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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

THE IMPLICATIONS OF CORPORATE POLITICAL ACTIVISM AND GOVERNANCE

A dissertation submitted in partial fulfillment of

the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

BUSINESS ADMINISTRATION

by

Marcos Velazquez

2022

To: Dean William Hardin
College of Business

This dissertation, written by Marcos Velazquez, and entitled The Implications of Corporate Political Activism and Governance, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

_____
Edward Lawrence

_____
Suchismita Mishra

_____
Özde Öztekin

_____
Manjul Gupta

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Arun Upadhyay, Major Professor

Date of Defense: June 16, 2022

The dissertation of Marcos Velazquez is approved.

_____
Dean William Hardin
College of Business

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Andrés G. Gil
Vice President for Research and Economic Development
and Dean of the University Graduate School

Florida International University, 2022

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DEDICATION

This work is for my future students. To them I say the following. I left another life and went through this program for the privilege of standing in front of you. If I was to regret anything, it is not understanding myself well enough to have gotten to this point sooner. You should have walked in my shoes to know what it cost getting here. That is not a complaint, only a reminder that nobody knows the path we take that ensues in our meeting. That is why when we converge, the first, best thing to do is to respect each other for getting this far. The last thing I hope to do is to expand your perspective for the remainder of your path.

ACKNOWLEDGMENTS

My fiancé has been a continuing source of support, empathy, and sanity. She has stood by me as my demeanor has turned more laconic, even dour, and my humor a little less sanguine. I cannot think of any befitting form of gratitude towards her. My best friend seems to be the only person outside of the doctoral program who has understood the scale of such an undertaking. I wonder if he is either the brightest or most empathetic person I know. I look forward to the exploration.

My classmates have been incredibly supportive and instrumental in my success thus far. They are also the only ones who understand all the turns and tradeoffs of the last four years. We have celebrated much, and I hope to continue celebrating their success. I am immensely fortunate to have shared this experience with them.

Dr. Upadhyay is an excellent scholar. Reaching out for his advice is the best decision I have made during my time as a doctoral student. He is obviously the most patient man in the world. Dr. Öztekin was my first professor in this program and has been an inspiration as to my work. Dr. Mishra has been such an encouraging voice for me and my classmates. Dr. Lawrence has been an advocate and changed my life for the better. I am very honored to have Dr. Gupta in my committee. I am grateful to Dr. Tomislav Mandakovic for pushing me along this path. I thank Dr. Abu Amin for providing me with greenhouse gas emissions data used herein.

There are so many other friends, family members, and teachers who have gone out of their way to help me succeed. If I were to mention each of them and their contributions, there would be no space left for the work that follows. Their advice, help, cheers, and

gestures did not go unnoticed and have made a palpable difference. In any case, I think my gratitude will be better conveyed outside of these pages.

ABSTRACT OF THE DISSERTATION

THE IMPLICATIONS OF CORPORATE POLITICAL ACTIVISM AND GOVERNANCE

by

Marcos Velazquez

Florida International University, 2022

Miami, Florida

Professor Arun Upadhyay, Major Professor

This dissertation is comprised of three essays that study corporate political activism through the lens of corporate governance. The first essay examines how CEO overconfidence, moderated by CEO power, drives lobbying expenditures. The findings suggest that neither variable by itself affects lobbying outlays. However, it is the interaction between such characteristics that increases lobbying activity. Executives exhibiting above-average overconfidence who also chair the board tend to spend 36% more in lobbying. Ensuing firm performance is examined to establish whether the surge is in line with stewardship or agency conflict paradigms. There is limited evidence of improved valuations due to lobbying on the part of firms with overly optimistic, highly entrenched managers. Yet there is enhanced profitability from sustained lobbying by firms with overconfident, powerful CEOs. Therefore, stewardship theory is a likely explanation for lobbying on the part of overconfident, powerful CEOs.

The second essay suggests that firms experiencing a 1% increase in regulatory penalties tend to increase lobbying expenditures by 14% during the following year. Oversight induces political activism more forcefully when related to employment or

environmental rules infringements, enforced at the federal level, or prosecuted under civil law. The relationship is moderated by a firm's profitability, information asymmetry, board structure, executive pay disposition, and capital structure. Such channels support both stewardship and agency conflict explanations, implying that the motivation to lobby is nuanced.

The third essay shows that firms that lobby the U.S. government emit over 60% more greenhouse gasses in other countries. The result agrees with a pessimistic interpretation of the environmental Kuznets curve. The theorized decline in emissions ensuing from a benchmark level of wealth does not necessarily follow improvements in technology and a shift in demand for a better environment. Rather, the evidence fits a strategy in which firms simultaneously advocate for lesser environmental standards at home and increase emissions abroad. The effect is contingent on firm value, agency costs, managerial incentive compensation, and total compensation. Offshore emissions flow towards countries characterized by political instability and an adverse economic forecast. Additionally, lobbying firms based in Republican-leaning states have greater foreign emissions.

TABLE OF CONTENTS

LIST OF TABLES

TABLE PAGE

CHAPTER 1: LOBBYING EXPENDITURES AND CEO OVERCONFIDENCE

1.1 Introduction

According to the Center for Responsive Politics (2021), total lobbying expenditures surpassed $3.4B in 2020, of which 88% was spent to further business interests. Decried by populist voices from both sides of the political aisle, corporate lobbying affects the fabric of our daily lives and captures our imagination. See for example H.R.748: Relief for Workers Affected by Coronavirus Act (aka Cares Act of 2020), which was lobbied upon by over 1,900 organizations, including Blue Cross/Blue Shield, Verizon Communications, United Airlines Holdings, and Nike Inc (Center for Responsive Politics, 2021). Also refer to the now-classic film "Thank You for Smoking" (Reitman, 2006). Much scholarly effort has been devoted to understanding who engages in lobbying (e.g., de Figuereido and Richter, 2014) and what are the economic ramifications for lobbying firms (e.g., Cao et al., 2018; Unsal et al., 2016). This study contributes to the extant literature by addressing such issues from a corporate governance perspective.

The focus of this paper is to discern the lobbying tendencies of an exceptional group of corporate executives: overconfident CEOs. Such a segment of managers makes for a captivating subject because they are willing to make decisions that others in their position would not dare to consider. For example, Hirshleifer et al. (2012) find that overconfident CEOs invest more in innovation and achieve greater R&D productivity, along with increased return volatility. Additionally, the combination of an innate cognitive bias, self-attribution (e.g., Doukas and Petmezas, 2007), with a high degree of incentive compensation (Humphery-Jenner et al., 2016) would render such executives eager to seek alternative means of success, like lobbying. Conceptually, this paper's view of managerial

overconfidence follows Doukas and Petmezas in that it is regarded as the presence of self-attribution bias, such that successes are internalized, and failures are attributed to external factors. Empirically, overconfidence is operationalized as in Banerjee et al. (2015). That is, executive overconfidence is quantified as the ratio of value to number of unexercised exercisable options scaled by the price of the stock at the end of a firm's fiscal year.

However, optimistic leadership might not be enough to prompt an evidently distinct pattern of behavior. Managerial entrenchment enables brash tendencies to manifest themselves in corporate lobbying activities. Indeed, firms under management of remarkably optimistic dual CEOs tend to spend 36% more in lobbying after controlling for known determinants of such expenditures. Moreover, neither overconfidence nor executive power alone can effectively account for the variance of lobbying outlays.

The key result of the study is framed into either of two salient theories of managerial behavior: stewardship or agency conflict (e.g., Cao et al., 2018; Krause et al., 2014). By relating Tobin's Q and return on assets (ROA) to the incidence or level of lobbying expenditures by firms with overconfident, entrenched managers, it is possible to tell which theory provides an apt explanation of lobbying behavior. There is evidence linking firm valuation to contemporaneous lobbying expenditures by firms with highly overconfident, very powerful CEOs. There are also results suggesting improved profitability following prolonged lobbying expenditures by overconfident, entrenched managers. Said findings imply that the tenets of stewardship theory are at work. Hence, stewardship theory seems as the most likely explanation for political activism on the part of firms managed by overconfident, powerful executives.

Additional robustness checks are conducted attesting to the validity of the findings presented herein. Regarding the relationship between CEO overconfidence and lobbying expenditures, alternative versions of overconfidence are implemented. Concerning the mediating role of CEO power in the relationship, shocks to CEO power are utilized to demonstrate how lobbying expenditures by optimistic executives are affected. Subsample analyses are carried out to assess performance due to lobbying by firms with overconfident, entrenched managers. In addition, all tests are repeated while using a variant of the variable of interest that encompasses the interaction of the most overconfident and powerful CEOs.

The remainder of the chapter is organized in the following manner. Section 2 briefly summarizes the relevant literature and offers the rationale under which we formulate the study's hypotheses. Section 3 describes the data and methods used in the analysis of lobbying expenses and subsequent firm performance. Section 4 provides the main findings and shows a series of robustness tests. Lastly, Section 5 contains concluding remarks.

1.2 Literature Review and Hypothesis Development

This study is most closely related to Cao et al. (2018), who examine the impact of corporate lobbying upon firm performance. The authors propose two competing paradigms that would motivate the incidence of corporate lobbying. On the one hand, the stewardship view posits that lobbying is a value-maximizing strategic activity that a firm could entertain. Alternatively, lobbying may be symptomatic of agency problems and lax governance. For instance, Unsal et al. (2016) find that the degree of lobbying activity varies with political orientation and that Republican CEOs spend more money lobbying, with deleterious consequences. Cao et al. (2018) err in favor of the agency problem theory,

as they find an inverse relationship between lobbying and firm performance. Grounded in upper echelons theory (Hambrick, 2007), the focus herein is on understanding which companies lobby, with an emphasis on the managerial characteristics that would guide such a decision. Then, the task is to examine the implications of lobbying between managerial classes upon firm valuation and profitability to gauge whether the findings conform to the agency theory explanation espoused in Cao et al. as well as Unsal et al.

Though there are several ways in which to segment corporate executives, one interesting avenue is by way of managerial overconfidence. Already there is a stream of literature describing how overconfident CEOs stand apart from their counterparts. For instance, Graham et al. (2013) encounter evidence that firms lead by optimistic CEOs carry more short-term debt. Humphery-Jenner et al. (2016) explore how firms award more incentive-based compensation to overconfident CEOs to take advantage of optimistic attitudes, more so if the executive enjoys greater bargaining power. Considering the higher risk wrought by short-term debt and greater exposure to firm performance through incentive pay, there may be inherent motivations for overconfident managers to seek alternative means of success, such as through lobbying. Furthermore, Doukas and Petmezas (2007) as well as Billet and Qian (2008) document the impact of self-attribution bias, the cognitive antecedent to managerial overconfidence, as it shapes the nature of corporate acquisitions and negatively affects ensuing valuations. It is possible that the same psychological tendency to internalize success and externalize failure in mergers and acquisitions might drive certain executives to engage in more lobbying.

Even though the focus of this work is on executive overconfidence in the form of a cognitive bias that affects firm decisions, it is worth noting an alternative overconfidence

vector in the extant literature. Lee et al. (2016) highlight how founding CEOs are more confident than professional executives. Specifically, such managers issue hyperbolic earnings forecasts and use a more positive tone in their social media. Furthermore, Tang et al. (2015) find that founder CEOs take on more risk than their counterparts. Thus, founding executives are likely to be overconfident and exhibit similar risk preferences as those who bear self-attribution bias. The analysis takes heed of Tang et al.'s assertion that managerial characteristics, such as age, duality, and responsibilities, affect the decision-making of founding managers.

Managerial entrenchment is another issue that calls attention to the matter at hand. Critically, Banerjee et al. (2015) show that greater board independence, made possible by the implementation of the Sarbanes-Oxley Act (SOX), resulted in higher dividend payments, fewer risk exposure and investments, as well as improved post-acquisition performance, market value, and operating performance among overconfident CEOs. The conclusions from Banerjee et al. (2015) and Humphery-Jenner et al. (2016) suggest that executive power is a key moderator of the ramifications from managerial optimism. In that sense, this work constitutes an addition to a growing body of literature insinuating that overconfidence alone does not necessarily lead to disparate firm actions or outcomes. Moreover, CEO power is instrumental in determining the extent to which overconfidence wields the corporate reins.

The study of overconfident, powerful CEOs is not unprecedented in the literature. Hwang et al. (2020) find that such a combination of managerial traits leads to an increased number of mergers and acquisitions, use equity more often to pay for such expansions, and engage in more diversifying expansions. Also, Kim et al. (2016) show how firms under

overconfident management carry more stock price risk. Interestingly, the relationship uncovered in said contribution is moderated by the influence that the executive has among the firm's top management.

This paper's contribution stems from the political science literature pertaining to political activism, specifically lobbying. The extant literature offers guidance in terms of the empirical regularities of lobbying. According to de Figuereido and Richter (2014), corporate and trade association lobbying account for 84% of all such expenditures at the federal level. Additionally, the authors reveal that large corporations are more likely to lobby independently, and that lobbying disbursements exhibit a high degree of serial correlation. Also, lobbying outlays tend to increase during the governmental budgeting process and decrease when proprietary innovations would be placed at risk. As such, the regularities identified by de Figuereido and Richter inform the model specification to be used in our analysis. That is, the empirics control for firm size, lagged lobbying expenditures, years in which the federal budget is at stake, and asset tangibility.

Evidence from Brown et al. (2015) points to how lobbying, though not necessarily advantageous itself, might be consistent with stewardship theory. Brown et al. (2015) demonstrate that increased political contributions towards policymakers who have authority upon taxation result in a lower effective tax rate. Importantly, lobbying related to taxation policy increases among firms that have developed a relationship with policymakers through campaign support. The findings from Brown et al. imply that lobbying may be an incidental cost to political activism under stewardship theory rather than a core activity by which to achieve a strategic advantage.

The first goal of the study is to establish whether there is a difference in lobbying activity between CEO types by pursuing evidence of heterogeneity of effects in terms of CEO overconfidence. Secondly, an attempt is made to contextualize such a difference considering stewardship or agency theories.

There appear to be numerous compelling reasons for managers, and especially overconfident CEOs, to engage in lobbying. One reason is that lobbying might be the continuation of a relationship initiated between a firm and a policymaker through campaign contributions (Brown et al., 2015). Regarding optimistic executives, it seems as though their proclivity towards self-attribution would make them keen to engage in lobbying (Doukas and Petmezas, 2007; Billet and Qian, 2008). Moreover, characteristics that are intrinsic to firms under optimistic management, such as the disposition of debt (Graham and Puri, 2013) and compensation structure (Humphery-Jenner et al., 2016), would make lobbying appealing under a rational model. In addition, the executive's dominance appears to temper how the firm behaves under managerial overconfidence in a wide range of pivotal characteristics (Banerjee et al., 2015). Hence, the study's main hypothesis is as follows:

H1: Overconfident, powerful CEOs spend more money in lobbying.

Cao et al. (2018) and Unsal et al. (2016) provide evidence that lobbying efforts are counterproductive, lending credence to the agency problem view of lobbying. Yet the gears of government do not turn hastily. For instance, the corporate tax rate remained unchanged between the 1993 Omnibus Budget Reconciliation Act under the Clinton administration and 2017 with The Tax Cuts and Jobs Act under the Trump administration (Urban Institute & Brookings Institution, 2020). Also, the annual federal budgeting process in the United States is notoriously cumbersome. According to the U.S. General

Services Administration (2021), federal agencies begin their proposals 18 months before the budgeting process reaches Congress. In February, the President sends a budget request to Congress, after which both chambers enact resolutions, appropriations committees allocate funds, and legislators vote on the budget bill. The process can last until September, after which continuous resolutions are enacted until either a budget is passed, or an omnibus spending bill is signed into law. Affecting regulation is challenging. Between the 93rd (1973-74) and the 116th (2019-20) Congress, 6% of bills have been enacted into law or adopted as a resolution, while 85% never made it out of committee (Civic Impulse, LLC, 2021). Thus, lobbying funds expended each year might affect policy in the future. The benefits of lobbying, either through taxation, influence on policy, or preferential treatment by the government, would reveal themselves in terms of firm performance. To that end, the inquiry turns to whether lobbying by a distinctive segment of management follows the stewardship or the agency problem view by means of the following mutually exclusive hypotheses.

H2a: Per stewardship theory, lobbying expenditures from firms under overconfident, entrenched management improve firm value (profitability) within a certain period.

H2b: Per agency conflict theory, lobbying expenditures from firms under overconfident, entrenched management fail to improve firm value (profitability) within a certain period.

1.3 Data and Methods

Lobbying expenditures at the firm level are gathered from the Center for Responsive Politics.[1] As the dependent variable for H1, lobbying activity is measured by the natural

[1] https://www.opensecrets.org/.

logarithm of one plus the total lobbying expenditures carried out by a company each year. Lobbying is an uncommon activity among firms. During the sample period, the average share of companies that expend money on political activism on any year is 23%. CEO characteristics are sourced from ExecuComp, stock returns from CRSP, and financial as well as industry segment data from Compustat.

The independent variables in the model of lobbying expenditures are operationalized as follows. CEO Overconfidence follows Banerjee et al.'s (2015) measure, which is based on the value of vested, yet unexercised, in-the-money options held by an executive. CEO Power is derived as in Cao et al. (2018), such that it is a linear combination of a CEO's duality, tenure, and total compensation.[2] Size refers to the natural logarithm of one plus the book value of total assets held by a firm. Intangible Assets are calculated as one minus the ratio of a firm's net property, plant, and equipment to total assets.

The test of the second hypothesis involves the following dependent variables. First, Tobin's Q is computed using the natural logarithm of a ratio in which the numerator is the sum of a firm's market value of equity and the book value of debt, and the denominator is the book value of assets. The other dependent variable in H2, return on assets, is a firm's net income divided by total assets. The control variables for the specification of H2 are listed in section 3.2. For detailed definitions of such variables, please see Appendix 1 in Cao et al. (2018).

[2] The weights for the linear combination follow a factor extraction in which duality is an indicator of whether a CEO is simultaneously the chair of the company's board, tenure is the natural logarithm of one plus the number of years of service on the part of a CEO, and compensation is item tdc1 in ExecuComp. The factor loadings for duality, tenure, and compensation are .43, .41, and .06, respectively.

All variables in the study have been winsorized at the extreme 1% of their distributions on an annual basis to limit the influence of outliers in the results. Table 1.1, in which Panel A summarizes the data and Panel B displays Spearman correlations, presents the descriptive statistics for the variables in the study.

Table 1.1: Summary Statistics

Panel A: Descriptive Measures

	Mean	Standard Deviation	Min	Max	No. Firms	Avg. Years	Observations
Lobbying	2.97	3.00	0.00	17.97	3,824	6.97	26,661
Overconfidence	0.26	0.20	0.00	0.93	2,826	8.52	24,076
Power	-0.00	0.88	-2.57	1.80	2,828	8.63	24,411
Size	7.86	0.45	3.88	12.88	3,864	7.09	27,408
Intangible Assets	0.75	0.05	0.06	1.00	3,726	7.05	26,280
Tobin's Q	0.86	0.20	0.02	3.69	3,083	8.02	24,738
Return on Assets	0.04	0.07	-2.13	0.87	3,104	8.08	25,067

Panel B: Correlations

	Lobbying	Overconfidence	Power	Size	Intangible Assets	Tobin's Q
Overconfidence	0.05					
Power	0.05	0.10				
Size	0.30	-0.01	0.09			
Intangible Assets	-0.06	0.04	0.03	0.00		
Tobin's Q	0.09	0.37	0.02	-0.32[3]	-0.07	
Return on Assets	0.09	0.30	0.06	0.12	-0.06	0.64

This table displays the summary statistics for the variables in the study. Lobbying and Tobin's Q are shown as the natural logarithm of each plus one. Panel A: Standard Deviation is within groups in the panel; Avg. Years is the average number of years for which firms have valid data. Panel B: Spearman correlations shown.

The sample spans from 1999 to 2016. One key feature of the empirical approach towards testing hypothesis 1 is that firm-years in which the CEO's tenure is less than one

[3] One alternative operationalization of size is the firm's market capitalization, which has a positive correlation with Tobin's Q.

are excluded from the sample. The exclusion is necessary because it is unlikely that options are vested upon a chief executive during such a short period of time. Therefore, any measure of managerial overconfidence that hinges on option awards is flawed early in the manager's tenure since it would understate optimism.[4]

Due to data availability, the main specification contains 14,987 firm years in which firms have on average of 6.6 and up to 18 years' worth of observations. Unlike much of the corporate finance literature, utilities (SICs 4900 – 4999) and financial institutions (SICs 6000 – 6999) are included in the sample because they represent a considerable portion of all firms engaged in lobbying activity. For example, during the sample period, utilities and financials have encompassed on average 24% of all lobbying firms in a year, peaking in 2014 at 26% and dipping in 2000 at 20%. Such intensive lobbying on the part of highly regulated firms is consistent with Apollonio and La Raja's (2004) finding that those who are constricted in terms of political resources are more likely to make political contributions. By the same token, utilities as well as financial institutions, which are extensively constrained in their pricing and operations through regulation, might find themselves intensely incentivized to engage in lobbying. Thus, removing firms in a highly regulated industry, as is the convention in the corporate governance literature, would be tantamount to ignoring a substantial portion of the sample. Furthermore, the key finding is robust to the inclusion of an indicator for whether a firm belongs to a highly regulated industry. Also, separate tests have been conducted on a sample that excludes financial institutions and utilities whenever such a distinction is relevant (see section 5.4).

[4] Our results are robust to the inclusion of managers who have served under a year at their post.

Hypothesis 1, which aims to determine whether firms with overconfident, powerful CEOs spend more money in lobbying, is analyzed through a fixed effects regression in which the dependent variable is the natural logarithm of a firm's annual lobbying expenditures. The variable of interest is the interaction of Banerjee et al.'s (2015) measure of CEO overconfidence and a measure of CEO power as in Cao et al. (2018). Controls in the specification follow de Figuereido and Richter (2014) and include a firm's size, intangible assets, and lagged lobbying expenditures, as well as an indicator for whether federal budgeting is under political consideration in a given year.[5] For robustness, the federal budget indicator is conceptualized in four distinct ways: presidential transition years, presidential election years, years in which control of the Senate changes party, and years in which the House switches control. In addition, the specification leverages the panel structure of the data to include year and firm fixed effects as means by which to abate the influence of omitted variables (Gormley and Matsa, 2013).[6] Furthermore, standard errors are clustered at the firm level to help account for unobserved heterogeneity (Peternsen, 2009).[7] Therefore, the specification for the test of hypothesis 1, in which k is an index of observations, is as follows:

[5] See Table A1 in the Appendix for information on how such years have been designated.

[6] The results are robust to an alternative specification in which the logarithmic transformation of lobbying outlays is regressed on lagged predictors.

[7] The results are consistent if the standard errors are clustered at the industry instead of the firm level.

$$Ln(1 + Lobbying)_{i,t}$$

$$= \alpha + \beta_1(Overconfidence * Power)_t + \beta_2 Overconfidence_t$$

$$+ \beta_3 Power_t + \beta_4 Size_t + \beta_5 Intagibles_t + \beta_6 \mathbb{I}_{t \epsilon Budget\ Year}$$

$$+ \beta_7 Ln(Lobbying)_{i,t-1} + \sum_i \gamma_i \mathbb{I}_{i=i_k} + \sum_t \delta_t \mathbb{I}_{t=t_k} + \varepsilon_{i,t}$$

Following the assessment of hypothesis 1 using the model above, an intuitive next step is to see if all the constituents for CEO power bear the same influence in the findings. As such, the regression is carried out using each element of CEO power rather than the factor score. Partitioning the results by the components of CEO power shows which dimensions of entrenchment are driving the results reported herein. The analysis affords the opportunity to quantify the effect size by dichotomizing each of the key variables in the study.

The second hypothesis attempts to ascertain through a fixed effects regression whether lobbying on the part of firms under potent, optimistic managers results in any improvements in either valuation or profitability. Such a result would affirm the stewardship paradigm of management, while evidence to the contrary would support the agency problem perspective. Thus, hypothesis 2 avails itself of two dependent variables, the logarithmic transformation of Tobin's Q and return on assets. The variable of interest in the tests of hypothesis 2 is an interaction of CEO overconfidence, power, and an indicator for whether a firm spent any money towards lobbying. For robustness, additional tests are conducted in which the continuous form of lobbying is factored into the interaction term instead of the indicator. Because it is likely that lobbying funds disbursed in one year

are intended to affect government policy in the future, different specifications test the independent variable at different lags.

Contemporaneous control variables in the regressions of Tobin's Q and return on assets, consisting of firm characteristics and corporate governance attributes, in addition to the lagged dependent variable, as well as firm and year fixed effects, follow Cao et al. (2018).[8] Firm-level variables entered into the regression are size, debt (i.e., ratio of the book value of liabilities to assets), diversification (the natural logarithm of the number of segments in which the firm competes), R&D intensity (i.e., R&D expenditures divided by total assets), intangible assets, and return volatility (standard deviation of monthly stock returns for the past 60 months). Regressors pertaining to corporate governance are comprised of board size (natural logarithm of the number of board directors) and board independence (i.e., the share of directors who are not officers or are otherwise affiliated with the firm, per RiskMetrics). As in the test for hypothesis 1, standard errors are clustered at the firm level. Thus, the specification for the tests of hypothesis 2, in which firm performance is characterized by either Tobin's Q or ROA, j is a value between zero and six,[9] and k is an index of observations, is given by:

[8] CEO characteristics (i.e., CEO tenure, duality, and compensation) have been left out of the specification as they combine to produce the CEO power scale (see section 3.1).

[9] The average number of years per firm in the panel used for our main specification is 6.6.

$$Performance_{i,t}$$

$$= \alpha + \beta_1(Overconfidence * Power * \mathbb{I}_{Lobbying>0})_{t-j}$$

$$+ \beta_2(Overconfidence * Power)_{t-j}$$

$$+ \beta_3(Overconfidence * \mathbb{I}_{Lobbying>0})_{t-j} + \beta_4(Power * \mathbb{I}_{Lobbying>0})_{t-j}$$

$$+ \beta_5 Overconfidence_{t-j} + \beta_6 Power_{t-j} + \beta_7 \mathbb{I}_{Lobbying>0_{t-j}} + \beta_8 Size_t$$

$$+ \beta_9 Debt_t + \beta_{10} Diversification_t + \beta_{11} R\&D_t + \beta_{12} Intagibles_t$$

$$+ \beta_{13} Volatility_t + \beta_{14} Bsize_t + \beta_{15} Independence_t$$

$$+ \beta_{16} Performance_{t-1} + \sum_i \gamma_i \mathbb{I}_{i=i_k} + \sum_t \delta_t \mathbb{I}_{t=t_k} + \varepsilon_{i,t}$$

Besides the formal tests of H1 and H2, the following robustness procedures are undertaken. First, the analyses are repeated for hypotheses 1 and 2 using indicators for CEO power along with overconfidence such that they denote placement in the highest quartile of each distribution. Conducting such a test reveals an effect that is traceable to the most dominant and overconfident of executives, and that is free of the influence from those who are merely optimistic or moderately influential. Second, an alternative measure of CEO overconfidence is used following Campbell et al. (2011). The principal feature in Campbell et al.'s characterization of overconfidence is that the distinction is made for CEOs who hold options that are more than 100% in the money. Additional robustness tests for H1 include a specification that uses two-digit standard industry classification code dummies rather than firm fixed effects, and the inclusion of certain variables that connote a firm's governance structure. Tang et al. (2016) posit how CEO age mediates the risk preference of founding managers, who happen to be more overconfident as per Lee et al. (2017). Also, Kolasinksi and Li (2013) report that independent boards improve the

acquisition performance of firms under overoptimistic management. In addition, debt can curtail expropriation by management in the form of unnecessary projects (Jensen, 1986). Therefore, the specification for lobbying expenditures is expanded with the inclusion of the natural logarithm of a CEO's age, the share of independent members of a company's board, and the debt-to-assets ratio. Third, the tests for H2 are repeated in a sample that excludes financial institutions and utilities. Such an exclusion might be warranted since the performance of firms in highly regulated industries may be constricted enough to bias the assessment of H2. Fourth, the findings related to H1 are validated by observing the impact on lobbying expenditures given two types of shocks to CEO power. One type of shock is exogenous and due to the aftermath of SOX, which reduced executive power by altering the composition of the board. For instance, it has been shown that SOX induced diminishing executive compensation (Upadhyay and Triana, In press; Chhacochharia and Grinstein, 2007; Banerjee et al., 2015). The other shock is internal to the firm and constitutes shifts in duality wherein the same CEO is no longer the chair of the board. Under either form of shock to executive power, the expectation is to see an attenuation of the effect, or even a reversal, compared to the main findings.

1.4 Results

This section reports the findings related to the test H1. The results, which can be seen in Table 1.2, Panel A, show that firms under the management of overconfident, powerful CEOs tend to have significantly higher lobbying expenditures ($b = 0.341$, $t = 2.66$, $p < 0.01$). There is evidence that CEO power makes as much of a contribution towards lobbying expenditures as overconfidence: the joint hypothesis test that coefficients bearing overconfidence are equal to zero has a test statistic of 3.53 ($p = .030$)

while the corresponding joint hypothesis test for those with power yields an F-value of 3.72 ($p = .024$). The discussion of the partial effect that each variable displays is deferred until after the segmented analysis related to the components of CEO Power.

For reference, the figures in Panel B of Table 1.2 come from a specification that lacks the interaction term that is of interest in this study. There is no indication that the main effects for either overconfidence ($b = -0.013$, $t = -0.10$, $p > 0.1$) or power ($b = -0.005$, $t = -0.12$, $p > 0.1$) can individually account for lobbying outlays. Comparing the findings between panels A and B emphasizes how managerial overconfidence is a necessary, but insufficient condition to engage in further lobbying. In addition, it is the advent of CEO power that enables the optimistic CEO to spend more money towards affecting government policy.

The results in Table 1.2 are robust to the choice in political budgeting cycle, whether it is operationalized as following a presidential election or transition of power in Congress. Moreover, the effect of the political budgetary cycle appears to be orthogonal to all other regressors in that none of the coefficients or corresponding standard errors vary with the choice of budgetary cycle proxy. Incidentally, the results suggest that lobbying increases during presidential transitions ($b = 0.57$, $t = 3.97$, $p < 0.001$), and following a transfer of power in the House of Representatives ($b = 0.44$, $t = 2.99$, $p < 0.001$). The predilection for lobbying during such transitions appears rational, as Table A1 in the Appendix suggests that they are less likely to occur. Interestingly, the change in lobbying expenditures following presidential elections ($b = 0.04$, $t = 0.24$, $p > 0.1$) or when the Senate flips ($b = 0.23$, $t = 1.23$, $p > 0.1$) is negligible. Thus, for the remainder of the study, both presidential and House transitions are entered as control variables whenever the dependent

Table 1.2: Effect of CEO Overconfidence (Mediated by CEO Power) on Lobbying

Panel A: Factorial Model				
Overconfidence*CEO Power	0.341***	0.341***	0.341***	0.341***
	(0.128)	(0.128)	(0.128)	(0.128)
Overconfidence	-0.136	-0.136	-0.136	-0.136
	(0.143)	(0.143)	(0.143)	(0.143)
CEO Power	-0.095**	-0.095**	-0.095**	-0.095**
	(0.473)	(0.473)	(0.473)	(0.473)
Size	0.268***	0.268***	0.268***	0.268***
	(0.091)	(0.091)	(0.091)	(0.091)
Intangibles	-1.720***	-1.720***	-1.720***	-1.720***
	(0.635)	(0.635)	(0.635)	(0.635)
Lobbying Lag	0.650***	0.650***	0.650***	0.650***
	(0.014)	(0.014)	(0.014)	(0.014)
Presidential Transition	0.572***			
	(0.144)			
Presidential Election		0.038		
		(0.158)		
Senate Transition			0.225	
			(0.183)	
House Transition				0.435***
				(0.145)
R-square (within groups)	0.383	0.383	0.383	0.383
F(Overconfidence)	3.53**			
p(F > 1)	0.030			
F(Power)	3.72**			
p(F > 1)	0.024			
Panel B: Main Effects Model				
Overconfidence	-0.013	-0.013	-0.013	-0.013
	(0.13)	(0.13)	(0.13)	(0.13)
CEO Power	-0.005	-0.005	-0.005	-0.005
	(0.042)	(0.042)	(0.042)	(0.042)
Size	0.277***	0.277***	0.277***	0.277***
	(0.091)	(0.091)	(0.091)	(0.091)
Intangibles	-1.717***	-1.717***	-1.717***	-1.717***
	(0.634)	(0.634)	(0.634)	(0.634)
Lobbying Lag	0.650***	0.650***	0.650***	0.650***
	(0.014)	(0.014)	(0.014)	(0.014)
Presidential Transition	0.571***			
	(0.145)			
Presidential Election		0.026		
		(0.163)		
Senate Transition			0.224	
			(0.184)	
House Transition				0.419***
				(0.146)
R-square (within groups)	0.383	0.383	0.383	0.383

This table shows the regression of lobbying on CEO overconfidence, power, and control variables, including year and firm fixed effects. The sample covers the period from 1999 to 2016, excludes CEOs with less than one year of tenure, and encompasses 14,987 observations across 2,255 firms. Values in parenthesis are standard errors clustered at the firm level. * p<0.10, ** p<0.05, *** p<0.01.

variable entails lobbying expenditures. The signs of the remaining control variables (i.e., size, intangibles, and the first lag of lobbying) are all consistent with de Figuereido and Richter (2014). It appears that H1 is supported by the evidence.

The analysis shown in Panel A of Table 1.3 repeats the main regression using each of the determinants of CEO power rather than the factor score itself. The political cycles used in this section correspond to presidential and House transitions. The results of the analysis are found in Panel A of Table 1.3. Out of the three components of CEO power, only the interaction with duality prompts a significant shift in lobbying expenditures ($b = 0.68$, $t = 2.41$, $p < 0.05$). Methodologically, it is not surprising that the interaction between CEO overconfidence and duality shows the strongest effect since duality has the largest loading into the CEO power factor. However, the result is surprising from a conceptual perspective in that neither the interactions nor main effects of tenure and compensation have an empirical bearing upon lobbying costs. In the context of the results shown in Table 1.3, it appears that duality is the channel through which the CEO optimism-firm lobbying relationship occurs.

Panel B in Table 1.3 presents coefficients from regressions of logarithmic lobbying expenditures in which each element of the CEO Power factor is interacted with an indicator of whether an executive shows signs of above-average overconfidence for the year. As with Panel A of the same table, only the interaction with duality is significant ($b = 0.31$, $t = 2.70$, $p < 0.001$). Moreover, it is the only interaction term that has a sign that is consistent with the overall findings that make use of the CEO power factor. Therefore, it is said interaction term that is used to characterize the magnitude of the effect size for the conditional relationship between overconfidence (moderated by CEO Power) and lobbying

Table 1.3: Effect of CEO Overconfidence (Mediated by proxies of CEO Power) on Lobbying

Panel A: Proxies of CEO Power

	Duality	Tenure	Compensation
Overconfidence*Proxy	0.675**	-0.101	0.008
	(0.280)	(0.171)	(0.073)
Duality	-0.037		
	(0.106)		
Tenure		-0.165**	
		(0.067)	
Compensation			-0.005
			(0.029)
Overconfidence	-0.524**	-0.218	-0.081
	(0.256)	(0.396)	(0.540)
Observations	15,449	15,108	15,402
Firms	2,317	2,262	2,313
R-square (within groups)	0.378	0.384	0.382

Panel B: Effect of Above-average Overconfidence (Mediated by Proxies of CEO Power) on Lobbying

Above-average Overconfidence*Proxy	0.311***	-0.018	-0.014
	(0.115)	(0.072)	(0.038)
Duality	0.001		
	(0.100)		
Tenure		-0.120**	
		(0.059)	
Compensation			-0.001
			(0.025)
Above-average Overconfidence	-0.230**	0.053	0.138
	(0.103)	(0.156)	(0.300)
Observations	16,803	15,958	16,257
Firms	2,605	2,312	2,365
F(Overconfidence)	3.65**	0.07	0.24
p(F > 1)	0.026	0.929	0.787
F(Proxy)	4.87***	2.88*	0.08
p(F > 1)	0.008	0.057	0.922
R-square (within groups)	0.444	0.448	0.445

Panel A shows the coefficients for the regression of Ln(1+lobbying) on CEO overconfidence, constituents of CEO power, and control variables, including year and firm fixed effects. Panel B displays the coefficients for the same regression but for the interaction of an indicator of above-average overconfidence and elements of CEO power. The sample covers the period from 1999 to 2016 and excludes CEOs with less than one year of tenure. Values in parenthesis are standard errors clustered at the firm level. Duality is an indicator of whether a CEO is also the chair of the board. Tenure is the natural logarithm of one plus the number of years of service as CEO. Compensation is the natural logarithm of one plus item TDC1 in the ExecuComp dataset. * p<0.10, ** p<0.05, *** p<0.01.

expenditures.[10] It follows that firms under the direction of a chairperson-CEO who is above-average in terms of optimism (with more than one year of service) tend to spend

[10] There are 9,166 (33%) cases in the data corresponding to managers who above average in both overconfidence and power.

36% more in lobbying activities.[11] It has been established above, by means of joint hypotheses tests, that both overconfidence and power are relevant to lobbying expenditures. Indeed, the same pattern of results is repeated at this juncture, F(Overconfidence) = 3.65, p = .026, F(Duality) = 4.87, p = .008. The coefficients herein convey the partial effects that each of those variables carries. Overconfidence entails an increase of 8% after partialing out the impact of duality, while duality itself amounts to a partial increase of 37%. Although the effect of duality is several times that of overconfidence, the latter supersedes the former from a theoretical perspective. That is, overconfident CEOs are inherently different due to the cognitive bias that characterizes them, and control of the board allows them to express their tendencies.

CEO tenure, which is also addressed in logarithmic form, has a negative association with lobbying, F = 2.88, p = .057, as seen in Panel B of Table 1.3. Thus, a 1% increase in tenure induces an 11% decrease in lobbying outlays. Such a result is even more striking in that dual CEOs tend to have on average 63% more years of service (b = 0.49, t = 27.42, p < 0.001).[12] Comparing the partial effects that tenure and duality carry towards lobbying expenses, the sheer size of duality relative to tenure implies that board control overwhelms any impact from tenure as it pertains to the conditional relationship between CEO power and lobbying.

Findings related to H2 are found in Table 1.4. The analysis follows the specification described above. With t-statistics ranging between 0.21 and 1.38, panels A

[11] $0.36\ 100 \times (e^{0.311} - 1)$

[12] Per a regression of the logarithmic transformation of tenure on duality after accounting for firm fixed effects and using robust standard errors.

and B in Table 1.4 show scant evidence that engaging in lobbying by firms with optimistic, entrenched executives results in significant improvements in Tobin's Q. That is, none of the coefficients corresponding to a lagged interaction between CEO overconfidence, power, and lobbying activity, whether in dichotomous or continuous form, are significant at any conventional degree of confidence. Hypothesis 2b, which errs in favor of the agency problem perspective, is favored over 2a (i.e., the stewardship view) as far as firm valuation is concerned.

Table 1.4: Interaction Coefficients at Different Lags for Regressions of Tobin's Q and Return on Assets

Interaction Lag	0	1	2	3	4	5	6
Panel A: Ln(1 + Tobin's Q) with Lobbying Dummy in Interaction							
Coefficient	0.006	0.018	0.015	0.009	0.022	0.024	0.004
Standard error	0.019	0.017	0.020	0.020	0.020	0.019	0.019
Observations	10,830	10,588	9,056	7,676	6,428	5,240	4,189
Firms	1,696	1,650	1,481	1,343	1,250	1,140	1,031
Panel B: Ln(1 + Tobin's Q) with Ln(1 + Lobbying) in Interaction							
Coefficient	0.001	0.001	0.001	0.001	0.002	0.002	0.001
Standard error	0.002	0.001	0.001	0.002	0.001	0.001	0.001
Observations	1,378	10,129	8,645	7,312	6,115	4,975	3,973
Firms	1,684	1,639	1,470	1,330	1,238	1,128	1,019
Panel C: Return on Assets with Lobbying Dummy in Interaction							
Coefficient	0.004	0.014**	0.007	0.007	0.007	0.012	0.024**
Standard error	0.007	0.007	0.007	0.008	0.011	0.009	0.011
Observations	11,037	10,784	9,213	7,798	6,524	5,317	4,244
Firms	1,704	1,657	1,485	1,347	1,254	1,146	1,035
Panel D: Return on Assets with Ln(1 + Lobbying) in Interaction							
Coefficient	0.000	0.001**	0.001	0.001	0.001	0.001*	0.001*
Standard error	0.000	0.000	0.001	0.001	0.001	0.001	0.001
Observations	10,584	10,324	8,801	7,434	6,211	5,052	4,028
Firms	1,692	1,646	1,474	1,334	1,242	1,134	1,023

This table presents the coefficients of the interaction between CEO overconfidence, power, and lobbying at different lags from a regression of either Tobin's Q (panels A and B) or return on assets (panels C and D). Regressions include control variables as in Cao et al. (2018), as well as year and firm fixed effects. Standard errors are clustered at the firm level. * p<0.10, ** p<0.05, *** p<0.01.

The coefficients pertaining to return on assets (panels C and D in Table 1.4) are more amenable to stewardship theory. Panel C of Table 1.4 shows various specifications

in which CEO overconfidence, power, and a dummy for lobbying activity are interacted and added at different lags. Such regressions display evidence of increased profitability that is attributable to the first ($b = 0.01$, $t = 2.07$, $p < 0.05$) and sixth ($b = 0.02$, $t = 2.10$, $p < 0.05$) lags. When using lobbying as a continuous variable in the interaction term, as shown in Panel D, there is even more evidence of enhancements in ROA that are due to past lobbying expenditures of firms under optimistic, strong management. The lagged interaction terms that are statistically significant in Panel D correspond to the first ($b = 0.00$, $t = 2.16$, $p < 0.05$), fifth ($b = 0.00$, $t = 1.82$, $p < 0.1$), and sixth ($b = 0.00$, $t = 1.73$, $p < 0.1$) lags. Thus, the figures in Panel D offer the strongest evidence in favor of H2a (i.e., stewardship) because they imply increased profitability ensuing from sustained, long-term lobbying expenditures by overconfident, entrenched executives.

One concern in the analysis of firm performance as proposed in this study is that utilizing further lags would consume degrees of freedom to the extent that there would have been a deficiency in statistical power to fairly assess the interaction term in question. Yet the presence of significant interaction terms in specifications featuring lags as deep as the fifth and sixth years goes a long way in allaying the statistical power concern.

For robustness, the interaction term that is of interest in this study is altered. Specifically, the analysis examines the influence of the most overconfident and powerful of CEOs. Highly optimistic, powerful executives are designated as such if they fall into the highest quartile of both distributions in a particular year. In the data, 4,503 (16%) firm years correspond to very overconfident, dominant CEOs. The specification follows the layout in section 3.2 for each hypothesis while controlling for both presidential and House transitions. The findings are seen in Table 1.5.

Panel A in Table 1.5 replicates the results in Panel A of Table 1.2, but for the interaction of very overconfident, powerful CEOs. Under the alternative specification, lobbying expenditures conditional on such types of managers increase by 21% (b = 0.19, t = 1.84, p < 0.05). The rise in lobbying intensity given overt optimism and entrenchment solidifies the principal findings from Table 2.

Table 1.5: Analysis of Highly Optimistic Dual CEOs

Panel A: Effect of High Overconfidence (Mediated by High CEO Power) on Lobbying

Highly Overconfident*Very Powerful CEO	0.189**
	(0.103)
Highly Overconfident	-0.006
	(0.075)
Very Powerful	-0.235
	(0.074)
Observations	17,035
Firms	2,652
R-square (within groups)	0.444

Panel B: Interaction Coefficients at Different Lags for Regressions of Ln(1 + Tobin's Q)

Interaction Lag	0	1	2	3	4	5	6
				Lobbying Dummy in Interaction			
	0.046*	0.001	0.016	0.003	-0.004	0.014	0.006
	(0.023)	(0.002)	(0.022)	(0.025)	(0.024)	(0.024)	(0.029)
				Ln(1+Lobbying) in Interaction			
	0.003*	0.001	0.002	0.000	0.001	0.002	0.001
	(0.002)	(0.001)	(0.002)	(0.000)	(0.002)	(0.002)	(0.001)

Panel C: Interaction Coefficients at Different Lags for Regressions of Return on Assets

				Lobbying Dummy in Interaction			
	0.009	0.007	0.009	-0.008	-0.002	0.001	0.032*
	(0.010)	(0.009)	(0.011)	(0.010)	(0.014)	(0.025)	(0.018)
				Ln(1 + Lobbying) in Interaction			
	0.001	0.001	0.001	-0.000	0.000	0.001	0.002*
	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)

Panel A shows the regression of Ln(1 + lobbying) on high CEO overconfidence, power, and control variables, including year and firm fixed effects. The sample covers the period from 1999 to 2016 and excludes CEOs with less than one year of tenure. Panels B and C present the coefficients of the interaction between high CEO overconfidence, duality, and lobbying at different lags from a regression of either the logarithmic transform of Tobin's Q or return on assets. Regressions of firm performance include control variables as in Cao et al. (2018), as well as year and firm fixed effects. Values in parenthesis are standard errors clustered at the firm level. * p<0.10, ** p<0.05, *** p<0.01.

Panels B and C in Table 1.5 repeat the firm performance tests using the alternate version of the interaction term. Unlike the results in Panel A of Table 1.4, Panel B offers some indication that lobbying by firms under exceedingly optimistic and powerful CEOs experience improvements in Tobin's Q. The effect can be traced to concurrent outlays ($b = 0.05$, $t = 2.03$, $p < 0.1$). Also of interest are the figures regarding the impact on profitability, found in Panel C of Table 1.5. Just as in Panel B in Table 1.4, there are gains in return on assets that can be traced to lobbying activity six years in the past ($b = 0.03$, $t = 1.81$, $p < 0.1$) on the part of highly overconfident and entrenched executives. The similarity of results in terms of ROA between tables 1.4 and 1.5 as well as the newly encountered findings concerning Tobin's Q support the stewardship paradigm. To the extent that the actual effect between overconfidence, executive power, and lobbying is better exemplified by the most overconfident and entrenched managers, stewardship theory as an explanatory channel becomes feasible. Yet Krause et al. (2014) argue that executives do not always operate under either the stewardship or agency conflict paradigms entirely. Thus, an inclination towards either theory is to be taken with caution.

An additional robustness test employs Campbell et al.'s (2011) measure of CEO overconfidence as an alternative to Banerjee et al.'s (2015). Table 1.6 shows the results of the tests of H1 and H2, while using presidential and House transitions as proxies for the federal budgetary cycle. Even though the overconfidence measures are highly correlated to each other ($\rho = 0.98$), the effect of overconfident, entrenched managers upon lobbying is smaller using Campbell et al.'s measure. Under the alternative definition of overconfidence, Panel A in Table 1.6 shows that there is a significant, though smaller, increase in lobbying expenditures ($b = 0.07$, $t = 2.53$, $p < 0.05$). The sign and significance

of the interaction coefficient under the alternate operationalization ratifies the main results from Panel A of Table 1.2.

Table 1.6: Analysis with Alternative Measure of Overconfidence

Panel A: Effect of CEO Overconfidence (Mediated by CEO Power) on Lobbying

Overconfidence*CEO Power	0.069**
	(0.027)
Overconfidence	-0.057**
	(0.027)
CEO Power	-0.049
	(0.040)
Observations	14,987
Firms	2,255
R-square (within groups)	0.383

Panel B: Interaction Coefficients at Different Lags for Regressions of Tobin's Q

Interaction Lag	0	1	2	3	4	5	6
			Lobbying Dummy in Interaction				
	0.002	0.005	-0.002	0.002	0.005	0.001	0.000
	(0.007)	(0.004)	(0.004)	(0.003)	(0.005)	(0.003)	(0.000)
			Ln(1 + Lobbying) in Interaction				
	0.000	0.000	-0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Panel C: Interaction Coefficients at Different Lags for Regressions of Return on Assets

			Lobbying Dummy in Interaction				
	0.001	0.002	0.001	0.002	0.001	0.002	0.004*
	(0.003)	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)
			Ln(1+ Lobbying) in Interaction				
	0.000	0.000	0.000	0.000	0.000	0.000*	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Panel A shows the regression of Ln(1+lobbying) on Campbell et al.'s (2011) measure of CEO overconfidence, CEO power, and control variables, including year and firm fixed effects. The sample covers the period from 1999 to 2016. Panels B and C present the coefficients of the interaction between Campbell et al.'s overconfidence, power, and lobbying at different lags from regressions of either Tobin's Q or return on assets. Regressions of firm performance include control variables as in Cao et al. (2018), as well as year and firm fixed effects. Values in parenthesis are standard errors clustered at the firm level. * p<0.10, ** p<0.05, *** p<0.01.

The assessment of H2 in terms of Campbell et al.'s (2011) definition of overconfidence are seen in panels B and C of Table 1.6. Panel B suggests that there is no discernible association between Tobin's Q and lobbying activity on the part of firms under overconfident, powerful management. Once again, the evidence related to firm valuation furthers agency conflict as an explanation of the findings in Panel A of the same table. The

figures in Panel C, which deal with ROA, are reminiscent of the findings in panels C and D of Table 1.4. Specifically, there is support that profitability increases from the fifth (b = 0.00, t = 1.66, p < 0.1) and sixth (b = 0.00, t = 1.65, p < 0.1) lags of the interaction between lobbying, CEO overconfidence, and power.

It is arguable that the assessment of firm performance cannot be done fairly if the sample includes financial institutions and utility companies because the profits from those types of firms are highly controlled by the federal and local governments. What follows is a series of tests excluding such firms. The results of the analysis are presented in Table 1.7. The figures in said table are subject to comparison against those found in Table 1.4.

Table 1.7: Interaction Coefficients at Different Lags for Regressions of Tobin's Q and Return on Assets (Financial Institutions and Utilities Excluded)

Interaction Lag	0	1	2	3	4	5	6
Panel A: Tobin's Q with Lobbying Dummy in Interaction							
Coefficient	0.005	0.020	0.013	0.010	0.021	0.000	0.004
Standard error	0.019	0.017	0.020	0.019	0.020	0.000	0.019
Observations	9,168	8,985	7,680	6,493	5,420	4,410	3,524
Firms	1,372	1,343	1,215	1,111	1,031	936	853
Panel B: Tobin's Q with Ln(1+Lobbying) in Interaction							
Coefficient	0.001	0.001	0.001	0.001	0.002	0.002	0.001
Standard error	0.002	0.001	0.002	0.001	0.002	0.001	0.001
Observations	8,718	8,528	7,270	6,130	5,108	4,146	3,309
Firms	1,360	1,332	1,204	1,098	1,019	924	841
Panel C: Return on Assets with Lobbying Dummy in Interaction							
Coefficient	0.003	0.015**	0.010	0.009	0.008	0.014	0.026**
Standard error	0.008	0.007	0.008	0.009	0.010	0.010	0.012
Observations	9,192	9,004	7,692	6,504	5,428	4,418	3,531
Firms	1,373	1,344	1,215	1,111	1,031	936	853
Panel D: Return on Assets with Ln(1+Lobbying) in Interaction							
Coefficient	0.003	0.001**	0.001*	0.001*	0.001	0.002*	0.002*
Standard error	0.005	0.000	0.001	0.001	0.001	0.001	0.001
Observations	8,741	8,546	7,282	6,141	5,116	4,154	3,316
Firms	1,361	1,333	1,204	1,098	1,019	924	841

This table presents the coefficients of the interaction between CEO overconfidence, power, and lobbying at different lags from a regression of either the logarithmic transform of Tobin's Q (panels A and B) or return on assets (panels C and D). Regressions include control variables as in Cao et al. (2018), as well as year and firm fixed effects. Standard errors are clustered at the firm level. Financial institutions (SIC codes 6000 – 6999) and utilities (SIC codes 4900 – 4999) have been excluded from the sample. * p<0.10, ** p<0.05, *** p<0.01.

Even after eliminating highly regulated firms, panels A and B in Table 1.7 imply that there is no evidence that lobbying from firms with overconfident, powerful managers translates into greater valuations. Panel C in Table 1.7 is consistent with Panel C in Table 1.4, down to the specific lags that show evidence of superior profitability by said firms. Up to this point the evidence in Table 1.4 resembles that of Table 1.7. Yet that is the extent of the similarities. Panel D in Table 1.7 provides stronger evidence of improvement in ROA than its counterpart in Table 1.4. Specifically, dollars spent on lobbying by firms under optimistic, entrenched management on the previous year ($b = 0.00$, $t = 2.23$, $p < 0.05$), two years before ($b = 0.00$, $t = 1.91$, $p < 0.1$), three years before ($b = 0.00$, $t = 1.88$, $p < 0.1$), five years before ($b = 0.00$, $t = 1.88$, $p < 0.1$), and six years before ($b = 0.00$, $t = 1.84$, $p < 0.1$) lead to better profitability. If the results in panel Table 1.4, Panel D had so far been the strongest endorsement of stewardship theory as a driver for lobbying activity, then the results in this section are a more emphatic affirmation.

This study posits and substantiates the moderating influence that managerial entrenchment has upon the conditional relationship between overconfidence and lobbying. In this section the impact of shocks that would diminish executive power is investigated: the passage of the Sarbanes-Oxley Act in 2002 and incidences in which a CEO ceases to be the chair of the board. If this paper's main contention is valid, then the effect in display in Table 1.2 ought to weaken or even revert when managerial power decreases. The results of such an exercise are found in Table 1.8.

The column labeled Post-SOX reveals that the conflation of executive optimism and power no longer sways lobbying expenditures in the wake of the landmark legislation ($b = -0.24$, $t = -1.03$, $p > 0.1$). The result amounts to robust evidence, by means of an

exogenous shock, of the moderating role that executive power holds on managerial overconfidence.

Table 1.8: Effect of CEO Overconfidence (Mediated by Negative Shocks to CEO Power) on Lobbying

	Shocks to CEO Power	
	Post-SOX	CEO No Longer Chair
Overconfidence*Shock	-0.241	-1.126*
	(0.234)	(0.583)
Post-SOX	-0.331	
	(0.259)	
CEO No Longer Chair		0.013
		(0.217)
Overconfidence	0.171	0.058
	(0.194)	(0.135)
Observations	15,515	14,331
Firms	2,320	1,945
F(Overconfidence)	0.54	1.90
p(F > 1)	0.580	0.149
F(Shock)	1.71	2.86*
p(F > 1)	0.181	0.058
R-square (within groups)	0.377	0.387

This table shows the regression of Ln(1+lobbying) on CEO overconfidence, negative shocks to CEO power, and control variables, including year and firm fixed effects. The sample covers the period from 1999 to 2016. Values in parenthesis are standard errors clustered at the firm level. Post-SOX is an indicator of whether the firm-year corresponds to the period after 2002, in which SOX was implemented. CEO No Longer Chair is an indicator for any firm years in which the CEO has transitioned from duality. * p<0.10, ** p<0.05, *** p<0.01.

The column CEO No Longer Chair shows the interaction between overconfidence and an indicator for a firm year in which the same executive is no longer the chair of the board. Among sitting (i.e., non-departing) executives, there are 1,171 (7%) instances in which a CEO ceases to be the chair of the board. Although said transition does not constitute an exogenous shock, it affords the opportunity to gauge firm behavior in the aftermath of a shift in managerial entrenchment. Herein lies the strongest evidence for the proposed mediating effect of CEO power. Firms in which an overconfident CEO ceases to simultaneously perform the duties of a board chair see a sharp decline in lobbying expenditures ($b = -1.13$, $t = -1.93$, $p < 0.1$). In sum, there is compelling contrapositive evidence of the moderating role of CEO power upon overconfidence as it relates to lobbying activity.

Table 1.9 exhibits several alternatives for the specification of the model that tests H1. Column 1 shows results in which the firm-level fixed effects have been replaced with two-digit standard industry classification dummies. The coefficient for the interaction between overconfidence and entrenchment ($b = 0.34$, $t = 2.64$, $p < 0.01$) is qualitatively the same as the main findings from Table 2. Thus, the key result in this study is robust to the choice of either firm or industry fixed effects.

Table 1.9: Variations in the specification of the lobbying expenditures model

	1	2	3	4	5
Overconfidence*CEO Power	0.342***	0.352***	0.344***	0.340***	0.352***
	(0.130)	(0.132)	(0.129)	(0.144)	(0.131)
Overconfidence	-0.144	-0.146	-0.140	-0.178	-0.193
	(0.144)	(0.148)	(0.143)	(0.144)	(0.149)
CEO Power	-0.090	-0.067	-0.094**	-0.097**	-0.068
	(0.047)	(0.055)	(0.047)	(0.047)	(0.055)
Size	0.267***	0.252***	0.269***	0.303***	0.291***
	(0.092)	(0.091)	(0.091)	(0.094)	(0.094)
Intangibles	-1.762***	-1.764***	-1.704***	-1.729***	-1.753***
	(0.644)	(0.648)	(0.638)	(0.636)	(0.647)
Lobbying Lag	0.646***	0.650***	0.650***	0.648***	0.649***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Presidential transition	0.561***	0.617***	0.621***	0.512***	0.596***
	(0.144)	(0.146)	(0.150)	(0.147)	(0.155)
House Transition	0.430***	0.482***	0.491***	0.386**	0.477***
	(0.147)	(0.147)	(0.154)	(0.149)	(0.159)
CEO age		-0.679*			-0.694*
		(0.407)			(0.408)
Board Independence			-0.299		-0.274
			(0.252)		(0.258)
Debt-to-asset ratio				-0.721**	-0.780**
				(0.311)	(0.408)
Firm Fixed Effects	No	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	No	No	No	No
R-square (within groups)	0.387	0.384	0.383	0.384	0.385
Number of observations	14,987	14,623	14,987	14,925	14,563

This table shows regressions of Ln(1+ lobbying) on CEO overconfidence, power, and control variables, including year fixed effects. The sample covers the period from 1999 to 2016 and excludes CEOs with less than one year of tenure. Values in parenthesis are standard errors clustered at the firm level. * p<0.10, ** p<0.05, *** p<0.01.

Columns 2 through 5 add factors that could affect a firm's governance and by extension the degree to which it carries out political activism. Neither the inclusion of a CEO's age, the board's independence, nor the disposition of the capital structure appear to affect the coefficient for the interaction term that is the focus of this study. In the most stringent specification, seen in column 4, the confluence of overconfidence and power significantly

increase lobbying expenditures ($b = 0.35$, $t = 2.68$, $p < 0.01$). In essence, the effect described herein is unencumbered by the presence of control factors pertaining to corporate governance.

As column 5 of Table 1.9 includes the most expansive regression, it is worth commenting on some of the other effect sizes encountered. First, corporate lobbying tends to increase by a whopping 81% on a year following a presidential transition ($b = 0.60$, $t = 3.85$, $p < 0.001$). Similarly, lobbying increases on average by 61% after a shift in the House of Representatives ($b = 0.48$, $t = 3.00$, $p < 0.01$). The lack of influence on the part of board independence on lobbying is unexpected ($b = -0.27$, $t = -1.06$, $p > 0.1$), although the literature has yet to establish a connection between those variables. On the other hand, a firm's inclination towards debt financing has a chilling effect on its political activism ($b = -0.78$, $t = -2.43$, $p < 0.05$). When a firm's assets increase by 1%, lobbying tends to increase by 29% ($b = 0.29$, $t = 3.08$, $p < 0.01$). As an executive's age increases by 1%, lobbying declines, on average, by 69% ($b = -0.69$, $t = -1.70$, $p < 0.1$).

1.5 Conclusion

This study endeavors to establish if firms managed by overconfident, powerful executives spend more money in lobbying. Using an unbalanced panel between 1999 and 2016, there is evidence indicating that such firms spend on average 36% more in lobbying than their counterparts. The result is a natural extension of the extant literature that suggests that optimistic, entrenched managers could be more prone to engage in such activities because of a cognitive bias that is characteristic of overconfident managers. Moreover, the compensation structure as well as greater risk that is inherent among firms under the control of overconfident management serve as incentives to engage in political activism. The

conditional direct relationship evident in the analysis is robust to the choice of proxy for the federal budgetary cycle, the way overconfidence or power are parametrized, the scheme under which omitted factors are proxied (firm vs. industry indicators), and the inclusion of supplementary controls describing a firm's governance.

The findings highlight the fundamental role that entrenchment plays in mediating the impact of managerial optimism. One noteworthy result is that neither CEO overconfidence nor power by itself may account for lobbying expenses. The partial effects for each variable in question reveal that entrenchment has greater explanatory ability than overconfidence. Yet it stands to reason that management does not necessarily adopt a course of action because it simply can. Conceptually, overconfident executives are more incentivized and deluded enough to attempt to affect governmental policy. Metaphorically, overconfidence is the match and entrenchment the kindling driving corporate political activism. When considering the dimensions upon which entrenchment is premised, CEO duality is distinctly the aspect of CEO power that moderates the relationship between overconfidence and lobbying. Such a result is of particular interest because control of the board of directors is the most direct path towards agency conflict. Additionally, the mediating role of CEO power is validated by reductions in lobbying expenditures in instances when an overconfident CEO is not as powerful, as in the years following the implementation of the Sarbanes-Oxley Act or when a sitting CEO shifts away from duality.

Following Cao et al. (2018), there is an attempt to contextualize lobbying outlays (by optimistic, entrenched executives) in terms of stewardship and agency theories. Yet there is a departure from said contribution by acknowledging that lobbying expenditures might not bear fruit immediately. To that end, there is evidence throughout the study that

lobbying by firms with overconfident, entrenched executives enhances firm performance and value. Juxtaposing said finding with the result that duality facilitates lobbying on the part of overconfident managers makes it challenging to reach the same conclusion that Cao et al. (2018) and Unsal et al. (2016) arrive at; namely that agency conflict is a plausible explanation for increasing corporate lobbying.

The discernment between stewardship and agency theories is not straightforward. Most of the findings pertaining to Tobin's Q suggest that there is no advantage to lobbying on the part of powerful, overconfident executives. Yet there is evidence regarding profitability that implies the utility of political activism due to protracted lobbying outlays; more so when highly regulated firms are ignored by the analysis. There is consistent evidence that it takes five to six years for lobbying expenditures to translate into better profits. Therefore, one may cautiously differ from Cao et al. and Unsal et al. by supporting the stewardship paradigm as an explanation for increased lobbying, in so far as firms with optimistic, entrenched management are concerned. To the extent that the true conditional relationship between overconfidence and lobbying is reflected by those who are the most optimistic and entrenched, it appears as though stewardship theory is a more suitable explanation than the notion of agency conflict.

CHAPTER 2: THE FRINGES OF CORPORATE POLITICAL ACTIVISM: THE RELATIONSHIP BETWEEN LOBBYING AND THE COST OF REGULATORY VIOLATIONS

2.1 Introduction

Consider a firm confronted by regulatory sanctions. Such a firm may contemplate the following scenarios. Of course, it could comply with the regulatory onus, alter its operations, and carry on. Another option is to treat the cost of breaking the law as a routine expense associated with its business model. Alternatively, the firm may choose to become involved in the crafting of policy, that is, to engage in lobbying. It is the latter solution with which this essay contends. The effect of corporate criminality on lobbying expenditures is explored emphasizing the interests of a firm's shareholders.

The literature addresses lobbying as dependent on firm and managerial qualities (de Figuereido and Richter, 2014; Cao et al., 2018; Unsal et al., 2016.; Brown et al., 2015). This paper expands our understanding of the determinants of lobbying by considering how the cost of regulatory violations could affect the decision to influence government policy. And what impels such a decision? A hallmark of the literature is the discussion of whether stewardship theory or agency conflict theory (Davis et al., 1997) explains corporate lobbying. The distinction is often made in terms of firm performance. For example, Cao et al. examine profitability and valuation, Unsal et al. focus on returns, valuation, and agency cost of free cash flow, and Brown et al. consider tax expenditures. The consensus seemingly favors agency theory.

Not only does this paper present partial support for stewardship, but it makes a critical break from the prevailing academic interpretation of lobbying on two key issues.

First, it invites the reader to think differently about how to evaluate the virtue of corporate lobbying. Snider (1987) describes a long-lived regulatory cycle that culminates with the supervising body becoming captured by industry. Ostensibly, every dollar spent by industry to influence the polity moves an oversight agency closer towards capture. Yet the literature does not consider the regulatory life cycle, and instead is inclined to prematurely gauge the effectiveness of lobbying just one year after corresponding expenditures. It is unreasonable to expect scholars to know where a firm stands relative to its regulator's life cycle. But without such knowledge the assessment of lobbying via profitability or firm value seems unfair. This study proposes that the context in which lobbying expenditures are made signals to shareholders the value of coercing the regulatory apparatus. It follows that the identification of the channels through which regulatory violations affects lobbying becomes of critical importance. Second, this study proposes that lobbying does not unequivocally follow stewardship or agency paradigms, at least as it pertains to corporate criminality. Rather, corporate activism is subject to incentives and governance structures that convey management's diverse motivations on the matter.

This is the first study to empirically test the relationship between lobbying and the cost of regulatory transgressions, and the first to link two publicly available databases containing such information. An unbalanced panel of publicly traded firms between 2000 and 2016 is analyzed to ascertain whether lobbying responds to regulatory penalties, and what are circumstances in which such a relationship is realized. Indeed, there is evidence in support of said relation, as seen through various specifications of a fixed effects estimator, a system generalized method of moments (GMM) procedure, a Heckman selection regression, and a two-stage least squares procedure. When a firm's cost of

oversight increases by 1%, lobbying outlays during the following year tend to increase by approximately 14%. The relationship at hand is strongest when the violations are with respect to civil procedure, concerning employment or environmental rules, and enforced at the federal level.

The moderating conditions through which lobbying expenditures vary under increasing regulatory costs are telling of management's intentions. The following channels connote the precepts of stewardship theory. First, lobbying expenditures increase among such firms when they are highly profitable. That is, operational success is an incentive to invest in political activism because conforming to regulation or internalizing costs could lead to a loss in performance. Second, highly penalized firms in which private information prevails, as characterized by the corresponding stock's idiosyncratic volatility (Dennis and Strickland, 2004; Gider and Westheide, 2016; Yang et al., 2020), tend to lobby less. As such, lobbying expenditures become an inefficient way to address penalties. Third, breaching firms with independent boards are likely to spend more on lobbying. Since board independence is regarded as beneficial to shareholders (Rosenstein and Wyatt, 1990; Petra, 2005; Cornett et al., 2009; Panda and Leepsa, 2017), it follows that lobbying undertaken under such circumstances is efficient.

Other situations reflect the tension between management and ownership. For instance, firms with increasing penalties and leverage, as quantified by the debt-to-asset ratio, do not spend as much in lobbying activities. Juxtaposing lobbying as an investment with Jensen's (1986) diagnosis of the agency cost of free cash flow leads to the interpretation that an inherent conflict must exist to observe such a result. Another channel exposing agency conflict is seen when highly penalized firms lobby more when the chief

executive's pay relies more on stock-based compensation. Bolton (2006) links such a form of compensation with shortsightedness on the part of management, to the detriment of ownership.

The remainder of this chapter is organized in the following manner. Section 2 presents a review of the literature and the formulation of the study's hypotheses. Section 3 describes the data and methodology used in the analysis. Section 4 exhibits the results, and section 5 offers concluding remarks.

2.2 Literature Review and Hypothesis Development

Corporate criminality is framed upon the laws and enforcement capabilities of society. Snider (1987) describes the disposition of the regulatory environment in a capitalist society as one that follows either a pluralist or Marxist paradigm. The pluralist notion interprets law and enforcement pertaining to corporate violations as means to maintain the balance of power between social groups as well as other competing interests. The Marxist view argues that the extant legal framework serves to solidify the hegemony of a ruling class by codifying the relationships that allow for the extraction of surplus from capital. Snider goes on to categorize the motivations for regulatory breaches as due to either profit maximization, conscientious disagreement, or incompetence. Furthermore, legal compliance is a function of the payoff from malfeasance, the nature of the market in which a firm operates (e.g., competitiveness, managerial incentives), cultural landscape within a firm, and the "relative resources of the controlled vis-à-vis the controllers."

Snider's analysis brings forth the question of how corporate political activism could be a suitable response to enforcement action, particularly within pluralistic regulatory environments in which economic agents are driven by profit maximization in the presence

of incomplete contracts (i.e., dissent, managerial ineffectiveness, agency conflict). Even if the impetus of oversight follows a Marxist paradigm, said question is worth exploring because lobbying could be used by tortious business interests to infiltrate the polity or dislodge the ruling faction's influence upon it.

There is a broad stream of literature that connects corporate governance to the incidence of regulatory violations (e.g., Jain and Zaman, 2020; Virk, 2017; Liu, 2018; O'Connor et al., 2006; Lukason and Camacho-Miñano, 2020; McKendall et al., 1999; Masud et al., 2019). In sum, board attributes such as size, independence, existence of a corporate social responsibility committee, gender diversity, interlocks, duality, presence of experts, and compensation, in addition to managerial compensation, tenure, and age are associated with regulatory infringement. The relationship between governance and abuse is nuanced. For example, Mao (2019) notes that social responsibility activities are indicative of tax avoidance as firms attempt to conceal their malfeasance through goodwill. Also, the market reacts negatively when it comes to light that firms with poor governance, but a good regulatory track record, commit infractions (Kuowenberg and Phunnargungsi, 2013).

It is helpful to consider the law review literature to obtain a better grasp of regulatory infractions. Tanger (2006) suggests that strictly enforced sanctions would deter corporate criminality. However, Linzey (1995) and Henning (2012) note that the current regulatory environment is insufficient, as firms view fines as a cost of doing business and managers are held mostly unaccountable. Furthermore, Barnett (1981) posits that the regulatory apparatus favors corporations to the detriment of their victims. Socio-economic circumstances, such as declining profitability, political party incumbency, industry

concentration, and ethical climate, also drive the incidence of violations (Simpson, 1987; McKendall and Wagner, 1997). Besides the obvious monetary outcomes from rules violations, corporations also encounter reputational hazards; even more if the firm has a history of repeated violations or is based in a foreign country (Zou et al., 2015). Yet Schevchenko (2021) notes that penalties ensuing from regulatory breaches fail to induce corrective action.

This essay builds from contributions that define corporate lobbying as a function of firm characteristics such as size and asset tangibility (de Figuereido and Richter, 2014; Brown et al., 2015), as well as managerial attributes (Unsal et al., 2016) like a chief executive's political leaning, compensation, and age. Moreover, the previous chapter in this dissertation expands the set of managerial characteristics affecting corporate lobbying by documenting how managerial overconfidence and power combine to drive such expenditures. An overarching inquiry throughout the extant research is whether corporate political activism is efficient within the context of a profit-maximizing firm (e.g., Cao et al., 2018).

Yet little attention has been given to the relationship between lobbying and corporate criminality. A firm's tendency to commit regulatory violations is another characteristic that could explain the scale of its political activism. Such a relationship may be justified under either side of the ongoing debate as to the efficiency of lobbying activity. That is, lobbying expenditures driven by corporate criminality could be consistent with stewardship theory or agency theory (Davis et al., 2007). Li et al. (2022) show that the appointment of Chief Risk Officers reduces firm risk in industries with a high degree of dynamism and litigation risk, as well as in settings rife with uncertainty and volatility.

Implicit in Li et al.'s analysis is that firms are exposed to varying degrees of operational risk, and that they may take steps to avert regulatory contingencies. Any enterprise with a business model that is inherently riskier in terms of its exposure to governmental oversight would be motivated to engage in political activism, thereby reducing the cost of legal transgressions without the expense and risk of reshaping its operations.

Therefore, the central hypothesis pursued in this study is whether corporate criminality results in higher lobbying expenditures.

H1: Corporate lobbying expenditures increase in response to the cost of regulatory sanctions.

It follows from Snider's (1987) study that for corporate criminality to induce incremental lobbying activity per the stewardship view of management, the payoff from lobbying expenditures must exceed the cost of penalties due to regulatory breaches along with the value of the risks incurred from attaining compliance. In addition, there must be adequate corporate governance mechanisms in place to elicit the appropriate response from management.

However, corporate criminality could drive political activism in companies in which managerial incentives provoke abuse. In particular, the agency problem described by Jensen and Meckling (1976) could manifest itself as management's negligence to bring a company into compliance (all the while fostering valuable personal connections as per Brown et al.), instead attempting to sway governmental policy. Given the length of time needed to change the course of regulation, the appeal for abuse is particularly alluring for managers so long as their incentives align with a short-term perspective. Moreover, the opportunity to expropriate shareholders increases with the availability of free cash flow

(Jensen, 1986). An overabundance of free cash flow would facilitate the use of lobbying activity by injurious management to build personal political capital through an unnecessary investment.

The next endeavor is to uncover the circumstances under which regulatory transgressions affect lobbying. The aim is to distinguish the factors under which management behaves following the best interests of the shareholders (stewardship theory) as opposed to those in which it seeks to expropriate them (agency theory). Consistent with the discussion above regarding the motives and opportunities linking illegality to political activism, the following hypotheses are pursued.

H2: In line with stewardship theory, corporate violations increase lobbying expenditures if there are material rewards for the firm due to political activism.

H3: As per stewardship theory, corporate violations augment lobbying expenditures when there are proper governance mechanisms that prompt management to take appropriate actions.

H4: Consistent with agency conflict theory, corporate violations result in greater lobbying expenditures when there is an excess of free cash flows.

H5: According to agency theory, corporate violations result in additional lobbying expenditures when managerial incentives encourage short-termism.

2.3 Data and Methods

The data consists of an unbalanced panel of publicly traded firms tracked by the CRSP-Compustat merged dataset between 2000 and 2016. As such, firms that have been actively traded during the sample period in the NYSE, NYSE American, NASDAQ and NYSE Arca exchanges, or their predecessors, make up the sample. The principal analysis,

pertaining to hypothesis 1, encompasses over 80,000 observations from nearly 11,000 distinct companies. The dependent variable in the study, lobbying expenditures, has been sourced from the Center for Responsive Politics. The variable of interest, which is the total monetary value of a firm's regulatory violations, is gathered from the nonprofit Good Jobs First, along with other characteristics of such wrongdoings. Whenever a firm in the CRSP-Compustat file is missing either lobbying expenditures or violations data, a zero is entered into the corresponding field to maximize the use of available observations. Therefore, one of the crucial tests described below is whether the results are consistent when considering the propensity to be penalized for a rules violation.

The controls for lobbying expenditures rely on de Figuereido and Richter's (2014) survey of the relevant literature. Specifically, the influence of regulatory violations on subsequent lobbying expenditures is tested in the presence of firm size (i.e., the natural logarithm of one plus market capitalization), intangible assets (one minus the ratio of net property, plant, and equipment to assets), and indicators for the year following a presidential transition or a shift in control at the House of Representatives.[13] For robustness, additional controls are entered into alternative specifications following the findings from the previous chapter in the dissertation, as well as contributions from Cao et al. (2018), Unsal et al. (2016), and Brown et al. (2015). Namely, CEO characteristics such

[13] Within the sample period, political control shifts parties in 2000 and 2008 at the executive level, and 2006 and 2010 at the legislative level. Note that the President and House indicators are for the year after a transition, as political donations, not lobbying, would influence policy during a political transition.

as overconfidence (Banerjee et al., 2015),[14] power (a linear combination of total compensation, duality, and tenure), and age are added to the representative model. Table A2 in the appendix shows results of an even more comprehensive specification such that it incorporates proposed channels through which the relationship tested in H1 takes effect. The figures in Table A2 are consistent with those presented in the Results section.

Discerning between stewardship and agency motivations requires an ex-ante impartial stance on the efficiency of lobbying as a response to corporate criminality. The a priori nature of the relationship between regulatory breaches and political activism is unknowable. Instead, we adopt a theoretical stance akin to Samuelson's (1938) revealed preference theory for uncovering the conditions that affect the sensitivity of the relationship between lobbying and transgressions. It is the set of factors that amplify or reduce said relationship that reveal whether lobbying expenditures following the assessment of penalties against a firm follow stewardship or agency conflict tenets. Hypotheses 2 through 5 imply that said relationship unfolds in the context of the incentives for lobbying, governance structures, and prospects for expropriation. Such moderators may prompt managers to act either on behalf of stockholders or against their interests.

One type of incentive that is congruent with stewardship is that which would present management with unacceptable losses for not engaging in lobbying. For example, if a firm is performing well despite experiencing penalties, it might opt to affect the legal framework in which it operates to preserve its advantage. Thus, one conjecture is that

[14] Overconfidence is calculated as the ratio of the value of unexercised exercisable options to the number of unexercised exercisable options, multiplied with the price of the company's stock at the end of the fiscal year.

highly profitable firms with increasing penalties will spend more in lobbying. Profitability herein is measured as return on assets.

Another incentive that is consistent with stewardship is associated with how the market perceives new information about a firm. In a company that is characterized by information asymmetry, management might not be keen to spend resources on lobbying because investors would disagree as to whether that is the appropriate response to regulatory liability. If management's actions are aligned with the maximization of shareholder value, then lobbying might not be an efficient way to allay the cost of regulatory oversight when there is opacity. Information asymmetry is proxied by a firm's idiosyncratic volatility (Dennis and Strickland, 2004; Gider and Westheide, 2016; Yang et al., 2020), which is calculated as the annual average of standard errors from daily rolling window regressions (with an estimation window of 252 days and no less than 126 days) of stock returns using the Fama-French-Carhart four-factor model (Carhart, 1997). The data needed to calculate idiosyncratic volatility is gathered from Wharton Research Data Service's Beta Suite.

A driving force for lobbying under the agency conflict perspective is related to the disposition of an executive's compensation package. Ladika and Sautner (2020) document how firms reduced investments when managers were allowed to exercise options earlier due to a change in accounting rules. Similarly, myopic management might not engage in political activism as needed to curtail the costs of regulatory violations, rather viewing such costs as a normal part of business as per Linzey (1995) and Henning (2012). Such an attitude would be amplified by a contract that rewards short-termism. Bolton et al. (2006) propose that stock-based compensation encourages a short-term inclination among

executives. As such, short termism is operationalized as the share of equity-based compensation (stock and options) out of an executive's total pay. Equity-based compensation data is obtained from Compustat's Execucomp dataset.

Another implication is that the governance mechanism in place guides, or limits, management's behavior. In cases where lobbying is an adequate solution to the cost of regulatory penalties, strong governance practices would make it possible for the firm to follow suit. Rosenstein and Wyatt (1990) posit that independent boards are conducive towards value-enhancing behavior on behalf of investors. Indeed, board independence is generally recognized as an effective way to elicit prudent and effective managerial performance (Petra, 2005; Cornett et al., 2009; Panda and Leepsa, 2017). Thus, the strength of the relationship between lobbying and criminality is assessed vis-à-vis heterogeneity in board independence. Board independence data is sourced from Institutional Shareholder Services' Directors file.

In situations where agency conflict prevails, a different vector could work to preclude wasteful lobbying expenditures arising from regulatory fines. Jensen (1986) theorizes that debt imparts discipline upon management by restraining wasteful spending. It follows from Jensen's contribution that political activism, if unwarranted in the face of regulatory penalties, would be curbed by the obligation to distribute excess cash flow to creditors. A firm's debt is measured as the ratio of debt to equity.

All the variables in the study have been winsorized at the extreme 1% of their distributions each year. In addition, the sample includes only those firm-years in which the CEO has served for more than one year to allow for the length of time necessary to affect corporate policy and for stock and option grants to vest. Table 2.1 lists the variables

of interest in the study. Table 2.2 shows the corresponding descriptive statistics and Spearman correlations.

Table 2.1: Variables of interest in the analysis

Variable	Type	Operationalization	Hypothesis	Expected Relationship	Theory	Channel Type
Lobbying	Dependent variable	Natural logarithm of one plus annual lobbying expenditures	NA	NA	NA	NA
Penalties	Independent variable	Natural logarithm of one plus total annual value of regulatory penalties	H1	Positive	Stewardship or Agency	NA
Profitability	Channel	Return on assets	H2	Positive	Stewardship	Incentive
Idiosyncratic volatility	Channel	Annual average standard error from rolling window regressions of stock returns per the Fama-French-Carhart model	H2	Negative	Stewardship	Incentive
Board Independence	Channel	Share of outside board members	H3	Positive	Stewardship	Governance
Leverage	Channel	Debt-to-equity ratio	H4	Negative	Agency	Governance
Stock-based compensation	Channel	Share of total compensation from stock and option grants	H5	Positive	Agency	Incentive

This table lists the dependent variable, independent variable, and channels for the proposed relationship explored in this study. All channel variables are interacted with the independent variable throughout the tests, so the corresponding expected relationship refers to the hypothesized sign of the interaction.

Hypothesis 1 is tested using a fixed effects estimator in which lobbying expenditures are regressed on the lagged value of total regulatory penalties, while controlling for firm size, intangibility, and indicators for the year following transitions at the White House and the House of Representatives. The fixed effects correspond to two-digit standard industry classification codes to account for unobserved factors affecting lobbying expenditures at the industry level. In addition, standard errors are clustered at the firm level to attempt to address the unobserved heterogeneity driven by the myriad of firm level characteristics that may drive political activism (e.g., CEO political affiliation). The following relation displays the specification used to test H1.

$$Lobbying_{i,j,t+1}$$

$$= \alpha + \beta_1 Penalty_{i,t} + \beta_2 Size_{i,t} + \beta_3 Intangibility_{i,t} + \beta_4 President_t + \beta_5 House_t + \sum_j \beta_j \mathbb{I}_j + \varepsilon_{i,t+1}$$

The coefficient of interest with respect to H1 is β_1, which corresponds to the conditional relationship between the value of total regulatory violations at time *t* and ensuing lobbying expenditures. A positive and significant β_1 coefficient is expected if H1 is to be supported by the data. The dependent variable, lobbying, denotes such expenditures for the i^{th} firm in industry *j*. The β_j are coefficients attached to industry dummy variables.

For robustness, year fixed effects are added in a variation of the specification above. The inclusion of year fixed effects allows for some measure of control regarding omitted time-varying determinants of lobbying, at the expense of controls for political power shifts. In another variation of the original specification, additional control variables are entered along with year and CEO-firm level fixed effects.

Lobbying expenses are known to be serially correlated (de Figuereido and Richter, 2014). Even though the inclusion of year fixed effects may control for such a correlation, the Arellano-Bover (1995)/Blundell-Bond (1998) two-step estimator is also implemented in a specification that controls for firm size and tangibility, treats the cost of violations as endogenous, and uses robust standard errors (Windmeijer, 2005).

Out of concern for self-selection of firms that commit regulatory transgressions, a Heckman (1979) two-step selection model of lobbying expenses is undertaken in which the regressors are lagged penalties, size, and tangibility. In addition, the Heckman model

incorporates year and industry fixed effects. Consistent with the literature noted above, the incidence of regulatory violations in the first step is modeled from a firm's board size, board independence, share of women in the board, Tobin's Q, leverage ratio, firm age, CEO age, and value of options held by the CEO.[15]

Table 2.2: Summary statistics and correlations

Panel A: Descriptive Statistics

Variable	Mean	Standard Deviation	5th Percentile	95th Percentile	Observations
Lobbying	1.639	1.643	1.000	10.597	101,918
Penalty	1.012	1.989	0.000	10.769	101,918
Return on assets	-0.058	0.184	-0.594	0.155	92,083
Idiosyncratic volatility	0.119	0.011	0.037	0.249	50,904
Board independence	0.737	0.097	0.444	0.909	23,706
Leverage	0.871	1.726	0.000	3.958	91,836
Stock-based compensation	0.534	0.327	0.000	1.043	21,205
Size	5.948	0.670	2.654	9.715	101,686
Intangibility	0.775	0.065	0.223	0.996	89,207
CEO overconfidence	0.299	0.199	0.000	0.772	25,896
CEO power	0.010	0.871	-2.037	1.498	21,465
CEO age	4.034	0.078	3.829	4.234	21,611

Panel B: Spearman Correlations

		2	3	4	5	6	7	8	9	10	11	12
1	Lobbying	0.23	0.10	-0.10	0.16	0.08	0.16	0.36	-0.07	0.02	0.06	0.01
2	Penalty		0.03	-0.31	0.18	0.18	0.12	0.42	-0.17	0.02	0.03	0.05
3	Return on assets			-0.04	-0.01	-0.30	0.03	0.29	-0.11	0.41	0.05	-0.02
4	Idiosyncratic volatility				-0.26	-0.35	-0.03	-0.45	0.01	0.05	-0.01	-0.10
5	Board independence					0.18	0.23	0.27	-0.03	-0.03	0.06	0.01
6	Leverage						0.07	0.22	-0.10	-0.09	0.03	0.04
7	Stock-based compensation							0.36	-0.03	0.02	0.01	-0.07
8	Size								-0.05	0.24	0.10	0.05
9	Intangibility									-0.02	0.01	-0.05
10	CEO overconfidence										0.08	0.02
11	CEO power											0.38
12	CEO age											1.00

This table shows the summary statistics (Panel A) and Spearman correlations (Panel B) for an unabalanced panel of publicly traded firms between 2000 and 2016. Lobbying, Penalty, Size, and CEO age have been transformed using the natural logarithm of one plus the corresponding value. Standard errors are shown for within groups.

[15] All such variables have been winsorized at 99% each year. Board size, firm age, CEO age, and CEO options have been subjected to a logarithmic transformation.

Yet another robustness test employed is a two-stage least squares (2SLS) regression in which the cost of corporate violations is instrumented by contracting outlays from the United States Department of Justice (DOJ) for services performed in the same zip code as a corporation's headquarters. Data for DOJ contracting obligations is available starting in 2008 and found through the United States Department of the Treasury. Said data has been winsorized at 99% on an annual basis.

The adequacy of a 2SLS procedure relies on the proposed instrument meeting relevance and exclusion criterions. As much or the regulatory framework is enforced at the federal level, it stands to reason that a local increase in criminality results in greater prosecutorial action on the part of the DOJ. A rise in such activity is likely to intensify the demand for contracting labor on the part of said agency. To the extent that corporate regulatory breaches require additional resources from the DOJ, variations in that agency's contracting outlays account for some of the variation in corporate fines. Thus, the relevance criterion is conceptually sound.

The exclusion criterion is maintained through the assertion that DOJ contracting activity cannot affect corporate lobbying in any way that is not through the incidence of punitive measures against firms. It is unfathomable to think how DOJ action could significantly affect the size or asset tangibility of a publicly traded firm. Enforcement action could be affected by political bias, thus negating the exclusivity of the instrument. However, the evidence to support such a notion is mixed and at best inconclusive. On one hand, Gordon (2009) finds evidence of political bias among Federal prosecutors in matters of public corruption. On the other hand, Engstrom (2013) does not encounter empirical support for political bias on the part of the DOJ when it comes to false claim litigation.

Among the determinants of DOJ action in false claims cases, Engstrom notes the role that corporate power plays in the decision to prosecute. If lobbying reflects corporate power, then Engstrom's argument strengthens the case of DOJ contracting activity as an instrument for lobbying. In any case, there is a dearth of evidence that would link said activity to lobbying through any alternative channels. Therefore, it appears that the proposed instrument fulfills the exogeneity criterion.

In addition to the main specification and the various models used to ascertain the validity of H1, similar tests are carried out to exploit the richness of the corporate violations data. For example, the data denotes whether penalties belong to broad offense categories, the level of government at which prosecution takes place, whether the regulatory action occurred through an agency or private litigation, and whether enforcement was civil or criminal in nature. Thus, instead of examining the general effect of penalties, one may focus on totals by offense category, level of government, action type, and enforcement kind. The original specification noted above is also modified to include year fixed effects, while keeping firm size and asset tangibility as controls, and continuing to use errors centered at the firm level. The following equation portrays the specification used to test H1 using penalty type totals as opposed to the aggregate value of all penalties.

$$Lobbying_{\,i,j,t+1} = \alpha + \beta_1 X_{i,t} + \beta_2 Size_{i,t} + \beta_3 Intangibility_{i,t} + \sum_t \beta_t \mathbb{I}_t + \sum_j \beta_j \mathbb{I}_j + \varepsilon_{i,t+1}$$

In the equation above, the independent variable, $X_{i,t}$, is the sum of lobbying penalties of a certain type (offense group, government level, action type, or enforcement

type) for firm *i* at time *t*. The β_j and β_t are coefficients for industry and time dummies, respectively. Instances in which β_1 is significant are an indication that the proposed relationship is evident for the corresponding penalty category.

The proposed channels by which the conditional relationship between lobbying and regulatory penalties is actualized are tested through the inclusion of interaction terms into a regression that features year and industry fixed effects, as well as standard errors clustered at the firm level. The equation below shows the specification used for testing purported channels.

$$Lobbying_{i,j,t+1} = \alpha + \beta_1 Channel_{i,t} \times Penalty_{i,t} + \beta_2 Size_{i,t} + \beta_3 Intangibility_{i,t} + \beta_4 Channel_{i,t} + \beta_5 Penalty_{i,t} + \sum_t \beta_t \mathbb{I}_t + \sum_j \beta_j \mathbb{I}_j + \varepsilon_{i,t+1}$$

In the equation above, Channel is any of the variables under such a designation in Table 2.1.[16] A significant β_1 coefficient of the appropriate sign per Table 2.1 amounts to evidence in support of the corresponding hypothesis.

2.4 Results

The findings related to H1 are found in Table 2.3. The specification in column 1 controls for firm-level characteristics and key transitions of political power, while incorporating industry fixed effects and clustering standard errors about firm

[16] The careful reader might wonder of the results if other control variables, such as CEO age were to be included in the specification. However, an examination of Table 2.2 suggests that including additional control variables would drastically reduce the number of observations available for the regression. Another concern could be about the inclusion of year fixed effects in lieu of indicators for major transitions of power. The use of the former helps with the omitted variable bias problem for time-varying factors, including transitions of power.

heterogeneity. Column 2 presents an alternative specification in which indicators denoting shifts in political control have been replaced by year fixed effects. Column 3 retains year fixed effects while attempting to control for several managerial characteristics and implementing CEO-firm fixed effects (at the expense of industry dummies and firm-level clustering of standard errors). Regardless of the specification, the coefficient for the natural logarithm of the total cost of regulatory violations is positive and statistically significant at least at 95% confidence.

Table 2.3: The relationship between lobbying expenditures and corporate criminality

	1	2	3
Penalty	0.140***	0.140***	0.015*
	(0.012)	(0.012)	(0.007)
Size	0.338***	0.344***	0.350***
	(0.016)	(0.017)	(0.072)
Intangibility	0.108	0.126	-0.562
	(0.133)	(0.133)	(0.600)
President	0.070***		
	(0.019)		
House	0.026		
	(0.024)		
CEO overconfidence			-0.527**
			(0.161)
CEO power			0.044
			(0.85)
CEO age			-1.312
			(2.885)
Industry fixed effects	Yes	Yes	No
Year fixed effects	No	Yes	Yes
CEO-company fixed effects	No	No	Yes
Clustered standard errors at firm level	Yes	Yes	No
R-squared (within groups)	0.122	0.151	0.765
Observations	80,162	80,162	15,378

This table displays the results of various regressions of lobbying expenditures on total of regulatory fines for an unbalanced panel of firms between 2000 and 2016. Only firms with a CEO whose tenure is more than one year are included in the sample. Values in parenthesis are standard errors clustered at the firm level. †, *, **, and *** imply significance levels of 0.1, 0.05, 0.01, and 0.001, respectively.

The findings pertaining to the variable of interest in columns 1 and 2 of Table 2.3 are qualitatively equivalent to each other. The implication of such results is that year fixed effects are capable of accounting for transitions of political power while also helping to

control for unobserved time-varying factors such as those noted by Simpson (1987) and McKendall and Wagner (1997). That is why, moving forward, the use of year fixed effects becomes the preferred empirical approach. According to the coefficients observed in column 2, a 1% increase in the value of regulatory sanctions elicits an increase in lobbying outlays of approximately 14% during the following year ($b = 0.14$, $t = 11.73$, $p < 0.001$).

Column 3 is the most stringent test of H1 in terms of specification, particularly because of the profusion of fixed effects that track combinations of CEOs and companies.[17] Moreover, there is a marked improvement in predictive power compared to the other two models, as the coefficient of determination goes from 15% in column 2 to 77% in column 3. Column 3 reports that a 1% increase in penalties implies an increase in lobbying of approximately 2% ($b = 0.01$, $t = 2.08$, $p < 0.05$). However, the addition of specific CEO characteristics into the regression bears a heavy toll, as the sample size declines by more than 80% due to the preponderance of missing data.

All in all, there is consistent evidence across different specifications in support of the assertion that lobbying activity increases with the lagged cost of regulatory violations (i.e., H1). The specification in column 3, though useful in assessing H1, is onerous due to the reduction in sample size. Hence, the specification in column 2, with year and industry fixed effects as well as firm-level clustered standard errors, is implemented in robustness tests, the assessment of proposed channels, and other procedures that follow.

The robustness of the primary findings is established through a two-step system GMM estimator, found in column 1 of Table 2.4, a two-step Heckman selection model,

[17] The regression employed 2,826 chief executive-firm dummy variables.

seen in columns 2 and 3, and an instrumental variables procedure in columns 4 and 5. The findings from the GMM estimation, which instruments penalties by their lag, confirm the conclusions drawn from the fixed effects estimators observed in Table 2.3 in terms of both the significance and magnitude of the regulatory penalty coefficient. According to said procedure, lobbying increases by roughly 16% following a 1% increase in the value of regulatory fines ($b = 0.16$, $z = 6.08$, $p < 0.001$). The result is noteworthy because the coefficients for size ($b = -0.00$, $z = -0.15$, $p > 0.1$) and intangibility ($b = 0.07$, $z = 0.56$, $p > 0.1$) are not significant in the presence of the lobbying lag ($b = 0.63$, $z = 29.40$, $p < 0.001$).

The Heckman model's outcomes, which avail themselves of year and industry fixed effects in the second step, also endorse H1. Column 2 in Table 2.4 implies that lobbying increases by 17% following a 1% increase in regulatory violations ($b = 0.17$, $z = 4.44$, $p < 0.001$). The first step, in display in column 3 of Table 2.4, is quite effective at predicting the incidence of a regulatory breach, as all the independent variables in that regression are significant at 99% confidence at minimum. The results of the Heckman selection model are of critical importance in fomenting the evidence for hypothesis 1 because of the possible self-selection bias among firms that are likely to commit a violation. Such a bias would affect estimates regardless of the choice to replace missing values in the penalty variable with zeroes. Therefore, the robustness tests employed herein validate the key results observed earlier in Table 2.3.

The results from the 2SLS procedure are also supportive of the primary findings. The test's first stage, found in column 5 of Table 2.4, shows that the instrument, DOJ contracting obligations in the same zip code as a firm's headquarters, is a significant predictor of regulatory penalties in the presence of other control variables ($b = 1.06 \times 10^{-6}$,

t = 2.65, p < 0.01). Therefore, the relevance criterion is empirically justified. Critically, the figures in column 4 (i.e., the procedure's second stage) reveal that the instrumented form of regulatory violations significantly accounts for part of the variation in lobbying (b = 0.782, t = 2.11, p < 0.05). The critical implication from the 2SLS test is that there is a causal relationship by which corporate violations induce an increase in subsequent lobbying intensity.

Table 2.4: Robustness tests for the relationship between lobbying and corporate violations

	1	2	3	4	5
Penalty	0.164***	0.171***		0.782*	
	(0.027)	(0.038)		(0.371)	
Size	-0.001	1.379***		-0.059	0.739***
	(0.010)	(0.084)		(0.276)	(0.32)
Intangibility	0.068	-3.053***		0.672*	-0.445
	(0.121)	(0.723)		(0.308)	(0.276)
Lobbying lag	0.635***				
	(0.022)				
Lambda		-0.886*			
		(0.354)			
DOJ contracting outlays					1.06×10^{-6}***
					(4.02×10^{-7})
Board size			1.224***		
			(0.064)		
Board independence			0.480***		
			(0.118)		
Share of women in board			0.346**		
			(0.130)		
Tobin's Q			-0.024**		
			(0.007)		
Leverage			0.269***		
			(0.069)		
Firm age			0.276***		
			(0.019)		
CEO age			0.376***		
			(0.107)		
CEO options			0.035***		
			(0.003)		
Year fixed effects	No	Yes	No	Yes	Yes
Industry fixed effects	No	Yes	No	Yes	Yes
Observations	80,141	13,348	13,348	20,701	20,701

This table presents the results of lobbying estimations conditioned on the direct costs of corporate violations. Column 1 shows an Arellano-Bover/Blundell-Bond two-step estimation with robust standard errors (Windmeijer, 2005). Columns 2 and 3 display the outcomes of a Heckman two-step selection procedure. Columns 4 and 5 depict the first and second steps of an instrumental variable procedure, respectively. Values in parenthesis are standard errors. †, *, **, and *** imply significance levels of 0.1, 0.05, 0.01, and 0.001, respectively.

The following set of results, available in Table 2.5, come from the preferred specification for lobbying expenditures while supplanting total penalties levied against a firm for penalties that are specific to several categories. In panel A of Table 2.5, the independent variables in each regression are the total penalties for a given offense type. The results imply that the relationship between lobbying and corporate criminality is strongest for transgressions related to employment ($b = 0.08$, $t = 4.97$, $p < 0.001$) and environmental ($b = 0.05$, $t = 2.44$, $p < 0.05$) law. The figures suggest that lobbying increases by 8% and 5% when violations related to employment and environmental regulation increase by 1%, respectively. Panel B reports figures for penalty values adhering to various features of enforcement. The findings suggest that regulatory penalties prompt the most lobbying when enforcement action takes place at the federal level ($b = 0.08$, $t = 3.87$, $p < 0.001$). In addition, such a relationship manifests itself equally regardless of whether the penalty ensues from agency action ($b = 0.09$, $t = 3.57$, $p < 0.001$) or private litigation ($b = 0.06$, $t = 3.32$, $p < 0.01$). Furthermore, the magnitude of the relationship expressed through the coefficient of agency-driven enforcement is comparable to that of litigation-driven penalties ($\chi^2 = 1.52$, $p > 0.1$). Lastly, increases in political activism occur in response to civil penalties ($b = 0.15$, $t = 4.44$, $p < 0.001$) more so than from criminal prosecution ($b = 0.01$, $t = 0.31$, $p > 0.1$). Thus, one may generalize that lobbying increases because of enforcement action at the federal level, or from violations that tend to be charged under civil rather than criminal law.

The analysis of the proposed channels for the effect of violations upon lobbying is presented in Table 2.6. Column 1 in said table examines the relationship at hand in the

Table 2.5: Relationship between lobbying and various forms of corporate criminality

Panel A: Offense Groups

	Competition	Consumer Protection	Employment	Environment	Financial	Government Contracting	Healthcare	Safety
Penalty	-0.028	0.026	0.077***	0.045*	-0.015	0.048	0.110	0.030
	(0.025)	(0.029)	(0.016)	(0.019)	(0.022)	(0.036)	(0.077)	(0.020)
Size	1.092***	1.079***	1.043***	1.066***	1.089***	1.070***	1.078***	1.075***
	(0.083)	(0.084)	(0.082)	(0.083)	(0.084)	(0.082)	(0.083)	(0.084)
Intangibility	-0.575	-0.603	-0.673	-0.413	-0.582	-0.0652	-0.654	-0.555
	(0.934)	(0.936)	(0.929)	(0.932)	(0.938)	(0.933)	(0.934)	(0.937)
R-squared (within groups)	0.111	0.111	0.117	0.113	0.111	0.112	0.112	0.111

Panel B: Level of Government, Action Type, and Enforcement Type

	Federal	Local	State	Agency	Private Litigation	Civil	Civil & Criminal	Criminal
Penalty	0.080***	0.023	0.033	0.094***	0.056**	0.150***	-0.104	0.010
	(0.021)	(0.058)	(0.022)	(0.026)	(0.017)	(0.039)	(0.121)	(0.032)
Size	1.034***	1.084***	1.066***	1.018***	1.065***	0.979***	1.086***	1.084***
	(0.083)	(0.083)	(0.082)	(0.083)	(0.083)	(0.082)	(0.083)	(0.084)
Intangibility	-0.485	-0.596	-0.649	-0.527	-0.627	-0.533	-0.584	-0.599
	(0.936)	(0.936)	(0.931)	(0.936)	(0.932)	(0.930)	(0.935)	(0.936)
R-squared (within groups)	0.115	0.111	0.112	0.115	0.113	0.118	0.111	0.111

This table shows regressions of lobbying on penalties assessed for specific types of transgressions. All regressions feature year and industry fixed effects. Values in parenthesis are standard errors clustered at the firm level. †, *, **, and *** imply significance levels of 0.1, 0.05, 0.01, and 0.001, respectively.

context of increasing profitability. The interaction coefficient between return on assets and penalties is positive and statistically significant ($b = 0.32$, $t = 3.36$, $p < 0.01$). Therefore, firms that are both highly profitable and experiencing highly monetary sanctions tend to increase their subsequent lobbying expenditures. Such a result is consistent with stewardship theory in that operational success raises the stakes of engaging in political activism. That is, a successful firm could ill afford to forgo the opportunity of affecting regulatory policy lest it sacrifice its competitive advantage.

Table 2.6: Channels for the relationship between lobbying and corporate violations

	1	2	3	4	5
Return on assets*Penalty	0.325**				
	(0.096)				
Idiosyncratic volatility*Penalty		-1.225***			
		(0.311)			
Board independence*Penalty			0.175*		
			(0.080)		
Leverage*Penalty				-0.007*	
				(0.003)	
Stock-based compensation*Penalty					0.051*
					(0.023)
Penalty	0.127***	0.243***	-0.065	0.150***	0.047**
	(0.012)	(0.035)	(0.062)	(0.013)	(0.018)
Size	0.338***	0.456***	1.084***	0.344***	1.043***
	(0.017)	(0.026)	(0.060)	(0.017)	(0.052)
Intangibility	0.129	0.219	-0.599	0.134	-0.437
	(0.133)	(0.261)	(0.558)	(0.133)	(0.499)
Return on assets	0.106**				
	(0.040)				
Idiosyncratic volatility		-1.787**			
		(0.610)			
Board Independence			1.204**		
			(0.413)		
Leverage				0.003	
				(0.005)	
Stock-based compensation					-0.136
					(0.098)
R-squared (within groups)	0.121	0.154	0.140	0.121	0.160
Observations	80,067	38,260	18,747	79,834	15,654

This table shows the tests of the proposed channels through which regulatory violations affect subsequent lobbying expenditures for an unbalanced panel of firms with CEOs with more than a year of service between 2000 and 2016. The regressions include firm and year fixed effects. Figures in parenthesis are standard errors clustered at the firm level. †, *, **, and *** imply significance levels of 0.1, 0.05, 0.01, and 0.001, respectively.

In column 2 of Table 2.6, the conditional impact of penalties on lobbying is assessed as asymmetric information increases. The interaction between idiosyncratic volatility and the cost of criminality is negative and significant ($b = -1.23$, $t = -3.94$, $p < 0.001$). Said interaction coefficient signifies that management is deterred from lobbying if it is difficult to convey to investors that corporate decisions are made with their best interests in mind. Such a stance is also consistent with the stewardship view of management in that corporate policy seeks to maximize shareholder value. Since incremental lobbying expenditures could be construed as wasteful and potentially chastised in equity markets, dutiful management would refrain from such activities and seek more efficient ways to respond to penalties (which may include doing nothing and internalizing sanctions as the cost of doing business). As such, a firm's degree of information asymmetry is a disincentive for lobbying as a reaction to regulatory liability. The combined findings from columns 1 and 2 of Table 2.6 support H2 since they demonstrate the conditions that induce or hinder corporate political activism in a manner that is in line with stewardship theory.

The role of corporate governance as a conduit for the relationship explored in this study is evaluated in column 3 of Table 2.6. The coefficient corresponding to the interaction between penalties and board independence is positive and significant ($b = 0.18$, $t = 2.19$, $p < 0.01$). In the advent of increasing costs of regulatory oversight, those firms that have a more independent board tend to spend more money in lobbying during the following year. As board independence is generally taken as a positive governance practice (e.g., Rosenstein and Wyatt, 1990; Petra, 2005; Cornett et al., 2009; Panda and Leepsa,

2017), the interpretation offered for such a contingent relationship is that lobbying expenditures under such circumstances conform with stewardship theory. The result implies that with suitable monitoring and advice, management may be able to properly address a regulatory impasse. Hence, H3 appears to be supported by the evidence.

Thus far the analysis of purported channels lends support to the stewardship view. However, there is evidence suggesting that lobbying expenditures ensuing from corporate violations could be spurred by perverse motivations, as predicted by agency conflict theory. For example, column 4 in Table 2.6 examines the moderating influence that debt brings into the relationship at hand. The interaction between firm leverage and penalties bears a suppressing effect on subsequent lobbying outlays ($b = -0.01$, $t = -2.52$, $p < 0.05$). Such a reduction is reminiscent of Jensen's (1986) seminal argument on how debt obligations prevent unwarranted empire building that comes from sequestering free cash flows from investors. A similar case could be made based on an adjacent form of political activism, political donations. Aggarwal et al. (2017) note how those firms with a high level of political contributions exhibit features that are consistent with the agency costs of free cash flow. For instance, donating firms also tend to engage in more mergers and acquisitions, and experience lower cumulative abnormal returns upon announcement of consolidation activities. The role of leverage in quelling lobbying activity following regulatory breaches suggests that it may be a fitting substitute for effective governance structures. For that to be the case, certain lobbying activities must arise from dubious purposes in the first place. The moderating role of debt amounts to evidence for H4.

Another channel that connotes the presence of agency conflict is the inclination that management has towards short-termism. The interaction coefficient in column 5 of Table

2.6 reveals that those firms which offer a greater share of equity compensation to their chief executive tend to increase their lobbying activity after regulatory penalties are levied ($b = 0.05$, $t = 2.18$, $p < 0.05$). Stock-based compensation is known to emphasize short-term performance at the expense of policies that would enhance enduring investor wealth (Bolton et al., 2006). Acting in such manner is contrary to the interests of a firm's ownership, and therefore indicative of an agency conflict. Thus, H5 seems to be validated through the findings corresponding to stock-based compensation of executives. Both the findings from columns 4 and 5 in Table 2.6 suggest that at times lobbying may not be an adequate solution to regulatory malfeasance and could instead be prompted by nefarious purposes that expropriate a company's investors.

2.5 Conclusion

Even though scholars have extensively studied corporate criminality and lobbying activity, there is a dearth of analysis linking those two issues. Snider (1987) provides a conceptual framework grounded in political economy that addresses the motivations driving firms towards illegality. A question that flows naturally from such analysis is how a firm could assert political influence when confronted with the consequences of government oversight. This article contributes to the extant literature by highlighting the effect that corporate criminality bears upon political activism. Furthermore, the analysis uncovers the empirical regularities and channels associated with such a relationship.

An increase in the cost of regulatory transgressions by 1% in one year tends to lead towards an increase in lobbying expenditures of 14% on the following year. Such a result is resilient to the choice of model specification and is verified by a system GMM estimator as well as a Heckman selection procedure, which address serial correlation and self-

selection bias, respectively. Moreover, a 2SLS procedure suggests that the influence of regulatory violations is causal in nature. The observed relationship is most evident when it comes to violations involving employment and environmental regulations. Also, companies tend to lobby more aggressively in response to regulatory penalties when they occur because of civil action or are pursued at the federal level. The response to monetary sanctions in terms of political activism is similar between agency action and court proceedings.

There is an ongoing scholarly debate as to whether corporate lobbying is congruent with profit maximization. This study takes a novel stance on the issue by arguing that the value of corporate political activism is circumstantial. The evidence suggests that there are instances where lobbying as a remedy to regulatory costs is impelled by long-term, value-maximizing ambitions, and at times it flows from the desire to take advantage of shareholders.

Several facts suggest that stewardship theory applies to lobbying expenditures under certain conditions. When a highly profitable firm experiences increasing penalties, lobbying expenditures increase. Such a response implies that management is unwilling to cede its operational advantage in the face of regulatory control. Also, a firm characterized by high idiosyncratic volatility and penalties tends to spend less on lobbying. Idiosyncratic volatility is taken to construe information asymmetry (Dennis and Strickland, 2004; Gider and Westheide, 2016; Yang et al., 2020), and the result is revealing of an unwillingness on the part of a penalized firm to lobby if investors might misinterpret such a signal. The pattern of evidence suggests that there are incentives and impediments for utilizing lobbying in a manner that benefits shareholders.

Governance structures also moderate the effect of violations on lobbying. Firms with a highly independent board tend to lobby more when subjected to increasing penalties. Independent boards are effective at supervising and advising executives (Rosenstein and Wyatt, 1990; Petra, 2005; Cornett et al., 2009; Panda and Leepsa, 2017). Consistent with stewardship theory, an increase in lobbying among firms with an independent board and increasing penalties is suggestive of an appropriate response prompted by, or with the consent of, a vigilant board.

It is in the use of debt that the existence of agency conflict is revealed in the lobbying-penalty relationship. When a firm with a high debt-to-equity ratio is confronted with monetary sanctions, lobbying decreases in the following year. Debt disgorges free cash flows from management, precluding expenditures towards superfluous projects (Jensen, 1986; Panda and Leepsa, 2017). Therefore, the suppressing influence of debt upon lobbying in the context of increasing regulatory burden can best be explained by a latent tension between management and ownership. The moderating impact of debt amounts to a quasi-governance mechanism in that it achieves the same purpose as an independent board (i.e., to elicit the appropriate level of lobbying expenditures in dealing with regulatory penalties) without the need for such a structure.

Another result that connotes agency theory is the lobbying response that penalized firms exhibit when much of an executive's pay depends on the stock price. Such firms tend to increase their lobbying as the share of the chief executive's equity-based compensation increases. Bolton et al. (2006) decry how stock-based compensation imparts a short-term inclination upon managers. The disposition towards quick gains is anathema to long-term shareholder wealth and agreeable with agency theory.

This article brings to question the notion that corporate political activism, from the perspective of shareholders, is incontrovertibly good or bad. Researchers assess the virtue of lobbying as though it was some immutable asset that either yields benefit per stewardship theory or usurps rents as per agency theory. Yet the evidence herein leads to the conclusion that the motivation for lobbying, at least regarding regulatory penalties, is contextual.

It is worth reiterating the point made in the first essay of this dissertation, that it takes a long time to persuade the polity. Snider (1987) posits that corporations at first resist new regulation, only for the leading firms in an industry to eventually join the calls for better oversight. Snider, alluding to the inevitability of the Marxist perspective on regulation, also points out that, apart from watershed calamities that instigate far-reaching reforms, regulatory agencies are eventually absorbed by the industry that they supervise. If the goal of lobbying is to subvert public policy for the benefit of the corporation, how could one judge the merits of corporate political activism given such a lengthy regulatory life cycle? None of the research, including the present study, accounts for an industry's position in that cycle. This paper proposes an alternative, which is to gauge the impetus of corporate lobbying by considering the milieu in which it takes place. That is, investors, policymakers, and scholars ought to pay attention to a firm's operational performance, information asymmetry, governance structure, capital structure, and executive compensation when judging whether lobbying is truly done on behalf of ownership.

CHAPTER 3: EXTERNALITIES OF CORPORATE POLITICAL ACTIVISM: GREENHOUSE GAS EMISSIONS ABROAD

3.1 Introduction

The framework set forth by the Paris Agreement operates at the country level. Although the Agreement addresses national disparities in technology (Savaresi, 2016), it errs in making a crucial assumption that all signatories have the same capability to negotiate their own political and economic landscapes. There is a growing consensus that many countries are falling behind their commitments to curb greenhouse gas (GHG) emissions.[18] One reason for the tepid response to climate change could be the influence of private economic interests upon regulatory agencies. Yet as economic agents raise their concerns over the stance of public policy regarding emissions, some may opt to undertake operations in an alternative setting that is more congenial to their environmental performance.

The motivation for this essay comes from the interpretation of the environmental Kuznets curve (EKC), which proposes a concave relationship between GHG emissions and economic development (Stern, 2004). While the traditional view is that the shift towards services and away from agriculture and manufacturing in developed economies accounts for said concavity, an alternative interpretation is that corporations shift their emissions to less developed countries (Arrow et al., 1995). It is the latter explanation that insinuates the present work. While many scholars, legislators, and practitioners[19] lump environmental

[18] See, for example, reporting from Bloomberg, National Geographic, The New York Times, and The Washington Post.

[19] See for example Chapter 607 of The 2020 Florida Statutes.

performance and social conscientiousness into a wholistic construct for the firm, this essay addresses only environmental performance in countries other than the United States. Moreover, when environmental performance is addressed, the literature tends to operationalize it qualitatively through survey items, participation in sustainability initiatives from the United Nations, or arbitrary ratings such as the KLD index. Thus, this is the only study to examine extraterritorial GHG emissions while linking them to lobbying in the United States.

The study encompasses firms that report their own emissions between 2006 and 2016 through the nonprofit CDP. Lobbying data from the Center for Responsive Politics supplements GHG emissions figures for the same period, resulting in a panel that links corporate political activism to environmental performance. The outcome of the analysis indicates that those firms that engage in lobbying in the United States concurrently emit 65% more GHGs in other countries. The result is robust to the inclusion of U.S. GHG emissions into the model and is validated through the response of the dependent variable to an exogenous shock to lobbying through the defeat of the Waxman-Markey bill of 2009.

Furthermore, the increase in emissions gravitates towards countries that are in political distress or that have an expectation of weak economic growth. The tenor of the political ideology surrounding the firm also plays a role in the decision to emit GHGs outside of the United States. Those firms engaged in lobbying that are headquartered in a state won by a Republican in key presidential elections tend have more than double the volume of offshore emissions.

The channels for the U.S. lobbying-foreign emissions relationship reveal the economic drivers for corporate decisions. One such moderator is firm value, which

expounds upon the relevance of the Porter hypothesis (Porter and van der Linde, 1996). Specifically, emissions abroad decrease among firms that lobby in the U.S. when their value, characterized by Tobin's Q, increases. Another intermediating variable reflects on how stakeholder-agency theory (Hill and Jones, 1992) shapes corporate decisions. Utilizing the asset utilization ratio as a measure of discord between management and society (Jelinek and Stuerke, 2009), there is evidence that offshore emissions decline among lobbying companies when agency costs with respect to society decline. Yet another channel manifests itself through the composition of managerial compensation. Firms that are active in political advocacy emit more GHGs outside of the U.S. as the share of executive compensation accounted for by incentive pay (i.e., bonus, stock-, and option-based compensation) increases. The heterogeneity related to incentive compensation raises arguments as in Barber et al. (1996) that such a form of payment causes executives to fervently seek new growth opportunities. Lastly, total compensation exposes a social capital channel in which the foreign emissions of lobbying companies decline with executive wealth. Stanwick and Stanwick (2001) detail how a positive environmental reputation is conducive to higher compensation for management, while Miles and Covin (2000) show how said reputation gives a firm a marketing and performance gain.

The remainder of this article is organized as follows. Section 2 briefly discusses relevant literature and formulates hypotheses. Section 3 describes the data and methods used in the analysis. Section 4 details the findings herein, and section 5 concludes.

3.2 Literature Review and Hypothesis Development

The environmental Kuznets curve posits that there is a concave relationship between pollutants, such as GHGs, and income (Stern, 2004; Disli et al., 2016). Stern's

summation of the relevant literature offers the conventional interpretation of such a relationship. That is, firms in a developed economy transition away from polluting activities as they take advantage of technological progress and enhancements in human capital. Moreover, a wealthier population favors environmental sustainability to improve its quality of life. Such shifts would drive demand for investments that lead to reductions in emissions after societal wealth is sufficiently high. Therefore, the traditional view on the EKC is that it reflects technological advances and changes in consumer demand prompted by a benchmark level of affluence.

Yet there is a more sardonic take on societal pollution (Stern, 2004; Arrow et al., 1995). Indeed, it may be true that preferences, along with environmental regulation, change with wealth. An alternative explanation for the concavity between pollution and wealth is that firms transfer their polluting activities to other countries through trade or foreign direct investment. Thus, the reduction in an economy's emissions following an inflection in wealth translates into a corresponding increase in a different economy. This paper explores the alternative perspective on the EKZ by considering how lobbying in the United States is related to GHG emissions elsewhere.

Colgan et al. (2021) envision how economic agents change their responses towards governmental action addressing climate change based on their exposure to global warming and its consequences. Both regulatory mitigation and the actual incidence of global warming affect the values of all assets in an economy. The wealth of economic agents and the incumbency of the political blocks that they support changes because of the reevaluation process. The wealth dynamics bear repercussions beyond a nation's economy and political system, giving rise to new global alignments and novel forms of economic

integration. Colgan et al.'s views amount to a conceptual framework in which it is possible for economic agents with exposure to regulation to react to mitigation through political activism while attempting to preserve their wealth by exporting their emissions.

Lobbying in response to governmental mitigation efforts is already a well-documented topic among scholars. For example, Brulle (2018) studies lobbying activity at the industry level, finding that fossil fuel, transportation, and utility companies pose the greatest impact upon climate change legislation. In addition, such activity varies based on the introduction of relevant legislation and the likelihood of it becoming law. Another example is how lobbying (by those with high exposure to governmental action) against the Waxman-Markey bill, considered to be the most comprehensive attempt at federal environmental action, overwhelmed the bill's supporters (Meng and Rode, 2019). Cory et al. (2020) present evidence suggesting that most opposition to climate change legislation comes from industries that do not encompass the highest direct emitters of GHGs. Instead, firms with carbon-intensive inputs and clients that are high emitters themselves spearhead the resistance to said legislation. Cory et al.'s conclusion, that supply chain linkages help explain corporate lobbying, is a compelling argument for the connection between corporate political activism in general and GHG emissions. Furthermore, if those supply chain relations are located abroad, then extraterritorial emissions should rise with lobbying intensity.

One may think that the link between GHG emissions and lobbying is only applicable when federal legislation is at stake. If that were the case, then the present study would be marginally relevant. Yet lobbying in response to environmental regulation need not be exclusively related to emissions legislation. Kono (2017) conducts a country-level

analysis of the relationship between carbon emissions and trade liberalization. There is evidence that protectionist policy regarding manufactured goods follows reductions in emissions. The key implication from Kono's contribution is that high-emissions industries lobby against trade liberalization in the wake of environmental policy. Also, government action goes beyond the signing of bills. The Executive branch of the U.S. government enforces standing legislation and directs bureaucracies on interpreting the law and drafting rules of enforcement. Thus, lobbying in response to environmental action, which is not merely about the passage of legislation, can incorporate multiple subjects in the public policy arena. It follows from Cory et al. and Kono's contributions that lobbying activity of any kind may be part of a strategic approach to ameliorate the cost of environmental oversight.

As such, the principal hypothesis investigated in this study takes note of the political economy framework proposed by Colgan et al. to gauge how corporate lobbying in the U.S. is associated with GHG emissions overseas. Cory et al.'s work suggests that supply chain linkages instigate such a relationship. Lobbying expenditures in the U.S. could be related to GHG emissions abroad to the extent that those linkages exist across borders. Kono's research implies that the complex drivers for corporate political activism require a comprehensive assessment of the proposed relationship, one that extends past environmental legislation. Under such considerations, the cynical view of the EKC as per Stern as well as Arrow et al. motivate the following hypothesis.

H1: Corporate lobbying expenditures in the United States are associated with increased GHG emissions abroad.

A question that flows naturally from H1 is whether there is any commonality among those countries in which GHG emissions increase because of lobbying in the United States. Research by Bose et al. (2021) provides guidance on the matter. The authors find that higher emissions increase the likelihood of a firm acquiring a foreign, rather than domestic, target. Crucially, target locations tend to have low GDP or weak environmental standards. Stern (2004) cites several articles presenting evidence that firms choose the site of their operations given the tenacity of local regulators. The following hypothesis statements serve to inquire upon the preference of location of emissions by lobbying firms.

H2a: Emissions outside of the U.S. from firms that lobby intensify as the political stability of a foreign country declines.

H2b: Emissions outside of the U.S. from firms that lobby intensify as the economic outlook of a foreign country worsens.

Another avenue of inference is feasible by acknowledging the major fractionalization in the political system of the United States with respect to climate change. O'Connor et al. (2003) report that Democrats are more receptive to governmental mitigation action. Dunlap and McCright (2015) expound upon how conservative leaders and Republican legislators express their skepticism towards climate change. Fowler and Kettler (2021) present evidence implying that toxic chemical releases are higher under Republican governors and when said party leads Congress. GHG emissions are likely to be greater for lobbying firms in places that embrace Republican political views because such emissions are tolerable among a conservative populous. Moreover, Unsal et al. (2016) find that firms under Republican managers tend to spend more in lobbying. Consequently, the following hypothesis is investigated.

H3: The association between lobbying in the U.S. and GHG emissions abroad is greater when a firm operates within a locality that agrees with Republican political ideology.

Yet another suitable line of inquiry is to discern the sources of heterogeneity for the effect predicted in H1. Uncovering such heterogeneity allows for an understanding of the economic channels by which the proposed relationship takes place. A salient issue pertains to the economics of GHG emissions. Hang et al. (2019) present a meta-analysis of the literature, revealing a contrast in firm performance between investment horizons as they relate to environmental performance. The authors conclude that environmental performance is conducive to improved operational performance, but only in the long term. Hang et al. ascribe the consensus finding as evidence in support of the Porter hypothesis (Porter 1991; Porter and van der Linde, 1995), which suggests that firms can benefit from environmental regulation because of the innovation that it triggers. Kim et al. (2021) encounter concurring evidence, noting that exposure to foreign markets with high environmental standards increases patent applications and long-run firm value. In a separate meta-analysis, Busch and Lewandowski (2017) also find an inverse relationship between carbon emissions and financial performance. Similarly, Delmas et al. (2015a) show how improving corporate environmental performance is associated with a decline in profitability but an increase in firm value. Jo and Harjoto (2011) also offer evidence in support of the Porter hypothesis by showing how firms that engage in corporate social responsibility (CSR) activities tend to have better valuations, as measured through industry-adjusted Tobin's Q. Evidence from financial markets also points to a link between emissions and firm value. Bolton and Kacperczyk (2020) document the presence of a

carbon emissions equity premium, while Seltzer et al. (2021) suggest that high emitters face steeper yield spreads, particularly when situated where there is greater environmental enforcement.

Extant research allows one to contextualize the Porter hypothesis and the empirical evidence supporting it in terms of corporate political activism. Critically, Delmas et al. (2015b) show that the link between lobbying and carbon emissions presents itself as a u-shaped relationship. While high emitters spend money to deter environmental legislation, low emitters lobby in support of it. An extension of Colgan et al.'s framework under the Porter hypothesis is that high-performing firms (i.e., those that are highly valued) have lower GHG emissions, and that their lobbying activity may be incidental to environmental policy. Indeed, Paul et al. (2017) find that firms lobby more aggressively with respect to environmental policy when they financially underperform. If anything, high-performing firms would welcome environmental regulation as another source of competitive advantage, one which would be costly for less successful competitors to imitate. Hence, firm value operates as an economic channel that moderates the relationship between lobbying in the U.S. and GHG emissions abroad. The following hypothesis serves to explore said channel.

H4: Firm value moderates the relationship between lobbying and GHG emissions, such that high-performing firms that engage in lobbying in the United States have lower emissions abroad.

Another prominent issue relates to the motivations by which lobbying firms would export their emissions. A theory often used by scholars to understand GHG emissions is that of stakeholder-agency theory, or stakeholder theory, for short (Hill and Jones, 1992).

Stakeholder theory is an extension of agency conflict theory (Jensen and Meckling, 1976) such that management trades off catering to a wider constituency (beyond that of shareholders) against its own interests. The evidence regarding stakeholder theory is like that of agency theory in the financial economics literature. Yet the main distinction is that stakeholder theory concerns itself with broader outcomes, such as corporate social responsibility, than agency theory, which limits its scope to shareholder wealth (e.g., Panda and Leepsa, 2017).

For example, Homroy and Slechten (2019) examine GHG emissions among large publicly traded firms in England, finding that such emissions decrease with the number of independent directors who have experience on environmental issues. In addition, those firms tend to invest more in environmentally sound technologies. Homroy and Slechten argue that the connection between "green" independent directors and reductions in emissions through technology investments is proof of the principles of stakeholder theory at work. A study involving content analysis of U.S. companies' sustainability reports implies that environmental performance is related to board independence, chief executive duality, and the presence of a CSR committee (Husain et al., 2018). Jo and Harjoto (2011) link corporate social responsibility to board leadership, board independence, institutional ownership, analyst following, and antitakeover provisions. Villiers et al. (2011) find that environmental performance increases with board independence and fewer directors appointed after the hiring of a chief executive. Ballesteros et al. (2015) present evidence suggesting that board size and board composition affect CSR engagement. Interestingly, the authors' results imply a tradeoff between board independence and the quality of board information that comes through larger bodies. Ballesteros et al. also show how board

diversity results in more CSR activity, arguing that social responsibility follows the resource-dependency view of the firm. Godos-Diez et al. (2018) study a sample of Spanish firms, concluding that term limits for independent directors and access to external advisors affects CSR activity. Walls and Hoffman (2013) link past environmental performance of board members to positive organizational deviance with respect to environmental performance. Galbreath (2016) studies Australian firms, showing an inverse relationship between the prevalence of board insiders and CSR activity. Corporate governance features not only affect sustainability but also how firms convey related initiatives. Elsayih et al. (2018) show that board independence, board diversity, and managerial ownership are associated with carbon emissions transparency.

In sum, there is ample evidence in support of stakeholder-agency theory as it pertains to environmental performance. The evidence conforms to the known markers of agency conflict, which center around corporate governance issues. Consistent with stakeholder theory, there is an expectation that the management of a company in one country shall hold no allegiance to a constituency beyond the firm's purview, more so in the absence of governance mechanisms that would elicit socially responsible behavior. As such, the following hypothesis addresses the mediating role of agency problems upon the relationship between lobbying in the U.S. and emissions in other countries.

H5: The presence of agency problems exacerbates GHG emissions on the part of firms lobbying in the United States.

The motivation to emit GHGs abroad could also come in the form of the compensation package that the chief executive enjoys. If the composition of compensation encourages aggressive investing to maximize profitability, then such emissions may seem

like a suitable response for an executive who confronts environmental regulations at home through lobbying. For instance, Steinbach et al. (2017) argue that firms engage in heightened acquisition activity when management's compensation incentives increase. Ryan and Wiggins (2002) encounter a similar result in terms of research and development investments. Incentive compensation could act as a mechanism by which firms encourage management to find growth opportunities (Barber et al., 1996; Gaver and Gaver, 1995). The connection between incentive compensation and investment policy can drive GHG emissions abroad among firms with high exposure to environmental regulatory action (and that lobby to curtail the impact of said regulation). Therefore, the hypothesis below tests an additional channel for the relationship between lobbying and overseas GHG emissions in the form of incentive compensation.

H6: Incentive compensation of chief executives moderates the relationship between lobbying in the U.S. and GHG emissions abroad, such that emissions increase with said form of compensation.

Yet another driver of managerial behavior pertains to the desire to accumulate social capital (Robinson et al., 2002). Executives enjoy personal prestige and engender good will, among other private benefits, by engaging in CSR activities (Borghesi et al., 2014). Moreover, Miles and Covin (2000) point out that having a good environmental reputation grants a firm a distinctive marketing advantage and improved financial performance. Crucially, Stanwick and Stanwick (2001) show that CEO compensation increases with a firm's environmental reputation. It follows that those executives who lead a firm with exposure to mitigation enforcement might be unwilling to shift their firm's emissions to a different country while they combat regulation through lobbying. In doing

so, a (seemingly) conscientious CEO would cultivate her own image as a socially responsible citizen while adding to the firm's competitive advantage, all the while receiving greater compensation. As such, the hypothesis bellow expresses the mediating effect that executive compensation bears upon the relationship between U.S. lobbying and foreign GHG emissions through a social capital channel.

H7: Total executive compensation mediates the relationship between U.S. lobbying and GHG emissions abroad in a way that increasing compensation suppresses foreign emissions.

3.3 Data and Methods

The dataset employed in this study is an unbalanced panel of publicly traded firms listed in the CRSP-Compustat merged file from 2006 to 2016. The primary specification, described below and used to test H1, includes 1,232 firm-year observations from 236 distinct companies.

The dependent variable in the study is the natural logarithm of a firm's total direct (i.e., scope 1) GHG emissions outside of the United States in one year. The U.S. Environmental Protection Agency designates such emissions as those from sources controlled or owned by an organization. Data on GHG emissions comes from the nonprofit CDP. Measuring total direct emissions outside of the U.S. entails aggregating them across all other countries in which a firm emits GHGs per the CDP dataset.

The variable of interest is an indicator for whether a firm has expended any funds within a year in the form of lobbying. The Center for Responsive Politics provides data on lobbying expenditures. The choice to use lobbying in the form of a dummy variable rather than lobbying expenditures towards environmental legislation serves three purposes. First,

lobbying expenditures of any kind can either deter the impact of environmental regulation or allay its cost. For example, Kono (2017) shows how certain industries push for protectionist policies when the government enacts sustainability laws. Therefore, utilizing lobbying meant to affect environmental policy as the study's independent variable gravely restricts the scope of relevant corporate political activism. However, the tradeoff herein is that lobbying in general could be a noisy measure of political activism with respect to GHG emissions. Second, lobbying expenditures are known to be highly correlated with firm size (de Figuereido and Richter, 2014). Firm size is an important control used in the analysis of emissions. As such, the colinearity between size and lobbying expenditures is likely to exaggerate the standard errors of coefficients corresponding to lobbying in its continuous form more than when expressed as a dummy variable. Third, the noisiness of the lobbying measure is less when opting for the indicator variable of lobbying instead of the alternative. The loss in degrees of freedom vis-à-vis lobbying diminishes its association to any confounding factors. Therefore, employing an indicator for lobbying thoroughly captures political activism decisions on the part of companies while reducing the impact of variance inflation and influence from extraneous determinants. Lobbying activity of any kind is present in approximately 49% of firm-years within the sample used for the study's main regression.

Firm-level control variables in the regression of non-U.S. carbon emissions follow much of the literature cited above. Model specification is closest to Table 5 in Bolton and Kacperczyk (2020). Hence, the regression includes firm size (the natural logarithm of market capitalization), book-to-market ratio (BM), return on equity (ROE), debt-to-asset ratio (Debt), and the ratio of capital expenditures to assets (Inv). In addition, the regression

also comprises the natural logarithm of the number of segments in which a firm participates (from the CDP dataset) because diversification tends to increase GHG emissions (e.g., Chen, 2017).

Country-level controls consider the attributes of host (i.e., non-U.S.) countries that would make it more feasible to attract emissions from multinational corporations. Such characteristics are combined for each firm by averaging the values for all the non-U.S. countries in which a firm reports GHG emissions. The aggregation of country-level factors is necessary for two reasons. First, consider that the unit of analysis is at the firm-year level. Without aggregation of national characteristics, it is not possible to enter such variables into a panel estimator as they would prompt redundancies within groups. Second, the dependent variable itself is the sum of GHG emissions across all non-U.S. countries. Therefore, the averaging of country characteristics matches the disposition of the dependent variable.

One covariate at the national level is foreign direct investment inflows (FDI) as a share of gross domestic product (Shao, 2018). Another variable with similar purpose is GDP growth (GDPG). A country's GDP growth is related to carbon emissions (Huang et al., 2008). Moreover, a host country might find itself in its own path along the EKC, such that emissions from U.S.-based multinationals might not be in response to U.S. regulation as proposed in this study. Controlling for economic growth therefore alleviates a key concern in the analysis that emissions are pulled in by a country's features rather than pushed out as a corporate response to U.S. regulation. The World Bank's World Development Indicators makes data available on both FDI and GDP growth. Yet another such control is degree of globalization (Glob). A country's GHG emissions respond to its

exposure to other nations along economic, social, and political vectors (Lenz and Fajdetic, 2021; Yang et al., 2021). This paper employs the natural logarithm of the KOF Globalization Index (Gygli et al., 2019; Dreher, 2006) as a proxy for such exposure.

Additionally, the logarithmic value of a firm's GHG emissions within the United States is added to the regression for the purpose of assessing the robustness of the key result. Doing so ensures that the conditional relationship between lobbying in the U.S. and offshore GHG emissions is not due to a firm's predisposition to emit GHGs. Another test to validate the key finding is through an exogenous shock in lobbying. Meng and Rode (2019) detail how the influence of energy and transportation companies overshadowed the impetus to pass the American Clean Energy and Security Act (i.e., Waxman-Markey bill of 2009). The premise of this study is that foreign GHG emissions increase with lobbying in the U.S. because firms seek a new setting that is agreeable to their environmental performance while they attempt to affect public policy. The defeat of the most important attempt by Congress to date in addressing climate change would result in fewer GHG emissions abroad since firms would not be as eager to export their emissions under a friendlier regulatory framework. Therefore, an indicator variable for years after 2009 serves as the means to capture the exogenous shock arising from the defeat of a major legislative push to curtail emissions.

Analyzing each of the proposed contingencies and channels (hypotheses 2 to 7) for the lobbying-overseas emissions relationship requires the use of the following variables. Political stability (Pol) comes from the World Bank's Worldwide Governance Indicators (WGI). Political stability as operationalized in the WGI is suitable in the test of H2a because of its link to environmental degradation in countries in the Middle East and North

Africa (Al-Mulali and Ozturk, 2015). The International Monetary Fund's economic growth forecast (EGF) proxies for economic outlook as intended in H2b. Since political stability and economic growth forecast are host country-level variables, their values are aggregated at the firm level.

A firm's exposure to Republican political ideology, required for H3, is observed at the state level given key transitions of power. De Figuereido and Richter (2014) note that lobbying activity increases in the aftermath of changes in control of the government. There are three major political transitions that envelope the sample period: the presidential elections of 2000, 2008, and 2016. The number of electoral votes for each state for either party is totaled for all three elections, and a state is designated as Republican-leaning if the sum of electoral votes is greater for that party. As such, a firm is recognized as operating in a political environment that is tolerant of GHG emissions if its headquarters reside in a state that has had more electoral votes towards Republican presidential candidates in elections that resulted in a shift in political control. In the sample, 28% of firm-years come from a state has had an overall inclination towards Republican political ideology.

Tobin's Q (TQ), the ratio of the market value of equity and book value of debt to the book value of assets, captures firm value in the assessment of H4. According to the literature, the incidence of agency problems as it pertains to environmental performance is germane to a host of governance issues, including board composition, size, experience, institutional ownership, analyst following, CEO age, and so forth. Testing H5 along each governance characteristic magnifies the likelihood of type 1 error. Instead, an all-encompassing measure of agency cost is preferrable. The asset utilization ratio quantifies tensions between ownership and management (Jelinek and Stuerke, 2009; Panda and

Leepsa, 2017). Asset utilization (AU) results from dividing sales by assets. H6 calls for a measure of incentive compensation (Incent). Such a measure is the result of dividing the sum of an executive's bonus, stock-, and option-based compensation by total compensation. H7 avails itself of a CEOs total compensation (Comp), transformed into a natural logarithm. Execucomp serves as the source of the data for tests of H6 and H7.

All the variables in the study have been winsorized at the extreme 1% of their annual distributions. Table 3.1 displays the summary statistics of the variables in the study, while Table 3.2 shows the corresponding Spearman correlations.

Table 3.1: Summary statistics

	Mean	Standard Deviation	5th Percentile	95th Percentile	Observations
Firm-level characteristics					
Non-U.S. GHG emissions*	9.413	1.677	0.000	15.182	1,556
Firm size*	9.842	0.361	7.848	12.102	1,545
Book-to-market	0.413	0.497	0.037	1.164	1,545
Return on equity	0.214	0.632	-0.117	0.740	1,545
Debt-to-assets	0.272	0.062	0.025	0.578	1,543
Investment intensity	0.038	0.013	0.000	0.105	1,541
Sectors*	0.991	0.056	0.693	1.792	1,556
Tobin's Q	2.543	0.779	0.930	5.927	1,543
Asset utilization	0.821	0.114	0.063	2.137	1,545
Incentive compensation	0.704	0.281	0.272	1.156	1,491
Total compensation*	9.202	0.395	8.187	10.022	1,388
U.S. GHG emissions*	9.941	2.590	0.000	16.404	1,556
Country-level characteristics					
FDI inflows	3.982	1.881	1.115	10.077	1,388
GDP Growth	2.287	1.563	-2.537	4.968	1,388
Globalization* †	4.371	0.029	4.266	4.448	1,388
Political stability †	0.411	0.161	-0.158	0.930	1,388
Economic growth forecast †	2.292	1.582	-2.54	4.985	1,388

This table shows the descriptive statistics for the variables in the study for an unbalanced panel of firms between 2006 and 2016. Standard deviation is for within group variance. Non-U.S. emissions are totaled for a firm globally. * denotes variables that have been transformed through a natural logarithm. † denotes variables that have been averaged across countries for each firm.

The empirical approach is that of a fixed effects estimator with year and industry dummies as well as standard errors clustered at the firm level. Clustered standard errors and fixed effects diminish the impact of unobserved heterogeneity upon the findings. The following equation displays the basic specification used throughout the study.

Table 3.2: Spearman correlations

		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Non-U.S. GHGs	0.25	-0.06	0.14	0.25	0.40	0.24	0.21	0.10	-0.23	-0.17	0.09	-0.01	0.22	-0.05	0.20	0.63
2	Firm Size		-0.12	0.21	-0.07	-0.06	0.01	0.09	0.04	-0.10	-0.04	0.03	0.20	-0.23	0.12	0.62	0.31
3	BM			-0.65	-0.27	-0.17	-0.07	-0.06	-0.05	0.09	0.07	-0.05	-0.90	-0.49	0.15	-0.05	0.04
4	ROE				0.08	0.18	0.06	0.04	0.07	-0.11	-0.08	0.07	0.63	0.43	-0.18	0.14	0.05
5	Debt					0.12	0.15	0.14	-0.01	-0.05	-0.04	-0.01	-0.02	-0.03	-0.00	-0.01	0.23
6	Inv						0.20	-0.07	0.02	-0.01	-0.03	0.03	0.17	0.42	-0.07	-0.08	0.45
7	Sectors							-0.00	-0.01	-0.04	-0.06	-0.01	-0.01	0.14	-0.00	0.05	0.26
8	FDI								0.26	-0.08	-0.10	0.24	0.03	-0.02	-0.02	0.15	-0.03
9	GDPG									-0.36	-0.42	0.99	0.07	0.05	0.09	0.08	-0.05
10	Glob										0.81	-0.35	-0.11	-0.12	-0.03	0.01	-0.08
11	Pol											-0.41	-0.09	-0.13	-0.04	-0.02	-0.02
12	EGF												0.07	0.06	0.09	0.07	-0.05
13	TQ													0.51	-0.14	0.06	-0.08
14	AU														-0.16	-0.14	-0.09
15	Incent															0.19	-0.09
16	Comp																0.20
17	U.S. GHGs																1.00

This table displays Spearman rank correlations for variables in an unbalanced panel of firms between 2006 and 2016.

$$GHG_{i,j,t} = \alpha + \beta_1 Lobby_{i,t} + \beta_2 Size_{i,t} + \beta_3 BM_{i,t} + \beta_4 ROE_{i,t} + \beta_5 Debt_{i,t} + \beta_6 Inv_{i,t} + \beta_7 Sectors_{i,t} + \beta_8 FDI_{\bar{k},t} + \beta_9 GDPG_{\bar{k},t} + \beta_{10} Glob_{\bar{k},t} + \sum_t \beta_t \mathbb{I}_t + \sum_j \beta_j \mathbb{I}_j + \varepsilon_{i,j,t}$$

In the model above, the dependent variable is the natural logarithm of the i^{th} firm's total direct GHG emissions in all countries that are not the United States at time t. The j subscript corresponds to primary industry assignment as per two-digit standard industry classification codes. The baseline specification controls for 41 industry designations. The $\bar{k}$ subscript denotes an averaged variable wherein the value reflects all non-U.S. countries in which a firm emits GHGs. The variable of interest is the lobbying indicator, and a positive and significant β_1 coefficient is expected if the data supports H1.

The model incorporates additional variables as needed. For example, a more stringent specification controls for GHG emissions within the United States. Another inclusion is that of an interaction term between the lobbying indicator and a dummy for years after 2009, which conveys the impact of an exogenous shock to lobbying following the defeat of the Waxman-Markey bill. Testing the proxies for the proposed channels involves adding an interaction term (and main effect) of the lobbying indicator and the corresponding variable. The following table summarizes the expected signs of interaction terms following hypotheses 2 through 7.

Table 3.3: Expected signs of interaction terms

Hypothesis	Channel	Proxy	Expected Sign
H2a	Host country preference	Political Stability	Negative
H2b	Host country preference	Economic outlook	Negative
H3	Political influence from firm's environment	Republican locale indicator	Positive
H4	Firm value	Tobin's Q	Negative
H5	Stakeholder-agency	Asset utilization	Negative
H6	CEO compensation structure	Incentive-based compensation	Positive
H7	CEO compensation	Total compensation	Negative

This table lists the expected signs of the interaction terms used to test each of the channels in the lobbying-overseas emissions relationship.

3.4 Results

Table 3.4 displays the results for the test of H1. Column 1 shows a regression of GHG emissions outside of the U.S. in which only the independent variable (i.e., the lobbying indicator) is entered, along with industry and year fixed effects. Column 2 introduces firm characteristics, while the specification in column 3 contains only country-level controls and fixed effects. Column 4 combines both firm- and country-level covariates, amounting to the baseline model detailed above. The lobbying dummy is positive and significant across all regressions, such that it lends credence to the link between lobbying in the U.S. and GHG emissions overseas. There is a noticeable difference in predictive power between the regression that considers only firm-level characteristics (column 2) and the one that just accounts for country-level controls (column 3). The coefficient of determination is much larger for the regression informed by firm characteristics (18%) than for the one with country-level factors (7%).

Column 5 in Table 3.4 is an important validation of the results, as it controls for GHG emissions within the United States. Though the lobbying coefficient's point estimate is smaller than in the other regressions, it maintains its significance level at 95% confidence ($b = 0.50$, $t = 1.97$, $p < 0.05$). Hence, it is reasonable to conclude that the relationship

proposed in H1 is not due to a firm's inclination to emit GHGs locally. By the most conservative estimate, seen in column 5, a firm that engages in lobbying in the U.S. releases 65% more GHGs in other countries than its counterparts.[20]

Table 3.4: The relationship between lobbying in the U.S. and GHG emissions abroad

	1	2	3	4	5	6
Lobbying	1.164**	0.736*	0.971**	0.587*	0.501*	2.900***
	(0.333)	(0.316)	(0.279)	(0.264)	(0.255)	(0.746)
Firm size		0.986***		0.840***	0.663***	0.837***
		(0.160)		(0.139)	(0.139)	(0.136)
Book-to-market		1.909***		1.986***	1.645**	2.001***
		(0.501)		(0.462)	(0.469)	(0.451)
Return on Equity		0.053		0.033	0.036	0.054
		(0.098)		(0.079)	(0.081)	(0.080)
Debt-to-assets		5.448***		4.233***	3.811***	4.363***
		(1.087)		(0.902)	(0.905)	(0.879)
Investment intensity		17.245†		16.352†	15.833†	17.348*
		(8.966)		(8.450)	(8.200)	(8.516)
Sectors		0.800		0.746†	0.595	0.735†
		(0.497)		(0.448)	(0.428)	(0.443)
FDI inflow			0.126*	0.081†	0.102*	0.082†
			(0.049)	(0.047)	(0.049)	(0.047)
GDP Growth			0.056	0.184	0.139	0.188
			(0.128)	(0.118)	(0.122)	(0.118)
Globalization			-7.037*	-4.199	-5.015†	-3.973
			(2.997)	(2.861)	(2.829)	(2.870)
U.S. GHGs					0.197**	
					(0.075)	
Post-2009*Lobbying						-2.558**
						(0.737)
Within R-squared	0.028	0.180	0.067	0.200	0.219	0.217
Observations	1,396	1,390	1,238	1,232	1,232	1,232

This table shows the results of the regression of a firm's GHG emissions outside of the U.S. on an indicator for lobbying and control variables. The sample period is from 2006 to 2016. All specifications have firm and year fixed effects. Values in parenthesis are standard errors clustered at the firm level. †, *, **, and *** imply significance levels of 0.1, 0.05, 0.01, and 0.001, respectively.

The main result from Table 3.4 could be a function of some endogenous factor. To safeguard against such an issue, this study avails itself of an exogenous shock to lobbying, in the form of the demise of the Waxman-Markey bill of 2009. The defeat of a legislative attempt to deal with climate change ought to result in a decline in offshore GHG emissions since firms would no longer see a need to export them. The interaction term between lobbying and the post-2009 indicator in column 6 of Table 3.4 attests to the sensitivity of

[20] $100 \times (e^{0.501} - 1) \approx 65.10$

non-U.S. emissions to lobbying ($b = -2.56$, $t = -3.47$, $p < 0.01$). Indeed, foreign emissions decline after the defeat of said bill among firms engaged in political advocacy.

Firms that engage in lobbying in the United States exhibit a predilection in their choice of countries to host their emissions. The interaction terms in columns 1 and 2 of Table 3.5 present results consistent with hypotheses 2a and 2b. That is, firms that engage in political activism in the U.S. tend to emit more GHGs overseas in countries that are politically unstable ($b = -1.28$, $t = -2.17$, $p < 0.05$), or have a bleak economic forecast ($b = -0.27$, $t = -2.54$, $p < 0.05$). Such findings are consistent with literature suggesting that high emitters gravitate towards those countries that pose the lowest barriers to their business model (e.g., Stein, 1994). Therefore, the findings herein imply that certain firms find themselves at odds with the extant environmental regulatory environment in the U.S. to the extent that they must lobby, and simultaneously partake in high-emitting activities in countries that are either incapable of policing environmental performance due to the weakness of the state apparatus or will permit such activities out of economic necessity.

Column 3 in Table 3.5 addresses H3, concerning the political ideology that contextualizes a firm's environment. The corresponding interaction term shows that those lobbying firms located in states that consistently leaned Republican in transitional presidential elections surrounding the period of study tend to emit more than twice as much GHGs as their counterparts ($b = 1.16$, $t = 1.97$, $p < 0.10$). The finding suggests that firms are sensitive to the prevailing political ideology that underlies their environment. In the case of GHG emissions, firms based in Republican-leaning states have no qualms about emitting GHGs abroad as they seek to influence the polity at home.

Table 3.5: Contingencies in the relationship between lobbying in the U.S. and offshore GHG emissions

	1	2	3
Lobbying	1.130**	1.204**	0.235
	(0.323)	(0.395)	(0.276)
Political stability*Lobbying	-1.282*		
	(0.590)		
Economic outlook*lobbying		-0.269*	
		(0.106)	
Republican-leaning locale*lobbying			1.162†
			(0.589)
Political stability	0.438		
	(0.746)		
Economic outlook		0.088	
		(0.462)	
Republican-leaning locale			-0.325
			(0.524)
Firm size	0.834***	0.840***	0.883***
	(0.137)	(0.138)	(0.143)
Book-to-market	1.954***	2.006***	2.013***
	(0.460)	(0.460)	(0.464)
Return on Equity	0.035	0.032	0.027
	(0.079)	(0.077)	(0.076)
Debt-to-assets	4.333***	4.250***	4.309***
	(0.871)	(0.895)	(0.902)
Investment intensity	15.913†	17.326*	15.204†
	(8.502)	(8.532)	(8.430)
Sectors	0.800†	0.761†	0.771†
	(0.442)	(0.452)	(0.455)
FDI inflow	0.079†	0.082†	0.087†
	(0.046)	(0.471)	(0.048)
GDP Growth	0.164	0.235	0.197†
	(0.117)	(0.477)	(0.117)
Globalization	-3.421	-4.260	-3.642
	(3.956)	(2.851)	(2.903)
Within R-squared	0.204	0.207	0.209
Observations	1,232	1,232	1,217

This table shows the results of the regression of a firm's GHG emissions outside of the U.S. on an indicator for lobbying, interaction term, and control variables. The sample period is from 2006 to 2016. All specifications have firm and year fixed effects. Values in parenthesis are standard errors clustered at the firm level. †, *, **, and *** imply significance levels of 0.1, 0.05, 0.01, and 0.001, respectively.

Table 3.6 displays the analysis of the various channels for the relationship between U.S. lobbying and GHG emissions. Column 1 in Table 3.6 shows the assessment of the firm value channel through an interaction between the lobbying indicator and Tobin's Q. Consistent with H4, firms lobbying in the U.S. tend to have lower GHG emissions abroad as their valuation improves ($b = -0.37$, $t = -2.79$, $p < 0.01$). Such a finding is in line with the Porter hypothesis (Porter and van der Linde, 1995) in that environmentally conscientious activity leads to improved firm value. The negative sign of the interaction

term is indicative of high-performing firms in the U.S. lobbying to exploit advantages reflected in their environmental performance by steering the course of policy, as in Delmas (2015b). The inverse relationship between firm value and (offshore) emissions (e.g., Hang et al., 2019; Kim et al., 2021; Busch and Lewandowski, 2017; Jo and Harjoto 2011) is in display in the marginal effect of Tobin's Q. The sum of coefficients related to Tobin's Q, -0.40, is significantly different from zero ($F = 16.36$, $p < 0.001$). In sum, firm value moderates the U.S. lobbying-offshore emissions relationship in a way that high-performing firms emit fewer GHGs.

Column 2 in Table 3.6 reveals the moderating impact that agency conflict has on the U.S. lobbying-overseas emissions relation. The interaction term between the lobbying indicator and asset utilization, an overall measure of agency costs (Jelinek and Stuerke, 2009), displays the effect expected in H5. As a lobbying firm becomes more efficient at generating revenue, by achieving a higher asset utilization ratio, its non-U.S. emissions tend to decline ($b = -0.62$, $t = -2.00$, $p < 0.05$). The result reflects stakeholder-agency theory (Hill and Jones, 1992). That is, the same mechanisms that reduce agency costs imputed against shareholders work towards alleviating the environmental collateral of a firm's foreign operations (e.g., Homroy and Slechten, 2019; Jo and Harjoto, 2011). Moreover, in chapter 2 of this dissertation, there is evidence indicating that strong governance mechanisms that curtail shareholder expropriation may impel lobbying.

The results found in column 3 of Table 3.6 depict the moderating role of incentive pay, as predicted in H6. Among lobbying firms, emissions tend to increase in the degree of incentive pay offered to an executive ($b = 1.17$, $t = 2.20$, $p < 0.05$). The combination of bonus, stock-, and option-based pay is a compelling mechanism by which CEOs

aggressively seek growth opportunities (Barber et al., 1996; Gaver and Gaver, 1995). When confronted with an inauspicious mitigation framework, motivated managers seek to concomitantly affect public policy and maintain the existing business model by shifting emissions to a different country.

Table 3.6: Channels for the relationship between lobbying in the U.S. and GHG emissions abroad

	1	2	3	4
Lobbying	1.517**	1.207**	-0.241	6.937*
	(0.462)	(0.405)	(0.428)	(3.097)
Tobin's Q*Lobbying	-0.372**			
	(0.133)			
Asset utilization*lobbying		-0.620*		
		(0.312)		
Incentive compensation*lobbying			1.171*	
			(0.532)	
Total compensation*lobbying				-0.692*
				(0.336)
Tobin's Q	-0.031			
	(0.137)			
Asset utilization		1.505***		
		(0.390)		
Incentive compensation			-0.902*	
			(0.429)	
Total compensation				0.753*
				(0.336)
Firm size	0.900***	0.960***	0.835***	0.744***
	(0.137)	(0.139)	(0.137)	(0.142)
Book-to-market	1.533**	2.417***	1.978***	2.048***
	(0.534)	(0.479)	(0.462)	(0.456)
Return on Equity	0.053	-0.019	0.035	0.047
	(0.076)	(0.076)	(0.078)	(0.080)
Debt-to-assets	3.789***	4.797***	4.263***	4.110***
	(0.902)	(0.927)	(0.896)	(0.905)
Investment intensity	16.426*	13.394	15.644†	16.481†
	(8.296)	(8.325)	(8.688)	(8.423)
Sectors	0.674	0.618	0.801†	0.776†
	(0.447)	(0.435)	(0.446)	(0.445)
FDI inflow	0.068	0.085†	0.081†	0.078†
	(0.047)	(0.047)	(0.046)	(0.046)
GDP Growth	0.184	0.188	0.169	0.208†
	(0.117)	(0.118)	(0.115)	(0.122)
Globalization	-3.477	-4.264	-4.257	-4.481
	(2.791)	(2.836)	(2.820)	(2.983)
Within R-squared	0.217	0.225	0.206	0.209
Observations	1,232	1,232	1,231	1,216

This table shows the results of the regression of a firm's GHG emissions outside of the U.S. on an indicator for lobbying, interaction term, and control variables. The sample period is from 2006 to 2016. All specifications have firm and year fixed effects. Values in parenthesis are standard errors clustered at the firm level. †, *, **, and *** imply significance levels of 0.1, 0.05, 0.01, and 0.001, respectively.

The final column in Table 3.6 shows the assessment of H7, the channel pertaining to an executive's total compensation. The interaction term in column 4 implies that

increasing managerial wealth suppresses GHG emissions abroad among firms that engage in political advocacy ($b = -0.68$, $t = -2.04$, $p < 0.05$). Stanwick and Stanwick's (2001) contribution, which suggests that executive pay is directly associated with environmental performance, can explain such a result. When a firm is at odds with mitigation policy, it may well lobby to countermand regulation. Yet an executive may be reluctant to shift emissions elsewhere, as the thesis in this study argues, if at the same time the corresponding compensation package is sufficiently high; for then it becomes a matter of personal and corporate prestige (Borghesi et al., 2014; Miles and Covin, 2000). For a well-remunerated manager, a positive environmental reputation turns into an asset in the form of social capital. For a firm under such leadership, the reputation as a green company has competitive value.

3.5 Conclusion

Using an unbalanced panel of firms between 2006 and 2016, this study examines the association between a firm's decision to lobby in the United States and the level of GHG emissions that it expends offshore. Those firms that lobby tend to have higher emissions outside of the U.S. The result is stable even after controlling for emissions within the U.S. Moreover, the key finding is verified through an exogenous shock affecting environmental lobbying following the defeat of the Waxman-Markey bill of 2009. The difference in emissions is not inconsequential. According to the most rigorous specification employed herein, offshore emissions from lobbying firms are on average 65% greater than their counterparts.

Such a finding is congruent with an unconventional view of the environmental Kuznets curve (e.g., Stern, 2004) in the sense that a wealthy society values environmental

sustainability. In turn, the government enacts mitigation action, to which certain corporations respond through political activism that is not necessarily related to environmental legislation. The key contribution that this paper makes is in documenting how emissions increase abroad among those firms that actively pursue an agenda with respect to the U.S. government. Therefore, the eventual decline in GHGs that follows a prosperity threshold may not entirely conform with the mainstream idea of an overall improvement in environmental performance. Instead, it is more likely that companies with high regulatory exposure shift their emissions to other countries.

Accompanying evidence suggests that lobbying firms are inclined to export their emissions to countries undergoing political unrest or with a dismal economic outlook. Such findings are intuitive in that a corporation that must contend with the U.S. government's stance on mitigation would be attracted to a setting that offers little resistance to its emissions activity or welcomes it altogether. In the case of emissions chasing political instability, enforcement action on the part of a weakened government could be minimal. The absence of economic growth is a pull-in factor with regards to the U.S. lobbying-offshore emissions relationship because the country hosting the emissions will have little incentive to interfere with a firm's activity if it finds itself in a dire economic situation.

The political ethos surrounding a firm also plays a role in its decision to emit GHGs. Conservative political thought espouses climate change skepticism (Dunlap and McCright, 2015). It feasible that a corporation that disagrees with the government's environmental policy will lobby to affect it and have little interest in curving its emissions. Indeed, companies headquartered in states that have supported Republican presidential candidates

in key elections tend to emit more GHGs abroad while they lobby at home. The result highlights how political ideology can impact corporate policy.

The channels for the relationship at hand are laid out in terms of firm value, agency conflict, the disposition of executive compensation, and managerial wealth. Firm value (i.e., Tobin's Q) moderates the offshore emissions of lobbying firms in a way that is in tune with the Porter hypothesis (Porter and van der Linde, 1996). Said hypothesis links environmental and financial performance by arguing that innovating towards lower emissions fosters firm value. Regarding lobbying firms, non-U.S. emissions are declining in firm value. Such a finding is indicative of successful companies lobbying in support of mitigation, which is a pattern of behavior already observed by Delmas et al. (2015b).

The conceptualization of agency problems herein is an extension of the paradigm set forth by Jensen and Meckling (1976). Rather than conflict with shareholders, stakeholder-agency theory (Hill and Jones, 1992) proposes that management's interests may clash with those of society at large. There is mounting scholarship that corporate governance structures conceived to align the interests of management and shareholders also serve to raise socially responsible aims (e.g., Homroy and Slechten, 2019). The analysis uses a broad measure of agency costs, the asset utilization ratio, to quantify the friction between management and society (Jelinek and Stuerke, 2009). As a lobbying firm's asset utilization ratio increases, GHG emissions outside of the U.S. tend to decrease. Thus, the findings presented here could be construed as another contribution to the body of literature studying the ramifications of stakeholder theory.

The composition of managerial compensation also affects the lobbying-offshore emissions relationship. Compensation schemes that favor aggressive investments through

incentives encourage GHG emissions abroad among those firms that engage in political activism. The result is reminiscent of Barber et al.'s (1996) assertion that investment opportunities are linked to incentive pay. As such, the findings herein complement such works as Steinbach et al. (2017) as well as Ryan and Wiggins (2002) in describing the scope of corporate activity as a function of executive incentive compensation.

A manager's total compensation moderates a lobbying firm's offshore emissions, thus signaling the presence of a social capital channel that is beneficial to both the CEO and the firm. Executives with a favorable environmental reputation enjoy higher pay (Stanwick and Stanwick, 2001) while enhancing the firm's image through socially responsible policy in ways that benefit its competitiveness and performance (Miles and Covin, 2000). Hence, when managerial wealth increases among lobbying firms, GHG emissions decline abroad. The result is revealing of the implications for corporate policy when the reputations of the chief executive and company are in alignment.

A relationship between lobbying and GHG emissions has already been documented in contributions such as Delmas et al. (2015a) and Brulle (2018). Yet the contention made in this article, which is that lobbying and overseas emissions are connected to each other, bears distinct and relevant implications regulators and practitioners. From an oversight perspective, the impact of national reductions in emissions in stemming climate change may be exaggerated if overseas emissions are ignored. Furthermore, the shift in emissions to other countries on the part of firms that see the need to affect public policy negates the gains in environmental performance that are achieved locally.

The findings also invite a critique of the Paris Agreement. Savaresi (2016) reports a shift in the focus of international abatement policy away from specific targets within

explicit timeframes, and towards broad commitments to emissions reduction, transparency in emissions reporting, and resilience to global warming. It is in the vagueness of the terms of the Paris Agreement that extraterritorial emissions reverberate upon mitigation efforts. New legislation, at least in the United States, might be insufficient at addressing the issue. The failure of Waxman-Markey is the basis for Meng and Rode's (2019) argument that firms with greater exposure to environmental regulatory action can overcome proponents of such legislation. A more comprehensive international treaty, such as the Kyoto protocol, would also be of no avail. The retreat from a stricter international framework signals an unwillingness or inability on the part of political leaders to adhere to such a cumbersome arrangement. A solution may lie not in new laws or more expansive treaties, but in leveraging the existing regulatory structure by promoting coordination among agencies tasked with abating climate change. Already there are examples of cooperation between bureaucracies regarding nuclear power (Kelly, 2014), public health (Holston, 1997), and most notably space exploration, among other spheres of public policy. Directing regulatory agencies to collaborate in the monitoring of firm-level GHG emissions could be accomplished without the formidable effort that comes with enacting legislation or signing a multilateral treaty.

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APPENDIX

A1: Political transitions of power within sample period

Event	Year when indicator equals 1 in panel
Presidential transition	2001
	2009
Presidential election	2001
	2005
	2009
	2013
Senatorial transition	2001
	2003
	2007
	2015
Transition at the House of Representatives	2007
	2011

The model of lobbying expenditures controls for years in which the federal budget is subject to political consideration. The years following a major transition of power in either the presidency, Senate, or House of Representatives are identified as such. The following years are recognized as instances when the federal budget is privy to lobbying influence. Notice that the years correspond to the next year after a political transition event has taken place.

A2: A more expansive specification for the relationship between lobbying and corporate criminality

Penalty	0.022*	0.016†	0.024*	0.025*
	(0.011)	(0.008)	(0.011)	(0.011)
Size				0.218
				(0.138)
Tangibility				-2.135
				(1.419)
Return on assets	-0.085		-0.315	-0.542
	(0.551)		(0.567)	(0.610)
Idiosyncratic volatility	9.361		10.257	9.099
	(7.006)		(7.618)	(8.394)
Board independence	0.721		0.654	0.669
	(0.684)		(0.713)	(0.751)
Leverage	-0.042†		-0.041	-0.038
	(0.026)		(0.027)	(0.028)
Stock-based compensation	-0.030		-0.028	-0.037
	(0.126)		(0.130)	(0.138)
CEO overconfidence		-0.140	0.068	-0.113
		(0.155)	(0.266)	(0.298)
CEO power		0.048	0.153†	0.171*
		(0.052)	(0.079)	(0.082)
CEO age		-0.612	-0.773	-2.042
		(3.153)	(4.763)	(1.419)
R-squared (within groups)	0.002	0.001	0.003	0.004
Observations	8,350	16,013	8,107	7,669

This table shows fixed effects regressions of lobbying expenditures on the lagged value of regulatory violations and controls, including proposed channels as in Table 2.1. The specification uses year and executive-firm fixed effects. Values in parenthesis are robust standard errors. †, *, **, and *** imply significance levels of 0.1, 0.05, 0.01, and 0.001, respectively.

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