

DO CEOs AFFECT EMPLOYEES' POLITICAL CHOICES?*

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ABSTRACT

We analyze how the political preferences of CEOs affect their employees' campaign contributions and electoral choices. We find that employees donate almost three times more money to CEO-supported political candidates than to candidates not supported by the CEO. This relation also holds around CEO departures, including plausibly exogenous departures due to retirement or death. CEO influence is strongest in firms that explicitly advocate for political candidates and firms with politically connected CEOs. We also find evidence that CEO influence increases political disagreement among members of the same household, which may be welfare-decreasing. Finally, employees are more likely to vote in elections in those congressional districts where CEOs are more politically active. Overall, our results suggest that CEOs are a political force.

JEL classification codes: D72, P48, G30

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1. Introduction

A large literature examines interactions between firms and politicians and argues that participation in the political process may be valuable to firms. Firms can invest in political capital by establishing direct connections with legislators, for example through employment of current or former politicians (Faccio (2006); Goldman, Rocholl, and So (2009); Duchin and Sosyura (2012)), by spending money on lobbying (Bertrand, Bombardini, and Trebbi (2014); Borisov, Goldman, and Gupta (2016)), and by financing candidates' political campaigns through corporate political action committees, known as PACs (Stratmann (1992); Cooper, Gulen, and Ovtchinnikov (2010); Akey (2015)). These activities may create value for firms' shareholders because of subsidies, preferential allocation of government contracts, less strict regulation, and lighter taxation.¹

Yet another channel through which firms can influence politics is campaign contributions made by their employees. In fact, political contributions made by individuals far exceed those made by corporate PACs. For example, Ansolabehere, de Figueiredo, and Snyder (2003) show that during the 1999–2000 election cycle candidates in congressional elections raised over three times more money directly from individuals than they did from PACs. Further, anecdotal and survey evidence suggests that CEOs attempt to influence which candidates their employees support. Based on a survey of 513 U.S. executives, Hertel-Fernandez (2016) reports that 46% of them say their company attempts to involve employees in politics. Companies such as Pfizer and

¹ The positive effect of political activism on firm value is documented in, e.g., Fisman (2001); Johnson and Mitton (2003); Faccio (2006), Faccio, Masulis, and McConnell (2006); Claessens, Feijen, and Laeven (2008); Ferguson and Voth (2008); Goldman, Rocholl, and So (2009); Cooper, Gulen, and Ovtchinnikov (2010); Chaney, Faccio, and Parsley (2011); Duchin and Sosyura (2012); Amore and Bennesen (2013); Correia (2014); Tahoun (2014); Akey (2015); Borisov, Goldman, and Gupta (2016); Brogaard, Denes, and Duchin (2016); Stratmann, and Verret (2015); Huang and Brown (2016); and Acemoglu, Johnson, Kermani, Kwak, and Mitton (2016). In contrast, Aggarwal, Meschke, and Wang (2012) find evidence that corporate donations to political candidates are negatively correlated with returns and contend that donations are symptomatic of agency problems. Coates (2012) argues that corporate political contributions are motivated at least in part by the personal ambitions of firms' CEOs, and Gehlbach, Sonin, and Zhuravskaya (2010) show that some businessmen run for office to avoid the cost of lobbying elected officials.

Koch Industries, for example, send educational materials to employees about their firms' preferred political choices and nudge employees to participate in political meetings, write letters and emails to politicians, donate, campaign, and vote in particular ways.²

In this paper, we study whether firms can systematically influence their employees' political choices by analyzing how political preferences of CEOs affect their employees' behavior. Our primary focus is on campaign contributions, which, unlike individual votes, have the advantage of being publicly observable. Using a large sample of S&P 1,500 firms between 1999 and 2014, we find that employee donations to political candidates seeking federal office strongly respond to how their firms' CEOs donate. For example, Figure 1 shows that employees of firms whose CEOs contributed to only one of the two presidential candidates in the 2012 election (Barack Obama or Mitt Romney) contributed substantially more to the candidate supported by their CEO than to his opponent. After we control for common determinants of political contributions and account for firm, candidate, and election cycle fixed effects, we estimate that in federal elections employees direct approximately three times more of their campaign contributions to political candidates supported by their firm's CEO than to other candidates.³

While the evidence that employees and CEOs donate to the same set of candidates is consistent with CEOs influencing their employees' behavior, it may also indicate that employees and CEOs share common economic interests and hence favor the same political candidates. Three sets of results, however, suggest that CEOs have an independent effect on the political preferences of their employees. First, the impact of CEOs remains largely intact if we include employee fixed

² See "Nine CEOs pushing workers to vote for Romney," *The Huffington Post*, October 28, 2012; "CEO to workers: you'll likely be fired if Obama is reelected," *CNBC*, October 10, 2012; and "The new U.S. office politics: funding your boss's political causes," *Reuters*, May 11, 2015.

³ Our sample includes all employees whose political contributions are recorded by the Federal Election Commission (FEC), regardless of their role in the firm, and hence it is necessarily limited to politically active employees. Thus our results should be interpreted as applying to an average employee who makes political contributions.

effects. These results imply that the relation between CEO and employee contributions cannot be explained by time-invariant characteristics of employees. Second, the relation between CEO and employee contributions holds around CEO turnovers, including turnovers caused by death or natural retirement. Thus changes in CEOs' political orientation that are plausibly exogenous to the firms' political environment lead to changes in employees' behavior. Third, we show that CEO influence is strongest in firms in which CEOs explicitly advocate for their preferred political candidates. This is further evidence that our results cannot be fully explained by common economic shocks or reverse causality.⁴

To study the dynamics of employees' campaign contributions around CEO turnovers, we compare employees' contributions to political candidates supported by the outgoing CEOs and political candidates supported by the incoming CEOs. When an incoming CEO contributes to different political candidates from the ones supported by the outgoing CEO, employees tend to follow his/her lead and redirect their donations as well. This result also holds if we limit our sample of CEO turnovers only to those cases in which the outgoing CEO retires or dies, as such turnovers are least likely to be caused by changes in the firm's political or economic environment. Further, campaign contributions prior to CEO turnovers satisfy the parallel trends assumption, indicating that these turnovers are unlikely to be caused by shifts in employees' political views or firm-wide political orientation.

⁴ Further, we explicitly show that political ideology, popularity of certain political candidates, firm-wide political orientation, and common geographic factors cannot explain away the relation between CEO and employee contributions. We also perform a formal test proposed by Altonji, Elder, and Taber (2005) and Oster (2015) to assess the degree to which the omitted variable bias or selection on unobservables can explain the observed positive relation between employee and CEO contributions. We find that the share of variation explained by unobservable variables needs to be two to five times as large as the share of variation explained by observable variables in order to reduce the coefficient of interest to zero, which seems unlikely given that our regressions include many common determinants of campaign contributions as well as a large number of fixed effects.

To study the effect of CEOs' deliberate attempts to influence their employees' political behavior, we identify cases in which CEOs explicitly communicate their political views to employees. Much of this communication is unobservable to a researcher; however, U.S. federal law requires corporations that spend more than \$2,000 per election on express advocacy of the election or defeat of a political candidate to report such communication costs to the FEC. We find that the estimated effect of CEOs on employee contributions is five times higher in firms that report communication costs. We also present a case study of Murray Energy, which shows that employees increase their contributions to CEO-favored candidates immediately following the CEO's explicit attempts to advocate for them, but not before.⁵ Thus, at least in some instances, CEOs make deliberate attempts to influence their employees' political choices and these attempts are successful.

Overall, our evidence indicates that CEOs are a political force, which has potentially important welfare implications. These implications depend both on whether CEOs promote their own political agenda or act in the interests of their firms, and on whether the interests of the firms coincide with the interests of employees. To the extent that CEOs are motivated by their firms' interests, their influence on employees' political choices should be strongest in firms with largest potential benefits from political participation, and we find evidence consistent with this view.

Note, however, that the economic and political interests of the firm's shareholders are not necessarily aligned with those of the firm's employees. Thus, even if CEOs advise employees on political options most beneficial to the firm, following this advice may not always be welfare-improving for employees. If employees are able to process information efficiently, they should themselves be able to make political choices that take into account both their personal interests

⁵ In the case of Murray Energy, 95.5% of employee contributions raised by CEO-supported candidates are received within one week after the CEO explicitly advocates for those candidates.

and the interests of the firm. If, however, employees are not efficient at processing politically relevant information, then, following the CEO's advice, they may choose political candidates that are beneficial to the firm at the expense of their own interests.

To investigate further, we study the patterns of political donations within households by identifying all instances in our sample in which people with the same last name living at the same address donate to competing political candidates (i.e., candidates running for the same office in the same election). Since only one candidate may win an election for a given office, donating to two (or more) competing candidates implies that the money spent on campaign contributions to at least one of those candidates represents a net monetary loss for the household. Of course, a household may donate to competing political candidates for reasons unrelated to CEO influence; for instance, it may be that political views of one spouse are not aligned with political views of the other spouse. Strikingly, however, we find that, for the same set of households, the likelihood of donating to competing political candidates almost doubles when their CEOs also donate to conflicting political candidates. This evidence indicates that CEO influence may lead to greater political disagreement within households. To the extent that this disagreement results in a net monetary loss for a household, CEO influence may be welfare-decreasing.

What are the sources of CEOs' political influence? One possibility is that CEOs provide information on political matters, thereby reducing the costs of their employees' political participation and helping mitigate the collective action problem, first formalized by Olson (1965).⁶ Alternatively, CEOs may coerce their employees or provide positive inducement to them to donate and vote for particular candidates. Our evidence can neither rule out coercion nor prove that it

⁶ Brady, Verba, and Schlozman (1995) propose a resource model of political participation with three main resources considered: time, money, and civic skills. In our context, information provided by CEOs could relax the time constraint of individuals, who otherwise would need to obtain information about the relevant political candidates on their own.

exists. For example, even if CEO influence is welfare-decreasing for some households, this does not, per se, establish that there is coercion—humans may voluntarily engage in seemingly welfare-decreasing behaviors. However, we do find evidence consistent with CEOs providing information to employees and reducing the collective action problem. In particular, we find that changes in CEOs’ political orientation have the largest effect on employees who tend to donate to candidates from different political parties and thus may benefit most from the additional information.

Campaign contributions are not the only way in which employees participate in the political process. Since employees are voters, they can directly affect electoral outcomes. To study whether CEOs are effective in mobilizing their employees to vote, we use individual employee survey data from the NBER’s Shared Capitalism Research Project, which contains self-reported information on voting behavior (Kruse, Freeman, and Blasi (2010)). We find that employees from congressional districts in which CEOs make campaign contributions are approximately 12.6% more likely to vote in elections. Consistent with the idea that some employees obtain information on electoral issues from their CEOs, we find that this effect is driven almost entirely by less wealthy employees and those without a college degree, who are perhaps less likely to seek out election-relevant information from independent sources.

This paper’s main contribution is to increase our understanding of how firms participate in politics. We show that the firm as a whole is a political actor and that firms’ participation in the political process is not limited to corporate PACs, lobbying, or direct connections with politicians. Further, our evidence indicates that employees’ political choices are at least partially shaped by their CEOs, which implies that CEOs’ influence goes beyond financial and operational decisions. To the best of our knowledge, the only other work that studies the role of managers in engaging their employees in politics is Hertel-Fernandez (2016, 2017), who conducts surveys of firms and

workers and shows that employees who report political requests from their employer also report increased participation in politics around the 2014 election. Our paper differs from this line of work in several respects. First, we use non-survey data and study a different outcome, as most of our analysis applies to campaign contributions. Second, we investigate the mechanisms behind CEOs' political influence and discuss its welfare implications. Finally, we use a large sample of firms and employees over a relatively long time period, which increases the power of our tests and the generalizability of our findings. Another paper related to our study is Fremeth, Richter, and Schaufele (2013), who document a substantial increase in political contributions by individuals once they become a CEO; they do not, however, study the impact of CEOs on their employees' political choices, which is our main focus.

Our paper is related to a large literature that studies the determinants of campaign contributions and their effects on electoral and legislative outcomes. Theoretical work that includes, e.g., Baron (1989), Snyder (1990), and Grossman and Helpman (1994) has generally viewed contributions as investments in a market for political benefits. Empirical studies find that special interest groups appear to contribute in a manner which is consistent with this view (e.g., Snyder (1990); Grier and Munger (1991); Stratmann (1992); Romer and Snyder, (1994); and Kroszner and Stratmann, (1998)). More recently, Ansolabehere, de Figueiredo, and Snyder (2003) have suggested that campaign contributions should be viewed primarily as a consumption good rather than an instrument for buying political favors. While our analysis is largely silent on contributors' motives, it shows that CEOs' political preferences is a determinant of their employees' campaign contributions.

More broadly, our paper contributes to the large body of empirical and theoretical work that investigates the factors behind political participation. Empirical studies have focused on the

link between political activism and citizen characteristics (see, e.g., Blais (2000)) as well as on the role of protests in shaping political outcomes (e.g., Madestam, Shoag, Veuger, and Yanagizawa-Drott (2013)), while theoretical literature has suggested that political involvement may be driven by a sense of civic duty (e.g., Riker and Ordeshook (1968); Coate and Conlin (2004); Feddersen and Sandroni (2006)). Our empirical results indicate that political participation may also be affected by the leadership of the organizations where people work.

The remainder of this paper is organized as follows. Section 2 describes our data as well as the institutional framework of campaign contributions in the United States. Section 3 presents our results on the impact of CEOs on employee campaign contributions, including the analysis of CEO departures. Section 4 investigates the extent to which CEO influence is consistent with the interests of the firms and employees. Section 5 studies the impact of CEOs on their employees' voter turnout. Section 6 concludes.

2. Institutional background and data

2.1. Campaign contributions in the United States: A brief overview

U.S. federal law explicitly prohibits corporations from using their treasury funds to make direct contributions to candidates in federal elections. In order to make campaign contributions, a corporation must establish a political action committee (PAC), which may solicit contributions from the corporation's employees but must not accept contributions from individuals unaffiliated with the firm. Corporations are not allowed to contribute directly to PACs (including their own), but may pay for their own PAC's start-up, administrative, and fundraising expenses.

Whereas direct campaign contributions from corporations to candidates are prohibited, the law explicitly allows "communications by a corporation to its stockholders and executive or

administrative personnel and their families or by a labor organization to its members and their families on any subject,” including election-related matters.⁷ The ability of corporations to advocate for or against political candidates was greatly expanded after the 2010 Supreme Court decision in *Citizens United v. FEC*. This decision allowed corporations to spend unlimited funds, including funds from their treasuries, on independent political expenditures. Such expenditures can be used to expressly advocate for the election or defeat of a candidate as long as they are not coordinated with any candidate. While the *Citizens United* decision allowed election-related communications by corporations to both employees and non-employees, the corporations’ ability to communicate with employees precedes this decision.⁸

Unlike corporations, individuals are allowed to make campaign contributions directly to political candidates. However, federal law restricts the amount that an individual can contribute to a candidate seeking election to federal office (House, Senate, or the presidency). In the 2014 election cycle, the limit on individual contributions was \$2,600 to each candidate per election. Candidates, in turn, are required to itemize all individual contributions in excess of \$200 and report the amount and date of the contribution, as well as the contributing individual’s name, employer, occupation, and address. Contributions totaling less than \$200 do not have to be itemized; therefore the identities of most individuals who contribute less than \$200 are impossible to track.⁹ Such contributions, however, represent a relatively small share of political giving: for example, in 2010 only 21% of contributions made by individuals were unitemized.¹⁰ The FEC makes contributions data publicly available on its website (the individual contributions files are updated weekly on

⁷ 52 U.S.C. §30118 (b) (2) (A).

⁸ Our results hold both before and after 2010.

⁹ Candidates may choose to voluntarily itemize contributions below \$200; however, such cases are rare (in our sample we have only seven contributions below \$200).

¹⁰ Center for Responsible Politics.

Sunday).¹¹ The data on individual campaign contributions form the basis for our subsequent analysis. The FEC dataset is organized by election cycle (e.g., all contributions made in 1999–2000 are recorded in the file corresponding to election cycle 2000) and contains over 18 million individual contributions made during our sample period.

2.2. *Data on CEO and employee political contributions*

To obtain the identities of CEOs, we use the BoardEx database. We, however, do not rely on this dataset to identify firm employees; instead, we obtain *all* political contributions made by employees of firms in our sample from the FEC, regardless of whether these employees are covered by BoardEx. We identify all years in which BoardEx provides the name of the CEO of an S&P 1,500 firm (31,454 firm-years, 2,508 firms) and then merge all such firms with the FEC individual contributions data; the details of the merge are provided in Appendix A.1 and are briefly described below.

The FEC data do not share a common firm identifier with BoardEx. As noted previously, however, the FEC reports the amount of each individual contribution as well as the contributing individual's name, employer, and occupation.¹² We use the name of the employer reported in the FEC data to match firms in BoardEx with firms in the FEC data through a “fuzzy merge” using a bigram string comparator score of the firm name as reported in each data set.¹³

¹¹ The FEC assigns a unique identification number to each candidate running for federal office, and this identification number remains unchanged as long as the candidate runs for the same office. A different identification number is assigned when the candidate runs for a different federal office. Thus the FEC data allow us to reliably track the same political candidate across election cycles.

¹² Some contributors (13.7% of all individual contributions over our sample period) do not report the name of their employer, either because they are unemployed or for some other reason. We show in Appendix A.2 that even if all these contributors are actually employed and omit the name of employer for strategic reasons, the presence of such contributions is unlikely to affect our results to a significant degree.

¹³ A bigram string comparator computes the fraction of consecutive character matches between two strings. The details of this merge are provided in the appendix.

To measure CEOs' and employees' political preferences, we obtain their individual campaign contributions. First, we match the names of CEOs of BoardEx firms with the names of individuals in the FEC data. We then attribute contributions to the firm's CEO if the employer name in the FEC dataset matches a firm name in BoardEx and the name of the person in the FEC dataset matches the name of the firm's CEO. We attribute contributions to the firm's employees if the employer name in the FEC dataset matches a firm name in BoardEx and the name of the person in the FEC dataset does not match the name of the firm's CEO. Thus we retain all employees of a BoardEx firm who made political contributions recorded by the FEC, regardless of employees' coverage by BoardEx. Contributions in our sample come from various types of employees that include both top and middle management but also span non-managerial occupations. Apart from the CEO, the top 10 self-reported occupations in our sample are, in descending order: Executive (5.80% of observations), Attorney/Lawyer (3.86%), Engineer (3.58%), Vice President (3.10%), Banker (2.54%), Manager (1.90%), President (1.88%), Software Engineer (1.61%), Financial Advisor (1.55%), and Sales/Marketing (1.48%). This list indicates that the top and middle managers have a greater propensity to make political contributions than rank and file employees, which is not surprising given that managers are likely to be wealthier.¹⁴

Special attention needs to be paid to political candidates to which neither the CEO nor the employees contribute in a given election cycle. A CEO's decision not to contribute to a candidate may in itself be informative about his/her political preferences, and employees may follow the CEO's lead by also not contributing to this candidate. However, there may also be some cases when the absence of contributions indicates that the candidate was not considered viable. We follow a conservative approach and drop all candidate-firm combinations for which there is no

¹⁴ In unreported results, we have split our sample into managerial and non-managerial employees based on their occupation and verified that the impact of CEOs applies to both of types of employees.

election cycle when either the firm's CEO or employees contributed to the candidate. We do retain cases when a firm's CEO or employees switch their contributions between different candidates running for the same office in different election cycles. As an illustration, consider the case when candidate A and candidate B compete for the same office in election cycle 1 and election cycle 2. If the firm's CEO or employees contribute to candidate A in election cycle 1 but then switch to contributing to candidate B in election cycle 2, we retain both candidate A and candidate B in both election cycles.

We merge our sample of BoardEx firms and political contributions with Compustat and drop all firms with headquarters outside the United States, which leaves us with 23,765 firm-year observations for 2,287 unique firms. In the final step, we drop observations with missing data on control variables required for our baseline specification, and winsorize all continuous variables at 1%. We aggregate data at the election cycle level by retaining the value of firm control variables in the first year of the election cycle. Our final sample contains 232,448 firm-candidate-cycle observations (12,467 firm-cycles) for 2,181 unique firms and 4,606 unique candidates over eight election cycles from 1999 to 2014.

2.3. *Data on voter turnout*

Our data on employee voting behavior come from a survey of employees conducted as part of the NBER's Shared Capitalism Research Project at fourteen companies that have broad-based employee ownership programs (Kruse, Freeman, and Blasi (2010)). Important for our purposes, the NBER data are representative of the workforce of the firms that participated in the survey. While the firms chosen for the survey were not randomly selected and therefore are not necessarily representative of all U.S. employers, these firms come from different industries (eight are in

manufacturing, three are in services, two are Internet-based companies, and one is a financial firm) and vary in size from fewer than 500 employees to more than 30,000 employees. The details on the survey methodology and the selection of companies are provided in Kruse, Freeman, and Blasi (2010); the details of our sample construction are in Appendix A.3 and briefly summarized below.

In twelve out of the fourteen firms, the survey included a question that asked employees whether they had voted in the general election held in November 2000. We use answers to this question as our measure of self-reported voter turnout. Our sample includes 5,677 employees working at 53 different firm-sites. For each firm in the voter turnout sample we manually identify the firm's CEO as of November 2000 and obtain from the FEC all his/her campaign contributions to House and Senate candidates during the 1999–2000 election cycle. We then create an indicator variable equal to one for a given firm-site if the CEO contributed to any candidate in that site's congressional district, as well as a continuous variable equal to the total amount that the CEO contributed to all candidates in that congressional district.¹⁵

3. CEO support and employee contributions to political candidates

3.1. Summary statistics on CEO and employee contributions

In our sample, the total amount contributed by CEOs and employees to all political candidates is approximately \$317 million, out of which \$286 million (or 90%) are contributed by employees. Notably, there is a partisan divide in employee and CEO contributions: while 59% of CEOs' political contributions are directed to Republican candidates, employees' contributions are almost evenly split between Republicans and Democrats (see Figure 2).

¹⁵ Since Senate candidates run for statewide office, we assume that they run in each congressional district of a state.

In a given election cycle, CEOs contribute, on average, \$1,758 to slightly more than one political candidate. The total amount that all the firm's employees (excluding the CEO) contribute in a given election cycle is \$14,619, on average, and is allocated across approximately nine candidates (Panel A of Table 1). Because there are more employees than CEOs, contributions by employees are on average more frequent than contributions by CEOs: the former donate 83.8% of the time in our sample while the latter donate 38.6% of the time (this number is similar to the 44.3% of S&P 500 CEOs making contributions to candidates reported in Fremeth, Richter, and Schaufele (2013)).

On a per candidate basis, the average CEO contribution is \$1,544 and the contribution from all employees is \$1,885 (Panel B). Because our sample includes all candidates to which either the CEO or the employees contribute, we also calculate the average CEO and employee contribution across all such candidates, which amount to \$94 and \$784, respectively.¹⁶ These variables are right skewed, which is typical for political contributions (see, e.g., Duchin and Sosyura (2012); Ovtchinnikov and Pantaleoni (2012); and Lee, Lee, and Nagarajan (2014)).

Panel C of Table 1 presents summary statistics for firm-level control variables. The firms in our sample are large (average value of assets is \$10.8 billion) and profitable (average ROA of 4.1%), and they have CEOs who are politically connected (with an average of 25 political connections). To identify political connections, we count the number of individuals with a political background in the BoardEx database who share a common connection with the CEO. Common connections between two individuals in BoardEx include past or current working relationships, memberships in the same clubs and associations, or overlapping periods of study at the same

¹⁶ In total, we have 4,970 unique political candidates in our sample, of which 4,090 are candidates for the House, 806 are candidates for the Senate, and 74 are candidates for the President.

educational institutions. We classify individuals as having a political background if they have current or past work experience in a government organization or have ever held elected office.

3.2. *Baseline results*

Graphical evidence presented in Figure 1 suggests a positive correlation between CEO and employee political contributions. To examine this association further, we estimate the following panel regression (our baseline) that relates employee political contributions to those of a firm's CEO:

$$C_{ijt}^{employees} = \alpha_i + \delta_j + \gamma_t + \beta D_{ijt}^{CEO} + \eta' X_{ijt} + \varepsilon_{ijt}, \quad (1)$$

where i indexes firms, j indexes candidates, t indexes election cycles, $C_{ijt}^{employees}$ refers to the total amount of campaign contributions by the employees of firm i made to candidate j in election cycle t , D_{ijt}^{CEO} is an indicator variable equal to one if the CEO of firm i makes at least one campaign contribution to candidate j in election cycle t , and X_{ijt} are control variables.¹⁷ Thus our baseline model absorbs all observed and unobserved time-invariant heterogeneity across firms, candidates, and time. Because observations may be correlated across the same firm or across the same candidate in different election cycles, we double-cluster standard errors by firm and candidate in all our specifications (Petersen (2009); Thompson (2011)).

Table 2 presents the estimation results. In model 1, we regress total employee contributions on the CEO contributions indicator without including any control variables or fixed effects. Model 2 adds firm-level controls, whereas model 3 also includes firm, candidate, and election cycle fixed

¹⁷ Since our baseline specification includes a large number of fixed effects, we estimate it using OLS to avoid the well-known bias in nonlinear models with fixed effects (Greene (2004)). However, our results are robust to using the Tobit estimation (these results are reported in Appendix A.5). The appendix also shows that our results are robust to replacing the indicator of CEO support with the actual amount contributed by the CEO.

effects. The inclusion of firm fixed effects accounts for any time-invariant factors common to a firm, such as the industry the firm operates in, the general level of political participation within the firm, or employee demographics. Candidate fixed effects ensure that our results are not merely an artifact of higher quality candidates drawing greater support from both CEOs and employees. Finally, election cycle fixed effects absorb variation due to secular trends in general economic and political conditions.

In all models, CEO support of political candidates positively affects employee contributions to the same candidates, and the effect is similar across different specifications. Based on model 3 (our baseline), a candidate supported by the CEO receives \$1,468 more in campaign contributions from the firm's employees than a candidate not supported by the CEO. This amount is almost double the unconditional mean of employee contributions (\$784), which implies that CEO-supported candidates raise approximately three times more funds from the firm's employees than candidates not supported by the CEO.

Is \$1,468 in additional contributions sufficient to affect political outcomes in the firm's favor? Prior literature on political contributions shows that even relatively moderate amounts of campaign contributions have large positive effects on firm value, potentially because campaign contributions are an indicator of greater firm involvement in the political process (Cooper, Gulen, and Ovtchinnikov (2010); Akey (2015)). More relevant for this study, however, is not whether employee contributions can influence political outcomes but whether CEO influence leads to substantial changes in the behavior of individual employees, and an increase of \$1,468 does appear to be considerable for employees who on average donate \$784. Another potential benchmark to which CEO influence can be compared is the impact of paid political mobilizers on voter turnout. For example, Gerber and Green (2000) analyze the effectiveness of different mobilization

strategies in a field experiment and conclude that personal contact has the largest effect on prospective voters; personal contact increased voter turnout by 8.7% in the experiment. Compared to this benchmark, the magnitude of CEO influence we document is substantial (we are unaware of any study that investigates the impact of personal contact on political contributions). Finally, changes in employee contributions may be symptomatic of broader changes in their political participation.¹⁸

That employees and CEOs tend to contribute to political candidates in a coordinated manner indicates, at a minimum, that the firm as a whole should be viewed as a political actor. However, this *prima facie* evidence does not necessarily imply that CEOs have an independent effect on employees' campaign contributions. In particular, coordination among CEOs and employees may arise either because their political interests are aligned or because CEOs actively influence employees' political choices.

To investigate, we perform several additional tests. First, we estimate a regression on the sample of contributions made by individual employees (rather than aggregating contributions by firm), which enables us to include employee fixed effects. The estimation results, reported in column 5 of Table 2, show that the impact of CEOs on employee contributions remains significant, both statistically and economically. While the mean employee contribution, when averaged across all candidates, is \$11, this contribution goes up by \$57 if a candidate is supported by the CEO. Thus for politically active employees (i.e., those contributing more than once to political candidates during our sample period), the effect of CEO's political preferences translates into an

¹⁸ In addition to making campaign contributions and voting, employees may participate in the political process by volunteering their time to political campaigns, attending rallies and political meetings, or writing letters and emails to politicians. For example, in April 2015 Pfizer's employees sent more than 8,000 emails to politicians about healthcare and patent legislation favorable to Pfizer. "The new U.S. office politics: funding your boss's political causes," *Reuters*, May 11, 2015.

approximately sixfold increase in employee political donations. Further, the inclusion of employee fixed effects implies that the relation between CEO and employee contributions cannot be explained by time-invariant political preferences of employees.

Two other sets of tests also suggest that CEOs have an independent effect on the political preferences of their employees. First, we find that CEOs who directly communicate with their employees on political matters appear to be more successful at influencing employee contributions. Second, we find that shifts in CEOs' political preferences due to CEO turnover lead to changes in employees' contributions. We discuss these results in turn.

3.3. Changes in employee contributions in response to CEOs' political advocacy

In this section, we explore the impact of CEOs' political advocacy on employee contributions. If employees would donate to the same set of political candidates regardless of CEO influence, there should be little reason to expect that CEOs who explicitly advocate for political candidates have a stronger effect on their employees (in fact, one might expect the opposite if CEOs whose political views are not perfectly aligned with those of their employees should be more likely to attempt to change employees' preferences). Thus, the pattern of employee contributions in response to CEO advocacy may help to assess the extent to which CEOs have an independent effect on employees.

Much of the communication between CEOs and company employees is unobservable to a researcher because it takes place through internal communication channels, such as email, intranet, posters, banners, company newsletters, network messages, and team meetings. However, in some cases the incidence of such communications has to be reported to the FEC. When a firm spends more than \$2,000 per election on express advocacy for the election or defeat of a political candidate for federal office, the firm is required, under U.S. federal law, to report the amount of incurred

communication costs to the FEC. We therefore rely on this piece of regulation and identify all cases in which firms in our sample report communication costs (approximately 1% of observations), which likely singles out those firms that are most active in promoting their political views to employees.¹⁹

To see whether employee contributions respond more strongly to CEO influence when the firm directly communicates its electoral preferences to employees, in column 4 of Table 2 we show the results of a regression of employee contributions to a political candidate on the CEO support indicator, the indicator variable for a firm having reported communication costs, and an interaction term between these two variables. The estimated coefficient on the interaction term indicates that employee campaign contributions respond more strongly to the CEO's contributions in firms that explicitly advocate for political candidates. In fact, contributions to CEO-supported candidates increase approximately fivefold for firms that report communication costs. These results also help us to rule out a reverse causality explanation, i.e., that CEOs who observe the political preferences of their employees try to contribute to the political candidates that their employees would approve of. If CEOs were responding to employee preferences (and not the other way around), there would be little reason to expect a larger impact of CEO contributions in firms that explicitly advocate for certain political candidates.

3.3.1. Case study of CEO advocacy: Murray Energy

One firm that routinely communicates with employees on political matters is Murray Energy, whose CEO, Robert E. Murray, has been a major donor to the Republican Party. He has hosted

¹⁹ Indeed, many firms that communicate with employees on election matters do not report such communication costs (presumably because they do not cross the reporting threshold). For example, Wynn Resorts did not report communication costs in 2012, even though the company did send election guidance to its employees in that year.

fundraising events for Republican candidates and has repeatedly sent letters to his employees urging them to contribute to and vote for certain candidates.²⁰ Although Murray Energy is perhaps not a representative firm, it is a rare example that allows us to directly observe the timing and nature of communication between the CEO and employees.

For the 2012 election cycle, we are able to identify two instances when Robert E. Murray explicitly expressed his political preferences to employees. On September 29, 2011, he hosted a fundraiser for Texas governor Rick Perry. In a letter advertising the event, Murray wrote, *“This is likely the most vital election for America in our lifetimes, and we ask you to support Governor Rick Perry at this time.”*²¹ On May 3, 2012, Murray hosted another fundraiser, this time for Mitt Romney.²²

In Figure 3 we plot weekly contributions made in the 2012 election cycle by Murray Energy employees to Rick Perry (solid orange bar), Mitt Romney (solid red bars), other candidates supported by Robert Murray (solid green bars), and candidates not supported by Robert Murray (gray bars with horizontal stripes). We also mark the dates of known CEO-sponsored events for Rick Perry and Mitt Romney by arrows. The figure shows that the contributions to CEO-supported candidates spike almost immediately after he explicitly advocates for those candidates. For example, no Murray Energy employee had contributed to Rick Perry before the CEO-sponsored fundraiser on September 29, 2011, immediately after which employees donated close to \$100,000 to the candidate. In fact, 95.5% of all contributions raised by Rick Perry and Mitt Romney from Murray Energy employees were received within one week after the CEO explicitly advocated for these candidates.

²⁰ Federal Election Commission MUR Case #6661.

²¹ “Perry raising with coal exec Murray,” *Politico*, September 16, 2011.

²² Sources: “McEntee: Mine victims invisible as Romney campaigns with Bob Murray,” *The Salt Lake Tribune*, May 8, 2012; “Romney raises money in Wheeling visit,” *The Herald-Star*, May 4, 2012.

One might argue, however, that spikes in employee contributions after CEO-sponsored events or announcements do not necessarily mean that employees are responding to CEO advocacy: it may be that employees would have contributed to the candidate anyway and simply waited for a convenient date to make their contributions. Two pieces of evidence help to rule out this explanation. First, the dates of CEO announcements and fundraising events are not known far in advance and depend crucially on the political climate: e.g., it could be that the employees' preferred candidate drops out of the race because of low support or a scandal before a CEO-sponsored event can even take place. Thus employees who are politically active and care about the electoral prospects of their preferred candidates have little reason to wait until CEO announcements.²³ Second, Figure 3 shows no discernible pattern in employee contributions to candidates not supported by the CEO. The evidence in Figure 3 is therefore consistent with the idea that at least in some cases CEOs do have a substantial impact on how (and when) their employees contribute to political candidates.²⁴

3.4. *Changes in political contributions around CEO turnover*

We now turn to the dynamics of employee contributions around CEO turnovers. In general, CEO turnovers may be triggered by many factors, such as poor firm performance or disagreement between the CEO and the Board of Directors about the firm's strategic direction. However, it is unlikely that shifts in the political landscape are the primary reason for CEO turnover, especially

²³ Indeed, waiting to contribute could prove consequential for Murray Energy's employees who supported Rick Perry in the 2012 presidential race, as Perry eventually had to drop out owing to a lack of electoral support.

²⁴ This evidence, however, is silent on whether employees at Murray Energy were coerced to make campaign contributions or whether Robert E. Murray is simply an effective communicator. For example, a former Murray Energy employee filed a lawsuit in 2014 claiming that she was fired for not making campaign contributions to the CEO's preferred political candidates (see, e.g., "Former foreman sues Murray Energy over firing," *Charleston Gazette-Mail*, September 9, 2014). The FEC (MUR Case #6661), in a split 3–3 decision, decided not to pursue an investigation against Robert E. Murray.

if this turnover is caused by natural retirement or death.²⁵ Below we provide evidence that CEO turnovers and their timing are plausibly exogenous to the political environment. Important for our purposes, political preferences of an incoming CEO may differ from those of the outgoing one, even if the firm's political and economic environment does not change. First, there may be genuine disagreement between different CEOs about the set of political candidates most beneficial to the firm's success. Second, the set of such candidates may be CEO-specific because different CEOs may have different political connections or because they have different information about the candidates. In our sample, incoming CEOs do indeed appear to have different political preferences from the CEOs they replace: on average, out of all candidates to which an incoming CEO donates, only 16.1% overlap with the candidates to which the outgoing CEO donated.

We identify CEO turnovers from the BoardEx database using the start and end dates of CEO tenure. We exclude turnovers in which there is a gap between the date of departure of an outgoing CEO and the date of arrival of an incoming CEO, turnovers in which the incoming CEO is employed by a firm for one election cycle or less, turnovers where neither the outgoing CEO nor the incoming CEO contribute to any political candidates, as well as turnovers for which we have missing control variables. Our final sample of turnovers consists of 1,023 events; the details of sample construction as well as sensitivity tests are provided in Appendix A.4. To avoid any shifts in the composition of candidates, our regressions include only those candidates that run for office both before and after turnover.

Figure 4 displays the dynamics of employee contributions around CEO turnovers. We plot the average amounts of political donations in a given election cycle that employees make to the

²⁵ CEO turnovers may also be associated with simultaneous changes in the composition of the firm's workforce (e.g., downsizing, mergers, or opening of new plants), which can also alter its political orientation. We address this issue in some of our specifications by restricting the sample of employee contributions only to those employees who contribute under both the outgoing CEO and the incoming CEO.

candidates supported by the outgoing CEOs (the dashed line) and to the candidates supported by the incoming CEOs (the solid line). Prior to the turnover, the candidates supported by the outgoing CEO receive consistently more political contributions from employees than the candidates supported by the incoming CEO, but this pattern reverses sharply after the turnover. Important, employee contributions to the candidates supported by the outgoing and the incoming CEO move in parallel up to the election cycle of the turnover. This evidence indicates that CEO turnovers are unlikely to be caused by changes in employees' political views, and therefore the differences in political preferences between the incoming and outgoing CEOs are plausibly exogenous to the political preferences of employees.

Further evidence that CEO turnovers are plausibly exogenous to the political environment is presented in Figure 5, which plots the distribution of turnovers across different quarters of the election cycle and shows that the timing of turnovers does not appear to be related to the timing of elections.²⁶ CEO turnovers are rather uniformly distributed throughout the election cycle, and there is no evidence that they are more likely to occur around elections, when changes in the political environment are likely to be most pronounced.

Panel A of Table 3 reports the results of panel regressions that investigate the effect of changes in CEOs political preferences around turnovers on employee contributions. These regressions include indicator variables for political candidates supported by the outgoing and incoming CEOs, an indicator variable for election cycles that follow a turnover, and their interactions. Model 1 is estimated on the full sample of turnovers and employees. It shows that prior to the turnover, the candidates supported by the outgoing CEO receive more campaign contributions from the firm's employees than the candidates supported by the incoming CEO

²⁶ Note that there are eight quarters in a given election cycle, and since we denote the quarter of the election by 0, the horizontal axis in Figure 5 goes from -3 to +4.

(\$911 versus \$330). Following the turnover, however, employees increase their donations to the candidates supported by the incoming CEO by \$1,322 ($\$1,322 = \$1,333 - \11) and decrease their donations to candidates supported by the outgoing CEO by \$413 ($-\$413 = -\$402 - \11). In model 2, we restrict the sample of CEO turnovers to those turnovers that resulted from CEO death or natural retirement, which are therefore least likely to be related to politics. Specifically, we choose turnover events in which the departing CEO dies or is 65 years or older at the time of the turnover (we have 302 such events, of which 14 are caused by death) and find that our results remain qualitatively unchanged.

The effects observed in model 1 and model 2 may be due to both changes in how individual employees contribute as well as changes in the composition of contributing employees. To investigate further, we re-estimate regressions from models 1 and 2 on a subsample of employees who contribute at least once both before and after the CEO turnover, thereby focusing on changes in contributions that are not caused by compositional changes. These results, reported in models 3 and 4, show a similar pattern (i.e., around the date of CEO turnover employees shift their support from the candidates supported by the outgoing CEO to the candidates supported by the incoming CEO). The magnitudes, however, are reduced by about one-third in this subsample of employees, indicating that changes in employee contributions after CEO turnover result both from changes in the composition of contributing employees and from changes in the candidates to which the same employees contribute.

3.5. *Mechanisms behind CEO influence*

The sample of CEO turnovers, besides providing evidence of an independent effect of CEOs on employee political contributions, also allows us to analyze the mechanisms behind CEO influence.

There are several potential channels. First, CEOs may provide new information on political matters to their employees. This information could relax the employees' time constraint for political participation (Brady, Verba, and Schlozman (1995)) and also reduce the difference of opinion among employees, which could help mitigate the collective action problem highlighted by Olson (1965). In this way, the CEO could play the role of a political mobilizer at his/her firm.

Alternatively, CEOs may coerce their employees or provide positive inducement to them to donate and vote for particular candidates. Arguably, the CEO is a natural leader of an organization, and participation in the political process may be an implicit element of a CEO's job because leaders set social norms and expectations for members of their organization (Fremeth, Richter, and Schaufele (2013)).²⁷ If employees attribute a high status to the firm's CEO, they may want to conform to a particular behavior promoted by him/her (Akerlof (1980); Bénabou and Tirole (2006); Bernheim (1994)).²⁸

Our evidence can neither rule out coercion nor prove that it exists. However, the extent to which CEOs' influence depends on pre-existing political orientation of their employees provides evidence on CEOs' role as political mobilizers. To investigate, we limit the sample of CEO turnovers to those turnovers in which the outgoing CEO did not contribute to any political candidates, thereby retaining only those cases in which the outgoing CEO is likely to have had minimal influence on employee contributions. In this sample, we then identify those employees who, prior to the turnover, contributed to candidates from multiple political parties (i.e., bipartisan

²⁷ Prat (2002) develops a theory in which the contributions by the elite or a special interest group are informative about the candidate quality even if the interests of the elite diverge from those of a median voter. Thus employees may follow the lead of the CEO if they believe that he/she is knowledgeable about political candidates even if their preferences are not aligned with those of the CEO. Further, Gimpel, Lee, and Kaminski (2006) argue that individuals are more likely to develop purposive and solidary motives for giving if someone they know and trust communicates to them his or her commitment to a particular candidate.

²⁸ Caplan (2007) argues that many voters are deeply ignorant about politics, are subject to behavioral biases in their political decision-making, and are easily influenced by others.

employees) and those employees who, prior to the turnover, contributed to candidates from only one party. Among the latter, we identify employees who contributed only to the party supported by the incoming CEO ('employees aligned with the party of the incoming CEO') as well as employees who contributed only to the party opposed to the party of the incoming CEO ('employees opposed to the party of the incoming CEO').²⁹ We then separately estimate the effect of changes in CEOs' political preferences around turnover on each of the three types of employees. Note that, by construction, in this subsample the outgoing CEOs do not make any contributions to political candidates, and therefore the regressions we run omit the indicator of outgoing CEO support. The results, reported in Panel B of Table 3, indicate that approximately 70% of total CEO effect can be attributed to changes in contributions by bipartisan employees, with the remainder attributed to changes in contributions by employees aligned with the party of the incoming CEO. In contrast, employees who in the past were opposed to the party of the incoming CEO do not appear to change their political contributions around CEO turnover.

That turnovers have the greatest effect on bipartisan employees indicates the CEOs indeed help solve the collective action problem at the firm level, since bipartisan employees are likely to benefit most from the additional information provided by the CEO. Employees aligned with the party of the incoming CEO also change their political contributions, but not by as much as bipartisan employees, which is consistent with the idea that such employees may have already been contributing to the candidates supported by the incoming CEO.

²⁹ The party of the incoming CEO is defined as the party whose candidates received the majority of the incoming CEO's contributions.

3.6. *The impact of common factors on CEO and employee contributions*

Since CEOs and employees are, at least to some extent, subject to common economic and geographic forces, their political preferences may be correlated. We investigate the impact of such common factors in Table 4. In particular, donations to political candidates may respond to changes in firm-specific political conditions, and these conditions may change depending on the election cycle. For example, firms may have a stronger incentive to establish political connections in times of financial distress or turmoil (Faccio, Masulis, and McConnell (2006); Ovtchinnikov and Pantaleoni (2012); Acemoglu, Johnson, Kermani, Kwak, and Mitton (2016)), which can therefore lead to changes in how a given firm's employees contribute in different election cycles. Further, firm-specific characteristics can affect both CEO and employee contributions over time because CEOs may hire and retain only those employees who conform to their political views, or because employees may be more willing to work for a firm whose CEO's political interests are aligned with theirs. To account for such effects, we include firm-cycle fixed effects in model 1 of Panel A and find results similar to the baseline.³⁰

The positive association between CEO and employee contributions may also be related to political candidates' strength. As Snyder (1990) shows, if all political candidates can supply the same number of favors in exchange for campaign contributions, then the total amount of contributions received by a candidate should be directly proportional to his or her probability of winning the election.³¹ Further, ample research documents that more powerful politicians, such as committee chairs, party leaders, and politicians serving on important committees, receive

³⁰ Note that the inclusion of firm-cycle fixed effects makes it impossible to include other control variables in the same model.

³¹ Snyder (1990) also provides the evidence that contributions made by special interest groups fit this theoretical prediction. Contributions made by individuals, however, have a different pattern as individuals contribute too much to "losers" and too little to "winners" relative to the model.

significantly more campaign contributions (e.g., Grier and Munger (1991); Romer and Snyder (1994); Milyo (1997); and Kroszner and Stratmann (1998)). Thus it is important to show that our baseline results are not driven by stronger political candidates drawing greater support from both firm employees and their CEOs.

In our baseline specification we have partially accounted for variation in candidate strength with the inclusion of candidate fixed effects. These fixed effects, however, do not absorb variation in candidate strength over time. We therefore include candidate-cycle fixed effects in column 2 of Panel A to flexibly account for time-varying candidate quality. Our results remain unchanged, making it unlikely that unobserved candidate strength can explain the relation between CEO and employee contributions. Further, in model 3 of Panel A we explicitly control for the candidate's observable characteristics, such as party and incumbency status, as well as for the contemporaneous contributions made to the candidate by individuals who are not employed by the firm. The latter proxy for the aggregate level of support to a candidate in a given election cycle that is not attributable to the firm's employees.³² Perhaps not surprisingly, the level of employee contributions is positively related to the aggregate amount of campaign contributions a candidate receives. Nevertheless, the effect of CEO contributions remains positive and significant in this specification as well, with a magnitude similar to the baseline.

Next, we explore whether our results are driven by common geographic factors that can simultaneously affect CEO and employee contributions (with the results reported in Panel B of Table 4). As Gimpel, Lee, and Kaminski (2006) and Gimpel, Lee, and Pearson-Merkowitz (2008) show, there are strong geographic patterns in individual campaign contributions related to the spatial distribution of individuals with the resources and inclination to give, as well as the presence

³² In particular, for all candidate-firm-cycle observations, we calculate the amount (in \$ millions) that the candidate receives from individuals not employed by the firm in that election cycle.

of social networks that facilitate political fundraising activities. Faccio (2006) shows that the prevalence of political connections is related to the local regulatory environment, and Kim, Pantzalis, and Park (2012) find that firms located in states whose politicians are aligned with the ruling (presidential) party outperform those located in other states. Further, Ovtchinnikov and Pantaleoni (2012) show that political contributions are related to geographic concentration of industries as individuals who live in congressional districts with industry clusters are more likely to contribute to politicians with jurisdiction over the industry.

To investigate whether our results can be attributed to geographic factors, we first examine the relation between political contributions of CEOs and employees who reside in different locations. Specifically, we compute campaign contributions from employees who live in a different zip code, or a different state, from that of the CEO. We then use these contributions as dependent variables in models 1 and 2 in Panel B of Table 4. We find that our results remain qualitatively the same. For example, in model 1 (which excludes contributions of employees that live in the same zip code as the CEO), the mean of the dependent variable is \$758, and in model 2 (which excludes contributions of employees that live in the same state as the CEO) the mean is \$573. Therefore, employees living outside the CEO's zip code donate 2.7 times more to CEO-supported candidates, whereas employees living outside the CEO's state donate 1.5 times more to CEO-supported candidates. In addition, we include state-cycle fixed effects in model 3 to flexibly account for time-varying economic and political factors that affect all firms in the same state and find that our results are unchanged. Overall, it appears that our findings are unlikely to be explained by geographic factors.

To further assess the degree to which omitted unobservable factors can possibly explain away the observed positive relation between employee and CEO contributions, we perform a

formal test advocated by Altonji, Elder, and Taber (2005) and further developed by Oster (2015).³³ Specifically, the test computes the share of variation that unobservable variables need to explain (relative to included control variables) in order to reduce the effect of interest to zero. This share is denoted by δ . A value of δ equal to 2, for example, indicates that unobservables need to be twice as important as observables in order for the omitted variable bias to explain away the results and reduce the coefficient of interest to zero.

The implementation of the Oster (2015) test requires specifying the value of R_{max} , which denotes the R-squared from a hypothetical regression that includes both observed and unobserved controls. Based on experimental evidence, Oster (2015) suggests reporting the value of δ with $R_{max} = 1.3\tilde{R}$, where \tilde{R} is the R-squared from the regression that includes all observed controls. In Panel C of Table 4, we use regression specification from column 2 of Panel A (since it is the model with the highest observed R-squared) and report the value of δ for $R_{max} = 1.3\tilde{R}$, as well as for more stringent specifications with $R_{max} = 2\tilde{R}$ and $R_{max} = 1$. The values of δ reported in Panel C indicate that the unobservables need to be two to five times as important as the observables to produce an effect of zero, which seems unlikely given that our regression includes many common determinants of campaign contributions as well as a large number of fixed effects.

4. CEO influence and interests of the firm and employees

Our evidence so far indicates that CEOs influence employees' campaign contributions and therefore are a political force. The implications of CEO influence for employees and shareholders

³³ We perform the test in Stata by using the `psacalc` command provided by Oster (2015).

depend both on whether CEOs promote their own political agenda or act in the interests of their firms, and on whether the interests of the firm coincide with the interests of its employees.

4.1. CEO influence and the interests of shareholders

To the extent that CEOs are motivated by their firms' interests, their influence on employees' political choices should be strongest in firms with the largest potential benefits from political participation, and we find evidence consistent with this view. Prior literature documents that firms can engage in political activism through lobbying or contributions made by their corporate PACs and shows that political engagement may be beneficial to shareholders (Cooper, Gulen, and Ovtchinnikov (2010); Claessens, Feijen, and Laeven (2008); Brogaard, Denes, and Duchin (2016); Akey (2015); Borisov, Goldman, and Gupta (2016)). Further, as argued by Akey and Lewellen (2017), investment in political capital has a higher expected return for firms exposed to significant policy risk, perhaps because such firms operate in industries subject to greater regulation. We therefore investigate whether such firms are also more successful in influencing their employees to contribute to certain political candidates.

We identify politically active and regulated firms in three different ways. First, we create an indicator variable equal to one for firms that have corporate PACs. Second, we define another indicator variable equal to one for firms that operate in industries with heavy lobbying expenditures. To identify such industries, we select all industries that are, in a given election cycle, on the Center for Responsible Politics list of top 20 industries with the highest total lobbying expenses. Finally, we create an indicator variable for firms that operate in heavily regulated industries. We define an industry as heavily regulated if, in a given election cycle, it is among the top 20 industries ranked by the sum of all federal regulations. The data on federal regulations are

provided by the Mercatus Center at George Mason University (Al-Ubaydli and McLaughlin (2017)). Columns 1 to 3 of Table 5 report the results. Consistent with the idea that CEO influence should be highest in firms with the highest expected returns from political participation, firms that have corporate PACs, that belong to most lobbying-intensive or heavily regulated industries all demonstrate a higher sensitivity of employee contributions to CEO contributions.

We next explore the conditions under which CEO influence on employee contributions is likely to be most effective. We first investigate whether more politically connected CEOs are able to exert greater influence on employee political contributions. There are at least two reasons to expect a relation. First, CEOs with political connections may be in a better position to trade off favors with politicians. For example, Bertrand, Kramarz, Schoar, and Thesmar (2004) find that in France politically connected CEOs bestow re-election favors on incumbent politicians by creating more jobs in politically contested areas and that these favors are reciprocated by politicians. Second, politically connected CEOs may themselves be more engaged in politics and have better knowledge of whether certain candidates would promote policies favorable to the firm. In column 4, we add to our baseline specification the total number of a CEO's political connections as well as an interaction term between CEO support of a given candidate and the total number of the CEO's connections. We find that politically connected CEOs indeed appear to exert greater influence on campaign contributions of their employees.

The firm-specific benefits of CEO influence may also depend on economic conditions. Prior literature suggests that firms in general have a greater incentive and propensity to engage in political activism at times of financial distress and poor business conditions (Acemoglu, Johnson, Kermani, Kwak, and Mitton (2016); Ovtchinnikov and Pantaleoni (2012); Duchin and Sosyura (2012)). One reason is that during such times political activism may be critical for firms' survival.

For example, Faccio, Masulis, and McConnell (2006) find that politically connected firms are significantly more likely to be bailed out by government than otherwise similar non-connected peers. Likewise, Duchin and Sosyura (2012) document that during the financial crisis of 2008–2009 politically connected firms were more likely to be funded through the Troubled Asset Purchase Program (TARP). To investigate, we interact poor macroeconomic conditions (NBER-identified recessions) with CEO support of political candidates and find that CEOs have a stronger impact on employee contributions when the economy is in recession.³⁴

Finally, firm-specific benefits from donating to political candidates may be high if those candidates have direct jurisdiction over the firm through their positions on House or Senate committees. Such politicians are in a position to promulgate regulations that may have a significant impact on a firm's performance and the economic livelihood of its employees. For each firm in our sample, we identify House members and Senators who sit on committees with jurisdiction over a firm's industry by using data on committee assignments from Charles Stewart's Congressional Data Page and the correspondence between committees and their industry jurisdiction identified in Ovtchinnikov and Pantaleoni (2012).³⁵ We then create an indicator variable equal to one if a given candidate has jurisdiction over the firm's industry and interact this variable with CEO support. The results in column 6 of Table 5 indicate that the sensitivity of employee contributions is indeed stronger for politicians that have jurisdiction over the firm.

³⁴ Since election cycles last two years, there is no direct correspondence between recessions and election cycles. We code a given election cycle as part of a recession if the U.S. economy was in recession for at least three full quarters during that election cycle.

³⁵ Charles Stewart has generously provided committee assignment data on his website at http://web.mit.edu/17.251/www/data_page.html. The data for House committee assignments are available for all election cycles in our sample (Stewart and Woon (2016)). The data for Senate committee assignments are available through the 112th Congress (Stewart and Woon (2011)). We manually collected Senate committee assignments for the 113th Congress (the last election cycle in our sample).

4.2. *CEO influence and the interests of employees*

Our results thus far suggest that CEO influence is stronger in firms with the greater potential benefits from political participation, and thus this influence may be beneficial for firm shareholders. However, these results do not necessarily imply that CEO influence is consistent with the interests of individual employees. For example, Wal-Mart is known for opposing a minimum wage increase, even though a substantial share of its employees might benefit from such an increase (at least in the short run).

To investigate the implications of CEO influence for employee welfare, we examine political contributions within households. To fix ideas, consider an election with two competing candidates (X and Y) and a two-member household (Bob and Mary). Bob works for Firm A which would benefit from the election of Candidate X but not from the election of Candidate Y, while Mary works for Firm B which would benefit from the election of Candidate Y but not from the election of Candidate X. The prior probabilities of Candidate X and Candidate Y winning the election are p and $1 - p$, respectively

Assume that if Candidate X is elected, then Firm A would receive benefits (such as more lenient regulation or access to government contracts) and that it would pass some of these benefits onto Bob (in the form of a higher salary, higher job security, better promotion prospects, etc.). Assume first that there is no disagreement between Bob and Mary about the expected monetary value of benefits accruing to Bob and denote this monetary value by B . Similarly, Mary expects to gain amount M from Firm B if Candidate Y is elected, and there is no disagreement between Bob and Mary about the value of M . Bob and Mary can affect election outcomes by making campaign contributions to political candidates. They can each contribute C dollars or not contribute at all. If neither Bob nor Mary contribute to any candidates, then Bob and Mary's beliefs

are that the candidates' probabilities of winning are not affected; the same happens if Bob and Mary both contribute, but to conflicting candidates (i.e., one of them contributes to Candidate X whereas the other one contributes to Candidate Y). If only one member of the household contributes to a candidate, then that candidate's likelihood of winning (according to Bob and Mary's beliefs) increases by δ and the other candidate's likelihood of winning decreases by δ . Finally, if Bob and Mary both contribute to the same candidate, then that candidate's likelihood of winning increases by 2δ and the other candidate's likelihood of winning decreases by 2δ .

Define the total expected payoff for the household as the sum of expected payoffs to Bob and Mary minus the sum of their political contributions. Then, it is easy to see that the household's expected payoff from contributing to conflicting candidates, $pB + (1 - p)M - 2C$, is strictly lower than the expected payoff from not contributing at all, $pB + (1 - p)M$. Thus, it is suboptimal for the household to contribute to both of the conflicting political candidates. In fact, it can be shown that if $B > M + C/\delta$, then both Bob and Mary find it optimal to contribute to Candidate X, if $B < M - C/\delta$, then both Bob and Mary contribute to candidate Y, and in the intermediate region, when $M - C/\delta \leq B \leq M + C/\delta$, Bob and Mary choose to make no contributions to political candidates.³⁶ Graphically, this is shown in Panel A of Figure 6. The horizontal axis represents the value of B (benefits accruing to Bob if Candidate X is elected). Two points, $B = M - C/\delta$ and $B = M + C/\delta$, divide this axis into three regions: both Bob and Mary contribute to Candidate Y to the left of $B = M - C/\delta$, both Bob and Mary contribute to Candidate X to the right of $B = M + C/\delta$, and neither Bob nor Mary makes any political contributions if the value of B lies between these two points.

³⁶ It can also be shown that in this simple framework it is never optimal for only one member of the household to make political contributions.

In this simple framework, CEOs can influence household members' personal beliefs by advocating for political candidates. Bob's CEO (who advocates for Candidate X) will try to lower Bob's estimate of M relative to B , while Mary's CEO will try to do the opposite. Thus, if CEOs' attempts are successful, then Bob and Mary may no longer agree on the value of M relative to B . Denote Bob's CEO-induced perceived value of M by M_B and Mary's CEO-induced perceived value of M by M_M , with $M_B < M < M_M$. This case is presented in Panel B of Figure 6. It is clear that Bob's beliefs about what is optimal for the household now differ from Mary's beliefs. In fact, for the values of B between $B = M_B + C/\delta$ and $B = M_M - C/\delta$ (depicted by the shaded area in Panel B and denoted "conflict region"), Bob and Mary have opposite (i.e., conflicting) beliefs about the candidate they should contribute to. Since both Bob and Mary's beliefs cannot be correct at the same time, contributing to conflicting political candidates, in our simple framework, cannot be optimal for the household as a whole. In this case, within-household disagreement induced by CEOs lowers household welfare. Of course, at least in principle, the information provided by CEOs can actually reduce within-household political disagreement, in which case it will increase household welfare in our framework. Whether CEO influence increases or decreases political disagreement is an empirical question, which we examine next.

We start by identifying, within our sample, all instances in which people with the same last name donate to conflicting political candidates (i.e., to candidates who run for the same political office in the same election). We then collect the addresses of such people and use these addresses to identify households.³⁷ For each household that donates to conflicting candidates at least once in our sample, we collect all contributions made by the members of this household during our entire

³⁷ A household is defined as all people who have the same last name and live at the same address. The FEC requires all federal political candidates to collect addresses of their contributors but does not make this information available in digital form. Instead, the FEC personnel scans the original versions of reports filed by candidates, which are then made available online in the pdf format. We manually obtain the addresses of contributors from these scans.

sample period. Our final sample consists of 398 unique households (for a total of 1,524 household-election cycle observations) that donate to conflicting candidates at least once during our sample period. For this set of households, we have their donations in all election cycles in which they made political contributions, both when they donated to conflicting political candidates and when they donated only to non-conflicting political candidates.

The results are reported in Table 6, where we calculate the likelihood that members of the household contribute to conflicting political candidates, depending on whether their CEOs contribute to conflicting candidates or only to non-conflicting candidates. In the first row of Table 6, we do not restrict the party affiliation of conflicting candidates (e.g., two Republicans running for the same office in the same election would be considered conflicting candidates). In this case, we find that 49.1% of households whose CEOs donate to conflicting candidates also donate to conflicting candidates themselves; this share is 27.8% among households whose CEOs donate only to non-conflicting candidates. One may argue that a household may have had to shift its support from one conflicting candidate to another after the results of a primary election, i.e., after a single candidate representing each party in the general election has been chosen. To exclude such cases, in the second row of Table 6 we use a narrower definition of conflicting candidates: i.e., we define conflicting candidates as candidates from different parties that run in the same election (in this case, two Republicans running for the same office in the same election would not be considered conflicting candidates, but a Republican and a Democrat would). Using this narrower definition, we continue to find that households whose CEOs donate to conflicting candidates are substantially more likely to donate to conflicting candidates themselves, compared to households whose CEOs donate only to non-conflicting candidates (31.0% versus 10.1%).

Thus, our results indicate that CEO influence increases political disagreement within households and may therefore be welfare-decreasing. Note, however, that these results do not necessarily imply coercion by CEOs since humans may sometimes engage in apparently welfare-decreasing behavior voluntarily.

5. CEO political contributions and voter turnout

Apart from campaign contributions, firm employees may directly participate in the political process by going to the polls and casting their votes for political candidates. Anecdotal evidence suggests that CEOs attempt to influence how their employees vote,³⁸ and prior research shows that voter turnout and employee mobilization can be substantially increased through direct contact and communication (e.g., Gerber and Green (2000); Kling and Stratmann (2016)). In the United States, voting is by secret ballot, and individual employee votes are thus unobservable. However, we have survey data on employee voter turnout and can therefore investigate how CEOs' political preferences affect voter turnout.

5.1. Summary statistics on voter turnout

Panel A of Table 5 reports summary statistics for our voter turnout sample. On average, CEOs contribute to an employee's congressional district 57.6% of the time, and the average CEO contribution across all candidates in a given congressional district is \$2,508. The average reported household wealth is \$498,000, where wealth includes the value of the employee's house net of the mortgage, plus the value of any vehicles, stocks and mutual funds, cash, checking accounts, and

³⁸ See, e.g., "Nine CEOs pushing workers to vote for Romney," *The Huffington Post*, October 28, 2012.

retirement accounts. Approximately 58.6% of employees in our sample have a college degree or higher, which is high relative to the national average. The share of respondents who report having voted in the 2000 general election is 78.1% in our sample, which is higher than the average state-level voter turnout of 51.0% during that election. This discrepancy may reflect people's tendency to over-report their voting activity, as noted by Harbaugh (1996), or the fact that our sample firms have a higher level of education or employee involvement which was previously linked to voter turnout (Schur, Kim, and Kruse (2016)).

5.2. *Results on voter turnout*

Panel B of Table 6 reports the results of cross-sectional regressions in which the dependent variable is whether the employee voted in the 2000 general election. The main explanatory variables are whether the CEO contributed to any candidate in the employee's congressional district and the total amount that the CEO contributed to all candidates in the employee's congressional district. We control for employee education, household wealth, and demographics, as well as average voter turnout in the employee's county of employment as a proxy for the general propensity to vote.³⁹ Since we use interaction terms in some of the specifications, we estimate linear probability models.⁴⁰ Standard errors are clustered by firm-site.

After controlling for demographic characteristics and the general propensity to vote, we find that employees located in congressional districts in which CEOs make political contributions are 12.6% more likely to vote than employees in other districts (we observe a similar effect if we

³⁹ For one firm-site in our sample we only have the state of employment, i.e., we have no information about the county. For this site, we use state voter turnout instead. Our results remain virtually unchanged if we drop this firm-site from the sample.

⁴⁰ We obtain similar results if we use probit. However, Ai and Norton (2003) and Greene (2010) show that interaction terms are not necessarily informative in the context of nonlinear models.

use the total amount of CEO contributions as the explanatory variable). The magnitude of this effect is comparable to the effect of face-to-face political mobilization on voter turnout documented in Gerber and Green (2000) and Gerber, Green, and Larimer (2008). Thus CEO contributions appear to be successful in mobilizing employees to vote. We caution the reader that these results are largely descriptive and do not necessarily imply causality and that we do not know whether the employees cast their votes for the candidates supported by the CEO. It could, for example, be the case that the CEO involvement in politics increases the general political awareness of employees, resulting in their higher propensity to vote, but not necessarily for the CEO-favored candidates.

We also investigate whether the effect of CEOs on voter turnout varies across employees. In particular, we interact employee education and wealth with the indicator variable of whether the CEO contributed to candidates from the employee's congressional district. These results, reported in the last two columns of Table 6, indicate that the effect of CEO contributions is driven almost entirely by less wealthy employees and those without a college degree. Because wealthy and educated employees are likely to vote regardless of CEO advocacy, this evidence is consistent with the idea that some employees, who may not actively seek election-related information on their own, may obtain such information from their CEOs. Alternatively, it is possible that skills of poor and less educated employees are less redeployable so that these people stand in for a greater risk should the firm perform badly and hence have a greater incentive to further the interests of their firm.

The signs of other coefficients are consistent with prior literature. Education and household wealth are positively related to the individual's propensity to vote, perhaps because these characteristics help to overcome the procedural difficulties associated with voting, such as voter

registration, or because better-educated individuals have a stronger sense of citizen duty as argued by Wolfinger and Rosenstone (1980). In line with findings by Leighley and Nagler (1992), we also observe that women are more likely to vote and there is a hump-shaped relation between age and voter turnout. We also observe that respondents who classify themselves as Asian have a 36.5% lower propensity to vote in our sample, which is similar to more than 20% lower turnout by Asians relative to Whites found by Citrin and Highton (2002) for California residents.

6. Conclusion

We document that employees contribute almost three times more to political candidates supported by their firm's CEO than to candidates not supported by the CEO, which suggests that CEO influence goes beyond firm financial and operational decisions. This effect persists around CEO turnovers, including turnovers caused by death or natural retirement, as employees start to contribute less to the candidates supported by the outgoing CEO and more to the candidates supported by the incoming CEO. We also find that CEOs exert greater influence on employee contributions when they explicitly advocate for political candidates, suggesting a direct link between CEOs' political preferences and employees' campaign contributions.

The effect of CEO contributions is strongest among politically connected CEOs, in firms that have their own corporate PACs, and in firms operating in heavily regulated industries. Further, CEOs have greater influence on employee contributions to candidates that have direct jurisdiction over the firm and during recessions, when political participation is most valuable. These results suggest that firms with the greatest potential benefits from political activism may be more likely to try to influence their employees' political choices. At the same time, CEO influence is not necessarily aligned with the interests of individual employees: We show that households are more

likely to make political contributions resulting in a net monetary loss when members of those households are employed by firms whose CEOs donate to conflicting political candidates (i.e., candidates running for the same political office in the same election cycle).

Finally, we find evidence that CEO influence on employees' political choices extends beyond campaign contributions and may also affect their likelihood of voting, as employees located in congressional districts in which CEOs make political contributions are substantially more likely to go to the polls than other employees.

References

- Acemoglu, Daron, Simon Johnson, Amir Kermani, James Kwak, and Todd Mitton, 2016, The value of connections in turbulent times: Evidence from the United States, *Journal of Financial Economics* 121, 368–391.
- Aggarwal, Rajesh K., Felix Meschke, and Tracy Y. Wang, 2012, Corporate political donations: Investment or agency? *Business and Politics* 14, 1–38.
- Ai, Chunrong, and Norton, Edward C., 2003, Interaction terms in logit and probit models, *Economics Letters* 80, 123–129.
- Akerlof, George, 1980, A theory of social custom, of which unemployment may be one consequence, *Quarterly Journal of Economics* 94, 749–775.
- Akey, Pat, 2015, Valuing changes in political networks: Evidence from campaign contributions to close congressional elections, *Review of Financial Studies* 28, 3188–3223.
- Akey, Pat, and Stefan Lewellen, 2017, Policy uncertainty, political capital, and firm risk-taking, University of Toronto working paper.
- Altonji, Joseph G., Todd E. Elder, and Christopher R. Taber, 2005, Selection on observed and unobserved variables: Assessing the effectiveness of Catholic schools, *Journal of Political Economy* 113, 151–184.
- Al-Ubaydli, Omar, and Patrick A. McLaughlin, 2017, RegData: A numerical database on industry-specific regulations for all United States industries and federal regulations, 1997–2012, *Regulation & Governance* 11, 101–123.
- Amore, Mario D., and Morten Bennedsen, 2013, The value of local political connections in a low-corruption environment, *Journal of Financial Economics* 110, 387–402.
- Ansolabehere, Stephen, John M. de Figueiredo, and James M. Snyder Jr., 2003, Why is there so little money in U.S. politics? *Journal of Economic Perspectives* 17, 105–130.
- Baron, David P., 1989, Service-induced campaign contributions and the electoral equilibrium. *Quarterly Journal of Economics* 104, 45–72.
- Bénabou, Roland, and Jean Tirole, 2006, Incentives and prosocial behavior, *American Economic Review* 96, 1652–1678.
- Bernheim, B. Douglas, 1994, A theory of conformity, *Journal of Political Economy* 102, 841–877.
- Bertrand, Marianne, Francis Kramarz, Antoinette Schoar, and David Thesmar, 2004, Politically connected CEOs and corporate outcomes: Evidence from France, NBER working paper.
- Bertrand, Marianne, Matilde Bombardini, and Francesco Trebbi, 2014, Is it whom you know or what you know? An empirical assessment of the lobbying process, *American Economic Review* 104, 3885–3920.
- Blais, André, 2000, To vote or not to vote: The merits and limits of rational choice theory. *Pittsburgh University of Pittsburgh Press*.

- Borisov, Alexander, Eitan Goldman, and Nandini Gupta, 2016, The corporate value of (corrupt) lobbying, *Review of Financial Studies* 29, 1039–1071.
- Brady, Henry E., Sidney Verba, and Kay Lehman Schlozman, 1995, Beyond SES: A resource model of political participation, *American Political Science Review* 89, 271–294.
- Brogaard, Jonathan, Matthew Denes, and Ran Duchin, 2016, Political connections, incentives and innovation: Evidence from contract-level data, University of Washington working paper.
- Caplan, Bryan, 2007, The myth of the rational voter: Why democracies choose bad policies, *New Jersey: Princeton University Press*.
- Chaney, Paul K., Mara Faccio, and David C. Parsley, 2011, The quality of accounting information in politically connected firms, *Journal of Accounting and Economics* 51, 58–76.
- Citrin, Jack, and Benjamin Highton, 2002, How race, ethnicity, and immigration shape the California electorate, *Public Policy Institute of California*.
- Claessens, Stijn, Erik Feijen, and Luc Laeven, 2008, Political connections and preferential access to finance: The role of campaign contributions, *Journal of Financial Economics* 88, 554–580.
- Coate, Stephen, and Michael Conlin, 2004, A group rule-utilitarian approach to voter turnout: Theory and evidence, *American Economic Review* 94, 1476–1504.
- Coates, John C., 2012, Corporate politics, governance, and value before and after Citizens United, *Journal of Empirical Legal Studies* 9, 657–696.
- Cooper, Michael J., Huseyin Gulen, and Alexei V. Ovtchinnikov, 2010, Corporate political contributions and stock returns, *Journal of Finance* 65, 687–724.
- Correia, Maria M., 2014, Political connections and SEC enforcement, *Journal of Accounting and Economics* 57, 241–262.
- Duchin, Ran, and Denis Sosyura, 2012, The politics of government investment, *Journal of Financial Economics* 106, 24–48.
- Faccio, Mara, 2006, Politically connected firms, *American Economic Review* 96, 369–386.
- Faccio, Mara, Ron W. Masulis, and John J. McConnell, 2006, Political connections and corporate bailouts, *Journal of Finance* 61, 2597–2635.
- Feddersen, Timothy, and Alvaro Sandroni, 2006, A theory of participation in elections, *American Economic Review* 96, 1271–1282.
- Ferguson, Thomas, and Hans-Joachim Voth, 2008, Betting on Hitler – the value of political connections in Nazi Germany, *Quarterly Journal of Economics* 123, 101–137.
- Fisman, Raymond, 2001, Estimating the value of political connections, *American Economic Review* 91, 1095–1102.
- Fremeth, Adam, Brian Kelleher Richter, and Brandon Schaufele, 2013, Campaign contributions over CEO’s careers, *American Economic Journal: Applied Economics* 5, 170–188.

- Gehlbach, Scott, Konstantin Sonin, and Ekaterina Zhuravskaya, 2010, Businessman candidates, *American Journal of Political Science* 54, 718–736
- Gerber, Alan S., and Donald P. Green, 2000, The effects of canvassing, telephone calls, and direct mail on voter turnout: A field experiment, *American Political Science Review* 94, 653–663.
- Gerber, Alan S., Donald P. Green, and Christopher W. Larimer, 2008, Social pressure and voter turnout: Evidence from a large-scale field experiment, *American Political Science Review* 102, 33–48.
- Gimpel, James G., Frances E. Lee, and Joshua Kaminski, 2006, The political geography of campaign contributions in American politics, *Journal of Politics* 68, 626–639.
- Gimpel, James G., Frances E. Lee., and Shanna Pearson-Merkowitz, 2008, The check is in the mail: Interdistrict funding flows in congressional elections, *American Journal of Political Science* 52, 373–394.
- Goldman, Eitan, Jörg Rocholl, and Jongil So, 2009, Do politically connected boards affect firm value? *Review of Financial Studies* 22, 2331–2360.
- Greene, William, 2004, The behavior of the maximum likelihood estimator of limited dependent variable models in the presence of fixed effects, *Econometrics Journal* 7, 98–119.
- Greene, William, 2010, Testing hypotheses about interaction terms in nonlinear models, *Economics Letters* 107, 291–296.
- Grier, Kevin B., and Michael C. Munger, 1991, Committee assignments, constituent preferences, and campaign contributions, *Economic Inquiry* 29, 24–43.
- Grossman, Gene M., and Elhanan Helpman, 1994, Protection for sale, *American Economic Review* 84, 833–850.
- Harbaugh, William T., 1996, If people vote because they like to, then why do so many of them lie? *Public Choice* 89, 63–76.
- Hertel-Fernandez, Alexander, 2016, How employers recruit their workers into politics—and why political scientists should care, *Perspectives in Politics* 14, 410–421.
- Hertel-Fernandez, Alexander, 2017, American employers as political machines, *Journal of Politics* 79, 105–117.
- Huang, Jiekun, and Jeffrey Brown, 2016, All the President's friends: Political access and firm value, working paper.
- Johnson, Simon, and Todd Mitton, 2003, Cronyism and capital controls: Evidence from Malaysia, *Journal of Financial Economics* 67, 351–382.
- Kim, Chansog Francis, Christos Pantzalis, and Jung Chul Park, 2012, Political geography and stock returns: The value and risk implications of proximity to political power, *Journal of Financial Economics* 106, 196–228.

- Kling, Daniel, and Stratmann, Thomas, 2016, The efficacy of political advertising: A voter participation field experiment with multiple robo calls and controls for selection effects, GMU working paper in economics No. 16–31.
- Kroszner, Randall S., and Stratmann, 1998, Interest-group competition and the organization of Congress: Theory and evidence from financial services' political action committees, *American Economic Review* 88, 1163–1187.
- Kruse, Douglas L., Richard B. Freeman, and Joseph R. Blasi (eds.), 2010, Shared capitalism at work: Employee ownership, profit and gain-sharing, and broad-based stock options, *University of Chicago Press*.
- Lee, Jongsub, Kwang J. Lee, and Nandu J. Nagarajan, 2014, Birds of a feather: Value implications of political alignment between top management and directors, *Journal of Financial Economics* 112, 232–250.
- Leighley, Jan E., and Jonathan Nagler, 1992, Individual and systemic influences on turnout: Who votes? 1984, *Journal of Politics* 54, 718–740.
- Madestam, Andreas, Daniel Shoag, Stan Veuger, and David Yanagizawa-Drott, 2013, Do political protests matter? Evidence from the tea party movement, *Quarterly Journal of Economics* 128, 1633–1685.
- Milyo, Jeffrey, 1997, Electoral and financial effects of changes in committee power: The Gramm–Rudman–Hollings Budget Reform, the Tax Reform Act of 1986, and the money committees in the House, *Journal of Law and Economics* 40, 93–112.
- Olson, Mancur Jr., 1965, The logic of collective action: Public goods and the theory of groups, *Harvard University Press*.
- Oster, Emily, 2015, Unobservable selection and coefficient stability: Theory and evidence, *Journal of Business Economics and Statistics*, forthcoming.
- Ovtchinnikov, Alexei V. and Eva Pantaleoni, 2012, Individual political contributions and firm performance, *Journal of Financial Economics* 105, 367–392.
- Prat, Andrea, 2002, Campaign advertising and voter welfare, *Review of Economic Studies* 69, 999–1017.
- Petersen, Mitchell A., 2009, Estimating standard errors in finance panel data sets: Comparing approaches, *Review of Financial Studies* 22, 435–480.
- Riker, William H., and Peter C. Ordeshook, 1968, A theory of the calculus of voting, *American Political Science Review* 62, 25–42.
- Romer, Thomas, and James M. Snyder, Jr., 1994, An empirical investigation of the dynamics of PAC contributions, *American Journal of Political Science* 38, 746–769.
- Schur, Lisa, Jung Ook Kim, and Douglas Kruse, 2016, Workplace democracy and political participation, NBER working paper.

Snyder, James M., Jr., 1990, Campaign contributions as investments: The U.S. House of Representatives, 1980–1986, *Journal of Political Economy* 98, 1195–1227.

Stewart, Charles III, and Jonathan Woon, Congressional Committee Assignments, 103rd to 113th Congresses, 1993–2014: House, date of data file: March 9, 2016.

Stewart, Charles III, and Jonathan Woon, Congressional Committee Assignments, 103rd to 112th Congresses, 1993–2012: Senate, date of data file: June 23, 2011.

Stratmann, Thomas, 1992, Are contributors rational? Untangling strategies of political action committees, *Journal of Political Economy* 100, 647–664.

Stratmann, Thomas, and J. W. Verret, 2015, How does corporate political activity allowed by *Citizens United v. Federal Election Commission* affect shareholder wealth? *Journal of Law and Economics* 58, 545–717.

Tahoun, Ahmed, 2014, The role of stock ownership by U.S. members of Congress on the market for political favors, *Journal of Financial Economics* 111, 86–110.

Thompson, Samuel B., 2011, Simple formulas for standard errors that cluster by both firm and time, *Journal of Financial Economics* 99, 1–10.

Wolfinger, Raymond E., and Stephen J. Rosenstone, 1980, *Who votes?* New Haven: Yale University Press.

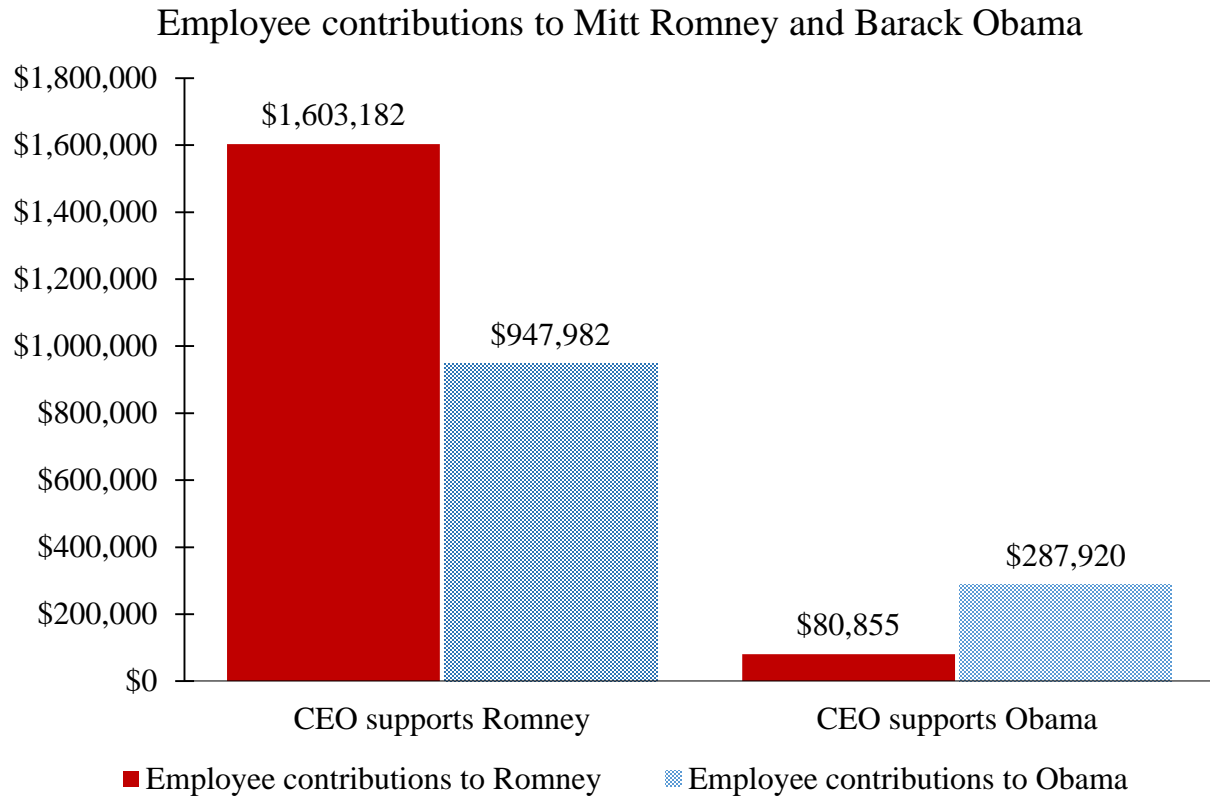


Figure 1. CEO support and employee contributions in the 2012 presidential election

This figure plots the total amount contributed by employees of our sample firms to Mitt Romney (solid red bars) and Barack Obama (shaded blue bars) depending on whether the CEO contributes only to Romney or only to Obama (firms whose CEOs contribute to both or to none of the candidates are excluded). The graph includes 175 CEOs who contribute only to Romney and 23 CEOs who contribute only to Obama.

Campaign contributions by CEOs and employees (\$ millions)

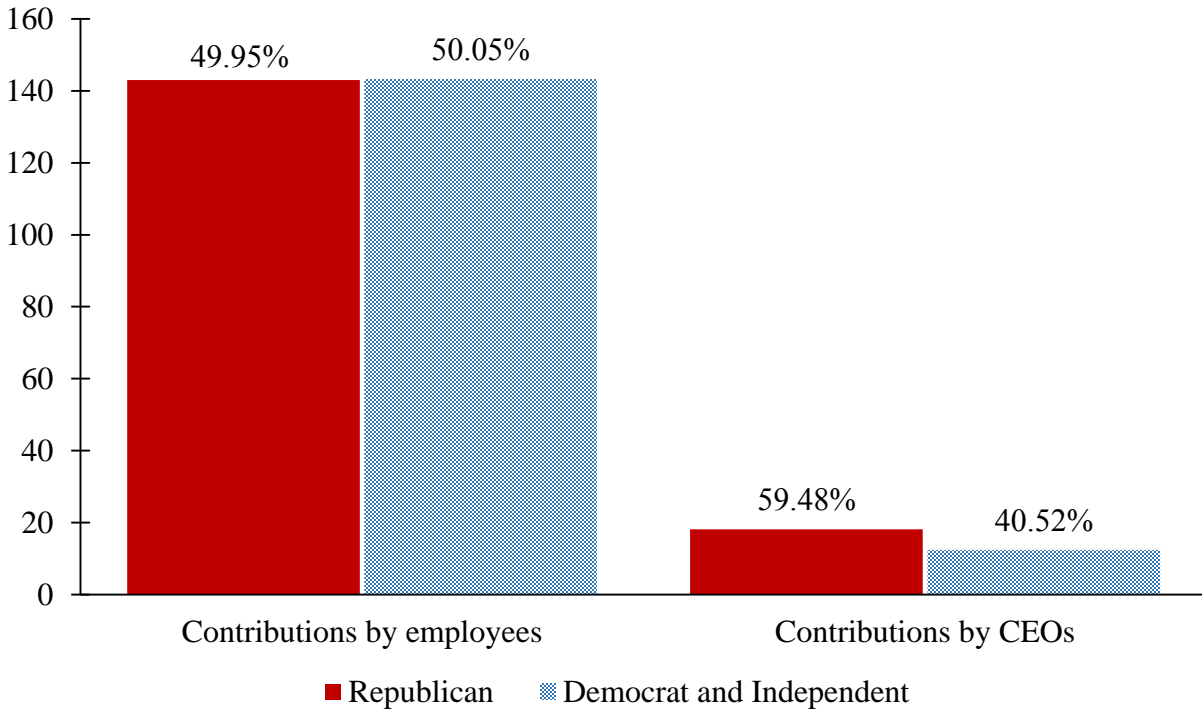


Figure 2. Total employee and CEO contributions

This figure plots the total amount contributed by employees and CEOs between 1999 and 2014, split by party of the candidates receiving contributions: solid red bars for Republicans and shaded blue bars for Democrats and Independents. The total amount (in millions of USD) is indicated on the left axis; the percentages above the bars indicate the share of contributions received by candidates from a given party.

Employee contributions at Murray Energy (\$ thousands)

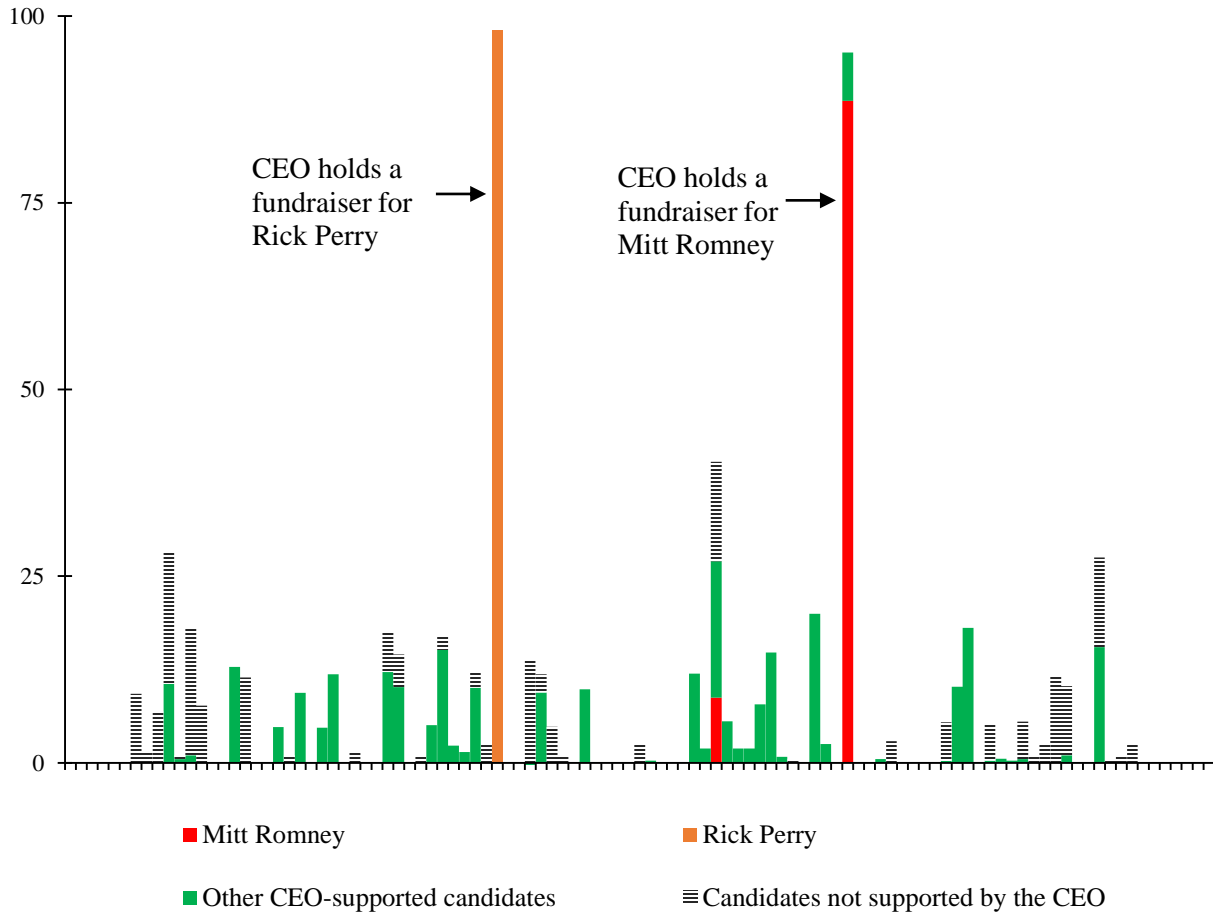


Figure 3. Campaign contributions by employees of Murray Energy

This figure plots weekly amounts (in thousands of USD) contributed in the 2012 election cycle by Murray Energy’s employees to Rick Perry (solid orange bar), Mitt Romney (solid red bars), other candidates supported by Robert Murray (solid green bars), and candidates not supported by Robert Murray (gray bars with horizontal stripes). The dates on which Murray Energy’s CEO hosted campaign fundraisers for political candidates (September 29, 2011 for Rick Perry and May 3, 2012 for Mitt Romney) are marked by arrows.

Employee contributions around CEO turnovers

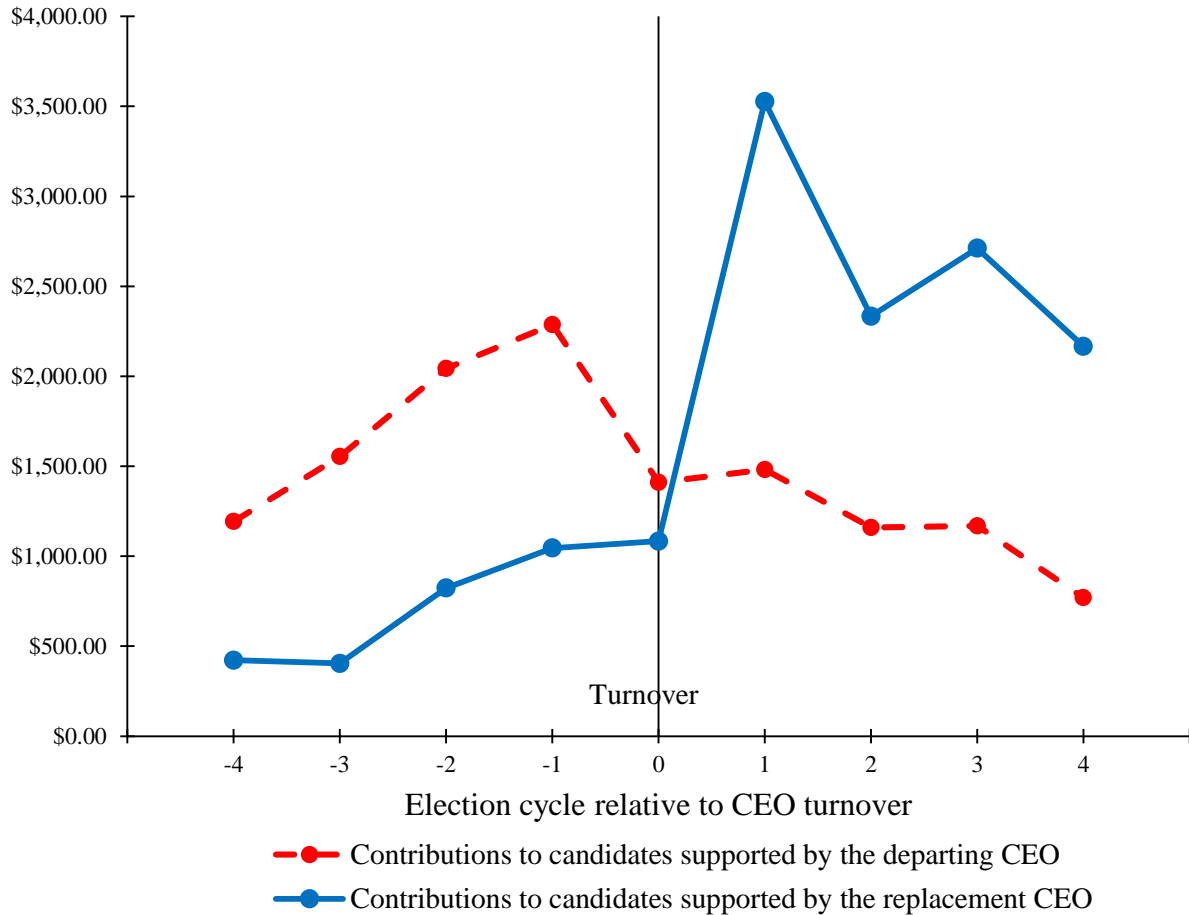


Figure 4. Employee contributions around CEO turnovers

This figure plots employee contributions four quarters election cycles before and four election cycles after a turnover. The dashed red line plots the average amount, per candidate, contributed by employees to the candidates supported by the outgoing CEO; the solid blue line plots the average amount, per candidate, contributed by employees to the candidates supported by the incoming CEO. The amounts (in USD) are indicated on the left axis. The vertical line indicates the turnover cycle.

Distribution of CEO turnovers relative to the election cycle

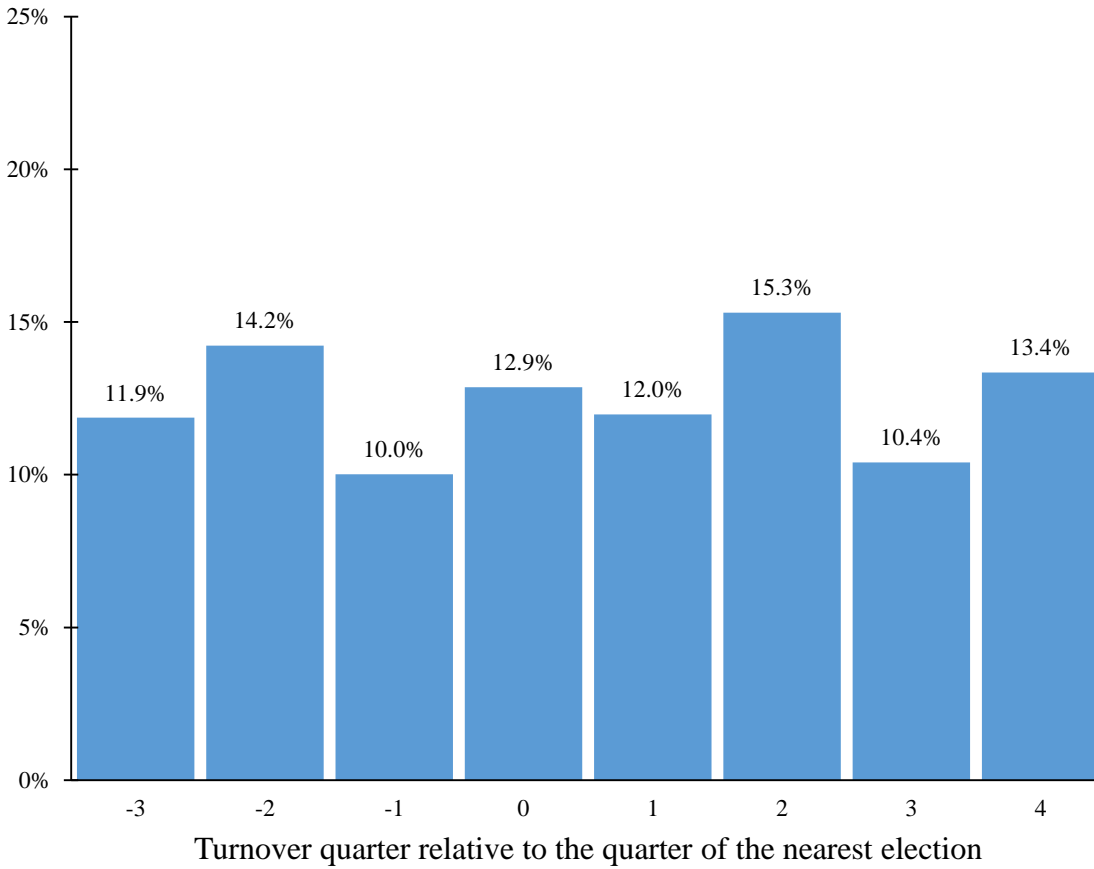


Figure 5. Distribution of CEO turnovers relative to the election cycle

This figure plots the distribution of CEO turnovers relative to the election cycle. Each bar represents the share of turnovers that occurred in a given quarter relative to the quarter of the nearest election; quarter 0 indicates the quarter when a federal election took place (i.e., the fourth quarter of an even-numbered year).

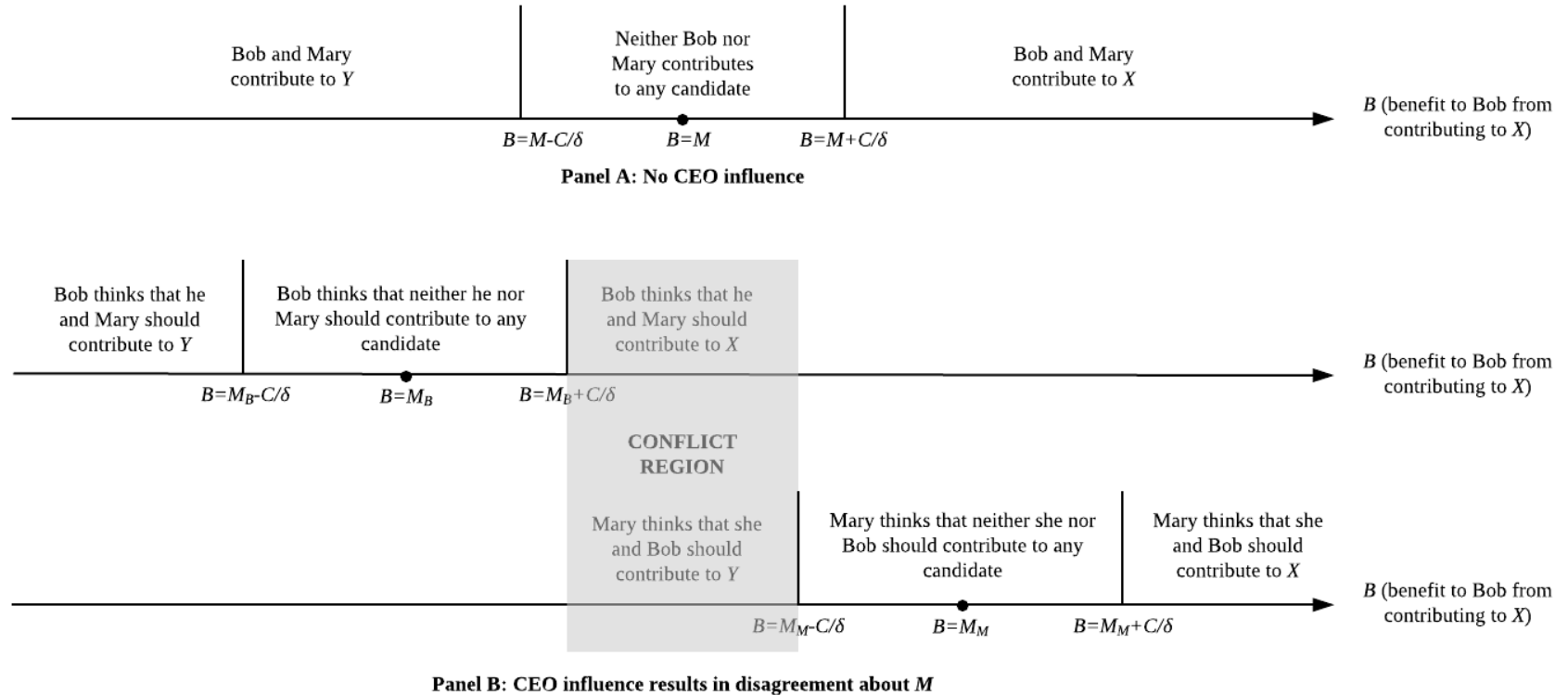


Figure 6. Contributions by members of the same household

This figure describes which political candidates a two-member household contributes to in an election in which two candidates compete for the same office. Panel A is constructed for the case in which there is no disagreement between household members about the benefits of electing a particular candidate. Panel B is constructed for the case in which CEO influence results in a disagreement between household members about the benefits of electing a particular candidate. The details are provided in the text.

Table 1. Summary statistics on CEO and employee contributions

This table reports summary statistics for our sample. The sample includes S&P 1,500 firms covered by BoardEx between 1999 and 2014. Data on individual campaign contributions are from the FEC individual contributions files, and data on firm-level control variables are from Compustat. Panel A reports statistics on campaign contributions by employees and CEOs at the firm-cycle level. Panel B reports statistics on campaign contributions at the firm-candidate-cycle level. Panel C reports statistics on firm control variables at the firm-cycle level.

	N	Mean	25th Pctl.	Median	75th Pctl.	Std. Dev.
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Firm-wide campaign contributions (firm-cycle level)</i>						
Total amount contributed by the CEO to all candidates (\$)	12,467	1,757.66	0.00	0.00	2,000.00	3,955.77
Total amount contributed by employees to all candidates (\$)	12,467	14,618.84	500.00	3,500.00	13,100.00	38,348.63
Number of candidates receiving contributions from the CEO	12,467	1.26	0.00	0.00	1.00	2.57
Number of candidates receiving contributions from employees	12,467	8.53	1.00	3.00	9.00	18.41
CEO contributed to at least one candidate indicator	12,467	0.386	0.000	0.000	1.000	0.487
Employees contributed to at least one candidate indicator	12,467	0.838	1.000	1.000	1.000	0.369
<i>Panel B: Campaign contributions and candidate characteristics (firm-candidate-cycle level)</i>						
Amount contributed by the CEO – contributing CEOs only (\$)	14,188	1,544.45	1,000.00	1,250.00	2,400.00	766.33
Amount contributed by the CEO – all CEOs (\$)	232,448	94.27	0.00	0.00	0.00	415.39
CEO support indicator	232,448	0.061	0.000	0.000	0.000	0.239
Amount contributed by employees – contributing employees only (\$)	96,699	1,884.75	500.00	1,000.00	2,000.00	2,701.66
Amount contributed by employees – all employees (\$)	232,448	784.06	0.00	0.00	500.00	1,974.69
Amount contributed by employees living outside CEO zip code (\$)	232,448	757.79	0.00	0.00	500.00	1,907.27
Amount contributed by employees living outside CEO state (\$)	232,448	573.12	0.00	0.00	500.00	1,463.61
Amount contributed by non-employees (\$ millions)	232,448	7.38	0.30	0.65	1.73	29.16
<i>Panel C: Firm control variables (firm-cycle level)</i>						
Assets (\$ millions)	12,467	10,757.07	565.21	1,780.60	6,109.70	33,618.34
Tobin's Q	12,467	1.97	1.15	1.50	2.22	1.34
ROA	12,467	0.041	0.012	0.043	0.082	0.082
CAPEX	12,467	0.045	0.013	0.031	0.060	0.047
R&D	12,467	0.025	0.000	0.000	0.028	0.046
Number of CEO's political connections	12,467	25.17	4.00	14.00	33.00	31.46

Table 2. Baseline results

This table reports the results of panel regressions of employee contributions on the CEO support indicator. In columns (1) through (4), the data are at the firm-candidate-cycle level. In column (5), the data are at the individual employee-candidate-cycle level. The sample includes S&P 1,500 firms covered by BoardEx between 1999 and 2014. Data on individual campaign contributions are from the FEC individual contributions files, and data on firm-level controls are from Compustat. The dependent variable in columns (1) through (4) is the total amount contributed by firm employees to a candidate in an election cycle. The dependent variable in column (5) is the amount contributed by an individual employee to a candidate in an election cycle. Regressions include fixed effects and firm-level control variables as indicated. Standard errors clustered by firm and candidate are reported in parentheses below the coefficients.

	Amount contributed by all employees of a firm				Amount contributed by an individual employee
	(1)	(2)	(3)	(4)	(5)
CEO support indicator	1385.902*** (114.744)	1501.950*** (117.295)	1468.003*** (100.268)	1453.838*** (96.467)	57.080*** (6.817)
Communication costs indicator	-	-	-	-153.887 (277.500)	-
Communication costs x CEO support	-	-	-	6130.653** (2,710.857)	-
Firm size	-	99.444*** (10.072)	138.623*** (20.664)	138.198*** (20.643)	0.953 (1.140)
Tobin's Q	-	30.899** (12.389)	40.955*** (14.687)	39.906*** (14.678)	1.802*** (0.550)
ROA	-	463.302*** (174.831)	49.581 (98.322)	49.524 (98.164)	4.055 (7.410)
CAPEX	-	-292.795 (278.485)	408.273 (345.636)	434.781 (344.600)	17.383 (22.110)
R&D	-	62.968 (415.148)	418.572 (485.024)	435.341 (485.831)	-43.318 (33.600)
Observations	232,448	232,448	232,448	232,448	22,450,509
R-squared	0.028	0.040	0.199	0.200	0.073
Firm fixed effects	-	-	Yes	Yes	Yes
Candidate fixed effects	-	-	Yes	Yes	Yes
Election cycle fixed effects	-	-	Yes	Yes	Yes
Employee fixed effects	-	-	-	-	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3. CEO and employee contributions around CEO turnovers

This table reports the results of regressions of employee contributions on CEO contributions around CEO turnovers. The data are at the firm-candidate-cycle level. The sample includes S&P 1,500 firms covered by BoardEx between 1999 and 2014. Data on individual campaign contributions are from the FEC individual contributions files, and data on firm-level control variables are from Compustat. Panel A includes the sample of turnovers and employees as indicated in column titles. Panel B includes only those turnovers in which the outgoing CEO did not contribute to any political candidates; Panel B further splits the sample of employees based on their political orientation (see text for details). Regressions include fixed effects and firm-level control variables as indicated. Standard errors clustered by firm and candidate are reported in parentheses below the coefficients.

Panel A: Contributions around CEO turnovers

CEO turnover sample:	Amount contributed by employees of a firm			
	All turnovers	Outgoing CEO dies or is 65 or older	All turnovers	Outgoing CEO dies or is 65 or older
Employee sample:	All employees	All employees	Employees who contribute before and after turnover	Employees who contribute before and after turnover
	(1)	(2)	(3)	(4)
CEO support indicator (incoming CEO)	330.048*** (64.219)	515.682*** (111.542)	212.661*** (53.442)	302.400*** (82.887)
CEO support indicator (outgoing CEO)	911.177*** (80.473)	869.578*** (138.706)	486.896*** (57.375)	471.695*** (85.982)
Post-turnover indicator	-10.841 (29.439)	43.311 (59.006)	5.897 (26.721)	43.160 (33.575)
Post-turnover x Incoming CEO	1333.427*** (131.893)	1219.656*** (195.028)	897.145*** (131.233)	818.373*** (185.233)
Post-turnover x Outgoing CEO	-401.746*** (80.822)	-296.365** (127.225)	-184.894*** (53.802)	-175.199** (85.385)
Observations	70,985	24,550	64,542	22,451
R-squared	0.168	0.183	0.096	0.138
Firm control variables	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Candidate fixed effects	Yes	Yes	Yes	Yes
Election cycle fixed effects	Yes	Yes	Yes	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Panel B: CEO influence and employees' political orientation

Employee sample:	Amount contributed by employees of a firm			
	Bipartisan employees	Employees aligned with the party of the incoming CEO	Employees opposed to the party of the incoming CEO	All employees
	(1)	(2)	(3)	(4)
CEO support indicator (incoming CEO)	135.359 (101.264)	74.759 (62.848)	61.005 (44.471)	271.122 (176.051)
Post-turnover indicator	92.459 (58.051)	23.239 (29.469)	28.437 (17.574)	144.134 (88.469)
Post-turnover x Incoming CEO	545.610*** (197.845)	198.552*** (74.906)	-11.563 (34.536)	732.599*** (249.014)
Observations	11,478	11,478	11,478	11,478
R-squared	0.118	0.144	0.099	0.139
Firm control variables	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Candidate fixed effects	Yes	Yes	Yes	Yes
Election cycle fixed effects	Yes	Yes	Yes	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4. The impact of common factors on CEO and employee contributions

This table reports the results of panel regressions of employee contributions on the CEO support indicator. The data are at the firm-candidate-cycle level. The sample includes S&P 1,500 firms covered by BoardEx between 1999 and 2014. Data on individual campaign contributions are from the FEC individual contributions files, and data on firm-level controls are from Compustat. Panel A includes the baseline specification as well as specifications that account for candidate strength and firm-specific factors. The dependent variable in all columns of Panel A is the total amount contributed by firm employees to a candidate in an election cycle. Panel B includes specifications that account for common geographic factors in CEO and employee contributions. The dependent variables in Panel B are indicated in the column titles. Panel C reports the results of Oster (2015) tests for the amount of variation in unobservables relative to observables needed to bring the estimated effect on CEO support to zero. Regressions include fixed effects and firm-level control variables as indicated. Standard errors clustered by firm and candidate are reported in parentheses below the coefficients.

Panel A: Specifications that account for firm-specific factors and candidate strength

	Amount contributed by employees		
	(1)	(2)	(3)
CEO support indicator	1618.111*** (106.382)	1261.559*** (93.207)	1398.677*** (95.752)
Amount contributed by non-employees	-	-	28.893*** (3.412)
Incumbent indicator	-	-	2.578 (41.378)
Republican indicator	-	-	-128.628 (376.103)
Observations	232,448	232,448	232,448
R-squared	0.232	0.239	0.229
Firm control variables	-	Yes	Yes
Firm fixed effects	-	Yes	Yes
Candidate fixed effects	Yes	-	Yes
Election cycle fixed effects	-	-	Yes
Candidate-cycle fixed effects	-	Yes	-
Firm-cycle fixed effects	Yes	-	-

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Panel B: Specifications that account for common geographic factors in CEO and employee contributions

	Amount contributed by employees living outside CEO zip code	Amount contributed by employees living outside CEO state	Amount contributed by employees (all states and zip codes)
	(1)	(2)	(3)
CEO support indicator	1302.135*** (95.592)	271.316*** (58.816)	1469.937*** (100.603)
Observations	232,448	232,448	232,448
R-squared	0.196	0.180	0.201
Firm control variables	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
Candidate fixed effects	Yes	Yes	Yes
Election cycle fixed effects	Yes	Yes	-
State-cycle fixed effects	-	-	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Panel C: Testing for the amount of variation in unobservables (Oster (2015))

	$R_{max} = 1.3\tilde{R}$	$R_{max} = 2\tilde{R}$	$R_{max} = 1$
	(1)	(2)	(3)
δ	5.37	3.97	2.18

Table 5. CEO contributions and firm-specific benefits from political participation

This table reports the results of regressions of employee contributions on CEO support indicator interacted with firm characteristics and economic conditions. The data are at the firm-candidate-cycle level. The sample includes S&P 1,500 firms covered by BoardEx between 1999 and 2014. Data on individual campaign contributions are from the FEC individual contributions files, and data on firm-level control variables are from Compustat. The dependent variable in all specifications is the total amount contributed by firm employees to a candidate in an election cycle. Regressions include fixed effects and firm-level control variables as indicated. Standard errors clustered by firm and candidate are reported in parentheses below the coefficients.

	Amount contributed by employees					
	(1)	(2)	(3)	(4)	(5)	(6)
CEO support indicator	529.698*** (82.299)	1171.225*** (109.773)	1225.309*** (104.099)	990.390*** (88.905)	1430.797*** (100.161)	1342.744*** (95.172)
PAC indicator	-102.214*** (37.058)	-	-	-	-	-
PAC indicator x CEO support	1777.885*** (164.608)	-	-	-	-	-
Lobbying industry indicator	-	0.580 (81.106)	-	-	-	-
Lobbying industry x CEO support	-	656.366*** (165.610)	-	-	-	-
Regulated industry indicator	-	-	-71.799 (50.371)	-	-	-
Regulated industry x CEO support	-	-	560.278*** (180.365)	-	-	-
Number of CEO's political connections	-	-	-	-0.620* (0.358)	-	-
Political connections x CEO support	-	-	-	13.682*** (2.576)	-	-
NBER recession indicator	-	-	-	-	67.897 (95.992)	-
Recession x CEO support	-	-	-	-	203.496* (122.710)	-
Candidate jurisdiction over firm indicator	-	-	-	-	-	65.578** (30.149)
Candidate jurisdiction x CEO support	-	-	-	-	-	979.788*** (187.270)
Observations	232,448	232,448	232,448	232,448	232,448	232,448
R-squared	0.209	0.201	0.200	0.203	0.199	0.201
Firm control variables	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Candidate fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Election cycle fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6. CEO contributions and political conflict within households

This table reports the share of households that contribute to conflicting political candidates (i.e., to candidates who run for the same office in the same election). The data are at the household-cycle level. The sample includes 1,524 observations for 398 unique households making political contributions between 1999 and 2014 (see text for details). The sample is split into households whose CEOs contribute to conflicting political candidates and households whose CEOs contribute only to non-conflicting political candidates. In the first row, all candidates running for the same office in the same election are regarded as conflicting political candidates, irrespective of their party affiliation. In the second row, only candidates from opposing parties running for the same office in the same election are regarded as conflicting political candidates.

	CEOs contribute to conflicting candidates	N	CEOs contribute only to non- conflicting candidates	N	Difference (conflicting CEOs minus non- conflicting CEOs)	t-stat
	(1)	(2)	(3)	(4)	(5)	(6)
Share of households that contribute to conflicting candidates, regardless of party	0.491	161	0.278	1,363	0.213	5.62***
Share of households that contribute to conflicting candidates from opposing parties	0.310	84	0.101	1,440	0.209	5.96***

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 7. CEO contributions and voter turnout

This table analyzes the relation between CEO contributions and employees' likelihood of voting in the 2000 general election. The data are from the NBER's Shared Capitalism Research Project (Kruse, Freeman, and Blasi (2010)) and the FEC campaign contribution files. Panel A reports summary statistics, where CD stands for congressional district. Panel B reports the results of cross-sectional regressions. All specifications are linear probability models, in which the dependent variable is the indicator of whether the respondent voted in the 2000 general election. Standard errors clustered by firm-site are reported in parentheses below the coefficients.

Panel A: Summary statistics

	N	Mean	25th Pctl.	Median	75th Pctl.	Std. Dev.
	(1)	(2)	(3)	(4)	(5)	(6)
CEO contributes to the respondent's CD (indicator)	5,677	0.576	0.00	1.00	1.00	0.494
CEO contributes to the respondent's CD (amount, \$ thousands)	5,677	2.508	0.00	1.88	5.00	2.340
Respondent's reported wealth (\$ millions)	5,677	0.498	0.09	0.20	0.75	0.843
Respondent has a college degree or higher	5,677	0.586	0.00	1.00	1.00	0.493
Respondent is female	5,677	0.319	0.00	0.00	1.00	0.466
Respondent's age	5,677	41.45	35.0	41.0	47.0	8.893
Respondent is Hispanic or Latino	5,677	0.026	0.00	0.00	0.00	0.160
Respondent is Native American	5,677	0.005	0.00	0.00	0.00	0.069
Respondent is Asian	5,677	0.087	0.00	0.00	0.00	0.282
Respondent is Black	5,677	0.023	0.00	0.00	0.00	0.150
Respondent voted in the 2000 election	5,677	0.781	1.00	1.00	1.00	0.414
Average voter turnout in the respondent's county	5,677	0.523	0.43	0.48	0.60	0.116

Panel B: Relation between employees' likelihood to vote and CEO contributions

	Respondent voted in the 2000 election			
	(1)	(2)	(3)	(4)
CEO contributes to the respondent's CD (indicator)	0.126*** (0.038)	-	0.196*** (0.036)	0.183*** (0.043)
CEO contributes to the respondent's CD (amount)	-	0.018** (0.009)	-	-
College degree x CEO contributed to CD (indicator)	-	-	-0.166*** (0.032)	-
Wealth x CEO contributed to CD (indicator)	-	-	-	-0.194*** (0.048)
Respondent has a college degree or higher	0.062** (0.029)	0.074** (0.035)	0.147*** (0.024)	0.044* (0.025)
Respondent's reported wealth	0.024*** (0.007)	0.024*** (0.007)	0.026*** (0.008)	0.212*** (0.047)
Respondent is female	0.041*** (0.010)	0.038*** (0.011)	0.038*** (0.010)	0.041*** (0.009)
Respondent's age	0.029*** (0.006)	0.028*** (0.007)	0.027*** (0.006)	0.027*** (0.007)
Respondent's age squared/10	-0.003*** (0.001)	-0.003*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)
Respondent is Hispanic or Latino	-0.068 (0.065)	-0.071 (0.065)	-0.067 (0.064)	-0.065 (0.062)
Respondent is Native American	0.101* (0.060)	0.102* (0.059)	0.101* (0.060)	0.095 (0.061)
Respondent is Asian	-0.365*** (0.015)	-0.369*** (0.017)	-0.354*** (0.010)	-0.365*** (0.015)
Respondent is Black	0.005 (0.029)	0.001 (0.031)	-0.001 (0.029)	0.010 (0.027)
Average voter turnout in the respondent's county	0.640*** (0.142)	0.565*** (0.167)	0.528*** (0.131)	0.604*** (0.122)
Observations	5,677	5,677	5,677	5,677
R-squared	0.128	0.121	0.135	0.134

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

(For Online Publication) Appendix A: Sample construction and robustness

A.1. The merge between BoardEx and FEC data

We identify all years in which BoardEx provides the name of the CEO of an S&P 1,500 firm (31,454 firm-years, 2,508 firms). Since the FEC data do not share a common firm identifier with BoardEx, we use the name of the employer reported in the FEC data to match firms in BoardEx with firms in the FEC through a “fuzzy merge” using a bigram string comparator score of the firm name as reported in each data set. A bigram string comparator computes the fraction of consecutive character matches between two strings. We implement this fuzzy merge using the Stata ado file `reclink`. For each potential fuzzy match, Stata provides a similarity score; a higher score implies a greater degree of similarity between the matched terms, with 1 indicating a perfect match. We use this score to select matches for manual review and choose the similarity score of 0.8 as the threshold because we find no matches with a similarity score between 0.7 and 0.8. There is a wide range of matches with scores above 0.8, some of which are very close (e.g., Occidental Petroleum is matched with Occidental Petroleum) and some of which are not (e.g., Sotheby’s International Realty is matched with Services Corp International). We perform a manual review of all matches with a similarity score above 0.8 (13,609 combinations of firm names in the two datasets) to ensure accuracy. Using this procedure, we are able to identify 2,345 matches between the names of BoardEx firms and employer names in the FEC data.

Next, we obtain individual campaign contributions of CEOs and employees of BoardEx firms matched into the FEC dataset. To do so, we first match the names of CEOs of BoardEx firms with the names of individuals in the FEC data by using a procedure similar to the one we used to match firms in the two datasets. As before, some matches are very close (e.g., Martin L. Orlowsky is matched with Martin Orlowsky), while some are not (e.g., Charles E. Royse is matched with John Royse). Therefore, we manually review 15,556 potential matches with a similarity score above 0.8 to ensure accuracy.

We attribute contributions to the firm’s CEO if the employer name in the FEC dataset matches a firm name in BoardEx and the name of the person in the FEC dataset matches the name of the firm’s CEO during that CEO’s tenure. Since our goal is to study the contributions made by all employees, we do not match the names of people in BoardEx other than the CEO to the names of people in the FEC data. We thus attribute contributions to the firm’s employees if the employer

name in the FEC dataset matches a firm name in BoardEx and the name of the person in the FEC dataset does not match the name of the firm's CEO. This procedure retains all employees of a BoardEx firm who made political contributions recorded by the FEC, regardless of employees' coverage in BoardEx.

A CEO's decision not to contribute to a candidate may itself be informative about his/her political preferences, and employees may follow the CEO's lead by also not contributing to this candidate. However, there may also be some cases when the absence of contributions indicates that the candidate was not considered viable. We follow a conservative approach and drop all candidate-firm combinations for which there is no election cycle when either the firm's CEO or employees contributed to the candidate. We do retain cases when a firm's CEO or employees switch their contributions between different candidates running for the same office in different election cycles. As an illustration, consider the case when candidate A and candidate B compete for the same office in election cycle 1 and election cycle 2. If the firm's CEO or employees contribute to candidate A in election cycle 1 but then switch to contributing to candidate B in election cycle 2, we retain both candidate A and candidate B in both election cycles.

We merge our sample of BoardEx firms and political contributions with Compustat and drop all firms with headquarters outside the United States, which leaves us with 23,765 firm-year observations for 2,287 unique firms. In the final step, we drop observations with missing data on control variables required for our baseline specification, and winsorize all continuous variables at 1%. We aggregate data at the election cycle level by retaining the value of firm control variables in the first year of the election cycle. Our final sample contains 232,448 firm-candidate-cycle observations (12,467 firm-cycles) for 2,181 unique firms and 4,606 unique candidates over eight election cycles from 1999 to 2014.

A.2. Sensitivity of the analysis to the omission of employer name

Some individual contributions in the FEC data do not contain the name of the employer (13.7% of contributions), and hence they cannot be matched to any firm in our sample. It seems likely that most of these contributions are made by retired, unemployed, or self-employed individuals who rightfully should not be part of our sample. Alternatively, some contributors may simply forget to report their employer's name or omit it for some other random reason, such as changing the place of employment during the year. If such random reasons explain why people do not report the name

of their employer, then our results would not be affected by the exclusion of such individuals from the sample. However, it is also possible that some individuals omit their employer's name because they do not wish to support the political candidates favored by their CEOs, which may potentially introduce a bias into our results.

To assess the degree to which the sample selection bias induced by such strategic misreporting may affect our results, we assume that all 13.7% of individuals who do not report their employer are in fact employees of some firms but that, unlike other (i.e., reporting) employees, they do not contribute more money to CEO-supported political candidates. We then consider two hypothetical scenarios. In the first scenario, we assume that non-reporting employees favor CEO-supported candidates no more and no less than other candidates; instead, such employees spread their contributions evenly among *all* political candidates. In this first scenario, the inclusion of non-reporting employees into our analysis would reduce the coefficient on the CEO support indicator in our baseline regression by 13.7%. To see more precisely how our estimates would be affected, note that we run the following regression:

$$C_{ij}^{employees} = \alpha + \beta D_{ij}^{CEO} + \varepsilon_{ij}, \quad (\text{A.1})$$

where D_{ij}^{CEO} is an indicator variable equal to one if the CEO of firm i supports candidate j . Recall also that the average value of the dependent variable is approximately 800 and that, on average, 6% of candidates are supported by a firm's CEO. In the sample where the employer name is reported (86.3% of all observations), the observed regression coefficients are, approximately, $\alpha = 710$ and $\beta = 1500$. If we run a regression on the full (hypothetical) sample, the OLS estimates will minimize the sum of squares:

$$\begin{aligned} \min_{\alpha, \beta} & 0.863(0.06(710 + 1500 - \alpha - \beta)^2 + 0.94(710 - \alpha)^2) \\ & + 0.137(0.06(800 - \alpha - \beta)^2 + 0.94(800 - \alpha)^2). \end{aligned} \quad (\text{A.2})$$

The OLS estimates will be $\alpha = 722$ and $\beta = 1295$, i.e., the coefficient of interest will be reduced by $(1500-1295)/1500=13.7\%$.

In the second scenario, we assume that all non-reporting individuals contribute the least possible amount to CEO-supported candidates (which is zero as contributions cannot be negative) and distribute their donations evenly among the remaining 94% of candidates. Given the sample average contribution of 800, the candidates not supported by the CEO receive $800/0.94=851$ from non-reporting employees under this scenario. OLS estimates solve:

$$\min_{\alpha, \beta} 0.863(0.06(710 + 1500 - \alpha - \beta)^2 + 0.94(710 - \alpha)^2) \quad (\text{A.3})$$

$$+ 0.137(0.06(0 - \alpha - \beta)^2 + 0.94(851 - \alpha)^2),$$

which yields $\alpha = 729$ and $\beta = 1178$. Thus, even under this extreme scenario, the coefficient on the CEO support indicator would not go down to zero and would be reduced by only 21.5%. Overall, it appears unlikely that the omission of the employer's name can significantly bias our results.

A.3. The voter turnout sample

Our data on employee voting behavior come from a survey of employees conducted as part of the NBER's Shared Capitalism Research Project at fourteen companies that have broad-based employee ownership programs (Kruse, Freeman, and Blasi (2010)). The web-based or paper-based surveys were administered from 2001 to 2005 at 323 different firm-sites, and the average response rate across firms was 49.5%. In twelve out of the fourteen firms, the survey included a question that asked employees whether they had voted in the general election held in November 2000. At ten firms this question was administered to all firm employees and at two firms it was administered to a random sample of employees, and the survey is therefore representative of the firms' workforce. In addition to the voter turnout question, the surveys included questions about demographic characteristics, wealth, and education.

The firms in the survey have operations both in the United States and abroad. To select eligible voters, we restrict the sample of respondents to U.S.-based employees who worked at the firm as of November 2000, were at least 18 years old, and answered the voter turnout question as well as the questions we use as control variables in our baseline specification. Our final sample includes 5,677 employees working at 53 different firm-sites.

For each firm in the sample we manually identify the firm's CEO as of November 2000 and obtain from the FEC all his/her campaign contributions to House and Senate candidates during the 1999–2000 election cycle. Further, for each firm-site location in our sample we identify the congressional district to which that location belongs and verify whether the firm's CEO contributed to any candidate running for office in that congressional district. Since Senate candidates run for statewide office, we assume that they run in each congressional district of a state. We then create an indicator variable equal to one for a given firm-site if the CEO contributed to any candidate in that site's congressional district, as well as a continuous variable equal to the total amount that the CEO contributed to all candidates in that congressional district.

A.4. The sample of CEO turnovers

We use the dates of employment provided by BoardEx to identify start and end dates of CEO tenure at our sample firms. In 32 cases there is a gap between the date of an outgoing CEO's departure and the incoming CEO's arrival. Since we cannot identify the CEO who immediately replaces the departing CEO in such cases, we remove these turnovers from our analysis. Because our sample of campaign contributions runs from the 2000 election cycle to the 2014 election cycle, we only consider turnovers that take place between the 2002 and 2012 election cycles. In total, we have 2,240 such turnovers. We use biographical information provided by BoardEx, which includes the dates of birth and death (if any), to calculate the age of outgoing CEOs at the time of their departure and to identify departures caused by death. Assuming that CEOs over 65 years old depart due to retirement, 533 turnovers are caused by retirement and 38 turnovers are caused by death.

For each turnover in our sample, we drop from the analysis the election cycle in which the turnover takes place because the impact of the outgoing and incoming CEOs cannot be cleanly separated during these times. This step also removes 277 turnovers in which the outgoing or the incoming CEO stays in the firm only in the cycle of the turnover. In the next step, we drop 437 turnovers due to missing control variables in our baseline specification.

Since our focus is on the impact of CEO changes on employee contributions, we next identify the turnovers in which either the incoming or the outgoing CEO (or both) make at least one campaign contribution during their tenure, excluding the cycle of the turnover itself. This step drops 484 turnovers in which neither the incoming CEO nor the outgoing CEO makes any campaign contributions—since CEOs make no contributions around such turnovers, retaining

them in the sample would attribute any lack of changes in employee contributions to lack of changes in CEO preferences. As a robustness check, we re-estimate our turnover regressions on the sample that includes turnovers in which neither the incoming CEO nor the outgoing CEO make any campaign contributions; the results (reported in column 1 of Table A1) are similar to the ones reported in the main text.

To avoid changes in the composition of political candidates, we retain only those candidates who run for office both before and after the turnover. This step drops 19 turnovers. Our final sample of turnovers therefore consists of 1,023 turnover events, of which 288 are caused by retirement and 14 are caused by death. For robustness, we also re-estimate our turnover regressions without restricting the sample of political candidates and find that our results continue to hold (we report them in column 2 of Table A1). As a final robustness check, we re-estimate our turnover regressions during the time period limited to one election cycle before and one election cycle after the turnover, since political preferences are less likely to change during a shorter time period. The results (reported in column 3 of Table A1) continue to show that after turnover employees shift their preferences from the candidates supported by the outgoing CEO to the candidates supported by the incoming CEO.

A.5. Robustness to different specifications of the baseline results

Table A1 presents the results of several robustness tests of our baseline specification. For ease of comparison with the main text, the first column of Table A2 reports our baseline specification. In column 2 of Table A2, we replace our main explanatory variable (CEO support indicator) with the amount that the CEO contributed to a given candidate. The effect of CEO contributions remains statistically and economically significant and implies that a one-standard deviation increase in the amount contributed by the CEO increases the amount of employee contributions by 52% relative to its mean.

Given that the amount of contributions is naturally left-censored at 0, in column 3 we also show that our results are robust to using Tobit estimation instead of OLS. The coefficient of interest remains statistically significant, and its magnitude increases somewhat relative to the baseline. Note that, because of the well-known bias in nonlinear models with fixed effects (Greene (2004)), the Tobit model reported in column 3 does not include fixed effects.

We also investigate the robustness of our results to alternative sample construction methods. Recall that our main sample contains all candidates to which either the firm's CEO or its employees contribute at any point between 1999 and 2014 and thus includes observations for which a candidate running for office does not receive any contributions from the firm's CEO or employees in a given election cycle (as long as this candidate receives such contributions in another election cycle). In the first robustness test of sample construction (reported in column 4 of Table A2), we exclude all firm-cycle observations where the CEO does not contribute to any political candidates. This test thus excludes all cases in which the CEO does not intend to influence employees' contributions as well as cases in which the CEO may intend to prevent employees from contributing to any federal candidates. We find that in this subsample the effect of CEO contributions remains both economically and statistically significant, with the magnitude similar to that in the baseline. Finally, in column 4 of Table A2, we exclude all observations in which neither employees nor the CEO contribute to a candidate and find that campaign contributions by the CEO continue to have a statistically and economically significant effect on campaign contributions by employees. Perhaps unsurprisingly, the coefficient decreases somewhat relative to the baseline, consistent with the idea that employees' decision whether to support the candidate or not is also related to CEOs' political preferences.

Table A1. Robustness of CEO turnover results to alternative samples

This table reports the results of regressions of employee contributions on CEO contributions around CEO turnovers. The data are at the firm-candidate-cycle level. The sample includes S&P 1,500 firms covered by BoardEx between 1999 and 2014. Data on individual campaign contributions are from the FEC individual contributions files, and data on firm-level control variables are from Compustat. Samples are described in column titles (see appendix text for details). The dependent variable in all columns is the total amount contributed by firm employees to a candidate in an election cycle. Regressions include fixed effects and firm-level control variables as indicated. Standard errors clustered by firm and candidate are reported in parentheses below the coefficients.

Panel A: Contributions around CEO turnovers

Turnover sample:	Amount contributed by employees of a firm		
	Retain turnovers even if neither the outgoing nor the incoming CEO makes campaign contributions	Retain political candidates even if they run for office only before or only after the turnover	Limit the sample to one election cycle before and one election cycle after the turnover
	(1)	(2)	(3)
CEO support indicator (incoming CEO)	345.307*** (66.362)	353.961*** (67.952)	456.683*** (91.314)
CEO support indicator (outgoing CEO)	894.635*** (86.508)	889.834*** (85.336)	1020.049*** (93.846)
Post-turnover indicator	-50.523*** (17.554)	-65.576*** (19.882)	-48.696 (32.948)
Post-turnover x Incoming CEO	1050.837*** (105.769)	1050.835*** (106.601)	1613.695*** (173.558)
Post-turnover x Outgoing CEO	-349.282*** (81.456)	-333.439*** (82.718)	-454.906*** (102.208)
Observations	158,206	134,002	32,944
R-squared	0.204	0.210	0.220
Firm control variables	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
Candidate fixed effects	Yes	Yes	Yes
Election cycle fixed effects	Yes	Yes	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A2. Robustness of the baseline results to alternative specifications

This table reports the results of panel regressions of employee contributions on the CEO support indicator and the amount of CEO campaign contributions. The data are at the firm-candidate-cycle level. The sample includes S&P 1,500 firms covered by BoardEx between 1999 and 2014. Data on individual campaign contributions are from the FEC individual contributions files, and data on firm-level control variables are from Compustat. The dependent variable in all columns is the total amount contributed by firm employees to a candidate in an election cycle. Samples and estimation methods are shown in column titles. Regressions include fixed effects and firm-level control variables as indicated. Standard errors clustered by firm and candidate are reported in parentheses below the coefficients.

<i>Sample:</i>	Amount contributed by employees				
	Full	Full	Full	Exclude firm-years in which CEOs do not contribute to any candidates	Exclude candidates to which neither CEOs nor employees contribute
<i>Estimation:</i>	OLS	OLS	Tobit	OLS	OLS
	(1)	(2)	(3)	(4)	(5)
CEO support indicator	1468.003*** (100.268)	-	2221.152*** (188.165)	1568.197*** (102.452)	877.184*** (107.073)
Amount contributed by the CEO	-	0.979*** (0.061)	-	-	-
Firm size	138.623*** (20.664)	135.267*** (20.765)	231.946*** (19.739)	154.670*** (31.274)	157.371*** (38.349)
Tobin's Q	40.955*** (14.687)	40.011*** (14.426)	45.066 (27.913)	55.115** (23.344)	54.577** (26.196)
ROA	49.581 (98.322)	52.545 (97.592)	1238.530*** (390.004)	235.879 (146.774)	224.069 (182.462)
CAPEX	408.273 (345.636)	331.494 (340.781)	-87.442 (585.884)	776.339 (487.420)	77.587 (712.278)
R&D	418.572 (485.024)	363.152 (473.044)	1458.075* (864.363)	258.347 (876.914)	594.867 (1,251.247)
Observations	232,448	232,448	232,448	125,882	104,306
R-squared/Pseudo R-squared	0.199	0.209	0.003	0.227	0.222
Firm fixed effects	Yes	Yes	-	Yes	Yes
Candidate fixed effects	Yes	Yes	-	Yes	Yes
Election cycle fixed effects	Yes	Yes	-	Yes	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$