



Political sentiment and corporate social responsibility

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ABSTRACT

This paper examines the association between firm-level political sentiment and corporate social responsibility (CSR). Drawing inferences from signaling and resource-based theory, we posit a positive relationship between political sentiment and CSR. Using 23,160 firm-year observations of US public firms between 2002 and 2018 as our sample, we find empirical support for our prediction. In addition, the positive relationship between political sentiment and CSR is driven by the environment, community relations, employee relations, and diversity dimensions of CSR activities. We find consistent evidence when we measure CSR using some ‘real effect’ variables. Our cross-sectional analyses reveal that the positive association between political sentiment and CSR is more evident for firms that have a high level of information asymmetry and firms that are large, mature, and active in political lobbying. Our findings remain robust to a batch of sensitivity and endogeneity tests. Overall, our findings advance the literature by highlighting the interplay between politics and firms in an ever-changing political environment.

1. Introduction

The political environment is unpredictable and volatile. Research has long focused on the bearing of country-level political and economic policy uncertainties on business (e.g., Baker, Bloom, & Davis, 2016; Gulen & Ion, 2016; Nagar, Schoenfeld, & Wellman, 2019). A burgeoning stream of literature has shifted the focus to the accounting and financial implications of *firm-level* political shocks (Boubakri, Mansi, & Saffar, 2013; Qi & Nguyen, 2021). This is an important development since there is considerable heterogeneity in firms’ exposure to politics, the political connections of individual firms, and even the potential bias of managers toward political shocks (Giambona, Graham, & Harvey, 2017). We advance this burgeoning literature by examining an economically meaningful, novel, but previously under-studied form of firm-level political exposure, corporate political sentiment. Specifically, we examine empirically whether firm-level political sentiment affects corporate social responsibility.

Sentiment is defined by the *Cambridge Dictionary* as “a thought, opinion, or idea based on a feeling about a situation, or a way of thinking about something” (<https://dictionary.cambridge.org/dictionary/english/sentiment>). The definition indicates subjectivity and individual feeling. Although no concrete definitions can be found for political sentiment, Addoum and Kumar (2016) describe it as “the heterogeneity in the sentiment levels of investors along the political dimension” (p. 3476). Political sentiment builds up when there are changes in the political climate, resulting in increasing political awareness that raises the public sensitivity to government policies and/or politicians’ agendas (Addoum & Kumar, 2016). While political risks describe political shocks and uncertainties that potentially and significantly influence profitability or other corporate outcomes (Robock, 1971), political sentiment, a distinct concept from political risk, captures managers’ and market participants’ perceptions and feelings about political shocks (Hassan, Hollander,

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van Lent, & Tahoun, 2019) (HHLT hereafter). Since government policies, the hidden agendas of politicians, and political decision-making processes have considerable effects on aggregate, sectoral, and firm-level outcomes (Hassan et al., 2019), it is intuitive that managers' optimistic and pessimistic views emanating from political events and decisions could have fundamental impacts on corporate decision making.

In a pioneering study, HHLT develop a political sentiment measure that captures managers' and market participants' perception of good or bad news when firms are exposed to political events. The measure is constructed using textual analysis of the transcripts of earnings conference calls from public U.S. firms, and, thereby, it is generated for each firm-year to isolate the non-*idiosyncratic* impact of political events and to ensure that it captures the effect of firm-specific political exposures. HHLT validate their political sentiment measure empirically and show that the (net) political sentiment is positively related to stock returns as well as corporate investment and hiring.

We focus on the effect of political sentiment on CSR for the following two reasons. First, emotion, feeling, and perceptions tend to be the invisible but imperative factors shaping managerial decisions. Moreover, managers' subjective perceptions of political events and risks are essential for political risk management (Giambona et al., 2017). In a recent study, Myšková and Hájek (2020) use managers' verbal communication in annual reports to demonstrate that the risk-related sentiment of a firm is indicative of its superior financial performance—presumably a result of managers' proactive and opportunity-seeking risk management. Addoum and Kumar (2016) report that political sentiment influences investors' portfolio allocation and stock price. Moreover, Karavitis and Kazakis (2022) reveal that a positive political sentiment is associated with a low cost of lending. Despite these findings, it is far from clear whether political sentiment also shapes managerial decisions with respect to CSR engagement.

Second, the extant studies provide inconclusive evidence about the impact of political exposure on CSR activities. For example, Yuan, Wu, Qin, and Xu (2022) demonstrate that, in an uncertain political regime, firms tend to be more stakeholder friendly and hence undertake more CSR activities. Nevertheless, other studies find that political activism reduces the perceived need for potential legitimacy, diminishing firms' incentives to invest in CSR (e.g., Muttakin, Mihret, & Khan, 2018). Interestingly, these studies overlook managerial political sentiment and thus provide limited evidence. Our study comprehensively examines the role of political sentiment in influencing CSR activities after explicitly controlling for other dimensions of the political environment.¹

Our inquiry is also motivated by the anecdotal evidence that managers increasingly consider environmental, social, and governance (ESG) issues in decision making. Investors, as well as other key stakeholders, also closely scrutinize and incorporate ESG information into their decision making. For example, a recent survey by Ernst & Young reveals that 98 percent of institutional investors recommend a more regulated and thorough method to assess firms' non-financial performance.² Finally, the COVID-19 pandemic has altered ethical and societal values considerably, serving as a major turning point for ESG investment, and thus also instigates our study.³

We expect political sentiment to be positively associated with firms' CSR engagement. A more positive sentiment about the political events and decisions surrounding firms' key business may indicate direct political connections or a promising business environment (Karavitis & Kazakis, 2022), serving as a valuable resource base. Resource dependence theory suggests that governments can improve or reduce the supply of critical resources to firms in capitalist societies through policies and regulations⁴ as well as political advantages (Hillman, Zardkoohi, & Bierman, 1999; North, 1990).⁵ Such changes can have profound impacts on shareholder values.⁶ A strong sentiment expressed by managers and call participants may capture their private information about the firm's political advantages, which may facilitate substantial benefits for the firm. The prior CSR literature, in this regard, indicates that firms' resources and capabilities are key factors explaining CSR investments (Campbell, 2007).

We posit that managers of firms with positive political sentiment have strong incentives to communicate their private information

¹ Our regressions explicitly control for political risk and policy uncertainty to provide clear evidence and isolate the impact of other political dimensions from the impact of political sentiment. Given our key focus on political sentiment, we avoid overemphasizing political risk and policy uncertainty.

² https://www.ey.com/en_au/assurance/how-will-esg-performance-shape-your-future.

³ <https://www.cnbc.com/2020/06/07/sustainable-investing-is-set-to-surge-in-the-wake-of-the-coronavirus-pandemic.html>.

⁴ The resources that governments give to firms can be direct as well in the form of indirect cash injections, for example corporate bailouts (Faccio, Masulis, & McConnell, 2006), fiscal subsidies (Chen, Li, Xiao, & Zou, 2014), or government contracts (Harland, Telgen, Callender, Grimm, & Patrucco, 2019).

⁵ Despite having similarity to the concept of political connection or political lobbying, our political sentiment measures the optimism and pessimism of managers' assessment of their firm's exposure to political events. Although political connection and lobbying can be beneficial, they also incur implicit costs because politicians expect to siphon off some of the capital generated by these firms. Hence, it is uncertain whether political connection and lobbying generate positive values for shareholders if political rent seeking results in firms paying enormous bribes to politicians (Shleifer & Vishny, 1994). Accordingly, the literature provides inconclusive evidence about the benefits that political connection and lobbying bestow on firms and CSR activities. For example, some studies show that corporate political activism, such as lobbying, makes use of CSR to advance instrumental objectives (Anastasiadis, 2014). Nevertheless, other studies find that political activism (e.g., connection) reduces firms' incentives to invest in CSR activities (e.g., Muttakin et al., 2018). Given this inconclusive evidence on political connection/lobbying and CSR, we contend that political sentiment has the potential to provide useful insights. Therefore, we relate political sentiment to CSR through the lens of the resource dependence and signaling theories.

⁶ For example, firms dealing with foreign suppliers for certain resources can benefit from lower raw material costs owing to a new trade agreement signed with that country. On the contrary, imposing heavy tariffs can hamper the exchange of resources between local and overseas firms (Hillman & Hitt, 1999).

about political events and decisions to their stakeholders by conducting CSR activities. This is because news about a firm's political issues, despite being known to managers and sophisticated investors (e.g., financial analysts), may not be visible to other stakeholders (e.g., suppliers, customers, and employees). The extant literature demonstrates that firms' engagement in CSR signals imperceptible attributes that are hardly observable by stakeholders (Carroll, 1998; Fombrun, Gardberg, & Barnett, 2000).⁷ Su, Peng, Tan, and Cheung (2016) also argue that adopting CSR practices is a mechanism to convey information about firms' capabilities. It is well established that many stakeholders value firms' unobservable attributes embodied in CSR practices (Barnett & Salomon, 2012; Bhattacharya, Sen, & Korschun, 2008; De Luque, Washburn, Waldman, & House, 2008). Therefore, in accordance with the resource-based perspective and the signaling-based argument for CSR, we posit that a favorable business outlook and advantages pertinent to political issues, as captured by political sentiment, motivate managers to invest in CSR activities.

Using 23,160 firm-year observations during the period 2002–2018, our study demonstrates a significantly positive association between political sentiment and CSR engagement after controlling for political risks and a battery of firm-level determinants of CSR. When individual aspects of CSR are taken into account, we observe that the positive relationship between political sentiment and CSR is mainly attributable to the environment, community relations, employee relations, and diversity dimensions of CSR activities. We then test the effects of political sentiment on some real effect variables (e.g., supply chain monitoring, fair trade, carbon emission, waste recycling, environmental fines, corporate sexual equality, and accidents), and find consistent evidence. To mitigate the concern about mechanical relations between political sentiment and CSR, we estimate a residual political sentiment that is unrelated to the CSR score (or its variants) and use it to examine its effect on CSR engagements and real effect variables. Our results remain robust.

The cross-sectional analyses reveal that the positive association between political sentiment and CSR is more evident when firms face more severe information asymmetry and for firms that are large, mature, and spend more on political lobbying. In addition, we find that interaction between higher political sentiment and higher CSR engagements results in superior future firm performance. Our main findings withstand a batch of sensitivity tests including the use of alternative measures of political sentiment, alternative regression specifications including firm- and year-fixed effect regression, alternative specifications of the CSR score, and alternative industry classifications. To alleviate omitted variables and self-selection bias, we use an entropy matching specification and analyze the impact of unobservable confounding variables. In both cases, our main finding remains robust.

Our study contributes in a few important ways. First, it adds to the CSR literature. While the prior literature documents that a host of firm-, industry-, and regional-level factors affect firms' CSR activities (Jha & Cox, 2015; Lys, Naughton, & Wang, 2015; Su et al., 2016; Watson, 2015), we show that sentiment emanating from political events has an important bearing on firms' decision to engage in CSR activities. Importantly, our analysis controls explicitly for political risks to untangle the effect of political risks from that of political sentiment. This is imperative if we are to draw concrete inferences about whether firms' CSR engagement is motivated by political risks per se or by the sentiment capturing call participants' perceptions of exposure to political events.

Second, we extend the literature on political sentiment by focusing on its effect on firms' engagement in CSR. While an emerging literature on political sentiment documents the economic and financial impacts of political sentiment (Addoum & Kumar, 2016; Hassan et al., 2019; Karavitis & Kazakis, 2022), the extent to which sentiment about politics affects firms' engagement in CSR activities is unknown. Our finding that firms engage more actively in CSR in the presence of positive political sentiment extends our understanding of the profound social impact of political sentiment.

Last but not least, we enrich the emerging literature on the interaction between politics and CSR activities. Political institutions are claimed to be salient drivers of CSR activities (Aguilera, Rupp, Williams, & Ganapathi, 2007; Qian & Chen, 2021). Zhao (2012) demonstrates that Chinese and Russian listed firms conduct CSR to manage their relationship with their government, which is crucial to business operations in both countries. Zhou, Arndt, Jiang, and Dai (2021) document that non-state-owned Chinese listed firms establish political connections by creating a communist party branch in their firms and that this connection is associated positively with environmental CSR investment. Our study advances this literature by demonstrating the positive effect of political sentiment on firms' CSR undertakings, highlighting the interaction between politics and firms in an everchanging political environment. In conclusion, given the surge in political interest and the emphasis on ethical and social business practices, our paper addresses a topic of current interest.

The rest of the study is structured as follows. We discuss the extant studies and develop the hypotheses in the next section. Next, we describe the methodology and data and present the empirical results. We then conclude the study.

2. Literature review and hypothesis development

2.1. Political sentiment and political risk literature

The political environment has long been recognized as a source of risk as well as opportunities for business (e.g., Brooke &

⁷ One could wonder why, if managers can talk about politics in a meaningful way during a conference call, they need to conduct CSR activities to signal their private information of political advantage. We contend that conference calls are conducted with the participation of a small group of selected investors and financial analysts. Firms may offer real-time online streaming, allowing more investors to participate in their conference calls. In both forms, communication is oral and access is restricted to a limited audience. CSR, on the other hand, captures a firm's real activities and commitments to its stakeholders such as employees, customers, communities, society, and the environment. Thus, CSR serves as a form of communication by action, complementing other forms of communication used by firms, such as financial statements, online disclosures, and conference calls.

Remmers, 1970; Dymsza, 1972). Voluminous literature investigates whether and how political forces affect business decisions. Early research and surveys reveal that managers rate political instability (or political risk) and policy changes as major forces influencing international business and foreign direct investment decisions (Green & Smith, 1972; Kobrin, 1978, 1979; Thunell, 1977). Subsequent studies suggest that political processes may have strong positive implications for business for several reasons. First, favorable business environments stemming from “business-friendly” political affiliation offer greater financial advantages (see, e.g., Julio & Yook, 2012). Second, government regulations and policies may allow politically connected firms to enjoy direct benefits, including tax planning (Kim & Zhang, 2016), a reduced cost of equity (Boubakri, Guedhami, Mishra, & Saffar, 2012), access to bank financing (Qi & Nguyen, 2021), a lower cost of debt (Houston, Jiang, Lin, & Ma, 2014), and higher firm value, stock returns, and firm performance (Cooper, Gulen, & Ovtchinnikov, 2010; Faccio, 2006).

While the early literature views political risks⁸ from the macro-economic perspective, the recent literature shifts the attention to the micro-level (or firm-level) perspective. For example, Hassan et al. (2019) find that the political risks at the firm level are positively related to firm-specific return volatility but negatively associated with firm investment, capital investment, and hiring. They also show that most of the difference in political risk tends to be at the firm level instead of the sectoral or economy level. Hassan, Karim, and Mukherjee (2020) demonstrate that firm diversification is a remedy for political risk because diversified firms use internal capital markets more efficiently, so their segments can mitigate the negativity of political uncertainty. Saffar, Wang, and Wei (2020) report high loan costs for firms with high political risk. Using the Partisan Conflict Index as a proxy for political uncertainty, Hankins, Stone, Cheng, and Chiu (2020) demonstrate that firms intend to hold more cash but do not adjust their investment after a political uncertainty shock. In a recent study, Karimov, Balli, Ozer-Balli, and de Bruin (2021) show that idiosyncratic political risk increases not only the cost of capital but also the dividend distribution. Chatjuthamard, Treepongkaruna, Jiraporn, and Jiraporn (2021) argue and show that firms with higher political risk engage more in CSR because CSR can produce moral capital and provide firms with “insurance-like” insulation from adverse political incidents.

One strong implication of the above studies is that, as behavioral theory suggests, managerial sensitivity to political risk and uncertainty dictates firms’ responses and decisions (e.g., Johnson & Tversky, 1983; Slovic, 1987). Importantly, managers’ available information, their past experience, and their cognitive processes have important implications for the way in which they perceive and manage political risk (Kobrin, 1979). In this regard, Giambona et al. (2017) reveal that risk-averse executives tend not to invest in a politically risky environment.

In contrast to the voluminous research on the implications of political risk, the extant studies offer scant evidence on the effect of political *sentiment* on firms’ decision making and outcomes. We shift our attention to political sentiment because recent studies provide evidence that firm-level political sentiment has an economically meaningful bearing on corporate decisions, such as capital and labor investment, and stock returns (Hassan et al., 2019).⁹ The literature also suggests that managerial optimism or pessimism shapes firms’ voluntary disclosure (Chen, Wu, & Zhang, 2021) and accounting accrual estimates, such as loan loss provision (Hribar, Melessa, Small, & Wilde, 2017). In this study, consistent with Hassan et al. (2019), we define political sentiment as the managerial perception and belief (i.e., either positive or negative news) about firms’ exposure to the political environment and events.

HHLT construct political sentiment based on positive and negative tone words spoken by corporate managers and market participants (usually financial analysts) during earnings conference calls. The measure captures conference call participants’ perceptions of the favorable or unfavorable political environments surrounding the firm. Therefore, despite being related to their measure of political risk, political sentiment is a distinct concept. Giambona et al. (2017) contend that executives’ subjective perceptions of political risk capture their potential biases and are therefore the best proxies for firms’ exposure to political uncertainty. HHLT show that their measure of political sentiment predicts managerial decisions and causes stock market volatility in a way that is consistent with the sentiment (Hassan et al., 2019). Similarly, Addoum and Kumar (2016) report that, because of the differences in investors’ perceptions about the political climate, investors exhibit systematic differences in their stock portfolio reallocations during periods of presidential transition. Karavitis and Kazakis (2022) show that positive political sentiment is related to a low lending cost. Collectively, the emerging literature on political sentiment indicates that managers’ and market participants’ sentiment about the political issues concerning a firm have a material impact on managerial actions and corporate outcomes. We extend this literature by investigating whether political sentiment has any implications for CSR.

2.2. CSR literature

Corporate social responsibility has attracted considerable interest in recent years because of its positive economic and social contributions. In the recent period, there has been a surge in sustainable (i.e., CSR) investment. For example, the statistics reported by Sustainable and Responsible Investing (SRI) show that US-domiciled SRI assets increased from \$12.0 trillion to \$17.1 trillion over the period 2018–2020 (an increase of 42 percent), demonstrating sizeable commitment to CSR-related investments and initiatives.¹⁰ Given the remarkable growth in CSR investments, it is critical to understand the motivations behind CSR. Building on several theories, prior research documents that firms’ characteristics, such as their resource base, profitability, financial constraints, and other firm-level features (see Watson, 2015, for a comprehensive review), industry-level attributes (Lindorff, Prior Jonson, & McGuire, 2012), and

⁸ To measure political risk, researchers traditionally use objective proxies, such as electoral uncertainty, political unrest, social instability, institutional quality, sovereign debt default risk, and market imperfections (Giambona et al., 2017).

⁹ We do not cover the literature on investor sentiment since this is not within the scope of our study.

¹⁰ https://www.usif.org/blog_home.asp?Display=155.

regional factors (Jha & Cox, 2015) affect firms' involvement in CSR.

In this study, we exploit signaling theory (e.g., Lys et al., 2015; Zerbini, 2017) and resource dependence theory (Campbell, 2007) as theoretical underpinnings to explain the potential association between political sentiment and CSR engagement. Specifically, signaling theory suggests that firms conduct CSR to communicate unobservable quality with the aim of improving their credibility among their suppliers, customers, and employees as well as other stakeholders (e.g., Carroll, 1998; Fombrun et al., 2000; Ramchander, Schwebach, & Staking, 2012; Turban & Greening, 1997). Lys et al. (2015) document that firms engage in CSR because it serves as a channel through which they can signal their superior prospects to outsiders. Su et al. (2016) also argue that firms communicate information about their capabilities by conducting CSR practices, among other means. Furthermore, stakeholders value these unobservable attributes and provide premiums to the firms with positive responses (Ramchander et al., 2012; Spence, 1978, pp. 281–306). CSR in the form of corporate donations can also strengthen firms' relationship with politicians, facilitating their access to resources and enhancing the corporate competitiveness (Jia & Zhang, 2018).

With respect to resource dependence theory, Campbell (2007) contends that the resource base and capabilities are the main catalysts that determine firms' investment in CSR. Accordingly, firms with poor financial performance may not act in socially responsible ways. Relying on the resource-based theory, Hasan and Habib (2017) show that well-established firms' resources and competitive strength enable them to conduct more CSR activities.

2.3. Relationship between political sentiment and CSR

We predict that political sentiment and firms' CSR engagement are positively associated for the following reasons. Political sentiment captures managers' and conference call participants' private information about a firm's political advantages or benefits that can potentially flow from certain political events and changes in government policies (Karavitis & Kazakis, 2022). According to resource dependence theory, firms' political advantage stemming from policy changes and government regulations may furnish them with valuable resources and certain competitive advantages, benefiting them financially in the long run (Barney, 1996; Hillman et al., 1999; North, 1990). Prior studies also provide evidence that favorable political environments provide easy access to resources on favorable terms (Boubakri et al., 2012; Houston et al., 2014). Thus, given that positive political sentiment is a manifestation of an optimistic outlook on firms' engagement with politicians and serves as an invaluable resource, we build on the resource-based perspective of CSR and predict that firms with favorable political sentiment have a competitive advantage and capabilities that allow them to engage in socially responsible activities.

Prior studies also demonstrate that firms possessing knowledge of political advantages have strong incentives to communicate with stakeholders. In a recent study, Christensen, Morris, Walther, and Wellman (2019) find that politically active firms tend to issue more management guidance to convey political information than politically inactive firms. Importantly, they demonstrate that the guidance provided by politically active firms is more likely to include government policies, suggesting that firms utilize voluntary disclosures to communicate with investors about the privileges that they may obtain through their political activities. Therefore, in line with the signaling argument of CSR activities, we predict that firms with favorable political sentiment adopt more CSR practices to signal their unobservable advantages and prospects emerging from a favorable political environment. Thus, building on the resource base and signaling theory of CSR, we develop the following testable hypothesis:

H1. Ceteris paribus, political sentiment is positively associated with CSR activities.

3. Research method

3.1. Sample description

We merge the political sentiment data of HHLT with the CSR dataset of Morgan Stanley Capital International (MSCI, formally called Kinder, Lydenberg, and Domini (KLD)). The initial sample contains 29,403 firm-year observations during the period 2002–2018 after excluding the observations with missing data on political sentiment and CSR. The sample period starts from 2002 because political sentiment data are available from this year. We then drop financial firms (standard industrial classification (SIC) codes 6000–6999) (5570 firm-years) and observations with missing controls (673 firm-years) to obtain a sample of 23,160 firm-year observations (3315 firms) for the regression analyses. We winsorize the independent and control variables at the 1st and 99th percentiles to mitigate the concern about outliers.

Panel A of Table 1 exhibits the sample distribution by Fama and French's 12 industry categories. It shows that the electric and electrical equipment (consumer durables) industry accounts for 22.46% (2.53%) of the observations, being the most (least) dominant industry of the sample. Panel B presents the sample distribution and CSR score over the years. Overall, we find that the proportion of the sample gradually increases over the years. Moreover, the average net CSR score was negative from 2002 to 2011, after which it exhibited a positive trend.

3.2. Key variables and data

3.2.1. Corporate social responsibility (CSR) engagement

To measure CSR engagement, this study uses data retrieved from the MSCI that cover seven ESG dimensions, namely environmental issues (ENV), community relationships (COM), human rights-related issues (HUM), employee relationships (EMP), corporate

Table 1

Sample distribution.

This table presents the sample distribution by industry (Panel A) and year (Panel B).

Panel A: Industry distribution			
Industry	Observations	Percent	
Consumer non-durables	1375	5.94	
Consumer durables	586	2.53	
Manufacturing	2994	12.93	
Oil, gas, and coal extraction and products	1109	4.79	
Chemicals and allied products	842	3.64	
Electric and electrical equipment	5201	22.46	
Telephone and television transmission	751	3.24	
Utilities	995	4.30	
Wholesale, retail and some services	2943	12.71	
Healthcare, medical equipment and drugs	2825	12.20	
Other	3539	15.28	
Total	23,160	100.00	

Panel B: Yearly distribution			
Year	Freq.	Percent	CSR_NET_ADJ
2002	496	2.14	-0.007
2003	1220	5.27	-0.019
2004	1292	5.58	-0.029
2005	1224	5.28	-0.031
2006	1269	5.48	-0.034
2007	1298	5.60	-0.035
2008	1429	6.17	-0.035
2009	1488	6.42	-0.036
2010	1507	6.51	-0.043
2011	1481	6.39	-0.024
2012	1460	6.30	0.050
2013	1498	6.47	0.080
2014	1325	5.72	0.069
2015	1481	6.39	0.058
2016	1466	6.33	0.099
2017	1559	6.73	0.125
2018	1667	7.20	0.173

governance (CG), diversity-related issues (DIV), and product safety (PRO). Each ESG dimension is assessed annually using a set of indicators representing a positive (strength) or negative (concern) rating. The indicators are binary variables taking a value of 1/0 if the firm-year shows a strength/concern in the dimension being assessed. For every ESG dimension, a total score is obtained by summing up the strengths and concerns.

Prior research using the MSCI data have employed a few commonly accepted methods of aggregation (e.g., Chatterji, Levine, & Toffel, 2009; Kempf & Osthoff, 2007). In this study, we use two aggregation methods to compute the CSR score. First, following Cheung (2016) and Deng, Kang, and Low (2013), we use the relative aggregation method, which minimizes the possible problems of MSCI data.¹¹ The formula for this method (CSR_NET_ADJ) is as follows:

$$CSR_NET_ADJ_t^i = \frac{\sum_{p=1}^{n_t^i} strength_p^i}{n_t^i} - \frac{\sum_{q=1}^{m_t^i} concern_q^i}{m_t^i} \quad (1)$$

where $CSR_NET_ADJ_t^i$ stands for the net CSR score for dimension i at time t and $strength_p^i$ ($concern_q^i$) represents the pth strength (qth concern) indicator for dimension i at time t, both indicators being binary variables taking the value of 1 if the firm shows strength p or concern q and otherwise 0. In addition, n_t^i and m_t^i stand for the total number of strength and concern indicators, respectively, at time t. Since the strength (or concern) indicators are first aggregated and then averaged annually before the net CSR score is calculated, this method facilitates a meaningful year-to-year comparison. It is noteworthy that this approach generates a net CSR score within a range of (-1, +1).

As our second measure of CSR, following prior studies (Chatterji et al., 2009), we use a simple approach to calculate the net CSR score. In particular, we compute a net score for every dimension of ESG as the count of strengths minus the count of concerns. Then, we sum the net score of every dimension to arrive at a total CSR score (CSR_NET_UNADJ). We add the CSR strengths and concerns of every

¹¹ Manescu (2011) identifies a potential source of limitations for CSR data that is caused by a lack of comparability in the CSR score due to the variation in the number of indicators among years and dimensions.

ESG dimension separately so that we obtain unadjusted scores of CSR strengths (CSR_STR_UNADJ) and unadjusted scores of CSR concerns (CSR_CON_UNADJ), respectively.

Note that, in estimating the above CSR score, we exclude the corporate governance dimension since it differs from the other dimensions of social and environmental issues (El Ghoul, Guedhami, Kwok, & Mishra, 2011). However, our results remain qualitatively similar if we incorporate this dimension when constructing the net CSR score or when we control for the corporate governance score in the regressions (untabulated).

In addition to the above measures, we use some ‘real effect’ variables to capture corporate engagement in real CSR activities. These variables include supply chain monitoring system, fair trade, carbon emission, emission reduction policy, waste recycling ratio, environmental fines, corporate equality index and accidents. We define these variables in Appendix A.

3.2.2. Measure of political sentiment

We use the firm-level political sentiment data of Hassan et al. (2019). The authors use quarterly earnings conference call transcripts to conduct textual analysis and assess the extent of sentiment (i.e., positive and negative tone words) of call participants when they discuss politics-related topics. In particular, Hassan et al. (2019) employ the sentiment dictionary of Loughran and McDonald (2011) to count the use of political bigrams, based on their closeness to optimistic and pessimistic tone words, and then construct the political sentiment (PSENT) after scaling the resulting count by the overall count of bigrams appearing in the transcript¹²

$$P\text{Sentiment}_{it} = \frac{1}{B_{it}} \sum_b^{B_{it}} \left(1[b \in P \setminus N] \times \frac{f_{b,P}}{B_P} \times \sum_{c=b-10}^{b+10} S(c) \right) \quad (2)$$

where $P \setminus N$ is the list of bigrams contained in P (i.e., political text) but not N (i.e., non-political text), $b = 1, \dots, B_{it}$ is the set of bigrams found in the transcript, $f_{b,P}$ denotes the occurrence of bigram b in the political training library, B_P captures the overall count of bigrams in the political training library, and $S(c)$ is a function allocating a value of +1 (-1) if bigram c contains the positive (negative) sentiment and 0 otherwise. To confirm the validity of this measure, the authors conduct a series of tests and document that the firm-level political sentiment score captures all the expected properties.¹³ Hassan et al. (2019) provide political sentiment data on a firm-quarter basis. For our empirical test, we use the firm-year-level average political sentiment. Following Hassan et al. (2019), we standardize political sentiment using its standard deviation. Thus, a higher PSENT score indicates more positive (i.e., favorable) firm-level political exposure.

To alleviate the concern that our political sentiment may capture the same underlying economics as the CSR rating, we further estimate a residual political sentiment that is unrelated to the CSR score (or its variants) and use it to examine its effect on CSR engagements (see Section 4.6).

3.2.3. Control variables

The regression includes a bunch of controls that may affect CSR performance (Attig & Cleary, 2015; Hasan, Wong, & Al Mamun, 2022; Hegde & Mishra, 2019; McWilliams & Siegel, 2001). In particular, the firm-level controls used in this study consist of the total assets (SIZE), market-to-book ratio (MTB), financial leverage (LEVERAGE), research and development intensity (R&D), profitability (ROA), cash reserve (CASH/TA), volatility of operating cash flows (CF_VOL), capital spending (CAPEX), natural log of the firm age (AGE), asset tangibility (TANG), and analyst following (ANALYST). We also include economic policy uncertainty to control for the impact of economic uncertainty at the macro level on CSR. Furthermore, to control for the confounding effect of non-political sentiment (NPSENT) and political risk (PRISK) on CSR, we control for these variables explicitly. Finally, to capture industry- and year-level unobserved heterogeneity, we control for industry (two-digit SIC codes) and year fixed effects.¹⁴

3.3. Methodology

We estimate the following ordinary least squares (OLS) regression to test the relationship between political sentiment and CSR:

$$\begin{aligned} CSR_{it} = & \beta_0 + \beta_1 PSENT_{it} + \beta_2 NPSENT_{it} + \beta_3 PRISK_{it} + \beta_4 SIZE_{it} + \beta_5 MTB_{it} + \beta_6 LEVERAGE_{it} + \beta_7 R\&D_{it} + \beta_8 ROA_{it} + \beta_9 CASH_{it} \\ & + \beta_{10} CAPEX_{it} + \beta_{11} AGE_{it} + \beta_{12} CF_VOL_{it} + \beta_{13} TANG_{it} + \beta_{14} ANALYST_{it} + \beta_{15} EPU_{it} + YEAR\ EFFECTS + INDUSTRY\ EFFECTS \\ & + \varepsilon_{it}; \end{aligned} \quad (3)$$

where CSR is the corporate social responsibility measure (see 3.2.1) and PSENT is the political sentiment (see 3.2.2). We also control for other determinants of CSR reported by prior studies (3.2.3). The variable definitions are provided in Appendix A.

¹² These data are retrievable from <https://www.firmlevelrisk.com/download>.

¹³ As noted by Hassan et al. (2019, p. 2169), “[quarterly earnings conference-call] transcripts with the most positive (negative) [political] sentiment indeed contain significant discussions of positive (negative) news about legislation, regulation, and government spending.”

¹⁴ In the sensitivity tests, we use the global industry classification standard (GICS) level 3 and level 4 as alternative industry classifications. Table A1 Panel A (Online Supplementary Material) shows that our main results hold for these alternative industry classifications.

4. Empirical results

4.1. Summary statistics

Table 2 exhibits the descriptive statistics of the key variables. The table reports that the mean adjusted net CSR score (*CSR_NET_ADJ*) and mean unadjusted net CSR score (*CSR_NET_UADJ*) are positive, suggesting that, in general, firms show more CSR strengths than CSR concerns. The mean adjusted CSR strength and concern are 0.408 and 0.320, while the mean unadjusted CSR strength and CSR concern are 1.466 and 1.156. The mean (median) political sentiment score is 1.272 (1.211). On the whole, average firms in our sample are large (*SIZE* = 7.387) and profitable (*ROA* = 3.2%) with low growth (*MTB* = 1.841; R&D = 4.4%), leverage (*LEVERAGE* = 0.234), and cash flow risk (*CFO_VOL* = 5.2%). The table also shows that the average firms hold 18.7% of their total assets in cash.

4.2. Correlation

Table 3 exhibits the correlation matrix. A few observations are worth mentioning. First, the correlations between PSENT and *CSR_NET_ADJ* as well as *CSR_NET_UNADJ* are positive and significant ($p = 0.18$, $p < 0.01$), providing preliminary support for our hypothesis. We present the correlation between PSENT and real effect measures of CSR in **Table A2** and obtain consistent findings. Second, the correlations between adjusted CSR scores and unadjusted CSR scores are highly positive. Third, the net CSR is positively correlated with *SIZE*, *MTB*, *LEVERAGE*, *ROA*, *AGE*, *ANALYST*, and *EPU*, while it is negatively correlated with *CAPX*, *CFO_VOL* and *TANG*. Finally, political sentiment is correlated positively with *SIZE*, *MTB*, *R&D*, *ROA*, *CASH*, and *ANALYST*, while it is correlated negatively with *LEVERAGE*, *CAPX*, *AGE*, *CF_VOL*, and *TANG*. Overall, the correlation results are consistent with our expectation and in line with prior studies.

4.3. Main regression results: political sentiment and net CSR

Table 4 reports the main regression results for the relationship between political sentiment and corporate social responsibility. As mentioned earlier, we employ the OLS regression model, which controls for industry and year fixed effects, while robust standard errors are corrected at the firm level.¹⁵ Two CSR measures (*CSR_NET_ADJ* and *CSR_NET_UNADJ*) are used.

In Columns (1) and (2), we regress the net CSR on the firm-level political sentiment (PSENT) without firm-level controls. The findings show that the coefficient of PSENT is positive and significant ($p < 0.01$) for both measures of CSR. In Columns (3) and (4), we run the same regression after including the complete set of controls. The results show a consistent positive and significant coefficient of PSENT. For example, the coefficient of PSENT is 0.008 ($p < 0.01$) for *CSR_NET_ADJ* and 0.157 ($p < 0.01$) for *CSR_NET_UADJ*. The regression results in **Table 4** are also significant in economic terms. For instance, the coefficient in Column (3) suggests that an increase in PSENT of one standard deviation is related to an increase in *CSR_NET_ADJ* of 30.77% relative to the mean (i.e., 0.008/0.026). Similarly, in Column (4), the increase in *CSR_NET_UADJ* is 51.31% for a one standard deviation increase in PSENT.

In **Table 4**, the coefficient of PRISK is negative but insignificant, confirming the incremental predictive power of PSENT in affecting CSR. In addition, the coefficients of most of the controls are generally in accordance with the extant literature. For instance, large, well-established, research-intensive, and profitable firms with slack resources are positively associated with CSR, while firms with financial leverage are negatively associated with CSR. Collectively, the results in **Table 4** corroborate our argument that firms with more (positive) political sentiment are associated with more corporate social responsibilities.

4.4. Relationship between political sentiment and individual dimensions of CSR activities

Having determined the extent to which political sentiment affects net CSR, we now turn our focus to the effects of political sentiment on six individual aspects of CSR, namely environmental issues (ENV), community relations (COM), human rights-related issues (HUM), employee relations (EMP), diversity-related issues (DIV), and product safety (PRO). We present the results in **Table 5**.

The regression results show that political sentiment is positively related to the environmental (coefficient = 0.008; $p < 0.01$), community (coefficient = 0.006; $p < 0.10$), employee relations (coefficient = 0.004; $p < 0.05$), and diversity (coefficient = 0.025; $p < 0.01$) dimensions of CSR activities. Moreover, we find that human rights and products are not significantly related to political sentiment.

4.5. Real effect variables as the measures of CSR

To mitigate the concern that our PSENT and CSR measures capture the same underlying economics, we re-estimate the main regression but replace the dependent variable, CSR score, with eight “real” effect variables including supply chain monitoring system, fair trade products, CO2 equivalent emissions, emission reduction policy, waste recycling ratio, environmental fines, corporate equality index, and accidents. The real effects measure of CSR engagements used in this section are important complement to our analysis because they manifest the effectiveness of a firm’s CSR engagements in various aspects, which are less prone to the usual

¹⁵ The inference from our study remains qualitatively unchanged when we employ two-way clustered robust standard errors at the firm and year levels (see **Table A3**).

Table 2

Summary statistics.

This table reports the summary statistics of the variables. We provide a detailed definition of variables in Appendix A.

	N	Mean	Std. Dev	p25	Median	p75
CSR_NET_ADJ	23,160	0.026	0.151	-0.056	0.000	0.067
CSR_NET_UADJ	23,160	0.305	2.199	-1.000	0.000	1.000
ENV_NET	23,146	0.050	0.180	0.000	0.000	0.000
COM_NET	18,242	0.020	0.230	0.000	0.000	0.000
HUM_NET	15,414	0.020	0.170	0.000	0.000	0.000
EMP_NET	23,022	0.020	0.200	0.000	0.000	0.000
DIV_NET	21,687	-0.030	0.370	-0.330	0.000	0.130
PRO_NET	19,457	0.030	0.250	0.000	0.000	0.000
CSR_STR_ADJ	23,160	0.408	0.671	0.000	0.125	0.500
CSR_CON_ADJ	23,160	0.320	0.401	0.000	0.200	0.500
CSR_STR_UADJ	23,160	1.466	2.203	0.000	1.000	2.000
CSR_CON_UADJ	23,160	1.156	1.430	0.000	1.000	2.000
CSR_TACT	18,243	0.056	0.203	0.000	0.000	0.000
CSR_STR	18,517	0.342	0.555	0.000	0.125	0.500
PSENT	23,160	1.272	0.928	0.676	1.211	1.823
NPSENT	23,160	0.896	0.936	0.355	0.858	1.431
PRISK	23,160	0.744	0.783	0.260	0.502	0.922
SIZE	23,160	7.387	1.649	6.160	7.242	8.434
MTB	23,160	1.841	1.405	0.949	1.378	2.177
LEVERAGE	23,160	0.234	0.204	0.042	0.214	0.356
R&D	23,160	0.044	0.090	0.000	0.003	0.052
ROA	23,160	0.032	0.134	0.010	0.049	0.092
CASH	23,160	0.187	0.204	0.037	0.110	0.264
CAPX	23,160	0.049	0.051	0.018	0.034	0.062
AGE	23,160	2.793	0.882	2.211	2.848	3.465
CF_VOL	23,160	0.052	0.052	0.022	0.037	0.062
TANG	23,160	0.262	0.236	0.078	0.176	0.388
ANALYST	23,160	2.127	0.760	1.609	2.197	2.708
EPU	23,160	4.739	0.259	4.544	4.723	4.976
<u>Real effect measures of CSR</u>						
Supply chain monitoring system	1466	0.543	0.988	0.000	0.000	0.850
Fair trade products	175	0.530	0.673	0.000	0.000	1.344
CO2 equivalents emission	3483	13.606	2.237	11.956	13.524	15.292
Emission reduction	10,388	0.397	0.489	0.000	0.000	1.000
Waste recycling ratio	1489	0.597	0.248	0.422	0.630	0.800
Environmental fines	878	6.386	5.490	0.000	8.466	11.090
Corporate equality index	3264	0.676	0.344	0.350	0.850	1.000
Accidents	1985	5.103	1.606	4.078	5.069	6.035

limitations of CSR rating provided by the MSCI (Schreck, 2011).

We obtain the supply chain monitoring system and fair trade products from Sustainalytics and the rest of the data from Refinitive ESG. The results reported in Table 6 demonstrate that PSENT is positively associated with the quality of the supply chain monitoring system, fair trade products, emission reduction policy, waste recycling ratio, and corporate equality index, whereas it is negatively associated with the amount of CO2 equivalent emissions, environmental fines, and accidents. Therefore, the findings corroborate our proposition that positive political sentiment engenders firms to make a real effort in engaging in CSR activities, resulting in favorable environmental and social outcomes.¹⁶

4.6. Is the relationship between political sentiment and CSR driven by mechanical correlation?

One may argue that conference calls used to measure political sentiment may also cover discussion pertaining to CSR-related issues (Sautner et al., 2022), which CSR rating agencies (e.g., MSCI) may use in evaluating firms' CSR engagement. If this is the case, the observed positive association between PSENT and CSR could be due to a mechanical relation between these two variables. To alleviate this potential concern, we estimate a 'cleaner' PSENT and further test whether the positive effect of PSENT on CSR remains robust. To this end, we adopt a two-stage process. In the first stage, we estimate the following equation (Equation (4)), to regress PSENT on

¹⁶ We are grateful to an anonymous referee for suggesting this analysis.

Table 3

Pairwise correlations.

This table shows the pairwise correlations for the variables used in the main tests. Coefficients with * are significant at the 0.01 level. We provide a detailed definition of variables in Appendix A.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) CSR_NET_ADJ	1.00																
(2) CSR_NET_UADJ	0.85*	1.00															
(3) PSENT	0.18*	0.18*	1.00														
(4) NPSENT	0.09*	0.10*	0.40*	1.00													
(5) PRISK	0.00	-0.01	-0.07*	-0.10*	1.00												
(6) SIZE	0.36*	0.38*	0.06*	0.19*	0.02*	1.00											
(7) MTB	0.07*	0.08*	0.13*	-0.02*	0.01	-0.28*	1.00										
(8) LEVERAGE	0.05*	0.02*	-0.02*	0.04*	-0.02	0.33*	-0.16*	1.00									
(9) R&D	0.01	0.02*	0.05*	-0.23*	0.05*	-0.34*	0.42*	-0.16*	1.00								
(10) ROA	0.04*	0.07*	0.02*	0.31*	-0.08*	0.22*	-0.02*	-0.10*	-0.53*	1.00							
(11) CASH	-0.01	0.00	0.06*	-0.22*	0.06*	-0.43*	0.49*	-0.34*	0.62*	-0.32*	1.00						
(12) CAPX	-0.04*	-0.06*	-0.08*	-0.01	-0.04*	0.06*	-0.03*	0.07*	-0.18*	0.08*	-0.22*	1.00					
(13) AGE	0.17*	0.20*	-0.02*	0.11*	0.01	0.41*	-0.18*	0.06*	-0.17*	0.17*	-0.27*	-0.05*	1.00				
(14) CF_VOL	-0.11*	-0.12*	-0.02*	-0.22*	0.05*	-0.41*	0.32*	-0.13*	0.49*	-0.34*	0.50*	-0.08*	-0.19*	1.00			
(15) TANG	-0.02*	-0.04*	-0.13*	-0.00	0.00	0.27*	-0.24*	0.27*	-0.31*	0.06*	-0.42*	0.68*	0.13*	-0.22*	1.00		
(16) ANALYST	0.21*	0.26*	0.09*	0.09*	-0.01	0.49*	0.17*	0.04*	0.01	0.12*	0.00	0.09*	0.09*	-0.12*	0.02*	1.00	
(17) EPU	0.03*	0.02*	-0.01	0.00	0.08*	0.00	-0.10*	0.01	0.01	-0.04*	-0.00	-0.04*	0.03*	0.01	0.00	-0.02*	1.00

Table 4

Baseline regression: Political sentiment and corporate social responsibility.

This table reports the baseline regression results for the relationship between political sentiment and CSR. Robust standard errors presented in brackets are clustered at the firm level. Coefficients with ***, **, and * are significant at the 0.01, 0.05, and 0.10 levels, respectively. We provide a detailed definition of variables in Appendix A.

Dep. Var. =	(1)	(2)	(3)	(4)
	CSR_NET_ADJ	CSR_NET_UADJ	CSR_NET_ADJ	CSR_NET_UADJ
PSENT	0.030*** [0.002]	0.427*** [0.031]	0.008*** [0.002]	0.157*** [0.026]
NPSENT			-0.004*** [0.001]	-0.063*** [0.022]
PRISK			-0.001 [0.002]	-0.025 [0.023]
SIZE			0.034*** [0.002]	0.562*** [0.035]
MTB			0.005*** [0.001]	0.089*** [0.020]
LEVERAGE			-0.034*** [0.008]	-0.675*** [0.132]
R&D			0.090*** [0.020]	1.619*** [0.322]
ROA			0.024** [0.010]	0.610*** [0.167]
CASH			0.053*** [0.010]	0.809*** [0.158]
CAPEX			0.067* [0.039]	0.918 [0.611]
AGE			0.008*** [0.002]	0.175*** [0.035]
CF_VOL			-0.037 [0.024]	-0.544 [0.420]
TANG			-0.015 [0.012]	-0.110 [0.197]
ANALYST			-0.001 [0.003]	0.083** [0.039]
EPU			0.021* [0.011]	0.807*** [0.188]
Constant	-0.012*** [0.003]	-0.238*** [0.048]	-0.524*** [0.066]	-10.504*** [1.233]
Year and Industry effects	No	No	Yes	Yes
N	23,160	23,160	23,160	23,160
Adj. R ²	0.03	0.03	0.33	0.31

CSR-related sentiment (or sentiment related to individual dimensions of CSR or real effect variables). Then, we obtain the residual PSENT (*PSENT_RES*) that is unrelated to the CSR-related sentiment covered during conference calls.,¹⁷¹⁸

$$PSENT_{it} = \beta_0 + \beta_1 CSR_SENT_{it} + YEAR\ EFFECTS + INDUSTRY\ EFFECTS + \epsilon_{it}; \quad (4)$$

where *CSR_SENT* is the CSR-related sentiment (or sentiment related to individual dimensions of CSR or real effect variables) extracted from the conference calls and rest of the variables are explained earlier.

In the second stage, we use *PSENT_RES* as our main independent variable to examine its effect on CSR rating, individual dimensions of CSR and the real effect variables as examined in Sections 4.3 to 4.5.

$$CSR_{it} = \beta_0 + \beta_1 PSENT_RES_{it} + CONTROLS_{it} + YEAR\ EFFECTS + INDUSTRY\ EFFECTS + \epsilon_{it}; \quad (5)$$

The results reported in Table 7 (Panel A) show that the residual political sentiment (*PSENT_RES*) is positively and significantly associated with both adjusted and unadjusted net CSR (Columns 1 & 2). Moreover, consistent with findings in Table 5, *PSENT_RES* has positive and significant effects on ENV_NET (Column 3), COM_NET (Column 4), EMP_NET (Column 6), and DIV_NET (Column 7).

Then, we repeat the analysis using the real effect variables of CSR. Table 7 (Panel B) demonstrates that coefficients on *PSENT_RES* for the real effect CSR variables remains robust. In particular, we continue to observe that *PSENT_RES* is positively associated with

¹⁷ We obtain sentiment score related to CSR, individual dimensions of CSR and real effect variables from <https://nlanalytics.tech/>. We separately estimate Equation (4) for sixteen variants of CSR used in our analysis (see Table 7). An exhaustive list of keywords used in extracting our sentiment score is available upon request. We thank an anonymous reviewer who suggests using residual political sentiment as a potential solution to the mechanical link between PSENT and CSR.

¹⁸ Findings from our analysis remain qualitatively similar if we estimate Equation (4) with firm and year fixed effects or without industry/firm and year effects (untabulated).

Table 5

Political sentiment and different dimensions of CSR.

This table reports the regression results for the relationship between political sentiment and different dimensions of CSR. Robust standard errors presented in brackets are clustered at the firm level. Coefficients with ***, **, and * are significant at the 0.01, 0.05, and 0.10 levels, respectively. We provide a detailed definition of variables in [Appendix A](#).

Dep. Var. =	(1)	(2)	(3)	(4)	(5)	(6)
	ENV_NET	COM_NET	HUM_NET	EMP_NET	DIV_NET	PRO_NET
PSENT	0.008*** [0.002]	0.006* [0.003]	-0.001 [0.002]	0.004** [0.002]	0.025*** [0.004]	0.002 [0.003]
NPSENT	-0.004** [0.002]	-0.001 [0.002]	-0.000 [0.002]	-0.005*** [0.002]	-0.008** [0.004]	-0.003 [0.003]
PRISK	0.001 [0.002]	-0.003 [0.003]	-0.003 [0.002]	0.001 [0.002]	0.004 [0.004]	-0.006** [0.003]
SIZE	0.039*** [0.003]	0.014*** [0.004]	0.011*** [0.003]	0.027*** [0.003]	0.070*** [0.004]	0.001 [0.004]
MTB	0.002 [0.001]	0.002 [0.002]	-0.002 [0.002]	0.004** [0.002]	0.008*** [0.003]	0.008*** [0.003]
LEVERAGE	-0.028*** [0.010]	0.000 [0.013]	-0.024** [0.010]	-0.029** [0.012]	-0.069*** [0.022]	-0.009 [0.016]
R&D	0.056** [0.023]	0.059** [0.027]	0.007 [0.018]	0.129*** [0.029]	0.174*** [0.058]	0.022 [0.035]
ROA	0.045*** [0.013]	0.006 [0.015]	0.003 [0.013]	0.131*** [0.016]	-0.045 [0.029]	-0.006 [0.022]
CASH	0.031*** [0.012]	0.028** [0.013]	0.041*** [0.012]	0.050*** [0.014]	0.058** [0.026]	0.061*** [0.020]
CAPEX	0.127*** [0.049]	0.003 [0.075]	-0.062 [0.066]	0.080 [0.053]	0.035 [0.093]	0.148** [0.063]
AGE	0.006** [0.003]	0.005 [0.004]	-0.007*** [0.003]	0.005* [0.003]	0.039*** [0.005]	-0.002 [0.004]
CF_VOL	0.012 [0.032]	-0.050 [0.035]	-0.024 [0.028]	-0.022 [0.040]	-0.053 [0.074]	-0.141*** [0.052]
TANG	-0.004 [0.015]	-0.029 [0.024]	0.060*** [0.019]	-0.012 [0.017]	-0.052* [0.030]	-0.016 [0.022]
ANALYST	-0.003 [0.003]	-0.001 [0.005]	-0.013*** [0.004]	-0.003 [0.004]	0.020*** [0.006]	0.006 [0.005]
EPU	0.009 [0.013]	0.023 [0.023]	0.054*** [0.013]	0.023 [0.020]	0.157*** [0.030]	0.062*** [0.022]
Constant	-0.495*** [0.133]	-0.440** [0.172]	-0.558*** [0.137]	-0.337** [0.138]	-1.367*** [0.178]	-0.550*** [0.195]
Year and Industry effects	Yes	Yes	Yes	Yes	Yes	Yes
N	23,146	18,242	15,414	23,022	21,687	19,457
Adj. R ²	0.22	0.08	0.21	0.24	0.32	0.14

supply chain monitoring system, fair trade products, emission reduction policy, waste recycling ratio, and corporate equality index but negatively associated with CO2 emissions, environmental fines, and accidents. Collectively, our results hold for most of CSR dimensions and real effect variables when we use the residual political sentiment. The tests help to mitigate the concern that the positive effect of political sentiment on the CSR engagements is driven by a mechanical correlation, indicating that political sentiment and CSR-related sentiment largely capture different underlying concepts.

4.7. Cross-sectional analysis

4.7.1. Role of information asymmetry

We further explore how the positive relationship between political sentiment and CSR varies in cross-sections. Earlier, we argued that firms with positive political sentiment have incentives to conduct CSR to communicate the business outlook to stakeholders. Thus, if the positive effect of political sentiment on CSR reflects the signaling motive of firms, then one should observe this relationship to be more salient for firms with more opaque financial information.

To test this proposition, we use the financial statement readability (*FOG* index), absolute value of discretionary accruals ($|DAC|$), analyst forecast dispersion (*DISP*), and level of unreported intangibles (*INTANG*) as proxies for information asymmetry. We partition the sample using the median values of the respective variables. The sub-sample of firms with above (below) median *FOG*, $|DAC|$, *DISP*, and *INTANG* are subject to more (less) information asymmetry. Panel A of [Table 8](#) shows that the positive effect of political sentiment on CSR is significantly more salient for sub-samples with high levels of *FOG* ($\chi^2 = 6.10, p = 0.014$), *DISP* ($\chi^2 = 7.39, p = 0.007$), and *INTANG* ($\chi^2 = 5.80, p = 0.016$), lending support to our signaling-based argument.

4.7.2. Role of firm size, maturity, and political lobbying

This sub-section explores how the effect of political sentiment on CSR is moderated by firm size, maturity, and political lobbying activities. Prior studies show that large firms actively engage in the political process and are more capable of capitalizing the benefits

Table 6

Political sentiment and 'real effect' measures of CSR.

This table reports the regression results for the relationship between political sentiment and "real" activities-based measures of CSR engagement. Robust standard errors presented in brackets are clustered at the firm level. Coefficients with ***, **, and * are significant at the 0.01, 0.05, and 0.10 levels, respectively. We provide a detailed definition of variables in [Appendix A](#).

Dep. Var. =	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Supply Chain Monitoring System	Fair Trade Products	CO2 Equivalents Emission	Emission Reduction policy	Waste Recycling Ratio	Environmental Fines	Corporate Equality Index	Accidents
PSENT	0.138*** [0.042]	0.116* [0.063]	-0.168*** [0.038]	0.128** [0.057]	0.032*** [0.012]	-0.852*** [0.219]	0.033*** [0.010]	-0.121** [0.047]
NPSENT	-0.116** [0.045]	-0.092 [0.090]	0.180*** [0.044]	-0.044 [0.059]	-0.006 [0.012]	0.933*** [0.225]	-0.026** [0.012]	0.088** [0.043]
PRISK	0.035 [0.028]	-0.068 [0.055]	-0.000 [0.029]	0.038 [0.048]	-0.002 [0.011]	0.230 [0.218]	0.024** [0.010]	0.048 [0.039]
SIZE	0.369*** [0.051]	0.090 [0.087]	0.953*** [0.043]	1.026*** [0.068]	0.026** [0.012]	0.887*** [0.266]	0.096*** [0.013]	0.631*** [0.052]
MTB	0.076** [0.030]	-0.057 [0.053]	-0.050 [0.040]	-0.012 [0.050]	-0.004 [0.014]	0.135 [0.205]	0.039*** [0.011]	0.080 [0.062]
LEVERAGE	-0.133 [0.192]	0.260 [0.324]	-0.189 [0.277]	0.156 [0.345]	0.123 [0.079]	1.376 [1.995]	-0.136* [0.080]	-0.895*** [0.335]
R&D	0.311 [0.640]	40.778* [22.120]	-4.622*** [1.022]	2.652** [1.204]	0.190 [0.298]	-18.972** [7.761]	0.814** [0.363]	-7.558*** [1.818]
ROA	0.022 [0.345]	0.982 [0.850]	-0.043 [0.380]	1.929*** [0.559]	0.225 [0.154]	-5.980* [3.238]	-0.243* [0.131]	-0.035 [0.437]
CASH	-0.003 [0.258]	-0.274 [0.760]	-0.395 [0.351]	0.151 [0.594]	-0.161 [0.098]	-0.584 [2.349]	0.145 [0.121]	-2.863*** [0.503]
CAPEX	0.167 [1.303]	-5.397 [3.543]	-2.542* [1.332]	-0.197 [1.383]	0.576 [0.420]	-0.615 [9.086]	-0.725 [0.460]	1.471 [1.541]
AGE	0.052 [0.049]	-0.029 [0.103]	0.118** [0.059]	0.368*** [0.074]	-0.006 [0.015]	1.086*** [0.350]	0.004 [0.017]	0.165*** [0.059]
CF_VOL	-2.444* [1.306]	-0.894 [2.414]	1.915 [1.605]	-5.038*** [1.758]	-0.650 [0.553]	-2.309 [8.505]	-0.527 [0.492]	0.857 [1.816]
TANG	0.006 [0.254]	-0.202 [0.600]	3.597*** [0.491]	1.374*** [0.459]	-0.164 [0.130]	3.433 [2.410]	0.014 [0.112]	-0.535 [0.522]
ANALYST	-0.085 [0.076]	0.333* [0.198]	-0.297*** [0.083]	0.155 [0.106]	0.000 [0.025]	0.018 [0.482]	-0.043* [0.023]	0.016 [0.079]
EPU	0.151 [1.724]	-3.265 [2.598]	-0.035 [0.196]	-0.242 [0.394]	-0.009 [0.071]	-0.360 [1.476]	-0.101* [0.056]	-0.534 [0.325]
Constant	-3.519 [8.042]	14.080 [11.983]	6.507*** [1.008]	-10.979*** [1.946]	0.198 [0.358]	-4.866 [7.223]	0.269 [0.301]	1.670 [2.070]
Year and Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1466	175	3483	10,388	1489	878	3264	1985
Adj. R ² / Pseudo R ²	0.29	0.45	0.81	0.34	0.33	0.49	0.36	0.67

from influencing politics than their smaller counterparts ([Hassan et al., 2019](#)). Therefore, large firms tend to be associated with higher (positive) political sentiment.¹⁹ Given this evidence, it is reasonable to predict that the positive effect of political sentiment on CSR is more evident for large firms than for small firms. To test this proposition empirically, we split the sample into two groups using the median value of firm size. Columns (1) and (2) in Panel B of [Table 8](#) show that the coefficient of PSENT is significantly more pronounced for large firms ($\chi^2 = 7.29$, $p = 0.007$).

Next, we explore whether the relationship between political sentiment and CSR is moderated by firms' maturity. Our motivation for this analysis stems from prior findings that mature firms have more resources and competitive advantages, which allow them to undertake more CSR activities than young or early-stage firms. The resources and competitive advantages may facilitate mature firms' engagement in the political process in their pursuit of potential benefits. Accordingly, we anticipate that the positive effect of political sentiment on CSR will be more discernible for mature firms than for younger/growth firms. To test this conjecture, we partition the sample using the median value of firm age. Columns (3) and (4) in Panel B of [Table 8](#) show that the relationship between PSENT and CSR is significantly stronger for more mature firms (i.e., firm age > median) ($\chi^2 = 7.36$, $p = 0.007$).

Finally, we consider whether firms' investment in lobbying activities to manage political risk actively moderates our documented relationship. Prior studies indicate that firms facing higher political risk generally donate more to election campaigns, establish connections with politicians, and invest in political lobbying. It is intuitive that political lobbying facilitates more favorable political outcomes and therefore intensifies positive political sentiment. Therefore, it is possible that the relationship between political

¹⁹ In fact, our data also show that firm size is positively correlated ($p < 0.01$) with political sentiment.

Table 7

Residual political sentiment and CSR.

This table reports the regression results for the relationship between residual political sentiment and CSR. In particular, we first regress political sentiment on the CSR-related sentiment and obtain the residuals. Then, we regress CSR measures on the residual political sentiment. Panel A reports the regression results for net CSR and individual forms of CSR and Panel B reports results for real effect measures of CSR. Robust standard errors presented in brackets are clustered at the firm level. Coefficients with ***, **, and * are significant at the 0.01, 0.05, and 0.10 levels, respectively. We provide a detailed definition of variables in [Appendix A](#).

Panel A: Residual political sentiment (PSENT_RES), net CSR and individual forms of CSR

Dep. Var. =	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	CSR_NET_ADJ	CSR_NET_UADJ	ENV_NET	COM_NET	HUM_NET	EMP_NET	DIV_NET	PRO_NET
PSENT_RES	0.008*** [0.002]	0.153*** [0.026]	0.007*** [0.002]	0.006* [0.003]	-0.001 [0.002]	0.005** [0.002]	0.028*** [0.004]	-0.004 [0.003]
NPSENT	-0.004*** [0.001]	-0.058** [0.023]	-0.004** [0.002]	-0.001 [0.002]	-0.000 [0.002]	-0.006*** [0.002]	-0.007* [0.004]	-0.002 [0.003]
PRISK	-0.001 [0.002]	-0.027 [0.024]	0.001 [0.002]	-0.003 [0.003]	-0.003 [0.003]	0.000 [0.002]	0.004 [0.004]	-0.007** [0.003]
SIZE	0.035*** [0.002]	0.564*** [0.036]	0.040*** [0.003]	0.013*** [0.004]	0.012*** [0.003]	0.028*** [0.003]	0.069*** [0.004]	0.003 [0.004]
MTB	0.005*** [0.001]	0.085*** [0.020]	0.002 [0.001]	0.002 [0.002]	-0.001 [0.002]	0.003 [0.002]	0.009** [0.003]	0.009*** [0.003]
LEVERAGE	-0.032*** [0.008]	-0.613*** [0.136]	-0.029*** [0.010]	0.006 [0.013]	-0.021** [0.010]	-0.028** [0.012]	-0.060** [0.023]	-0.011 [0.017]
R&D	0.102*** [0.021]	1.804*** [0.337]	0.065*** [0.025]	0.067** [0.029]	0.010 [0.019]	0.139*** [0.031]	0.192*** [0.062]	0.035 [0.037]
ROA	0.027** [0.011]	0.643*** [0.177]	0.048*** [0.014]	0.014 [0.016]	0.008 [0.014]	0.136*** [0.017]	-0.057* [0.030]	0.001 [0.024]
CASH	0.051*** [0.010]	0.793*** [0.161]	0.030** [0.013]	0.022* [0.013]	0.044*** [0.013]	0.052*** [0.014]	0.051* [0.027]	0.064*** [0.021]
CAPEX	0.088** [0.042]	0.856 [0.664]	0.142*** [0.054]	0.033 [0.078]	-0.032 [0.059]	0.043 [0.057]	0.079 [0.103]	0.156** [0.070]
AGE	0.009*** [0.002]	0.188*** [0.036]	0.006** [0.003]	0.006 [0.004]	-0.008*** [0.003]	0.005* [0.003]	0.041*** [0.005]	-0.003 [0.004]
CF_VOL	-0.054** [0.026]	-0.704 [0.453]	0.004 [0.034]	-0.053 [0.038]	-0.027 [0.031]	-0.013 [0.044]	-0.100 [0.076]	-0.174*** [0.055]
TANG	-0.023* [0.013]	-0.101 [0.211]	-0.009 [0.017]	-0.043* [0.025]	0.056*** [0.020]	-0.003 [0.018]	-0.062* [0.032]	-0.021 [0.025]
ANALYST	-0.001 [0.003]	0.091** [0.041]	-0.002 [0.004]	0.002 [0.005]	-0.014*** [0.005]	-0.004 [0.004]	0.021*** [0.007]	0.006 [0.005]
EPU	0.018 [0.012]	0.778*** [0.197]	0.010 [0.014]	0.026 [0.025]	0.057*** [0.015]	0.018 [0.021]	0.147*** [0.032]	0.068*** [0.023]
Constant	-0.508*** [0.068]	-10.232*** [1.271]	-0.500*** [0.136]	-0.443** [0.178]	-0.577*** [0.140]	-0.315** [0.140]	-1.292*** [0.183]	-0.582*** [0.199]
Year and Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	21,332	21,332	21,318	16,621	13,857	21,197	19,939	17,844
Adj. R2	0.332	0.314	0.230	0.085	0.208	0.241	0.325	0.144

Panel B: Residual political sentiment (PSENT_RES) and 'real effect' measures of CSR

Dep. Var. =	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Supply Chain Monitoring System	Fair Trade Products	CO2 Equivalents Emission	Emission Reduction	Waste Recycling	Environmental Fines Ratio	Corporate Equality Index	Accidents
PSENT_RES	0.139*** [0.042]	0.112* [0.064]	-0.167*** [0.039]	0.119** [0.060]	0.033*** [0.012]	-0.877*** [0.221]	0.033*** [0.010]	-0.117** [0.048]
NPSENT	-0.118** [0.046]	-0.091 [0.090]	0.176*** [0.045]	-0.050 [0.060]	-0.007 [0.012]	0.923*** [0.231]	-0.025* [0.013]	0.086* [0.044]
PRISK	0.033 [0.029]	-0.068 [0.055]	-0.008 [0.030]	0.047 [0.050]	-0.004 [0.011]	0.250 [0.219]	0.027*** [0.010]	0.049 [0.040]
SIZE	0.373*** [0.051]	0.090 [0.087]	0.952*** [0.044]	1.036*** [0.071]	0.026** [0.013]	0.964*** [0.275]	0.094*** [0.013]	0.647*** [0.053]
MTB	0.075** [0.030]	-0.057 [0.053]	-0.042 [0.040]	-0.027 [0.051]	-0.004 [0.014]	0.188 [0.205]	0.040*** [0.012]	0.082 [0.063]
LEVERAGE	-0.156 [0.198]	0.262 [0.327]	-0.189 [0.279]	0.157 [0.350]	0.131 [0.081]	1.400 [2.026]	-0.129 [0.083]	-0.863** [0.341]
R&D	0.352 [0.652]	40.893* [22.208]	-4.559*** [1.029]	3.226** [1.257]	0.168 [0.299]	-18.470** [7.842]	0.819** [0.365]	-7.533*** [1.806]
ROA	0.029 [0.347]	0.975 [0.853]	-0.075 [0.392]	2.113*** [0.581]	0.223 [0.154]	-5.717* [3.260]	-0.274** [0.132]	-0.006 [0.441]
CASH	-0.019	-0.282	-0.493	0.080	-0.148	-0.621	0.150	-2.719***

(continued on next page)

Table 7 (continued)

Dep. Var. =	Panel B: Residual political sentiment (PSENT_RES) and 'real effect' measures of CSR							
	(1) Supply Chain Monitoring System	(2) Fair Trade Products	(3) CO2 Equivalents Emission	(4) Emission Reduction	(5) Waste Recycling Ratio	(6) Environmental Fines	(7) Corporate Equality Index	(8) Accidents
CAPEX	[0.260] 0.542 [1.395]	[0.770] −5.397 [3.543]	[0.352] −1.712 [1.256]	[0.620] −0.661 [1.441]	[0.101] 0.511 [0.430]	[2.377] −4.089 [9.348]	[0.122] −0.744 [0.469]	[0.513] 1.373 [1.572]
AGE	0.048 [0.050]	−0.029 [0.103]	0.093 [0.061]	0.380*** [0.077]	−0.007 [0.016]	1.036*** [0.363]	0.009 [0.018]	0.159*** [0.060]
CF_VOL	−2.644** [1.343]	−0.858 [2.449]	1.825 [1.608]	−5.130*** [1.797]	−0.722 [0.553]	−0.845 [8.528]	−0.535 [0.497]	0.652 [1.846]
TANG	−0.070 [0.264]	−0.201 [0.603]	3.513*** [0.506]	1.411*** [0.483]	−0.136 [0.132]	4.162* [2.475]	0.033 [0.115]	−0.513 [0.538]
ANALYST	−0.093 [0.080]	0.331 [0.199]	−0.271*** [0.082]	0.166 [0.113]	0.001 [0.025]	−0.243 [0.497]	−0.050** [0.023]	−0.001 [0.084]
EPU	0.183 [1.732]	−3.239 [2.616]	−0.072 [0.195]	−0.122 [0.396]	−0.012 [0.071]	−0.374 [1.524]	−0.085 [0.057]	−0.503 [0.323]
Constant	−3.416 [8.078]	14.150 [12.097]	6.575*** [1.013]	−11.594*** [1.965]	0.241 [0.360]	−5.738 [7.430]	0.238 [0.305]	1.250 [2.060]
Year and Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1423	174	3374	9893	1471	862	3157	1958
Adj. R2/ Pseudo R2	0.297	0.440	0.819	0.368	0.328	0.493	0.351	0.671

sentiment and CSR is more salient for firms with higher levels of political lobbying. Columns (5) and (6) of Panel B, **Table 8** demonstrate that the relationship between PSENT and CSR is significantly stronger for the sub-sample of firms engaged in relatively more political lobbying (i.e., the natural logarithm of lobbying expense > median) ($\chi^2 = 4.60, p = 0.032$). Collectively, we find that the positive effect of political sentiment on CSR is salient for large and mature firms and firms that are active in political lobbying.

4.8. Political sentiment and CSR: consequence analysis

As a theoretical underpinning of our hypothesis, we argue that positive political sentiment indicates a favorable business outlook and advantages that firms can potentially receive from political events or government policy changes. In addition, studies suggest that CSR activities generate a monetized impact on firms' performance (Gregory, Tharyan, & Whittaker, 2014). Therefore, it is reasonable to predict that the interaction between positive political sentiment and CSR activities results in higher future financial performance and firm value. To test this conjecture, we regress future firm profitability (Profitability) and market value (Tobin's Q) on CSR engagement (CSR_NET_ADJ), political sentiment (PSENT), and their interactive term, CSR_NET_ADJ*PSENT, along with the set of control variables (Li, Gong, Zhang, & Koh, 2018).

Table 9 demonstrates that high levels of CSR by firms with positive political sentiment result in greater financial performance (profitability and Tobin's Q) over the next 3 years (t+1 to t+3), as evidenced by the positive coefficients of CSR_NET_ADJ*PSENT at varied significance levels. These findings justify the urge for a CSR reporting initiative, such as impact-weighted accounts (IWA),²⁰ which encourages firms to include monetized line items in their financial statements that reflect their impact on all types of stakeholders and the society as a whole (Serafeim, Zochowski, & Downing, 2019). This also enables stakeholders to comprehend the environmental and social effects of corporate performance, allowing the impact to be factored into their investment and management decisions.

Overall, we provide corroborative evidence on the underpinning notion that CSR engagement by firms with positive political sentiment has strong implications for their financial prospects.

5. Sensitivity analysis

5.1. Alternative measures of political sentiment

Our main analysis uses a firm-year-level mean standardized political sentiment score. To show the robustness of the main findings, this sub-section uses alternative measures of political sentiment. In Panel A of **Table 10**, Columns (1) and (2), we employ a firm-year-level median political sentiment score (PSENT_MDN) that is standardized by its standard deviation. The coefficients of PSENT_MDN

²⁰ We thank an anonymous referee for suggesting that we relate an impact-weighted accounts initiative to the consequence analysis. For detailed information about the initiative, see <https://www.hbs.edu/impact-weighted-accounts/Pages/research.aspx>.

Table 8

Cross-sectional analysis.

Panel A examines the moderating role of the information environment and Panel B examines the moderating role of the firm size, maturity, and political lobbying. Robust standard errors presented in brackets are clustered at the firm level. Coefficients with ***, **, and * are significant at the 0.01, 0.05, and 0.10 levels, respectively. We provide a detailed definition of variables in [Appendix A](#).

Panel A: Moderating role of information environment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	FOG		DAC		DISP		INTANG	
	High	Low	High	Low	High	Low	High	Low
Dep. Var. = CSR_NET_ADJ								
PSENT	0.012*** [0.002]	0.007*** [0.002]	0.007*** [0.002]	0.009*** [0.002]	0.010*** [0.002]	0.004* [0.002]	0.010*** [0.002]	0.005** [0.002]
Constant	-0.604*** [0.114]	-0.348*** [0.079]	-0.426*** [0.080]	-0.653*** [0.101]	-0.554*** [0.082]	-0.548*** [0.097]	-0.412*** [0.100]	-0.463*** [0.120]
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	10,542	10,645	11,124	11,127	12,432	9199	10,085	10,376
Adj. R ²	0.31	0.23	0.33	0.34	0.34	0.34	0.29	0.29
Subsample difference: PSENT	$\chi^2 = 6.10^{**} (p = 0.014)$		$\chi^2 = 0.32 (p = 0.569)$		$\chi^2 = 7.39^{***} (p = 0.007)$		$\chi^2 = 5.80^{**} (p = 0.016)$	

Panel B: Moderating role of firm size, maturity, and political lobbying

	(1)	(2)	(3)	(4)	(5)	(6)
	SIZE		MATURITY		LOBBY	
	Large	Small	More	Less	High	Low
Dep. Var. = CSR_NET_ADJ						
PSENT	0.010*** [0.003]	0.005*** [0.001]	0.011*** [0.003]	0.005*** [0.002]	0.011*** [0.003]	0.006*** [0.001]
Constant	-0.664*** [0.108]	-0.171*** [0.057]	-1.094*** [0.086]	-0.284*** [0.089]	-0.482*** [0.136]	-0.315*** [0.065]
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry effects	Yes	Yes	Yes	Yes	Yes	Yes
N	11,488	11,672	11,835	11,325	6616	12,245
Adj. R ²	0.36	0.27	0.35	0.29	0.32	0.26
Subsample difference: PSENT	$\chi^2 = 7.29^{***} (p = 0.007)$		$\chi^2 = 7.36^{***} (p = 0.007)$		$\chi^2 = 4.60^{**} (p = 0.032)$	

Table 9

Political sentiment, CSR, and future firm performance.

This table examines the effect of the interaction between CSR and political sentiment on profitability and Tobin's Q over the 3-year period. Robust standard errors presented in brackets are clustered at the firm level. Coefficients with ***, **, and * are significant at the 0.01, 0.05, and 0.10 levels, respectively. We provide a detailed definition of variables in [Appendix A](#).

Dep. Var. =	(1)	(2)	(3)	(4)	(5)	(6)
	Profitability _{t+1}	Profitability _{t+2}	Profitability _{t+3}	Tobin's Q _{t+1}	Tobin's Q _{t+2}	Tobin's Q _{t+3}
CSR_NET_ADJ	-0.079 [0.075]	-0.029 [0.073]	-0.036 [0.083]	0.327* [0.167]	0.333* [0.194]	0.300 [0.207]
PSENT	-0.018* [0.010]	-0.012 [0.011]	-0.011 [0.012]	0.058*** [0.018]	0.045** [0.020]	0.051** [0.021]
CSR_NET_ADJ*PSENT	0.086** [0.035]	0.061* [0.036]	0.074* [0.039]	0.208** [0.098]	0.237** [0.118]	0.243* [0.134]
Constant	-0.131 [0.127]	-0.094 [0.130]	-0.042 [0.129]	2.551*** [0.387]	2.903*** [0.448]	2.873*** [0.497]
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry effects	Yes	Yes	Yes	Yes	Yes	Yes
N	19,083	16,376	14,152	19,121	16,395	14,167
Adj. R ²	0.29	0.25	0.23	0.35	0.34	0.34

are significantly positive ($p < 0.01$). Further, in Columns (3) and (4), we employ a maximum value of quarterly firm-level political sentiment in a year (PSENT_MAX), standardized by its standard deviation, and find qualitatively similar results ($p < 0.01$). Lastly, in Columns (5) and (6), we use the firm-year-level mean raw political sentiment score (PSENT_RAW) (scaled by 100) and find a significantly positive relationship between PSENT_RAW and CSR ($p < 0.01$). Taken together, these findings ensure that our results are not attributable to any specific measure of political sentiment.

5.2. Control for firm fixed effects (FFE)

To allay the concern about firm-level unobserved heterogeneity, we re-estimate equation (3) using FFE regression, which substitutes the industry fixed effects. Consistent with our main results, Panel B of Table 10 confirms that PSENT has a positive influence on net CSR. We also obtain qualitatively similar results with respect to individual dimensions of CSR. Overall, the findings from the firm fixed effects corroborate our main results from the OLS estimation.

5.3. Use of lagged independent and control variables

Recall that our main analysis uses contemporaneous political sentiment, CSR, and controls. There may be a concern that political sentiment could influence the future CSR engagement of a firm. Therefore, we employ one-year-ahead CSR in the regression analysis. In Table A4 (Panel A), we find that the coefficient of PSENT remains positive and significant ($p < 0.01$) irrespective of whether adjusted or unadjusted CSR is used in the regression (Columns 1 and 2). We also find that the coefficient of PSENT remains robust when one-year-ahead individual forms of CSR is used as the dependent variable, corroborate the findings from our earlier analysis in Table 5. Finally, we observe that findings from our analysis using real effect measures of CSR remains robust when lagged PSENT and controls are used in the analysis (Panel B, Table A4).

5.4. Political sentiment and CSR strengths and concerns

Prior studies suggest that clustering “strengths” and “concerns” into a net CSR score may not provide insights into the variations in the types of CSR activities (Chatterji et al., 2009). For example, it is possible that two firms with the same net CSR score have considerable cross-sectional variation in CSR strengths and concerns, which may cause the net CSR score to provide an incomplete interpretation of CSR activities. To overcome this limitation of the net CSR score, we disentangle the CSR strengths (CSR_STR) and CSR concerns (CSR_CON) from the net CSR score and re-estimate equation (3).

The results presented in Panel A of Table A5 show that PSENT is positively associated with CSR strengths (coefficient = 0.034, $p < 0.01$ for CSR_STR_{ADJ} and coefficient = 0.126, $p < 0.01$ for CSR_STR_{UADJ}). Moreover, political sentiment is negatively associated with CSR concerns (coefficient = -0.013, $p < 0.01$ for CSR_CON_{ADJ} and coefficient = -0.042, $p < 0.01$ for CSR_CON_{UADJ}). This indicates that firms with higher political sentiment are not only active in the positive aspects of CSR (i.e., CSR strengths) but also refrain from engaging in its negative aspects (i.e., CSR concerns).

5.5. The relationship between political sentiment and strategic versus tactical CSR

We further decompose the CSR scores into strategic and tactical CSR to understand how political sentiment is related to the nature of CSR. Prior studies suggest that strategic CSR has a long-term orientation and requires large firm- or context-specific resource commitments (Bansal, Jiang, & Jung, 2015). Accordingly, strategic CSR involves the realignment of the relationship between an organization and its environment. On the other hand, tactical CSR is transient in essence, requiring limited organizational resources (Habib & Hasan, 2019). Because of the focus placed by strategic CSR on long-term sustainable competitive advantages (McWilliams & Siegel, 2011), we would expect a salient positive effect of political sentiment on this type of CSR engagement. This is because firms in a positive political environment may intend to align their stakeholder engagement strategically if they perceive the political advantages as being sustainable and material and likely to result in economic benefits in the long run.

Panel B of Table A5 exhibits a significantly positive coefficient of PSENT (coefficient = 0.030; $p < 0.01$) for strategic CSR (STR_CSR) but a statistically insignificant coefficient for tactical CSR (TAC_CSR).²¹ Taken together, the findings suggest that political sentiment has an important bearing on the nature of CSR involvement.

5.6. Control for the state-level political environment

Next, we conduct a further robustness test for our hypothesis after controlling for the state-level political environment. The state-level political environment, consisting of concepts such as the political preference of the state and/or political election outcomes, may affect the political sentiment of firms operating in the state. Accordingly, the political outlook in a conference call of a firm may reflect the general political environment of the state in which the firm operates. Given this concern, we additionally control for the state governor (coded as 1 if the state governor is a democrat and 0 otherwise), state senate (coded as 1 if the state senate has the democratic majority and 0 otherwise), and state house (coded as 1 if the state house has the democratic majority and 0 otherwise). The results in Table A6 reveal that the coefficient of PSENT continues to be positive and significant ($p < 0.01$) irrespective of whether adjusted or unadjusted CSR is used as the dependent variable. The finding thus indicates that our documented finding is not driven by the state-level political environment.

²¹ Following the extant literature (e.g., Bansal et al., 2015), we estimate strategic CSR as the sum of the CSR strength scores covering dimensions relating to the environment, employee relations, product safety, and diversity. On the other hand, tactical CSR is measured as the CSR strength score associated with community relations.

Table 10

Sensitivity analysis.

This table reports the sensitivity analysis of the main regression results using alternative measures of political sentiment (Panel A) and the firm fixed effect regression model (Panel B). Robust standard errors presented in brackets are clustered at the firm level. Coefficients with ***, **, and * are significant at the 0.01, 0.05, and 0.10 levels, respectively. We provide a detailed definition of variables in Appendix A.

Panel A: Alternative measures of political sentiment

Dep. Var. =	(1) CSR_NET_ADJ	(2) CSR_NET_UADJ	(3) CSR_NET_ADJ	(4) CSR_NET_UADJ	(5) CSR_NET_ADJ	(6) CSR_NET_UADJ
PSENT_MDN	0.008*** [0.002]	0.147*** [0.026]				
NPSENT_MDN	-0.005*** [0.001]	-0.058*** [0.021]				
PRISK_MDN	-0.002 [0.002]	-0.041 [0.030]				
PSENT_MAX			0.007*** [0.001]	0.132*** [0.024]		
NPSENT_MAX			-0.003** [0.001]	-0.040** [0.020]		
PRISK_MAX			-0.001 [0.001]	-0.026 [0.019]		
PSENT_RAW					0.001*** [0.000]	0.016*** [0.003]
NPSENT_RAW					-0.000*** [0.000]	-0.000*** [0.000]
PRISK_RAW					-0.001 [0.001]	-0.017 [0.016]
Constant	-0.525*** [0.065]	-10.530*** [1.230]	-0.522*** [0.065]	-10.476*** [1.231]	-0.524*** [0.066]	-10.504*** [1.233]
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Year and Industry effects	Yes	Yes	Yes	Yes	Yes	Yes
N	23,160	23,160	23,160	23,160	23,160	23,160
Adj. R ²	0.33	0.31	0.33	0.31	0.33	0.31

Panel B: Baseline regression analysis using firm- and year-fixed effects

Dep. Var.	(1) CSR_NET_ADJ	(2) CSR_NET_UADJ	(3) CSR_NET_ADJ	(4) CSR_NET_UADJ	(5) ENV_NET	(6) COM_NET	(7) HUM_NET	(8) EMP_NET	(9) DIV_NET	(10) PRO_NET
PSENT	0.024*** [0.002]	0.281*** [0.024]	0.006*** [0.002]	0.076*** [0.021]	0.005*** [0.002]	-0.002 [0.003]	0.004* [0.002]	0.006*** [0.002]	0.020*** [0.004]	0.002 [0.003]
Constant	-0.004* [0.002]	-0.052* [0.030]	0.999*** [0.087]	7.758*** [1.210]	1.067*** [0.104]	0.421*** [0.155]	0.640*** [0.153]	0.933*** [0.126]	2.050*** [0.240]	0.508*** [0.154]
Other controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm and year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	23,160	23,160	23,160	23,160	23,146	18,242	15,414	23,022	21,687	19,457
Adj. R-squared	0.42	0.52	0.52	0.58	0.49	0.27	0.42	0.44	0.52	0.36

5.7. Alternative sources of CSR score

One may contend that our findings are driven by the CSR score obtained from the MSCI dataset. To alleviate this concern, we collect CSR measures from two alternative sources: Refinitiv ESG and Sustainalytics ESG risk rating. Refinitiv ESG assesses a firm's relative ESG performance, engagement, and effectiveness in 10 major areas, which are further categorized as the environmental (ENV), governance (GOV), social (SOCIAL), and economic (ECON) score. The Sustainalytics ESG risk rating is conducted by Morningstar Company to assess economically significant ESG issues that may affect a firm's performance in the long run. The rating is calculated for social (SOCIAL), environmental (ENV), and governance (GOV) issues.

We repeat the main analysis using these alternative CSR measures and show the findings in [Table 11](#). In line with the main results, PSENT is positively and significantly associated with both the overall ESG score and the individual categories (except for the ECON category). The analyses suggest that our main finding is unlikely to be driven by specific sources of CSR measures.

5.8. Accounting for endogeneity

In our earlier analysis, we present a robust positive relationship between firm-level political sentiment and CSR. In this section, we undertake further analyses to mitigate the possible endogeneity issues arising from omitted confounding effects and model misspecification.

5.8.1. Omitted variable problem: use of the impact threshold of the confounding variable

Although our regression model includes a group of variables that influence CSR activities, one may argue that it is susceptible to omitted variables that are correlated with CSR and other control variables. To mitigate this concern, we employ the impact threshold of the confounding variable (ITCV) suggested by [Larcker and Rusticus \(2010\)](#). This econometric approach determines how strongly an omitted variable would have to be correlated with the outcome and the predictor of interest to invalidate the inference ([Larcker & Rusticus, 2010](#)). Recent studies also employ this analysis to overcome omitted variable bias ([Blaylock, Gaertner, & Shevlin, 2015](#); [Chapman, Miller, & White, 2019](#)).²²

[Table A7](#) presents the ITGV and the impact on the coefficient of CSR (both CSR_NET_ADJ and CSR_NET_UADJ) for each additional independent variable. We find an ITGV of 0.123 for CSR_NET_ADJ and 0.114 for CSR_NET_UADJ. Moreover, the required correlations between PSENT and the dependent variable with the unobserved confounding variable to invalidate the results should be 0.35 for CSR_NET_ADJ and 0.338 for CSR_NET_UADJ. When evaluating the relationship between PSENT and CSR_NET_ADJ, we find that an omitted (confounding) variable would need to be no less than 9.72 (14) times greater than the most impactful control variable, as evidenced by the raw (partial) impact. Similarly, for the relationship between PSENT and CSR_NET_UADJ, an omitted (confounding) variable would need to be no less than 8.66 (13.52) times larger than the most impactful control variable as estimated using the raw (partial) impact. Thus, the finding from this analysis suggests that our main results are not driven by correlated omitted variables.

5.8.2. Entropy balancing

To make sure that our findings are not susceptible to functional form misspecification, we re-run the main regression model with entropy-balanced samples ([Arifin, Hasan, & Kabir, 2020](#); [Ashraf, Michas, & Russomanno, 2020](#)). Recent evidence indicates that entropy balancing significantly enhances the covariate balance in comparison with propensity-score matching ([McMullin & Schonberger, 2020](#)). In addition, [Hainmueller \(2012\)](#) finds that the entropy balancing method corrects for the random and systematic inequalities between the treatment and the control group, mitigating the concern that the results are affected by the design choices.

[Table A.8](#) reports the results of the entropy balancing method. Panel A presents the pre- and post-balancing mean, variance, and skewness of all the covariates. We observe that, after entropy balancing, all the covariates of the treatment and control groups have balanced mean, variance, and skewness. Using the entropy balanced sample, we re-estimate our baseline regression and continue to observe that the coefficient of PSENT is positive and significant ($p < 0.01$) regardless of the measures of CSR used (see Panel B).

6. Conclusion

We investigate the association between firm-level political sentiment and corporate social responsibility. Building on resource-based theory and signaling theory, we predict a positive relationship between them. Our empirical findings support this proposition. The relationship is not only statistically significant but also economically meaningful. When we explore the association between political sentiment and individual dimensions of CSR, we observe that our documented positive relationship holds for the environment, community relationship, employee relationship, and diversity dimensions of CSR. Further, we use real effect measures of CSR and obtain consistent positive association with political sentiment.

In the cross-sectional analysis, we find that the association between political sentiment and CSR is more salient for large and mature firms, and firms that engage in more political lobbying. In addition, the positive relationship is amplified in firms with more information asymmetry. We also conduct a consequence analysis. Our findings suggest that CSR activities carried out by firms with high political sentiment increase their operating profitability and firm value. We conduct a battery of sensitivity analyses and show that the

²² Consistent with [Chapman et al. \(2019\)](#), we note that, although the ITGV cannot eliminate omitted variable bias, it indicates that such a variable would need to have a significantly larger effect than any of the current controls to overturn the main inferences.

Table 11

Alternative source of CSR data.

This table reports the sensitivity analysis of the main regression results using the Refinitiv ESG score and Sustainalytics risk ESG rating as measures of CSR. Robust standard errors presented in brackets are clustered at the firm level. Coefficients with ***, **, and * are significant at the 0.01, 0.05, and 0.10 levels, respectively. We provide a detailed definition of variables in [Appendix A](#).

Dep. Var. =	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Refinitiv ESG Score					Sustainalytics ESG Risk Rating			
	OVERALL CSR	ENV	GOV	SOCIAL	ECON	Total ESG	SOCIAL	ENV	GOV
PSENT	0.009** [0.004]	0.012** [0.005]	0.006* [0.003]	0.013*** [0.004]	0.003 [0.004]	0.892*** [0.308]	0.621** [0.265]	1.054*** [0.392]	1.042** [0.429]
Constant	-0.883*** [0.143]	-0.788*** [0.167]	0.105 [0.096]	-0.759*** [0.153]	-0.951*** [0.186]	-99.743* [60.537]	82.983* [49.629]	-79.764 [63.861]	-267.105*** [97.171]
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	10,415	10,413	10,415	10,415	10,415	1947	1947	1947	1947
Adj. R ²	0.554	0.494	0.282	0.517	0.473	0.375	0.265	0.367	0.389

documented findings are robust. Overall, our evidence supports the resource-based and signaling-based hypotheses and suggests that political sentiment has important implications for CSR activities.

Our study advances the CSR and political sentiment literature by extending the research focus from the effect of politics on corporate financial issues to the non-financial issues of CSR that attract extensive public interest. Our findings highlight the dynamic interactions between politics and corporate decisions and pinpoint sentiment about politics as a further salient determinant of firms' CSR engagement. In addition, the findings have important managerial implications. In particular, they indicate that the CSR activities of firms with high political sentiment can result in long-term shareholder value maximization, emphasizing the value-enhancing aspect of undertaking CSR. Last but not least, despite our considerable efforts to mitigate the concern about the mechanical correlation between political sentiment and CSR, our findings could be subject to the inherent caveat if PSENT and CSR are mechanically linked, and hence the results need to be interpreted with caution.

Data availability

The authors do not have permission to share data.

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Appendix B. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.bar.2022.101170>.

Appendix A. Variable definitions

Variable	Definitions
<i>Dependent variable</i>	
CSR NET_ADJ	The net CSR scores constructed based on the relative aggregation method, which uses six CSR dimensions (community relations, diversity, employee relations, environment, human rights, and product safety).
CSR_NET_UADJ	The net CSR scores constructed based on a simple approach. In particular, we calculate the net score for each CSR dimension as the number of strengths minus the number of concerns. We then sum the net score for each dimension to obtain an overall CSR score.
ENV_NET	The net environmental dimension of CSR scores constructed based on the relative aggregation method.
COM_NET	The net community dimension of CSR scores constructed based on the relative aggregation method.
HUM_NET	The net human rights dimension of CSR scores constructed based on the relative aggregation method.
EMP_NET	The net employee dimension of CSR scores constructed based on the relative aggregation method.
DIV_NET	The net diversity dimension of CSR scores constructed based on the relative aggregation method.
PRO_NET	The net product safety dimension of CSR scores constructed based on the relative aggregation method.
CSR STR_ADJ	The CSR strength scores constructed based on the relative aggregation method, which uses the six CSR dimensions mentioned above.
CSR CON_ADJ	The CSR concern scores constructed based on the relative aggregation method, which uses the six CSR dimensions mentioned above.
CSR_STR_UADJ	The CSR strength scores constructed based on the simple method, which uses the six CSR dimensions mentioned above.

(continued on next page)

(continued)

Variable	Definitions
CSR_CON_UADJ	The CSR concern scores constructed based on the simple method, which uses the six CSR dimensions mentioned above.
CSR_STR	Strategic CSR is the sum of the CSR strength score of the environment, employee, product, and diversity categories, following Bansal et al. (2015).
CSR_TACT	Tactical CSR is the CSR strength score of the community category, following Bansal et al. (2015).
Independent and control variables	
PSENT	The average firm-level political sentiment over the four quarters developed by Hassan et al. (2019). The authors examine firms' quarterly conference call transcripts to construct the firm-level political sentiment based on the discussions that focus on positive and negative aspects of political events. The PSENT variable is standardized by the standard deviations. See Section 3.2.2 for details.
NPSENT	The average firm-level non-political sentiment over the four quarters developed by Hassan et al. (2019). The authors measure the firm-level non-political sentiment in the same way as PSENT. The NPSENT variable is standardized by the standard deviations.
PRISK	The average firm-level political risk over the four quarters developed by Hassan et al. (2019). The authors examine firms' quarterly earning calls transcripts to construct the extent of political risk faced by individual firms listed in the United States. The PRISK variable is standardized by the standard deviations.
SIZE	The natural logarithm of the book value of total assets (AT).
MTB	Market value of assets ((PRCC_F * CSHO) + (DLTT + DLC)) scaled by the book value of assets (AT).
LEVERAGE	Financial leverage, calculated as the total debt (DLC + DLTT) scaled by total assets (AT).
R&D	Research and development expenses (XRD) scaled by the total assets (AT). We replace missing XRD values with zero.
ROA	A firm's profitability, calculated as its income before extraordinary items (IB) scaled by the lagged total assets (AT).
CASH	Cash and marketable securities (CHE) divided by total assets (AT).
CAPX	The ratio of capital expenditure (CAPX) to total assets (AT).
AGE	The natural logarithm of one plus number of years since the firm appeared in the Center for Research in Securities Prices.
CF_VOL	The standard deviation of the operating cash flow (OANCF) scaled by the total assets (AT) for the previous five years.
TANG	The ratio of net property, plant, and equipment (PPENT) to total assets (AT).
ANALYST	The natural logarithm of the number of analysts following a firm in a given year.
EPU	The natural logarithm of the mean policy uncertainty index in a year (source: www.policyuncertainty.com).
Real effect measures of CSR	
Supply chain monitoring system	This is the weighted score of the supply chain monitoring system indicator score obtained from the Sustainalytics database.
Fair trade products	A weighted score of the fair trade indicator score obtained from the Sustainalytics database.
CO2 equivalents emission	The natural logarithm of the total CO2 and CO2 equivalents emissions.
Emission reduction policy	This indicates whether the company has a policy to improve emissions reduction.
Waste recycling ratio	Waste recycling ratio, as reported by the company.
Environmental fines	The natural logarithm of the environmental fines as reported by the company.
Corporate equality index	The corporate equality index from the Human Rights Campaign Foundation. We scale by score by 100.
Accidents	The natural logarithm of the number of injuries and fatalities reported by employees and contractors while working for the company.

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