 (0.22)
Overall rating			-0.42 (0.72)			0.07 (0.63)			0.41 (0.55)
Observations	4842	4016	4016	4817	3897	3897	4705	3766	3766
Pseudo R ²	0.29	0.28	0.28	0.28	0.27	0.27	0.24	0.23	0.23
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel D: Controlling additionally for lagged list inclusion (lagged Y)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.96*** (0.12)	0.74*** (0.13)	0.43*** (0.16)	0.91*** (0.12)	0.71*** (0.15)	0.37** (0.18)	0.69*** (0.11)	0.54*** (0.15)	0.24 (0.17)
MSCI S		0.05 (0.18)	0.00 (0.20)		0.17 (0.19)	0.13 (0.21)		0.01 (0.24)	-0.04 (0.25)
Lagged Y		5.37*** (0.36)	5.04*** (0.36)		4.19*** (0.42)	3.82*** (0.41)		4.25*** (0.59)	3.84*** (0.58)
Overall rating			1.24*** (0.25)			1.43*** (0.29)			1.09*** (0.28)
Observations	4844	3256	3256	4821	2402	2402	4736	1505	1505
Pseudo R ²	0.19	0.51	0.54	0.19	0.35	0.39	0.17	0.27	0.30
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel E: Placebo: Best diversity list association with E inside view

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	0.02 (0.16)	0.03 (0.18)	-0.05 (0.24)	-0.01 (0.11)	-0.01 (0.13)	-0.06 (0.19)	-0.06 (0.14)	-0.09 (0.17)	-0.12 (0.24)
MSCI E		0.28 (0.20)	0.21 (0.22)		0.16 (0.20)	0.07 (0.21)		0.15 (0.20)	0.06 (0.20)
Overall rating			1.61*** (0.23)			1.54*** (0.21)			1.22*** (0.17)
Observations	4844	4018	4017	4821	3900	3899	4736	3790	3780
Pseudo R ²	0.16	0.15	0.24	0.15	0.15	0.23	0.15	0.14	0.21
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel F: Controlling for industry times year fixed effects

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	1.01*** (0.13)	1.00*** (0.15)	0.64*** (0.15)	0.96*** (0.12)	0.88*** (0.13)	0.56*** (0.12)	0.71*** (0.11)	0.66*** (0.12)	0.41*** (0.13)
MSCI S		0.40** (0.18)	0.42** (0.20)		0.41** (0.20)	0.41* (0.21)		0.40* (0.21)	0.35 (0.23)
Overall rating			1.45*** (0.24)			1.43*** (0.23)			1.13*** (0.19)
Observations	3855	3172	3171	3837	3074	3073	3776	2999	2994
Pseudo R ²	0.18	0.18	0.25	0.18	0.17	0.24	0.16	0.16	0.21
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA8: Robustness to Table 5 on social performance – other indicators

This table reports firm-year regressions analogous to Table 5, with separate panels for various robustness checks focusing on social indicators beyond the main indicators in Table 5. Panels A and B focus on media-exposed product controversies, with and without controlling for past controversies. Panels C and D focus on the (log) number of consumer complaints filed with Consumer Financial Protection Bureau (CFPB) and the likelihood of a firm having an enforcement action with CFPB, respectively. All regressions use OLS except for Panel D using logit to estimate the regressions. Enforcement data are hand-collected from the CFPB website, while complaints data are merged based on fuzzy name matching to Compustat with manual verification. Some leading zeros are dropped in Panels A and B to ensure table fit.

Panel A: S inside view and media-exposed product controversies

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	-.02* (0.01)	-0.02 (0.01)	-0.01 (0.01)	-.03*** (0.01)	-0.03** (0.01)	-0.03** (0.01)	-.03** (0.01)	-0.03** (0.01)	-0.02** (0.01)
MSCI S		-.08*** (0.02)	-.08*** (0.02)		-.08*** (0.01)	-.07*** (0.01)		-.07*** (0.01)	-.07*** (0.01)
Overall rating			-.04*** (0.01)			-0.02 (0.01)			-0.03** (0.01)
Observations	12087	10660	10323	11045	9614	9501	9853	8487	8379
R-squared	0.15	0.17	0.17	0.15	0.17	0.16	0.14	0.16	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: S inside view and media-exposed product controversies – controlling for lagged controversies

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	-0.02* (0.01)	-0.01 (0.01)	-0.01 (0.01)	-.03*** (0.01)	-.03*** (0.01)	-.04*** (0.01)	-.03** (0.01)	-0.02** (0.01)	-0.02* (0.01)
MSCI S		-.05*** (0.01)	-.04*** (0.01)		-.04*** (0.01)	-.05*** (0.01)		-.05*** (0.01)	-0.05*** (0.01)
Y(t)		0.42*** (0.02)	0.41*** (0.02)		0.33*** (0.02)	0.32*** (0.02)		0.27*** (0.02)	0.26*** (0.02)
Overall rating			-0.02** (0.01)			0.01 (0.01)			-0.02 (0.01)
Observations	12087	9184	8902	11045	8248	8164	9853	7316	7232
R-squared	0.15	0.33	0.33	0.15	0.27	0.27	0.14	0.25	0.25
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel C: S inside view and CFPB complaints

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	-0.21* (0.11)	-0.12 (0.10)	-0.14* (0.08)	-0.25** (0.10)	-0.21** (0.10)	-0.24*** (0.09)	-0.20** (0.10)	-0.17* (0.09)	-0.20** (0.09)
MSCI S		-0.73*** (0.26)	-0.73*** (0.26)		-0.44* (0.23)	-0.44* (0.23)		-0.39* (0.21)	-0.40* (0.21)
Overall rating			0.04 (0.22)			0.13 (0.25)			0.13 (0.23)
Observations	613	568	548	598	548	548	583	525	525
R-squared	0.51	0.56	0.57	0.50	0.55	0.55	0.50	0.56	0.56
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel D: S inside view and likelihood of CFPB enforcement actions.

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	-0.24 (0.61)	0.10 (0.67)	0.41 (0.80)	-0.33 (0.24)	-0.24 (0.19)	-0.21 (0.20)	-1.22*** (0.47)	-1.30** (0.60)	-1.35** (0.53)
MSCI S		-0.46* (0.26)	-0.34 (0.32)		-0.77* (0.40)	-0.78** (0.39)		0.46 (0.43)	0.46 (0.43)
Overall rating			-0.16 (0.81)			-0.06 (0.41)			0.14 (0.48)
Observations	479	433	360	465	413	409	458	397	390
Pseudo R ²	0.12	0.13	0.18	0.13	0.15	0.15	0.30	0.33	0.33
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA9: Robustness to Table 6 on governance performance

This table reports firm-year regressions analogous to Table 6, with separate panels for various robustness checks. To keep this table manageable, we focus on our main result about internal control weaknesses (the first Panel in Table 6). Panel A adds governance controls, including the entrenchment index (Bebchuk, Cohen, and Ferrell, 2009) and institutional ownership (Dyck et al., 2019). Panel B includes additional firm characteristics such as sales growth, cash ratio, debt ratio, and Tobin's Q. Panel C controls for all numerical Glassdoor sub-ratings beyond the overall rating. Panel D adds lagged count of internal control weaknesses as a control. Panel E presents placebo tests using the E or S inside views instead of the E inside view. Some leading zeros are omitted to ensure table fit.

Panel A: Controlling additionally for governance attributes

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.21** (0.10)	-0.25** (0.11)	-0.18 (0.12)	-0.19* (0.11)	-0.22* (0.12)	-0.15 (0.11)	-0.30** (0.13)	-0.31** (0.13)	-0.29** (0.13)
Inst. own	-1.74*** (0.61)	-1.94*** (0.73)	-2.07*** (0.72)	-1.34** (0.53)	-1.29* (0.69)	-1.44** (0.63)	-0.51 (0.75)	-0.19 (0.89)	-0.24 (0.90)
E-index	-0.14 (0.16)	-0.16 (0.17)	-0.15 (0.17)	-0.18 (0.17)	-0.26 (0.18)	-0.23 (0.17)	-0.16 (0.17)	-0.27 (0.17)	-0.25 (0.17)
MSCI G		-0.11 (0.15)	-0.08 (0.15)		0.01 (0.11)	0.01 (0.12)		-0.00 (0.13)	-0.00 (0.14)
Overall rating			-0.28** (0.11)			-0.34*** (0.13)			-0.20 (0.12)
Observations	4976	4673	4612	4347	4126	4077	3933	3742	3677
Pseudo R ²	0.27	0.26	0.26	0.25	0.24	0.25	0.22	0.22	0.21
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Controlling additionally for more firm characteristics

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.20*** (0.07)	-0.19*** (0.07)	-0.20** (0.08)	-0.17*** (0.06)	-0.20** (0.09)	-0.18* (0.10)	-0.19*** (0.07)	-0.25*** (0.09)	-0.27*** (0.09)
Leverage	0.25*** (0.09)	0.33*** (0.11)	0.34*** (0.11)	0.18* (0.10)	0.21* (0.12)	0.20* (0.12)	0.20** (0.09)	0.23* (0.12)	0.22* (0.13)
Tobin's Q	-0.31** (0.14)	-0.39** (0.17)	-0.40** (0.18)	-0.23* (0.12)	-0.28* (0.16)	-0.29* (0.16)	-0.29*** (0.09)	-0.39*** (0.13)	-0.37*** (0.14)
Sales growth	-0.01 (0.07)	-0.02 (0.09)	-0.03 (0.09)	-0.02 (0.10)	-0.06 (0.14)	-0.06 (0.14)	0.12 (0.09)	0.07 (0.10)	0.08 (0.10)
Cash/assets	-0.28** (0.14)	-0.32* (0.18)	-0.33* (0.19)	-0.32** (0.14)	-0.36* (0.19)	-0.36* (0.19)	-0.26** (0.11)	-0.31** (0.13)	-0.31** (0.14)
MSCI G		0.04 (0.10)	0.04 (0.10)		0.17** (0.08)	0.14 (0.09)		0.08 (0.10)	0.07 (0.10)
Overall rating			0.02 (0.08)			-0.07 (0.11)			-0.01 (0.11)
Observations	10492	7981	7892	9352	6711	6614	7817	5804	5698
Pseudo R ²	0.20	0.22	0.22	0.19	0.20	0.21	0.18	0.20	0.20
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel C: Controlling additionally for all numerical Glassdoor ratings beyond the overall rating

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-.25*** (0.08)	-.30*** (0.08)	-.30*** (0.08)	-0.15* (0.09)	-0.21* (0.11)	-0.21* (0.11)	-.27*** (0.08)	-.41*** (0.10)	-.41*** (0.10)
Rating balance	0.00 (0.13)	0.05 (0.14)	0.04 (0.14)	-0.05 (0.12)	0.03 (0.15)	0.02 (0.15)	-0.07 (0.12)	-0.03 (0.14)	-0.05 (0.14)
Rating culture	-.49*** (0.16)	-.49*** (0.19)	-.50*** (0.24)	-.35*** (0.16)	-.45*** (0.18)	-.46*** (0.18)	-.56*** (0.18)	-.66*** (0.23)	-.74*** (0.25)
Rating career	0.03 (0.15)	0.11 (0.17)	0.10 (0.18)	0.09 (0.12)	0.17 (0.15)	0.15 (0.15)	0.07 (0.13)	-0.00 (0.18)	-0.07 (0.20)
Rating pay	0.07 (0.10)	0.08 (0.13)	0.07 (0.13)	0.12 (0.12)	0.02 (0.14)	0.01 (0.14)	0.11 (0.12)	0.10 (0.16)	0.06 (0.15)
Rating management	0.16 (0.18)	0.09 (0.23)	0.08 (0.25)	-0.09 (0.19)	-0.01 (0.24)	-0.04 (0.24)	0.16 (0.19)	0.28 (0.23)	0.16 (0.26)
MSCI G		-0.02 (0.15)	-0.02 (0.15)		0.05 (0.15)	0.05 (0.15)		-0.03 (0.17)	-0.02 (0.17)
Overall rating			0.04 (0.33)			0.08 (0.23)			0.32 (0.31)
Observations	9101	7124	7124	7746	5831	5831	6475	4724	4724
Pseudo R ²	0.16	0.18	0.18	0.15	0.17	0.17	0.16	0.19	0.19
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel D: Controlling additionally for lagged outcome

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.30*** (0.06)	-0.30*** (0.07)	-.25*** (0.08)	-.22*** (0.06)	-.24*** (0.08)	-0.18** (0.08)	-.22*** (0.06)	-.28*** (0.09)	-.27*** (0.09)
Y(t)	0.19*** (0.02)	0.19*** (0.02)	0.19*** (0.02)	0.13*** (0.02)	0.13*** (0.02)	0.13*** (0.02)	0.12*** (0.03)	0.17*** (0.04)	0.17*** (0.04)
MSCI G		-0.10 (0.12)	-0.11 (0.12)		0.08 (0.11)	0.03 (0.11)		-0.00 (0.11)	-0.02 (0.11)
Overall rating			-.19*** (0.07)			-0.23** (0.09)			-0.15* (0.09)
Observations	11808	8811	8713	10568	7560	7454	9212	6576	6461
Pseudo R ²	0.24	0.27	0.27	0.18	0.20	0.21	0.15	0.17	0.18
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel E: Placebo: Internal control weaknesses association with E and S inside views

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	0.11* (0.07)	0.13* (0.08)	0.11 (0.08)	0.13** (0.06)	0.09 (0.07)	0.08 (0.08)	0.09* (0.05)	0.08 (0.06)	0.08 (0.06)
Inside view S	-0.10 (0.08)	0.00 (0.08)	0.07 (0.09)	-0.14** (0.06)	-0.08 (0.08)	-0.04 (0.08)	-0.13** (0.06)	-0.13* (0.08)	-0.11 (0.08)
MSCI E		-0.10 (0.13)	-0.08 (0.13)		-0.12 (0.11)	-0.10 (0.12)		-0.11 (0.12)	-0.10 (0.11)
MSCI S		-0.11 (0.08)	-0.09 (0.08)		-0.13* (0.08)	-0.12 (0.08)		-0.08 (0.09)	-0.07 (0.09)
Overall rating			-0.27*** (0.08)			-0.25*** (0.09)			-0.19** (0.09)
Observations	11808	8837	8739	10568	7583	7477	9212	6597	6482
Pseudo R ²	0.15	0.16	0.17	0.15	0.17	0.17	0.14	0.15	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA10: ESG inside views and implied cost of capital (ICC)

This table reports firm-year regressions analogous to Table 8, with left-hand-side variable being the implied cost of capital (ICC), estimated using stock price and analysts' forecasts. Panel A focuses on ICC in up to 3 years ahead while Panel B focuses on ICC in the same year the inside views are measured. Some leading zeros are omitted to ensure table fit.

Panel A: ICC in years ahead

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.01* (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01* (0.01)	-0.01* (0.01)
Inside view S	-0.01 (0.01)	-0.00 (0.01)	0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)	0.01 (0.01)	-0.00 (0.01)	0.00 (0.01)	0.02** (0.01)
Inside view G	-0.08*** (0.01)	-0.07*** (0.01)	-0.05*** (0.01)	-0.06*** (0.01)	-0.06*** (0.01)	-0.03*** (0.01)	-0.06*** (0.01)	-0.06*** (0.01)	-0.04*** (0.01)
MSCI E		-0.02 (0.02)	-0.02 (0.02)		-0.03* (0.02)	-0.02 (0.02)		-0.03** (0.02)	-0.03 (0.02)
MSCI S		-0.06*** (0.01)	-0.05*** (0.01)		-0.05*** (0.01)	-0.05*** (0.01)		-0.05*** (0.02)	-0.04*** (0.02)
MSCI G		-0.02 (0.02)	-0.02 (0.02)		-0.02 (0.02)	-0.02 (0.02)		-0.02 (0.02)	-0.03 (0.02)
Overall rating			-0.09*** (0.01)			-0.09*** (0.01)			-0.08*** (0.01)
Observations	15868	13725	13290	14369	12243	12094	12802	10801	10657
R-squared	0.18	0.20	0.20	0.18	0.19	0.20	0.18	0.18	0.19
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Contemporaneous ICC

	(1) t+0	(2) t+0	(3) t+0
Inside view E	-0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)
Inside view S	-0.01* (0.01)	-0.01 (0.01)	0.01 (0.01)
Inside view G	-0.08*** (0.01)	-0.07*** (0.01)	-0.05*** (0.01)
MSCI E		-0.03** (0.01)	-0.02 (0.01)
MSCI S		-0.06*** (0.01)	-0.05*** (0.01)
MSCI G		-0.02 (0.01)	-0.02 (0.01)
Overall rating			-0.09*** (0.01)
Observations	15748	13857	13421
R-squared	0.18	0.20	0.21
Ind*year FE	yes	yes	yes
Controls	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA11: ESG inside views and AAERs

This table reports firm-year Poisson regressions analogous to Table 6, with left-hand-side variable being the number of SEC enforcement actions (AAERs) per firm-year in the future years relative to the year the right-hand-side variables are measured (year t). Panel A focuses on AAERs up to 3 years ahead ($t+1$ to $t+3$). Panel B focuses on AAERs up to 6 years ahead ($t+4$ to $t+6$), which may be necessary as AAERs may be announced many years after the actual accounting irregularities occurred. Data on AAERs are from the USC Accounting Department, extending Dechow et al. (2011) data up to 2021. The test sample is between 2009 and 2021.

Panel A: Count of AAERs up to 3 years ahead

	(1) $t+1$	(2) $t+1$	(3) $t+1$	(4) $t+2$	(5) $t+2$	(6) $t+2$	(7) $t+3$	(8) $t+3$	(9) $t+3$
Inside view G	-0.08 (0.12)	-0.03 (0.11)	0.03 (0.11)	-0.38** (0.15)	-0.26 (0.18)	-0.33** (0.17)	-0.49*** (0.12)	-0.49*** (0.14)	-0.43** (0.21)
MSCI G		-0.46** (0.22)	-0.46** (0.22)		0.31 (0.25)	0.19 (0.26)		-0.35 (0.26)	-0.42 (0.27)
Overall rating			-0.23 (0.14)			-0.15 (0.25)			-0.18 (0.27)
Observations	10832	8168	7883	9655	7196	7112	8594	6956	6667
Pseudo R ²	0.10	0.08	0.08	0.09	0.06	0.07	0.08	0.10	0.10
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Count of AAERs up to 6 years ahead

	(1) $t+4$	(2) $t+4$	(3) $t+4$	(4) $t+5$	(5) $t+5$	(6) $t+5$	(7) $t+6$	(8) $t+6$	(9) $t+6$
Inside view G	-0.37*** (0.11)	-0.32** (0.14)	-0.21 (0.17)	-0.25* (0.13)	-0.48*** (0.17)	-0.42** (0.19)	-0.18 (0.13)	-0.17 (0.18)	-0.15 (0.20)
MSCI G		0.20 (0.28)	-0.10 (0.29)		-0.50* (0.28)	-0.50* (0.27)		-0.03 (0.23)	-0.03 (0.24)
Overall rating			-0.31 (0.20)			-0.31 (0.20)			-0.17 (0.28)
Observations	7491	5983	5718	6086	4398	4353	5350	4253	4169
Pseudo R ²	0.07	0.08	0.08	0.06	0.10	0.11	0.06	0.07	0.08
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA12: Informativeness in subsamples of high vs. low number of reviews

This table presents firm-year level regressions of ESG indicators in years t+1, t+2, or t+3 on the inside view and MSCI rating on the corresponding ESG category at year t. The inside view is interacted with an indicator of whether a firm has above sample median number of reviews (High reviews). To save space, dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses count (Panel C). Controls include Fama-French 48 industry and/times year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicator, and OLS otherwise. Standard errors (in parentheses) are clustered by firms. See IA2 for detailed variable descriptions. Leading zeros are sometimes omitted for table fit.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.22* (0.13)	-0.23* (0.12)	-0.22* (0.12)	-0.26** (0.12)	-0.23** (0.09)	-0.24*** (0.09)	0.05 (0.15)	0.03 (0.14)	0.04 (0.13)
High reviews	0.53 (0.73)	0.32 (0.73)	0.37 (0.77)	-0.10 (0.47)	-0.10 (0.44)	-0.19 (0.42)	-1.44** (0.56)	-1.42*** (0.46)	-1.31*** (0.40)
<i>High reviews</i> <i>x Inside view E</i>	0.04 (0.15)	0.04 (0.15)	0.05 (0.16)	0.01 (0.13)	0.04 (0.14)	0.02 (0.14)	-0.48** (0.19)	-0.45** (0.19)	-0.41** (0.20)
MSCI E		-0.19 (0.16)	-0.19 (0.16)		-0.18 (0.16)	-0.18 (0.16)		0.02 (0.15)	0.02 (0.15)
Overall rating			0.17 (0.44)			-0.20 (0.30)			0.25 (0.31)
Observations	1542	1273	1273	1583	1281	1281	1584	1263	1263
Pseudo R ²	0.74	0.75	0.75	0.74	0.75	0.75	0.74	0.76	0.76
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.58*** (0.08)	0.53*** (0.09)	0.32*** (0.10)	0.74*** (0.25)	0.59** (0.25)	0.46* (0.24)	0.25* (0.15)	0.20 (0.19)	0.04 (0.20)
High reviews	2.92*** (0.97)	2.66*** (0.97)	2.79*** (0.98)	1.24*** (0.47)	1.29** (0.51)	1.55** (0.62)	1.04** (0.42)	1.24** (0.53)	1.36** (0.61)
<i>High reviews</i> <i>x Inside view</i>	1.12*** (0.23)	1.17*** (0.27)	0.90*** (0.25)	0.89*** (0.33)	0.93*** (0.34)	0.55 (0.36)	1.23*** (0.26)	1.22*** (0.29)	1.00*** (0.28)
MSCI S		0.29 (0.18)	0.29 (0.20)		0.29 (0.20)	0.31 (0.21)		0.26 (0.21)	0.23 (0.21)
Overall rating			1.44*** (0.26)			1.48*** (0.26)			1.16*** (0.23)
Observations	4843	4017	4017	4820	3899	3899	4722	3780	3780
Pseudo R ²	0.24	0.24	0.29	0.22	0.21	0.27	0.21	0.21	0.25
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.25*** (0.07)	-0.20*** (0.08)	-0.17** (0.08)	-0.13** (0.07)	-0.09 (0.09)	-0.06 (0.09)	-0.09 (0.06)	-0.11 (0.07)	-0.10 (0.08)
High reviews	0.12 (0.17)	0.10 (0.20)	0.11 (0.20)	0.23 (0.18)	0.13 (0.22)	0.14 (0.22)	0.08 (0.20)	-0.08 (0.24)	-0.08 (0.24)
<i>High reviews</i> <i>x Inside view G</i>	-0.41*** (0.15)	-0.48*** (0.17)	-0.44** (0.18)	-0.47*** (0.13)	-.68*** (0.16)	-.63*** (0.18)	-.74*** (0.14)	-.87*** (0.19)	-.84*** (0.19)
MSCI G		-0.09 (0.12)	-0.08 (0.12)		0.05 (0.11)	0.05 (0.11)		-0.02 (0.11)	-0.02 (0.11)
Overall rating			-0.14* (0.08)			-0.17* (0.10)			-0.09 (0.09)
Observations	11634	8713	8713	10380	7454	7454	8989	6461	6461
Pseudo R ²	0.16	0.18	0.18	0.16	0.18	0.18	0.16	0.18	0.18
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA13: Informativeness of GenAI-based ESG inside view measures

This table presents firm-year level regressions of ESG indicators in years t+1, t+2, or t+3 on the GenAI-based inside view and MSCI rating on the corresponding ESG category at year t. The inside view measure is constructed using Generative AI as described in IA7. To save space, dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses count (Panel C). Controls include Fama-French 48 industry and/times year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicator, and OLS otherwise. Standard errors (in parentheses) are clustered by firms. See IA2 for detailed variable descriptions.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
GenAI Inside view E	-0.06 (0.12)	-0.10 (0.10)	-0.10 (0.09)	-0.01 (0.13)	-0.01 (0.08)	-0.02 (0.08)	0.04 (0.23)	0.03 (0.20)	0.01 (0.19)
MSCI E		-0.14 (0.16)	-0.16 (0.15)		-0.20 (0.16)	-0.20 (0.15)		-0.11 (0.19)	-0.09 (0.17)
Overall rating			0.32 (0.29)			0.13 (0.35)			0.56* (0.33)
Observations	1627	1349	1268	1577	1277	1276	1578	1261	1259
Pseudo R ²	0.72	0.74	0.75	0.72	0.74	0.74	0.70	0.72	0.73
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
GenAI Inside view S	1.17*** (0.16)	1.31*** (0.20)	0.62*** (0.23)	0.97*** (0.17)	1.04*** (0.20)	0.32 (0.23)	0.77*** (0.15)	0.82*** (0.19)	0.31 (0.20)
MSCI S		0.42** (0.18)	0.42** (0.19)		0.41** (0.20)	0.42** (0.21)		0.40* (0.21)	0.36* (0.22)
Overall rating			1.35*** (0.24)			1.42*** (0.22)			1.09*** (0.18)
Observations	4818	3999	3998	4789	3877	3876	4700	3764	3754
Pseudo R ²	0.20	0.21	0.25	0.19	0.19	0.25	0.18	0.18	0.22
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
GenAI Inside view G	-0.35*** (0.05)	-0.37*** (0.07)	-0.32*** (0.08)	-0.25*** (0.06)	-0.22*** (0.06)	-0.15** (0.07)	-0.17** (0.07)	-0.10 (0.07)	-0.05 (0.08)
MSCI G		-0.12 (0.12)	-0.12 (0.13)		0.08 (0.12)	0.03 (0.12)		-0.00 (0.11)	-0.02 (0.12)
Overall rating			-0.16* (0.08)			-0.26*** (0.09)			-0.22** (0.09)
Observations	11676	8721	8625	10440	7477	7375	9110	6512	6399
Pseudo R ²	0.16	0.18	0.18	0.15	0.17	0.17	0.14	0.15	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA14: Informativeness of GenAI-based vs. baseline ESG inside view measures

This table performs horse race between GenAI-based inside view measures and baseline inside view measures in the tests similar to the previous table. The GenAI measure is described in IA7. To save space, dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses count (Panel C). Controls include Fama-French 48 industry and/times year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicator, and OLS otherwise. Standard errors (in parentheses) are clustered by firms. Leading zeros are sometimes dropped for fit.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Baseline E	-0.19** (0.08)	-0.19** (0.09)	-0.18 (0.13)	-0.27*** (0.09)	-0.22*** (0.08)	-0.24*** (0.06)	-0.12 (0.22)	-0.11 (0.19)	-0.08 (0.16)
GenAI E	0.02 (0.10)	0.00 (0.10)	-0.01 (0.10)	-0.01 (0.11)	-0.00 (0.08)	0.00 (0.08)	0.07 (0.24)	0.07 (0.21)	0.04 (0.20)
MSCI E		-0.18 (0.16)	-0.20 (0.16)		-0.17 (0.14)	-0.17 (0.14)		-0.11 (0.19)	-0.09 (0.17)
Overall rating			0.12 (0.40)			-0.16 (0.31)			0.51 (0.33)
Observations	1627	1349	1268	1577	1277	1276	1578	1261	1259
Pseudo R ²	0.73	0.74	0.75	0.74	0.75	0.75	0.71	0.73	0.73
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Baseline S	0.72*** (0.12)	0.68*** (0.13)	0.53*** (0.14)	0.75*** (0.12)	0.65*** (0.12)	0.50*** (0.12)	0.57*** (0.11)	0.54*** (0.13)	0.39*** (0.13)
GenAI S	0.97*** (0.16)	1.09*** (0.20)	0.48** (0.23)	0.77*** (0.17)	0.84*** (0.21)	0.20 (0.23)	0.65*** (0.15)	0.69*** (0.19)	0.26 (0.20)
MSCI S		0.37** (0.18)	0.39** (0.19)		0.37* (0.20)	0.39* (0.21)		0.36* (0.22)	0.34 (0.22)
Overall rating			1.26*** (0.24)			1.36*** (0.23)			1.03*** (0.19)
Observations	4818	3999	3998	4789	3877	3876	4700	3764	3754
Pseudo R ²	0.22	0.22	0.26	0.21	0.20	0.25	0.19	0.19	0.22
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Baseline G	-0.24*** (0.06)	-0.23*** (0.07)	-0.22*** (0.08)	-0.17*** (0.07)	-0.23*** (0.09)	-0.19** (0.09)	-0.19*** (0.07)	-0.30*** (0.09)	-0.29*** (0.09)
GenAI G	-0.26*** (0.05)	-0.28*** (0.07)	-0.25*** (0.07)	-0.19*** (0.06)	-0.15** (0.07)	-0.10 (0.08)	-0.11 (0.07)	-0.00 (0.08)	0.03 (0.08)
MSCI G		-0.12 (0.12)	-0.12 (0.13)		0.07 (0.12)	0.03 (0.12)		0.01 (0.11)	-0.01 (0.12)
Overall rating			-0.11 (0.08)			-0.22** (0.09)			-0.17* (0.09)
Observations	11676	8721	8625	10440	7477	7375	9110	6512	6399
Pseudo R ²	0.17	0.18	0.18	0.16	0.17	0.17	0.15	0.16	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table IA15: Informativeness of unscaled ESG inside view measures

This table presents firm-year level regressions of ESG indicators in years t+1, t+2, or t+3 on the unscaled inside view (simply count of ESG key words in the pros section minus that in the cons section, averaged across reviews in each firm-year, winsorized at 1st and 99th percentiles) and MSCI rating on the corresponding ESG category at year t. To save space, dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses count (Panel C). Controls include Fama-French 48 industry and/times year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicator, and OLS otherwise. Standard errors (in parentheses) are clustered by firms. See IA2 for detailed variable descriptions. Some leading zeros are dropped for table fit.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Unscaled Inside view E	-0.13 (0.13)	-0.13 (0.13)	-0.14 (0.12)	-0.15* (0.09)	-0.10 (0.10)	-0.09 (0.09)	-0.10 (0.26)	-0.10 (0.21)	-0.08 (0.18)
MSCI E		-0.13 (0.16)	-0.15 (0.15)		-0.20 (0.16)	-0.20 (0.16)		-0.11 (0.19)	-0.09 (0.17)
Overall rating			0.32 (0.30)			0.10 (0.35)			0.54* (0.32)
Observations	1632	1354	1273	1584	1282	1281	1586	1265	1263
Pseudo R ²	0.72	0.74	0.75	0.72	0.74	0.74	0.70	0.73	0.73
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Unscaled Inside view S	1.14*** (0.15)	1.13*** (0.17)	0.32* (0.19)	1.09*** (0.15)	1.02*** (0.16)	0.37** (0.17)	0.76*** (0.13)	0.64*** (0.15)	0.10 (0.16)
MSCI S		0.41** (0.18)	0.43** (0.19)		0.41** (0.20)	0.41** (0.21)		0.38* (0.21)	0.36* (0.21)
Overall rating			1.46*** (0.25)			1.40*** (0.23)			1.18*** (0.19)
Observations	4844	4018	4017	4821	3900	3899	4736	3790	3780
Pseudo R ²	0.20	0.20	0.25	0.20	0.19	0.25	0.18	0.17	0.21
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Unscaled Inside view G	-0.28*** (0.05)	-0.21*** (0.06)	-0.13* (0.07)	-0.22*** (0.05)	-0.24*** (0.07)	-0.16* (0.09)	-0.18*** (0.06)	-0.21*** (0.08)	-0.18** (0.09)
MSCI G		-0.10 (0.12)	-0.09 (0.12)		0.07 (0.11)	0.03 (0.12)		-0.01 (0.11)	-0.03 (0.11)
Overall rating			-0.21*** (0.08)			-0.21** (0.10)			-0.13 (0.10)
Observations	11808	8811	8713	10568	7560	7454	9212	6576	6461
Pseudo R ²	0.16	0.17	0.17	0.15	0.17	0.17	0.14	0.16	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table IA16: Informativeness of unscaled vs. baseline ESG inside view measures

This table performs horse race between unscaled inside view measures and baseline inside view measures in the tests similar to the previous table. The unscaled measure is simply count of ESG key words in the pros section minus that in the cons section, averaged across reviews in each firm-year, winsorized at 1st and 99th percentiles. Everything else is similar to Table IA15.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Baseline E	-.25*** (0.09)	-0.27** (0.11)	-0.26 (0.17)	-0.42*** (0.15)	-0.39*** (0.09)	-0.50*** (0.13)	-0.12 (0.18)	-0.11 (0.17)	-0.07 (0.18)
Unscaled E	0.15 (0.18)	0.18 (0.18)	0.15 (0.19)	0.22 (0.18)	0.27** (0.13)	0.35* (0.18)	0.01 (0.25)	0.01 (0.23)	-0.01 (0.23)
MSCI E		-0.20 (0.17)	-0.21 (0.17)		-0.14 (0.15)	-0.13 (0.14)		-0.11 (0.19)	-0.09 (0.17)
Overall rating			0.07 (0.42)			-0.38 (0.37)			0.52 (0.33)
Observations	1632	1354	1273	1584	1282	1281	1586	1265	1263
Pseudo R ²	0.73	0.74	0.75	0.74	0.76	0.76	0.71	0.73	0.73
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Baseline S	0.53*** (0.15)	0.54*** (0.16)	0.77*** (0.19)	0.45*** (0.14)	0.38** (0.16)	0.60*** (0.15)	0.37** (0.17)	0.48*** (0.18)	0.62*** (0.16)
Unscaled S	0.76*** (0.18)	0.74*** (0.19)	-0.34 (0.23)	0.78*** (0.18)	0.74*** (0.20)	-0.14 (0.19)	0.49** (0.20)	0.29 (0.20)	-0.37** (0.17)
MSCI S		0.39** (0.18)	0.39** (0.19)		0.40** (0.20)	0.39* (0.21)		0.37* (0.21)	0.34 (0.22)
Overall rating			1.56*** (0.25)			1.48*** (0.23)			1.24*** (0.19)
Observations	4844	4018	4017	4821	3900	3899	4736	3790	3780
Pseudo R ²	0.20	0.20	0.26	0.20	0.19	0.25	0.18	0.18	0.22
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Baseline G	-.24*** (0.09)	-.33*** (0.09)	-.35*** (0.10)	-0.15** (0.07)	-0.17* (0.09)	-0.20** (0.09)	-0.18** (0.07)	-0.25*** (0.10)	-0.28*** (0.10)
Unscaled G	-0.13* (0.08)	-0.00 (0.08)	0.09 (0.09)	-0.12* (0.07)	-0.13 (0.08)	-0.02 (0.09)	-0.06 (0.07)	-0.05 (0.09)	0.00 (0.11)
MSCI G		-0.09 (0.12)	-0.09 (0.12)		0.07 (0.11)	0.04 (0.12)		-0.00 (0.11)	-0.02 (0.11)
Overall rating			-.20*** (0.08)			-0.22** (0.10)			-0.15 (0.10)
Observations	11808	8811	8713	10568	7560	7454	9212	6576	6461
Pseudo R ²	0.16	0.17	0.18	0.15	0.17	0.17	0.14	0.16	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table IA17: Informativeness of ESG inside view measures – removing 5-star reviews

This table presents firm-year level regressions of ESG indicators in years t+1, t+2, or t+3 on the inside view measure in year t constructed as in the baseline, but removing 5-star reviews from any calculations. To save space, dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses count (Panel C). Controls include Fama-French 48 industry and/times year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicator, and OLS otherwise. Standard errors (in parentheses) are clustered by firms. See IA2 for detailed variable descriptions. Some leading zeros are dropped for table fit.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.28*** (0.11)	-0.30*** (0.11)	-0.27* (0.14)	-0.08 (0.12)	-0.02 (0.12)	-0.02 (0.12)	-0.01 (0.18)	-0.02 (0.14)	-0.01 (0.12)
MSCI E		-0.17 (0.15)	-0.18 (0.15)		-0.20 (0.17)	-0.20 (0.16)		-0.12 (0.18)	-0.09 (0.16)
Overall rating			0.23 (0.38)			0.12 (0.36)			0.56* (0.33)
Observations	1540	1271	1271	1582	1280	1280	1582	1262	1262
Pseudo R ²	0.74	0.75	0.76	0.72	0.74	0.74	0.70	0.72	0.73
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.76*** (0.11)	0.76*** (0.12)	0.51*** (0.12)	0.74*** (0.12)	0.67*** (0.12)	0.42*** (0.11)	0.52*** (0.12)	0.50*** (0.14)	0.27** (0.13)
MSCI S		0.40** (0.17)	0.41** (0.19)		0.40** (0.19)	0.39* (0.21)		0.39* (0.21)	0.34 (0.21)
Overall rating			1.55*** (0.23)			1.57*** (0.24)			1.25*** (0.20)
Observations	4840	4016	4016	4812	3894	3894	4708	3770	3770
Pseudo R ²	0.18	0.18	0.26	0.18	0.17	0.25	0.17	0.16	0.22
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.30*** (0.07)	-0.29*** (0.08)	-0.24*** (0.08)	-0.21*** (0.06)	-0.23*** (0.08)	-0.18** (0.08)	-0.22*** (0.06)	-0.27*** (0.08)	-0.24*** (0.08)
MSCI G		-0.09 (0.12)	-0.09 (0.13)		0.05 (0.12)	0.05 (0.12)		-0.02 (0.12)	-0.01 (0.12)
Overall rating			-0.23*** (0.07)			-0.28*** (0.09)			-0.21** (0.09)
Observations	11560	8667	8667	10302	7409	7409	8888	6393	6393
Pseudo R ²	0.15	0.17	0.17	0.15	0.16	0.17	0.14	0.16	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table IA18: Informativeness in subsample with high employee growth

This table presents firm-year level regressions of ESG indicators in years t+1, t+2, or t+3 on the inside view and MSCI rating on the corresponding ESG category at year t. The sample is restricted to firm-years when a firm has above sample median employee growth in a year. To save space, dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses count (Panel C). Controls include Fama-French 48 industry and/times year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicator, and OLS otherwise. Standard errors (in parentheses) are clustered by firms. See IA2 for detailed variable descriptions. Leading zeros are sometimes omitted for table fit.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.28* (0.15)	-0.19 (0.16)	-0.17 (0.17)	-0.50*** (0.14)	-0.51*** (0.14)	-0.46*** (0.13)	-0.39** (0.17)	-0.42** (0.16)	-0.33** (0.15)
MSCI E		0.46* (0.25)	0.44 (0.27)		0.24 (0.24)	0.29 (0.25)		-0.43 (0.34)	-0.30 (0.26)
Overall rating			0.38 (0.52)			0.55 (0.47)			0.88** (0.44)
Observations	401	310	306	471	370	369	504	419	418
Pseudo R ²	0.90	0.91	0.91	0.83	0.83	0.84	0.60	0.67	0.71
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.98*** (0.15)	1.02*** (0.17)	0.76*** (0.17)	0.91*** (0.14)	0.86*** (0.14)	0.63*** (0.15)	0.66*** (0.11)	0.71*** (0.13)	0.52*** (0.14)
MSCI S		0.39* (0.21)	0.38 (0.23)		0.43** (0.19)	0.44** (0.21)		0.47** (0.22)	0.44** (0.22)
Overall rating			1.10*** (0.26)			1.11*** (0.26)			0.73*** (0.20)
Observations	2444	2121	2120	2520	2160	2159	2547	2165	2155
Pseudo R ²	0.22	0.23	0.27	0.22	0.23	0.27	0.21	0.22	0.24
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.27*** (0.08)	-0.34*** (0.08)	-0.31*** (0.09)	-0.23*** (0.07)	-0.25*** (0.09)	-0.17* (0.09)	-0.31*** (0.10)	-0.40*** (0.13)	-0.38*** (0.13)
MSCI G		0.09 (0.15)	0.09 (0.16)		-0.12 (0.18)	-0.17 (0.20)		-0.20 (0.14)	-0.23* (0.14)
Overall rating			-0.10 (0.11)			-0.34*** (0.12)			-0.36*** (0.10)
Observations	4172	3300	3249	3968	3177	3114	3503	2636	2470
Pseudo R ²	0.19	0.21	0.21	0.16	0.18	0.19	0.18	0.19	0.20
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table IA19: Informativeness of ESG inside view measures – removing reviews by former employees

This table presents firm-year level regressions of ESG indicators in years t+1, t+2, or t+3 on the inside view in year t constructed similar to the baseline inside view measure but only after removing all reviews by a firm's former employees. To save space, dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses count (Panel C). Controls include Fama-French 48 industry and/times year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicator, and OLS otherwise. Standard errors (in parentheses) are clustered by firms. See IA2 for detailed variable descriptions. Some leading zeros are dropped for table fit.

Panel A: Estimated emissions from satellite imagery (E)									
	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.20*** (0.05)	-0.21*** (0.06)	-0.19** (0.08)	-0.11 (0.13)	-0.07 (0.11)	-0.07 (0.11)	-0.05 (0.14)	-0.05 (0.12)	-0.02 (0.11)
MSCI E		-0.20 (0.16)	-0.20 (0.16)		-0.20 (0.16)	-0.20 (0.16)		-0.11 (0.19)	-0.09 (0.17)
Overall rating			0.19 (0.37)			0.04 (0.35)			0.55* (0.33)
Observations	1536	1267	1267	1580	1278	1278	1577	1258	1258
Pseudo R ²	0.74	0.75	0.75	0.72	0.74	0.74	0.70	0.72	0.73
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes
Panel B: Indicator for Best Companies for Diversity (S)									
	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.88*** (0.12)	0.87*** (0.14)	0.57*** (0.14)	0.80*** (0.10)	0.74*** (0.11)	0.45*** (0.11)	0.60*** (0.09)	0.58*** (0.10)	0.34*** (0.11)
MSCI S		0.39** (0.17)	0.41** (0.19)		0.40** (0.19)	0.41* (0.21)		0.39* (0.21)	0.36 (0.22)
Overall rating			1.47*** (0.23)			1.50*** (0.23)			1.18*** (0.19)
Observations	4835	4013	4013	4796	3887	3887	4689	3762	3762
Pseudo R ²	0.19	0.19	0.26	0.18	0.18	0.25	0.17	0.17	0.22
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes
Panel C: Number of internal control weaknesses (G)									
	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.35*** (0.06)	-0.32*** (0.07)	-0.27*** (0.08)	-0.27*** (0.07)	-0.31*** (0.09)	-.25** (0.10)	-.26*** (0.07)	-.33*** (0.10)	-.29*** (0.10)
MSCI G		-0.10 (0.12)	-0.09 (0.12)		0.04 (0.11)	0.03 (0.12)		-0.02 (0.11)	-0.03 (0.11)
Overall rating			-0.19** (0.07)			-.23** (0.10)			-0.15 (0.09)
Observations	11556	8664	8664	10315	7390	7390	8940	6441	6441
Pseudo R ²	0.16	0.17	0.18	0.15	0.17	0.17	0.15	0.16	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table IA20: Informativeness of ESG inside view measures – sample post 2015

This table presents firm-year level regressions of ESG indicators in years t+1, t+2, or t+3 on the inside view in year t as well as other variables, but focuses on the subsample of firm-years after 2015. To save space, dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses count (Panel C). Controls include Fama-French 48 industry and/times year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicator, and OLS otherwise. Standard errors (in parentheses) are clustered by firms. See IA2 for detailed variable descriptions. Some leading zeros are dropped for table fit.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.16** (0.08)	-0.17* (0.10)	-0.19 (0.14)	-0.31*** (0.11)	-0.23** (0.09)	-0.29*** (0.08)	-0.12 (0.27)	-0.11 (0.21)	-0.07 (0.16)
MSCI E		-0.18 (0.19)	-0.19 (0.18)		-0.22 (0.17)	-0.22 (0.16)		-0.12 (0.25)	-0.12 (0.22)
Overall rating			0.02 (0.40)			-0.41 (0.41)			0.69 (0.53)
Observations	1357	1122	1041	1175	937	937	1045	812	812
Pseudo R ²	0.74	0.75	0.76	0.74	0.75	0.75	0.71	0.74	0.75
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	1.03*** (0.15)	1.01*** (0.16)	0.56*** (0.16)	1.00*** (0.18)	0.94*** (0.19)	0.50*** (0.18)	0.80*** (0.24)	0.71*** (0.26)	0.30 (0.30)
MSCI S		0.34* (0.18)	0.37* (0.20)		0.37* (0.22)	0.39 (0.24)		0.12 (0.26)	0.07 (0.27)
Overall rating			1.53*** (0.25)			1.66*** (0.31)			1.21*** (0.29)
Observations	2901	2463	2463	1828	1517	1517	916	756	756
Pseudo R ²	0.19	0.19	0.26	0.17	0.17	0.26	0.18	0.16	0.20
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-.47*** (0.08)	-.48*** (0.10)	-.40*** (0.12)	-0.32*** (0.11)	-0.31** (0.14)	-0.17 (0.20)	-0.54*** (0.14)	-0.78*** (0.20)	-0.72*** (0.20)
MSCI G		-0.09 (0.15)	-0.08 (0.16)		-0.07 (0.18)	-0.05 (0.18)		-0.20 (0.16)	-0.18 (0.16)
Overall rating			-0.20 (0.14)			-0.35* (0.21)			-0.21 (0.25)
Observations	4880	3915	3915	3472	2670	2670	2215	1638	1638
Pseudo R ²	0.15	0.17	0.17	0.14	0.14	0.15	0.18	0.19	0.19
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table IA21: Informativeness of ESG inside view measures – separating pros and cons

This table presents firm-year regressions of ESG outcomes in years t+1, t+2, or t+3 on the inside view in year t, split into pros and cons. Dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses (Panel C). Controls include Fama-French 48 industry/year fixed effects, size, and ROA (Li et al. 2021). Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicators, and OLS otherwise. Standard errors are clustered by firm. Some leading zeros are dropped for table fit.

Panel A: Estimated emissions from satellite imagery (E)									
	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
E pros	-0.29 (0.19)	-0.40* (0.23)	-0.42* (0.23)	-0.19 (0.16)	-0.17 (0.15)	-0.18 (0.15)	0.03 (0.23)	0.07 (0.16)	0.09 (0.14)
E cons	0.13* (0.07)	0.10 (0.08)	0.07 (0.09)	0.24** (0.10)	0.18* (0.10)	0.19** (0.09)	0.17 (0.16)	0.17 (0.12)	0.14 (0.10)
MSCI E		-0.19 (0.15)	-0.21 (0.14)		-0.18 (0.14)	-0.18 (0.14)		-0.11 (0.17)	-0.08 (0.15)
Overall rating			0.20 (0.38)			-0.12 (0.30)			0.53 (0.35)
Observations	1632	1354	1273	1584	1282	1281	1586	1265	1263
Pseudo R ²	0.73	0.75	0.76	0.74	0.75	0.75	0.71	0.73	0.74
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes
Panel B: Indicator for Best Companies for Diversity (S)									
	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
S pros	0.56*** (0.13)	0.54*** (0.14)	0.38*** (0.14)	0.57*** (0.12)	0.45*** (0.14)	0.35*** (0.12)	0.38*** (0.11)	0.35*** (0.14)	0.25* (0.13)
S cons	1.36*** (0.22)	1.42*** (0.25)	0.78*** (0.24)	1.21*** (0.20)	1.26*** (0.22)	0.60*** (0.19)	1.06*** (0.19)	1.03*** (0.21)	0.54*** (0.18)
MSCI S		0.40** (0.18)	0.41** (0.20)		0.40** (0.20)	0.39* (0.21)		0.38* (0.21)	0.35 (0.22)
Overall rating			1.39*** (0.23)			1.39*** (0.22)			1.07*** (0.18)
Observations	4844	4018	4017	4821	3900	3899	4736	3790	3780
Pseudo R ²	0.20	0.20	0.26	0.20	0.19	0.25	0.18	0.18	0.22
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes
Panel C: Number of internal control weaknesses (G)									
	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
G pros	-0.29*** (0.08)	-0.27*** (0.09)	-0.21** (0.09)	-0.30*** (0.08)	-0.31*** (0.11)	-0.25** (0.12)	-0.25*** (0.08)	-0.27*** (0.10)	-0.21* (0.11)
G cons	0.24*** (0.05)	0.25*** (0.06)	0.22*** (0.06)	0.13** (0.06)	0.15** (0.08)	0.13* (0.08)	0.13** (0.06)	0.19** (0.08)	0.20*** (0.07)
MSCI G		-0.09 (0.12)	-0.09 (0.12)		0.08 (0.11)	0.04 (0.12)		0.00 (0.11)	-0.02 (0.11)
Overall rating			-0.18** (0.07)			-0.21** (0.09)			-0.15 (0.09)
Observations	11808	8811	8713	10568	7560	7454	9212	6576	6461
Pseudo R ²	0.16	0.17	0.18	0.15	0.17	0.17	0.14	0.16	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table IA22: ESG inside views and alternative measures of stock returns

This table reports firm-year regressions analogous to Table 8, with the left-hand-side variable being different measures of a firm's stock return performance. Panel A focuses on Carhart alpha, which is the average daily Carhart alpha of a firm's stock in a given year. Daily Carhart alpha is estimated using a Carhart model estimated on daily return data in the previous calendar year. Panel B focuses on Sharpe ratio, which is the average excess daily return (relative to the risk-free rate from Kenth French website) divided by the standard deviation of excess daily returns during a given calendar year. These dependent variables are standardized to have a zero mean and a unit standard deviation.

Panel A: Carhart alpha

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Inside view S	-0.01 (0.01)	-0.01** (0.01)	-0.02*** (0.01)	0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)
Inside view G	0.01* (0.01)	0.02** (0.01)	0.02** (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)	0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)
MSCI E		0.01 (0.01)	0.01 (0.01)		0.01 (0.01)	0.01 (0.01)		0.01* (0.01)	0.02* (0.01)
MSCI S		-0.00 (0.01)	-0.00 (0.01)		-0.00 (0.01)	-0.00 (0.01)		-0.01 (0.01)	-0.01 (0.01)
MSCI G		-0.01 (0.01)	-0.01 (0.01)		0.00 (0.01)	0.00 (0.01)		0.00 (0.01)	0.00 (0.01)
Overall rating			0.01 (0.01)			0.00 (0.01)			0.01 (0.01)
Observations	16672	14258	13809	15265	12730	12576	13612	11214	11062
R-squared	0.07	0.09	0.09	0.07	0.08	0.08	0.07	0.08	0.08
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Sharpe ratio

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Inside view S	-0.00 (0.01)	-0.01* (0.01)	-0.02*** (0.01)	0.01* (0.01)	0.01 (0.01)	0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.02** (0.01)
Inside view G	0.03*** (0.01)	0.02** (0.01)	0.01* (0.01)	0.02** (0.01)	0.01 (0.01)	0.01 (0.01)	0.02*** (0.01)	0.01 (0.01)	0.00 (0.01)
MSCI E		0.01 (0.01)	0.01 (0.01)		0.02* (0.01)	0.01* (0.01)		0.02** (0.01)	0.02** (0.01)
MSCI S		0.01 (0.01)	0.01 (0.01)		0.01 (0.01)	0.01 (0.01)		-0.01 (0.01)	-0.01 (0.01)
MSCI G		0.00 (0.01)	0.00 (0.01)		0.00 (0.01)	-0.00 (0.01)		0.00 (0.01)	0.00 (0.01)
Overall rating			0.02*** (0.01)			0.02** (0.01)			0.02** (0.01)
Observations	17015	14268	13819	15333	12726	12572	13636	11210	11058
R-squared	0.27	0.31	0.31	0.28	0.30	0.30	0.29	0.31	0.31
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA23: The Business Roundtable analysis – with matching

This table replicates Table 9's tests on a matched sample, examining whether BRT firms saw larger improvements in ESG inside views than controls. We use propensity score matching within industry-year, based on covariates from Raghunandan and Rajgopal (2021), matching each treated firm with up to 10 controls using a 0.1 caliper. Panel A shows covariate balance before and after matching. Panel B presents cross-sectional regressions where the dependent variable is the change in employees' views of E, S, or G between 2018 and 2020. The main regressor is an indicator for whether a firm signed the 2019 BRT statement redefining corporate purpose. Controls include 2018 firm characteristics: size (log assets), Tobin's Q, ROA, leverage, and sales growth. All regressions include Fama-French 48 industry fixed effects. Some specifications include interactions between the BRT indicator and above-median values of institutional ownership, analyst coverage, organizational complexity, or advertising intensity (2014–2018).

Panel A: Covariate differences before and after matching

Variable	Before				After			
	Treated	Control	Diff	t-stat	Treated	Control	Diff	t-stat
Size	10.582	7.955	2.627	19.35***	1.121	0.513	0.608	7.24***
Tobin's Q	2.108	2.205	-0.097	-0.78	-0.030	-0.010	-0.021	-0.20
Sale growth	0.097	0.098	-0.002	-0.16	0.163	0.169	-0.006	-0.08
ROA	0.138	0.103	0.035	4.33***	0.161	0.275	-0.114	-1.47
Change ROA	0.008	-0.002	0.010	2.93***	0.007	0.007	0.001	0.16
Leverage	0.324	0.317	0.007	0.36	0.293	0.155	0.138	1.35
Stock return	-0.093	-0.147	0.054	2.35**	-0.092	-0.151	0.059	1.96*
Volatility	0.017	0.024	-0.007	-14.04***	0.018	0.020	-0.002	-3.91***

Panel B: Change in ESG inside views

	(1) E	(2) S	(3) G	(4) E	(5) S	(6) G
BRT	-0.03 (0.17)	-0.00 (0.12)	-0.15 (0.09)	1.30*** (0.42)	-0.05 (0.36)	1.17*** (0.33)
BRT x High institutional ownership				-0.15 (0.40)	-0.17 (0.35)	-0.54 (0.34)
BRT x High analyst coverage				0.80* (0.41)	-1.05* (0.51)	0.34 (0.27)
BRT x High complexity				-1.83*** (0.49)	0.97 (0.58)	-1.26*** (0.19)
BRT x High advertising intensity				-0.34 (0.21)	0.20 (0.29)	-0.30 (0.32)
BRT x High COVID exposure				0.08 (0.36)	0.16 (0.41)	0.28 (0.29)
Observations	367	367	367	295	295	295
R-squared	0.11	0.07	0.10	0.13	0.14	0.13
Controls	yes	yes	yes	yes	yes	yes
Industry F.E.	yes	yes	yes	yes	yes	yes

Table IA24: MSCI ESG ratings around the UNGC commitment

This table repeats Table 10's tests on the same matched sample but focuses on ESG ratings rather than ESG inside views. Specifically, it examines whether UNGC firms saw larger improvements in MSCI ESG ratings than controls (Panel A), and whether such firms have better ESG ratings before joining (Panel B). All regressions include Fama-French 48 industry fixed effects. Controls, when included, are ROA and size. Some specifications include interactions between the BRT indicator and above-median values of institutional ownership, analyst coverage, organizational complexity, or advertising intensity (measured over three years before the UNGC joining year).

Panel A: MSCI ESG ratings change after firms joined the UNGC

	(1) E	(2) S	(3) G	(4) E	(5) S	(6) G	(7) E	(8) S	(9) G
UNGC	-0.09 (0.14)	-0.01 (0.13)	-0.01 (0.16)	-0.12 (0.16)	0.04 (0.14)	-0.04 (0.18)	0.30 (0.55)	0.96** (0.45)	-0.03 (0.39)
x High inst. ownership							-0.11 (0.40)	-0.22 (0.30)	-0.30 (0.35)
x High analyst coverage							-0.45 (0.31)	-0.55* (0.31)	-0.32 (0.32)
x High complexity							-0.21 (0.38)	-0.64* (0.35)	0.16 (0.30)
x High advertising intensity							0.13 (0.30)	0.07 (0.26)	0.64* (0.35)
Observations	306	306	303	306	306	303	304	304	301
R-squared	0.16	0.11	0.11	0.16	0.12	0.12	0.18	0.15	0.15
Controls	no	no	no	yes	yes	yes	yes	yes	yes
Industry F.E.	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: MSCI ESG ratings before the UNGC commitment

	(1) E	(2) S	(3) G
UNGC	0.31*** (0.08)	0.22*** (0.07)	0.12* (0.06)
Observations	963	963	956
R-squared	0.31	0.18	0.11
Controls	yes	yes	yes
Industry F.E.	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA25: Covariate balance for UNGC firms and control firms

This table shows covariate balance using firm characteristics averaged over the three years before the UNGC joining year for UNGC firms vs. matched control firms as identified in the main analysis. We can only show covariate balance after the matching, but not before the matching because without matching, the pseudo-treatment year is not well defined for control firms. The propensity score matching is done to identify appropriate control firms for each firm that ever joined the UNGC, by using a logit model based on firm size, ROA, and lagged ESG inside views. Each UNGC firm in its first participation year is matched with up to 10 control firms using propensity scores within a 0.1 caliper in the same year and industry. The final sample includes 612 unique control firms for 122 UNGC firms.

	Treated	Control	Diff	t-stat
Size	0.598	0.155	0.443	4.8***
Tobin's Q	0.053	0.046	0.007	0.08
Sale growth	-0.06	0.006	-0.066	-1.09
ROA	0.139	0.069	0.07	0.74
Change ROA	-0.022	0.025	-0.047	-1.7*
Leverage	-0.13	-0.109	-0.022	-0.3
Stock return	-0.025	0.005	-0.03	-0.58
Volatility	-0.309	-0.097	-0.212	-2.58**

Table IA26: Difference in inside views by current vs. former employees

This table reports the difference in inside view scores between current and former employees, with or without controlling for the overall review rating, at the review level – by regressing the inside view measure on an indicator for whether a review is written by a former employee. All variables are standardized except the indicator variable. Regressions include time (calendar month) fixed effects, and standard errors (in parentheses) are clustered by firm.

	(1)	(2)	(3)	(4)	(5)	(6)
	E view	E view	S view	S view	G view	G view
Former employee Indicator	-0.00 (0.00)	-0.01*** (0.00)	-0.05*** (0.00)	-0.01*** (0.00)	-0.11*** (0.01)	-0.05*** (0.00)
Overall rating		-0.01*** (0.00)		0.10*** (0.00)		0.15*** (0.00)
_cons	0.00 (0.00)	0.00 (0.00)	0.02*** (0.00)	0.00 (0.00)	0.04*** (0.01)	0.02*** (0.01)
Observations	2444040	2444040	2444040	2444040	2444040	2444040
R-squared	0.00	0.00	0.00	0.01	0.00	0.03
Time FE	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA27: Informativeness of ESG inside view measures – removing former employee effect

This table presents firm-year level regressions of ESG indicators in years t+1, t+2, or t+3 on the inside view measure in year t, where the inside view is residualized at the review level for the former employee indicator and overall rating using year-by-year regressions. To save space, dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses count (Panel C). Controls include Fama-French 48 industry and year fixed effects, size, and ROA, following Li et al. (2021). Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicators, and OLS otherwise. Standard errors (in parentheses) are clustered by firm. See IA2 for detailed variable descriptions. Some leading zeros are dropped for table fit.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.19*** (0.06)	-0.20*** (0.08)	-0.19 (0.11)	-0.27*** (0.09)	-0.22*** (0.08)	-0.24*** (0.06)	-0.11 (0.21)	-0.10 (0.18)	-0.07 (0.15)
MSCI E		-0.20 (0.16)	-0.20 (0.16)		-0.17 (0.15)	-0.17 (0.15)		-0.11 (0.19)	-0.09 (0.17)
Overall rating			0.13 (0.40)			-0.16 (0.31)			0.52 (0.33)
Observations	1542	1273	1273	1583	1281	1281	1584	1263	1263
Pseudo R ²	0.73	0.75	0.75	0.74	0.75	0.75	0.71	0.73	0.73
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.74*** (0.12)	0.74*** (0.13)	0.59*** (0.14)	0.71*** (0.11)	0.63*** (0.12)	0.51*** (0.11)	0.52*** (0.11)	0.51*** (0.12)	0.40*** (0.12)
MSCI S		0.40** (0.17)	0.40** (0.19)		0.40** (0.19)	0.39* (0.21)		0.39* (0.21)	0.34 (0.22)
Overall rating			1.55*** (0.23)			1.53*** (0.22)			1.19*** (0.18)
Observations	4843	4017	4017	4820	3899	3899	4722	3780	3780
Pseudo R ²	0.18	0.18	0.26	0.17	0.17	0.25	0.16	0.16	0.22
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.30*** (0.06)	-0.30*** (0.07)	-.27*** (0.07)	-.20*** (0.06)	-.23*** (0.09)	-0.20** (0.09)	-.21*** (0.06)	-.27*** (0.09)	-.25*** (0.09)
MSCI G		-0.09 (0.12)	-0.09 (0.12)		0.04 (0.11)	0.04 (0.12)		-0.02 (0.11)	-0.02 (0.11)
Overall rating			-.24*** (0.07)			-.27*** (0.09)			-0.20** (0.09)
Observations	11634	8713	8713	10380	7454	7454	8989	6461	6461
Pseudo R ²	0.15	0.17	0.18	0.15	0.17	0.17	0.14	0.16	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA28: Informativeness horse race – removing former employee effect vs. baseline

This table presents firm-year level regressions of ESG indicators in years t+1, t+2, or t+3 on both the baseline inside view measure and the residualized inside view measure in year t, included simultaneously. The residualized measure is constructed by adjusting review-level inside views for the former employee indicator and overall rating using year-by-year regressions. Everything else is similar to the previous table. Note that baseline measures and residualized measures are highly correlated (above 0.96 correlation), leading to potential multicollinearity.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Baseline E	-28.63 (22.26)	-22.36 (23.65)	-53.32** (24.29)	-15.47 (15.74)	-15.69 (17.11)	-44.86* (26.75)	-31.74* (18.59)	-30.71* (16.92)	-31.69 (33.15)
Residualized E	28.38 (22.25)	22.12 (23.65)	52.96** (24.19)	15.18 (15.69)	15.44 (17.05)	44.49* (26.70)	31.58* (18.63)	30.56* (16.93)	31.54 (33.11)
MSCI E		-0.19 (0.16)	-0.19 (0.15)		-0.17 (0.15)	-0.17 (0.15)		-0.11 (0.17)	-0.11 (0.16)
Overall rating			-0.48 (0.54)			-0.57 (0.47)			-0.03 (0.67)
Observations	1542	1273	1273	1583	1281	1281	1584	1263	1263
Pseudo R ²	0.74	0.75	0.76	0.74	0.75	0.76	0.72	0.74	0.74
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Baseline S	8.52*** (1.12)	8.43*** (1.24)	3.92 (4.26)	8.58*** (1.06)	8.60*** (1.24)	4.11 (3.70)	7.36*** (1.00)	7.02*** (1.09)	2.46 (3.26)
Residualized S	-7.70*** (1.10)	-7.63*** (1.22)	-3.23 (4.20)	-7.76*** (1.03)	-7.88*** (1.21)	-3.49 (3.65)	-6.75*** (0.98)	-6.43*** (1.07)	-1.98 (3.17)
MSCI S		0.41** (0.19)	0.40** (0.19)		0.40* (0.21)	0.39* (0.21)		0.34 (0.22)	0.34 (0.22)
Overall rating			0.84 (0.77)			0.81 (0.65)			0.78 (0.53)
Observations	4843	4017	4017	4820	3899	3899	4722	3780	3780
Pseudo R ²	0.26	0.26	0.26	0.26	0.25	0.25	0.23	0.22	0.22
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Baseline G	-1.24*** (0.30)	-1.07*** (0.32)	-0.79 (0.86)	-1.39*** (0.34)	-1.23*** (0.41)	-0.05 (1.12)	-1.24*** (0.39)	-1.14** (0.45)	-1.96 (1.24)
Residualized G	0.90*** (0.30)	0.74** (0.31)	0.47 (0.82)	1.14*** (0.34)	0.96** (0.42)	-0.16 (1.06)	0.98*** (0.38)	0.81* (0.44)	1.58 (1.17)
MSCI G		-0.09 (0.12)	-0.09 (0.12)		0.04 (0.12)	0.04 (0.12)		-0.02 (0.11)	-0.02 (0.11)
Overall rating			-0.07 (0.18)			-0.26 (0.23)			0.17 (0.23)
Observations	11634	8713	8713	10380	7454	7454	8989	6461	6461
Pseudo R ²	0.16	0.18	0.18	0.16	0.17	0.17	0.15	0.16	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table IA29: Robustness to Table 5 on social performance – workforce diversity and pay ratios

This table reports firm-year regressions analogous to Table 5, with separate panels for various robustness checks focusing on social indicators beyond the main indicators in Table 5. Panels A and B focus on workforce pay equality metrics, including female-to-male pay ratio and CEO-to-average-employee pay ratio, respectively. For these, data are drawn from LSEG ESG dataset, which records those ratios as long as they are disclosed by firms. Panels C and D focus on workforce diversity metrics, including female percentage in workforce and nonwhite percentage in workforce, respectively. For these, data are drawn from the sample of government contractors that disclose their workforce EEOC report data during 2016-2020 under a FOIA request, as used in Klein, Shi, and Bratek (2024). All ratios are winsorized at the 1st and 99th percentiles, and standardized to have a zero mean and a unit standard deviation. Some leading zeros are dropped to ensure table fit.

Panel A: S inside view and female-to-male pay ratio

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.19 (0.16)	0.19 (0.15)	0.14 (0.15)	0.30** (0.14)	0.30** (0.14)	0.29* (0.15)	0.24** (0.11)	0.24** (0.11)	0.20 (0.13)
MSCI S		-0.08 (0.13)	-0.08 (0.14)		-0.10 (0.12)	-0.08 (0.12)		-0.13 (0.11)	-0.12 (0.11)
Overall rating			0.21 (0.19)			0.11 (0.16)			0.19 (0.16)
Observations	380	379	353	511	509	477	643	632	596
R-squared	0.32	0.32	0.33	0.34	0.34	0.35	0.33	0.34	0.35
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: S inside view and CEO-to-employee pay ratio

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	-0.02 (0.02)	-0.01 (0.02)	0.00 (0.02)	-0.05*** (0.02)	-0.05*** (0.02)	-0.04** (0.02)	-0.04** (0.02)	-0.03** (0.02)	-0.02 (0.01)
MSCI S		0.01 (0.03)	0.02 (0.03)		-0.00 (0.03)	0.00 (0.03)		0.00 (0.03)	0.01 (0.03)
Overall rating			-0.08 (0.05)			-0.07 (0.06)			-0.08 (0.06)
Observations	2495	2337	2254	2617	2401	2318	2668	2434	2358
R-squared	0.28	0.28	0.28	0.28	0.28	0.28	0.27	0.26	0.26
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Panel C: S inside view and female percentage in workforce

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.03 (0.03)	0.03 (0.03)	0.05** (0.03)	0.06** (0.03)	0.06* (0.03)	0.08*** (0.03)	0.06** (0.03)	0.06** (0.03)	0.08*** (0.03)
MSCI S		0.02 (0.04)	0.03 (0.04)		0.03 (0.04)	0.04 (0.04)		0.02 (0.03)	0.03 (0.03)
Overall rating			-0.09* (0.05)			-0.07* (0.04)			-0.09** (0.04)
Observations	1772	1651	1651	1744	1592	1591	1707	1533	1531
R-squared	0.60	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel D: S inside view and nonwhite percentage in workforce

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	-0.04 (0.04)	-0.04 (0.04)	-0.04 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.05 (0.04)	-0.04 (0.04)	-0.04 (0.04)	-0.04 (0.04)
MSCI S		0.03 (0.06)	0.03 (0.06)		0.03 (0.05)	0.03 (0.05)		0.03 (0.05)	0.03 (0.05)
Overall rating			0.02 (0.07)			0.00 (0.07)			0.01 (0.07)
Observations	1772	1651	1651	1744	1592	1591	1707	1533	1531
R-squared	0.22	0.22	0.22	0.23	0.22	0.22	0.22	0.22	0.22
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA30: Robustness to Table 4 using MSCI and inside view sub-scores on emissions

This table reports firm-year regressions analogous to Table 4, with separate panels for various robustness checks. To keep this table manageable, we focus on our main result about levels of estimated emissions from Climate Trace (the first Panel in Table 4). Panel A replaces the MSCI overall E rating by its emissions subcategory rating (number of strengths on clean energy minus number of weaknesses related to substantial emissions, scaled by the sum of the two). Panel B replaces the MSCI overall E rating by simply the number of weaknesses related to substantial emissions. Panel C replaces the E inside view measure by an inside view measure on emission specifically. All independent variables are standardized to have a zero mean and a unit standard deviation, for easy interpretation.

Panel A: MSCI rating on emissions subcategory

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.18** (0.07)	-0.19** (0.09)	-0.19 (0.12)	-0.27*** (0.09)	-0.24*** (0.08)	-0.26*** (0.07)	-0.11 (0.21)	-0.10 (0.19)	-0.07 (0.16)
MSCI Emissions		-0.11 (0.11)	-0.13 (0.10)		-0.10 (0.13)	-0.09 (0.12)		0.00 (0.11)	0.00 (0.11)
Overall rating			0.15 (0.39)			-0.15 (0.32)			0.54 (0.37)
Observations	1632	1351	1270	1584	1279	1278	1586	1262	1260
Pseudo R ²	0.73	0.74	0.75	0.74	0.75	0.75	0.71	0.73	0.73
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: MSCI indicator for substantial emissions

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.18** (0.07)	-0.16** (0.07)	-0.15 (0.10)	-0.27*** (0.09)	-0.24*** (0.08)	-0.26*** (0.07)	-0.11 (0.21)	-0.11 (0.18)	-0.08 (0.16)
MSCI High Emissions		-0.01 (0.08)	-0.02 (0.08)		0.02 (0.09)	0.01 (0.10)		-0.21** (0.09)	-0.19* (0.10)
Overall rating			0.12 (0.43)			-0.16 (0.36)			0.47 (0.37)
Observations	1632	1351	1270	1584	1279	1278	1586	1262	1260
Pseudo R ²	0.73	0.74	0.75	0.74	0.75	0.75	0.71	0.74	0.74
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Inside view on emissions specifically

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view Emissions	-0.14** (0.07)	-0.15* (0.08)	-0.15 (0.10)	-0.25*** (0.08)	-0.21*** (0.06)	-0.23*** (0.06)	-0.05 (0.17)	-0.06 (0.15)	-0.04 (0.12)
MSCI E		-0.19 (0.16)	-0.20 (0.16)		-0.18 (0.14)	-0.19 (0.14)		-0.12 (0.19)	-0.09 (0.16)
Overall rating			0.16 (0.39)			-0.18 (0.32)			0.55* (0.33)
Observations	1632	1354	1273	1584	1282	1281	1586	1265	1263
Pseudo R ²	0.72	0.74	0.75	0.74	0.75	0.76	0.70	0.72	0.73
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA31: Robustness to Table 5 using MSCI sub-scores on diversity

This table reports firm-year regressions analogous to Table 5 Panel A, but replaces the MSCI overall S rating by its subcategory rating on diversity (number of strengths on diversity minus number of weaknesses related to diversity, scaled by the sum of the two). All independent variables are standardized to have a zero mean and a unit standard deviation, for easy interpretation.

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.96*** (0.12)	0.97*** (0.15)	0.63*** (0.15)	0.91*** (0.12)	0.85*** (0.12)	0.55*** (0.12)	0.69*** (0.11)	0.69*** (0.13)	0.42*** (0.13)
MSCI Diversity score		-0.10 (0.82)	-0.04 (0.98)		-0.00 (0.32)	0.07 (0.33)		0.24 (0.24)	0.26 (0.26)
Overall rating			1.44*** (0.23)			1.43*** (0.22)			1.14*** (0.19)
Observations	4844	4018	4017	4821	3900	3899	4736	3790	3780
Pseudo R ²	0.19	0.19	0.25	0.19	0.18	0.25	0.17	0.17	0.22
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table IA32: Controlling for public ESG sentiments, in sample with low review count

This table presents firm-year level regressions of hard-to-manipulate ESG indicators in years t+1, t+2, or t+3 on the inside view and MSCI rating on the corresponding ESG category at year t, controlling for public sentiments on firms' ESG practices, focusing on the subsample of firms with under yearly sample median for the count of reviews. Dependent variables are satellite-estimated emissions (Panel A), Best Diversity list (Panel B), and internal control weaknesses count (Panel C). Control variables comprise firm size, ROA, and Fama-French 48 industry and year fixed effects, except in Panel B where ROA is excluded due to perfect prediction issues in the logit regression caused by limited sample variation. Variables are standardized except indicators and counts. Regressions use Poisson for counts, Logit for indicator, and OLS otherwise. Standard errors (in parentheses) are clustered by firms. See IA2 for detailed variable descriptions.

Panel A: Estimated emissions from satellite imagery (E)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view E	-0.29** (0.14)	-0.27** (0.13)	-0.34*** (0.13)	-0.31** (0.15)	-0.25 (0.16)	-0.21 (0.20)	-0.15*** (0.06)	-0.23*** (0.07)	-0.25*** (0.08)
Public sent. E	0.25 (0.40)	0.11 (0.37)	0.08 (0.35)	1.13*** (0.38)	0.90** (0.38)	0.84** (0.33)	1.86*** (0.25)	2.07*** (0.26)	2.26*** (0.36)
MSCI E		-0.32* (0.16)	-0.23 (0.15)		-0.27 (0.23)	-0.19 (0.18)		0.28 (0.24)	0.07 (0.25)
Overall rating			-0.72** (0.31)			0.39 (0.55)			-0.55 (0.51)
Observations	327	279	279	314	262	262	317	261	261
Pseudo R ²	0.85	0.88	0.88	0.82	0.84	0.84	0.90	0.93	0.93
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel B: Indicator for Best Companies for Diversity (S)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view S	0.79*** (0.28)	0.88*** (0.33)	0.70* (0.36)	0.77* (0.41)	0.65 (0.72)	0.43 (0.45)	0.78*** (0.20)	0.80*** (0.18)	0.73 (0.44)
Public sent. S	0.79** (0.35)	0.84* (0.47)	0.43 (0.45)	0.47 (0.34)	-0.06 (0.43)	-0.38 (0.30)	0.36 (0.60)	0.10 (0.73)	0.07 (0.89)
MSCI S		1.21 (0.92)	1.21 (0.95)		1.55* (0.81)	1.87** (0.93)		1.10 (0.87)	1.09 (0.89)
Overall rating			1.27* (0.68)			1.28*** (0.34)			0.18 (0.76)
Observations	608	482	482	552	310	310	274	199	199
Pseudo R ²	0.11	0.19	0.25	0.13	0.22	0.30	0.16	0.23	0.23
Ind & year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Panel C: Number of internal control weaknesses (G)

	(1) t+1	(2) t+1	(3) t+1	(4) t+2	(5) t+2	(6) t+2	(7) t+3	(8) t+3	(9) t+3
Inside view G	-0.40*** (0.09)	-0.39*** (0.11)	-0.37*** (0.12)	-0.16* (0.08)	-0.15 (0.10)	-0.11 (0.11)	-0.11 (0.08)	-0.15 (0.09)	-0.14 (0.10)
Public sent. G	-0.28*** (0.09)	-0.26*** (0.09)	-0.25*** (0.10)	-0.10 (0.09)	-0.16* (0.10)	-0.15 (0.10)	-0.07 (0.12)	-0.26* (0.14)	-0.25* (0.14)
MSCI G		-0.03 (0.17)	-0.03 (0.17)		-0.03 (0.13)	-0.02 (0.13)		0.03 (0.15)	0.03 (0.16)
Overall rating			-0.07 (0.11)			-0.14 (0.13)			-0.07 (0.13)
Observations	2436	1802	1802	2117	1489	1489	1699	1142	1142
Pseudo R ²	0.17	0.16	0.16	0.15	0.15	0.15	0.14	0.16	0.16
Ind*year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

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