Strategic CEO Activism in Polarized Markets

Shubhashis Gangopadhyay[1,2,3,4] and Swarnodeep Homroy[1*]

Abstract

CEOs are increasingly speaking on social issues, but little is known about their motivations and economic consequences. Both within a theoretical model and empirically, we show that CEO social activism is more common in firms with a greater share of operations in US states with high political polarization among consumers, and Republican-donor CEOs are more likely to support liberal causes. CEO social activism increases firm value by 1.3 percent and profitability by 3 percent. We establish sales turnover as a channel through which firms profit from CEO social activism. Corporate decisions that appear stakeholder-driven can ultimately benefit shareholders.

JEL Codes: D21, D82, G32, L21

Key Words: CEO Activism, Political Contributions, Corporate Strategy, Firm Value, Strategic Extremism

Acknowledgement: We thank the seminar participants at the University of Antwerp, University of Gothenburg, University of Groningen, and Strasbourg for their helpful comments. For their feedback and advice during the development of the paper, we thank Renée Adams, Viola Angelini, Kevin Aretz, Shantanu Banerjee, Manuel Bagues, Patricia Boyallian, Sudipto Dasgupta, Mirko Draca, Alex Edmans, Ian Gregory-Smith, Colin Green, Niels Hermes, Reggy Hoogheimstra, Daniel te Kaat, Egle Karmazine, Elisabeth Kempf, Gustavo Manso, Jochen Mireau, Alexei Ovtchnnikov, Asad Rauf, Bob Rothschild, Kwok Tong Soo, Margarita Tsoutsoura, Philip Valta, Alminas Zaldokas and Anwen Zhang. Silvia Dimitrova, Ulviya Gadzheiva, Rouchen Hu, and Zexuan Yuan provided excellent research assistance. Previous versions of this paper have been circulated as "**What is Left to say: CEO Social Activism as Corporate Strategy.**"

[1] * Corresponding Author: Department of Economics, Econometrics, and Finance, Rijksuniversiteit Groningen, 9747AE, Netherlands. E-mail: s.homroy@rug.nl.

[2] University of Gothenburg; [3] India Development Foundation; [4] Indian School of Public Policy

"As political leaders become weaker, chief executives have to become stronger".

(Marc Benioff, CEO of Salesforce, 2018)

CEOs are increasingly speaking out on social issues such as same-sex marriage, gun control, and abortion rights, which are not directly related to their core business interests. This phenomenon is referred to as "CEO social activism" (Chatterji and Toffel, 2019; Larcker, Miles, Tayan and Wright-Violich, 2018). For example, following George Floyd's death in Minneapolis police custody, many prominent US CEOs publicly expressed their support for the Black Lives Matter movement.[2] These statements on social causes made by the US CEOs are mostly liberal and progressive, though they are known to be predominantly Republican donors (Duchin, Simutin, and Sosyura, 2021; Cohen, Hazan, Tallarita, and Weiss, 2019; Gelles, 2018; The Economist, 2017).

This paper shows that CEO social activism choices are motivated by strategic concerns and lead to higher profits.[3] We examine under which conditions CEOs are more likely to engage in social activism and the consequences of such engagement for their firms' profits. Our basic premise is that shareholders focus on the profitability of firms. Therefore, they care about CEOs' social activism only so far as it affects firm performance. Their response to such activism is, however, asymmetric. While CEOs are rewarded for higher profits regardless of whether the CEO takes an activist stand, poor performance is especially censored if the CEO has exhibited social activism preceding the poor performance.

We model CEO social activism as a strategic game in the presence of competition where CEOs take an activist stance for a social cause or remain neutral, and consumers self-select according to their preference for the social cause. CEOs' taking a public stance on a social issue leads to a segmentation of the consumers into two groups: those who will buy only from the firms that have publicly taken

[2] Examples of prominent CEO activism statements are provided in appendix 2C.

[3] We assume that a CEO's stance on a social cause mirrors that of the firm's. Later in the paper, we discuss specific institutional details that support this assumption.

a stance and those who will buy only from firms that have not signalled their stance. A CEO's decision to signal a stance (i.e., make a public statement on a social issue) depends on the proportion of consumers who care about that issue. In a survey, two-thirds of the respondents supported CEOs taking a stance on social issues (Larcker et al., 2018). CEO activism can also increase consumers intent to buy (Chatterji and Toffel, 2019). However, the CEO's actions can be a "double-edged sword" as it can also alienate other stakeholders (Burbano, 2020; Larcker et al., 2018). However, the CEO's actions can be a "double-edged sword" as it can also alienate other stakeholders (Burbano, 2020; Larcker et al., 2018). In competitive equilibrium, we show that the CEO's choice to engage in activism increases with the fraction of consumers who care for a social cause. In our model of CEO's social activism choices as a strategic ploy in the presence of competitors, consumers 'caring for a social cause' includes consumers who support the cause or oppose it. The economic effect of CEO activism depends on the number of CEOs signalling their stance and the fraction of consumers who care. The market segmentation allows the signalling firms to charge a higher price to consumers who care for the cause (Besley and Ghatak, 2007). [1] This consumer behaviour, where buyers are not only interested in the inherent product quality and its price but also from whom they are buying from has been discussed in the economic literature on bundling and boycott (Besley and Ghatak, 2007; Innes, 2006).

Our theoretical model has three predictions. First, a CEO's likelihood of engaging in social activism is determined by the polarization of opinions in the marketplace - the more the polarization, the higher the likelihood. Second, high competition is likely to increase the strategic gains from activism for a given polarization level. Finally, CEO social activism will lead to higher profits for the signalling firm through market segmentation for any given polarization and competition.

We test these predictions using a large sample of S&P 500 CEOs' activism statements from 2014-2019. We define these events as a CEO's public statements on a social issue that is not directly related to the company's business interests. We use information from Lexis-Nexis and Factiva on public statements and social media posts. We classify a statement as "social activism" from all the statements if the CEO comments on gender equality, racial diversity, immigration, gun control,

environmental issues, universal healthcare, or human rights. These issues are similar to the topics used by Larcker et al. in the Rock Centre survey (2018).[4] We also exclude direct political statements of CEOs[5]. The sample selection decisions lead to 1,188 CEO social activism events, of which 187 events are where a CEO has commented on a specific social issue *for the first time*. Our baseline models are estimated with the first-time subsample to circumvent concerns about market expectation, but we also use the full sample of 1,188 events as a robustness check.

First, we explore the motivations for CEO activism. There could be two explanations for why CEOs publicly express their support for a social cause: (a) for signaling their personal stance on the cause and (b) for strategic reasons, i.e., if consumers view social activism positively and it increases profitability (regardless of whether they themselves support the cause). We hypothesize that if the former motive drives CEO activism, there will be a distribution of political stances on social issues aligned to the political preferences of the CEOs. We use the Gallup poll of political preferences to categorize the partisan-slant of CEO activism statements as left-liberal (Democrat) or conservative (Republican)[6]. 160 out of 187 (or 86 percent) of our sample of CEOs' social activism statements align with liberal Democrat ideologies.[7] Using the information on US CEOs' political contributions from the Federal Election Commission database, we show that the partisan-slant of a CEO's social activism statement does not reflect the distribution of political donations. Sixty-eight percent of CEOs in the sample have a partisan preference for Republicans[8], and the Republican-leaning CEOs account for 122 of the sample's 185 activism events. Using a linear probability model, we find that Republican-leaning CEOs are 88 percent more likely to engage in social activism with a Democrat-

[4] Given the subjectivity in classifying the CEOs' public communication as activism, we discuss the robustness of the results to the definition of CEO activism later in the paper.

[5] For example, Jeff Bezos' statement in Business Insider on 7th December 2015 about sending President Donald Trump to Mars is a direct political statement and is therefore excluded from our sample.

[6] In this classification, Democrats are in favour of tighter gun controls, stronger environmental protection, pro-choice, pro-immigration, and pro-diversity. In contrast, Republicans are pro-life, uphold the right to own guns, are cautious about immigration and promote traditional family structures.

[7] The partisan classification of CEO activism in this paper is consistent with the anecdotal observation of the "missing conservative activism" (Gelles, 2018; The Economist, 2017).

[8] CEO's private political preference is the party to which their contribution is at least 25 percent more than to other parties. The partisan preference of the CEOs in our sample is consistent with the findings of Duchin, Simutin, and Sosyura (2021) and Cohen, Hazan, Tallarita, and Weiss (2019). We discuss the classification in detail later in the paper.

slant. If furthering their private political views were the dominant motive, the CEOs' political donations and public opinions should be aligned. The opposite correspondence of CEOs' political preference and the partisan-slant of their social activism statements indicate that their stance on social issues is strategically motivated. The recent liberal shift in the US citizens' political opinions can explain the predominantly liberal slant of CEOs' social activism statements (Draca and Schwarz, 2020).

Next, we examine the theoretical predictions that CEO activism is more likely to be when more consumers care about the social cause and more competitive industries. If the socio-political opinion of stakeholders is polarized, the effectiveness of mass-market advertising strategy decreases. In that case, firms can benefit by catering to one side of the partisan divide (Melloni, Patacconi and Vikander, 2019; Hambrick and Wowak, 2021). We use a measure of consumer polarization, developed by Kaplan Spenkuch and Sullivan (2019), based on the spatial sorting of Republican and Democrat voters within a state.[9] The higher the rank of a state in the Kaplan et al. (2019) index, the larger the fraction of the population who cares about socio-political causes, and the smaller the fraction of neutral customers. The states with the highest *within*-state partisan polarization are Georgia, Illinois, Louisiana, Maryland, Mississippi, Missouri, New York, Tennessee, Texas, and Virginia. In appendix 6, we show how this measure of political polarization among consumers affect firm profits through CEO activism.

We overlay the polarization measure on the state-level operations of US public firms and show that activism is more common for firms with a significant fraction of operations in states with higher polarizations: 146 of the 187 events correspond to companies where at least a quarter of the states in which they operate in are in the top ten polarized states[10]. 128 events correspond to firms headquartered in 10 states with the highest within-state partisan polarization. We also show that CEO activism is more common in highly competitive industries, i.e., those in the lowest quartile of

[9] This argument is consistent with recent evidence that the US electorate is shifting away from centrist ideologies, and that Democrat and Republican voters are increasingly clustering in spatial enclaves, even within the boundaries of a state (Draca and Schwarz, 2020; Brown and Enos, 2018; Kaplan et al. 2019)

[10] The data on the states of operations of US public firms are kindly provided by Garcia and Norli (2012).

the sample distribution of the Herfindahl-Hirschmann Index. This result further corroborates the strategic motives of CEO social activism.

Finally, we examine the economic consequences of CEO activism for firms. If the market participants expect that the stakeholder reactions to CEO activism will positively affect the long-term cash flow, this should be manifested in increased value for the firms. We examine the firm value effects of CEO activism by estimating the cumulative abnormal return in a three-day window around the events. We find a positive market reaction to CEO social activism: in the three-day event windows around CEO social activism, the average cumulative abnormal return is 1.3 percent. The economic effects of CEO activism may suffer from concerns about the event's endogenous timing and the market's reaction to any idiosyncratic announcements made by the CEO. We exclude all events of CEO activism, which are within a 30-day window of any other potential value-relevant announcement by the firm and check the value-effects of CEO statements that are neither business-related nor classified as social activism.

Further, we examine how CEO activism affects profitability. In the cross-section, we show that the profitability of activist firms is 3.1 percent higher than non-activist firms. The longitudinal effect of CEO social activism is an increase in profitability of the firm by 2 percent following the first event of CEO activism.[11] Annual measures of profitability can be affected by many factors other than CEO social activism events. To address this concern, we establish the mechanism through which CEO social activism affects profitability. We show that quarterly sales revenues of firms increase in the first two quarters following CEO social activism, but the effect dissipates afterwards. We find no evidence that the impact on profitability is driven by employee productivity and innovation.

The higher profits in the cross-section can reflect both strategic motives and the CEO's private satisfaction from engaging in activism. If CEOs have private information about future profits, they can time the CEO activism events to precede the announcement of high earnings. We address this concern by employing an instrumental variable strategy. We argue that for the strategic motive for

[11] In a related paper, Painter (2020) show that consumers respond to corporate strategies that have political implications, like the sale of guns by Walmart.

CEO activism to dominate, we should expect a positive association of consumer polarization with the preponderance of CEO activism. Therefore, a politically polarized environment is likely to affect a decision to engage in social activism but is unlikely to impact corporate profits directly. Since the location choices of the sample firms predate the calculation of polarization in 2016, it is unlikely that endogenous location choices confound our results. We also show that firms operating in a highly polarized business environment don't differ from firms in low polarization environments regarding the number of business segments, the number of employees, tax payable, and innovation inputs. Therefore, the channel through which polarization affects profitability is through CEO social activism.

The instrumental variable we use is the fraction of the company's operation states that feature in the top ten of the Kaplan et al. (2019) index. For example, 75% of Goldman Sachs' states of operation are highly polarized, while only over 50% of Citigroup's operations are in highly polarized states[12]. Using this instrumental variable, we show that CEO activism is 67 percent more likely for companies with a higher fraction of operations in top-ten politically polarized states than companies operating in less-polarized environments. Further, CEO activism is associated with a 2.8 percent increase in profitability. The first-stage F-statistics is 19.89, mitigating weak-instrument concerns. Together, our two main results suggest that CEO social activism is a strategic decision, parallel to US political parties' strategic extremism where they take hard-line stances on social issues to attract a certain section of the population (Glaeser et al. 2005).

We have three main contributions. First, the nascent research on CEO activism has largely focused on specific events or laboratory experiments (Chatterji and Toffel, 2019; Burbano, 2020). These studies have limited scope to examine the strategic nature of CEO activism. Our contribution to the literature on the motives of CEO activism is that we provide a theoretical framework for the strategic nature of a CEO's decision to engage in social activism based on consumer preference for such

[12] Citigroup operates in Connecticut, Delaware, Florida, Georgia, Maryland, Missouri, and Texas (the last four of which are classified as highly polarized). Goldman Sachs operates in Delaware, Illiniois, New York and Virgina (the last three of which are classified as highly polarized).

activities (Hambrick and Wowak, 2021; Melloni et al., 2021). We add to the literature by hypothesizing and empirically establishing political polarization among consumers as a significant predictor of CEO social activism.

Second, there is little systematic evidence on the economic effects of CEO social activism and its mechanisms. In a contemporaneous paper, Mkrtchyan, Sandvik and Zhu (2020) use a large sample of events where the CEO speaks on a diverse set of issues to show that CEOs' speaking on certain issues leads to higher firm value, driven by increased employee productivity and innovation. Our contribution to this literature is that we show the causal impact of CEO social activism on profitability. We establish sales turnover as a channel through which firms can profit from CEO social activism. We also show that the firm value effects originate only from social statements with a political connotation and not any non-financial statements.

Finally, our results have important implications for the current debate on stakeholder capitalism following the 2019 Roundtable declaration by US CEOs. Economists have argued for and against the merits of stakeholder capitalism and the corporation's purpose (Zingles, 2019; Summers 2019; Edmans, 2019; Bebchuk and Tallarita; 2020). Within that larger discussion, CEOs' comments on social debates have been debated as being socially conscious or cheap talk (Masters, 2020). Our results contribute to this debate by showing that CEO social activism is driven by commercial concerns rather than the socio-political motives of the CEOs. In that sense, we suggest that corporate decisions that appear to be stakeholder-driven under certain conditions may have a strategic economic rationale that ultimately benefits shareholders.

2. Theoretical Model and Existing Evidence

2.1 Model

Consumers are either committed or not committed to a social cause. Consumers who are uncommitted to the cause, are either in opposition, or neutral, to the cause. The set of consumers who are not committed to the cause is denoted N. The set of committed consumers is denoted C.

The number of committed consumers is denoted M_C, the number of uncommitted consumers is denoted M_N and the total number of consumers is denoted M and $M \equiv M_C + M_N$.

Each consumer has a demand curve given by

$$p = a - bq$$

where p is the price at which she buys an amount q and $a, b > 0$.

There are n identical firms, $n \geq 2$, producing a homogeneous and perfectly divisible product at zero cost.[13] We will denote CEOi to be the CEO of firm $i, i = 1,2, \ldots n$. The CEO of a firm if she so wants, can signal her commitment to a public cause. This signal, if given out, is publicly observed by consumers at zero cost. This signal could be propagated through any or all of the following: press, social media, public occasion reported by media, etc. The signal by CEOi will be denoted σ_i, where $\sigma_i \in \{s, \phi\}$ with s denoting the commitment signal and ϕ denoting "no signal". While an observed signal is seen as a support for a cause, no signal could mean either an opposition to the cause or being neutral to the cause. We assume that: (a) consumers who are not committed to the cause, i.e., they are either neutral or opposed to it, will not buy from a firm whose CEO has publicly announced her commitment to the cause if there exists a firm whose CEO has not signalled (b) those who support the cause will buy from a firm whose CEO has publicly announced her support for the cause; and (c) if no CEO has sent out a public signal or every CEO has sent out a signal consumers are indifferent regarding from whom they buy.

Businesses operate in two stages: in stage 1, the CEOs simultaneously decide whether or not to signal, and in stage 2, they simultaneously decide on their quantities. Consumers operate in stage 2 after observing stage 1 signals sent out (or not) by the CEOs. Denote the set of signals as $\varphi = (\sigma_1, \sigma_2, \ldots \sigma_n)$ recalling that $\sigma_i \in \{s, \phi\}$, $i = 1,2, \ldots n$.

The second stage profit will depend on (a) the firm's own signal (b) the signals sent out (or not) by the other firms and (c) the quantities of the other firms. All firms start as identical; they separate

[13] Since we have assumed firms to be identical, they do not have different costs and, hence, we have normalized the cost to zero. This simplifies the algebra without any qualitative impact on our results.

themselves into two groups in the first stage into those that signal and those that do not. Signalling leads to a segmentation of the consumers into two groups, those who will buy only from the firms that have sent out a signal and the others who will buy only from those who have not sent out any signal. Firms who have sent out a signal in the first stage play a Cournot game in quantities in the second stage in a market whose size is given by the measure of the set of committed customers, M_C; firms who have not sent out any signal similarly play a Cournot game in a market of size $M_N = M - M_C$.

Let A be the set of firms whose CEOs send out a signal and B be those whose CEOs do not. Also, let α be the number of firms in A and β be the number of firms in B. Further, let $\pi_i\big((\sigma_i, \sigma_{-i})(q_i, q_{-i}), (\alpha, \beta) | M_C, M_N\big)$ denote the second stage profit of a firm, where the subscript $-i$ is a vector denoting all firms other than i. The first stage profit depends on the firm's signal, the other firms' signals, and the outcome of the resultant Cournot games that will be played out in the second stage. Since $\alpha + \beta = n$, we will denote the first stage profit of a firm that signals to be $\pi_i^s(\alpha)$ if $i \in A$ and $\pi_i^{\emptyset}(\alpha)$ if $i \in B$ and α is the number of signalling firms.

Let us first consider the benchmark case when the CEOs do not reveal their preferences, i.e., $\sigma_i = \sigma_j = \emptyset, i, j = 1,2, \dots n$ and $\alpha = 0$, $\beta = n$. Let us denote the price, quantity and profit of each firm i in the second stage as p_i^0, q_i^0, π_i^0, respectively. Then,

$$(1) \qquad \begin{cases} p_i^0 = \dfrac{a}{n+1}, i = 1,2, \dots n \\ q_i^0 = \dfrac{Ma}{(n+1)b}, i = 1,2, \dots n \\ \pi_i^0 = \dfrac{Ma^2}{(n+1)^2 b}, i = 1,2, \dots n \end{cases}$$

It is immediate that if $\sigma_i = \sigma_j = s,$ for all $i, j = 1,2, \dots n$ and $\alpha = n, \beta = 0$, then for all $i = 1,2, \dots n$, $p_i^s = p_i^{\emptyset}$, $q_i^s = q_i^{\emptyset}$ and $\pi_i^s = \pi_i^{\emptyset}$. The outcomes are the same if all firms signal or, if no firms signal.

Now suppose $1 \le \alpha \le n-1$ and $\beta = n - \alpha$. Then, we have the following (proof in the appendix):

$$(2) \quad p_i^s = \frac{a}{\alpha+1}, q_i^s = \frac{M_C a}{(\alpha+1)b} \text{ and } \pi_i^s = \frac{M_C a^2}{b(\alpha+1)^2}, i \in A, 1 \le \alpha \le n-1$$

$$(3)\ p_i^{\emptyset} = \frac{a}{\beta+1}, q_i^{\emptyset} = \frac{(M-M_C)a}{(\beta+1)b} \text{ and } \pi_i^{\emptyset} = \frac{(M-M_C)a^2}{b(n-\alpha+1)^2}, i \in B, 1 \leq \alpha \leq n-1$$

<u>Proposition 1:</u> Let $M > M_C > 0$ and $n \geq 2$. Then,

$$\text{(a) } \frac{M_C}{M-M_C} < \frac{4}{(n+1)^2} \Longrightarrow \alpha^* = 0$$

$$\text{(b) Let } 1 \leq k < n. \text{ Then } \alpha^* = k \text{ if } \frac{(k+1)^2}{(n-k+2)^2} \leq \frac{M_C}{M-M_C} < \frac{(k+2)^2}{(n-k+1)^2}$$

$$\text{(c) } \frac{M_C}{M-M_C} \geq \frac{(n+1)^2}{4} \Longrightarrow \alpha^* = n$$

Implications

The ratio $\frac{M_C}{M-M_C} = \frac{M_C}{M_N}$ is the proportion of committed to uncommitted buyers. As this proportion rises (or as the proportion of those who are not committed to the cause decreases), more and more firms will signal. All firms signalling their commitment to the cause, as well as when none are signalling, could both be equilibria. Which prevails, however, depends on the value of the ratio $\frac{M_C}{M-M_C}$ or the proportion of committed to uncommitted consumers. Interestingly, when all firms signal, each firm's profit is the same as when no firms signal, which is given by (1).

Empirical Prediction 1: *More CEOs will engage in activism when the fraction of neutral consumers decreases.*

Second, for a given M_C, the number of signalling firms is non-decreasing with n. This is because $\frac{(k+1)^2}{(n-k+2)^2}$ and $\frac{(k+2)^2}{(n-k+1)^2}$ are both decreasing in n. In other words, more firms would be willing to signal in a more competitive market for any given M_C and M.

Empirical Prediction 2: *CEOs of firms in more competitive markets are more likely to engage in activism than CEOs of firms in less competitive markets*

Third, when $1 \leq \alpha \leq n-1$, the prices paid by committed and neutral consumers are both higher than the (equal) prices paid by them when either all firms signal or none signal. It follows directly from equations (1) - (3), i.e.,

$$p_i^0 = \frac{a}{n+1} < \min\left\{\left[p_i^s = \frac{a}{\alpha+1}\right], \left[p_i^\emptyset = \frac{a}{\beta+1}\right]\right\}$$

The relationship between p_i^s and $p_i^\emptyset$, depends on α. Since $\alpha + \beta = n$, $p_i^s \geq p_i^\emptyset$ if and only if $\alpha \leq (n/2)$. However, the objective of the firm CEO is to maximize profit through a choice of its quantity (Cournot), and the price follows from the demand curve of the consumer(s), the size of the market (number of consumers) and the number of competitors selling in the (segmented) market this CEO is selling in. As the Proposition shows, the CEO's decision to signal is because she makes a greater profit by signalling, given what other firms are doing. The decision to signal is a decision regarding which market to operate in --- the market of committed consumers or the one where consumers are not committed.

Empirical Prediction 3: *Firms will gain in profits after the CEO activism signal.*

2.2 Political Influence of the CEOs

The classical economic view of firms does not include any direct political motives. With an increase in American corporations' average size, there has been a significant concentration of economic power in large firms (Zingales, 2017; Gabaix and Landier, 2008). The CEOs of these large firms can wield significant political influence by leveraging the concentration of economic power (Zingales, 2017). Under the existing law, corporations can categorize their engagement in indirect support of political activities as ordinary business activities (Citizens Utd vs FEC, 2010). The implications of this are that CEOs have absolute autonomy to decide on the firms' political stance. The CEO's decision on their firm's political activities requires neither shareholder votes nor the board of directors' agreement and is not subject to specific disclosure norms.

There are many channels through which CEOs of large corporations can influence the political process and public policies.[14] They can donate from corporate funds to political action committees (PACs), fund political events, and commission advertisements that promote partisan views (Cohen et al., 2019). US corporations also hire lobbying groups to influence policymaking. A substantial proportion of these donations are channelled through intermediaries like the US Chamber of Commerce, which renders systematic tracing of donations back to individual companies practically impossible. It is useful to note that investors are often unaware of the political causes that the CEOs promote through political expenses (Bebchuk and Johnson, 2010).

CEOs also make personal donations to political action committees and political campaigns. Like political donations made on behalf of the firms, private political contributions can either be a reliable measure of the CEOs' personal partisan leanings or reflect strategic motives. In a recent paper, Cohen et al. (2019) undertake a systematic analysis of S&P 1500 CEOs' political contributions and show that in 2016, S&P1500 CEOs contributed an average of US$ 29,000 towards political causes. The individual political donations of CEOs have a strong Republican-leaning. Any attempts by CEOs to influence public policies can be seen through the lens of their partisan bias, given their investments in politics.

These political activities can benefit the shareholders even if they have little influence on the CEO's political decisions. Brown and Huang (2020) find that CEO visits to the White House are associated with increased share prices for their companies. Notwithstanding the benefits to shareholders, corporate political action can still be influenced by the CEO's political preference.

2.3 CEO Social Activism

CEO activism differs from the traditional suite of options that corporations have used to influence public policies. The main difference is in the deliberately conspicuous nature in which the CEOs

[14] This discussion is not an exhaustive list of all channels through which CEOs can exert influence on public policies. For a more comprehensive review, see Cohen et al. (2019)

publicly take a stance on contentious socio-political issues.[15] One reason for the visibility is that the CEOs can dilute their accountability to stakeholders by appealing to broader stakeholder activism (Bebchuk and Tallarita, 2020; Zingales, 2019; Summers, 2019). Diluting the accountability to shareholders is a concern because there is neither a standard measure of value-creation for all stakeholders nor an established monitoring mechanism. CEOs can benefit from the dilution of shareholder accountability through entrenchment and higher CEO pay (Bebchuk and Tallarita, 2020).

CEO activism can be costly to the shareholders, even though there are few direct financial costs. The stakeholder reactions to CEO activism can be asymmetric (Melloni et al., 2019). Larcker et al. (2019) find that public perceptions can be overwhelmingly positive for some issues and mixed for others. Consumers who agree with the CEO's activism stance show increased purchasing intent, but customers who do not agree with the CEO's statement do not seem to react negatively (Chatterji and Toffel, 2019). Burbano (2020) finds that employees' motivation suffers when the CEOs' activism stance differs from their personal views, but employee motivation does not improve if the CEO activism stance is aligned with their private opinions. Therefore, the payoff of CEO activism for the firm either has a zero lower-bound or a zero upper-bound, depending on the stakeholder group. Aside from this, CEO activism can make the company unfavourable to legislators. For example, Donald Trump routinely targets CEOs who criticize the federal government.[16]

From the existing evidence, specific groups of stakeholders have a positive impression of the firm following CEO activism. CEO activism can be a strategic decision to cater to those stakeholder groups with preferences for social activism by firms. The CEOs can increase shareholder wealth by carefully curated activism to benefit from the polarized opinions of the stakeholders. Political parties

[15] There are other visible channels through which CEOs can influence public policies, such as the Business Roundtable, but these forums are mostly bi-partisan and focused on economic and business issues.

[16] By speaking on a socio-political issue, CEOs can gain personal favours from the legislators. For example, Donald Trump approves, through his personal twitter posts, of CEOs who agree with Republican viewpoints. For reports on how President Trump pressurizes corporations to adopt certain policies, see, for example, Schwartz (2016) and Shear and Kang (2018).

in the US strategically target the polarization in views to gain vote shares. CEOs can undertake similar strategic extremism strategies to gain a higher share in the polarized marketplace.

The strategic motive for CEO activism is likely to be stronger under certain conditions. First, in competitive markets, niche differentiation strategies are known to be effective. Therefore, higher industry competition is likely to increase the potential benefits of CEO activism. As a product differentiation strategy, CEO activism becomes attractive if the mass-market advertisement strategy is ineffective due to the stakeholders' polarized preference. For example, the political polarization in the US has increased significantly in recent decades (Kaplan et al., 2019). Firms can benefit from a socio-political stance if the stakeholder preference is lexicographic with a positive payoff for a specific leaning and zero otherwise. Finally, companies that sell final goods and services are more likely to benefit from activism due to higher visibility to consumers.

3. Data and Sample

3.1 CEO Activism Sample

Our operating definition of CEO social activism is public statements by CEOs on social issues that are not directly related to their business interests. We begin by collecting all announcements made by the CEOs of S&P 500 firms from 1st January 2014 to 31st December 2019 from Lexis Nexis, Factiva and other publicly available sources. Our focus is on events where the CEOs communicate to non-specific target groups on events related to the environment and climate change and social issues like diversity, immigration, rights to abortion, education reform, universal health care, and gun control. These keywords are similar to those used by Larcker et al. (2018) to detect whether a public statement by a CEO qualifies as activism. Using a string-based search of keywords and the combination thereof, we identify 1,188 CEO social activism events.

To mitigate concerns about market expectations, we only include 224 events where the CEO speaks on a social issue for the first time. Next, we exclude all events which are within the 30-day window

of other potential value-relevant news about the firm, such as mergers and acquisition announcements; earnings announcements; announcements about director appointments; CEO turnovers; new products and export market announcements; and announcements about corporate misdemeanours like fraud, environmental disasters, etc. Removing these events led to a reduced sample of 208 events. We also exclude events where a CEO speaks directly about a specific politician or a political party, leading to a loss of nine further events. Finally, we exclude 12 events where CEOs speak out on issues collectively. For example, the Amicus brief opposing President Trump's immigration ban was signed by over 100 CEOs. The final sample consists of 187 unique events of first-time CEO social activism.[17] We present the full description of the criteria used to classify the events in appendix 2A.

The number of events increased about ten-fold over the sample period: from 6 events of CEO activism in 2014 to 57 events in 2019. In 37 percent of the cases, the CEOs speak on gender equality; in 20 percent of cases, CEOs speak on LGBT rights; and in 12 percent of cases, CEOs speak on immigration. The most used activism mediums are press releases and press conferences (45 percent) and social media (25 percent).[18] One concern can be that the timing of these events is non-random; CEOs could be speaking on and around strategically important dates. Some of the major confounding events like earnings announcements have been excluded in selecting the sample to mitigate this concern.

Additionally, CEO activism is spread across the financial year: 29 percent of the events occur in the first quarter, 28 percent in the second quarter, 19 percent in the third quarter and 24 percent in the fourth quarter. On average, the events are 67 calendar days away from earnings announcements, the Annual General Meetings, merger and acquisition announcements and director appointments. *Prima facie,* the events do not seem clustered around the companies' most financially significant days.

[17] We use the full sample of CEO activism events as a robustness test.

[18] CEO activism events are often covered by multiple media. We identify the first channel through which the activism statements are communicated using the timestamp on the news reports.

Finally, we examine if the returns to CEO social activism undertaken in reaction to a socio-political event and CEO activism undertaken without such social prompts. The rationale for this test is that the strategic motives are likely to be stronger when it is undertaken in reaction to a socio-political event. Following such events, the sensitivity of the consumer to the social issue is likely to be heightened. We classify a CEO activism event as reactive if it occurs within ten working days from a relevant social event, proactive otherwise. For example, Marc Benioff's stance on Indiana's religious freedom act is an example of reactive events. Of the 187 events, 96 are proactive, and 91 are reactive[19]. A considerable proportion (41 percent) of the activism is undertaken by CEOs of firms headquartered in the North-Eastern US states. Only a minority (6 percent) of events are undertaken by CEOs of firms headquartered in the Southern states.

[Table 1 here]

3.2 Partisan-Preference for CEO Activism

We examine the CEOs' social activism statements'' contents to classify the partisan tone of CEO activism. We use the Gallup poll (2019) on political preferences, where Democrats are described as favouring tighter gun controls, stronger environmental protection, women's right to abortions, immigration, and diversity (Gallup, 2019). In 161 out of the 187 events in our sample (86 percent), the activism stance is slanted towards (liberal) Democrat values. In only 24 cases, does the CEO unambiguously espouse (conservative) Republican values. We construct an indicator *Democrat-Slant Activism* that equals '1' if the CEO's activism stance is slanted towards the Democrats and Democrats, 0 otherwise.

Next, we examine the spatial distribution in the partisan nature of activism events using the Kaplan et al. (2019) measure of *within*-state political polarization for 2016.[20] On this index, the 10 most polarized states with the largest concentration of activism events are Georgia, Illinois, Louisiana,

[19] In appendix 2E we provide details of the "proactive" vs "reactive" labels with examples.

[20] There are no significant differences in number of activism events between the traditional Democrat and Republican states. Using the Gallup polls of political preferences, Democrat states are Vermont, Hawaii, Rhode Island, Massachusetts, New York, California, Maryland, New Mexico, Illinois, Connecticut, New Jersey, Washington, Delaware and Oregon.

Maryland, Mississippi, Missouri, New York, Tennessee, Texas, and Virginia. 128 out of the 187 events of activism (68 percent) are undertaken by CEOs of firms headquartered in ten US states with the highest geographic segregation along partisan lines[21]. State-wise, the distribution of CEO activism events, the proportion of S&P 500 firms headquartered and the *within*-state polarization measure are provided in figures 1A and 1B and table 2.[22] 128 events correspond to firms headquartered in ten states with the highest *within*-state partisan polarization.

However, the business operations of a company are not limited to the state where it is headquartered. Therefore, we use the information of the US companies' states of operation to construct an indicator using data on state-wise operations of US companies provided by Garcia and Norli (2012). We construct a variable *Polarized Environment,* which is the proportion of the states in which the company operates that are among the ten most geographically polarized states in the Kaplan et al. (2019) index. The mean of *Polarized Environment* is 0.41, i.e., on average, 41% of a representative company's operations are in the top ten most polarized states. 78 percent of the sample companies have at least a quarter of their operations based in the top-ten polarized states, and 7 percent of the companies have all their operations in the top-ten polarized states.

[Table 2 and Figures 1A and 1B here]

3.3 Political Donations

We examine the CEOs' partisan views using the information on donations to political candidates, committees, and parties from the Federal Election Commission database. The database contains information on political contributions from all donors that exceed $200. The donors are identified by the initials and the family name, the donor's home address, employer and job title. We undertake a multilevel matching exercise to link the FEC database with the list of S&P 500 CEOs. We take into

[21] This geographic distribution is not just an artefact of more firms S&P 500 firms headquartered in the most polarized states. For example, Colorado, Florida, Massachusetts, and Pennsylvania together account for the headquarters of 13 percent of S&P 500 companies but only 1.6 percent of CEO activism events. In contrast, Maryland, Michigan, New Jersey, and Virginia account for 6 percent of S&P 500 headquarters and 21 percent of CEO activism events.

[22] Democrat and Republican-leaning CEOs, and CEOs in most polarized and less polarized states do not differ on observable characteristics. Univariate comparison of CEO characteristics for these sub-groups are presented in appendix 5.

account the standard challenges of textual matching: multiple matches for the same CEO, missing information on employers, and different syntax for individual names used in the two data sources. First, we include all observations in the sample where the first name, initials, and family name perfectly match those within the FEC database and the Execucomp data. This procedure results in 412 matches. From the remaining observations, we include cases where the same initials and surname match and the registered address is within 50 miles of the company's headquarters.[23] These selection criteria lead to a final sample of 426 CEOs for whom we have the information on political donations.

We use the information on the party affiliation of Political Action Committees and leadership committees in the FEC database to classify the partisan nature of the political contributions. If the FEC database does not identify the committees' party affiliation, we divide the donations equally between Republicans and Democrats. S&P500 CEOs have donated $47 million to Republicans and $24 million to Democrats within the sample period. To classify individual CEOs' partisan preference, we calculate the CEO's average contribution to each political party for the five years of the sample period. Most CEOs donate to both the Republicans and Democrats but usually give more to one of them. *Republican-Leaning CEO* equals '1' if the average donation of a CEO to the Republican Party is at least 25 percent more than that to the Democrats, and 0 otherwise.[24] CEOs are Neutral if the contributions are evenly matched along party lines. Using this threshold, 68 percent of the CEOs are Republicans, 19 percent are Democrats, and 13 percent are Neutral. Of the activist CEOs, 73 percent are Republican donors, 13 percent are Democrat donors, and 14 percent are Neutral. In appendix 3, we present the number of CEOs who donate to each party and the partisan-leaning of their activism stances.

3.4 Control Variables

[23] We calculate the distance between the city, or the zip code reported in the FEC database and that of the company's headquarters using the driving distance reported by Google Maps.

[24] We use different thresholds to check the robustness of our results: more than 50 percent and more than 60 percent of the average donations to any one party. The fractions of Republican and Democrat-leaning CEOs remain similar for different thresholds for political donations.

We use a range of firm and CEO characteristics to control for confounding factors. First, the CEO's visibility is likely to be correlated with the company's size and profitability. We source accounting data from Compustat and control for *Firm Size* (measured as the natural log of Total Assets) and profitability (*ROA* measured as the ratio of net profits over total assets). Next, we control for the governance of the firm. We source board composition and governance data from Institutional Shareholder Services and shareholding information from Thomson Reuters 13-F Stock Ownership Data, and control for *Board Size* (number of directors on the board), *Board Independence* (fraction of independent directors), and *Institutional Investors* (fraction of shares held by institutional investors like mutual funds, and pension funds). Among CEO characteristics, We control for *Tenure* (number of years the CEO has been in the current position), *Age* (in years) and Gender (=1 if the CEO is a male). Only 9 percent of the sample CEOs are female, and the average age and tenure are 57 years and 7 years, respectively. From Execucomp, we collect information on the pay of the CEOs. On average, CEOs in the sample are paid $ 16 million, 18 percent of which is cash compensation.

We also obtain from ISS information on corporate governance mechanisms within the company that can insulate the CEO from the market for corporate control. These mechanisms, such as "Golden parachutes" (severance agreement with the CEO in case of an acquisition), "Poison pills" (shareholders will have the right to buy more shares at a discount if one shareholder buys a certain percentage of the company's shares) and "Staggered boards" (only a fraction of directors are elected every year), may be correlated with the CEOs decision to engage in social activism. Further, we also construct a network-based measure whereby at least one non-executive director on the board of a focal firm had a concurrent appointment with another CEO-activist firm in the previous year.

Finally, we obtain information on the company's industry segment using Compustat's sub-industry information (GSUBIND) of the Global Industry Classification System. The industry composition of the sample is presented in Supplementary Appendix F. We construct two measures of industry characteristics. The first measure controls for the competitive environment of the firm. We create the Herfindahl-Hirschman Index (HHI) of industry competitiveness. An indicator *High Competitive* equals '1' if a firm is the bottom quartile of the distribution of the HHI, and 0 otherwise. The second

measure controls for the nature of the product and service offered by the company. We use the Sub-Industries description to create an indicator *Final Products,* which equals '1' if the company sells a final product to consumers, and 0 otherwise. For example, firms in FMCG, Communications and Entertainment industries are classified as producers of *Final Products.* Descriptive statistics of the sample of firms is provided in table 3, and variable definitions are provided in appendix 1.

[Table 3 here]

4. Empirical Strategy and Results

4.1 Likelihood of CEO Activism

We begin with univariate comparisons of activist CEOs and non-activist CEOs. There is no statistically significant difference in age and tenure, but activist CEOs are more likely to be male, with higher and more cash-based pay. They are also more likely to be Republican-leaning than non-activist CEOs. In terms of firm characteristics, activist CEOs are associated with larger firms and higher profitability. CEO activism is more common in firms with significant operations in the ten most polarized states compared to firms headquartered in other states. The sample of activist CEOs are described in appendix 4, and the univariate comparisons between activists and non-activist CEOs are provided in appendix 5.

Next, we use a linear probability model to estimate the likelihood of *CEO Activism* conditional on firm, CEO, and corporate governance characteristics. We estimate specifications of the type:

$$\Pr(CEO\ Activism) = g(Firm\ Characteristics, CEO\ Characteristics, Corporate\ Governance\ Characteristics) \quad (1)$$

Firm characteristics include controls for firm size, profitability, leverage, the nature of the product, industry competitiveness, and a measure of political polarization in the states of operation. CEO characteristics include the CEO's tenure and gender, while corporate governance characteristics

include board size, board independence, and institutional ownership. All specifications are estimated with year dummies, and the standard errors are clustered at the firm level.

The differences seen in the univariate setting remain statistically significant. CEO activism is thrice as likely to occur in firms with significant operations in the ten most polarized states compared to firms with similar operations in less polarized states. Republican-leaning CEOs are 88 percent more likely to engage in activism than Democrat-leaning and Neutral CEOs. In column 4, we estimate the association of firm, CEO, and governance characteristics with a likelihood of Democrat-slant activism. CEO social activism with a Democrat-slant is more likely in the ten most polarized states, and Republican CEOs are also more likely to speak on social issues with a Democrat-slant. Since most CEO activism events have a Democrat-slant, the results for column 3 and column 4 are unsurprisingly similar. These results are consistent with the notion that activism on social issues is a CEO's strategic extremism strategy to benefit from political polarization. A counter-narrative is that the direction of causality can be reversed, i.e. CEO activism leads to more *within*-state polarization. Such concerns are mitigated because political polarizations change over a long-time period. We use the polarization measures that are contemporaneous to the activism events, and therefore, within our sample period, CEO activism is unlikely to cause political polarization.

In terms of firm characteristics, CEO activism is more likely in large and more profitable firms and more competitive industries. Corporate governance and institutional ownership measures have no meaningful association with the likelihood of CEO activism. Given that US laws include corporate political choices in ordinary business decisions, it is not surprising that the board and the investors have no meaningful impact on CEO activism. We present the results in table 4.

[Table 4 here]

4.2 Economic Consequences of CEO Social Activism

We use an event study to examine the investors' reaction to CEO activism. If an activist statement by a CEO is met with investor approval, we expect to see a positive movement in the company's share price. On the other hand, if the shareholders perceive that the CEO's activist stance is

detrimental to the company's long-term value, share prices shall fall. The abnormal returns are calculated based on a market model using the equal-weighted market portfolio. We use daily data from days -250 to -7 days before the event to estimate the market model's parameters. We calculate returns in a 3-day and 7-day event window:

$$R_{we;t} = E\left[R_{we;t}\middle|X_t\right] + \xi_{we,t} \tag{2}$$

where we decompose stock-returns $\mathbf{R_{i;t}}$ around the CEO activism events. $\mathbf{X_t}$ is the conditioning vector of firm characteristics at time t and $\boldsymbol{\xi_{i,t}}$ is the abnormal returns within the event windows.

The results are presented in table 5. There are positive and statistically significant abnormal returns to CEO activism in both 3-day and 7-day event windows. Figure 1 provides a corresponding graphical representation of the change in returns in and around an event of CEO activism with respect to a control group of non-activist firms matched on size, profitability, and industry classifications. In alternate specifications reported in supplementary appendix A, we examine the robustness of the results using the Fama-French (1993) model.

[Table 5 and Figure 3 here]

Next, we examine the CEO and industry characteristics that are associated with higher value gains. In multivariate tests with value-weighted Cumulative Abnormal Returns for (-1, +1) days as the dependent variable, we control for the polarised environment indicator and the full set of firm and CEO characteristics used in table 4. The results are presented in table 6. The abnormal returns are higher for larger firms, firms that sell final goods, and firms with significant operations in the ten states with the highest political polarization. Finally, we examine how the CEO's political preference and the partisan-leaning of activism stance affect firm value. Social activism stances with a Democrat-slant are associated with larger value gains than Republican or neutral positions. CEOs' personal political views do not affect investors' views on activism. These results suggest that value gain from CEO activism accrues more to firms operating in politically polarized states.

[Table 6 here]

We then turn to the effect of CEO social activism on profitability. The gain in firm value surrounding CEO activism suggests that the investors expect firms' future earnings to increase. CEO activism is non-financial news without implications for the firm's long-term profitability and can be expected to have short-term effects. Therefore, we estimate the following equation to estimate the impact of CEO activism on ROA:

$$ROA_{it} = f(CEO\ Activism_{it-1}, CEO\ Activism_{it-1}, X_{it-1}) \quad (3)$$

In column 1 of table 7, we regress profitability on an indicator for CEO activism in the previous year, the firm characteristics lagged by one year. In the cross-section, CEO activism leads to a 3.1 percent gain in profitability for firms whose CEOs undertake social activism.

In columns 2 and 3, we estimate the effect of industry characteristics on the customer reactions to CEO activism. We use two interactions: *CEO Activism x High Competition* and *CEO activism x Final Goods,* respectively. These regressions focus on estimating cross-sectional differences in profitability between firms, so they are estimated without firm fixed effects. The increase in profits is higher for firms in highly competitive industries and higher for firms producing and selling final goods. At the same time, the standalone coefficient of the *CEO activism* remains qualitatively similar to the column 1 estimate.

4.3 Endogeneity Concerns and Instrumental Variables Regression

One concern is that CEO social activism's observed effect on profitability is likely to be driven by unobserved factors that affect both these variables. For example, it is plausible that CEOs who wish to express potentially controversial views would choose to do so when some other good news about the firm is being released. Our sample selection explicitly eliminated CEO activism events potentially contaminated by other value-relevant news about the firm.

Even if no new information is released around CEO activism announcements, it is still possible that the CEO times such announcements to precede some good news, which is private information to her. Here, a CEO who anticipates higher profits may feel emboldened and choose to make such statements. In this case, the event does not cause more profits; it is the other way around. The underlying assumption is that the CEO is engaging in social activism to publicize his personal views, and the timing during good times is to avoid shareholder backlash. If CEOs are motivated to publicize their personal opinions, we will expect that the partisan views in the sample of activism statements reflect their personal political views. That we see that the partisan-slant of CEO activism statements to be the opposite of their political donations' partisan nature makes the above argument inconsistent with empirical observations.

Nevertheless, it is still possible that firms can have unobserved characteristics that affect both the likelihood of CEOs' social activism as well as profitability. In column 4, we present estimates with firm-fixed effects to mitigate concerns about time-invariant firm characteristics that may affect the column 1 estimates to address this concern. In the period after CEO social activism, the profitability of companies increases by 2 percent compared to the period before these events. The association is statistically significant at a 1 percent level.

Finally, we control for time-varying unobserved characteristics that might affect our results. The primary concern is that CEOs endogeneous choice to engage in social activism may be affected by private information of future profits. Therefore, we estimate a two-stage instrumental variable (IV) model where the likelihood of CEO social activism is determined by a variable outside the firm's control and which doesn't directly affect profitability. It follows our theoretical model, where an increase in M_c leads to more firms selecting into activism. Therefore, we use a measure of polarized environment that predicts the likelihood of engaging in CEO social activism and only affects profits through the selection into activism.

We estimate the following 2-stage least square model:

$$CEO\ Activism_{it} = \alpha_i + \delta_t + \rho Polarized\ Environment_i + \lambda Z_{it} + \epsilon_{it} \quad (4a)$$

$$ROA_{it} = \alpha_i + \delta_t + \beta\ \widehat{CEO\ Activism}_{it-1} + \kappa Z_{it} + \epsilon_{it} \quad (4b)$$

$CEO\ Activism_{it-1}$ is an indicator for CEOs engaging in social activism, and $\widehat{CEO\ Activism}_{it-1}$ is the predicted value of $CEO\ Activism_{it-1}$ from equation 4a. $Polarized\ Environment_i$ is the fraction of the states in which a firm operates that are in the top 10 most polarized states in the Kaplan et al. (2019) index for the year 2016. As noted before, 75% of states where Goldman Sachs' operates are highly polarized, while only over 50% of Citigroup's operations are in highly polarized states. Citigroup operates in Connecticut, Delaware, Florida, Georgia, Maryland, Missouri, and Texas (the last four of which are classified as highly polarized). Goldman Sachs operates in Delaware, Illinois, New York and Virginia (the last three of which are classified as highly polarized).

Therefore in our IV model, the likelihood of CEO activism will be higher for Goldman Sach's rather than Citigroup. Indeed, the CEO of Goldman Sachs has engaged in CEO activism seven times compared to Citigroup CEO engaging in activism statements twice in the sample period. The underlying rationale for the instrumental variable is that polarization among consumers allows CEOs to segment the market through CEO activism signals. The market segmentation leads to lesser competition within a smaller market segment. It is true that market segmentation also leads to a smaller size of the market. However, if $\frac{M_C}{M-M_C}$ is large enough, then the positive effect on profits of the lack of competition outweighs the negative effect of the smaller market size. On average, 41 percent of operating states of the sample firms are in polarized states. Z_{it} is a vector of all company, board and industry characteristics discussed in section 3.

Our exclusion strategy relies on the differences in CEO behaviour for firms exposed to higher vs lower levels of political polarization. For identification, it is important that firms that operate in a politically polarized environment only affect profitability through CEO activism. Although the exclusion restriction is not directly testable, we attempt to address this concern in two ways. First, we regress *Polarized Environment* on CEO Activism and then regress ROA on the residuals of that regression. The idea is to examine if the effect of a polarized environment without the CEO activism

component explains ROA. If so, then the concern that a polarized environment affects the profitability of companies through channels other than CEO social activism. We find no statistically significant effect of the residuals on ROA, which provides assurance that the exclusion restriction is satisfied.[25]

The first and the second stages of the IV estimates are presented in columns 5 and 6 of table 7. In column 5, we show that CEOs of companies operating in a more polarized environment are 3 times more likely to engage in CEO activism. The first stage F-statistics is 19.89 > Stock and Yogo threshold of 10, which mitigates concerns about weak instruments. In the second stage, CEO activism increases profits by 2.6 percent compared to non-activist companies, and the association is statistically significant at the 1 percent level.

It appears that CEO activism captures consumers' attention in the short run, which results in an increase in profitability following an instance of activism. Firms in more competitive industries and selling final goods seem to benefit more from CEO activism. The increase in profitability is driven by a short-term increase in customer perception towards activist companies. Profit growth is higher for firms headquartered in the states with high *within-state* polarization. These results show that CEO activism is a strategic choice in institutional settings with high political polarization and high industry competition.

[Table 7 here]

Finally, we do a number of tests to rule out some of the obvious channels that can confound our results. For example, if companies that operate in polarized environments face lower corporate tax rates, have lesser employees, are more innovative, and have more business segments- that can provide alternative channels to CEO activism through which political polarization can affect profitability. Table 8 shows that Polarized Environment is not statistically significantly associated with the number of business segments, number of employees, tax payable, and R&D expenses.

[25] The results of the residual regressions are in presented in the appendix 5.

[Table 8 here]

4.4 Channel through which CEO Social Activism affects profitability

How does CEO social activism affect profitability? One concern is that several factors can affect annual profitability measures other than CEO activism events. Therefore, we examine the effect of CEO social activism events on more proximate outcomes like quarterly sales. In column 1 of table 9, we show that CEO social activism increases quarterly sales for two quarters following the events, but the effect dissipates thereafter. Further, we examine the effect of CEO activism events on other channels through which CEO activism events can affect profitability: employee satisfaction and innovation (Mkrtchyan et al., 2021). In columns 2 and 3, we show that the CEO social activism has no statistically significant effect on sales per employee and the natural log of R&D expenses. Therefore, we show that the effect of CEO Social Activism on profitability is through increased sales turnover in the following two quarters.

[Table 9 here]

4.5 Additional Results and Robustness

a. The Message of Social Activism vs the Visibility of the CEO.

It can be argued that the CEOs are highly visible individuals and that any communication with the stakeholders can be value-relevant, irrespective of the message's content. An intuitive counterpoint to the above is that such an explanation is not consistent with the clustering of CEO activism events in a few states and the systematic Democrat bias in the partisan leanings of activism stances. An empirical exercise to decouple the speaker from the content of their communication is not straightforward. We approach this issue by implementing two placebo tests. First, we examine the reactions to events where the CEO speaks on non-activism issues. If the financial returns were to the CEO's visibility, and not their message, any message from the S&P 500 companies, CEOs should have similar economic effects.

We construct a sample of events where S&P 500 CEOs publicly speak on unrelated issues to business and unrelated to the activism issues we discuss in this paper. The sample comprises events where CEOs speak about their families, people who inspire them, life experiences, personal preferences, hobbies, pets, books, movies, etc. The criteria for selecting these events and some examples are provided in appendix 2B and 2D, respectively. In the sample period, there are 103 such events of "*Other CEO Communications*". We examine the price reaction and effect on profitability for the firms whose CEOs engage in these events. The results are presented in panels A and B of table 10. There is no statistically significant effect of *Other CEO Communications* on firm value in the 3-day and 7-day event windows. There is no statistically significant effect on profitability for firms affected by "*Other CEO Communications*" than unaffected firms.

[Table 10 here]

Next, we examine the investor and consumer reactions to events where the CEO speaks on their company's social and environmental achievements or the industry's social commitments. The events include touting awards won by the company for diversity or sustainability, stances against social policies that might directly affect their business or comments about the industry segment. For example, in May 2017, the CEO of DTE Energy commented that the energy industry is responsible for addressing climate change. In the sample period, we have 66 such events of *Activism for Company*. There is no statistically significant effect or economically meaningful effects of these events on the returns and profits.

The lack of effect on returns and profits for *Other CEO Communications* and *Activism for Company* partially mitigate the concern that the returns to activism are not related to the content of the message but rather driven by the CEO's' visibility. However, the lack of statistical significance for *Activism for Company* can be driven by the low power of tests due to the small sample of events. The results are presented in table 11.

[Table 11 here]

b. Proactive vs Reactive Social Activism

CEOs comment on social issues either in reaction to an event and/or government policies or spontaneously without any proximal social prompt. While proactive events may have higher signalling value to the stakeholders, reacting to a social event may also attract attention if prior events have already sensitized the stakeholders to a social issue. Ultimately, the relative economic effects of proactive and reactive CEO social activism is an empirical question.

We examine whether the economic consequences differ for pro-active and reactive social activism. We estimate the baseline event study and cross-sectional profitability regressions and find that the 3-day cumulative average abnormal returns and the profitability growth are similar for the two sub-groups. The difference in the magnitudes is not statistically significant. The results are presented in table 12. These results imply that CEOs' social comments have meaningful economic effects, irrespective of a proximal socio-economic event.

[Table 12 here]

c. Governance Characteristics

We examine how internal governance characteristics affect the likelihood of CEO activism by using an enhanced set of governance-related variables. We examine if classified boards, poison pill and golden parachutes provisions are related to CEO activism's likelihood. We also examine if network connections affect CEO activism choices. We use a measure *Board Interlock* which is a dummy =1 if at least one non-executive director on the board of a focal firm has a concurrent appointment with a CEO activism firm. We find no evidence that any governance measures are statistically significantly associated with the probability of CEO activism. We show these results in table 13. It is unsurprising that corporate governance practices have little impact on CEO activism; corporate political activities are included in ordinary business decisions that are not under non-executive directors' purview (Citizens Utd vs FEC, 2010).

[Table 13 here]

d. First-time Activism vs Serial Activism

For our main analysis, we focus only on the subsample of events where a CEO speaks on a social issue for the first time. To examine if the first-time activism and serial activism events have different economic effects, we use the full sample of 1,188 CEO activism events within the sample period. We use a dummy *First-time Activism* which equals 1 for the baseline sample and 0 otherwise, to examine the economic effect of first-time events relative to the full sample. In appendix 4, we demonstrate that first-time events have a stronger impact on profitability than subsequent events of CEO activism.

d. The Topics of CEO Social Activism

Specific topics of CEO activism can be more value-relevant than the others. We examine the possibility of heterogeneous value effects by estimating the event-study models and the profits regressions separately for the three most common topics of CEO activism: gender, LGBT, and discrimination. Events related to each of these topics are associated with higher returns in 3-day and 7-day event windows. The events of each type are associated with higher profitability following the CEO activism event. The economic effects of activism events related to discrimination are significant only at a 1 percent level, possibly because it is the smallest subsample of events. The results are presented in a supplementary appendix.

e. The Channels of CEO Social Activism

It is plausible that the activism stances are more visible through social media and that the economic effect is mainly driven by these events. We examine if the price-reaction and the effect on profits vary by the channels through which CEOs communicate with the broader society. Grouping CEO activism events through communication modes, we estimate separate event study models and cross-sectional profitability regressions for the three main channels: press conferences, social media, and other communication channels. There seem to be statistically significant value gains for CEO activism communicated through press conferences and social media. In contrast, value gains for activism through other media are weak in statistical significance.

The effects of CEO activism communicated through social media on profitability are qualitatively similar for the three primary communication mediums. However, the effect reported in column 3 is of modest economic significance and weak statistical significance. The results are presented in a supplementary appendix.

f. Headquarters vs Operations in the Polarized States

In our baseline specification, we used the polarization at the states of operation of firms. We examine if the state in which the firm is headquartered matters for a CEO's selection into activism. We estimate the baseline specifications of economic effects with the *Polarized HeadQuarter* instead of the *Polarized Environment* dummy. The effect of polarization at the headquarter on the likelihood of CEO activism and CEO activism's economic effect are similar to the baseline results. We present these results in a supplementary appendix.

5. Conclusion

The social and political impact of large corporations is sharply in focus in recent times. This paper examines the public expressions of CEOs' views on social and political issues in the US. While CEO social activism has been previously studied, this paper is the first to provide a theoretical framework of the strategic motives and economic consequences of a large sample of CEO activism events and provide empirical tests for the theoretical predictions (Hambrick and Wowak, 2021; Melloni et al. 2019; Chatterji and Toffel, 2019; Larcker et al., 2018).

We show that CEO activism is more common in firms operating in politically polarized US states and more competitive industries. The shareholders positively receive CEOs' expressions of social activism in anticipation of higher future profits. Firms whose CEOs engage in social activism have higher subsequent profits than firms whose CEOs do not engage in social activism. The results are robust to several confounding factors and falsification tests, including distracting attention from negative news, contamination by other value-relevant events, CEOs speaking on other issues, and the effect of social media.

The results have implications for several contemporary debates, both conceptual and practical. First, by highlighting CEO activism as a unique form of corporate political strategy, we add to the discussion on the political influence of large corporations. There is an increasing concern that political comments made by influential and unelected CEOs might subvert the democratic process (Zingales, 2017). This paper shows that such activities are examples of strategic extremism that benefits the shareholders but does not reflect CEOs' political views. Second, this paper contributes to the debate on the purpose of corporations to serve wider stakeholders. We show that under certain conditions, corporate strategies have no stakeholder-shareholder tradeoff.

Overall, our paper shows that CEO activism is a strategic tool to gain a competitive advantage in a politically polarized environment. Several open questions remain. Contemporary political beliefs are increasingly multi-dimensional. How does CEO activism relate beyond the linear left-right spectrum of political preference is an avenue for future research. Additionally, CEO activism is a recent phenomenon and is mostly concentrated in the United States. CEO activism's nature and effectiveness as a strategic corporate choice in other countries with high political polarization are interesting questions for future research. Finally, it is also unclear how CEO activism is endogenized in the long-term political process. The long-term effects of CEO activism on the polarization of political beliefs and how to regulate these actions are important questions for future research.

References:

1. Ansolabehere, S., De Figueiredo, J. M., & Snyder Jr, J. M. (2003). Why is there so little money in US politics?. *Journal of Economic Perspectives*, *17*(1), 105-130.

2. Ariely, D., Bracha, A., & Meier, S. (2009). Doing good or doing well? Image motivation and monetary incentives in behaving prosocially. *American Economic Review*, *99*(1), 544-55.

3. Asker, J., Farre-Mensa, J., & Ljungqvist, A. (2015). Corporate investment and stock market listing: A puzzle?. *Review of Financial Studies*, *28*(2), 342-390.

4. Bebchuk, L. A., & Jackson, R. J. (2010). Corporate political speech: who decides?. *Harvard Law Review*, *124*(1), 83-117.

5. Bebchuk, L. A., & Tallarita, R. (2020). The Illusory Promise of Stakeholder Governance. *Available at SSRN 3544978*.

6. Besley, T., & Ghatak, M. (2007). Retailing public goods: The economics of corporate social responsibility. *Journal of Public Economics*, *91*(9), 1645-1663.

7. Borisov, A., Goldman, E., & Gupta, N. (2016). The corporate value of (corrupt) lobbying. *Review of Financial Studies*, *29*(4), 1039-1071.

8. Brown, J. R., & Enos, R. D. (2018). *Partisan Segregation*. Working Paper (https://scholar. harvard. edu/files/renos/files/brownenos. pdf).

9. Brown, J. R., & Huang, J. (2020). All the president's friends: Political access and firm value. *Journal of Financial Economics*, *138*(2), 415-431.

10. Burbano, V. (2020) The Demotivating Effects of Communicating a Social-Political Stance: Field Experimental Evidence from an Online Labor Market Platform, Forthcoming, *Management Science*. Available at SSRN: https://ssrn.com/abstract=3405691

11. Chatterji, A. K., & Toffel, M. W. (2019). Assessing the impact of CEO activism. *Organization & Environment*, *32*(2), 159-185.

12. Cohen, A., Hazan, M., Tallarita, R., & Weiss, D. (2019). The politics of CEOs. *Journal of Legal Analysis*, *11*, 1-45.

13. Di Giuli, A., & Kostovetsky, L. (2014). Are red or blue companies more likely to go green? Politics and corporate social responsibility. *Journal of Financial Economics*, *111*(1), 158-180.

14. Draca, M. and Schwarz, C. (2020) How Polarized are Citizens? Measuring Ideology from the Ground-Up. Available at SSRN: https://ssrn.com/abstract=3154431

15. Duchin, R., Simutin, M., & Sosyura, D. (2021). The origins and real effects of the gender gap: Evidence from CEOs' formative years. *Review of Financial Studies*, *34*(2), 700-762.

16. Edmans (2019) How great companies deliver both purpose and profit. *LBS Review*. https://www.london.edu/think/how-great-companies-deliver-both-purpose-and-profit [Accessed 11/01/2021].

17. Gabaix, X., & Landier, A. (2008). Why has CEO pay increased so much? *Quarterly Journal of Economics*, *123*(1), 49-100.

18. Garcia, D., & Norli, Ø. (2012). Geographic dispersion and stock returns. *Journal of Financial Economics*, *106*(3), 547-565.

19. Gelles, D. (2018) The CEO who stood up to President Trump: Ken Frazier speaks out, *New York Times*. https://www.nytimes.com/2018/02/19/business/merck-ceo-ken-fraziertrump.html [Accessed 10/05/2020].

20. Gentzkow, M., Shapiro, J., & Taddy, M. (2016). *Measuring polarization in high-dimensional data: Method and application to congressional speech* (No. id: 11114).

21. Glaeser, E. L., Ponzetto, G. A., & Shapiro, J. M. (2005). Strategic Extremism: Why Republicans and Democrats divide on religious values. *Quarterly Journal of Economics*, *120*(4), 1283-1330.

22. Grullon, G., Larkin, Y., & Michaely, R. (2019). Are US industries becoming more concentrated?. *Review of Finance*, *23*(4), 697-743.

23. Hambrick, D. C., & Wowak, A. J. (2021). CEO sociopolitical activism: A stakeholder alignment model. *Academy of Management Review*, *46*(1), 33-59.

24. Hoberg, G., Phillips, G., & Prabhala, N. (2014). Product market threats, payouts, and financial flexibility. *Journal of Finance*, *69*(1), 293-324.

25. Innes, R. (2006). A theory of consumer boycotts under symmetric information and imperfect competition. *Economic Journal*, *116*(511), 355-381.

26. Larcker, D.F., Miles, S., Tayan, B., and Wright-Violich, K. (2018) The Double-Edged Sword of CEO. Activism, *Rock Center for Corporate Governance at Stanford University Closer Look Series: Topics, Issues and Controversies in Corporate Governance* No. CGRP-74; Stanford University Graduate School of Business Research Paper No. 19-5.

27. Jensen, J., Naidu, S., Kaplan, E., Wilse-Samson, L., Gergen, D., Zuckerman, M., & Spirling, A. (2012). Political polarization and the dynamics of political language: Evidence from 130 years of partisan speech [with comments and discussion]. *Brookings Papers on Economic Activity*, 1-81.

28. Kaplan, E., Spenkuch, J. L., & Sullivan, R. (2019). Measuring Geographic Polarization: Theory and Long-Run Evidence.

29. Kitzmueller, M., & Shimshack, J. (2012). Economic perspectives on corporate social responsibility. *Journal of Economic Literature*, *50*(1), 51-84.

30. Langley, M. (2016) Salesforce's Marc Benioff Has Kicked Off New Era of Corporate Social Activism, Wall Street Journal, [Accessed 01/05/2020].

31. Lin, Tom C. W., Incorporating Social Activism (2018) Boston University Law Review 1535, Temple University Legal Studies Research Paper No. 2019-01.

32. McCarty, N., K. Poole, and H. Rosenthal (2016). Polarized America: The Dance of Unequal Riches. Boston: MIT Press.

33. Melloni, G., Patacconi, A., & Vikander, N. (2019). CEO activism as communication to multiple audiences. *Available at SSRN 3455330*.

34. Mkrtchyan, A., Sandvik, J., & Zhu, V. (2020). CEO Activism and Firm Value. *Available at SSRN*.

35. Painter, M. (2020). Consumer response to corporate political statements: Evidence from geolocation data. *Available at SSRN*.

36. Schwartz, N.D, Mix of Threats and Incentives Sealed a Deal, NY Times, December 1, 2016.

37. Shear, M.D., and Kang, C., Firms Shudder as Trump's Twitter Mean Business, NY Times, July 19, 2018.

38. Summers, L. (2019) If Business Roundtable CEOs are serious about reform, here's what they should do, *The Washington Post,* https://www.washingtonpost.com/opinions/if-business-roundtable-ceos-are-serious-about-reform-heres-what-they-should-do/2019/09/02/53b05014-cdc0-11e9-8c1c-7c8ee785b855_story.html [Accessed 08/05/2020]

39. The Economist. 2017. America Inc gets woke. https://www.economist.com/news/business/21731855-left-leaning-employees-leavemany- bosses-little-choice-mount-barricades [Accessed 01/05/2020].

40. Voegtlin, C., Crane, A., and Noval, L. (2019) When CEO. Sociopolitical Activism Attracts New Talents: Exploring the Conditions Under Which CEO. Activism Increases Job Pursuit Intentions. Available at SSRN: https://ssrn.com/abstract=3410382

41. Yu, F., & Yu, X. (2011). Corporate lobbying and fraud detection. *Journal of Financial and Quantitative Analysis*, *46*(6), 1865-1891.

42. Zingales, L. (2017). Towards a political theory of the firm. *Journal of Economic Perspectives*, *31*(3), 113-30.

43. Zingales, L. (2019) Don't trust CEOs who say they don't care about shareholder value anymore, *The Washington Post,* https://www.washingtonpost.com/opinions/2019/08/20/dont-trust-ceos-who-say-they-dont-care-about-shareholder-value-anymore/ [Accessed 01/05/2020]

Table 1: Description of the Events

In this table, we describe the CEO activism events in terms of the distribution of events over the sample period (panel A), topics (panel B), the medium of communications (panel C), the quarter of the financial year (panel D), pro-active vs reactive social activism (panel E), the geographic region where the firm is headquartered (panel F), and partisan-slant of the activism statements (panel G).

Panel A: CEO Social Activism Over Time		
	Count	%
2014	06	03
2015	14	07
2016	21	11
2017	38	20
2018	51	27
2019	57	30
Events	187	100
Panel B: Topics		
	Count	%
Gender	70	37
Immigration and Human Rights	23	12
LGBT	37	20
Religious/Racial Discrimination	31	17
Climate Change	22	12
Gun-Control	04	02
Events	187	100
Panel C: Medium of Communication		
	Count	%
Press Conference	84	45
Social Media	46	25
Letter to Shareholders/Employees	09	05
Television	26	14
Opinion Editorial	04	02
Interviews in Print Media	18	09
Events	187	100
Panel D: Quarter of FY.		
	Freq.	%
1	54	29
2	52	28
3	37	20
4	44	24

Total	187	100

Panel E: Proactive vs Reactive

	Freq.	%
Proactive	91	48
Reactive	97	52
Total	187	100

Panel F: Regional Distribution

	Freq.	%
North-East	78	41
Mid-West	35	19
South	11	06
West	63	34
Total	187	100

Panel G: Partisan Preference

	Freq.	%
Democrat-Slant	161	86
Republican-Slant	24	13
Unclear Partisan Slant	02	01
Total	187	100

Table 2: CEO. Partisan Leanings and Political Polarization

This table presents the state-wise measures of *within*-state political polarization, the number of CEO activism events and the proportion of S&P 500 firms headquartered.

State	2016 State level polarization Kaplan et al. (2019)	No. CEO. Activism	% of S&P 500 firms Headquartered
Alabama	.114	0	0
Alaska	.088	0	0
Arizona	.026	0	0
Arkansas	.083	1	1
California	.074	24	12
Colorado	.101	1	2
Connecticut	.011	2	1
Delaware	.057	1	1
District of Columbia	.013	0	0
Florida	.069	1	3
Georgia	.174	17	1
Hawaii	.002	0	0
Idaho	.067	0	0
Illinois	.133	24	6
Indiana	.084	5	1
Iowa	.058	0	0
Kansas	.082	0	0
Kentucky	.094	0	0
Louisiana	.130	0	0
Maine	.030	3	0
Maryland	.183	19	2
Massachusetts	.032	0	5
Michigan	.068	2	1
Minnesota	.092	3	1
Mississippi	.128	0	0
Missouri	.153	0	1
Montana	.069	0	0
Nebraska	.090	0	0
Nevada	.034	0	1
New Hampshire	.007	0	0
New Jersey	.069	5	2
New Mexico	.099	0	0

New York	.135	37	10
North Carolina	.098	2	1
North Dakota	.062	0	0
Ohio	.089	2	2
Oklahoma	.048	0	1
Oregon	.114	1	0
Pennsylvania	.119	1	3
Rhode Island	.008	1	0
South Carolina	.063	0	0
South Dakota	.047	0	0
Tennessee	.123	18	1
Texas	.123	0	5
Utah	.116	0	1
Vermont	.036	0	0
Virginia	.124	13	1
Washington	.083	4	1
West Virginia	.033	0	0
Wisconsin	.084	0	1
Wyoming	.096	0	0
Total		187	100

Figure 1A: Number of CEO Activism Events across the United States: 2014-2019

This figure presents the number of CEO activism events by company headquarters in different states across the United States.

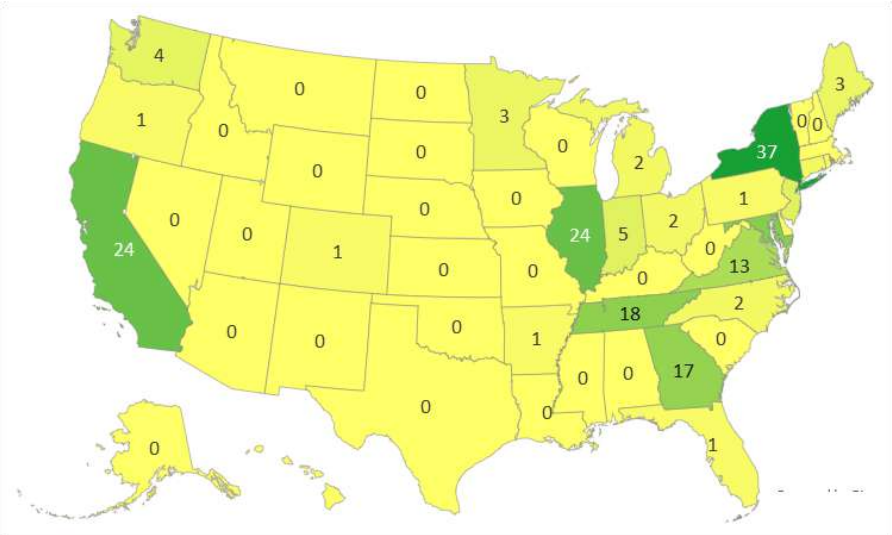


Figure 1B: Within-State Polarization in US states

This figure presents the within-state polarization in US states, measured by the Kaplan et al. (2019) index. The darker the shade of blue, the higher is the political polarization.

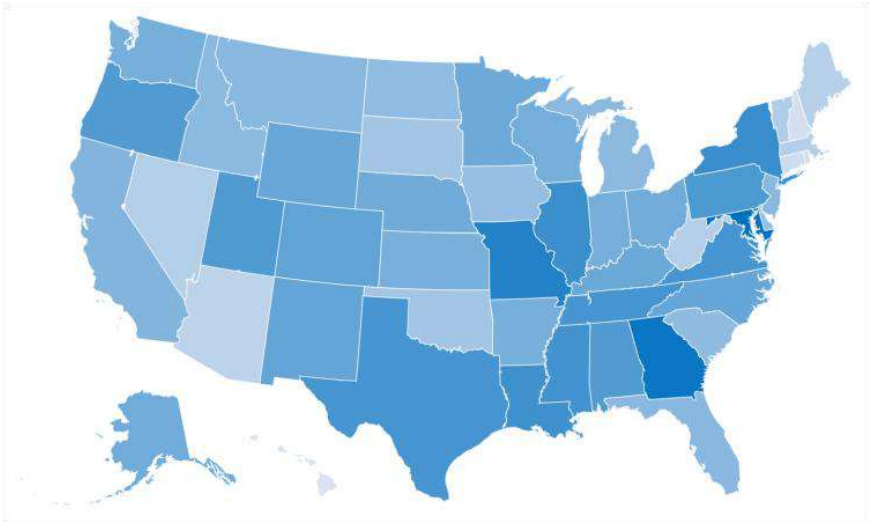


Table 3: Description of Sample Firms

This table provides the descriptive statistics of the sample of S&P 500 firms for the period 2014-2019. The description of the variables is provided in Appendix 1.

	N	Mean	SD
CEO Donations ($)	2,445	21,785	10,266
Donations to Republicans ($)	2,445	33,667	8,078
Donations to Democrats ($)	2,445	10,350	3,773
Female CEO	2,445	0.080	--
CEO Pay (million $)	2,445	19.394	4.186
Fraction Equity Pay	2,445	0.440	0.237
Ln (Total Assets)	2,445	9.234	1.889
ROA	2,445	0.103	0.067
MTBV	2,445	2.34	2.83
Leverage	2,445	0.422	0.189
Board Size	2,445	10.004	2.562
Board Independence	2,445	0.523	0.108
Institutional Ownership	2,445	0.082	0.025
CEO Age	2,445	57.201	2.197
CEO Tenure	2,445	7.129	1.992

Table 4: Likelihood of CEO Social Activism

This table provides the linear probability estimates of the likelihood of CEO activism, conditional on the firm (column 1), CEO. (column 2) and corporate governance characteristics (column 3). All specifications are estimated with industry dummies and year dummies. Robust standard errors clustered at the firm level are in the brackets. ***, ** and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Dependent Variable: CEO Activism Dummy		
	(1)	(2)	(3)
Polarized Environment	3.676***	3.507***	3.507***
	(0.923)	(0.819)	(0.819)
$MTBV_{t-1}$	0.108***	0.110***	0.110***
	(0.033)	(0.030)	(0.030)
$Size_{t-1}$	1.426***	1.426***	1.426***
	(0.432)	(0.435)	(0.435)
$Leverage_{t-1}$	0.019	0.019	0.019
	(0.015)	(0.015)	(0.015)
Final Products	0.033**	0.033**	0.033**
	(0.014)	(0.015)	(0.015)
Republican-Leaning CEO		0.878	0.878
		(0.259)	(0.259)
Female CEO		-0.003	-0.003
		(0.004)	(0.004)
$Tenure_{t-1}$		0.188	0.188
		(0.094)	(0.094)
Board $Size_{t-1}$			0.013
			(0.010)
Board $Independence_{t-1}$			0.027
			(0.032)
Institutional $Ownership_{t-1}$			0.010
			(0.010)
Industry dummies	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes
N	2,445	2,445	2,445
Adjusted-R^2	0.345	0.357	0.357

Table 5: Price Reaction

This table presents the estimates from the event study using equally weighted CARs (panel A) and value-weighted CARs (panel B). The estimation period is from day 250 to day 7 before CEO activism events. CAR is estimated using the market model. P-values are in the brackets. ***, ** and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Panel A: Equally weighted CARs		Panel B: Value Weighted CARs	
	(+3,-3)	(+1,-1)	(+3,-3)	(+1,-1)
CEO Activism	0.013** (0.006)	0.010*** (0.000)	0.012** (0.005)	0.010** (0.001)
N	187	187	187	187

Figure 3: CEO Social Activism Returns

We present the change in returns for firms in the 10-day interval of an event of CEO activism with respect to matched firms (size, profitability, industry-classification, and capital structure) where the CEO does not engage in activism.

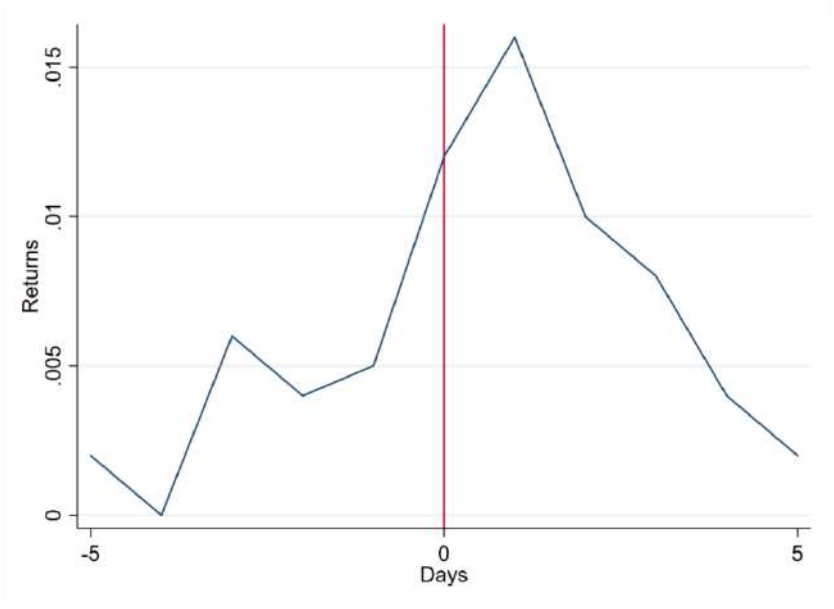


Table 6: Multivariate CAR Regression

In this table, we provide the multivariate regressions of the price reaction. The dependent variable is CAR in the period (-1, +1) days around CEO activism events. In column 1, we use firm-level controls, and in column 2, we add the variables related to political polarization. All specifications are estimated with year dummies. Robust standard errors clustered at the firm level are in the brackets. ***, ** and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Dependent Variable: CAR[-1,+1]	
	(1)	(2)
Polarized Environment		0.108***
		(0.029)
Democrat-Slant Activism		0.015***
		(0.004)
Republican-Leaning CEO		0.006
		(0.008)
Female CEO	0.000	
	(0.000)	
Tenure	0.010**	0.010**
	(0.004)	(0.005)
MTBV	0.024***	0.024***
	(0.006)	(0.008)
Size	0.019**	0.019**
	(0.007)	(0.007)
Leverage	0.003	0.003
	(0.003)	(0.003)
Final Products	0.019	0.019
	(0.007)	(0.007)
Board Size	0.004	0.004
	(0.003)	(0.003)
Board Independence	0.001	0.001
	(0.001)	(0.001)
Institutional Ownership	0.000	0.000
	(0.000)	(0.000)
Year Dummies	Yes	Yes
N	187	187
Adjusted-R^2	0.246	0.269

Table 7: CEO Social Activism and Firm Profits

This table presents the estimates of the effect of CEO activism on profitability. In column 1, we show the cross-sectional effect of CEO activism on ROA. In columns 2 and 3, we add controls for industry competition and the nature of products, respectively. In column 4, we present the within-firm effect of CEO activism on profitability using firm-fixed effects. We show the first stage IV results with the political polarization of the state of operation as the instrument in column 5. In column 6, we present the second stage IV results. All specifications are estimated with the full set of controls. Robust standard errors clustered at the firm level are in the brackets. ***, ** and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

Dependent Variable	ROA	ROA	ROA	ROA	CEO Activism	ROA
	(1)	(2)	(3)	(4)	(5)	(6)
CEO Actitivism$_{t-1}$	0.030***	0.031***	0.031***	0.020***	--	0.028***
	(0.007)	(0.009)	(0.009)	(0.006)		(0.008)
Polarized Environment	--	--	--	--	0.674***	--
					(0.151)	
High Competition	--	-0.101***	-0.102***	--	-0.102***	-0.113***
		(0.034)	(0.034)		(0.034)	(0.031)
CEO activism$_{t-1}$ x High	--	0.017***	0.013	--	--	--
Competition		(0.005)	(0.007)			
Final Products	--		0.012***	--	0.012***	0.019***
			(0.003)		(0.003)	(0.004)
CEO activism$_{t-1}$ x Final	--		0.015***	--	--	--
Products			(0.004)			
Republican CEO	--		--	--	0.005	0.004
					(0.009)	(0.005)
Other Control Variables$_{t-1}$	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	No	No	No	Yes	No	No
F-stats					19.89	-
N	2,445	2,445	2,445	2,445	2,445	2,445
R^2	0.217	0.249	0.253	0.318	-	0.288

Table 8: Exclusion Restriction Tests

This table presents the results from the tests for the exclusion restriction of the instrumental variable. In column 1, we show the longitudinal effect of polarized environment on firms' number of business segments. In columns 2 and 3, we show the cross-sectional differences in the effect of polarized environment on the natural log of the number of employees and the natural log of the income tax payable, respectively. In column 4, we show the cross-sectional differences in the effect of polarized environment on the natural log of R&D expenses. All specifications are estimated with the full set of controls. Robust standard errors clustered at the firm level are in the brackets. ***, ** and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Business Segments	Ln(Employees)	Ln(Income Tax Payable)	Ln (1+R&D)
Polarized Environment	0.998	0.033	0.166	0.019
	(0.570)	(0.210)	(0.123)	(0.016)
Control Variables	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes
N	2,445	2,445	2,445	2,445
Adjusted R^2	0.109	0.132	0.117	0.130

Table 9: Mechanisms through which CEO Activism affects Profitability

This table presents the results from the tests for the mechanisms underlying the CEO activism-profitability effect. In column 1, we show the longitudinal effect of CEO activism in previous quarters on quarterly sales revenues. In columns 2 and 3, we show the cross-sectional differences in the effect of CEO activism on Sales per Employee and Ln(1+R&D), respectively. All specifications are estimated with the full set of controls. Robust standard errors clustered at the firm level are in the brackets. ***, ** and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Ln (Quarterly Sales Revenues)	Sales per Employee	Ln (1+R&D)
	(1)	(2)	(3)
CEO Actitivism$_{q-1}$	0.016***		
	(0.003)		
CEO Actitivism$_{q-2}$	0.015***		
	(0.005)		
CEO Actitivism$_{q-3}$	0.007*		
	(0.004)		
CEO Activism$_{it-1}$		0.107	0.061
		(0.084)	(0.055)
Control Variables$_{t-1}$	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Firm Fixed Effects	Yes	No	No
N	9,780	2,445	2,445
R^2	0.287	0.203	0.217

Table 10: Idiosyncratic non-activism events

This table presents the economic effect for the firms when CEOs speak on issues unrelated to both business issues and social issues. The description of the 103 events is presented in appendix 2B. We present the event study results using the equally weighted CARs for 7-day and 3-day event windows in panel A. In panel B, we present the results from the profitability regressions. The control group contains firms whose CEOs never engaged in social activism. Column 1 shows the results with firm fixed effects, and column 2 shows the cross-sectional results. All specifications are estimated with the full set of controls. P-values in the brackets for panel A and robust standard errors clustered at the firm-level are in panel B. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

Panel A	Equally weighted CARs	
	(+3, -3)	(+1,-1)
Other CEO Communications	0.001	0.003
	(0.228)	(0.208)
N	103	103

Panel B	ROA	
	(1)	(2)
Other CEO Communications$_{t-1}$	0.006	0.009
	(0.015)	(0.017)
Polarized Environment		0.006
		(0.009)
Other CEO. Communications$_{t-1}$ x		0.001
Polarized Environment		(0.003)
Control Variables	Yes	Yes
Industry dummies	Yes	Yes
Firm Fixed Effects	Yes	No

N	2,445	2,445
R^2	0.120	0.113

Table 11: Activism on Behalf of the Company

This table presents the economic effects on the firms when CEOs speak on social issues on behalf of the industry. The description of the events is presented in appendix 2A. We present the event study results using the equally weighted CARs for 7-day and 3-day event windows in panel A. In panel B, we present the results from the profit regressions. The control group contains firms whose CEOs never engaged in social activism. Column 1 shows the results with firm fixed effects, and column 2 shows the cross-sectional results. All specifications are estimated with the full set of controls. P-values in the brackets for panel A and robust standard errors clustered at the firm-level are in panel B. ***, **, and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

Panel A	Equally weighted CARs	
	(+3,-3)	(+1,-1)
Activism for Company	0.000 (0.174)	0.002 (0.166)
N	66	66

Panel B	ROA	
	(1)	(2)
Activism for Company$_{t-1}$	0.010	0.014
	(0.017)	(0.023)
Polarized Environment		0.014
		(0.018)
Activism for Company$_{t-1}$ x Polarized Environment		0.009
		(0.018)
Control Variables	Yes	Yes
Industry dummies	Yes	Yes

Firm Fixed Effects	Yes	No
N	2,445	2,445
R^2	0.119	0.120

Table 12: Pro-active vs Reactive CEO Social Activism

This table presents the economic effects of CEO activisms proactively (panel A) and in reaction to a social event or government policies (panel B). We provide estimates for 3-day CAR and the cross-sectional profit regressions for both the subsamples. The profit regressions include the full set of controls and year dummies. The control group contains firms whose CEOs never engaged in social activism. P-values in the brackets CAR estimates and robust standard errors clustered at the firm-level are in the brackets for the profit regressions. ***, ** and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Panel A: Proactive CEO Social Activism		Panel B: Reactive CEO Social Activism	
	CAR [-1,+1]	ROA	CAR [-1,+1]	ROA
	(1)	(2)	(3)	(4)
CEO Activism	0.011**		0.015**	
	(0.005)		(0.006)	
CEO Activism$_{it-1}$	--	0.036***	--	0.028***
		(0.012)		(0.009)
Control Variables	--	Yes	--	Yes
Industry Dummies	--	Yes	--	Yes
Firm Fixed Effects	--	Yes	--	Yes
N	91	2,445	97	2,445
Adjusted-R^2		0.211		0.227

Table 13: Role of Governance in CEO Activism

This table presents the likelihood of CEO activism for firms with different corporate governance mechanisms. All specifications include the full set of control variables and industry dummies. Robust standard errors clustered at the firm level are in the brackets. ***, ** and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

	Dependent Variable: CEO Activism			
	(1)	(2)	(3)	(4)
Staggered Board$_{t-1}$	0.007	0.007	0.007	0.007
	(0.011)	(0.011)	(0.011)	(0.011)
Poison Pill$_{t-1}$		0.009	0.009	0.009
		(0.008)	(0.008)	(0.008)
Golden Parachute$_{t-1}$			0.000	0.000
			(0.003)	(0.003)
Board Interlocks $_{t-1}$				0.066
				(0.062)
Control Variables$_{t-1}$	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
N	2,445	2,445	2,445	2,445
Adjusted-R^2	0.345	0.357	0.357	0.357

Appendix 1: Variable Descriptions

Variables	Definition
CEO Activism	Dummy = 1 if a CEO engages in social activism
Other CEO Communications	Dummy = 1 if a CEO speaks on family, hobbies and inspiration
Activism For Company	Dummy = 1 if a CEO speaks on social stances of the company or of the industry
ROA	Net profits/Total Assets
MTBV	Market Capitalization/Book Value of Total Assets
Size	Natural log of Total Assets of the firm
Leverage	Debt-to-Equity Ratio
Sales Revenues	Natural log of quarterly sales revenues (price x quantity)
Sales Per Employee	Ratio of Sales Revenues to the number of employees
Ln (1+R&D)	Natural log of annual Research and Development expenses
Polarized HeadQuarters	Dummy = 1 if the Firm is Headquartered in any of ten states with the highest geographic polarization in the Kaplan et al. (2019) measure.
Polarized Environment	Dummy = 1 if at least 25 percent of the states in which a firm operates in in in the ten most polarized states in the Kaplan et al. (2019) measure.
High Competition	Dummy = 1 if the firm is in the bottom quartile of the HHI distribution
Final Products	Dummy = 1 if the firm produces and sells final goods
Female CEO	Dummy =1 if the CEO is female
Tenure	Number of years the CEO is in the current role at the firm
Board Size	Number of Directors on the Board
Board Independence	The fraction of Non-executive Independent Directors on the Board
Institutional Ownership	The fraction of Shares Outstanding held by institutional investors

First-Time Activism	Dummy = 1 for the first instance of CEOs engaging in social activism
Gender Activism	Dummy = 1 if a CEO speaks on gender equality
LGBT Activism	Dummy = 1 if a CEO speaks on LGBT issues
Anti-Discrimination Activism	Dummy = 1 if a CEO speaks on racial and xx equality
CEO Activism via Press Conference	Dummy = 1 if a CEO engages in activism via a press conference
CEO Activism via Social Media	Dummy =1 if the activism is communicated through Facebook, Twitter, LinkedIn, etc.
CEO Activism via Other Medium	Dummy =1 if the activism is communicated through Facebook, Twitter, LinkedIn, etc.
Reactive Activism	Dummy =1 if the activism is within 30 days of negative news about the firm.
CEO Pay	Natural log of total annual CEO compensation
Fraction Equity Pay	The fraction of Equity-based pay in annual CEO compensation
Republican CEO.	Dummy =1 if the CEO's political contribution to Republicans is at least 25 percent more than to other political parties
Democrat-Slant Activism	Dummy = 1 if the bent of the activism statement is aligned to the Democrat ideology
Staggered Boards	Dummy = 1 if board structure is such that a group or portion of the directors serve for different term lengths
Golden Parachute	Dummy = 1 if the company has a change-in-control agreement with the CEO
Poison Pills	Dummy = 1 if the company has adopted Poison Pills as anti-takeover defence
Board Interlocks	Dummy = 1 if at least one non-executive director on the board had a concurrent appointment with a CEO-activism firm in the previous year

Appendix 2A: CEO Social Activism Criteria

A. Environment

i. Includes CEOs speaking on Climate Change as a global threat, CEOs who talk about deforestation, marine-life preservation etc.

ii. Includes CEOs who speak on the necessity of their company or other companies reducing their environmental impact or improving their operations or supply chain's sustainability.

iii. Includes CEOs who speak on corporate or government responsibilities to mitigate climate change effects, including topics such as the carbon tax, cap-and-trade legislation, or the Paris Climate Accord.

ii. This does not include CEOs whose companies sell products or services to improve sustainability or efficiency.

iii. This does not include CEOs who tout awards their company has received for meeting environmental goals or their score on indices that measure environmental sustainability (Included In *"Activism For Company"* Variable).

B. Diversity and Inclusion

i. Includes CEOs who speak on the increase in diversity or inclusion in their workplace regarding gender, ethnicity, or sexual orientation.

ii. Includes CEOs who speak on gender equality or advancement, denounce racism or racist behaviour, discrimination or discriminatory behaviour, support on behalf of same-sex marriage, LGBTQ rights, or defend religious freedom and laws that are perceived to restrict LGBTQ rights.

iii. Includes CEOs who speak on the use of gender pronouns.

iii. It does not include CEOs who tout awards their company has received for diversity or inclusion (Included In *"Activism For Company"* Variable).

C. Immigration and Human Rights

i. Includes CEOs who speak about US immigration laws, possibly for humanitarian purposes and not explicitly to improve the supply of high- or low-skill workers that benefit their business.

ii. Includes CEOs who speak about the US or international policy about migrants, migrant workers, refugees, indigenous people, or the working conditions for workers in underdeveloped nations.

iii. Includes CEOs who speak about universal healthcare, healthcare reform, food health and safety, the treatment of animals, education reform, worker retraining, income inequality, or changes to individual tax rates.

iv. It does not include CEOs whose businesses would directly benefit or be harmed from changes to policies or regulations that impact these issues (Included In *"Activism For Company"* Variable).

D. Politics

i. Gun control

ii. Includes CEOs who support NAFTA, Brexit, NATO funding or are against it.

iii. It does not include CEOs who advocate for the election of specific individuals to political office.

iv. It does not include CEOs' positive or negative comments about specific political parties, members of Congress, the president, or comments about legislative issues with significant economic implications such as the fiscal cliff, the debt ceiling, budget sequestration, NAFTA, or tariffs (Included In *"Activism For Company"* Variable).

Appendix 2B: Other CEO Communications Criteria

A. CEO. Families

i. Includes CEOs who speaks of his/her parents, siblings, spouse, and children.

ii. Includes CEOs who speak on deceased family members or ex-spouses.

iii. Includes Female CEOs who speak on Motherhood.

iv. Includes CEOs speaking about childhood experiences.

v. It does not include female CEOs who campaigns for public policies to mitigate maternity disadvantage at the workplace (These events are included in Activism Statements).

B. CEO. Hobbies

i. Includes CEOs are speaking on their hobbies and past times. Events comprise of CEOs speaking on Books, Movies, Sports, Daily routines, Exercising, Etc.

C. CEO. Influences

i. Includes CEOs are speaking on individuals who have influenced them. Events comprise of CEOs talking about their teachers, employers, public figures, etc.

ii. Includes CEOs are speaking on places and institutions that have been influential to them. Events comprise CEOs talking about cities, universities, and companies they have worked in their career.

iii. Includes CEOs speaking about their beliefs on humanity's future, advising job seekers and graduates, etc.

Appendix 2C: Prominent Examples of CEO Social Activism

June 1, 2020. Arvind Krishna, CEO of IBM, wrote on LinkedIn regarding racial tensions in Minneapolis: "*We cannot lose sight of the fact that racism is tearing our communities apart. One lesson we should all learn is that silent carriers help spread racism.".*

September 4 2018. Chip Bergh, CEO of Levis-Strauss in a Fortune blog in favour of gun control: "*Americans shouldn't have to live in fear of gun violence. It's an issue that affects all of us—all generations and all walks of life.*

July 6, 2018. Kenneth Frazier, CEO of Merck, spoke on Board Diversity at a University lecture: "*At the end of the day, you want people who come into the boardroom with very different experiences and perspectives. That's how you get the best deliberations.*"

June 18, 2018. Sundar Pichai, CEO of Google, tweeted: "*The stories and images of families being separated at the border are gut-wrenching. Urging our government to work together to find a better, more humane way that reflects our value as a nation. #keepfamilestogether*".

October 27, 2017. Safra Catz, CEO of Oracle, spoke on gender equality in an event: "*You don't want to exclude half your group. If You want the best people looking at things from different angles.*"

August 14, 2017. Tim Cook, CEO of Apple, tweeted regarding violence in Charlottesville, Virginia: *We've seen the terror of white supremacy & racist violence before. It's a moral issue - an affront to America. We must all stand against it*".

February 23, 2017. Darren Wood, CEO of ExxonMobil, wrote a public blog on US withdrawal from the Paris Climate Agreement: "*We believe, and my company believes, that climate risks warrant action, and it's going to take all of us—business, government, and consumers—to make meaningful progress.*"

February 24, 2014. Doug Parker, CEO of American Airlines, commented on a proposed Arizona religious freedom law: "*There is genuine concern throughout the business community that this bill if signed into law, would jeopardize all that has been accomplished so far.*"

Appendix 2D: Prominent Examples of Non-Social Activism statements of CEOs

February 27, 2020. Satya Nadella, CEO of Microsoft, spoke about his interest in cricket at Young Innovators Summit: "This is like picking religions. I would say Sachin yesterday, Virat today".

November 29, 2019. Bob Iger, CEO of Walt Disney, speaks on his childhood and upbringing during an interview about his book: "My parents were quite honest with me. I was the oldest child of two. We have a younger sister, Carolyn. But it was made clear to me he was ill and was seeing doctors. Doctors then were psychiatrics called shrinks, by the way, at that point, which was kind of a bad word, a stigma to it. He had electric shock therapy at one point".

April 5, 2018. Tim Cook, CEO of Apple, spoke about Martin Luther King in a student symposium: "If you listen to him today, you feel like he is speaking about today".

February 12, 2018. Gini Romnetty, CEO of IBM, speaking on the future of technology on a campus visit to Stanford University: "You have to bring [technology] safely into the world, or your job is not done."

April 9, 2016. Indra Nooyi, CEO of Pepsico, spoke in a newspaper interview about parenting her daughters: "Regret is too serious a word. Heartaches many times. It is not regret. I love what I'm doing. I may have regretted not doing it had I stayed at home and spent all the time there. Regret is a very complex word."

Appendix 2E: Prominent Examples of Pro-active vs Reactive Activism statements of CEOs

June 1, 2020. Arvind Krishna, CEO of IBM, regarding racial tensions in Minneapolis: "*We cannot lose sight of the fact that racism is tearing our communities apart. One lesson we should all learn is that silent carriers help spread racism.*"

[**Reactive Statement** because George Floyd 25th May 2020. The gap between the event and speaking is $<$ 10 days]

October 27, 2017. Safra Catz, CEO of Oracle, spoke on gender equality in an event: "*You don't want to exclude half your group. If You want the best people looking at things from different angles.*"

[**Proactive Statement** because there were no laws passed/statements made by politicians or government agencies on gender equality in the preceding 10 days]

March 26, 2017. Marc Benioff, CEO of Salesforce, tweeted regarding the Religious Freedom Restoration Act: "*Today we are cancelling all programs that require our customers/employees to travel to Indiana to face discrimination.*"

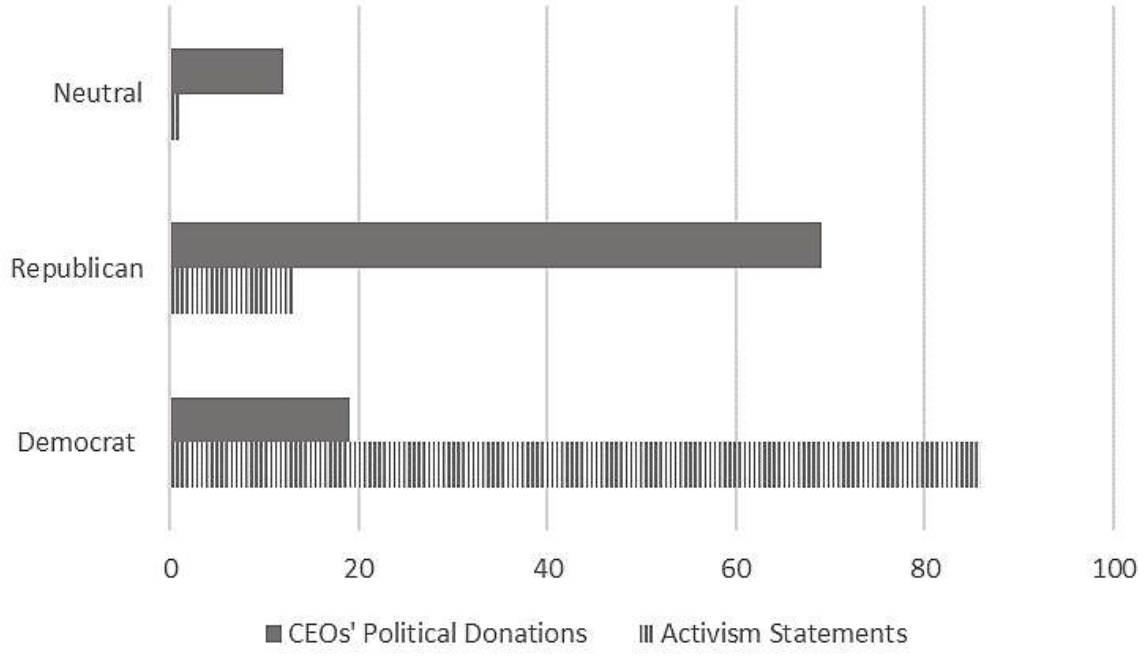
[**Reactive Statement** because Mike Pence, Governor of Indiana, signed the bill on that day. The gap between the event and speaking is $<$ 10 days]

July 6, 2018. Kenneth Frazier, CEO of Merck, spoke on Board Diversity at a University lecture: "*At the end of the day, you want people who come into the boardroom with very different experiences and perspectives. That's how you get the best deliberations.*"

[**Proactive Statement** because there were no laws passed/statements made by politicians or government agencies on racial diversity in the preceding 10 days]

Appendix 3: CEO Activism and CEO's Political Preference

This figure presents S&P 500 CEOs' donations to political parties and the partisan leaning of their activism statements. The solid bars represent numbers of CEOs who predominately donate to a given political party. The banded bars represent the number of activism statements that are aligned to the respective partisan views.



Appendix 4: First Time vs Serial Activism

This table presents the effect of first-time CEO activism on abnormal returns (column 1) and profitability (column 2) using the full sample of 1,188 CEO activism events. Both specifications include the full set of control variables, industry dummies. Robust standard error clustered at the firm level is in the brackets. ***, ** and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

Dependent Variable	CAR [-1, +1]	ROA
	(1)	(2)
First-Time Activism$_{t-1}$	0.028**	0.043***
	(0.010)	(0.014)
Control Variables	Yes	Yes
Industry dummies	Yes	Yes
N	1,188	2,445
Adjusted-R^2	0.249	0.304

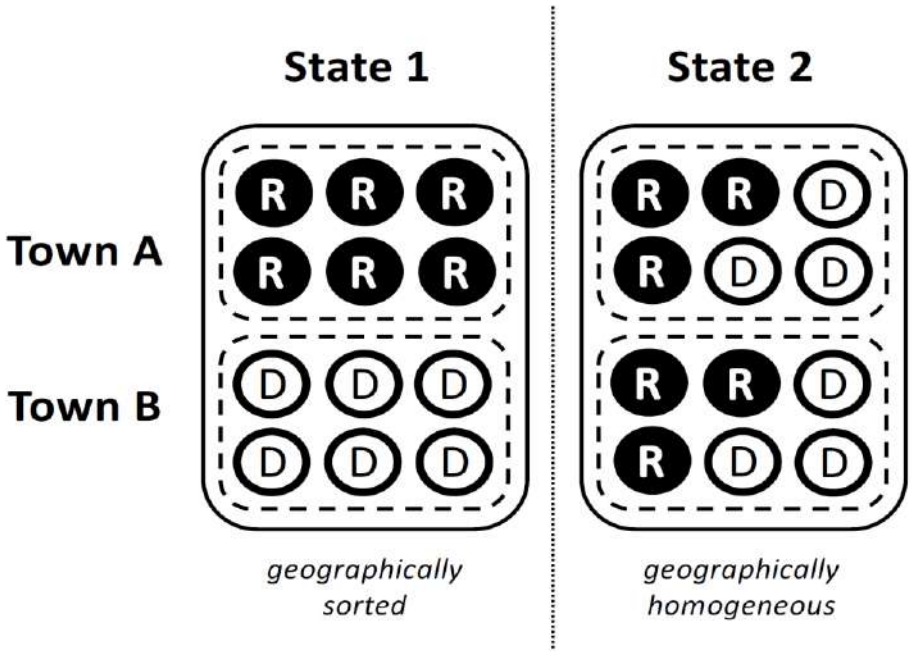
Appendix 5: Tests for Exclusion Restriction

In this table, we examine if the exclusion restriction. In column 1, we present the results from the regressions of CEO activism on ROA, and in column 2, we regress the residuals of 1 on ROA. All specifications include the full set of control variables and industry dummies. Robust standard errors clustered at the firm level are in the brackets. ***, ** and * represent statistical significance at 1%, 5%, and 10% levels, respectively.

Dependent Variable	Polarized Environment	ROA
	(1)	(2)
CEO Activism	0.403***	
	(0.104)	
Residual of (1)	--	0.035
		(0.024)
Control Variables	Yes	Yes
Year Dummies	Yes	Yes
N	2,445	2,445
Adjusted-R^2	0.323	0.144

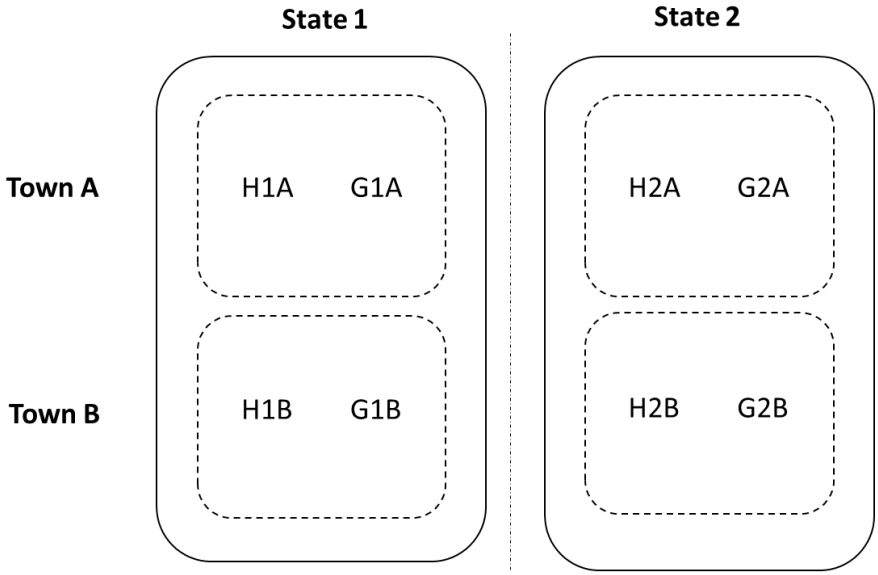
Appendix 6: Polarized Environment, CEO Social Activism and Firm Value

This paper's political polarisation measure is based on Kaplan et al. (2019), which is developed based on the spatial sorting of Republican (R) and Democrat (D) voters within the state boundaries. Take, for example, the diagram (reproduced from Kaplan et al. 2019). There are two towns in both states 1 and 2 - Town A and Town B. There are 6 R and 6 D voters in each of these states. In state 1, the R and D voters are segregated in spatial enclaves - all R voters reside in town A whereas all D voters reside in town B. In state 2, there are no such spatial segregation and 3 R and 3 D voters reside in both the towns. Therefore, the Kaplan et al. (2019) index classifies State 1 as more polarized than State 2.



Consider two companies **G** and **H,** operating in states 1 and 2. They each have a shop in towns A and B. In the diagram below, we denote the shops as **G1A, G1B** (shops of G in state 1 towns A and B) and **H1A, H1B** (shops of H in state 1 towns A and B). Similarly, we have shops **G2A, G2B** and **H2A, H2B** for state 2. Let us assume that companies G and H have equal market shares in each

town: 3 customers buy from **G,** and three customers buy from **H**. These could be any three customers for each company - irrespective of their political orientation.



To get a larger share of the market, the CEO of company **H** takes an activist stance on a social issue. As we have mentioned before, these stances are almost always of a liberal view and align with the Democrats.

In state 1, town A has 6 R-minded customers. These customers will find the CEO's activism stance contrary to their views, stop buying from H, and move to **G** (Burbano, 2020). In town B, company **H** will gain all D voters who will support the CEO's stance. In this way, company **G** gains a monopoly in town A of state 1 and company **H** gains a monopoly in town B in state 1.[26] As is well established in microeconomic theory, companies will prefer to have one monopoly than two duopolies. Therefore, this is a win-win for both companies operating in state 1. Note that this is a symmetric process, and company **G**'s CEO engaging in social activism instead of **H** will yield the same outcome.

[26] A reasonable assumption here is that voters' location choices are independent of a company's political statement, i.e. they don't move between states and towns in response to a company's announcement of pausing PAC donations.

What happens in state 2? In both towns A and B, there are 3R and 3D voters. Therefore, a social activism strategy of the CEO will not lead to any gain in market power by either company. It can lead sorting of customers along socio-political views, but there will be no change in market shares.

Therefore, when a company operates in a politically polarized state, it gains market share from CEO's social activism. In the absence of political polarization, such announcements produce little or no economic advantages.

Appendix 7: Proof of Theoretical Propositions

(a) First, observe that $\frac{M_C}{M-M_C} < \frac{4}{(n+1)^2}$ implies $\frac{M_C}{M} < \frac{4}{(n+1)^2}$. Second, we show that $\frac{4}{(n+1)^2} > \frac{M_C}{M}$, implies $\alpha^* = 0$, i.e., $\sigma_i = \emptyset$ for all $i = 1,2,\dots n$. At $\alpha^* = 0$, the profit of each i is given by $\pi_i^{\emptyset}(\alpha^* = 0) = \frac{Ma^2}{(n+1)^2 b}$. Let j consider a deviation. If it deviates, then, $\sigma_j = s$, $\sigma_i = \emptyset$ for $i \neq j$ and $\pi_j^s(\alpha^* = 1)) = \frac{M_C a^2}{4b}$. To show $\alpha^* = 0$, we need to show that such a deviation is not profitable, i.e., $\pi_j^s(\alpha^* = 1)) < \pi_j^{\emptyset}(\alpha^* = 0)) \Leftrightarrow \frac{M_C a^2}{4b} < \frac{Ma^2}{(n+1)^2 b} \Leftrightarrow \frac{M_C}{M} < \frac{4}{(n+1)^2}$, which is true, by hypothesis. So, $\frac{M_C}{M-M_C} < \frac{4}{(n+1)^2}$ implies $\alpha^* = 0$.

(b) Suppose $\alpha^* = n - 1 \geq k \geq 1$. Consider any $j \in A$, i.e., $\sigma_j = s$. The profit of firm j is $\pi_j^s(k) = \frac{M_C a^2}{b(k+1)^2}$. If it had not been signalled, there would have been $k-1$ signalling firms in A, and j's profit would become $\pi_j^{\emptyset}(k-1) = \frac{(M-M_C)a^2}{b(n-k+2)^2}$. For j to stay in A, it must be that

$$\pi_j^{\emptyset}(k-1) = \frac{(M-M_C)a^2}{b(n-k+2)^2} \leq \frac{M_C a^2}{b(k+1)^2} = \pi_j^s(k)$$

$$\Leftrightarrow \frac{M_C}{M-M_C} \geq \frac{(k+1)^2}{(n-k+2)^2}$$

Now consider a firm j in B wanting to deviate when there are k firms in A and $n-k$ firms in B. Its profit if it stays in B is $\pi_j^{\emptyset}(k) = \frac{(M-M_C)a^2}{b(n-k+1)^2}$. If it moves to A, its profit will be $\pi_j^{s}(k+1) = \frac{M_C a^2}{b(k+2)^2}$. For it not to want to move to A, i.e., to continue as a non-signalling firm, it must be that

$$\pi_j^{\emptyset}(k) = \frac{(M-M_C)a^2}{b(n-k+1)^2} > \frac{M_C a^2}{b(k+2)^2} = \pi_j^{s}(k+1)$$

$$\Leftrightarrow \frac{M_C}{M-M_C} < \frac{(k+2)^2}{(n-k+1)^2}$$

Plugging in $k = \alpha^*$ proves part (b) of the Proposition.

(c) Since $\frac{(n+1)^2}{4} > \frac{(k+1)^2}{(n-k+2)^2}$ for $k = n-1$, from (b), we know that $n-1$ players would signal. If the nth player does not signal, then $\pi_n^{\emptyset}(n-1) = \frac{(M-M_C)a^2}{b(n-1+1)^2} = \frac{(M-M_C)a^2}{b}$. If she signals, she gets $\pi_n^{s}(n) = \frac{Ma^2}{(n+1)^2 b}$. It follows from the fact that when every firm sends out the signal, consumers are no longer segmented, everyone can access the whole market, and each firm gets a profit given by (1). The nth firm will signal if $\frac{(M-M_C)a^2}{4b} \leq \frac{Ma^2}{(n+1)^2 b}$ which is the same as $\frac{M}{M-M_C} \geq \frac{(n+1)^2}{4}$ which holds if $\frac{M_C}{M-M_C} \geq \frac{(n+1)^2}{4}$.