Political Connections and Selective EPA Enforcement*

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Abstract

We examine whether the Environmental Protection Agency (EPA) uniformly enforces regulation pertaining to the Clean Air Act (CAA) for politically connected and unconnected firms using a close election setting from 1980-2010. We find no difference in total greenhouse gas emissions or EPA investigations between the two groups. However, politically connected firms are less likely to be involved in EPA enforcement actions, and when prosecuted, they receive smaller penalties, indicating that they benefit from select environmental enforcement. These results are more pronounced for firms connected to politicians capable of influencing regulatory bureaucrats and connected firms that are more important to their supported politicians. Taken together, our results show that campaign contributions can indirectly benefit firms by way of reduced environmental regulatory enforcement and fines.

Keywords: Political Connection, Pollution, Environmental Policies Enforcement

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1. Introduction

In response to decades of environmental concerns and the public's growing dissatisfaction with absent or ineffective environmental regulation, the Environmental Protection Agency (EPA) was created as a "strong, independent agency" to facilitate the control of pollution.[1] However, the question of whether the regulatory agency is independent of Congressional has recently received intense media scrutiny. When President Trump was elected, he appointed former Oklahoma Senator Scott Pruitt, a self-described "leading advocate against the EPA's activist agenda,[2]" as EPA Administrator. The former Oklahoma Senator engaged in a favorable rent deal with the wife of an energy lobbyist, favored pro-corporation energy policies, and eventually resigned amid many ethical scandals suggesting that he favored corporate interests.[3] While Pruitt resigned before he could be found guilty of any ethical violations, during his term, one of the three largest energy companies that donated to him did not pay a single dollar towards environmental penalties for the first time since the past two decades, and a second had their fines fall by half.[4]

While there are anecdotes consistent with firms using political connections to obtain favorable treatment by the EPA, this is the first study that provides systematic evidence of this occurrence and the channels of its implementation to the best of our knowledge. Our study contributes to two distinct bodies of literature primarily examined separately. One body suggests that that politicians may have the ability to influence regulators.[5] Aside from directly passing and implementing regulation itself, we show that politicians can act as a valuable link between regulated firms and regulators, and campaign contributions are a means for firms to

[1] Former President Nixon established the EPA through an executive order on July 9, 1970. (Nixon, 1970)
[2] Eder and Tabuchi (2018, April 21)
[3] Eder and Tabuchi (2018, April 21)
[4] Fines calculated using penalty data from the EPA's ECHO database EPA.gov (Accessed January 21, 2017)
[5] See Stigler (1971), Pelzman (1976), Grossman and Helpman (1994), Correia (2014), Gulen and Myers (2017)

establish that link. Not only do we provide evidence that politically connected firms experience more favorable regulatory outcomes, we provide theories and empirical evidence indicating the circumstances that this influence is likely to be exerted. Second, numerous studies have debated whether corporate campaign contributions are beneficial. Some studies suggest that campaign contributions are symptoms of an agency problem,[6] while others argue that they are valuable by creating "political capital.[7]" Even the studies favoring the "political capital" story debate the channel that these connections create firm.[8] Our results are in favor of the political capital story, suggesting that political connections can indirectly create firm by way of reduced environmental regulatory enforcement and fines.

While regulators should be non-partisan and enforce regulation uniformly, evidence suggests this is not always true.[9] In order to directly influence an individual bureaucrat, a regulated company may engage in bribery[10] or take advantage of a past relationship.[11] The company may also indirectly influence the bureaucrat by electing officials that promise to create a favorable regulatory environment.[12] For example, a business that that anticipates benefitting from laxer environmental regulation may provide support to a politician campaigning for more lenient laws and limited agency funding.

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[6] See Aggarwal, Meschke, and Wang (2012) and Coates (2012)

[7] See Cooper, Gulen, and Ovtchinnikov (2009), Fulmer and Knill (2012), Correia (2014)

[8] See Ansolabehere, De Figueiredo, and Snyder (2003) for a survey.

[9] Correia (2014) and Kedia and Rajgopal (2011) suggest SEC enforcement is not uniform, while Mixon Jr. (1995) Gulen and Myers (2018) provide evidence against consistent EPA enforcement. Hunter and Nelson (1995) and Young et al. (2001) show similar results for the Internal Revenue Service (IRS), while Faith et al. (1982) and Weingast and Moran (1983) show consistency with the Federal Trade Commission (FTC).

[10] "An elected Arizona utility regulator who is now accused of accepting bribes had $31,000 funneled to him from a water company owner and tried to get the owner to buy him a $350,000 piece of land" Associated Press (2018, May 27)

[11] "Upon discovering that her former employer, Aerojet, had dumped hazardous waste, Rita Lavelle, the former head of the EPA's Superfund (toxic waste) program failed to excuse herself from the case and lied about it." Times Wire Service (1985, April 20)

[12] President Trump, who had campaigned on a promise to revive the coal industry, issued an executive order to revise or withdraw the Clean Power Plan within his first days of office, targeting "regulatory burdens that unnecessarily encumber energy production . . . and prevent job creation." White House (2017)

In this study, we focus our analysis on the regulation of the Clean Air Act (CAA). The importance of clean air is well-established and ranges from individual health benefits to environmental benefits for future generations. However, the costs associated with obtaining clean air can be substantial. Policymakers must balance the negative externalities associated with pollution with their potential to create jobs, increase local economic activity, and lead to positive economic spillovers (Greenstone, Hornbeck, and Moretti, 2010). The Clean Air Act (CAA) was passed in 1970 to regulate the emissions from stationary sources, such as plants, and mobile sources, such as vehicles used for transportation. Among other things, the law authorizes the EPA to establish National Ambient Air Quality Standards (NAAQS) and to regulate the emissions of greenhouse gasses, which contribute to the greenhouse effect by absorbing infrared radiation, in every state.

The EPA monitors these hazardous pollutants and tracks emissions through its Enforcement and Compliance History Online (ECHO) database. The primary greenhouse gas emitted through human activities is carbon dioxide, which accounted for about 81.6% of all U.S. greenhouse gas emissions from human operations in 2016.[13] ECHO also contains information on the emission of less common greenhouse gasses,[14] environmental permits, inspections, violations, enforcement actions, and assessed penalties.

Within our setting, if a firm's political action committee (PAC) donates to a politician, we consider the firm to be politically connected. However, the firm's decision to donate is endogenous. To overcome this endogeneity challenge, we use the regression discontinuity design proposed by Akey (2015) and focus our analysis on close elections where a candidate's margin of victory is less than 5%. This framework allows us to causally compare the outcomes

[13] https://www.epa.gov/ghgemissions/overview-greenhouse-gases
[14] Other greenhouse gasses are referred to as carbon dioxide equivalents, which are methane, nitrous oxide, and fluorinated gasses.

of firms connected to politicians who just won a close election to those politicians who just lost a close election. If the EPA uniformly enforces the Clean Air Act, we would not expect to see differences between firms with and without political connections.

We first test the difference in greenhouse gas emissions between firms with and without political connections. Despite that firms with political connections have more greenhouse gas emitting facilities, we find that total levels of greenhouse gas or carbon dioxide outputs are not statistically different between the two groups. Consistent with our emission results, we find that politically connected firms are no more likely to be investigated by the EPA than their unconnected counterparts.

However, politically connected firms are less likely to incur environmental penalties and conditional on the instance of a penalty, they realize smaller fines than their unconnected counterparts. These findings suggest that political connections may indirectly create substantial value by leading to favorable regulatory enforcement. We test two channels through which this connection is most likely to create value. First, we examine whether firms connected the politicians with greater ability to influence the bureaucrat fare better when regulation is enforced. Second, we test whether firms that are more important to politicians are more likely to receive favorable regulatory outcomes.

While politicians can directly influence regulation by passing laws, some may also be able to sway the bureaucrat informally by developing a rapport through repeated contact, such as through relevant committee work, or informally establishing a quid pro quo relationship. The politician may be able to offer the regulator something of value to him in exchange for favorable treatment of a particular firm, such as access to his network. The literature has shown that bureaucrats are motivated by career concerns (see Alesina and Tabellini, 2007 for a discussion), and individual regulators may seek to transition to employment in government work. To ease the transition, they may align themselves with Congressional interests to maximize current and future career prospects. To test this empirically, we define powerful politicians as those having incumbent status, those who are more senior, members of the majority party, or seats on committees closely related to environmental matters and EPA.

Furthermore, Republicans have historically held pro-business environmental policies, while Democrats have been pro-regulation (see Fredrickson et al., 2018 for a discussion by party). Due to these tendencies, we speculate that a Republican may be more likely to impact regulatory enforcement and confirm this analyzing at the party level. Upon examining each of these cross-sections, we find evidence that firms connected to more influential politicians experience realize fewer instances of penalties and lower fines.

Even if a politician can influence the regulatory process, he may not uniformly exert his influence for all firms equally. We propose that firms most likely to be valuable to politicians receive preferential regulatory enforcement. Theory models of regulation show that politicians are generally assumed to maximize their probability or re-election (Stigler, 1971; Pelzman,1976) by catering to their constituencies and optimizing political contributions (Poole and Romer, 1985; Stratmann, 1995). Upon learning of a pending EPA investigation, a politician may attempt to prevent enforcement if he believes that receiving a penalty would harm the business in such a way that it would personally decrease the probability of re-election due to either reduced votes or campaign contributions.

We first measure firm importance by examining whether the connected firm has a headquarters in the state of the election. Next, we follow Cohen, Diether, and Malloy (2013) define an “interested” industry as the top three industries, according to sales, of a given state and create a modified classification based on employee count, since employees can cast votes in elections. Across all three categories of importance, we find evidence of favorable select enforcement.

Our paper proceeds as follows. In Section 2, we provide a discussion of the related background and literature, and we discuss our data and variables of interest in Section 3. Section 4 contains our results, Section 5 shows our robustness tests, and we conclude in Section 6.

2. Background and Related Literature

2.1. Congressional Influence over Regulatory Agencies

The first body of literature that we contribute to examines the effect politicians can have on independent regulatory agencies. The most direct way that Congress is related to regulatory agencies is by drafting and passing federal environmental laws, such as the Clean Air Act (1970), which are enforced by the EPA. Furthermore, Weingast (1984), Weingast and Moran (1983), and McCubbins et al. (1999) discuss how members of Congress can use the appointment of commissioners, agency funding, and oversight to reward (or punish) regulatory agencies that impact their constituencies in favorable (or unfavorable) ways.

A primary underlying assumption of the literature is that both bureaucrats and politicians are subject to career concerns, desiring to maximize their current and future rewards. Politicians maximize their probability of re-election (Stigler, 1971; Pelzman,1976) by catering to their constituencies and maximizing political contributions (Poole and Romer, 1985; Stratmann, 1995). Bureaucrats fulfill the goals of their organization to be perceived as competent by their peers (Alesina and Tabellini, 2007), which affects their ability to maintain current employment as well as their outside job opportunities.

With confirmation by the Senate, the President of the United States appoints the EPA Administrator, who has historically been aligned with the President's environmental policies (see Fredrickson et al., 2018 for a discussion by party). While individual EPA staff members are not political appointees, many use jobs in regulation as a stepping stone either before or after employment with lobbying firms or supporting Congressman.[15] These career concerns may incentivize staffers to align themselves with senior incumbent politicians to improve their current or future career trajectories (Correia, 2014).[16]

Next, by designating funding, Congress directly influences the number of employees that the agency can staff, directly impacting their career prospects, as well as the resources it has available to enforce the regulation. The model proposed by Weignast (1984) shows that agency funding is a mechanism for politicians to reward (or punish) agencies for decisions that increase (or decrease) their constituencies. The final mechanism for influence is congressional oversight. In its most standard form, congressional oversight occurs when a committee holds a public hearing on an agency's implementation of a federal program within the committee's jurisdiction. However, the most common type of oversight is less formal. Members of Congress could directly contact agency heads, but the more pervasive practice is for committee staff to communicate with high ranking agency staff (Lazarus, 1991).

Empirical evidence shows that a number of government agencies do not uniformly enforce regulation, including the Federal Trade Commission (Faith, Leavens, and Tollison, 1982; Weingast and Moran, 1983), Internal Revenue Service (Hunter and Nelson, 1995;

[15] The Center for Responsive Politics (CRP) identified 89 EPA staff members as going through the revolving door.
[16] For further discussion on how internalizing the goals of the organization enhances career prospects for bureaucrats, see Chapter 9 in Wilson (1989).

Young, Reksulak and Shughart, 2001), Nuclear Regulatory Commission (Gordon and Hafer, 2005) and Securities and Exchange Commission (Correia, 2014; Heese, 2015).

To our knowledge, only three other studies examine selective EPA enforcement. Shive and Forster (2018) show that clean air enforcement is not uniform for public and private firms, while they are unable to explain what drives their findings. Mixon Jr. (1995) and Gulen and Myers (2017) focus on select EPA enforcement and its benefit to politicians, not regulated firms. Mixon Jr (1995) show that carbon emissions violations are not issued uniformly across states, and Gulen and Myers (2017) show that the Clean Water Act is not uniformly enforced in battleground states. These papers suggest that politicians encourage regulators to selectively enforce regulation in order to boost their chances of re-election.

We further our understanding of select EPA regulatory enforcement by focusing on the choice of enforcement targets as well as outcomes at the firm-level. We find that even within a given state, politically connected firms receive more favorable regulatory enforcement. While Mixon Jr (1995) and Gulen and Myers (2017) suggest that politicians can encourage regulators selectively enforce the regulation in ways that benefit their chance of reelection at the state-level, our results suggest that firms can tap into this connection using campaign contributions and that the connection transcends state boundaries. We also further this body of literature by providing context surrounding the circumstances politicians are more likely to exert their influence and situations where firms can encourage politicians to exert this influence.

2.2. Value of Firm Political Connections

The second body of literature this paper contributes to examines the significance of corporate political contributions and the channel through which they create value. The degree of connectedness between a firm and politician is reviewed either by focusing on a specific relationship between the two parties or by measuring political expenditures made by firms in the form of PAC contributions, soft money contributions, and lobbying expenditures.

The majority of studies have concluded that campaign contributions are beneficial to shareholders because they are investments in "political capital." Cooper, Gulen, and Ovtchinnikov (2009) find that the firm's campaign donations are associated with higher future stock returns. Fulmer and Knill (2012) and Correia (2014) show that firms who make political contributions delay SEC enforcement and realize lower penalties, while Yu and Yu (2011) suggest that firms that spend more money lobbying experience delayed fraud detection. Faccio (2006) shows that connections are valuable internationally. However, limited evidence suggests that politically active firms could suffer from greater agency problems (Aggarwal, Meschke, and Wang, 2012; Coates, 2012; Borisov, Goldman, and Gupta, 2016). Other studies have examined returns to lobbying, and the findings have also been mixed.

Although the literature has favored the idea that political connections are valuable, the mechanisms through which they create value are still unclear. Studies have shown that connected firms have better access to credit (Chiu and Joh, 2004; Cull and Xu, 2005; Johnson and Mitton, 2003; Khwaja and Mian, 2005), more procurement contracts (Tahoun, 2014), lighter taxation (De Soto, 1989; Arayavechkit, Saffie, and Shin, 2017), TARP funding (Ramanna, 2008 and Duchin and Sosyura, 2012, 2014), and corporate bailouts (Faccio, Masulis, McConnell, 2007)

Our study provides evidence consistent with campaign contributions providing "political capital" for donating firms. We study an additional channel where political connections create value: favorable Environmental Protection Association regulatory enforcement. We also contribute by showing that not all firms benefit equally from their campaign contributions.

Firms that are more important to politicians by way of potential voters, campaign contributions, or industry value receive more favorable regulatory enforcement.

3. Data and Variables

We obtain all data to construct variables quantifying pollution, EPA investigations, and assessed penalties through the EPA's comprehensive Enforcement and Compliance History Online (ECHO) database. Within ECHO, we use data on greenhouse gas emissions from the Clean Air Markets Division (CAMD) and enforcement data from the Integrated Compliance Information System for Federal Enforcement and Compliance (ICIS-FE&C).

Political contribution data relating to federal congressional elections come from the Federal Election Committee (FEC), Constituency-Level Elections Archive (CLEA), and OpenSecrets. Committee data is from Charles Stewart's webpage.

3.1. Air Emissions Data

The EPA measures and collects on hazardous pollutants under four programs: The Greenhouse Gas Reporting System Program (GHGRP), the Clean Air Markets Division (CAMD), the National Emissions Inventory (NEI), and the Toxics Release Inventory (TRI). We construct our primary measures of hazardous pollutants using the EPA's Clean Air Markets Division (CAMD) database, which is considered to be the highest quality database (Shive and Forester, 2018).

The CAMD database reports emissions for hazardous pollutants for facilities covered under the Acid Rain Program and Clean Air Interstate Rule starting in 2008. Carbon dioxide is the primary greenhouse gas emitted through human activities. Separately, CAMD provides measures for other greenhouse gasses (methane, nitrous oxide, and fluorinated gasses) and standardizes them into metric tons of carbon dioxide equivalent to standardize their potency on global warming.

Shive and Forester (2018) report that where emission reports are identical, CAMD and GHGRP are nearly identical (correlation = 0.995). However, because CAMD starts in 2008, while GHGRP starts in 2010, we elect to use CAMD data. Following Shive and Forester (2018) and Currie, Davis, Greenstone, and Walker (2015), we exclude the NEI database, since the pollutant variables are not standardized by toxicity, making aggregates challenging to interpret.

We augment the CAMD emissions data with plant-level data from TRI to determine the number of pollution-emitting facilities per firm. TRI contains information identifying which industrial plants emit toxic pollutants as well as an identifier (DUNS) for many of the plant's parents firms. For every firm with DUNS number, we use D&B hoover to query its trading ticker and use its trading ticker to link with Compustat. For any firm without DUNS number, we use the name-headquarter-state comparison to hand-match the firm-plant pair. For each firm-year, we compute the number of plants a firm has that emits toxic gasses. While TRI contains emissions data, we do not use it because they are self-reported and have been widely criticized as inaccurate (de Marchi and Hamilton, 2006; Koehler and Spengler, 2007; Behhear, 2008; Shive and Forester, 2018).

In Table 2, we provide summary statistics for our three primary measures of annual emissions: carbon dioxide (CO2), carbon dioxide equivalents (CO2-Equivalent), as well as their sum, which is our measure of total greenhouse gas emissions (Total_Greenhouse). The variable Emission_Plant_Num summarizes the number of pollutant-emitting plants that a firm has in a given year. Table 2 Panel B displays the raw values, which are highly right-skewed. Some firms emit a considerable amount of pollutants and have numerous toxic-emitting plants, while others don’t emit any. Lyubich, Shapiro, and Walker (2018) find that even in narrowly defined industries, there is considerable variation in the amount of energy used and the resulting amount of carbon dioxide emitted per unit of output. They attribute these differences to the type of energy input the firm chooses to utilize as well as the cleanliness of the production technology. Consistent with Currie, Davis, Freenstone, and Walker (2015) and Shive end Forester (2018), we use the natural log of each of these variables in our analysis to curtail the influence of outliers and present the summary statistics in Table 2 Panel A.

3.2. Variables of Air Emissions and Enforcement Actions

The data for EPA enforcement is from the Integrated Compliance Information System for Federal Civil Enforcement Case Data (ICIS FE&C). We partition out cases related to air pollutants and the Clean Air Act. The database contains enforcement data for all administrative cases, which take place before a state or federal governing body, as well as judicial cases, which occur in court front of a court starting in 1980.

For each case, we first examine the case’s filing date, which signals the initiation of an EPA investigation, and total the number of investigations each firm has in a given year (Action_Num). We subsequently examine whether the firm was found to be violating the law and the amount and type of damages assessed. For each firm-year, we analyze the number of penalties that occur at the federal (Fed_Penalty_Num) and state/local levels (State_Local_Penalty_Num) and aggregate the dollar amount of the fines associated with the violations at each level (Fed_Penalty_Amt and State_Local_Penalty_Amt). We also aggregate federal and state/local variables (Total_Penalty_Num and Total_Penalty_Amt) but firm and plant (Penalty_Plant_Num and Total_Plant_Amt).

To offset some portion of the monetary penalty associated with the settlement of a civil penalty action, the firm may choose to take part in a Supplemental Environmental Project (SEP). A SEP provides tangible environmental or public health benefits to the affected community that would not have been otherwise legally required. Because SEPs can substitute for the instance or amount of penalties, we separately examine their occurrence (SEP_Num) and associated costs (SEP_Amt) each year. A firm may also incur costs, which can be monetary or otherwise, to return to environmental compliance, such as installing a new device to reduce air pollution or prevent emissions. For each firm-year, we compute the number of times the firm has to perform compliance (Settlement_Num) and the total associated costs (Settlement_Amt).

Summary statistics for the raw enforcement variables are presented in Table 2 Panel D. Similar to the emissions variables, summary statistics indicate that both the number of penalties as well as associated monetary damages are skewed right. The average firm experiences 0.739 EPA investigations (Action_Num), though less than half incur a penalty (Total_Penalty_Num). The average yearly penalty (Total_Penalty_Amt) is 6.3 million with a standard deviation of $22.1 million. Federal penalties, on average, occur less frequently (Fed_Penalty_Num) than state/local penalties (State_Local_Penalty_Num), though they are significantly more costly. Consistent with the pollution variables, to account for the skewness of the variables, we use the natural logarithm in analysis and present corresponding summary statistics in Panel C.

3.3. Variables of Political Contribution

We obtain Senate election results from 1976-2016 from the Federal Election Committee (FEC) and House of Representative election results from 1980 from Constituency-Level Elections Archive (CLEA). There are two types of elections of federal congress: general elections and special elections. The House of Representative and Senate general elections occur in November in even-numbered years, and a special election is held when a politician's seat is unexpectedly vacated before normal term expirations, typically because of a resignation or a death. In this paper, we examine both types of elections, though a thorough discussion of the special election setting is in Section 5.

In order to make a political contribution to a candidate in federal congressional elections, a firm must first establish a political action committee (PAC). The election candidate is also required to establish a PAC to receive contributions and is not allowed to receive money from firms' PACs personally. After the Supreme Court Ruling in Citizens United v. Federal Elections Commission on January 21, 2010, an additional type of "Super PACs" was created, which allowed donors to obstruct their identities. Because we cannot clearly map between Super Super PAC donors and recipient politicians after 2010, our sample is restricted from 1980[17] to 2010[18].

[17] The indirect contribution data are incomplete between 1980 to 1996 cycles because we do not have a very comprehensive list of leadership PACs. On one hand, the list of leadership PACs provided by OpenSecrets starts from the 1998 cycle, so we do not know the leadership PACs that once existed and then disappeared before 1996. On the other hand, some leadership PACs were converted from election PACs, but we do not know the exact years of the conversion. Therefore, even though we can trace a leadership PAC's activities to 1980, we do not know whether it was a leadership or an election PAC, so we are unable to identify whether the donations it received were indirect or direct. We still include this period between 1980 to 1996 cycles even for the indirect contribution analysis because otherwise, the number of observations would be too small when incorporating all control variables in the regressions. Our results of indirect contributions hold similarly when only using the subsample between 1997 and 2010 without including all controls.

[18] Our results are robust after excluding observations of the 2010 election cycle.

To construct the contribution dataset, we first download three datasets from the FEC bulk datasets: committee-level, candidate-level, and contribution-level. We first match the firm names in the contribution-level data to Compustat and obtain 1,580,770 contribution records donated by Compustat-firm PACs. The committee-level data define six PAC designations. We merge the committee-level information with the contribution-level data and require that the recipient must be a PAC associated with a candidate either running for the Senate or House of Representatives. The PAC must be designated as either authorized by a candidate, authorized by the principal campaign committee of a candidate or unauthorized.[19] After applying the above committee-level filters on the contribution-level data, we have 1,392,256 contribution records. Each PAC serves one election candidate, and both the PAC and the election candidate have their own IDs. The committee IDs exist in both the committee-level and contribution-level data, and the committee-level data have both the committee IDs and the corresponding candidate IDs. We first merge the committee-level data to the contribution-level data and append candidate IDs to the latter data. Next, we append the candidate information to the contribution-level data via the candidate IDs. Excluding records with missing candidate IDs, we have 1,371,430 records remain in contribution-level data. We further exclude the contributions donated to candidates that are not members of the Democratic or Republican parties and candidates who are neither challengers nor incumbents.[20] After the exclusion, 1,255,415 contribution records remain.

Next, we merge the contribution-level data with the election results data. The data now has candidate-level information such as election outcomes and voting shares. In a Senate election, each state has one winner, and the winner is the candidate with the highest number of

[19] Besides the three categories, the dataset also has the other three PAC designations including Lobbyist/Registrant PACs, joint fundraisers and leadership PACs.
[20] In the data, the incumbency status includes being a challenger, an incumbent, or an "open seat". Open seats are seats where the incumbent never sought re-election.

voting shares in the competing state. In a House election, each district has one winner, and the winner is the candidate with the highest number of voting shares in the competing district. From the election outcomes, we define an election as a "close election" if the winner's voting share differs from that of its largest opponent by less than 5%.

We manually match the candidate names in merging the contribution-level data with election result data. When candidate names are missing, we drop the observations. After the merger, we 984,604 direct contribution records in which 119,369 records are related to Senate elections, and 865,235 records are related to House elections. Only considering close elections, we have 90,071 contribution records for the use in the following steps.

We then aggregate the contribution amount for each firm PAC-candidate PAC-election cycle observation and obtain 45,726 observations[21]. We further aggregate it into firm-cycle-level data. We record the number of winning and losing candidates *j* that each firm *i* supported in one cycle prior to each close election at time *t* in line with Akey (2015). Specifically, we compute the following for each firm-cycle-candidate combination:

$$Win(Lose)P_{ft} = \sum_{j} \left(Donated_{fjt} \times Election\ Outcome_{jt} \right) \tag{1}$$

where $Donated_{fjt}$ equals one if firm *f*'s PAC donated to candidate *j*'s election PAC in cycle *t* and zero otherwise. $Election\ Outcome_{jt}$ takes the value of one if politician *j* won (lost) the close election in cycle *t* and zero otherwise. We construct the variable $TotalP_{ft} = WinP_{ft} - LoseP_{ft}$ to look at a firm's net political connection portfolio, which is our main measure of political connections. We then compute this variable separately for winners and

[21] A minimal number of aggregated contributions are zero or even negative, which are very likely due to wrong data input. We exclude these observations.

losers, further separating into winning and losing incumbents/challengers and winning and losing Republicans/Democrats. These variables' definitions are further described in Table 1. The firm-cycle-level data has 6,850 observations involving direct contributions in federal congressional elections. After that, we merge the firm-cycle data with firm-level controls, pollution, and penalty data. Summary statistics for measures of connection are displayed Table 2 Panel E.

For our committee tests, we use the data from Charles Stewart's webpage, which tracks committee membership for politicians holding office in the houses of Congress, the candidate's party, whether he is a member of the majority, as well as his seniority.

4. Empirical Analysis

4.1. Main Analyses

We use the following regression formula to conduct the main analyses on the relationship between firms' exogenously established political connection and outcome variables,

$$Dep_{ft} = \alpha + \beta Con_{ft} + \chi_{ft} + \Phi_f + \Phi_t + \epsilon_{ft} \tag{1}$$

where Dep_{ft} measures the next-year greenhouse gas emissions (e.g. Total_Greenhouse in Table 3), EPA investigations (Action_Num in Table 4), EPA enforcement (e.g. Total_Penalty_Num in Table 5 and Total_Penalty_Amt in Table 6) for a firm f in an election cycle t. For example, in year 1996's election cycle, the dependent variables are year 1997's greenhouse gas emissions or EPA enforcement.

Con_{ft} represents various measures of political connection established in an election cycle *t*; we mainly use *TotalP*, or *WinP* and *LoseP*, in our main analyses in Tables 3-6. In Table 7 Panel A, we use measures that consider the differences between incumbent and challenger candidates (e.g. *IncumbentWinP*), and between Republican and Democratic candidates (e.g. *RepWinP*). We use contribution-amount-weighted measures in Table 10 (e.g. *AmountTotalP*).

In all regressions, χ_{ft} includes thirteen firm-year financials PTBI, VOL_PTBI, LEVERAGE, SIZE, CHG_NOLCF, NOLCF, KLMO_LOSS, SGA, TLCF, R_D, CAPEX, EBITDA_SIGMA, EBITDA. Detailed definitions of these controls are listed in Table 1. In all regressions but those in Table 3, χ_{ft} also includes Total_Greenhouse to control for the emissions' effects on the EPA actions and fines. All regressions control for firm fixed effects Φ_f and election cycle fixed effects Φ_t. Standard errors are clustered by firm in all regressions.

4.2. Firm and Politician's Characteristics

We further our analyses to see whether the political connections' effects are stronger if a firm is more important to its supported politicians or the elected politicians are more powerful. The regressions of Table 7 Panel B, Panel C and 8 are as follows,

$$Dep_{ft} = \alpha + \beta_1 Con_{ft} * Char_{ft} + \beta_2 Con_{ft} + \beta_3 Char_{ft} + \chi_{ft} + \Phi_f + \Phi_t + \epsilon_{ft} \quad (2)$$

where Dep_{ft}, Con_{ft}, χ_{ft}, Φ_f, and Φ_t are the same as in Formula (1). χ_{ft} in Formula (2) include Total_Greenhouse in all regressions. $Char_{ft}$ measures the firm characteristics or firm-supported politicians' characteristics. In Table 7 Panel B $Char_{ft}$ is a dummy indicating if at least one of the firm-supported winning candidates in the close elections is in the party that wins the majority seats (*Majority_Seats*) or is among top 25% most senior congressmen

(*Seniority*). In Table 7 Panel C, $Char_{ft}$ indicates if at least one of the firm-supported winning candidates in the close elections is in a given congress committee. In Table 8, $Char_{ft}$ indicates if the firm is headquartered in the state of the election (*Same_State*), or in the top three industries of its state by sales (*Crucial_Industry_Sales*) or employee count (*Crucial_Industry_Emp*), since employees can cast votes in elections.

4.3. Greenhouse Gas Emissions

In this section, we first examine whether politically connected firms emit more pollution than firms without political connections and present the results in Table 3. All independent variables are lagged by one year, which allows us to examine the effect a firm's political connections have on the next year's emissions. We utilize the close election framework described in Section 3, which allows us to causally compare the outcomes of firms connected to politicians who just won a close election to those politicians who just lost a close election. We also include firm-level controls as defined in Table 1, saturate the model with firm and year fixed-effects, and cluster by firm. Emissions data are available starting in 2008, and election data is unavailable after 2010. Therefore, for this test, our sample only spans the congressional elections that took place in 2008 and 2010.

First, we conduct our analysis at the plant-level and examine whether politically connected firms have more pollutant-emitting facilities in Table 3 Columns 1 and 2. Column 1 indicates that firms connected to more winning politicians have more pollution-emitting plants. The results indicate that politically connected firms, as measured by TotalP or WinP, have more greenhouse gas emitting regulated facilities, while firms connected to losing politicians have fewer facilities.

However, despite having more gas emitting facilities, the results in Columns 3 and 4 show that, on the whole, politically connected firms do not omit more greenhouse gasses. This result separately holds for carbon dioxide emissions (Columns 5 and 6), though the results shown in Columns 7-8 indicates that these firms are more likely to emit more carbon dioxide-equivalent greenhouse gasses with significance at the 10% level. However, it's important to note here that these variables only examine greenhouse gas emissions, not whether these levels are within regulatory requirements.

4.4. EPA Investigations

We next examine whether firms are politically connected are more likely to be investigated. Our outcome variable is the natural logarithm of 1 + the number of actions in the next year, where action indicates an Integrated Compliance Information System (ICIS) investigation, information request, or inspection activity. We continue to saturate the model with firm and election cycle fixed effects to control for any time-invariant differences by year or firm and add the same time-varying firm-level controls from Table 3.

The EPA publishes detailed guidelines on the acceptable amount and type of greenhouse gasses that a firm can emit. They classify firms into narrow categories and clearly define very specific regulations pertaining to specific types of greenhouse gasses.[22] While allowable greenhouse gas emissions can change over time, our yearly fixed effects absorb this effect. As discussed in the data section, the EPA also monitors these emissions through their Greenhouse Gas Reporting System Program. If investigations are mechanically triggered by

[22] For example, Clean Air Act Guidelines and Standards for Solvent Use and Surface Coating Industry contains 66 regulations. https://www.epa.gov/stationary-sources-air-pollution/clean-air-act-guidelines-and-standards-solvent-use-and-surface

these written regulations, we would not expect to see differences in investigations between firms with and without political connections. At this point in the enforcement process, there is little discretion because the regulation is specific and extensive.

The results from Table 4 show that the coefficients on TotalP, WonP, and LoseP are not statistically different from zero, indicating that politically connected firms are no more likely to be investigated than those without connections. However, an investigation is just the first step in the regulatory enforcement process, and we examine if these connections are valuable in subsequent states of the enforcement process.

4.5. EPA Penalties

Thus far, the analysis has indicated that politically connected firms are no more likely to be investigated than ones without connections, even though if anything, they emit more carbon dioxide equivalent greenhouse gasses and have more plants emitting gas. For this analysis, we examine all enforcement data regarding all administrative cases, which take place before a state or federal governing body, as well as judicial cases starting in 1980. Despite regulations themselves being narrowly defined, the enforcement process is subject to judicial discretion, which could be guided by the discretion of the EPA.[23] If regulation is enforced uniformly, we may not expect to see differences in the instances of penalties or associated fines. However, if the EPA does not apply discretion uniformly, we may observe differences at this stage of the enforcement process.

[23] https://www.epa.gov/sites/production/files/2013-10/documents/proreq-hermn-mem.pdf

First, we examine the number of plants within a firm that experience EPA penalties in Columns 1 and 2. Whether political connections are measured by TotalP or WinP, we find evidence of decreased plant-level penalties. At the 10% level, LoseP is associated with higher instances of plant-level penalties. These results are consistent for total penalties (Columns 3 and 4), federal penalties (Columns 5 and 6) as well as state penalties (Columns 7 and 8). As described in Section 3, instead of incurring a monetary fine for a violation, a firm that has an environmental regulation may elect to undertake a Supplemental Environmental Project (SEP), which is an environmentally beneficial project. By law, a SEP must be a project that the violator would not otherwise be legally mandated to perform a firm may elect to participate in a Special Education Program (SEP) in place of a fine. Columns 7 and 8 provide evidence that firms with better political connections pursue less Special Education Programs and pay out less in settlements (Columns 11 and 12).

The results presented in Table 5 suggest that regulation is not enforced equally between firms with and without political connections and that firms with political connections are less likely EPA targets. One possible explanation for the differences at this stage of the enforcement process is select application of EPA discretion.

4.6. EPA Fines

If firms with and without political connections receive equal EPA regulatory enforcement, we would not expect to see differences in the amount of EPA penalties firms incur. Similarly to the analysis in Section 4.3, the amount and type of fine assessed may be impacted by judicial and EPA discretion. While the results presented in table 4.3 provide evidence that politically connected firm face fewer penalties, we next examine differences in monetary penalties.

We present our results in Table 6. Columns 1 and 2 show that politically connected firms realize lower total penalties. The variable TotalP is negatively associated with Total_Penalty_Amt, and the results are consistent for WinP. These results are consistent for all four categories of penalties including federal penalties, state/local penalties, costs associated with SEPs, and settlements. On the contrary, firms that support losing politicians are associated with lower federal and state penalties, though these differences are not statistically significant for SEPs and settlements.

Taken together, the results from Table 5 and 6 indicate that EPA regulation is not enforced uniformly and that firms with political connections are more likely to experience select enforcement in the form of fewer penalties and lower monetary fines.

4.7. Powerful Politicians and Select Enforcement

Next, we examine if firms with connections to more powerful politicians experience more favorable regulatory outcomes. Because the literature has shown that bureaucrats are concerned with maximizing current and future career prospects, we hypothesize that they are more likely to selectively enforce firms tied to politicians with powerful networks that may enhance their future career trajectories. A politician's network may be more beneficial to the bureaucrat if he has already previously held office and had time to build it.

To test this hypothesis, we examine whether firms connected to incumbents experience more favorable selective regulation. We construct a variable similar to TotalP but for incumbents and challengers. IncumbentWonP (IncumbentLoseP) represents firm ties to winning (losing) incumbents, while we construct analogous variables for challengers.

Table 7 Panel A shows the results for these tests. While results are consistent across all variables examining the instances of penalties and the total amount of penalties, in the interest of space, we only report the results for total penalties and aggregate fines. In further unreported tests, we find no differences between total greenhouse gas emissions or EPA investigations. Table 7 Panel A Columns 1 and 2 show that firms more closely connected to winning incumbents have fewer penalties and lower fines. Firms linked to incumbents who lose are associated with stricter enforcement in the form of more penalties and higher fines. The positive coefficients on IncumbentLoseP suggest that firms may be penalized for being associated with former politicians, possibly because they were previously experiencing favorable regulatory enforcement and no longer do.

Firms connected to challengers, whether they win or lose, do not realize more frequent or expensive penalties, as shown in Columns 1 and 2. If challengers have not previously held office, they may not have had enough time to establish a network, so they may be less likely to influence regulators.

Next, we examine whether selective enforcement differs across party lines. Correia (2014) suggests that bureaucrats may choose to align themselves with politicians in a given party if they believe that this will provide future rewards. As described in Fredrickson et al. (2018), traditionally Republicans have taken a pro-business approach to environmental regulation and favored laxer enforcement, while policies belonging to the Democratic Party have typically preferred stricter environmental regulation. Because of his pro-business party beliefs, a Republican may be more likely to encourage a bureaucrat to give preferential treatment to his supporters, while a Democrat may be penalized for pro-business implementation of environmental regulation. To test this, we construct a variable indicating how connected a firm is to winning and losing Republicans and Democrats.

Table 7 Panel A Columns 3 and 4 show that firms connected to winning Republicans are associated with fewer instances of penalties and lower fines, while firms with more connections to losing Republicans are weakly associated with higher penalties but no difference in fines. Firms connected to winning democrats are no more likely to experience penalties, though on average, they incur lower fines, while those connected to losing democrats realize more penalties and fines.

Even across party lines, a politician may be more likely to influence a bureaucrat if he is a member of the majority party if he can use his network to connect the bureaucrat to other members of his party with the ability to enhance his career. He may also be able to more credibly threaten the regulator with funding cuts, which are easier to pass with majority support. In Table 7 Panel B, we interact TotalP with an indicator variable that equals one if at least one of the firm's supported candidates wins the election and the party wins the majority seats in both the Senate and the House. Majoriy_Seats only takes a value of 1 for 47% of cases, suggesting that corporate political contributions tend to be mostly partisan. In unreported results, we show that results are robust to defining this variable at just the House or Senate level. The interaction term, TotalP*Majority_Seats, indicates that firms that are connected to politicians with majority representation experience more favorable regulatory outcomes in Columns 1 and 2.

Next, we examine if firm connections to politicians with more influence over EPA policies are associated with more favorable regulatory enforcement. If a politician has repeated interaction with a bureaucrat, he may be able to exert more influence over him. According to the EPA's website, numerous committees have jurisdiction over environmental regulation, including Agriculture, Nutrition and Forestry; Environment and Public Works; Energy and Natural Resources; Resources; Energy and Commerce; Public Works and Transportation; Natural Resources; Energy Independence and Global Warming. We create an indicator variable that equals one if at least one of the firms' supported candidate wins the election and takes a seat on one of the mentioned committees. The results in Table 7 Panel B Columns 3 and 4 provide support for this hypothesis. Firms that are better connected to committees that oversee the regulatory body, as evidenced by TotalP*Env_Committe, are associated with lower instances of penalties and smaller fines.

4.8. Important Firms and Selective Enforcement

In Section 4.5, we provided evidence that firms connected to politicians that are more likely to have repeated interactions with regulators and have networks that can improve their career trajectories receive favorable regulatory enforcement. However, just because a politician can influence a regulator does not always mean that he will seize this opportunity. Theory models of regulation show that politicians are generally assumed to maximize their probability or re-election (Stigler, 1971; Pelzman,1976) by catering to their constituencies and maximizing political contributions (Poole and Romer, 1985; Stratmann, 1995). In this section, we test if firms that are likely to be more valuable to politicians are associated with greater instances of select regulatory enforcement.

If the firms in a politician's state or district are successful, constituents may take that as an indicator of the politician's success in office. Furthermore, employees in local firms vote in elections, and if the employees feel as though their jobs are in jeopardy, they may be less likely to support a given candidate. Therefore, a politician may be more likely to exert his influence over a regulator if the firm is headquartered in the same state as the politician. We define an indicator variable that takes a value of 1 if at least one of the firm's supported candidates wins the election and is from the same state that of the firm’s headquarters (Same_State) and interact this variable with TotalP. Our empirical results reported in Table 8. While the direct effect of Same_State is not significant, the coefficient on TotalP*Same_State is negative and significant, indicating that firms that are better connected to politicians in their own states realize fewer penalties and smaller fines.

Our next measure of firm importance follows Cohen, Diether, and Molloy (2013). They define “interested industries” in each state as the top three industries according to sales. Echoing their measure, we create an indicator variable that equals one if the firm's industry is one of the top three among all industries in the state-year in terms of sales (Crocial_Industry_Sales) or employment (Crucial_Industry_Emp) and zero otherwise. The interaction terms in Table 8 Columns 3-6 present evidence that firms connected to local politicians that are members of important industries experience fewer penalties and smaller fines.

Our results indicate that political contributions are an important determinant of select regulatory enforcement. However, we are unable to rule out the possibility that these political contributions themselves provide signals to the regulator. Gordon and Hafer (2005) propose that a government agency has incomplete information regarding the firm’s objective function and, in particular, its costs from complying with the regulation. Firms may use political contributions as a way to signal their willingness to fight the agency’s decision, for example, by appealing the decision to the courts or Congress. If the regulator believes that there are increased costs of penalizing these firms, it may influence his enforcement decisions (Kedia and Rajgopal, 2011)

5. Robustness

5.1. Special Elections

When a politician's seat is unexpectedly vacated before normal term expirations, typically because of a resignation or a death, a special election is held. Since these elections are unanticipated, close special elections offer a better for us to examine the effect of corporate political connections. However, there were only twenty Senate and House close special elections from 1980 to 2010. We examine the top two candidates with the highest voting shares in close special elections, which leaves us with forty candidates. Excluding elections with victory margins greater than 5%, we are left with 2,640 contribution records for 30 candidates with result records of close elections. We next aggregate the contribution amount for each firm PAC-candidate PAC-election cycle observation and obtain 1,184 unique firm-candidate-cycle observations. To have the cleanest identification, we exclude the firms that donated to both competing candidates in one cycle, since those firms could be betting both sides to hedge risk. In the last step, we append control variables as well as air pollution and penalty measures.

We create a dummy variable Win_{ft}, which takes a value of one if the candidate that firm *f* supported won a close election in cycle *t* and a value of zero otherwise. We report the results in Table 9. Consistent with the results of the general elections, firms connected to winning candidates are equally to be investigated by the EPA as ones connected to losing candidates. However, they realize fewer penalties and have smaller fines.

5.2. Weighted Campaign Contribution

Previously mentioned theory models of regulation show that politicians are generally assumed to maximize their probability or re-election (Stigler, 1971; Pelzman,1976) by catering to their constituencies and maximizing political contributions (Poole and Romer, 1985; Stratmann, 1995). Similar to the arguments made in Section 4.3, we believe that a politician is more likely to exert any influence he has over regulatory bureaucrats for firms that enhance his future election prospects. We suspect that firms that contribute more money to winning politicians are regulated more selectively because these campaign contributions are more valuable to the politician.

All of the analysis in Section 4 was conducted using WinP, LoseP, and TotalP Tables 3-8 examine the number of winning (losing) candidates involved in a close election that the firm donated to before the election. While these variables measured whether firms were connected to politicians taking office, they did not consider the amount of donations that the corporation was making to the firms. We weight WinP, LoseP, and TotalP by firm campaign contributions to create the variables AmountWinP, AmountLoseP, and TotalP. The results are reported in Table 10. Consistent with our previous results, we find no difference in greenhouse gas emissions or EPA investigations for firms with and without political connections that are weighted by campaign contributions, as indicated in Table 10 Columns 1-4. However, AmountTotalP is associated with fewer penalties and lower fines, suggesting that politically connected firms are selectively regulated. This result is consistent for AmountWinP, though firms who donated more to losing politicians are penalized more and pay more in fines.

6. Conclusion

In this paper, we examine whether the EPA selectively regulates politically connected firms. We find no differences in greenhouse gas emissions or SEC investigations between politically connected and unconnected firms. However, firms with political connections are less likely to receive a penalty and conditional on receiving a penalty, they incur fewer damages. We contribute to the literature debating whether corporate campaign contributions are beneficial to firms using a clean setting that allows us to causally examine the differences in regulatory enforcement between firms with and without connections. The analysis indicates that these contributions can indirectly benefit firms by way of reduced environmental regulatory enforcement and fines.

Not only do we provide evidence that politically connected firms experience more favorable regulatory outcomes, we provide theories and empirical evidence indicating the circumstances that this influence is likely to be exerted, contributing to the literature examining the influence politicians have over regulators. Firms that donate to politicians that are more likely to be capable of influencing regulators experience more favorable regulatory outcomes. Furthermore, firms that are likely to be more important to politicians by way of industry or potential voters (employees) are less likely to experience penalties and monetary damages.

While there are numerous anecdotes suggesting corporations use political connections to obtain favorable treatment by the EPA, this study provides the first systematic evidence of this occurrence. Given the intense scrutiny that the EPA has been facing, our study sheds light on the question of whether the agency is indeed independent and non-partisan. Our evidence suggests that campaign contributions are an effective way to link firms to regulators and receive favorable regulatory enforcement.

References

1. Aggarwal, R. K., Meschke, F., & Wang, T. Y. (2012). Corporate Political Donations: Investment or Agency? *Business and Politics*, *14*(01), 1–38.
2. Alesina, A., & Tabellini, G. (2007). Bureaucrats or Politicians? Part I: A Single Policy Task. *American Economic Review*, *97*(1), 169-179.
3. Akey, P. (2015). Valuing Changes in Political Networks: Evidence from Campaign Contributions to Close Congressional Elections. *The Review of Financial Studies*, *28*(11), 3188-3223.
4. Arayavechkit, T., Saffie, F., & Shin, M. (2018). Capital-based Corporate Tax Benefits: Endogenous Misallocation Through Lobbying. Unpublished working paper.
5. Ansolabehere, S., De Figueiredo, S., & Snyder Jr, J. (2003). Why is There so Little Money in U.S. Politics? *Journal of Economic Perspectives*, 17(1), 105-130.
6. Associated Press (2018, May 27). Ex-Arizona regulator charged with bribery heads to trial Wednesday. *The Arizona Republic*. Retrieved from https://www.azcentral.com/story/money/business/consumers/2018/05/27/ex-arizona-regulator-gary-pierce-charged-bribery-heads-trial-wednesday/649013002/
7. Bennear, L. S. (2008). What do We Really Know? The Effect of Reporting Thresholds on Inferences Using Environmental Right‐to‐know Data. *Regulation & Governance*, *2*(3), 293-315.
8. Borisov, A., Goldman, E., & and Gupta, N. (2016). The Corporate Value of (Corrupt) Lobbying. *The Review of Financial Studies, 29(4), 1039-1071.*
9. Charles Stewart III and Jonathan Woon. (2017). Congressional Committees, Modern Standing Committees, 103rd--115th Congresses, 1993--2017, [updated November 17, 2017]. Retrieved from http://web.mit.edu/17.251/www/data_page.html#2
10. Coates IV, J. C. (2012). Corporate Politics, Governance, and Value Before and After Citizens United. *Journal of Empirical Legal Studies*, *9*(4), 657-696.
11. Cohen, L., Diether, K., & Malloy, C. (2013). Legislating Stock Prices. *Journal of Financial Economics*, *110*(3), 574-595.
12. Cooper, M. J., Gulen, H., & Ovtchinnikov, A. V. (2010). Corporate Political Contributions and Stock Returns. *The Journal of Finance*, *65*(2), 687-724
13. Correia, M. M. (2014). Political Connections and SEC Enforcement. *Journal of Accounting and Economics*, *57*(2-3), 241-262.
14. Cull, R., & Xu, L. C. (2005). Institutions, Ownership, and Finance: the Determinants of Profit Reinvestment Among Chinese Firms. *Journal of Financial Economics*, *77*(1), 117-146.
15. Currie, B. J., Davis, L., Greenstone, M., & Walker, R. (2015). Environmental Health Risks and Housing Values: Evidence from 1,600 Toxic Plant Openings and Closings. *American Economic Review*, *105*(2), 678–709.
16. De Marchi, S., & Hamilton, J. T. (2006). Assessing the Accuracy of Self-reported Data: an Evaluation of the Toxics Release Inventory. *Journal of Risk and Uncertainty*, *32*(1), 57-76.
17. De Soto, H. (1989). *The Other Path: The Invisible Revolution in the Third World*, New York, NY: Harper and Row.

18. Duchin, R., & Sosyura, D. (2012). The Politics of Government Investment. *Journal of Financial Economics*, *106*(1), 24-48.
19. Duchin, R., & Sosyura, D. (2014). Safer Ratios, Riskier Portfolios: Banks' Response to Government Aid. *Journal of Financial Economics*, *113*(1), 1-28.
20. Eder, S., & Tabuchi, H. (2018, April 21). Scott Pruitt Before the E.P.A.: Fancy Homes, a Shell Company and Friends With Money. *The New York Times*. Retrieved from https://www.nytimes.com/2018/04/21/us/politics/scott-pruitt-oklahoma-epa.html
21. EPA (1970). Reorganization Plan No. 3 of 1970. Retrieved from https://archive.epa.gov/epa/aboutepa/reorganization-plan-no-3-1970.html.
22. Faccio, M. (2006). Politically Connected Firms. *American Economic Review*, *96*(1), 369-386.
23. Faccio, M., Masulis, R., & McConnell, J. (2007). Political Connections and Corporate Bailouts. *The Journal of Finance, 61(6),* 2597-2635.
24. Faith, R. L., Leavens, D. R., & Tollison, R. D. (1982). Antitrust Pork Varrel. *The Journal of Law and Economics*, *25*(2), 329-342.
25. Fisman, R. (2001). Estimating the Value of Political Connections. *American Economic Review*, *91*(4), 1095-1102.
26. Fulmer, S., & Knill, A. M. (2012). *Political Contributions and the Severity of Government Enforcement*. Unpublished manuscript.
27. Fredrickson, L., Sellers, C., Dillon, L., Ohayon, J. L., Shapiro, N., Sullivan, M., Wylie, S. (2018). History of US Presidential Assaults on Modern Environmental Health Protection. *American Journal of Public Health*, *108*(S2), S95–S103.
28. Freeman, J. L. (1965). *The Political Process, second ed*. New York, NY: Random House.
29. Greenstone, M., Hornbeck, R., & Moretti, E. (2010). Identifying Agglomeration Spillovers: Evidence from Winners and Losers of Large Plant Openings. *Journal of Political Economy*, *118*(3), 536-598.
30. Grossman, G. M., & Helpman, E. (1994). Protection for Sale. *American Economics Review*, *84*(4), 833-850.
31. Goldman, E., Rocholl, J., & So, J. (2008). Do Politically Connected Boards Affect Firm Value? *The Review of Financial Studies*, *22*(6), 2331-2360.
32. Gordon, S. C., & Hafer, C. (2005). Flexing Muscle: Corporate Political Expenditures as Signals to the Bureaucracy. *American Political Science Review*, *99*(2), 245-261.
33. Gulen, H., & Myers, B. W. (2017). *The Selective Enforcement of Government Regulation: Battleground States and the EPA*. Unpublished working paper.
34. Heese, J. (2015). Government Preferences and SEC Enforcement. *Harvard Business School Working Paper*, *No. 15-054*,
35. Hunter, W. J., & Nelson, M. A. (1995). Tax Enforcement: A Public Choice Perspective. *Public Choice*, *82*(1-2), 53-67.
36. Koch, C., (1986). Judicial Review of Administrative Discretion, William & Mary Law Scholarship Repository.
37. Joh, S. W., & Chiu, M. M. (2004). *Loans to Distressed Firms: Political Connections, Related Lending, Business Group Affiliation and Bank Governance*. Unpublished manuscript.

38. Johnson, S., & Mitton, T. (2003). Cronyism and Capital Controls: Evidence from Malaysia. *Journal of Financial Economics*, *67*(2), 351-382.
39. Kedia, S., & Rajgopal, S. (2011). Do the SEC's Enforcement Preferences Affect Corporate Misconduct? *Journal of Accounting and Economics*, *51*(3), 259-278.
40. Khwaja, A. I., & Mian, A. (2005). Do Lenders Favor Politically Connected Firms? Rent Provision in an Emerging Financial Market. *The Quarterly Journal of Economics*, *120*(4), 1371-1411.
41. Koehler, D. A., & Spengler, J. D. (2007). The Toxic Release Inventory: Fact or Fiction? A Case Study of the Primary Aluminum Industry. *Journal of Environmental Management*, *85*(2), 296-307.
42. Lazarus, R. J. (1991). The Neglected Question of Congressional Oversight of EPA: Quis Custodiet Ipsos Custodees (Who Shall Watch the Watchers Themselves). *Law & Contemporary Problems. 154*, 205-1991.
43. Lyubich, E., Shapiro, J., & Walker, R. (2018). Regulating Mismeasured Pollution: Implications of Firm Heterogeneity for Environmental Policy. *AEA Papers and Proceedings*, *108*, 136-142.
44. McCubbins, M. D., Noll, R. G., & Weingast, B. R. (1998). Political Control of the Bureaucracy. *The New Palgrave Dictionary of Economics and the Law*, *3*, 50-54.
45. Mixon, F. G. (1995). Public Choice and the EPA: Empirical Evidence on Carbon Emissions Violations. *Public Choice*, *83*(1-2), 127-137.
46. Nixon, Richard (1970). Special Message from the President to the Congress About Reorganization Plans to Establish the Environmental Protection Agency and the National Oceanic and Atmospheric Administration. Retrieved from https://archive.epa.gov/epa/aboutepa/reorganization-plan-no-3-1970.html
47. Ovtchinnikov, A. V., & Pantaleoni, E. (2012). Individual Political Contributions and Firm Performance. *Journal of Financial Economics*, *105*(2), 367-392.
48. Poole, K. T., & Romer, T. (1985). Patterns of Political Action Committee Contributions to the 1980 Campaigns for the United States House of Representatives. *Public Choice*, *47*(1), 63-111.
49. Peltzman, S. (1976). Toward a More General Theory of Regulation. *The Journal of Law and Economics*, *19*(2), 211-240.
50. Ramanna, K. (2008). The Implications of Unverifiable Fair-value Accounting: Evidence from the Political Economy of Goodwill Accounting. *Journal of Accounting and Economics*, *45*(2-3), 253-281.
51. Shiva, S., & Forster, M. (2018). *Corporate Governance and Pollution Externalities of Public and Private Firms*. Unpublished working paper.
52. Stigler, G. J. (1971). The Theory of Economic Regulation. *The Bell Journal of Economics and Management Science*, *2*(1), 3-21.
53. Stratmann, T. (1995). Campaign Contributions and Congressional Voting: Does the Timing of Contributions Matter? *The Review of Economics and Statistics*, *77*(1), 127-136.
54. Tahoun, A. (2014). The Role of Stock Ownership by US Members of Congress on the Market for Political Favors. *Journal of Financial Economics*, *111*(1), 86-110.
55. Times Wire Services (1985, April 20). Convicted of Lying to Congress: Rita Lavelle Surrenders at Prison for 6-Month Term. *Los Angeles Times.* Retrieved from http://articles.latimes.com/1985-04-20/news/mn-21740_1_rita-lavelle

56. The White House. (2017). *Presidential Executive Order on Promoting Energy Independence and Economic Growth*. Retrieved from https://www.whitehouse.gov/presidential-actions/presidential-executive-order-promoting-energy-independence-economic-growth/
57. Weingast, B. R. (1984). The Congressional-Bureaucratic System: A Principal Agent Perspective (with Applications to the SEC). *Public Choice*, *44*(1), 147-191.
58. Weingast, B. R., & Moran, M. J. (1983). Bureaucratic Discretion or Congressional Control? Regulatory Policymaking by the Federal Trade Commission. *Journal of Political Economy*, *91*(5), 765-800.
59. Wilson, J. (1989). *Bureaucracy: What Government Agencies do and Why They do it.* New York: Basic Books.
60. Young, M., Reksulak, M., & Shughart, W. F. (2001). The Political Economy of the IRS. *Economics & Politics*, *13*(2), 201-220.
61. Yu, F., & Yu, X. (2011). Corporate Lobbying and Fraud Detection. *Journal of Financial and Quantitative Analysis*, *46*(6), 1865-1891.

Table 1: Variable Definition

Variable Name	Definition	Source
Dependent Variables		
Air Pollution		
CO2	Natural logarithm of the total Carbon Dioxide (CO2) emissions	EPA CAMD
Emission_Plant_Num	Natural logarithm of the number of plants of a firm-year that are recorded with greenhouse gas emissions	EPA TRI and CAMD
CO2-Equivalent	Natural logarithm of the CO2-equivalent emission, methane, NOx and others	EPA CAMD
Total_Greenhouse	Natural logarithm of the total emissions of all greenhouse gas, including CO2, CO2-equivalent chemicals, methane, NOx and others	EPA CAMD
Environmental Penalties		
Action_Num	Natural logarithm of (1 + # of action). An action is an ICIS investigation, information request or inspection activity.	EPA ECHO ICIS-FE&C
Fed_Penalty_Amt	Natural logarithm of (1 + Federal Penalty amount). Federal Penalty amount is the total amount assessed or agreed to for an enforcement action. Civil penalties are monetary assessments paid by a person or regulated entity due to a violation or noncompliance.	EPA ECHO ICIS-FE&C
Fed_Penalty_Num	Natural logarithm of (1 + # of federal enforcement cases with federal Penalty record). Federal penalties are the penalties assessed or agreed to for a federal enforcement action.	EPA ECHO ICIS-FE&C
Penalty_Plant_Num	Natural logarithm of (1 + # of plants with either federal or State/local Penalty record).	EPA ECHO ICIS-FE&C
SEP_Amt	Natural logarithm of (1 + SEP amount). SEP amount is the cost applied to the type(s) of environmentally beneficial projects which a defendant/respondent agree to undertake in settlement of an enforcement action, but which the defendant/respondent is not otherwise legally required to perform.	EPA ECHO ICIS-FE&C
SEP_Num	Natural logarithm of (1 + SEP number). SEP number is the number of settlements in the Supplemental Environment Projects (SEPs) in which a defendant/respondent agree to undertake in settlement of an enforcement action, but which the defendant/respondent is not otherwise legally required to perform.	EPA ECHO ICIS-FE&C
Settlement_Amt	Natural logarithm of (1 + settlement amount). Settlement amount is the settlement-level sum of the dollar values of injunctive relief and the physical or nonphysical costs of returning to compliance. Injunctive relief represents the actions a regulated entity is ordered to undertake to achieve and maintain compliance, such as installing a new pollution control device to reduce air pollution or preventing emissions of a pollutant in the first place.	EPA ECHO ICIS-FE&C
Settlement_Num	Natural logarithm of (1 + # of settlement cases).	EPA ECHO ICIS-FE&C
State_Local_Penalty_Amt	Natural logarithm of (1 + State/local Penalty amount). State/local Penalty amount is the dollar penalty amount to be paid to a state or local enforcement authority that is party to a concluded enforcement action.	EPA ECHO ICIS-FE&C
State_Local_Penalty_Num	Natural logarithm of (1 + # of State/local penalty record).	EPA ECHO ICIS-FE&C
Total_Penalty_Amt	Natural logarithm of (1 + Total Penalty amount). Total Penalty amount includes both federal Penalty amount and State/local Penalty amount.	EPA ECHO ICIS-FE&C
Total_Penalty_Num	Natural logarithm of (1 + # of federal enforcement cases with Penalty record). The penalties include both federal penalties and State/local penalties.	EPA ECHO ICIS-FE&C

Interaction Variables		
Env_Committee	An indicator variable that equals one if at least one of the firm's supported candidates wins the election and joins one of the following committees in the government: Agriculture, Nutrition and Forestry; Environment and Public Works; Energy and Natural Resources; Resources; Energy and Commerce; Public Works and Transportation; Natural Resources; Energy Independence and Global Warming	Charles Stewart's Congressional Data Page
Majority_Seats	An indicator variable that equals one if at least one of the firm's supported candidates wins the election and the party wins the majority seats in both the senate and the house.	Charles Stewart's Congressional Data Page
Crucial_Industry_Emp	An indicator variable that equals one if the firm's industry is one of the top 3 among all industries in the state-year in terms of employment and zero otherwise	Compustat
Crucial_Industry_Sales	An indicator variable that equals one if the firm's industry is one of the top 3 among all industries in the state-year in terms of industry total sales and zero otherwise	Compustat
Same_State	An indicator variable that equals one if at least one of the firm's supported candidates wins the election and is from the same state that the firm's headquarters locate in.	Compustat. FEC, CLEA
Political Contribution Measures		
Win	An indicator variable that equals one if the firm-supporting candidate won a close election and zero otherwise	FEC, CLEA, OpenSecrets
AmountLoseP	# of losing candidates involved in a close election that a firm donated to prior to the election weighted by the firms's contribution to the candidate	FEC, CLEA, OpenSecrets
AmountTotalP	AmountWon P - AmountWon P	FEC, CLEA, OpenSecrets
AmountWinP	# of winning candidates involved in a close election that a firm donated to prior to the election weighted by the firms's contribution to the candidate	FEC, CLEA, OpenSecrets
ChallengerLoseP	# of losing challengers involved in a close election that a firm donated to prior to the election	FEC, CLEA, OpenSecrets
ChallengerWinP	# of winning challengers involved in a close election that a firm donated to prior to the election	FEC, CLEA, OpenSecrets
DemLoseP	# of losing Democratic candidates involved in a close election that a firm donated to prior to the election	FEC, CLEA, OpenSecrets
DemWinP	# of winning Democratic candidates involved in a close election that a firm donated to prior to the election	FEC, CLEA, OpenSecrets
IncumbentLoseP	# of losing incumbents involved in a close election that a firm donated to prior to the election	FEC, CLEA, OpenSecrets
IncumbentWinP	# of winning incumbents involved in a close election that a firm donated to prior to the election	FEC, CLEA, OpenSecrets
IndirectAmountLoseP	# of losing candidates involved in a close election that a firm indirectly donated to prior to the election weighted by the firms's contribution to the candidate	FEC, CLEA, OpenSecrets
IndirectAmountTotalP	IndirectAmountWon P - IndirectAmountLose P	FEC, CLEA, OpenSecrets
IndirectAmountWinP	# of winning candidates involved in a close election that a firm indirectly donated to prior to the election weighted by the firms's contribution to the candidate	FEC, CLEA, OpenSecrets
IndirectLoseP	# of losing candidates involved in a close election that a firm indirectly support via donations to leadership PACs	FEC, CLEA, OpenSecrets

IndirectTotalP	Indirect Won P - Indirect Lose P	FEC, CLEA, OpenSecrets
IndirectWinP	# of winning candidates involved in a close election that a firm indirectly support via donations to leadership PACs	FEC, CLEA, OpenSecrets
LoseP	# of losing candidates involved in a close election that a firm donated to prior to the election	FEC, CLEA, OpenSecrets
RepLoseP	# of losing Republican candidates involved in a close election that a firm donated to prior to the election	FEC, CLEA, OpenSecrets
RepWinP	# of winning Republican candidates involved in a close election that a firm donated to prior to the election	FEC, CLEA, OpenSecrets
TotalP	Won P - Lose P	FEC, CLEA, OpenSecrets
WinP	# of winning candidates involved in a close election that a firm donated to prior to the election	FEC, CLEA, OpenSecrets
Control Variables		
CAPEX	Capital expenditures scaled by lagged total assets	Compustat
CHG_NOLCF	Change in net operating loss carryforward (TLCF) scaled by lagged total assets (AT). NOLCF is set equal to 0 if missing (TLCF)	Compustat
EBITDA	EBITDA measured over the prior five fiscal years, scaled by lagged total assets	Compustat
EBITDA_SIGMA	Standard deviation of EBITDA measured over the prior five fiscal years, scaled by lagged total assets	Compustat
KLMO_LOSS	Equals 1 if the firm reports a loss (IB < 0) in any of the last three fiscal years	Compustat
LEVERAGE	Long-term debt (DLTT) scaled by lagged total assets	Compustat
NOLCF	Net operating loss carryforward (TLCF) scaled by lagged total assets (AT). NOLCF is set equal to 0 if missing (TLCF)	Compustat
PTBI	Pretax book income (PI) scaled by lagged total assets (AT)	Compustat
R_D	Research and development expenditures scaled by lagged total assets	Compustat
SGA	The change in sales (scaled by total assets) over the prior fiscal year	Compustat
SIZE	Natural log of total assets (AT)	Compustat
TLCF	An indicator that equals 1 if the firm reports net operating loss carryforwards, and 0 otherwise	Compustat
VOL_PTBI	Standard deviation of the ratio of annual pretax book income (PI) to lagged total assets (AT) measured over a five-year period	Compustat

Table 2: Summary Statistics

	Obs	Mean	Std. Dev.
Air Pollution			
Panel A: Raw Value of Interest			
CO2-Equivalent	802	1.212	9.710
CO2	813	1.362	11.707
Emission_Plant_Num	817	1.618	11.951
Total_Greenhouse	807	0.840	4.254
Panel B: Log Values Used in Analysis			
CO2-Equivalent	802	0.064	0.427
CO2	813	0.102	0.579
Emission_Plant_Num	817	0.195	0.638
Total_Greenhouse	807	0.164	0.724
Environmental Penalties			
Panel C: Raw Value of Interest			
Action_Num	6850	0.739	3.432
Penalty_Plant_Num	6792	0.422	1.656
Total_Penalty_Num	6819	0.484	2.593
Fed_Penalty_Num	6840	0.201	1.233
State_Local_Penalty_Num	6784	0.310	1.916
SEP_Num	6776	0.026	0.524
Settlement_Num	6839	0.065	0.744
Total_Penalty_Amt	6840	6334621	221000000
Fed_Penalty_Amt	6849	113176	1554611
State_Local_Penalty_Amt	6786	71751	1131523
SEP_Amt	6824	42247	1327293
Settlement_Amt	6840	6107447	219000000
Panel D: Log Values Used in Analysis			
Action_Num	6850	0.192	0.586
Penalty_Plant_Num	6792	0.144	0.444
Total_Penalty_Num	6819	0.131	0.459
Fed_Penalty_Num	6840	0.074	0.326
State_Local_Penalty_Num	6784	0.079	0.357
SEP_Num	6776	0.003	0.071
Settlement_Num	6839	0.019	0.174
Total_Penalty_Amt	6840	1.174	3.668
Fed_Penalty_Amt	6849	0.740	2.991
State_Local_Penalty_Amt	6786	0.643	2.592
SEP_Amt	6824	0.036	0.736
Settlement_Amt	6840	0.203	1.777

	Obs	Mean	Std. Dev.
Political Contribution Measures			
Panel E: Measures of Connection			
AmountLoseP	6850	4.080	7.754
AmountTotalP	6850	1.032	6.422
AmountWinP	6850	5.112	9.587
ChallengerLoseP	6850	0.338	0.801
ChallengerWinP	6850	0.347	0.879
DemLoseP	6850	0.518	1.203
DemWinP	6850	1.013	1.832
IncumbentLoseP	6850	1.586	1.902
IncumbentWinP	6850	2.203	2.481
LoseP	6850	1.924	2.122
RepLoseP	6850	1.407	1.886
RepLoseP	6850	1.407	1.886
RepLoseP	6850	1.407	1.886
RepLoseP	6850	1.407	1.886
RepLoseP	6850	1.407	1.886
Panel F: Interaction Variables			
Crucial_Industry_Emp	6574	0.261	0.439
Env_Committee	6499	0.435	0.496
Majority_Seats	6524	0.470	0.499
Same_State	6568	0.176	0.381
Additional Controls			
Panel G: Firm-Level Controls			
CAPEX	6850	0.066	0.078
CHG_NOLCF	6850	0.009	0.201
EBITDA	6850	0.090	0.685
EBITDA_SIGMA	6850	0.071	0.509
KLMO_LOSS	6850	0.310	0.463
LEVERAGE	6850	0.228	0.227
NOLCF	6850	0.407	25.594
PTBI	6850	0.017	0.872
R_D	6850	0.029	0.068
SGA	6850	0.235	0.378
SIZE	6850	7.562	2.695
TLCF	6850	0.260	0.438
VOL_PTBI	6850	0.117	1.136

Table 3: General election contribution and greenhouse gas emissions

This table presents the OLS regression results with fixed effects. The dependent variables are the next year's different measures of air pollutions (Columns 1-6) and the number of plants with air emissions (Columns 7-8). The independent variables of interest are TotalP, WonP, LoseP defined in Table 1. Year fixed effects, firm fixed effects and firm-year controls including PTBI, VOL_PTBI, LEVERAGE, SIZE, CHG_NOLCF, NOLCF, KLMO_LOSS, SGA, TLCF, R_D, CAPEX, EBITDA_SIGMA and EBITDA are included in all regressions. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, *** indicate significance at 1%, 5% and 10%.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Emission_Plant_Num		Total_Greenhouse		CO2		CO2-Equivalent	
TotalP	0.0429**		0.0288		0.0009		0.0602*	
	(2.0854)		(1.3821)		(1.2009)		(1.9029)	
WinP		0.0409**		0.0244		0.0008		0.0572*
		(2.0691)		(1.2684)		(1.1177)		(1.8185)
LoseP		-0.0469*		-0.0364		-0.0011		-0.0655*
		(-1.7397)		(-1.4445)		(-1.2794)		(-1.7356)
Firm-year Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	817	817	807	807	813	813	802	802
R-squared	0.888	0.889	0.888	0.889	0.590	0.590	0.590	0.590

Table 4: General election contribution and the number of EPA actions on air emission rules violation

This table presents the OLS regression results with fixed effects. The dependent variable is the number of EPA actions in the next year. The independent variables of interest are TotalP, WonP, LoseP defined in Table 1. Year fixed effects, firm fixed effects and firm-year controls including PTBI, VOL_PTBI, LEVERAGE, SIZE, CHG_NOLCF, NOLCF, KLMO_LOSS, SGA, TLCF, R_D, CAPEX, EBITDA_SIGMA, EBITDA and EMISSION are included in all regressions. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, *** indicate significance at 1%, 5% and 10%.

	(1)	(2)
	ACTION_NUM	
TotalP	-0.0012	
	(-0.3157)	
WonP		0.0000
		(0.0113)
LoseP		0.0046
		(0.9096)
Firm-year Controls	Yes	Yes
Constant	Yes	Yes
Year FE	Yes	Yes
Firm FE	Yes	Yes
Cluster	Firm	Firm
Observations	6,850	6,850
R-squared	0.764	0.764

Table 5: General election contribution and the number of EPA penalties on air emission rules violation

This table presents the OLS regression results with fixed effects. The dependent variables are the numbers of different EPA penalties charged to the firms in the next year and are defined in Table 1. The independent variables of interest are TotalP, WonP and LoseP. Year fixed effects, firm fixed effects and firm-year controls including PTBI, VOL_PTBI, LEVERAGE, SIZE, CHG_NOLCF, NOLCF, KLMO_LOSS, SGA, TLCF, R_D, CAPEX, EBITDA_SIGMA, EBITDA and EMISSION are included in all regressions. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, *** indicate significance at 1%, 5% and 10%.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Penalty_Plant_Num		Total_Penalty_Num		Fed_Penalty_Num		State_Local_Penalty_Num		SEP_Num		Settlement_Num	
TotalP	-0.0060***		-0.0062**		-0.0055**		-0.0072***		-0.0010**		-0.0023**	
	(-3.1148)		(-2.4222)		(-2.2280)		(-2.7349)		(-2.1767)		(-2.2831)	
WinP		-0.0060***		-0.0046**		-0.0044**		-0.0055*		-0.0011**		-0.0023**
		(-2.8993)		(-2.0627)		(-2.1995)		(-1.9590)		(-1.9930)		(-2.1128)
LoseP		0.0057*		0.0107**		0.0088**		0.0118**		0.0007		0.0020
		(1.8023)		(2.0110)		(2.0410)		(2.2760)		(1.6435)		(1.6420)
Firm-year Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	6,792	6,792	6,819	6,819	6,840	6,840	6,784	6,784	6,776	6,776	6,839	6,839
R-squared	0.772	0.772	0.691	0.692	0.628	0.629	0.520	0.520	0.077	0.078	0.172	0.172

Table 6: General election contribution and the amount of EPA penalties on air emission rules violation

This table presents the OLS regression results with fixed effects. The dependent variables are the amount of different EPA penalties charged to the firms in the next year and are defined in Table 1. The independent variables of interest are TotalP, WonP and LoseP. Year fixed effects, firm fixed effects and firm-year controls including PTBI, VOL_PTBI, LEVERAGE, SIZE, CHG_NOLCF, NOLCF, KLMO_LOSS, SGA, TLCF, R_D, CAPEX, EBITDA_SIGMA, EBITDA and EMISSION are included in all regressions. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, *** indicate significance at 1%, 5% and 10%.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Total_Penalty_Amt		Fed_Penalty_Amt		State_Local_Penalty_Amt		SEP_Amt		Settlement_Amt	
TotalP	-0.0520**		-0.0467**		-0.0436**		-0.0080**		-0.0311**	
	(-2.3546)		(-2.3610)		(-2.3494)		(-2.3067)		(-2.1364)	
WinP		-0.0477**		-0.0384**		-0.0368*		-0.0084**		-0.0326**
		(-2.4098)		(-2.4049)		(-1.9339)		(-2.2630)		(-2.2828)
LoseP		0.0643*		0.0703**		0.0626*		0.0069		0.0265
		(1.7011)		(1.9651)		(1.7867)		(1.5012)		(1.5384)
Firm-year Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	6,840	6,840	6,849	6,849	6,786	6,786	6,824	6,824	6,840	6,840
R-squared	0.719	0.719	0.675	0.675	0.525	0.526	0.075	0.075	0.191	0.191

Table 7 Panel A: Interaction with political power of the elected politicians

This table presents the OLS regression results with fixed effects. The dependent variables are the next year's total EPA violations (Total_Penalty_Num), and total fines assessed (Total_Penalty_Amt). The independent variables of interest are IncumbentWinP, IncumbentLoseP, ChallengerWinP, ChallengerLoseP, RepWinP, RepLoseP, DemocratWinP, and DemocratLoseP. Further variable descriptions are in Table 1. Year fixed effects, firm fixed effects and firm-year controls including PTBI, VOL_PTBI, LEVERAGE, SIZE, CHG_NOLCF, NOLCF, KLMO_LOSS, SGA, TLCF, R_D, CAPEX, EBITDA_SIGMA, EBITDA and EMISSION are included in all regressions. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, *** indicate significance at 1%, 5% and 10%.

	(1) TOTAL_PENALTY_NUM	(2) TOTAL_PENALTY_AMT	(3) TOTAL_PENALTY_NUM	(4) TOTAL_PENALTY_AMT
IncumbentWonP	-0.0048*	-0.0428**		
	(-1.9327)	(-2.0788)		
IncumbentLoseP	0.0102**	0.0563**		
	(2.1689)	(2.2742)		
ChallengerWonP	-0.0031	-0.0661		
	(-0.6659)	(-1.4991)		
ChallengerLoseP	0.0129	0.0947		
	(0.6091)	(0.7704)		
RepWonP			-0.0070**	-0.0535**
			(-2.4268)	(-1.9718)
RepLoseP			0.0113*	0.0566
			(1.7081)	(1.2452)
DemWonP			-0.0022	-0.0456*
			(-0.5522)	(-1.9205)
DemLoseP			0.0104*	0.0888**
			(1.8068)	(2.0318)
Firm-year Controls	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm
Observations	6,819	6,840	6,819	6,840
R-squared	0.692	0.719	0.692	0.719

Table 7 Panel B: Interaction with political power of the elected politicians

This table presents the OLS regression results with fixed effects. The dependent variables are the next year's total EPA violations (Total_Penalty_Num), and total fines assessed (Total_Penalty_Amt). The independent variables of interest are TotalP, Majority_Seats, Env_Committee, and their interactions. Further variable descriptions are in Table 1. Year fixed effects, firm fixed effects and firm-year controls including PTBI, VOL_PTBI, LEVERAGE, SIZE, CHG_NOLCF, NOLCF, KLMO_LOSS, SGA, TLCF, R_D, CAPEX, EBITDA_SIGMA, EBITDA and EMISSION are included in all regressions. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, *** indicate significance at 1%, 5% and 10%.

	(1) Total_Penalty_Num	(2) Total_Penalty_Amt	(3) Total_Penalty_Num	(4) Total_Penalty_Amt
TotalP*Majority_Seats	-0.0095**	-0.1130***		
	(-2.1489)	(-3.0880)		
Majority_Seats	0.0110	0.1053		
	(0.6184)	(0.6455)		
TotalP*Env_Committee			-0.0072***	-0.0819***
			(-2.6918)	(-2.8411)
Env_Committee			0.0116	0.1048
			(1.1188)	(0.9320)
TotalP	-0.0073**	-0.0313	-0.0027	-0.0198
	(-2.1247)	(-1.3703)	(-1.4562)	(-1.2116)
Firm-year Controls	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm
Observations	6,510	6,515	6,496	6,498
R-squared	0.674	0.685	0.614	0.642

Table 8: Interaction with the firm's importance to the elected politician

This table presents the OLS regression results with fixed effects. The dependent variables are the next year's total EPA violations (Total_Penalty_Num), and total fines assessed (Total_Penalty_Amt). The independent variables of interest are TotalP, Crucial_Industry_Emp, Crucial_Industry_Sales, and their interactions. Further variable descriptions are in Table 1. Year fixed effects, firm fixed effects and firm-year controls including PTBI, VOL_PTBI, LEVERAGE, SIZE, CHG_NOLCF, NOLCF, KLMO_LOSS, SGA, TLCF, R_D, CAPEX, EBITDA_SIGMA, EBITDA and EMISSION are included in all regressions. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, *** indicate significance at 1%, 5% and 10%.

	(1) Total_Penalty_ Num	(2) Total_Penalty_ Amt	(3) Total_Penalty_ Num	(4) Total_Penalty_ Amt	(5) Total_Penalty_ Num	(6) Total_Penalty_ Amt
TotalP*Same_State	-0.0170**	-0.0954**				
	(-2.0870)	(-1.9932)				
Same_State	0.0361	0.1489				
	(1.1627)	(0.9443)				
TotalP*Crucial_Industry_Sales			-0.0236***	-0.1456***		
			(-3.2612)	(-3.4303)		
Crucial_Industry_Sales			0.0205	0.3435*		
			(0.9085)	(1.7928)		
TotalP*Crucial_Industry_Emp					-0.0164**	-0.1217**
					(-2.0811)	(-2.3110)
Crucial_Industry_Emp					0.0432	0.0182
					(0.7974)	(0.0642)
TotalP	-0.0051**	-0.0397**	-0.0007	-0.0147	-0.0040**	-0.0312*
	(-2.0142)	(-2.1360)	(-0.3516)	(-0.8690)	(-2.2027)	(-1.8279)
Firm-year Controls	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm
Observations	6,550	6,559	6,658	6,675	6,552	6,564
R-squared	0.679	0.702	0.684	0.719	0.687	0.721

Table 9: Robustness checks using special election contribution

This table presents the OLS regression results with fixed effects for special elections. The dependent variables are the next year's Action_Num, Total_Penalty_num, and Total_Penalty_Amt. Action_Num is the number of EPA actions, which can be an ICIS investigation, information request or inspection activity. Total_Penalty_Num represents the number EPA violations a firm has, and Total_Penalty_Amt is the total fines assessed. The independent variables of interest is Win, which is an indicator variable that equals one if the firm-supporting candidate won a close election and zero otherwise. Further variable descriptions are in Table 1. Year fixed effects, firm fixed effects and firm-year controls including PTBI, VOL_PTBI, LEVERAGE, SIZE, CHG_NOLCF, NOLCF, KLMO_LOSS, SGA, TLCF, R_D, CAPEX, EBITDA_SIGMA, EBITDA and EMISSION are included in all regressions. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, *** indicate significance at 1%, 5% and 10%.

	(1) Action_Num	(2) Total_Penalty_Num	(3) Total_Penalty_Amt
Win	-0.0065	-0.0687**	-0.5710**
	(-0.1904)	(-2.1568)	(-2.1048)
Firm-year Controls	Yes	Yes	Yes
Constant	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Cluster	Firm	Firm	Firm
Observations	788	779	781
R-squared	0.872	0.863	0.778

Table 10: Robustness checks using weighted candidate contributions

This table presents the OLS regression results with fixed effects for special elections. The dependent variables are the next year's Total_Greenhouse, Action_Num, Total_Penalty_num, and Total_Penalty_Amt. Total_Greenhouse represents total greenhouse gas emissions, Action_Num is the number of EPA actions, which can be an ICIS investigation, information request or inspection activity. Total_Penalty_Num represents the number EPA violations a firm has, and Total_Penalty_Amt is the total fines assessed. The independent variables of interest is AmountTotalP, AmountWinP, and AmountLoseP. Further variable descriptions are in Table 1. Year fixed effects, firm fixed effects and firm-year controls including PTBI, VOL_PTBI, LEVERAGE, SIZE, CHG_NOLCF, NOLCF, KLMO_LOSS, SGA, TLCF, R_D, CAPEX, EBITDA_SIGMA, EBITDA and EMISSION are included in all regressions. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, *** indicate significance at 1%, 5% and 10%.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total_Greenhouse		Action_Num		Total_Penalty_Num		Total_Penalty_Amt	
AmountTotalP	0.0109		-0.0016		-0.0024**		-0.0520**	
	(1.5943)		(-1.4432)		(-2.1895)		(-2.3546)	
AmountWinP		0.0091		-0.001		-0.0019**		-0.0477**
		(1.5424)		(-1.2189)		(-2.1281)		(-2.4098)
AmountLoseP		-0.0124		0.0038		0.0043**		0.0643*
		(-1.5583)		-1.5785		(2.0182)		(1.7011)
Firm-year Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	807	807	6,850	6,850	6,819	6,819	6,840	6,840
R-squared	0.893	0.893	0.764	0.765	0.691	0.692	0.719	0.719