The Stock Market Valuation of Corporate Social Responsibility

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Abstract

This paper examines factors affecting the stock market valuation of Corporate Social Responsibility (CSR) initiatives. I posit that when CSR effectively addresses pressing social issues, it boosts firm value as it can draw investor and consumer support. I find that the frequency of articles discussing a particular social issue influences market reactions to related CSR activities. CSR efforts that are challenging for individuals to replicate elicit stronger market reactions concerning environmental and diversity issues. Firms intensify their CSR initiatives in response to pressing social issues and strategically choose the method of addressing issues. Lastly, I provide evidence of investor support for firms engaged in CSR by documenting that investors react less sensitively to negative earnings news from socially responsible firms.

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Modern-day corporations have increasingly embraced corporate social responsibility (CSR). According to a 2019 survey of 350 business leaders conducted by Deloitte Global and Forbes Insights, 93 percent of executives believe companies are societal stewards.[1] Also, the scope of CSR has expanded beyond simply donating money to charitable organizations to include addressing a variety of societal challenges such as environmental, educational, and diversity issues, among others.

As Environmental, Social, and Governance (ESG) criteria gain traction in the investment and corporate sectors, some critics argue that when CSR deviates from the framework envisioned by Milton Friedman, it leans more towards distraction than its anticipated efficacy.[2] This skepticism is further intensified by the ambiguous nature of ESG scores. They often fail to provide detailed information about corporate actions that align explicitly with CSR objectives, making a comprehensive assessment of their implications challenging. As a result, both supporters and critics of CSR initiatives tend to base their conclusions more on heuristics and biases than empirical evidence.

To address this issue, I compile a dataset from press releases that focus on companies' CSR programs. CSR programs refer to initiatives and activities undertaken by companies to address social and environmental issues beyond their legal obligations. For instance, Amazon invested $10 million in the Closed Loop Fund in 2018 to enhance recycling infrastructure in the US, with the goal of diverting 1 million tons of recyclable material from landfills and reducing CO_2 emissions by 2 million metric tons by 2028. Unlike ESG scores or generic ESG news, this dataset more accurately reflects the deliberate CSR activities of firms, providing a place for a clearer understanding of how these efforts are perceived and valued in the market.

The primary focus of this paper is to identify the factors that influence the stock market valuation of CSR efforts reflected in securities prices. Three distinct facets underpin the research

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[1] "The Rise of the Socially Responsible Business" 2019. Deloitte Touche Tohmatsu Limited. https://deloitte.wsj.com/articles/the-rise-of-the-socially-responsible-business-01548381736

[2] Specifically, the long-standing idea "the social responsibility of business is to increase its profits" (Friedman (1970)) or "purposeful behavior requires a single valued objective function," as "it is logically impossible to maximize in more than one dimension." (Jensen and Meckling (1976)) still has its merit. However, this paper aligns with recent academic endeavors to incorporate the need for a more flexible framework to account for the shift in society's expectations of corporations.

question. Firstly, this study is attuned to the stock market's valuation than general stakeholders' perspectives on CSR. Secondly, rather than adopting a binary stance on the market value of CSR, this paper delves into the determinants of it. Third, I investigate the fundamental reason why the stock market might value CSR, aiming to explain previous findings suggesting that CSR could have a positive impact on a company's value.

Specifically, the research is motivated by empirical findings that CSR influences elements closely related to firm value. For instance, firms emphasizing CSR often benefit from reduced costs of capital (Goss and Roberts (2011), El Ghoul et al. (2011), Dhaliwal et al. (2011)). Moreover, a segment of consumers prefers purchasing products or services from companies with strong CSR commitments (Ha-Brookshire and Norum (2011), Anselmsson, Vestman Bondesson, and Johansson (2014)). Firms with high ESG ratings also tend to face fewer litigation instances (Badawi and Partnoy (2022)).

However, the specific drivers behind the findings remain unclear. In other words, it is unclear why CSR influences the elements that determine firm value. In pursuit of an answer, I propose a hypothesis that there are times the broader public perceives CSR as valuable, especially when it effectively addresses urgent societal issues. During these periods, the public's support for companies addressing specific issues often translates into incentives for these businesses to tackle these challenges, which creates an opportunity to increase the value of firms engaged in CSR.

Specifically, during times when society faces pressing environmental and social challenges, firms addressing these issues may have an increased likelihood of attracting investors and consumers willing to pay a premium. At the same time, interest groups or regulatory bodies might penalize companies that overlook these challenges by utilizing means such as litigation. Without such incentives and penalties, firms may remain inactive and the cost for citizens to address social issues individually could become prohibitive. This suggests that as environmental and social challenges intensify, investors, consumers, regulatory bodies, and other stakeholders are more likely to offer incentives or impose penalties to encourage companies to address these challenges. As a result,

firms that actively address these pressing societal issues can potentially increase their value, as long as the advantages of earning premiums or avoiding penalties surpass the related expenses.

Under the hypothesis, the positive impact of CSR on a firm's value increases when there is a widespread belief that corporate actions are needed to effectively address environmental and social issues. During such times, companies can anticipate broad support for CSR from diverse stakeholders capable of influencing their firm's value. To test this idea, I examine two factors associated with the societal benefits of CSR. Firstly, I explore whether the frequency of discussions around specific issues affects the market's reaction to CSR projects, as it could indicate the urgency or significance of the issues. Secondly, I investigate whether the market values initiatives that are difficult for most individuals to implement, indicating areas where companies might have a distinct advantage.

My primary methodology involves examining stock price changes around the time of CSR program announcements. The short-term event study allows us to assess the impact of news information on stock prices since the stock prices already factor in all other publicly available information about the firm. In the context of this paper, where I conduct an event study on news releases concerning CSR programs, post-announcement price shifts reflect the market's valuation of such programs.

Consistent with the hypothesis, the market reaction to CSR initiatives is positive when a social issue those initiatives address frequently appears in newspapers and when CSR activities are beyond the scope of individual replication. Even after considering past profitability and agency costs, these observations still stand. Further investigation on firms' CSR policy indicates that companies intensify their CSR efforts in reaction to pressing social challenges and they strategically choose the method of addressing societal challenges. Lastly, I present evidence of investor support for companies involved in CSR. This is demonstrated by showing that investors exhibit a milder response to negative earnings reports from socially responsible firms.

I begin the paper by introducing the primary data for this study, a set of press releases

on CSR activities. I first collect corporate press releases from corporate websites and Factiva. Then, I develop a multi-label classification deep learning model to identify CSR news releases, utilizing transfer learning based on the Bidirectional Encoder Representations from Transformers (BERT) model introduced by Devlin et al. (2019). The model achieves 97% recall on the test set. After classifying press releases with the model, I eliminate CSR news releases that do not report actual CSR programs, such as those related to index membership, awards, CEOs' statements, and other information that does not involve actions taken by the company. If the same CSR program is reported multiple times by different news outlets, I keep the earliest news release. Finally, I manually label CSR news releases with the social issues that a CSR activity addresses, as described in the news. The resulting dataset contains 21,681 news releases on CSR programs, with 54% of them addressing environmental, inclusion, poverty, and education issues.

With the set of news releases on CSR programs, I test whether the perceived benefits of CSR programs is positively associated with the market reaction to the programs. To examine the market reaction to CSR programs, I compute the four-factor adjusted cumulative abnormal returns (Carhart (1997)) within a three-day window comprising the day before, the day of, and the day after the announcement of a CSR program. A movement in stock price over a narrow window indicates the impact of CSR activity on firm value. The collection of abnormal returns surrounding CSR press releases serves as a valuable resource to pinpoint factors that systematically influence the value of CSR efforts.

A factor that could impact the effectiveness of CSR programs is the severity of social issues. As social and environmental challenges intensify, addressing them becomes increasingly crucial. To construct the factor, I use the frequency of discussions about a social issue in newspapers. This method aligns with previous studies that utilize news media to gauge the public's level of concern regarding a particular social matter.[3]

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[3]There are several papers that measure investors' concern or attention from news articles. Engle et al. (2020) build an index that captures the attention to climate change in the Wall Street Journal. Ardia et al. (2020) use data from various news outlets to capture concerns over climate change.

I curate articles from opinion, letter, interview, comment, and editorial sections in the Wall Street Journal, New York Times, and USA Today. My focus is on articles discussing environment, inclusion, poverty, and education, as these comprise the majority of social issues addressed by CSR programs in my data.

For each of the four issues, I handpick several representative articles. Then, using a Natural Language Processing (NLP) algorithm based on document similarity to these representative articles, I determine the articles that are deemed to cover a certain social problem. Next, I proceed with obtaining monthly counts of articles for each issue, categorized by news outlet. These figures are then normalized within each outlet and aggregated by taking the average across various outlets on a monthly basis. After these procedures, I have a monthly index that reflects public concern regarding a social issue for each of the four social issues.

To find the effect of the level of public concern, measured by article frequency, on the market reaction to CSR programs, the values of the index for the four social issues are assigned to CSR programs based on the publication month and the social issue addressed by the CSR activity. Recognizing that a single month's level of public concern might be influenced by transient factors, I integrate a longer timeframe to more accurately measure the public's concern linked with the CSR initiative. Specifically, I compute the three-month and six-month averages of the index, using past observations up to the present month.

I carry out a regression analysis with the market reaction to CSR program news, quantified as cumulative abnormal returns around the announcement of the CSR programs, as the dependent variable. This is regressed on the degree of public concern, gauged over the preceding three and six months, pertaining to the specific social issue addressed by the CSR program. My findings suggest that the extent of public interest in the issue a CSR program addresses has a positive effect on the market's response to that program. A one standard deviation rise in public concern, measured over the past three months, results in a market reaction that is 0.065 percentage points higher. Using the measure computed over the past six months, this market reaction increases by 0.046 percentage

5

points.

Given the 0% average cumulative abnormal return on CSR program announcements, a one standard deviation increase in the three-month concern metric yields a 0.065% announcement return on average. For context, Krüger (2015) finds a -0.416% market return for positive ESG news, while Flammer (2015) reports a 1.18% return on CSR proposal approval days. Therefore, the value lies within the range of outcomes observed in comparable event studies. Most importantly, the results bolster the hypothesis that CSR can enhance firm value when tackling urgent social issues, given its potential to garner extensive backing from stakeholders who can influence the firm.

Next, I examine another factor that may influence the value that investors place on CSR efforts. Specifically, I propose that if a social issue is beyond the scope of individual action and requires corporate intervention, then investors may assign a higher value to CSR initiatives aimed at addressing that issue. In economic terms, investors value CSR efforts more when companies can address social problems more efficiently than individuals. This is consistent with the discussion by Bénabou and Tirole (2010) on delegated philanthropy. Although individuals can support philanthropic causes through charitable organizations, there may be situations where direct corporate action, rather than corporate giving, is the most effective solution.

I categorize environmental and inclusion challenges as areas where corporate responses need to go beyond mere monetary contributions, primarily for two reasons. First, companies are intrinsically linked to the issues. Environmental concerns, such as pollution and emissions, often arise directly from corporate activities. Additionally, they hold immense sway over the workforce, shaping the lives of many through their organizational policies and culture. Their direct engagement with local communities via products and services further emphasizes their relationship with these challenges. Second, the sheer magnitude of environmental and diversity issues often surpasses individual capabilities. Given the breadth and depth of these challenges, they often necessitate solutions on a nationwide or even global scale. Companies, with their vast resources and reach, are uniquely positioned to address and influence such widespread concerns.

Given these two factors – the firm's intrinsic connection to the issues and the broad scope of the challenges – I assume that addressing environmental and diversity issues demands more comprehensive solutions than just financial contributions.

To test if varying modes of CSR elicit different market reactions, especially concerning environmental and inclusion matters, I classify CSR activities into two categories: corporate giving and other forms of CSR programs, which include operational changes, shifts in firm policies, nationwide projects, etc. I then examine how the method of addressing social issues interacts with the type of social issues to generate different market reactions.

I conduct regressions with time fixed effects to account for the time-varying impact of public concern, allowing me to concentrate solely on the effect of methods used to address issues. When the social issue being addressed is related to environmental or inclusion concerns, I find CSR programs other than corporate giving result in a 0.3 percentage point higher market reaction on average. This suggests that investors may assign a greater value to CSR efforts that involve more direct action on the part of the company. The findings are align with the idea that CSR can boost firm value when it can more effectively address societal issues, as it can attract broad support from influential stakeholders.

Next, I explore established variables that impact firms' CSR adoption and its value, specifically focusing on a firm's profitability and agency costs. I begin by examining profitability. In line with Friedman's (1970) argument that the primary objective of businesses is to maximize shareholder profits, if the value of CSR is solely associated with its costs and does not offer any potential to enhance shareholder profits, then including profitability metrics might mask the benefits' impact on stock prices. This is because CSR typically implies a redirection of resources and its subsequent effect on firm value. If strong profitability, which serves as an indicator of financial stability, mitigates potential negative effects of CSR on firm value, then recent profitability should positively correlate with the value of CSR initiatives. In this scenario, the advantages of CSR might not manifest in stock prices.

I incorporate the past two-year return on assets and recent earnings surprises to determine profitability's influence on CSR's market value. I find that a standard deviation increase in most recent EPS surprises leads to a 0.15 percentage point increase in cumulative abnormal returns around CSR news releases. This underlines that investors weigh recent financial performances, cognizant of the costs of CSR. The current financial health, thus, plays an important role in guiding investment choices.

Most important, even amidst these financial metrics, the impact of public concern and the method of tackling social issues remains statistically significant. This underscores the consistent relevance of CSR effectiveness in shaping investment evaluations, regardless of a firm's profitability.

The CSR literature has observed a link between CSR and agency costs. Many believe CSR actions could be influenced by agency problems. A study by Masulis and Reza (2014) suggests that corporate donations, potentially aligning with CEO interests, could misuse resources and reduce firm value. Similarly, Di Giuli and Kostovetsky (2014) find that high CSR ratings sometimes mirror the political biases of company executives and can predict future stock return declines and lower ROA. However, others argue that governance may shape the adoption and valuation of CSR. For instance, Ferrell, Liang, and Renneboog (2016) show that well-governed firms, with minimal agency issues, effectively engage in CSR in ways that enhance value and offset negative managerial entrenchment effects.

If the value of CSR is attributed solely to agency costs, then incorporating corporate governance indicators might obscure the benefits of CSR. I conduct regressions with variables detailing the board structure. Specifically, I incorporate details such as whether the CEO also serves as the board chairman, the board's size, and the percentage of independent directors. Among these variables, I observe that for firms initiating CSR with the CEO as the board chairman, the market response decreases by 0.3 percentage points. This result aligns with previous findings suggesting that when CEO preferences dictate CSR activities, they are more likely to be plagued by agency costs.

However, even after adjusting for board characteristics, elements like public concern and CSR effectiveness remain statistically significant. This suggests that the benefits of CSR, independent of board structure, play a crucial role in shaping the market's valuation of CSR initiatives.

Next, I delve into how firms decide on their CSR strategies. Specifically, I look into the probability of firms adopting CSR programs and their chosen approach to tackle social concerns. My analysis reveals a pronounced influence of public concern about a social issue on a firm's CSR decisions. Through monthly panel regressions, I find that heightened public concern significantly propels firms toward adopting CSR. For example, when it comes to environmental issues, a one standard deviation increase in public concern over the past year increases the propensity of a firm to introduce environment-focused CSR initiatives by 0.188 percentage points. This equates to a 15.67% increase in the likelihood relative to the unconditional probability to roll out such programs in a month.

Next, I discover that when companies confront issues necessitating profound corporate involvement, they tend to choose CSR strategies that extend beyond mere corporate donations. Specifically, as public concern escalates, firms addressing environmental and inclusion challenges are more inclined to adopt measures that transcend mere financial contributions. The findings show that companies strategically choose CSR programs in a way that can increases firm value.

The paper's hypothesis draws from prior research which suggests that firms actively involved in CSR often receive positive feedback from investors, consumers, and other relevant stakeholders. Such benefits encompass reduced capital costs, attracting consumers aligned with CSR objectives, and potentially evading regulatory impositions that might burden non-CSR firms. Additionally, I present evidence supporting investor favorability towards CSR-active firms by documenting that these firms face a milder reaction from investors in response to negative EPS surprises.

The findings of this paper align with the emerging perspective that CSR has become a pivotal business practice. In 2020, over half of the firms in my sample reported involvement in more than one CSR initiative, a stark increase from the less than 20% recorded in 2006. Additionally, the

9

spectrum of societal issues that companies are addressing has widened. While many have joined the bandwagon in addressing pressing environmental concerns, others have tailored their efforts to niche areas like promoting open-source scientific research. Such data suggests a paradigm shift from the conventional views posited by Friedman (1970) and Jensen and Meckling (1976). Instead, a rising consensus leans towards businesses acknowledging the broader societal and ecological impacts of their operations.

This shift can be attributed to various catalysts. Changes in investor preferences, as highlighted by Hartzmark and Sussman (2019), alterations in the type of assets firms leverage, as mentioned by Edmans (2011), and the evolving definitions of corporate responsibility, as touched upon by Hart and Zingales (2017), are among them. I introduce a perspective that the complexity of social and environmental challenges, coupled with firms' intrinsic ties to these issues, has led society to deem corporate involvement as essential in addressing these concerns. As a result, society metes out both incentives and penalties to ensure firms play an active role in managing these challenges. Hence, strategically timed CSR initiatives can provide an opportunity for a company to enhance its value.

This paper is related to the literature on the effect of CSR on security prices or firm value. Margolis, Elfenbein, and Walsh (2009) conduct a meta-analysis with more than 250 CSR papers and find there is little evidence supporting a statistically significant relation between CSR and firm performance. On the other hand, a set of papers stress that CSR can improve intangible assets of firms such as a company's image, employee satisfaction, and trust between a firm and stakeholders which make firms more valuable (see Jiao (2010), Edmans (2011), Cahan et al. (2015)). Moreover, several theory papers predict that CSR can lead to product differentiation and premium pricing (Bagnoli and Watts (2003), Siegel and Vitaliano (2007), Albuquerque, Koskinen, and Zhang (2019)). Moreover, the CSR research has shown the premium of securities of socially responsible firms (Hong and Kacperczyk (2009), Goss and Roberts (2011), El Ghoul et al. (2011), Dhaliwal et al. (2011), Flammer (2013), Riedl and Smeets (2017), Naughton, Wang, and Yeung (2018), Ardia et al. (2020),

Höck et al. (2020)). My paper offers an explanation of why the security prices of CSR firms may reflect a premium for being socially responsible.

The remainder of the paper is organized as follows. The first section discusses data. Section 2 provides factors determining the market reaction to the news on CSR programs. Section 3 documents companies' decision-making on CSR. Section 4 provides evidence of investor support of firms engaged in CSR. Section 5 concludes.

1   Data

This section explains my primary data, corporate press releases, and how I collect and classify them. I first gather all corporate press releases whose sources are corporations themselves from corporate websites and Factiva. Since the coverage of press releases of Faciva increased dramatically in 2006, I restrict my sample to a period between 2006 and 2020. I focus on U.S. firms whose end-of-fiscal-year market capitalization ('prcc' $\times$ 'csho' in Compustat files) ranks within the top 1,000 among all U.S. firms in a given year from 2006 to 2020 and exclude financial and utility firms. I found unique 1502 such firms. I investigated 1430 firms among them and collected more than 700,000 press releases whose primary sources are those firms. More specific details of the sample selection and descriptions are explained in Appendix A.

After collecting news releases, I classify them into a predetermined set of categories. Specifically, a news release is classified into one or more than one of the categories: (1) earnings/performance related news, (2) M&A related news, (3) CSR news, (4) news on leadership, (5) news on financing activities such as equity issuance, debt issuance, or retirement of existing debt, (6) news on directors, (7) stock repurchase news, (8) dividend news, (9) other business-related news.

To classify more than 700,000 press releases, I create a deep learning model that does the classification task. I use transfer learning in natural language processing (NLP). Natural language processing is a tool to transform text into quantifiable numbers based on features of the text, and transfer learning in NLP leverages prior knowledge from prior work. Specifically, I use a

11

Bidirectional Encoder Representations from Transformers (BERT) (2018) model introduced by Devlin et al. (2019) to translate an article into a vector (an embedding) of 768 dimensions. BERT is a machine learning technique trained on a vast corpus extracted from the BooksCorpus with 800M words and English Wikipedia with 2,500M words and is widely used as it is known to generate accurate word representations. In this setting, the transfer learning using a pre-trained BERT model helps me exploit knowledge the pre-trained model gained from the vast corpus texts.

After training a multi-label classification model with transfer learning, I input all press releases into the model to get predictions. I visually inspect the press releases classified as CSR news by the model and eliminate any news releases that are misclassified. I further eliminate CSR news releases that do not report actual CSR programs. For example, I remove news releases on the membership of an index, awards, CEOs' statements, and other information that do not contain actions taken by the company. The complete steps to train the model, the model performance on the test set, and the number of CSR news releases by year are provided in Appendix B.

The better part of the paper investigates market reactions to corporate news. Market reactions are defined as daily cumulative abnormal returns. I use Carhart (1997) four-factor model to compute risk-adjusted daily returns. Daily returns are obtained from the Center for Research in Security Prices (CRSP) daily return file. Daily four factors are obtained from Ken French's website. I estimate alpha and betas using estimation periods of 365 days ending 50 days before the event date while eliminating estimates that are computed with less than 200 daily returns. Specifically these parameters are estimated by regressing excess daily returns on daily factors. I compute cumulative abnormal returns around an event day with a window of 3 days as the summation of daily risk-adjusted returns in the event day, the day before the event day, the day after the event day.

I gather accounting variables from Compustat's North America Fundamentals Annual database, and EPS variables from the I/B/E/S database. Board characteristis are sourced from BoardEx. The summary statistics of variables used in the paper are presented in Table 1.

Table 1 shows that many companies implement CSR in various forms. During the sample timeframe from 2006 to 2020, nearly 28% of firm-year observations have news regarding CSR endeavors. Analyzing the data based on specific social issues, poverty emerges as the predominant concern addressed by firms. In over 10% of the firm-year observations, companies unveil CSR actions aimed at alleviating poverty within the U.S. Environmental considerations follow suit, with 8.4% of firm-year observations highlighting eco-friendly initiatives. Moreover, initiatives focused on amplifying educational opportunities in the U.S. are reported in 7.3% of the instances, underscoring the commitment of firms to bolstering education within the nation. CSR initiatives related to inclusion are documented in 4.5% of the firm-year observations.

2   The Market Reaction to the News on CSR Programs

In this section, I investigate whether factors associated with the benefits individuals receive from firms addressing significant social issues influence the market valuation of CSR initiatives. Firstly, I consider the degree of public concern tied to a particular social issue that a company addresses. Secondly, I delve into the specific methods employed by firms in addressing these social issues.

2.1   Measures of Public Concern

To measure public concern over a particular social issue, I collect columns, editorials, letters, opinions, and interviews published from 1996 to 2020 in the New York Times, Wall Street Journal, and USA Today.[4]   According to communications studies, journalism and viewers' demand for news influence each other. Journalism affects viewers by highlighting particular events, choosing narratives, and the frequency of publications of news. On the other hand, readers' demand for specific information or their opinions also affect journalism. A number of studies show that news content is determined by who is interested in it and its value to advertisers (Hamilton (2003)).

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[4]I collected columns, editorial, letters, opinions, comments, and interviews rather than entire news sections because citizens' opinions are likely to be reflected in these six sections.

Regardless of which mechanism dominates the other, what is clear is that the number of articles related to a certain issue and readers' concern over the issue are likely to be highly correlated.[5]

Having more than 500,000 articles collected from the news outlets, my goal is to identify articles that cover social issues and count them to construct public concern measures. In particular, I focus on four social issues: environmental issues, poverty issues in the U.S., education, and diversity-related issues since CSR news releases reporting programs addressing these social issues make up more than 54% of all news releases on CSR activities in the sample.

To make the search process tractable, I rely on a natural language processing (NLP) method. I first select more than forty representative articles that discuss each social issue. Next, I use a Bidirectional Encoder Representations from Transformers (BERT) (Devlin et al. (2019)) model to translate collected articles into a vector of 768 dimensions. In particular, I use Sentence-BERT since it produces better embeddings suitable for computing similarity measures (Reimers and Gurevych (2019)). More specifically, I feed title, first three sentences, and last three sentences of an article into the NLP model to get embeddings for each sentence and average them to produce the embedding for the article.

To determine whether an article covers a specific social issue, I compute cosine similarity between the embedding of the article and the embedding of each of the forty representative articles of the social issue. If the cosine similarity between the article and any one of those forty representative articles is greater than 0.93, I classify the article as concerned with the social issue.

I count the number of articles that are predicted to be related to a specific social issue by month while tallying separately for each news outlet to account for heterogeneity across the outlets. Following Baker, Bloom, and Davis (2016) and Ardia et al. (2020), I divide the number by the standard deviation of it in each source before aggregation. Then, I average the numbers across news outlets each month. The process results in monthly time series observations for each social issue ($\{x_{t,p}\}$,

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[5]There are several papers that measure investors' concern or attention from news media. Engle et al. (2020) build an index that captures the attention to climate change in the Wall Street Journal. Ardia et al. (2020) use news data to capture concerns over climate change, and Pástor, Stambaugh, and Taylor (2021) use the same measure.

$t \in \{Jan2006, Feb2006, \ldots, Dec2020\}$, $p \in \{Environment, Inclusion, Education, Poverty\}$). I compute the moving average of the monthly observations over a horizon of three months, six months, or twelve months in the past ($Concern_{t-k,t,p} = \frac{1}{k} \sum_{t-k+1}^{t} x_{\tau,p}$, $k \in \{3, 6, 12\}$).

In some model specifications, I employ a monotone-transformed metric of public concern to enhance the explanatory power of the variable. This methodology is permissible given that there are no parametric restrictions on the measurement of public concern. Following Ardia et al. (2020), I apply an increasing concave function to normalize the variable. I take the log of the moving averages (plus one) and name this variable $CSR\_Concern(k,p) = log(1 + \frac{1}{k} \sum_{t-k+1}^{t} x_{\tau,p})$.

Table 2 presents the summary statistics for the measures of public concern. These measures display significant temporal variations. While the degree of public concern regarding environmental issues surpasses that of other social issues, the latter still hold comparable significance.

2.2 Public Concern and Market Reaction to CSR Activities

According to my hypothesis, there could be the potential value addition for the companies when they address these issues that are important to the public. First, addressing important social issues can bring consumer support. For instance, firms might experience increased sales, as consumers might choose to purchase from companies they perceive as more socially responsible (Ha-Brookshire and Norum (2011), Anselmsson, Vestman Bondesson, and Johansson (2014)). Additionally, studies have shown that companies with robust CSR can enjoy a lower cost of capital (Goss and Roberts (2011), El Ghoul et al. (2011), Dhaliwal et al. (2011)), and possibly higher stock returns. Moreover, addressing societal concerns proactively may also help prevent potential regulatory and legal issues (Badawi and Partnoy (2022)).

In this subsection, I examine the effect of the level of public concern on the market reaction to CSR programs. The hypothesis posits that companies receive a more favorable market response when they tackle social issues that are of paramount public concern, as such actions are likely to garner widespread support for the firm from the general public, which could positively affect the

15

firm.

As I have the measure for public concern related to four social issues, the sample employed in this section contains news releases on CSR activities that can be linked to one of the four social issues. Subsequently, contingent on the specific social issue and the month of a given news release, I generate a CSR program-specific measure of public concern, denoted as $CSR\_Concern(M)$, where M represents the duration in months over which the monthly public concern data points are averaged.

To illustrate, consider a press release announcing a firm's commitment to reduce greenhouse gas emissions in month t. The corresponding $CSR\_Concern(3)$ for this announcement is calculated as $log(1 + \frac{1}{3}\sum_{\tau=t-2}^{t} x_{\tau,Environment})$ and $CSR\_Concern(6)$ for the press release is $log(1 + \frac{1}{6}\sum_{\tau=t-5}^{t} x_{\tau,Environment})$. Alternatively, for a press release reporting a firm's initiative to host a nationwide scientific competition for K-12 students in month t, the $CSR\_Concern(3)$ is given by $log(1 + \frac{1}{3}\sum_{\tau=t-2}^{t} x_{\tau,Education})$ and $CSR\_Concern(6)$ for the press release is $log(1 + \frac{1}{6}\sum_{\tau=t-5}^{t} x_{\tau,Education})$.

With the CSR news-specific public concern measure, I conduct an event study. The regression model is as follows. For a CSR news from a firm i on a CSR activity dealing with social issue s, issued in a year t in a month m,

$$CAR[-1,+1]_{i,s,m,t} = \beta_0 + \beta_1 CSR\_Concern(M)_{i,s,m,t} + \epsilon_{i,s,m,t}, \tag{1}$$

$$M \in \{3,6\}$$

$CAR[-1,+1]$ is the Carhart (1997) four-factor adjusted cumulative abnormal returns summed over a three-day window including the day before the event, the event day, and the day after the event.

Before running the analysis, it is worth noting that some CSR news releases contain information on multiple CSR activities. Moreover, there are cases where there is more than one CSR news release published on the same day from a company. This brings about two problems I need

to handle separately. First, multiple CSR activities are reported in multiple news releases on the same day, but they all address the same type of social issue. In that case, I treat the news releases as duplicates and leave only one CSR activity news. Second, there are multiple CSR news releases but they address different social issues. To deal with such cases I build two samples. In the first sample, I keep all CSR news releases because they are assigned with different values for $CSR\_Concern(M)$. In the second sample, I only keep a CSR news release that has the highest $CSR\_Concern(M)$ value, assuming the news is more important to investors. The results reported in the paper are based on the first sample. In analyses not shown in the paper, I conduct the same examination using the second sample and find results that are both economically and statistically similar to those reported.

In this analysis, I include social issue fixed effects to isolate and hone in on the temporal effect of $CSR\_Concern(M)$. By doing so, I keep the distinct characteristics of individual social issues constant. This method ensures that the effects we observe are specifically due to the time-varying nature of $CSR\_Concern(M)$ and are not muddled by the inherent attributes or impacts of any single social issue.

Table 3 presents the findings. When running regressions without any control variables or fixed effects aside from issue-specific fixed effects, both $CSR\_Concern(3)$ and $CSR\_Concern(6)$ show positive coefficients that are statistically significant at the 1% level. This positive association indicates that CSR news yields a more favorable market response when the prevalent public sentiment or concern is heightened regarding the social issue the CSR activity addresses. Even when introducing either industry or firm fixed effects into the equation, the significance of the coefficients tied to public concern metrics endures, remaining significant at the 5% level.

To better gauge the economic implications of these coefficients, I compare my findings with those from other event studies centered around CSR events. For instance, Krüger (2015) finds that positive ESG-related news leads to an average market return of -0.416%. Meanwhile, Flammer (2015) documents that, on the days CSR proposals are ratified, the market witnesses an average

return of 1.18%. Drawing attention to column (6), where issue- and firm-specific fixed effects are integrated, a one standard deviation increase in $CSR\_Concern(3)$ leads to a 0.065 percentage point increase in market reactions, while a similar increment in $CSR\_Concern(6)$ results in a 0.046 percentage point upward market adjustment, gauged by cumulative abnormal returns. Taking into account that the average announcement return on CSR program is 0%, a one standard deviation rise in the three-month concern metric results in an announcement return of 0.065%. The value lies within the range of outcomes observed in Krüger (2015) and Flammer (2015).

The results in Table 3 support the hypothesis. When companies address social issues that align with heightened public concern, they elicit more favorable market reactions.

2.3 The Mode of CSR Programs and Market Reaction To CSR News

In this subsection, I explore if the market responds more favorably to CSR initiatives involving a company's active participation, especially when addressing social challenges that demand more than just financial support from businesses.

Many environmental issues, such as pollution, waste, and emissions, stem directly from business operations.[6] Moreover the magnitude of the environmental challenges, from climate change to plastic waste, requires collaborative efforts from all sectors of society, including businesses. Similarly, companies have direct impact on workforce as they employ a significant portion of the population. Their policies, practices, and cultures directly affect millions of workers. In addition, many businesses engage directly with local communities through their services and products.

While poverty and education might benefit significantly from corporate philanthropy or donations, environmental and inclusion challenges demand a more hands-on approach, especially considering the direct impact of firms and the vast resources at companies' disposal. For poverty and education issues, while multifaceted, can see immediate benefits from financial injections. For

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[6]According to a report by BBC, the industry is responsible for producing one-third of global waste (Miller, N. (2021) BBC Future). Moreover, based on data from the EPA, in 2021, industries were responsible for 23% of greenhouse gas emissions in the U.S. Meanwhile, transportation contributed to 28%, and electricity generation made up 25% of the emissions. Link to the report.

instance, donations can build schools, hire teachers, or directly provide resources to impoverished communities. Environmental and Inclusion challenges, however, are systemic and often intertwined with a company's operations, supply chain, and culture. Simply donating money may not address the root causes. Therefore, CSR programs that include a deeper engagement of the firm might be viewed as more effective than corporate giving when it comes to environmental and inclusion issues.

Based on the background, I posit a testable hypothesis that investors value more companies' hands-on involvement with environmental and inclusion challenges than a monetary donation due to anticipated effectiveness. I introduce an indicator variable, denoted as $Giving$, which takes the value of one if the mode of a CSR program being reported is corporate giving and zero otherwise. Also, an indicator variable $I(Env|Inc)$ is created to capture social issues that require more than one-off financial contribution. Specifically, the variable takes one if a CSR program being reported addresses environmental or inclusion-related issues. Under the hypothesis, the interaction term of $Giving$ and $I(Env|Inc)$ must have a negative coefficient.

Table 4 presents the results. I incorporated year fixed effects in all regressions to control for the influence of varying public concern over social issues. The coefficient of $Giving$ is not statistically significant on its own (columns 1 and 6). Likewise, the coefficient of $I(Env|Inc)$ is not statistically significant alone in column 2 and 3. When the interaction term is included, the results suggest that corporate giving elicits weaker market reactions for environmental and inclusion issues. In column (10), when firms address these issues through measures beyond financial contributions, the market's response to these CSR programs is 0.3 percentage points higher than to corporate giving.

These observations indicate that investors might perceive corporate giving as less effective in addressing specific social challenges. This aligns with the perspective that deeper corporate engagement offers a more potent solution to certain societal problems. Consequently, investors value such CSR programs, recognizing that other investors and consumers would regard those CSR initiatives more highly.

19

2.4   Partial Effects of Public Concern and Method of Addressing Social Issues

In the prior section, I establish that two key variables, which are potentially indicative of the benefits of CSR programs in addressing social concerns, exert a positive influence on the market's reaction to CSR-related news announcements. Specifically, these variables are the degree of public concern related to an issue targeted by a CSR initiative and the specific strategy employed to address the issue.

In this section, I aim to assess whether these variables retain their impact on the market's reaction to CSR announcements when considered simultaneously. For this purpose, I conduct regressions that solely factor in firm fixed effects, enabling the inclusion of both aforementioned variables.

Table 5 reports the results. The results suggest that these variables not only maintain their statistical significance but also their economic significance, as observed in earlier analyses. This suggests that when valuing CSR efforts, investors give considerable weight to both the level of public concern tied to the social issue in question and the method used to address it.

2.5   Additional Drivers of CSR Value

I delve deeper into the stock market valuation of CSR programs, particularly alongside other value drivers. The goal is to determine if factors associated with the benefits of CSR initiatives continue to influence the market's valuation even when other variables are considered. Additionally, I explore the impact of variables that are known to explain CSR commitments on its market valuation.

2.5.1   Past Financial Performance and CSR News Returns

In this subsection, I investigate the market's reaction to CSR news, taking into account the firm's profitability. The core idea of Friedman (1970) is that the primary responsibility of a business, specifically its managers, is to maximize profits for its shareholders. Embarking on CSR initiatives often demands significant corporate resources, from financial investments to managerial bandwidth.

This diversion has the potential to adversely affect a firm's financial outcomes. If the only value proposition of CSR is related to its associated costs, then incorporating profitability metrics might overshadow variables aligned with CSR benefits.

My analysis aims to investigate if the perceived benefits of CSR still influence market reactions when profitability variables are introduced into the analysis. Additionally, I seek to explore the role of a firm's profitability in the stock market's valuation of CSR initiatives. To that end, I run regressions where the market reaction to CSR programs is regressed on the average return on assets in the past two years and EPS surprises in the most recent EPS announcement day within the last 180 days. EPS surprises are determined by deducting the median forecast from the actual quarterly EPS. This median prediction is derived from analyst forecast made 2 to 15 days prior to the earnings report when available; otherwise, it is based on forecasts given 16 to 30 days before the disclosure. This measure is then adjusted according to the company's share price, using data closest to the EPS announcement date, specifically from five days to three days before the event.

Table 6 reports the results. First, most recent financial news is a strong predictor of the market reaction. The magnitude of the coefficients is large given that the average EPS surprises is 0.001. A one standard deviation increase in EPS surprises (0.011) leads to 0.15 percentage point higher market returns measured by daily returns on average, controlling for social issue and firm fixed effects. The same change in EPS surprises translates into 0.16 percentage point higher cumulative abnormal returns on average. The finding shows that investors factor in companies' recent financial performance since CSR requires companies' financial resource. This implies that the bottom line remains an important determinant for investors.

In Panel A, the focus is on the impact of public concern levels regarding a social issue in the presence of profitability metrics. I incorporate social issue and firm fixed effects. The coefficients for the variables gauging public concern remain significant, with only minor variations in their magnitudes. This suggests that a firm's profitability doesn't fully overshadow the value derived from CSR programs. It underscores the continued relevance of public concern in determining the

worth of such initiatives.

Panel B delves into the strategies employed by businesses to address social issues, factoring in profitability metrics. Yearly and firm fixed effects are incorporated. The analysis reveals that even when profitability measures are considered, the effectiveness of CSR programs remains a significant factor in investor evaluations.

The analysis in the section demonstrates a firm's financial performance is an important factor contributing to the value of CSR programs. The most recent financial news significantly predicts market reactions, underscoring the primacy of economic indicators in investment decisions. This finding is consistent with the traditional framework where investors prioritize profitability, demonstrating their acute awareness of the financial demands of CSR initiatives. However, it is equally notable that public concerns about social issues and the inherent efficacy of CSR programs are not eclipsed by profitability metrics. The potential benefits of CSR still increase stock prices. In essence, while the bottom line remains paramount, the effectiveness of a firm's CSR endeavors continue to be crucial determinants of firm value.

2.5.2 Governance Structure and CSR News Returns

The CSR literature has noted the relationship between CSR and agency costs. One of the prevalent views is that CSR activities could reflect managerial agency problems. For example, Masulis and Reza (2014) find that higher corporate donations leads to lowered shareholder valuation of a firm's cash holdings, and suggests that such donations may align with CEO interests, potentially misusing corporate resources and diminishing firm value. Also, Di Giuli and Kostovetsky (2014) find that companies with higher CSR scores often reflect the political preferences of their executives and directors. Additionally, these CSR ratings correlate with future reductions in stock returns and a decrease in the firm's ROA.

Conversely, some perspectives suggest that governance might influence both the adoption and valuation of CSR initiatives. Ferrell, Liang, and Renneboog (2016) find that well-governed firms

with fewer agency issues are more engaged in CSR and implement it in a way that these efforts are less affected by agency issues, which positively relates to value and mitigates the negative effects of managerial entrenchment on value.

If the value and initiation of CSR programs can be entirely attributed to agency costs, then adding variables that capture corporate governance might overshadow the effects of factors that determine the benefits of CSR. To explore this concept, I construct several variables tied to board structure. $chair\_CEO$ is a binary variable that equals one if the CEO also serves as the board chairman, and zero otherwise. It gauges the degree to which a CEO's personal preferences influence CSR participation and its subsequent impact on company value. $log(\#director)$ represents the natural logarithm of the board's size, incremented by one. The motivation behind this variable is rooted in the finding that having a larger board can erode company value, arising from inefficient communication and decision-making challenges typically associated with it (Guest (2009)). Lastly, $frac\_ind$ measures the fraction of the board comprised of independent directors. It signifies the value these independent directors offer to shareholders, as documented by Nguyen and Nielsen (2010).

Table 7 presents the results. In line with the notion that CSR initiatives, when heavily influenced by CEO preferences, may not be as positively received, the coefficients of $chair\_CEO$ consistently emerge as negative and statistically significant across all regression models. Regardless of the specifics in model design, when the CEO doubles as the board chairman in firms rolling out CSR endeavors, the market reaction dwindles by 0.3 percentage points. As anticipated, $log(\#director)$ carries negative coefficients, yet they do not attain statistical significance. Similarly, $frac\_ind$ also fails to exhibit significant coefficients.

However, what stands out is that even after adjusting for board structure attributes, the coefficients representing public concern and the effectiveness of CSR initiatives retain their statistical significance. Additionally, the magnitude of these coefficients remains relatively stable. This suggests that factors independent of board composition — notably, the inherent benefits associated

with CSR — persist as influential determinants in shaping the market's valuation of CSR programs.

3 Corporate Decisions on CSR Implementation

3.1 Public Concern and CSR Activities

In the preceding section, I observe that companies addressing vital social issues, gauged by the frequency of articles, experience a surge in stock prices. My hypothesis suggests that this uptick is a consequence of these firms garnering widespread support from investors, consumers, and other societal stakeholders. By addressing significant societal challenges, firms can attract consumer support, benefit from a lowered cost of capital, preempt potential regulatory and legal hurdles, and so forth. In this subsection, I investigate the likelihood of corporations intensifying their CSR efforts during times of heightened public concern on specific societal issues, as such endeavors might amplify their overall value.

A visual inspection of Fiqure 1 supports the hypothesis. In Panel B of Figure 1, I juxtapose the public's concern index over diversity-related issues with the count of CSR initiatives addressing these concerns. Notably, both the public concern metric and the incidence of CSR actions saw a marked rise in the month following George Floyd's demise on May 25, 2020. In fact, June 2020 stands out as the month witnessing the highest reportage of diversity-focused CSR endeavors.

To test whether companies strategically act on environmental and social issues to increase firm value, I run regressions where the dependent variable represents CSR activities that address a particular social issue, denoted as SI, ($SI \in \{Environment, Diversity, Education, Poverty\}$). Let $I(CSR : SI)_t$ be an indicator variable that is assigned a value of one if, during month t, a firm report a news release that introduces a CSR initiative related to a specific social issue SI.

The independent variable is a measure that gauges public concern specific to that social issue. Given that the level of public concern is exogenous—meaning it is beyond the influence of corporate managers and is not dictated by inherent firm-level attributes—this study design facilitates an investigation into the potential causal relationship between escalating public concern

and the execution of CSR activities by corporations.

The model specification is, for a firm i in a month t,

$$I(CSR : SI)_{i,t} = \beta_0 + \beta_1 Concern : SI_{t-k:t} + \gamma^{'} X_{i,t} + \epsilon_{i,t},$$

$$SI \in \{Environment, Inclusion, Education, Poverty\}$$

(2)

The model evaluates the influence of average public concern, assessed over the past k months up to the current month, related to the social issues that firms' CSR programs address.

Table 8 shows how corporations choose their CSR initiatives in response to prevailing public concerns. Across all social issues, there is a pronounced linkage between the deployment of pertinent CSR activities and the level of public concern.

Concerning environmental issues, a one-standard deviation increase in public concern—averaged over the last twelve months (0.47)—amplifies the likelihood of launching CSR actions tied to the environment by 0.188 percentage points. This represents a 15.67% increased probability compared to the unconditional likelihood of introducing environmental CSR initiatives.

For inclusion issues, a similar one-standard deviation uptick in public concern over the last year (0.39) raises the probability of instigating inclusion-focused CSR by 0.23 percentage points. This translates to a 39.00% heightened likelihood relative to the unconditional probability of commencing inclusion-centric CSR activities.

In the realm of education, a one-standard deviation boost in public sentiment over the past year (0.4) augments the odds of undertaking education-related CSR by 0.16 percentage points. This equates to a 12.3% enhanced probability compared to the regular chance of rolling out educational initiatives.

Lastly, regarding poverty issues, a one-standard deviation growth in public concern over the last twelve months (0.42) increases the chance of launching poverty-associated CSR by 0.21 percentage points. This corresponds to an 11.7% elevated likelihood relative to the baseline chance of initiating poverty-focused initiatives.

The findings provide evidence about corporations' strategic response to prevailing societal concerns, which resonates strongly with the postulated hypothesis that firms choose to act on social issues when they view it as a way to increase firm value. This might imply that the alignment of social responsibility with business objectives represents a paradigm shift, where doing good is also seen as doing well for the business.

3.2 Strategic Choice of the Method of Addressing Social Issues

In this section, I investigate whether firms strategically select methods to address social concerns that enhance their value, implying that firms endeavor to adopt CSR initiatives that go beyond financial contributions for tackling environmental and social challenges. The hypothesis here is that companies are more inclined to adopt in-depth CSR strategies, especially for environmental and inclusion issues. I examine whether the choice is affected when the associated public concerns intensify.

I run regressions where the dependent variable is the indicator for corporate giving ($Giving$). Independent variables are the intensity of public concern, a variable singling out environmental and inclusion matters, and an interaction term of them. I include the interaction term to assess if companies tend to opt for strategic methods of addressing issues during periods of heightened public concern.

The findings, as illustrated in Table 9, suggest that companies tend to lean towards monetary donations in the face of mounting public concern around education and poverty, as evidenced by the positive and statistically significant coefficients of $CSR_Concern(3)$ and $CSR_Concern(6)$. Contrastingly, when it comes to environmental and social issues, there is a marked preference for CSR initiatives that move past just financial donations to charitable bodies or NGOs. This trend is underscored by the combination of the coefficient from the interaction term with the coefficient of public concern. Notably, the interaction term yields a negative, statistically significant outcome, leading to an overall negative sum.

The exploration in this section shows a discernible pattern in how firms approach CSR based on the nature of the social issue and the corresponding public concern. Companies opt for straightforward financial contributions when tackling issues like education and poverty, especially as these concerns gain traction in the public sphere. Conversely, with environmental and social challenges, there is a shift towards a more engaged, comprehensive approach. This underscores the firms' strategic choices in addressing social issues, optimizing their CSR efforts to potentially garner greater investor support.

4 Market Reaction to EPS Surprises of Firms Conducting CSR Activities

Positive and negative EPS surprises are associated with firms' fundamentals. Doyle, Lundholm, and Soliman (2006) show that financial performance subsequent to positive earnings surprises is likely to remain strong going forward. However, it has been widely documented that investors are overly sensitive to even small EPS misses. When investors have a highly sensitive reaction to earnings news, there might be increased pressure on the company to consistently meet or exceed earnings expectations. Falling short of these expectations, even by a small margin, could lead to a significant negative market reaction and potentially harm the company's reputation. CFOs admit that they are willing to manage earnings just to hit earnings targets (Graham, Harvey, and Rajgopal (2005)) and there are findings that firms manipulate earnings to avoid dramatic market reactions (Matsumoto (2002), Burgstahler and Eames (2006), Ayers, Jiang, and Yeung (2006), and Keung, Lin, and Shih (2010) among others). Therefore, sensitive market reaction to earnings news could lead to a distraction for management and encourage a short-term focus.

Building upon previous findings that investors are notably sensitive to such news and its inherent negative effects on firms, I investigate whether investors evaluate company stocks differently based on their commitment to CSR. If investors recognize that firms dedicated to CSR are poised to receive backing from both their peers and consumers who prioritize environmental and societal concerns, this knowledge will influence their response to negative EPS surprises. Put simply,

investors would be less inclined to offload shares of these firms in the face of adverse short-term earnings reports.

I test the hypothesis by assessing market reactions to EPS surprises, taking into consideration a firm's past CSR activities. I gather analyst forecasts for quarterly EPS from I/B/E/S and identify each analyst's most recent forecast. To find the median value of EPS forecast, I initially require that analyst forecasts be made between 2 and 15 days prior to the earnings announcement to sidestep outdated forecasts in our baseline analysis. However, this criterion results in a significant drop in observations. Therefore, I also present results using analyst forecasts made between 2 and 45 days prior to the announcement in order to determine the median forecast, while I prioritize the median forecasts made between 2 and 15 days whenever feasible.

Subsequently, EPS surprise ($EPSsurprise$) is calculated as the actual quarterly EPS reported by I/B/E/S minus the median forecast, adjusted by the firm's share price. The share price used is the closest available observation to the announcement date, ranging from five days before to three days after the announcement.[7] EPS surprises are Winsorized at the 1% and 99% levels. To account for asymmetric reactions to both positive and negative EPS surprises, I introduce an indicator variable for negative EPS surprises, denoted as $I(EPSsurprise < 0)$. This variable assumes a value of one if the EPS surprise is negative, and zero otherwise.

To test whether investors react differently to firms implementing CSR programs, I create an indicator variable $I(CSR\_TwoYear)$ that takes one if a firm announced CSR news in a period between 356×2 days before the announcement and the announcement, zero otherwise. I run the following regression. For a firm i's earnings report date t,

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$$CAR[-1,+1]_{i,t} = \beta_0 + \beta_1 EPSsurprise_{i,t} + \beta_2 I(EPSsurprise < 0)_{i,t}$$

$$+ \beta_3 EPSsurprise_{i,t} \times I(EPSsurprise < 0)_{i,t} + \beta_4 I(CSR\_TwoYear)_{i,t}$$

$$+ \beta_5 I(CSR\_TwoYear)_{i,t} \times EPSsurprise_{i,t} + \beta_6 I(CSR\_TwoYear)_{i,t} \times I(EPSsurprise < 0)_{i,t}$$

$$+ \beta_7 I(CSR\_TwoYear)_{i,t} \times EPSsurprise_{i,t} \times I(EPSsurprise < 0)_{i,t} + \epsilon_{i,t}$$

$$(3)$$

$CAR[-1,+1]$ is the cumulative abnormal return with a window of three days. The coefficients of interest are β_4, β_5, β_6 and β_7 which show differential reactions to firms engaged in CSR. Based on the hypothesis, I anticipate a more subdued or less sensitive market response to negative EPS surprises from CSR firms. To observe a less sensitive reaction to negative EPS surprises from CSR firms, the combined effect of β_5 and β_7 should be negative. To clarify, the market sensitivity to negative EPS news from non-CSR firms is denoted by $\beta_1 + \beta_3$. For CSR firms, it is captured by $\beta_1 + \beta_3 + \beta_5 + \beta_7$. The difference in market reactions to negative EPS surprises between CSR and non-CSR firms is thus represented by $\beta_5 + \beta_7$. A negative value of $\beta_5 + \beta_7$ indicates that investors react less sensitively to earnings surprises. In addition, I expect the overall effect of β_4, β_5, β_6 and β_7 for negative earnings news to be positive, which again implies negative $\beta_5 + \beta_7$ and, on top of that, $\beta_4 + \beta_6$ must be non negative.

Table 10 presents the results. Consistent with the hypothesis, I find that the reaction to a negative earnings surprise is less sensitive, and therefore overall response tends to be more favorable. Firstly, the estimates of $\beta_4 + \beta_6$ are non-negative across all model specifications. Furthermore, the estimates of $\beta_5 + \beta_7$ are negative, suggesting that investors react less sensitively to earnings surprises. Consequently, the overall market reaction to negative cash flow news for firms engaged in CSR is more favorable.

I further examine the reaction to positive EPS surprises. The reaction to positive EPS news is inconclusive. The positive and statistically significant estimate of β_5 implies that investors react more sensitively, but positively to positive EPS surprises from firms engaged in CSR. However, the estimate of β_4 is negative. For the combined effect of β_5 and β_4 to be positive but more

29

sensitive, a positive EPS surprise must exceed 0.23% (=0.003/(0.646+0.662)). I find that only 33% of positive EPS surprises exceed 0.23%. For the rest of the cases, the market reaction is less sensitive to positive earnings news. Therefore, in most instances, positive earnings news also results in a subdued reaction for firms involved in CSR. This could suggest that investors might have already purchased stocks of companies when they announced their CSR initiatives, diminishing any additional momentum that could raise stock prices following EPS news.

Overall, I document that when firms engaged in CSR enjoy higher stock price stability when they have negative earnings news. It shows greater investor confidence or support even in the face of short-term financial setbacks. Therefore, the presence of CSR programs appears to provide a protective layer for companies, shielding them, to some extent, from the typical negative repercussions of unfavorable earnings reports.

5 Conclusion

This paper delves into the determinants of stock market valuations related to Corporate Social Responsibility (CSR) initiatives. I propose that effective CSR, which addresses societal issues in pivotal times, can bolster firm value by garnering both investor and consumer backing. This endorsement manifests as incentives for firms actively engaged in CSR and penalties for those that are not, offering firms an opportunity to augment their value when they act on societal challenges.

I discover that the public's concern, gauged by the frequency of articles discussing specific social issues, significantly influences market reactions to corresponding CSR activities. Moreover, CSR strategies that are hard for individuals to replicate see heightened market responses, notably in sectors like environmental preservation and diversity. These findings remain steadfast even after accounting for factors that traditionally explain the adoption and significance of CSR programs.

Digging deeper, I explore the strategic CSR conduct of companies aiming to elevate their value. Firms intensify their CSR undertakings when confronted with pressing societal issues and strategically determine their best response to these challenges. Furthermore, I present evidence

highlighting investors' support towards firms committed to CSR, documenting their milder reactions to unfavorable earnings news from these organizations.

This research demonstrates that CSR initiatives, when effectively addressing urgent societal concerns, can positively influence stock prices.

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Figure 1 Public Concern Measures and the Number of CSR Activities

The four figures below plot the monthly indices of public concern about four social issues including environmental, diversity-related, education-related and poverty-related issues. The indices are the source-normalized number of articles in the op-ed section in the New York Times, Wall Street Journal, and USA Today, covering each social issue. The bar represents the number of corporate press releases on CSR activities dealing with a specific social issue. The type of social issue is specified in the title of each panel. The y-axis on the left is the monthly index of public concern. The y-axis on the right is the number of CSR news releases. The x-axis displays months in chronological order.

Panel A: Environment

Panel B: Discrimination (Inclusion)

35
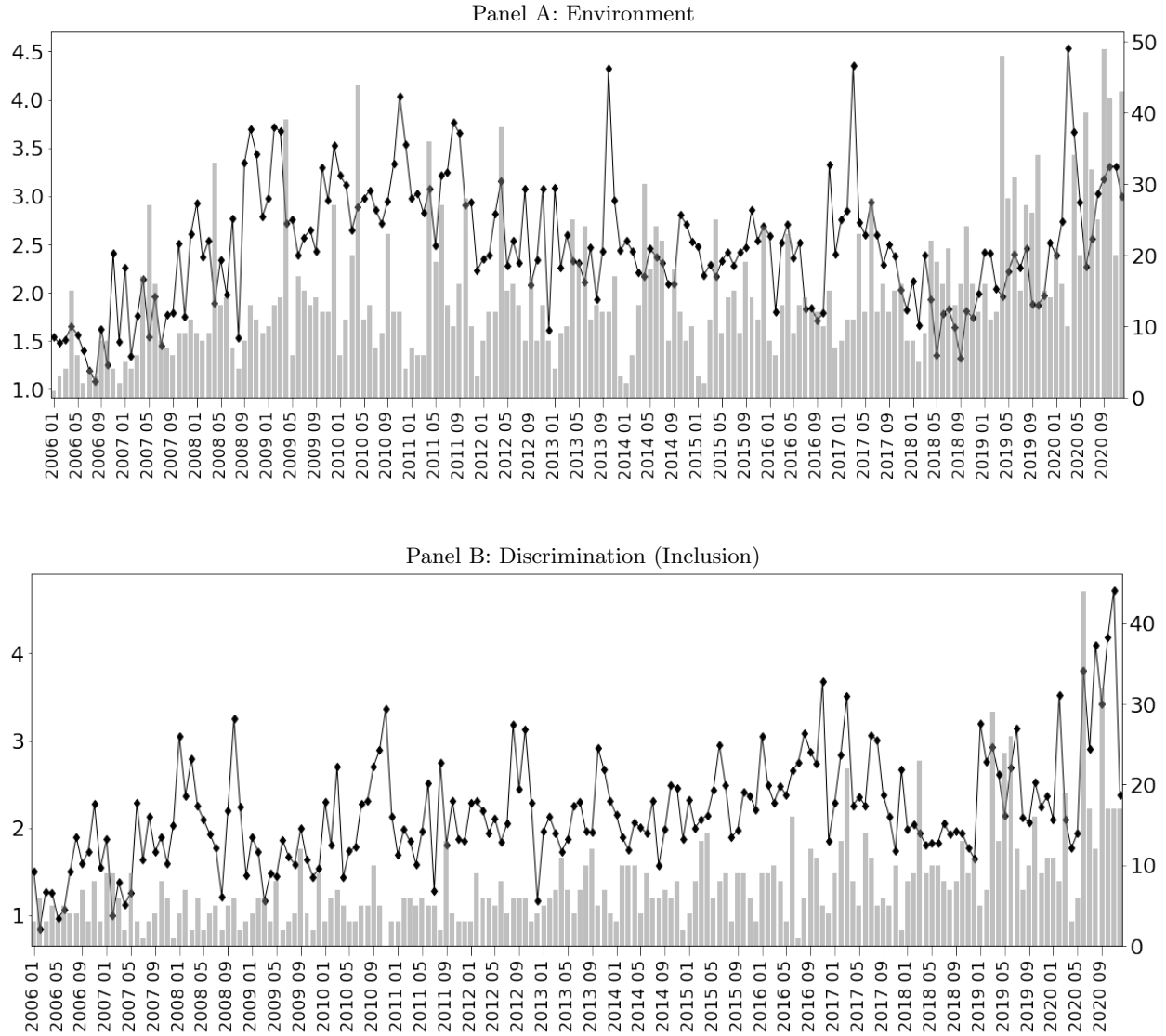
Panel C: Education

Panel D: U.S. Poverty

36
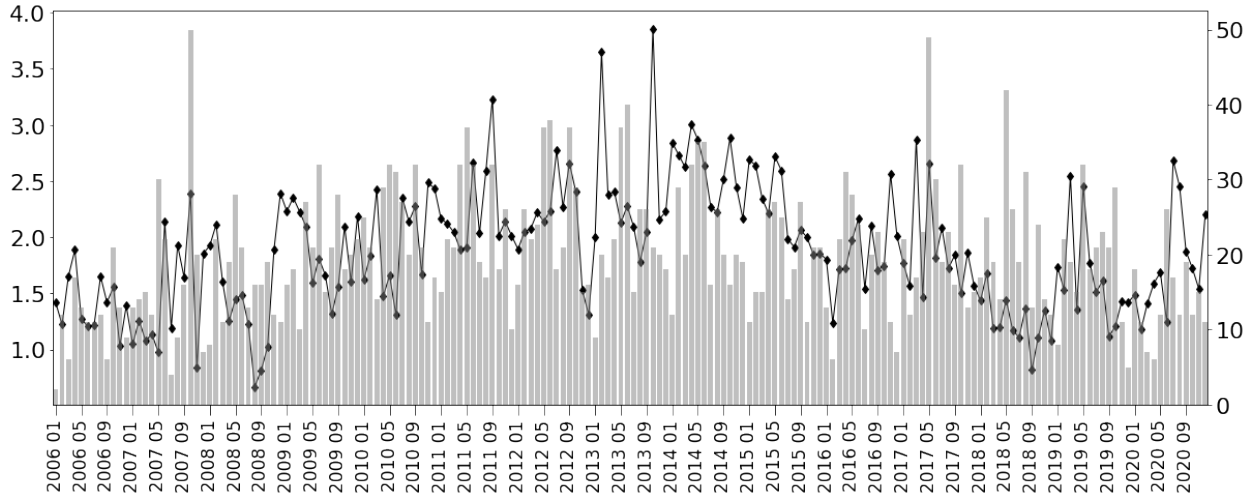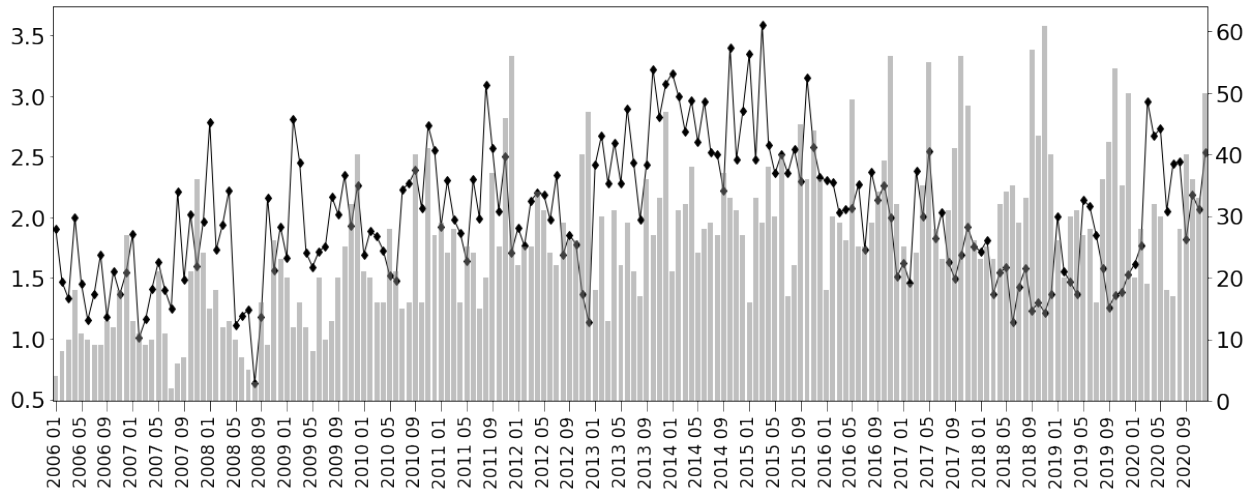
Table 1: Summary Statistics

This table reports the summary statistics of variables used in the paper. The table presents the number of observations (N), means, standard deviations (Std), minimums (Min), 25th percentiles (p25), medians, 75th percentiles (p75), and maximums (Max) of variables. $I(CSR)$ is an indicator variable equals to one if a firm reports at least one CSR activity in a given year, and zero otherwise. $I(CSR : Issue)$, $Issue \in \{Environment, Inclusion, Education, Poverty\}$, is an indicator variable equals to one if a firm reports at least one CSR activity addressing a social issue ($Issue$) in a given period, zero otherwise. $Giving$ is an indicator that assumes a value of one if the CSR program in the report is based on corporate giving, and zero otherwise. $size$ is the logarithm of total assets. $cash$ is the cash and cash equivalent divided by total assets. ml is market leverage. mb is market-to-book ratio. roa is return on assets. $chair\_CEO$ is an indicator variable that takes one when a CEO is the chairman of the board, and zero otherwise. $log(\#director)$ is the logarithm of the number of directors on the board, incremented by one. $frac\_ind$ is the proportion of independent directors on the board. $EPSsurprise$ is EPS surprises defined as the difference between actual EPS and the median analysts' forecast. $I(CSR\_TwoYear)$ is an indicator variable that assumes a value of one if at least one piece of news on CSR programs was published between the EPS report date and 712 days (equivalent to 356×2 days) preceding the announcement. Cumulative abnormal returns are Carhart (1997) four-factor risk adjusted cumulative returns in 3 days around the event day. All accounting variables, EPS surprises, CARs are Winsorized at the 1st and 99th percentiles.

Variable	N	Mean	Std	Min	25th Pctl	Median	75th Pctl	Max
Characteristics of CSR activities (firm-year observations)								
$I(CSR)$	16743	0.279	0.449	0	0	0	1	1
$I(CSR : Environment)$	16743	0.084	0.278	0	0	0	0	1
$I(CSR : Inclusion)$	16743	0.045	0.207	0	0	0	0	1
$I(CSR : Education)$	16743	0.073	0.260	0	0	0	0	1
$I(CSR : Poverty)$	16743	0.108	0.310	0	0	0	0	1
Characteristics of CSR activities (firm-month observations)								
$I(CSR : Environment)$	161165	0.012	0.109	0	0	0	0	1
$I(CSR : Inclusion)$	161165	0.006	0.078	0	0	0	0	1
$I(CSR : Education)$	161165	0.013	0.113	0	0	0	0	1
$I(CSR : Poverty)$	161165	0.018	0.134	0	0	0	0	1
Corporate Giving Indicator (Giving)								
Environment	2999	0.119	0.324	0.000	0.000	0.000	0.000	1.000
Inclusion	2075	0.202	0.402	0.000	0.000	0.000	0.000	1.000
Education	3256	0.492	0.500	0.000	0.000	0.000	1.000	1.000
Philanthropy	3764	0.852	0.355	0.000	1.000	1.000	1.000	1.000

Table 1-Continued

Variable	N	Mean	Std	Min	25th Pctl	Median	75th Pctl	Max
Cumulative Returns around news releases on CSR activity (Return[+1, −1])								
All	21924	0.002	0.031	-0.095	-0.013	0.002	0.016	0.108
Environment	2984	0.002	0.032	-0.095	-0.014	0.002	0.017	0.108
Inclusion	2056	0.002	0.030	-0.095	-0.012	0.003	0.017	0.108
Education	3243	0.001	0.028	-0.095	-0.013	0.002	0.015	0.108
Philanthropy	3747	0.002	0.031	-0.095	-0.013	0.002	0.017	0.108
Cumulative Abnormal Returns around news releases on CSR activity (CAR[+1, −1])								
All	21924	0.000	0.024	-0.079	-0.012	0.000	0.011	0.085
Environment	2984	0.000	0.025	-0.079	-0.012	-0.001	0.011	0.085
Inclusion	2056	0.000	0.023	-0.079	-0.011	-0.001	0.012	0.085
Education	3243	0.000	0.022	-0.079	-0.011	0.000	0.011	0.085
Philanthropy	3747	0.000	0.025	-0.079	-0.012	0.000	0.012	0.08
Firm characteristics (firm-year observations)								
size	16487	8.072	1.526	4.473	7.154	8.033	9.007	12.029
cash	16485	0.182	0.201	0.001	0.040	0.107	0.246	0.902
ml	15561	0.213	0.202	0.000	0.054	0.165	0.311	0.893
mb	15582	2.452	1.823	0.798	1.340	1.832	2.801	10.983
roa	16107	0.119	0.150	-0.566	0.084	0.131	0.187	0.470
chair_ceo	14144	0.342	0.475	0.000	0.000	0.000	1.000	1.000
num_dir	14144	1.624	0.632	0.000	1.386	1.792	2.079	3.091
frac_ind	14144	0.746	0.223	0.000	0.667	0.800	0.889	1.000
EPS announcement information								
EPSsurprise	43969	0.001	0.011	-0.070	0.000	0.001	0.002	0.061
$I(EPSSurprise < 0)$	43969	0.271	0.444	0	0	0	1	1
$CAR[+1, −1]$	43951	0.002	0.074	-0.229	-0.038	0.001	0.042	0.228
$I(CSR\_TwoYear)$	47976	0.403	0.491	0	0	0	1	1

Table 2: Summary Statistics of Public Concern Measures

This table shows the summary statistics of public concern measures. In Panel A, monthly source-normalized number of articles associated with a social issue (e.g., education) are averaged out across news outlets to produce monthly time series observations $x_{t,p}$, $t \in \{Jan1996, Feb1996, \dots, Dec2020\}$ for each social issue $p \in \{Environment, Inclusion, Education, Poverty\}$. These values are averaged over the past k months to produce measures $Concern_{t-k,t,p} = \frac{1}{k}\sum_{t-k+1}^{t} x_{\tau,p}$. In Panel B, I introduce another measures where I impose monotone transformation, specifically a monthly measure of public concern om Panel B is the log of one plus moving average of $x_{t,p}$ over a specific number of months k measured in a month t, that is $CSR\_Concern(k,p) = log(1 + \frac{1}{k}\sum_{t-k+1}^{t} x_{\tau,p})$.

	N	Mean	Std. Dev.	Min	P25	Median	P75	Max
			Panel A: Public Concern Measures					
$Concern_{t-1,t,Environment}$	180	2.47	0.64	1.08	2.03	2.43	2.88	4.54
$Concern_{t-1,t,Inclusion}$	180	2.18	0.62	0.84	1.81	2.10	2.45	4.72
$Concern_{t-1,t,Education}$	180	1.88	0.55	0.67	1.47	1.86	2.23	3.86
$Concern_{t-1,t,Poverty}$	180	2.01	0.55	0.64	1.58	1.99	2.38	3.59
$Concern_{t-3,t,Environment}$	180	2.46	0.55	1.22	2.10	2.40	2.84	3.71
$Concern_{t-3,t,Inclusion}$	180	2.17	0.50	1.09	1.86	2.12	2.49	4.11
$Concern_{t-3,t,Education}$	180	1.87	0.46	0.83	1.49	1.89	2.20	2.84
$Concern_{t-3,t,Poverty}$	180	2.01	0.48	1.02	1.63	1.97	2.35	3.14
$Concern_{t-6,t,Environment}$	180	2.45	0.50	1.35	2.17	2.45	2.91	3.38
$Concern_{t-6,t,Inclusion}$	180	2.14	0.43	1.15	1.91	2.11	2.43	3.85
$Concern_{t-6,t,Education}$	180	1.87	0.43	0.83	1.49	1.87	2.19	2.79
$Concern_{t-6,t,Poverty}$	180	2.00	0.45	1.25	1.64	1.99	2.28	3.03
$Concern_{t-12,t,Environment}$	180	2.42	0.47	1.36	2.15	2.47	2.79	3.27
$Concern_{t-12,t,Inclusion}$	180	2.11	0.39	1.08	1.94	2.15	2.31	3.08
$Concern_{t-12,t,Education}$	179	1.86	0.40	1.17	1.52	1.84	2.21	2.66
$Concern_{t-12,t,Poverty}$	179	1.98	0.42	1.25	1.63	1.95	2.19	2.84

| | | Panel B: Log-Transformed Public Concern Measures | | | | | | |

		$p =$Environment		$p =$Inclusion		$p =$Education		$p =$Poverty	
	N	Mean	Std	Mean	Std	Mean	Std	Mean	Std
$CSR\_Concern(1,p)$	180	1.2281	0.1925	1.1381	0.1834	1.0403	0.1618	1.0865	0.1570
$CSR\_Concern(3,p)$	180	1.2293	0.1633	1.1407	0.1582	1.0426	0.1503	1.0879	0.1399
$CSR\_Concern(6,p)$	180	1.2273	0.1524	1.1360	0.1469	1.0413	0.1460	1.0867	0.1321

Table 3: Public Concern over a Social Issue and Market Reaction to CSR News

This table presents the impact of public concern regarding a social issue on market reactions to CSR News. The sample includes press releases about CSR activities addressing four societal issues (environment, inclusion, education, poverty in the U.S.). The dependent variable $Return[-1, +1]$ represents the cumulative returns over a three-day event window, with the event being a release of news about a CSR program. The dependent variable $CAR[-1, +1]$ is the Carhart (1997) four-factor adjusted cumulative abnormal returns over a three-day event window. $CSR\_Concern(M)$, with $M \in 3, 6$, represents the average level of concern for a social issue addressed by a CSR activity over the most recent M months. All regressions include fixed effects for the four societal issues. 'Firm FE' and 'Industry FE' represent firm and industry fixed effects, respectively. The industry is categorized by the first three digits of the SIC. t-statistics based on standard errors clustered at the firm level are shown below the coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	Return[-1, +1]			CAR[-1,+1]		
	(1)	(2)	(3)	(4)	(5)	(6)
$CSR\_Concern(3)$	0.009***	0.009***	0.009***	0.004***	0.004***	0.004**
	[4.53]	[4.40]	[4.00]	[2.76]	[2.67]	[2.25]
Issue FE	✓	✓	✓	✓	✓	✓
Industry FE		✓			✓	
Firm FE			✓			✓
Adjusted R^2	0.002	0.015	0.034	0	0.008	0.029
Observations	10100	10051	9935	10100	10051	9935
	Return[-1, +1]			CAR[-1,+1]		
	(7)	(8)	(9)	(10)	(11)	(12)
$CSR\_Concern(6)$	0.010***	0.010***	0.009***	0.004***	0.004**	0.003**
	[4.73]	[4.44]	[4.02]	[2.62]	[2.40]	[2.04]
Issue FE	✓	✓	✓	✓	✓	✓
Industry FE		✓			✓	
Firm FE			✓			✓
Adjusted R^2	0.002	0.015	0.034	0	0.007	0.029
Observations	10100	10051	9935	10100	10051	9935

Table 4: Mode of CSR Programs and Market Reaction to CSR News

This table shows the impact of the mode of CSR programs on market reactions to CSR news. The sample contains press releases about CSR activities that focus on four societal issues (environment, inclusion, education, poverty in the U.S.). The dependent variable $Return[-1, +1]$ is cumulative returns over a three-day event window where the 'event' refers to the announcement of a new CSR program. The dependent variable $CAR[-1, +1]$ is the Carhart (1997) four-factor adjusted cumulative abnormal returns over a three-day event window. $Giving$ is an indicator that assumes a value of one if the CSR program in the report is based on corporate giving, and zero otherwise. $I(Env|Inc)$ is an indicator variable that takes on a value of one if the reported CSR program pertains to either environmental concerns or issues related to diversity. 'Firm FE' and 'Industry FE' stand for firm and industry fixed effects, respectively. The industry is defined as the first three digits of SIC. t-statistics based on standard errors clustered at the firm level are shown below the coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	Return[-1, +1]					CAR[-1,+1]				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$I(Env|Inc) \times Giving$			-0.004**	-0.004***	-0.004**			-0.003**	-0.003**	-0.003**
			[-2.52]	[-2.77]	[-2.54]			[-2.22]	[-2.22]	[-2.07]
$Giving$	0		0.001	0.002**	0.002**	0		0.001	0.001	0.001
	[0.64]		[1.48]	[2.16]	[2.17]	[0.25]		[1.05]	[1.53]	[1.40]
$I(Env|Inc)$		0	0.001	0.002*	0.001		0	0.001	0.001	0.001
		[-0.28]	[1.27]	[1.72]	[1.58]		[-0.67]	[1.01]	[1.21]	[0.91]
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industry FE				✓					✓	
Firm FE	✓	✓			✓	✓	✓			✓
Adjusted R^2	0.037	0.034	0.005	0.018	0.037	0.03	0.027	0.001	0.008	0.03
Observations	9935	9703	10100	10051	9935	9935	9703	10100	10051	9935

Table 5: Partial Effects of Public Concern and Method of Addressing Social Issues

This table displays the partial effects of the variable that gauges the level of public concern related to a social issue tackled by a CSR program, as well as the method used to address the issue. The sample includes news releases about CSR programs that address four societal issues: the environment, inclusion, education, and poverty within the U.S. $Return[-1, +1]$ is cumulative returns over a three-day event window where the 'event' refers to the announcement of a new CSR program. The dependent variable $CAR[-1, +1]$ is the Carhart (1997) four-factor adjusted cumulative abnormal returns over a three-day event window. The definitions of the independent variables are provided in the preceding tables. t-statistics based on standard errors clustered at the firm level are shown below the coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	Return[-1, +1]		CAR[-1,+1]	
	(1)	(2)	(3)	(4)
$CSR\_Concern(3)$	0.009***		0.004**	
	[4.35]		[2.34]	
$CSR\_Concern(6)$		0.010***		0.003**
		[4.34]		[2.14]
$I(Env|Inc) \times Giving$	-0.004**	-0.004**	-0.003**	-0.003**
	[-2.46]	[-2.45]	[-2.03]	[-2.04]
$Giving$	0.002**	0.002**	0.001	0.001
	[1.99]	[2.00]	[1.27]	[1.29]
$I(Env|Inc)$	0	0	0	0
	[0.23]	[0.14]	[0.14]	[0.17]
Firm FE	✓	✓	✓	✓
Adjusted R^2	0.032	0.032	0.027	0.027
Observations	9703	9703	9703	9703

Table 6: Past Financial Performance and Market Reaction to CSR News

This table show how the market's reaction to CSR news is influenced by a firm's previous financial performance. The sample includes news releases about CSR programs that address four societal issues: the environment, inclusion, education, and poverty within the U.S. $Return[-1, +1]$ is cumulative returns over a three-day event window where the 'event' refers to the announcement of a new CSR program. The dependent variable $CAR[-1, +1]$ is the Carhart (1997) four-factor adjusted cumulative abnormal returns over a three-day event window. Avg_roa_2y is the average return on assets (ROA) in the past two years. $EPSsurprise$ captures the EPS surprises in the most recent EPS announcement day within the preceding 180 days. These surprises are calculated by subtracting the median forecast from the actual quarterly EPS. This median forecast is sourced from predictions made between 2 and 15 days before the earnings announcement if available; if not, it's drawn from forecasts made 15 to 30 days before the announcement. This metric is then scaled by the company's share price, based on data available on the closest day to the EPS reporting date, ranging from five days before the announcement to three days prior to the event. All accounting variables are derived from data in the fiscal year preceding the year in which the CSR news is released. t-statistics based on standard errors clustered at the firm level are shown below the coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	Panel A			
	Return[-1, +1]		CAR[-1,+1]	
	(1)	(2)	(3)	(4)
Avg_roa_2y	0.007	0.007	0.017*	0.017*
	[0.69]	[0.68]	[1.70]	[1.69]
$EPSsurprise$	0.137**	0.138**	0.144***	0.144***
	[2.26]	[2.25]	[3.80]	[3.80]
$CSR\_Concern(3)$	0.011***		0.004**	
	[4.40]		[2.25]	
$CSR\_Concern(6)$		0.012***		0.003*
		[4.44]		[1.79]
Issue FE	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓
Adjusted R^2	0.031	0.031	0.025	0.025
Observations	8093	8093	8093	8093

	Panel B			
	Return[-1, +1]		CAR[-1,+1]	
	(1)	(2)	(3)	(4)
Avg_roa_2y	0.007	0.009	0.017*	0.018*
	[0.65]	[0.79]	[1.68]	[1.84]
EPSsurprise	0.138**	0.139**	0.144***	0.149***
	[2.21]	[2.21]	[3.79]	[3.86]
$I(Env|Inc) \times Giving$	-0.004**	-0.004**	-0.003**	-0.003*
	[-2.53]	[-2.42]	[-2.05]	[-1.96]
Giving	0.002**	0.002**	0.001*	0.001
	[2.09]	[2.05]	[1.69]	[1.65]
$I(Env|Inc)$	0.002**	0.002**	0.001	0.001
	[2.06]	[2.10]	[1.40]	[1.33]
Firm FE	✓	✓	✓	✓
Year FE		✓		✓
Adjusted R^2	0.028	0.033	0.025	0.026
Observations	8093	8093	8093	8093

Table 7: Governance Structure and Market Reaction to CSR News

This table shows that the way the market reacts to CSR news varies with firms' governance structure. The sample contains news releases on CSR programs addressing four social issues (the environment, inclusion, education, and poverty in the U.S.). $Return[-1, +1]$ is cumulative returns over a three-day event window where the 'event' refers to the announcement of a new CSR program. The dependent variable $CAR[-1, +1]$ is the Carhart (1997) four-factor adjusted cumulative abnormal returns over a three-day event window. $chair\_CEO$ is an indicator variable that takes one when a CEO is the chairman of the board, and zero otherwise. $log(\#director)$ is the logarithm of the number of directors on the board, incremented by one. $frac\_ind$ is the proportion of independent directors on the board. All governance variables are derived from data from the year prior to the one in which the CSR news is released. t-statistics based on standard errors clustered at the firm level are shown below the coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	Return[-1, +1]				CAR[-1,+1]			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$chair\_CEO$	-0.002*	-0.002*	-0.002**	-0.002**	-0.002***	-0.002***	-0.002***	-0.002***
	[-1.85]	[-1.86]	[-2.06]	[-2.06]	[-2.99]	[-2.99]	[-3.06]	[-3.06]
$log(\#director)$	-0.002**	-0.002**	-0.001	-0.001	-0.001	-0.001	0	0
	[-2.19]	[-2.26]	[-1.51]	[-1.51]	[-0.98]	[-1.00]	[-0.35]	[-0.35]
$frac\_ind$	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001
	[0.92]	[0.93]	[0.97]	[0.97]	[0.42]	[0.42]	[0.44]	[0.44]
$CSR\_Concern(3)$	0.010***				0.004***			
	[4.44]				[2.67]			
$CSR\_Concern(6)$		0.010***				0.004**		
		[4.53]				[2.46]		
$I(Env|Inc) \times Giving$			-0.004***	-0.004***			-0.003**	-0.003**
			[-2.82]	[-2.82]			[-2.49]	[-2.49]
$Giving$			0.002**	0.002**			0.001	0.001
			[2.09]	[2.09]			[1.29]	[1.29]
$I(Env|Inc)$			0.002	0.002			0.001	0.001
			[1.63]	[1.63]			[1.09]	[1.09]
Industry FE	✓	✓	✓	✓	✓	✓	✓	✓
Type FE	✓	✓			✓	✓		
Year FE			✓	✓			✓	✓
Adjusted R^2	0.016	0.016	0.019	0.019	0.01	0.01	0.011	0.011
Observations	9617	9617	9617	9617	9617	9617	9617	9617

Table 8: Public Concern and CSR Activities

This table shows how firms respond to public concern through CSR activities.The sample contains firm-month observations. The dependent variable $I(Issue)$ takes a value of one if a firm reports a news release on a CSR activity addressing a social issue mentioned in the heading in the month, and zero otherwise. $Concern[m-k:m]$ is the the monthly index of public concern related to a social issue mentioned in the heading. This value is averaged over the months spanning from month $m-k$ to month m, ($k \in \{3,6,12,24\}$). Firm fixed effects are included in all regressions. t-statistics based on standard errors clustered at the firm level are shown below the coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	I(Environment)					I(Inclusion)			
	(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)
$Concern[m-1:m]$	0.002*** [5.04]				$Concern[m-1:m]$	0.003*** [5.87]			
$Concern[m-3:m]$		0.003*** [4.93]			$Concern[m-3:m]$		0.004*** [6.20]		
$Concern[m-6:m]$			0.003*** [4.97]		$Concern[m-6:m]$			0.005*** [6.32]	
$Concern[m-12:m]$				0.004*** [4.71]	$Concern[m-12:m]$				0.006*** [5.94]
Firm FE	✓	✓	✓	✓	Firm FE	✓	✓	✓	✓
Adjusted R^2	0.1	0.1	0.1	0.1	Adjusted R^2	0.09	0.09	0.09	0.09
Observations	199296	199296	199296	199296	Observations	199296	199296	199296	199296
	I(Education)					I(Poverty)			
	(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)
$Concern[m-1:m]$	0.002*** [3.26]				$Concern[m-1:m]$	0.003*** [4.20]			
$Concern[m-3:m]$		0.003*** [3.33]			$Concern[m-3:m]$		0.003*** [3.94]		
$Concern[m-6:m]$			0.003*** [3.55]		$Concern[m-6:m]$			0.004*** [3.80]	
$Concern[m-12:m]$				0.004*** [3.44]	$Concern[m-12:m]$				0.005*** [4.62]
Firm FE	✓	✓	✓	✓	Firm FE	✓	✓	✓	✓
Adjusted R^2	0.177	0.178	0.178	0.179	Adjusted R^2	0.121	0.121	0.121	0.121
Observations	199296	199296	199296	198427	Observations	199296	199296	199296	198427

Table 9: Strategic Choice of the Method of Addressing Social Issues

This table shows how firms choose the method of addressing environmental and social issues. The sample includes news releases about CSR programs that address four societal issues: the environment, inclusion, education, and poverty within the U.S. *Giving* is an indicator that assumes a value of one if the CSR program in the report is based on corporate giving, and zero otherwise. $I(Env|Inc)$ is an indicator variable that takes on a value of one if the reported CSR program pertains to either environmental concerns or issues related to diversity. $CSR\_Concern(M)$, with $M \in 3, 6$, represents the average level of concern for a social issue addressed by a CSR activity over the most recent M months. t-statistics based on standard errors clustered at the firm level are shown below the coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	Giving			
	(1)	(2)	(3)	(4)
$I(Env|Inc) \times CSR\_Concern(3)$	-0.447***	-0.373***		
	[-5.18]	[-3.99]		
$CSR\_Concern(3)$	0.167***	0.128***		
	[3.80]	[3.05]		
$I(Env|Inc) \times CSR\_Concern(6)$			-0.529***	-0.440***
			[-4.84]	[-3.76]
$CSR\_Concern(6)$			0.183***	0.136***
			[3.69]	[2.88]
$I(Env|Inc)$	0.06	-0.02	0.156	0.06
	[0.54]	[-0.16]	[1.14]	[0.41]
Industry FE	✓		✓	
Firm FE		✓		✓
Adjusted R^2	0.298	0.376	0.299	0.377
Observations	10094	9981	10094	9981

Table 10: Past CSR Activities and Market Reactions to EPS Surprises

This table show how firms choose the method of addressing environmental and social issues. The sample includes all quarterly EPS announcements from 1,430 firms made between 2007 and 2021. The dependent variable represents the four-factor risk-adjusted cumulative abnormal return from Carhart (1997) with an event window of three days. The EPS surprise ($EPSsurprise$) is measured by the actual quarterly EPS minus the median forecast. $I(EPSsurprise < 0)$ is an indicator variable that takes the value one if the EPS surprise is negative, and zero otherwise. $I(CSR\_TwoYear)$ is an indicator variable that assumes a value of one if at least one piece of news on CSR programs was published between the EPS report date and 712 days (equivalent to 356×2 days) preceding the announcement. In Sample A, the median forecast is derived from forecasts made between 2 and 45 days before the earnings announcement. In Sample B, it's sourced from forecasts made between 2 and 15 days prior to the announcement. Four accounting variables are included but are not reported. The four variables are as follows: $size$ is the logarithm of total assets. $cash$ is cash and cash equivalent divided by total assets. ml is market leverage. mb is market-to-book ratio. 'Year×Quarter FE', 'Industry×Year×Quarter FE', and 'Firm FE' represent year-quarter combination fixed effects, industry-year-quarter combination fixed effects, and firm fixed effects, respectively. The industry is defined by the first three digits of the SIC. t-statistics based on standard errors clustered at the firm level are shown below the coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	CAR[-1,+1]					
	Sample A			Sample B		
	(1)	(2)	(3)	(4)	(5)	(6)
$EPSsurprise$ (SUR)	0.668***	0.649***	0.646***	0.659***	0.628***	0.577***
	[6.63]	[6.37]	[6.19]	[5.25]	[4.98]	[4.48]
$I(EPSsurprise < 0)$ (NE)	-0.041***	-0.041***	-0.040***	-0.041***	-0.041***	-0.040***
	[-29.90]	[-30.06]	[-26.16]	[-25.31]	[-25.41]	[-21.04]
SUR*NE	-0.468***	-0.425***	-0.470***	-0.382*	-0.3	-0.183
	[-3.16]	[-2.84]	[-2.84]	[-1.85]	[-1.45]	[-0.78]
$I(CSR\_TwoYear)$	-0.003***	-0.003**	-0.003***	-0.004**	-0.003**	-0.004**
	[-2.62]	[-2.09]	[-2.60]	[-2.44]	[-2.14]	[-2.56]
$I(CSR\_TwoYear)$*SUR	0.622***	0.633***	0.662***	0.567***	0.587***	0.626***
	[3.59]	[3.62]	[3.61]	[2.99]	[3.07]	[3.12]
$I(CSR\_TwoYear)$*NE	0.003*	0.003*	0.006***	0.004*	0.004*	0.006**
	[1.73]	[1.72]	[2.70]	[1.75]	[1.74]	[2.42]
$I(CSR\_TwoYear)$*SUR*NE	-0.705***	-0.705***	-0.804***	-0.611**	-0.629**	-0.836***
	[-2.82]	[-2.80]	[-3.04]	[-2.06]	[-2.11]	[-2.62]
Controls	✓	✓	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓	✓	✓
Year×Quarter FE		✓			✓	
Industry×Year×Quarter FE			✓			✓
Adjusted R^2	0.086	0.089	0.094	0.089	0.093	0.103
Observations	47277	47277	44402	33950	33950	30759

Appendix A. Sample description

In this section, I detail the sample. I begin by selecting a set of qualified firms without survivorship bias. Notably, I use the fact that the 1,000 largest U.S. companies account for over 90% of the U.S. stock-market capitalization. I then choose firms whose end-of-fiscal-year market capitalization (represented as 'prcc' × 'csho' in Compustat files) ranks within the top 1,000 among all U.S. firms for any year between 2006 and 2020. I subsequently exclude utility firms (with SIC codes between 4900 and 4999) and financial firms (with SIC codes between 6000 and 6999). This filtering yields 1502 unique firms. Out of these 1502 qualified firms, I collect press releases for 1430 companies throughout the sample period. Table A1 displays the coverage of the final sample.

Table A1

The Coverage of Sample

The table displays both the number of qualified firms and the number of firms for which press releases are collected. "Qualified firms" refer to a subset of U.S. companies that rank among the top 1,000 firms each year and are neither financial nor utility firms. "Covered firms" denote those companies for which we have gathered press releases. In Panel A, Row (A) indicates the number of qualified firms. Row (B) presents the number of covered firms. In Panel B, Row (A) provides the number of firm-year observations for qualified firms throughout the sample period. Row (B) lists the number of firm-year observations for covered firms. Row (C) in either Panel A or Panel B represents the coverage ratio.

Panel A: The coverage of qualified firms							
Year	2006	2007	2008	2009	2010	2011	2012	2013
(A) Qualified firms	696	716	706	719	718	719	722	730
(B) Covered firms	655	680	672	684	688	689	695	702
(C) Coverage: (B)%(A)	0.941	0.950	0.952	0.951	0.958	0.958	0.963	0.962
Year	2014	2015	2016	2017	2018	2019	2020	Total
(A) Qualified firms	711	693	679	683	703	697	730	1502
(B) Covered firms	687	665	655	660	686	682	717	1430
(C) Coverage: (B)%(A)	0.966	0.960	0.965	0.966	0.976	0.978	0.982	0.952
Panel B: The coverage of all firm-year observations of qualified firms							
Year	2006	2007	2008	2009	2010	2011	2012	2013
(A) Qualified firms	1180	1171	1162	1165	1185	1193	1235	1244
(B) Covered firms	1112	1107	1100	1106	1129	1141	1188	1199
(C) Coverage: (B)%(A)	0.942	0.945	0.947	0.949	0.953	0.956	0.962	0.964
Year	2014	2015	2016	2017	2018	2019	2020	Total
(A) Qualified firms	1235	1201	1166	1132	1086	1050	1013	17418
(B) Covered firms	1195	1164	1131	1100	1058	1025	989	16744
(C) Coverage: (B)%(A)	0.968	0.969	0.970	0.972	0.974	0.976	0.976	0.961

Appendix B. Multi-label classification model

In this section, I describe how I categorize press releases into predetermined topics. After perusing several press releases, I identify and classify nine distinct topics. Specifically, the topics include: (1) earnings/performance, (2) mergers and acquisitions (M&A), (3) corporate social responsibility (CSR), (4) changes in leadership, (5) financing activities that encompass equity issuance, debt issuance, or payment of pre-existing debt, (6) directorship, (7) stock repurchase, (8) dividends, and (9) other news pertinent to the business. To develop a deep learning model for this classification task, I utilize transfer learning in natural language processing (NLP). Transfer learning in NLP allows me to build upon prior knowledge accumulated from a vast corpus to address the specific problem I face. There exist various forms of transfer learning, each depending on the source of knowledge utilized. For this project, I employ the Bidirectional Encoder Representations from Transformers (BERT) model from 2018, introduced by Devlin et al. (2019). BERT is a machine learning technique trained on an extensive corpus sourced from the BooksCorpus (800M words) and English Wikipedia (2,500M words). It's widely recognized for producing accurate word representations. Thus, crafting a transfer learning model using a pre-trained BERT model enables me to leverage knowledge from this expansive corpus. To tailor a deep learning model with transfer learning for my specific task, I undertake the following steps.

STEP 1. Building examples

The deep learning model I create is a supervised machine learning model, so I require a set of already labeled examples. I initially select 10,000 random examples and then invest more effort to identify additional CSR-related news. This ensures my model encounters as many CSR articles as possible. The final count of examples reaches 17,824. After removing duplicates, I retain 16,183 unique examples. I then divide these examples into training and test sets, allocating 90% for training and 10% for testing. Additionally, to adjust hyper-parameters, I designate 10% of the training examples as a validation set.

STEP 2. Preprocessing

First, I preprocess titles by removing irrelevant symbols and punctuation marks. Next, I use SpaCy's named entity recognition, trained on the OntoNotes 5 corpus, to replace any identifiable named entities with predetermined tags. For instance, I replace 'Bill Gates' with 'PERSON'. I then tokenize the titles using the BERT uncased tokenizer. Finally, BERT requires specific tokens that characterize documents, namely '[CLS]' and '[SEP]', which I add accordingly.

STEP 3. Generating inputs for the model

I input the tokens prepared in STEP 2 into a pre-trained BERT model to obtain word embeddings. Specifically, I limit the number of tokens to thirty-two and feed them into a version of the BERT model that produces a 768-dimensional embedding for each token. Therefore, an input to my deep learning model is a tensor with a shape of 32 x 768.

STEP 4. Training the model.

I input the embeddings into 9 different Long Short-Term Memory (LSTM) layers with a timestamp of 32. Then, I feed the outputs of the LSTM layers into a combination of dense layers with 'selu' activation functions. All information aggregates in the final dense layer (the output layer) where I obtain nine outputs from sigmoid activation functions. Specifically, I get nine numbers ranging between 0 and 1, which indicate the

probability of a title belonging to a particular class. The details of the model are illustrated in Figure B. To compute performance metrics, if a score is greater than 0.5, I classify the title into the respective category. By the model's design, one title can have multiple labels. Of the various metrics evaluating the performance of a classification model, my model achieves 98.3% binary accuracy, 93.7% precision, and 91.3% recall on the test set when applying a threshold of 0.5.

STEP 5. Get predictions on all press releases.

From the model, I receive nine probability-based predictions for each title input. The choice of threshold for classification is at the user's discretion. To maximize the identification of as many CSR news releases as possible, I aim to enhance the model's 'recall' metric. As a result, I set a threshold of 0.2; any input above this threshold receives a label. The binary accuracy, recall, and precision of the model evaluated on the test set appear in Table B2. It's important to note that when I apply a threshold of 0.2, the recall of the CSR class exceeds 97% on the test set. This means I overlook approximately three percent of all CSR news releases when employing the multi-label model.

STEP 6. Get rid of non-CSR related news.

I manually review the articles that the multi-label classification model identifies as CSR news and retain only those that genuinely pertain to CSR. The final results are displayed in Table B3.

Table B1. The count of examples by class

Class	Count
Repurchase	658
Financing	767
Directorship	857
Leadership	964
Dividend	965
M&A	1107
Earnings/Performance	2256
CSR	3522
Other Business	5641
Total	16737

Table B2. Model performance on the test set

	Threshold = 0.5				Threshold = 0.2			
	Accuracy	Recall	Precision	f1 score	Accuracy	Recall	Precision	f1 score
CSR	0.964	0.924	0.908	0.915	0.963	0.971	0.868	0.917
Business	0.939	0.897	0.916	0.906	0.922	0.940	0.842	0.888
Performance	0.985	0.929	0.966	0.947	0.983	0.946	0.938	0.942
M&A	0.987	0.882	0.938	0.909	0.985	0.908	0.885	0.896
Dividend	0.998	0.990	0.981	0.986	0.996	0.990	0.954	0.972
Financing	0.988	0.790	0.970	0.871	0.985	0.840	0.850	0.845
Repurchase	0.998	0.971	0.971	0.971	0.996	1.000	0.919	0.958
Leadership	0.993	0.942	0.942	0.942	0.988	0.971	0.855	0.909
Directorship	0.994	0.903	0.988	0.944	0.993	0.946	0.926	0.936

Table B3. The number of CSR news releases

This table displays the frequency of CSR-related press releases and the firms issuing the news. CSR activity news refers to CSR updates that are not external recognitions, such as awards or inclusion in an index. Columns (4) to (10) present the summary statistics of the number of news releases concerning CSR activities of a firm.

	Frequency		Annual CSR activities of a firm						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
year	CSR Activity News	CSR Firms	Mean	Std	Min	25th Pctl	Median	75th Pctl	Max
2006	689	168	4.10	9.05	1	1	2	3	86
2007	983	199	4.94	14.68	1	1	2	4	148
2008	951	224	4.25	9.64	1	1	2	4	102
2009	1109	246	4.51	10.75	1	1	2	4	138
2010	1407	294	4.79	12.17	1	1	2	4	174
2011	1584	331	4.79	10.84	1	1	2	4	156
2012	1629	355	4.59	8.40	1	1	2	5	101
2013	1452	351	4.14	6.65	1	1	2	4	63
2014	1446	346	4.18	8.26	1	1	2	4	106
2015	1413	356	3.97	6.12	1	1	2	4	58
2016	1527	382	4.00	6.33	1	1	2	4	61
2017	1788	416	4.30	8.64	1	1	2	5	145
2018	1784	427	4.18	8.00	1	1	2	4	114
2019	1818	475	3.83	7.26	1	1	2	4	122
2020	2101	552	3.81	4.98	1	1	2	4	53

Figure B The architecture of the multi-label classification model.

This figure illustrates the deep learning model architecture designed to classify press releases into predefined categories. ❶ The title of a news release is preprocessed before being fed into the model. ❷ A layer of the BERT uncased model converts each token of a sentence into a 768-element vector. The weights of the BERT layer remain untrained. ❸ Each of the nine LSTM layers processes a series of vectors, each representing a token of a sentence, and produces a 32-element vector representing the entire sentence. ❹ Each of the nine linear dense layers, with softmax activation functions, takes a 32-element vector and yields another 32-element vector. All these layers have a 50% dropout rate. ❺ Each of the nine linear dense layers processes a 32-element vector and generates a 9-element vector. ❻ A concatenation layer combines these to produce an 81-element vector. ❼ Each of the three linear dense layers, equipped with selu activation functions, processes an 81-element vector to produce a 9-element vector. These layers have a 0.5 dropout rate. ❽ Three 9-element vectors are concatenated and input to the final output layer, which produces nine probabilities corresponding to the likelihood of a news release belonging to one of the nine categories. The model utilizes the Adam optimizer with an L1 regularizer of 0.0000001. Early stopping with a patience of 4 is implemented, and the loss function is binary cross-entropy.
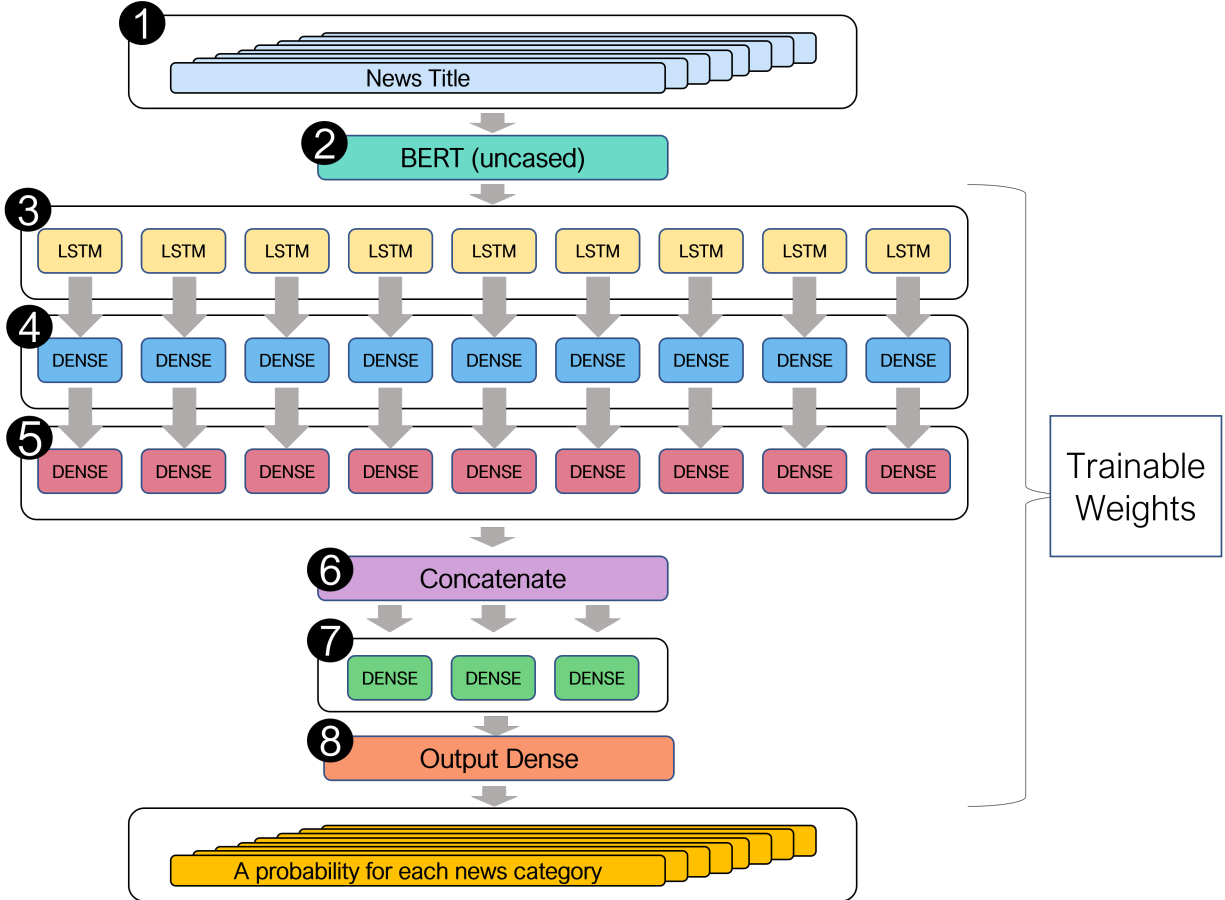
ONLINE APPENDIX

Corporate Social Responsibility Programs and Shareholder Value

OA.1: Public Concern and Market Reaction to CSR News - Seven-Day Window

This table presents the impact of public concern regarding a social issue on market reactions to CSR News. The sample includes press releases about CSR activities addressing four societal issues (environment, inclusion, education, poverty in the U.S.). The dependent variable $Return[-3, +3]$ represents the cumulative returns over a seven-day event window, with the event being a release of news about a CSR program. The dependent variable $CAR[-3, +3]$ is the Carhart (1997) four-factor adjusted cumulative abnormal returns over a seven-day event window. $CSR\_Concern(M)$, with $M \in 3, 6$, represents the average level of concern for a social issue addressed by a CSR activity over the most recent M months. All regressions include fixed effects for the four societal issues. 'Firm FE' and 'Industry FE' represent firm and industry fixed effects, respectively. The industry is categorized by the first three digits of the SIC. t-statistics based on standard errors clustered at the firm level are shown below the coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	Return[-3, +3]			CAR[-3,+3]		
	(1)	(2)	(3)	(4)	(5)	(6)
$CSR\_Concern(3)$	0.016***	0.016***	0.015***	0.006***	0.006***	0.005**
	[5.67]	[5.55]	[5.03]	[2.84]	[2.75]	[2.11]
Issue FE	✓	✓	✓	✓	✓	✓
Industry FE		✓			✓	
Firm FE			✓			✓
Adjusted R^2	0.004	0.017	0.035	0.001	0.009	0.025
N	10112	10063	9947	10112	10063	9947
	Return[-3, +3]			CAR[-3,+3]		
	(1)	(2)	(3)	(4)	(5)	(6)
$CSR\_Concern(6)$	0.017***	0.017***	0.016***	0.006***	0.006**	0.005*
	[5.84]	[5.65]	[5.30]	[2.63]	[2.48]	[1.93]
Issue FE	✓	✓	✓	✓	✓	✓
Industry FE		✓			✓	
Firm FE			✓			✓
Adjusted R^2	0.004	0.016	0.035	0.001	0.009	0.025
N	10112	10063	9947	10112	10063	9947

Table OA.2: Forecasts of Public Concern and Publication of News on CSR Activities

This table shows how firms respond to forecasts of public concern through CSR activities. The dependent variable $I(CSR : SI)$ in column (1) to column (4) is an indicator variable that takes one if a firm issues a news release on a CSR activity addressing a social issue (SI), (SI $\in$ {'All', 'Environment', 'Inclusion', 'Education', 'Poverty'}), in the next year ($t+1$), zero otherwise. The dependent variable $log(1 + \#CSR : SI)$ in column (5) to column (8) is the log of one plus the number of news releases on a CSR activity addressing a social issue (SI) in the next year ($t+1$). The variable $Forecasts : SI$ (t+1) is a forecast of public concern concerning a social issue (SI), which is the log of one plus the average of predicted monthly index of public concern in a year $t+1$. $size$ is the logarithm of total assets. $cash$ is cash and cash equivalent divided by total assets. ml is market leverage. mb is market-to-book ratio. Firm fixed effects are included in all regressions. t-statistics based on standard errors clustered at the firm level are shown below coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	Dep. Var. $I(CSR : SI)_{t+1}$				Dep. Var. $log(1 + \#CSR : SI)_{t+1}$			
Social Issue (SI):	Environment	Inclusion	Education	Poverty	Environment	Inclusion	Education	Poverty
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Forecasts : SI_{t+1}$	-0.0108	0.0234*	0.0180*	0.0137	-0.0057	0.011	0.0221**	0.0214*
	(-0.8858)	(1.7921)	(1.7698)	(1.3198)	(-0.5186)	(0.8987)	(2.0745)	(1.9075)
$size_t$	0.0377***	0.0321***	0.0220***	0.0357***	0.0341***	0.0282***	0.0203***	0.0391***
	(6.8071)	(6.7526)	(4.9844)	(6.9525)	(6.0787)	(6.3976)	(3.7878)	(6.5341)
$cash_t$	0.03	0.0184	0.0022	-0.0061	0.0248	0.0163	-0.0175	-0.0146
	(1.2140)	(0.9927)	(0.0972)	(-0.2375)	(1.0514)	(0.9957)	(-0.6601)	(-0.6046)
ml_t	0.0697***	0.0078	-0.0042	0.0134	0.0672***	0.0158	-0.0248	-0.0197
	(2.8332)	(0.4365)	(-0.2295)	(0.5214)	(2.7934)	(0.8551)	(-1.1795)	(-0.7082)
mb_t	0.0045**	-0.0001	-0.0008	0.0025	0.0037**	0	-0.0015	0.0019
	(2.0508)	(-0.0833)	(-0.4772)	(1.1303)	(1.9743)	(-0.0364)	(-0.8408)	(0.7579)
Adjusted R^2	0.364	0.278	0.437	0.411	0.423	0.361	0.576	0.496
Observations	14060	14060	14060	14060	14060	14060	14060	14060

Table OA.3: Timing of EPS reports and CSR news

This table shows whether the timing of EPS reports and CSR news correlate based on the content of EPS reports. The dependent variable is $I(CSR)$, which is an indicator variable that takes one if a firm reports a CSR activity in the specified periods in the column heading (30 days before the earnings announcement or 30 days after the earnings announcement), zero otherwise. $EPSsurprise$ is EPS surprises announced in the past three months. EPS surprises are measured by actual quarterly EPS minus the median forecast where the median forecast is found from forecasts made between 2 and 15 days prior to the earnings announcement if available. Otherwise, the median forecast is found from forecasts made between 2 and 30 days prior to the earnings announcement. The measure is scaled by the share price of the firm, which is an observation available in a day closest to the EPS report day between five days prior to the announcement and three days prior to the event, inclusively. $I(EPSsurprise < 0)$ is an indicator variable that takes one if $EPSsurprise$ is negative, zero otherwise. Size, market-to-book ratio, market leverage, and cash holdings based on information in a year t are included in all regressions, but their coefficients are not reported. Firm and year fixed effects are included in all regressions. t-statistics based on standard errors clustered at the firm level are shown below coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	30 days before EPS news				30 days after EPS news			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$EPSsurprise$	0.0062	0.0131	0.009	-0.0036	-0.0731	-0.0537	-0.0972	-0.0995
	[0.0709]	[0.1515]	[0.0935]	[-0.0377]	[-0.7656]	[-0.5619]	[-0.9633]	[-0.9898]
$I(EPSsurprise < 0)$			0.0004	-0.0009			-0.0008	-0.0023
			[0.1348]	[-0.3112]			[-0.2534]	[-0.7571]
size	0.0168***	0.0200***	0.0159***	0.0198***	0.0168***	0.0212***	0.0160***	0.0214***
	[5.4296]	[4.6457]	[5.0329]	[4.5518]	[5.3575]	[4.2795]	[5.0216]	[4.3298]
cash	-0.0570***	-0.0349**	-0.0613***	-0.0369**	-0.0415**	-0.0163	-0.0479**	-0.0201
	[-3.2742]	[-2.0558]	[-3.4544]	[-2.1351]	[-2.2912]	[-0.9352]	[-2.5443]	[-1.1066]
ml	-0.0165	-0.0059	-0.0177	-0.006	-0.0118	0.0063	-0.0124	0.0078
	[-1.0650]	[-0.3618]	[-1.1249]	[-0.3655]	[-0.7248]	[0.3732]	[-0.7743]	[0.4644]
mb	-0.0002	0.0032**	-0.0003	0.0031**	0.0015	0.0048***	0.0011	0.0044***
	[-0.1462]	[2.4249]	[-0.2672]	[2.2689]	[1.1072]	[3.2284]	[0.8316]	[3.0271]
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE		✓		✓		✓		✓
Adjusted R^2	0.234	0.245	0.228	0.239	0.231	0.242	0.226	0.237
Observations	43925	43925	41374	41374	43925	43925	41374	41374

Table OA.4: Financial Resources and Market Reactions to CSR News

This table shows how companies' financial resources shape the way the market reacts to CSR news. The dependent variable is the Carhart (1997) four-factor risk adjusted cumulative abnormal returns in an event window of three days. HHI is the Herfindahl-Hirschman index measured using annual sales and industry defined as the first 3 digits of SIC. $KZconst$ is an indicator variable that takes one if a firm falls into the top bin created based on terciles when firms are sorted by Kaplan and Zingales (1997) financial constraint index each year, zero otherwise. $size$ is the logarithm of total assets. $cash$ is cash and cash equivalent divided by total assets. ml is market leverage. mb is market-to-book ratio. All control variables are measured using the information in a fiscal year before the fiscal year in which a CSR article is released. Firm and year fixed effects are included in all regressions. t-statistics based on standard errors clustered at the firm level are shown below coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	(1)	(2)	(3)	(4)	(5)	(6)
$HHI \times size$	-0.0055*				-0.0068**	
	(-1.8592)				(-2.3054)	
$HHI \times cash$		-0.0740***			-0.0769***	
		(-3.2171)			(-3.5266)	
$HHI \times ml$			0.0250**		0.0188*	
			(2.0578)		(1.6517)	
$HHI \times mb$				-0.0056***	-0.0042***	
				(-5.0722)	(-3.5041)	
$HHI \times KZconst$						0.0082*
						(1.7988)
$KZconst$						-0.0034**
						(-2.2947)
HHI	0.0655**	0.0197***	0.0044	0.0229***	0.0838***	0.0103
	(2.2026)	(2.7235)	(0.5975)	(3.1948)	(3.0661)	(1.4466)
$size$	0.0018	0.0004	0.0004	0.0006	0.0021	0.0009
	(1.3637)	(0.4018)	(0.3648)	(0.5422)	(1.5694)	(0.7391)
$cash$	-0.0038	0.0079	-0.0045	-0.0045	0.0080	-0.0045
	(-0.7001)	(1.0616)	(-0.8381)	(-0.8280)	(1.0736)	(-0.7733)
ml	0.0049	0.0045	-0.0009	0.0041	0.0004	0.0046
	(1.2393)	(1.1205)	(-0.1835)	(1.0500)	(0.0809)	(1.0876)
mb	0.0002	0.0001	0.0001	0.0012**	0.0010*	0.0003
	(0.4446)	(0.2865)	(0.2797)	(2.2688)	(1.8708)	(0.6221)
$Constant$	-0.0215	-0.0095	-0.0059	-0.0116	-0.0246*	-0.0121
	(-1.6415)	(-0.8649)	(-0.5185)	(-1.0268)	(-1.8628)	(-0.9783)
Adjusted R^2	0.024	0.025	0.024	0.025	0.026	0.025
Observations	19093	19093	19093	19093	19093	17653

Table OA.5: The Increasing Engagement of CSR Effort

This table shows how firms' engagement with one type of CSR relates to other types of CSR subsequently. In Panel A, the sample contains firm-year observations. The dependent variable is $I(OtherCSR\{-SI\})$, which is an indicator variable that takes one if a firm reports a CSR activity not associated with a specific social issue (SI) (SI $\in$ {'Environment', 'Inclusion', 'Education', 'Poverty'}) next year ($t+1$), zero otherwise. The variable $I(IncreaseCSR : SI)$ is one if a firm increases the number of news releases addressing a specific social issue in a year t relative to the previous year, zero otherwise. The variable $I(DecreaseCSR : SI)$ is one if a firm decreases the number of news releases addressing a social issue in a year t relative to the previous year, zero otherwise. The variable $I(CSR : SI)_t$ is one if a firm issued a CSR new release addressing a social issue in a year t. Size, market-to-book ratio, market leverage, and cash holdings based on information in a year t are included in all regressions, but their coefficients are not reported. In Panel B, the sample contains firm-year observations. $log(1 + \#OtherCSR)$ is the log of one plus the number of other CSR programs implemented in the last year, not associated with a social issue specified in the column heading. $I(OnlyOtherCSR)$ is an indicator variable that takes one if a firm addressed only other social issues but a social issue specified in the column heading in the last year, zero otherwise. In Panel C, the sample includes firm-month observations. The dependent variable is, $I(CSR : SI)[m]$, which takes one if a firm issues a news release on a CSR activity addressing a social issue (SI) in a month m, zero otherwise. $log(1 + \#OtherCSR)[m]$ is log of one plus the number of CSR programs implemented in the last 18 months, not associated with a social issue specified in the column heading. $I(OnlyOtherCSR)[m]$ is an indicator variable that takes one if a firm addressed only other social issues but a social issue specified in the column heading in the last 18 months, zero otherwise. $I(PastSameCSR)$ is an indicator variable that takes one if a firm implemented CSR programs associated with a social issue specified in the last 18 months, zero otherwise. t-statistics based on standard errors clustered at the firm level are shown below coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

Panel A				
Dep. Var. $I(OtherCSR\{-SI\})_{t+1}$				
Social Issue (SI)	Environment	Inclusion	Education	Poverty
	(1)	(2)	(3)	(4)
$I(IncreaseCSR : SI)_t$	0.0832***	0.0919***	0.0810***	0.0981***
	(4.8027)	(3.9451)	(4.1526)	(6.0061)
$I(DecreaseCSR : SI)_t$	-0.0179	0.004	0.0178	-0.0006
	(-0.7478)	(0.1588)	(0.6428)	(-0.0265)
$I(CSR : SI)_{t-1}$	0.0902***	0.04	0.0437	0.0980***
	(3.6397)	(1.5386)	(1.5188)	(4.6979)
Firm FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Adjusted R^2	0.487	0.491	0.478	0.479
Observations	13041	13041	13041	13041

59

Table OA.5-*Continued*

	Panel B							
	Dep. Var. $I(CSR:SI)_{t+1}$							
Social Issue (SI)	Environment		Inclusion		Education		Philanthropy	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$log(1 + \#OtherCSR)_t$	0.0615***		0.0446***		0.0584***		0.0920***	
	[6.4448]		[5.6111]		[6.3171]		[8.9575]	
$I(OnlyOtherCSR_t)$		0.0636***		0.0409***		0.0551***		0.0865***
		[8.6709]		[7.8487]		[7.8626]		[9.8334]
$I(CSR:SI)_t$		0.4487***		0.4145***		0.5042***		0.4629***
		[20.6716]		[14.6076]		[22.5448]		[25.1322]
$size_t$	0.0054	0.0283***	0.0087*	0.0202***	0.0124**	0.0257***	0.0162**	0.0220***
	[0.7429]	[9.5907]	[1.6732]	[8.6311]	[2.1904]	[7.9364]	[2.5252]	[7.4744]
$cash_t$	0.0436*	0.0367**	0.0309*	0.0411***	0.0043	0.0303**	-0.0088	0.0280*
	[1.7969]	[2.5760]	[1.6961]	[3.5543]	[0.1978]	[1.9952]	[-0.3507]	[1.7184]
ml_t	0.0213	-0.0044	-0.0214	-0.0249*	-0.0098	-0.0428***	-0.0001	0.0078
	[0.8497]	[-0.2793]	[-1.1963]	[-1.7508]	[-0.5245]	[-2.8927]	[-0.0029]	[0.4007]
mb_t	-0.0002	0.0031**	-0.0041***	-0.0002	-0.0014	0.0013	0.0009	0.0029
	[-0.0862]	[2.3171]	[-2.7741]	[-0.1893]	[-0.7821]	[0.9755]	[0.3730]	[1.5771]
Firm FE	✓		✓		✓		✓	
Industry FE		✓		✓		✓		✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Adjusted R^2	0.379	0.312	0.292	0.238	0.445	0.36	0.424	0.344
Observations	14071	14135	14071	14135	14071	14135	14071	14135

Table OA.5-*Continued*

	Panel C							
	Dep. Var. $I(CSR:SI)[m]_t$							
	Environment		Inclusion		Education		Poverty	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$log(1+\#OtherCSR)$	0.0115***		0.0083***		0.0161***		0.0224***	
	[6.2313]		[5.8481]		[5.3476]		[7.6162]	
$I(OnlyOtherCSR)$		0.0020**		0.0019***		0.0033***		0.0036***
		[2.2250]		[3.2038]		[3.4310]		[3.1335]
$I(PastSameCSR)$		0.0201***		0.0172***		0.0306***		0.0299***
		[7.6655]		[6.7320]		[6.7764]		[8.1954]
$size_{t-1}$	0.0009	0.0016	0.0007	0.001	0.0038**	0.0043**	0.0044***	0.0053***
	[0.7179]	[1.2849]	[0.8591]	[1.3177]	[2.1557]	[2.3684]	[2.8076]	[3.2831]
$cash_{t-1}$	0.0048	0.0035	0.0042*	0.0033	-0.0037	-0.0052	-0.0037	-0.0048
	[1.4404]	[1.1158]	[1.6511]	[1.3901]	[-0.7482]	[-1.0677]	[-0.9555]	[-1.3255]
ml_{t-1}	0.0061	0.0051	-0.0002	-0.0006	-0.003	-0.0037	-0.0052	-0.0055
	[1.5107]	[1.3069]	[-0.0524]	[-0.1871]	[-0.7093]	[-0.9165]	[-1.1212]	[-1.2309]
mb_{t-1}	0.0001	0.0001	-0.0006**	-0.0005**	0.0004	0.0004	0.0002	0.0002
	[0.1933]	[0.3454]	[-2.4560]	[-2.3398]	[1.0202]	[1.2652]	[0.4627]	[0.5104]
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Adjusted R^2	0.073	0.072	0.071	0.071	0.173	0.172	0.127	0.125
Observations	150191	150191	150191	150191	150191	150191	150191	150191

Table OA.6: Persistence of CSR Policy

This table shows that the current year's CSR implementations predict subsequent years' CSR activities. Panel A shows the within-firm persistence of CSR activities, reporting the results of Arellano and Bond (1991) dynamic panel regressions. The dependent variable $I(CSR:SI)$ is an indicator variable that takes one if a firm reports at least one CSR activity addressing a social issue (SI), (SI $\in$ {'All', 'Environment', 'Inclusion', 'Education', 'Poverty'}) in a given year, zero otherwise. $L.I(CSR:SI)$ is a one-year lagged value of the dependent variable. All other independent variables are predetermined. $size$ is the logarithm of total assets. $cash$ is cash and cash equivalent divided by total assets. ml is market leverage. mb is market-to-book ratio. Year-fixed effects and firm-fixed effects are included in all regressions. Panel B presents the regression results including industry-year fixed effects. The dependent variable $I(CSR)_{t+k}$ is an indicator variable that takes one if a firm reports at least one CSR activity k year(s) after, and zero otherwise. Panel C shows results generated by the same model as in Panel B, but CSR activities are broken down into different types. $I(CSR:SI)_{t+k}$ is an indicator variable that takes one if a firm reports at least one CSR activity addressing a social issue (SI) k year(s) after, and zero otherwise. All regressions include size, cash, market leverage, and market-to-book ratio, but their coefficients are not reported. t-statistics based on standard errors clustered at the firm level are shown below the coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	Panel A: Within-Firm Persistence				
Social Issue (SI)	All	Environment	Inclusion	Education	Poverty
	(1)	(2)	(3)	(4)	(5)
$L.I(CSR:SI)$	0.1684***	0.1299***	0.1711***	0.2046***	0.1676***
	[8.5429]	[4.6174]	[5.1467]	[6.7066]	[6.9220]
$size$	0.0108	-0.0355**	-0.018	0.0308**	0.0077
	[0.5019]	[-2.1284]	[-1.5469]	[2.5021]	[0.5004]
$cash$	0.097	0.0563	-0.0277	0.0261	0.0454
	[1.3459]	[1.2601]	[-0.7452]	[0.7134]	[0.9045]
ml	-0.0745	0.1150**	0.0391	-0.0341	-0.0686
	[-1.1438]	[2.3360]	[1.0056]	[-0.8727]	[-1.3124]
mb	-0.0087	-0.0135***	-0.0065*	-0.0009	-0.0013
	[-1.4770]	[-3.4691]	[-1.9569]	[-0.2871]	[-0.3385]
$Constant$	0.1032	0.3373**	0.1702*	-0.1807*	0.0133
	[0.6009]	[2.5036]	[1.8043]	[-1.8207]	[0.1061]
Wald χ^2	420.881	162.57	144.968	96.302	128.232
Observations	11694	11694	11694	11694	11694

Table OA.6-*Continued*

	Panel B: Cross-sectional explanatory power of current year's CSR				
Dep. Var.	$I(CSR)_{t+1}$	$I(CSR)_{t+2}$	$I(CSR)_{t+3}$	$I(CSR)_{t+4}$	$I(CSR)_{t+5}$
	(1)	(2)	(3)	(4)	(5)
$I(CSR)_t$	0.5105***	0.4589***	0.4094***	0.3714***	0.3385***
	[35.8863]	[30.2291]	[23.8713]	[19.8866]	[16.4939]
size	0.0563***	0.0631***	0.0702***	0.0760***	0.0793***
	[14.2609]	[13.9354]	[13.5027]	[12.9730]	[12.2260]
cash	-0.0015	-0.0219	-0.0431	-0.0479	0.0082
	[-0.0565]	[-0.6629]	[-1.1011]	[-1.0346]	[0.1545]
ml	-0.0149	-0.0158	-0.0222	-0.0166	0.0079
	[-0.5773]	[-0.5079]	[-0.6029]	[-0.4042]	[0.1689]
mb	0.0049	0.0071*	0.0108**	0.0096*	0.0075
	[1.6276]	[1.7593]	[2.4109]	[1.9345]	[1.2826]
Adjusted R^2	0.409	0.365	0.328	0.305	0.282
Observations	13548	12210	10934	9711	8541
	Panel C: Cross-sectional explanatory power of current year's CSR by social issue (SI)				
Dep. Var.	$I(CSR:SI)_{t+1}$	$I(CSR:SI)_{t+2}$	$I(CSR:SI)_{t+3}$	$I(CSR:SI)_{t+4}$	$I(CSR:SI)_{t+5}$
SI = Environment	(1)	(2)	(3)	(4)	(5)
$I(CSR:SI)_t$	0.4577***	0.4220***	0.3832***	0.3312***	0.3198***
	[19.3824]	[16.2770]	[14.1071]	[11.1269]	[10.4347]
Adjusted R^2	0.33	0.302	0.281	0.256	0.252
SI = Inclusion	(6)	(7)	(8)	(9)	(10)
$I(CSR:SI)_t$	0.4262***	0.3520***	0.3148***	0.3069***	0.2785***
	[13.4498]	[9.4600]	[7.4549]	[7.1155]	[6.0623]
Adjusted R^2	0.242	0.187	0.162	0.159	0.152
SI = Education	(11)	(12)	(13)	(14)	(15)
$I(CSR:SI)_t$	0.5218***	0.4646***	0.4256***	0.4001***	0.3753***
	[21.6913]	[17.2429]	[14.2939]	[12.4298]	[10.7536]
Adjusted R^2	0.349	0.293	0.258	0.232	0.209
SI = Poverty	(16)	(17)	(18)	(19)	(20)
$I(CSR:SI)_t$	0.4744***	0.4162***	0.3655***	0.3244***	0.3081***
	[24.3377]	[19.8993]	[15.8292]	[12.5945]	[11.6564]
Adjusted R^2	0.35	0.306	0.272	0.251	0.246
Observations	13548	12210	10934	9711	8541

Table OA.7: Past Profitability and the Implementation of CSR Programs

This table shows the effect of past profitability on the propensity of implementing CSR programs. The sample contains firm-year observations in a period from 2006 to 2020. The dependent variable $I(CSR)_{t+1}$ is an indicator that takes one if a firm reports a CSR program in a year $t+1$, zero otherwise. The dependent variable $I(ENV)_{t+1}$ is an indicator that takes one if a firm reports a CSR program addressing environmental issues in a year $t+1$, zero otherwise. The dependent variable $I(INC)_{t+1}$ is an indicator that takes one if a firm reports a CSR program dealing with inclusion-related issues in a year $t+1$, zero otherwise. The dependent variable $I(EDU)_{t+1}$ is an indicator that takes one if a firm reports a CSR program addressing education in a year $t+1$, zero otherwise. The dependent variable $I(Pov)_{t+1}$ is an indicator that takes one if a firm reports a CSR program tackling poverty in a year $t+1$, zero otherwise. Avg_roa_2y is the average return on assets (ROA) in past two years. Avg_roa_3y is the average ROA in past three years. $size$ is the logarithm of total assets. $cash$ is cash and cash equivalent divided by total assets. ml is market leverage. mb is market-to-book ratio. Fixed effects with respect to the four types of societal issues are included in all regressions. All regressions include firm- and year-fixed effects. t-statistics based on standard errors clustered at the firm level are shown below coefficient estimates. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dep. Var.	$I(CSR)_{t+1}$	$I(ENV)_{t+1}$	$I(INC)_{t+1}$	$I(EDU)_{t+1}$	$I(POV)_{t+1}$	$I(CSR)_{t+1}$	$I(ENV)_{t+1}$	$I(INC)_{t+1}$	$I(EDU)_{t+1}$	$I(POV)_{t+1}$
$Avg\_roa\_3y_t$	-0.1216*	-0.0287	-0.0189	0.0217	0.0048					
	[-1.7906]	[-0.6932]	[-0.6795]	[0.6393]	[0.1181]					
$Avg\_roa\_2y_t$						-0.064	-0.0122	-0.0188	0.0249	0.0169
						[-1.1970]	[-0.3830]	[-0.8659]	[0.9073]	[0.5112]
$size_t$	0.0459***	0.0077	0.0096*	0.0132**	0.0192***	0.0429***	0.0062	0.0092*	0.0125**	0.0182**
	[4.0137]	[1.0085]	[1.6936]	[2.1068]	[2.6323]	[3.8665]	[0.8511]	[1.6716]	[2.1097]	[2.5722]
$cash_t$	-0.0486	0.0312	0.0215	-0.0074	-0.0195	-0.0352	0.0352	0.0242	-0.0046	-0.0147
	[-1.0508]	[1.2007]	[1.1104]	[-0.3166]	[-0.7319]	[-0.7827]	[1.4123]	[1.2929]	[-0.2055]	[-0.5705]
ml_t	-0.0492	0.0203	-0.0245	-0.007	0.0111	-0.0469	0.0193	-0.0238	-0.0059	0.0121
	[-1.3076]	[0.7795]	[-1.3045]	[-0.3425]	[0.4156]	[-1.2619]	[0.7626]	[-1.2832]	[-0.2936]	[0.4587]
mb_t	0.0029	0.0006	-0.0040**	-0.0015	0.0003	0.0023	-0.0003	-0.0038**	-0.0014	0.0011
	[0.6910]	[0.2399]	[-2.4361]	[-0.7243]	[0.1170]	[0.5751]	[-0.1621]	[-2.4724]	[-0.7456]	[0.4929]
Adjusted R^2	0.486	0.377	0.29	0.44	0.417	0.485	0.373	0.287	0.439	0.414
Observations	13601	13601	13601	13601	13601	13972	13972	13972	13972	13972

OA.8. The List of Representative Articles

Social Issue	Title	News date
Environment	Getting serious about plastic	2017-11-07
Environment	The tragic reason seabirds keep mistaking ocean plastic for food	2016-11-10
Environment	Recycling needs to be everyone's priority	2016-09-20
Environment	Air Pollution Can Be Deadly for Seniors	2017-12-29
Environment	OZONE, POLLUTION LEVELS HEADING HIGHER TODAY	2005-08-02
Environment	Recycling isn't enough – the world's plastic pollution crisis is only getting worse	2020-09-29
Environment	Plastic Pollution That Creates Global Concern	2020-02-10
Environment	Sustainability groups discuss need for more involvement to reach zero waste	2019-04-23
Environment	The Eco-Conscious Pay to Ease Guilt	2006-12-10
Environment	The Fracker's Guide to a Greener World	2012-11-12
Environment	Global Warming and Mt. Kilimanjaro	2009-12-07
Environment	Carbon Caps Are the Best Policy	2009-03-24
Environment	Pollution From Ozone Is a Lot More Harmful To Us Than It Looks	1998-06-22
Environment	Hot Air	1997-06-27
Environment	Devasted by drought	2012-09-25
Environment	Imperfect 'cap-and-trade' is best option to fight warming	2009-11-17
Environment	Prince Charles wages a 'green' campaign online	2009-05-06
Environment	Meat and the Planet	2006-12-27
Environment	Why I'm Giving $1 Billion for the Planet	2018-11-01
Environment	An Ounce of Science Versus a Ton of Cure	2018-03-13
Environment	Shed a Tear for the Reefs	2017-03-19
Environment	World economy, carbon free by 2050	2017-03-24
Environment	Deadly Combination; Humans and Climate Change Go Way Back'	2016-06-21
Environment	Teaching the Truth About Climate Change	2015-10-11
Environment	The G.O.P. Can't Ignore Climate Change	2014-05-07
Environment	Life After Land	2011-07-19
Environment	Colorless Green Ideas	2007-02-23
Environment	Blinding Ourselves in Space	2007-01-21
Environment	Climate Change Gets Real For Americans	2012-12-26
Environment	A year of extreme weather, and no reprieve in sight	2012-12-26
Environment	Americans waste 150,000 tons of food each day – equal to a pound per person	2018-04-18
Environment	Your Recycling Gets Recycled, Right? Maybe, or Maybe Not	2018-05-29
Environment	More than 8.3 billion tons of plastics made: Most has now been discarded	2017-07-19
Environment	World's Oceans Clogged by Millions of Tons of Plastic Trash	2015-02-12
Environment	New era of 'super fires' as climate change triggers hotter, drier weather	2016-05-11
Environment	Here's What We Know about Wildfires and Climate Change	2017-10-13
Environment	Extreme heat and wildfires made worse by climate change, say scientists	2018-07-28
Environment	Have We Passed the Acid Test?	2018-05-02
Environment	Global warming: Improve economic models of climate change	2014-04-04
Environment	We're almost out of time: The alarming IPCC climate report and what to do next	2018-10-16
Environment	Climate change made Australia's devastating fire season 30% more likely	2020-03-04
Environment	Climate change made European heatwave up to 3°C hotter	2019-08-02
Environment	Droughts, heatwaves and floods: How to tell when climate change is to blame	2018-07-30
Environment	Extreme weather explicitly blamed on humans for the first time	2017-12-19
Environment	Global warming: Shareholders must vote for climate-change mitigation	2016-02-10
Environment	Legal threat exposes gaps in climate-change planning	2017-08-31
Environment	Pinning extreme weather on climate change is now routine and reliable science	2018-07-30
Environment	Climatologists to physicists: your planet needs you	2015-04-07
Environment	Waste Crisis: Americans Create 3x More Waste Than Global Average	2019-07-03
Environment	Study: Air pollution causes 200,000 early deaths each year in the U.S.	2013-08-29

Social Issue	Title	News date
Inclusion	Education gap threatens students' economic future	2002-12-18
Inclusion	Racial education gap debated ; Speakers call on schools to make greater effort	2002-07-09
Inclusion	Professors discuss LGBTQ issues with students	2015-10-20
Inclusion	Public School Reform Would Close Racial Gap in Education, Authors Say	2003-11-20
Inclusion	Cross Country: Tech Workers and Asians Against Racial Preferences'	2019-10-26
Inclusion	Obama Needs to Take a Stand on Race and Other Issues	2008-08-28
Inclusion	We must disarm racism and hate	2020-06-17
Inclusion	Integration Now and Forever	2018-03-30
Inclusion	Racism Without Racists	2008-10-05
Inclusion	Black Lives Matter Is Democracy in Action	2017-10-22
Inclusion	Google employee spreadsheet alleges wide pay gap for women	2017-09-13
Inclusion	Why women earn less	2008-06-06
Inclusion	The business case for diversity in the workplace is now overwhelming	2019-04-29
Inclusion	Diversity And Inclusion Matters To The Workforce Of The Future	2018-05-09
Inclusion	Why LGBT Employees Need Workplace Allies	2013-06-20
Inclusion	Moving from commitment to action on LGBTI equality	2019-01-23
Inclusion	How can I help my company increase workplace diversity? Ask HR	2019-02-18
Inclusion	The Black-white wealth gap left Black households more vulnerable	2020-12-08
Inclusion	Yes, social justice and discrimination were driving issues for Latino voters in 2020	2020-11-06
Inclusion	Unequal Opportunity: Race and Education	1998-03-01
Inclusion	Investors are the biggest losers when women and minority entrepreneurs don't get startup money	2019-10-07
Inclusion	Why Don't More Women Start Businesses?	2017-06-11
Inclusion	There Are Few Minority Entrepreneurs, And They Rarely Get Funding	2013-10-16
Inclusion	Part-Time Penalty Hits Working Mothers	2014-08-21
Inclusion	Gender Imbalance in the Lab	2014-05-24
Inclusion	Motherhood Still a Cause Of Pay Inequality	2012-06-13
Inclusion	A Gender Bias In Film Reviewing	2018-07-18
Inclusion	Job Interviews Without Gender	2018-01-07
Inclusion	What life is like as a transgender woman	2020-06-22
Inclusion	Gay marriage ruling reflects new dimensions of freedom	2015-06-29
Inclusion	Coming of Age and Coming Out	2019-05-26
Inclusion	Marching in Washington; Gay People Demonstrate, In Pride and in Fear	1993-05-02
Inclusion	Why Minorities Have So Much Trouble Accessing Small Business Loans	2018-01-22
Inclusion	LGBTQ community isn't waiting for Equality Act to pass	2021-11-15
Inclusion	How Will the American Workforce Change?	2015-12-31
Inclusion	Study: Race, poverty define education gap ; Schools plan to reduce disparity in achievement	2005-08-16
Inclusion	Spending said to lag in poor, minority schools	2005-12-22
Inclusion	Gallup: Workplace Bias Still Prevalent	2006-02-01
Inclusion	U.S. high school dropout rate reaches record low, driven by improvements among Hispanics, blacks	2014-10-02
Inclusion	The Surprising Ways The Gender Wage Gap Affects Families	2015-11-05
Inclusion	K-12 Education: Discipline Disparities for Black Students, Boys, and Students with Disabilities	2018-03-22
Inclusion	STEM Jobs See Uneven Progress in Increasing Gender, Racial and Ethnic Diversity	2021-04-01
Inclusion	Women and Men in STEM Often at Odds Over Workplace Equity	2018-01-09

Social Issue	Title	News date
Poverty	Study: Race, poverty define education gap	2005-08-16
Poverty	Spending said to lag in poor, minority schools	2005-12-22
Poverty	Food Stamps Shouldn't Pay for Junk	2018-04-10
Poverty	The Missing Element to Beat Poverty	2019-05-30
Poverty	Winning The War On Poverty	2019-04-05
Poverty	America's Deep Poverty Problem	2018-01-25
Poverty	Growing Up Poor in America	2016-10-30
Poverty	In the War on Poverty, a Dogged Adversary	2013-12-18
Poverty	Are the Poor Suffering From Hunger Anymore?	2003-02-23
Poverty	Researchers 'surprised' by what happened when low-income moms received regular cash payments	2022-01-25
Poverty	Hunger in America could get worse as supply chains tighten	2022-01-21
Poverty	Hunger lingers for millions of underemployed, low-income Americans	2021-12-14
Poverty	Safety net for poor unravels; Poverty is increasing, but problem; often overlooked in political debate	2004-10-14
Poverty	Food insecurity among certain households big	2021-09-09
Poverty	Child Poverty in South Dakota: A Statistical Profile	2006-12-01
Poverty	The War Isn't Over; Despite Washington claims, poverty still gripping Phila.	2018-07-30
Poverty	Reducing hunger and poverty - school breakfast pays off.	2018-03-11
Poverty	Students Shouldn't Have to Choose Between Books and Food	2016-02-28
Poverty	Efforts to feed thousands of low-income children barely make a dent rising child hunger	2015-07-24
Poverty	Poverty, not uneven funding, explains the achievement gapr	2018-12-07
Poverty	Hunger doesn't take a vacation	2015-05-27
Poverty	Poverty tied to school performance	2019-09-12
Poverty	Majority Believe There Will be More Poor Americans Four Years from Now	2005-01-11
Poverty	Born Into Poverty and Obesity	2016-03-23
Poverty	Ashley Zhang: When good health is not always a choice	2017-03-06
Poverty	Research spotlights the grim effect of poverty on education	2015-05-13
Poverty	Youth from low-income family risk their health for success	2015-07-14
Poverty	Homeless youth on the rise, with state funding in question	2016-02-14
Poverty	Homeless students arise from many different situations	2016-12-27
Poverty	Grow economy by shrinking poverty	2018-11-09
Poverty	Behind the numbers: Millions seeking a path out of poverty	2018-09-12
Poverty	More children living in poverty now than during recession	2015-07-21
Poverty	Older, Suburban and Struggling, 'Near Poor' Startle the Census	2011-11-18
Poverty	Report: Rural Poverty In America Is 'An Emergency'	2018-05-31
Poverty	Poverty and Opportunity: Begin with Facts	2014-01-28
Poverty	The U.N. Looks At Extreme Poverty In The U.S., From Alabama To California	2017-12-12
Poverty	Over 48 million Americans live in poverty	2014-10-16
Poverty	Growth Has Been Good for Decades. So Why Hasn't Poverty Declined?	2014-06-04
Poverty	Poverty in America: Why Can't We End It?	2012-07-28
Poverty	Federal report: U.S. hunger remains at highest levels in 15 years	2010-11-16

Social Issue	Title	News date
Education	Higher-ed investment essential to region	2018-12-09
Education	How underfunding schools really hurts kids	2012-07-14
Education	The education gap	2002-08-12
Education	University of Chicago Targets Its Inequality	2014-10-02
Education	Analysts: Evidence-based school funding model working, needs more investment	2019-03-28
Education	Pro: Investing in education is key to having top-notch system	2019-01-08
Education	Are colleges ready for STEM students?	2011-11-18
Education	Why Science Majors Change Their Mind	2011-11-06
Education	Hacking the STEM syllabus	2018-12-20
Education	Envisioning STEM education for all	2018-12-19
Education	3 reasons Florida schools should focus on STEM education	2015-12-29
Education	Top 10 education policy wishes	2012-12-20
Education	A Rising Call to Promote STEM Education and Cut Liberal Arts Funding	2016-02-22
Education	Engineering education	2017-09-01
Education	MfA President ponders STEM education crisis, solutions	2017-04-20
Education	Let's confront teacher-quality question in education reform	2017-12-27
Education	Why so many teachers need a second job to make ends meet	2016-12-18
Education	Editorial: STEM teachers may need a premium to stay in class	2016-11-16
Education	Shortages have schools creating future math teachers: Apprentice program trains students	2006-12-28
Education	Teachers can also benefit from school choice	2003-11-11
Education	Study: Race, poverty define education gap ; Schools plan to reduce disparity in achievement	2005-08-16
Education	Spending said to lag in poor, minority schools	2005-12-22
Education	The Diminishing Returns of a College Degree	2017-06-05
Education	College Aid Hiding in Plain Sight	2020-07-01
Education	THE NATION; The View From America's Stranded Public Schools	1988-12-18
Education	Education Does Reduce Inequality	2015-04-10
Education	The Diminishing Returns of a College Degree	2017-06-05
Education	A High-Tech Rebirth From Higher Ed's Ruins	2017-01-23
Education	College Aid Hiding in Plain Sight	2020-07-01
Education	The Hidden Inequality in Schools	2020-01-30
Education	Higher Education and the Opportunity Gap	2013-10-08
Education	School environments can be toxic. Why and how they must change.	2022-01-10
Education	National high school graduation rates at historic high, but disparities still exist	2014-04-28
Education	The True Cost of High School Dropouts	2012-01-25
Education	With Innovation, Colleges Fill the Skills Gap	2017-06-07
Education	5 key findings on what Americans and scientists think about science	2015-01-29
Education	Higher Education Today: Innovative Approaches for College Financing	2013-10-04
Education	Teacher Quality Widely Diffused, Ratings Indicate	2012-02-24
Education	Training of Teachers Is Flawed, Study Says	2011-07-21
Education	Teach Your Teachers Well	2016-01-13
Education	Skills in the digital age - How should education systems evolve?	2016-10-05
Education	The Rising Cost of Not Going to College	2014-02-11
Education	How Teachers Are Using Technology at Home and in Their Classrooms	2013-02-28
Education	Three Reasons College Matters for Social Mobility	2015-02-06
Education	Not just college: Technical education as a pathway to the middle class	2016-04-01
Education	How Higher Education Can Improve Economic Mobility in the United States	2014-10-30
Education	U.S. students' academic achievement still lags that of their peers in many other countries	2017-02-15