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We examine whether the stock market considers corporate lobbying to be value enhancing, using an event that potentially limited the ability of firms to lobby but was exogenous to their characteristics and prior lobbying decisions. The results show that this exogenous shock negatively affects the value of firms that lobby. In particular, we estimate that a firm that spends $100,000 more on lobbying in the 3 years before the shock (where sample average lobbying expenses are about $4 million), experiences a loss of about $1.2 million in shareholder value on average. We also examine the channels through which lobbying may create value for firms. (*JEL* G14, G18, G38, D72)

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Corporations and special interest groups spend billions of dollars annually to lobby Congress and federal agencies (Center for Responsive Politics 2012), yet we lack robust evidence on corporate returns to lobbying. The main empirical challenge in examining this issue is that the decision to lobby is likely to be endogenous to observable and unobservable firm characteristics. Using an exogenous shock that may affect the ability of firms to lobby, we examine whether the stock market considers lobbying to be value enhancing. We also examine the channels through which lobbying may create value for shareholders.

The theoretical literature has shown that one of the main channels through which lobbying may add value is by allowing firms and interest groups to

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communicate their specialized knowledge of particular issues to uninformed or overburdened policy makers; see Grossman and Helpman (2001) and Gregor (2011) for surveys.[1] However, the lobbying process is viewed less benignly in the public sphere, where it is commonly assumed that lobbyists use unethical means to influence politicians.[2] In this article, we examine whether lobbying adds value mainly by allowing communication with lawmakers or if it may also add value by influencing policy makers through potentially unethical means.[3]

To conduct our examination, we explore an exogenous shock that had the potential to affect adversely the ability of firms to lobby. The event we focus on occurred on 3 January 2006, when the prominent Washington, DC lobbyist Jack Abramoff pleaded guilty to bribing government officials.[4] Described as the "biggest public corruption scandal in a generation," ("Case Bringing New Scrutiny To a System and a Profession," *The Washington Post*, 4 January 2006), the guilty plea generated intense public and media scrutiny of the lobbying process, making it damaging for politicians to be associated with lobbyists, thereby limiting the latter group's political access and influence.[5] Because the plea is exogenous to firms' characteristics and prior lobbying decisions, we examine the market reaction to this negative shock to investigate whether lobbying adds value. The rationale behind our empirical strategy is as follows: If corporate lobbying creates value for shareholders, firms that spend more on lobbying should experience a greater decrease in value in response to a potential decrease in the influence of lobbyists. To implement the test, we use data on all firms included in the S&P 500 index between 2000 and 2008, and examine their abnormal returns in a 3-day window around the date of Abramoff's guilty plea.

Because we have a single event date, which affects all firms at the same time, the standard errors may be biased due to contemporaneous correlation of the

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[1] Policy makers may discount the information of interest groups if the groups have a reason to be biased and the information is unverifiable. However, by sending a signal through lobbying, even biased experts may credibly communicate with policy makers (Crawford and Sobel 1982; Austen-Smith 1993, 1994; Chakraborty and Harbaugh 2010).

[2] A Gallup Poll survey of public perceptions regarding the honesty and ethical standards of different professions places lobbyists at the bottom of the ranking ("Lobbyists Debut at Bottom of Honesty and Ethics List," Gallup, 10 December 2007).

[3] The theoretical underpinning of this type of rent-seeking activity is analyzed in Krueger (1974), who considers the welfare implications of having economic rents because of trade restrictions, and the competition between firms over these rents. Part of our goal is to come up with a lower-bound estimate of the rents obtained by the firm from lobbying.

[4] Although the practices of Jack Abramoff's lobbying firm came under scrutiny earlier, the 2006 guilty plea was a major event because Abramoff provided evidence against several government officials as a condition of the plea. This event triggered special investigations, led to legislation passed by the U.S. Congress targeting corruption in lobbying, and focused public attention on the influence of lobbyists. In Section 1, we show that the news coverage of the Abramoff scandal peaked in the immediate aftermath of the guilty plea.

[5] Describing the response to the Abramoff guilty plea one lobbyist noted: "In the short run, members of Congress will get allergic to lobbyists...They'll be nervous about taking calls and holding meetings, to say nothing of lavish trips to Scotland. Those will be out." ("Case Bringing New Scrutiny to a System and a Profession," *The Washington Post*, 4 January 2006).

returns, and thus, the association between cross-sectional variation in lobbying by firms and abnormal returns may be attributable to other regularities. To address this possibility, we use a portfolio time-series regression methodology based on Sefcik and Thompson (1986), which provides unbiased estimates of the coefficients along with standard errors that account for cross-sectional heteroscedasticity and cross-security dependence.

The results show that firms that spent more on lobbying experienced a significantly greater decrease in value in response to the guilty plea. To illustrate, for the sample of firms with positive lobbying activity, we find that a one standard deviation increase in average lobbying expenditures (about $6.8 million) prior to the event year, is associated with an average decrease in abnormal returns of 0.19%, or about $49.2 million, in the 3-day window around the event. Potentially, the guilty plea limited lobbyists' political access, thus the observed decrease in firm value associated with lobbying expenditures in response to the plea is consistent with the view that lobbying creates value for shareholders. Because the Abramoff event potentially restricts firms' ability to lobby but does not eliminate lobbying activity, these results capture a lower-bound estimate of the corporate value of lobbying. We also note that these results apply to larger firms that are more likely to engage in lobbying and other political activities.

We also investigate whether the value from lobbying arises mainly from allowing firms to communicate with policy makers about specialized issues or whether it is partly due to potential unethical arrangements between firms and politicians. Capturing the latter channel is complicated because data on unethical lobbying activities are not directly observed. Based on the argument that firms that are more likely to be involved in unethical business practices may also be more likely to engage in unethical lobbying, we investigate whether these firms are more strongly affected by lobbying restrictions.

We use several variables to identify a firm's propensity to engage in unethical behavior. First, we examine whether firms that have an enforcement action brought against them by the Securities and Exchanges Commission (SEC) for violating SEC rules against bribery, insider trading, and accounting fraud, among other things, are more affected by the event. We find that in response to Abramoff's guilty plea, a firm that spent more on lobbying experiences a greater loss in value if it has been charged with a SEC violation in the 5 years prior to this event. For example, a firm with a SEC action experiences a 0.32% greater decrease in value around the event because of higher lobbying expenditures, compared with a firm without any SEC actions.

Second, using the corporate social responsibility (CSR) rankings produced by Kinder, Lydenberg, and Domini (KLD), which ranks firms based on their reputation in a number of dimensions (including community relations, corporate governance, diversity, human rights, employee relations, products, and environment), we find that in response to the guilty plea, the decrease in value associated with lobbying is significantly more pronounced for companies

with a worse CSR reputation.[6] As a third measure of the likelihood that firms may engage in unethical behavior, we investigate whether firms that have disclosed and implemented a strong policy against bribery and corruption (i.e., a code of ethics) respond differently to the event.[7] The results show that in the 3-day window around the event, the decrease in value associated with lobbying is significantly greater for firms without a strong code of ethics. Taken together, these results are consistent with the view that the lobbying-related decrease in firm value in response to possible restrictions on the influence of lobbyists is greater for firms that are more likely to be involved in unethical business practices.

Theory suggests that lobbying may facilitate the communication of expert information to uninformed and/or overburdened policy makers. To explore the informational value of lobbying, we examine whether firms characterized by a greater degree of information asymmetry derive more value from lobbying, compared with other firms. Using firm-specific measures of opaqueness, including asset intangibility, R&D expenditures, and accounting transparency, we do not find robust evidence that firms that are more opaque benefit more from lobbying. However, because our empirical framework examines the market reaction to an event that may have limited corrupt lobbying practices, and not legitimate communications with policy makers, this result does not imply that lobbying has no informational value.

We conduct several robustness checks. First, we show that firms that employed members of Abramoff's team as lobbyists experienced a greater decrease in value at the announcement of the guilty plea, supporting our argument that we are capturing the effects of the guilty plea and not concurrent events. Second, to further address the endogeneity of lobbying expenditures, we perform a matched sample analysis by matching non-lobbying firms to firms that lobby, and also use a generalized propensity score methodology (to account for the continuous nature of lobbying expenditures), to match similar firms with different levels of lobbying activity. The results remain robust to both of these alternative approaches. We also show that our results are not driven by confounding factors such as calendar time effects. Examining the market reaction on the same date as the guilty plea—but in the years prior to and after 2006 (the year of the plea)—we do not find a significant association between lobbying expenditures and market returns.

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[6] Hong, Kubik, and Scheinkman (2012) also use KLD scores as an empirical measure of "corporate goodness." Because the CSR rankings may be closely related to industry characteristics, we include Fama-French 49-industry indicators in all specifications.

[7] Our measure for firms' code of ethics is based on proprietary data collected by EIRIS, a nonprofit organization, which ranks firms based on both the quality of their code of ethics, and the quality of its enforcement, which is captured by whether the firm has a business-ethics management system in place. Specifically, the data ranks firms based on the following questions among others: Does the company have a code of ethics and, if so, how comprehensive is it? and Does the company have a system for implementing the code of ethics and, if so, how comprehensive is it?

As a robustness check, we also investigate whether lobbying may be a proxy for other political activities of firms, such as campaign contributions. However, while lobbying expenditures may come from corporate treasury funds, the Federal Election Campaign Act restricts corporations from using treasury funds to make contributions in federal elections, and instead, corporations set up Political Action Committees or PACs, whose funds are held separately from the treasury. The lobbying firms in our sample contributed about $0.3 million on average through PACs to electoral campaigns, compared with $3.9 million spent on lobbying during the sample period. We show that the lobbying variables retain their sign and statistical significance after controlling for PAC contributions, consistent with the view that lobbying is not a proxy for political contributions.

We also find that the effect of lobbying on firm value remains statistically significant after controlling for the political connections of corporate board members, consistent with the view that lobbying is not a proxy for partisan preferences. Last, we show that our results are robust to controlling for standard measures of industry competition and regulation.

To the best of our knowledge, this is the first study to use an exogenous shock to identify the shareholder value of corporate lobbying and to provide evidence suggesting that part of this value may be attributed to unethical practices that are likely to bias politicians rather than simply inform them. In two related studies, Chen, Parsley, and Yang (2015) find that firms that lobby have better financial and accounting performance relative to non-lobbying firms; and, Hill, Kelly, and Van Ness (2013) find that the annual excess returns of lobbying firms are higher than those of non-lobbying firms. Our study differs from these studies in the following ways: First, our event study approach mitigates some of the identification issues that arise regarding the endogeneity of the lobbying decision. Second, we investigate channels through which lobbying may add value.

Another related strand of literature examines the effect of campaign contributions on firm value (see, for example, Jayachandran 2006; Claessens, Feijen, and Laeven 2008; Cooper, Gulen, and Ovtchinnikov 2010; Akey 2015).[8] Campaign contributions are regulated more strictly than lobbying is, and the majority of contributions come from individuals (Ansolabehere, de Figueiredo, and Snyder 2003), whereas firms, industry, and interest groups undertake lobbying expenditures that involve larger sums of money. For instance, lobbying expenditures in 2006 were over $2.59 billion, compared with $345 million in campaign contributions that year (Bombardini and Trebbi 2012).

Examining policy outcomes of lobbying, De Figueiredo and Silverman (2006) find that the returns to lobbying by universities for educational earmarks are larger when the university is located in the state (district) of a Senate

[8] See Stratmann (2005) for a survey.

(House) Appropriations Committee member. Kang (2012) shows that lobbying expenditures by the energy sector yield average returns of 102% to 113%. Further, Richter, Samphantharak, and Timmons (2009) find that U.S. firms that spend more on lobbying have lower effective tax rates. Yu and Yu (2011) show that lobbying firms are less likely to be detected committing fraud. Finally, Coates (2012) finds that corporate lobbying increased after the Supreme Court decision on Citizens United.

Our study also contributes to the growing literature on political connections (Roberts 1990; Fisman 2001; Khwaja and Mian 2005; Faccio 2006; Faccio, Masulis, and McConnell 2006; Goldman, Rocholl, and So 2009, 2013). These studies consider the role of political connections, whereas we focus on the value of lobbying.

1. The Jack Abramoff Guilty Plea

Our analysis of the value relevance of corporate lobbying uses an exogenous event that potentially affected firms' ability to lobby but is uncorrelated with their characteristics: the guilty plea by top lobbyist Jack Abramoff on 3 January 2006 to criminal felony counts related to the corruption of public officials and defrauding of American Indian tribes. As a condition of the plea, Abramoff provided evidence that led to the conviction of more than 20 elected representatives, congressional staff, and executive branch officials.

Although the investigation of Abramoff began in 2004, his guilty plea generated widespread media coverage of what had been, until then, mainly a Washington, DC, scandal. In Figure 1, we plot the number of news articles published daily between January 2004 and December 2006 that mention the terms *Abramoff*, *lobbying*, and *regulation*, among others. The graph shows a sharp increase in news coverage in the immediate aftermath of the guilty plea. Given the heightened public scrutiny of politicians' relationships with lobbyists, it appears that the plea increased expectations that (unethical) lobbying practices would face restrictions in the future. Reflecting this view, there were about 20 lobbying-related bills with floor action introduced in the Congress between 2006 and 2007.

To check if there were other concurrent national news events that may have affected market returns on 3 January 2006, we examined the front-page headlines for the *New York Times*, *Washington Post*, and *Wall Street Journal*, on the following day, 4 January 2006. All three reported the Abramoff plea on their front page. The only other major news item reported by two of these three national newspapers on that day was the mining disaster in West Virginia.[9]

[9] The *New York Times* in its "On this day" series, which describes important events in history for a particular day, lists the Abramoff guilty plea as the most notable event of 3 January 2006.

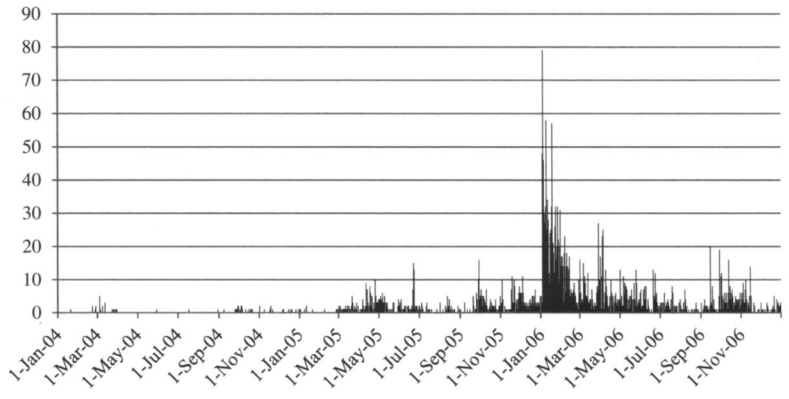

Figure 1
Figure 1 shows the daily number of articles returned from a Factiva keyword search over the period January 2004–December 2006. The search imposes two conditions. First, there are at least two mentions of *Abramoff* and *lobb** and one of the following terms: *accus**, *fraud**, *investig**, *regula**, *reform**, *restric**, *scand**, *strict**, and *unlaw**. Second, the article contains at least 1,000 words.

2. Data

We start with all 753 companies that were included in the S&P 500 index between 2000 and 2008, for which we collect data on lobbying expenditures from 2003 to 2005, the 3 years before our event in 2006. The data are available from the Center for Responsive Politics (CRP), which collects all lobbying disclosure reports filed with the Secretary of the Senate's Office of Public Records by any entity engaged in lobbying activities with costs exceeding $10,000 in any 6-month period. The data include spending by companies and their subsidiaries through "in-house" lobbyists and professional lobbying firms.[10] We do not observe lobbying expenditures by trade groups and industry associations on the behalf of firms.[11]

From the sample we drop 105 firms that stopped trading before the event date of 3 January 2006 (most were involved in a merger and acquisition), and 19 firms that started trading after that date. To mitigate the effect of potential outliers or possible firm-specific news, we exclude firms in the first and ninety-ninth percentiles of abnormal returns. This generates a final sample of 617 firms, of which 421 firms report lobbying expenditures of $10,000 and more between 2003 and 2005. We refer to these 421 firms as the "lobbying sample," whereas the remaining 196 firms comprise the "non-lobbying sample." Table 1 describes the data for the full sample in Panel A, the lobbying sample in Panel B, and the non-lobbying sample in Panel C. All variables are described in Table A1.

[10] A description of the data is available at http://www.opensecrets.org/lobby/methodology.php.

[11] Drutman (2009) notes that lobbying through trade groups and firm-level lobbying are complementary, where trade associations operate mostly in the realm of industry-level goods and regulatory politics, whereas companies focus on company-level goods and distributive politics.

Table 1
Summary statistics

Panel A: All firms

	Mean	Standard deviation	Minimum	25th percentile	75th percentile	Maximum	No. of firms
Lobbying expenses (in 000s)	2,632	5,874	0	0	2,422	55,960	617
Lobbying rank	3.74	3.50	0	0	7	10	617
Assets (in 000s)	22,248,496	32,312,812	1,366,980	3,514,900	25,307,020	124,615,160	617
Log(assets)	9.18	1.28	7.22	8.16	10.14	11.73	617
MB ratio	3.16	2.04	0.94	1.69	3.97	8.88	617
Concerns	3.31	2.54	0	2	4	16	608
Strengths	3.04	3.07	0	1	4	18	608
Concerns >P75	0.25	0.43	0	0	0	1	608
Strengths >P75	0.24	0.42	0	0	0	1	608
Code of ethics	0.31	0.46	0	0	1	1	510
Republican on board	0.20	0.40	0	0	0	1	617
Democrat on board	0.17	0.37	0	0	0	1	617
SEC action	0.10	0.30	0	0	0	1	617
Regulated industry	0.21	0.40	0	0	0	1	617
PAC contributions rank	4.26	3.42	0	1	7	10	617
PAC contributions (in 000s)	232	451	0	5	258	4,600	617
Low transparency	0.25	0.43	0	0	1	1	591
R&D/total expenses	0.07	0.11	0	0	0.12	0.33	614
Intangibles/assets	0.17	0.18	0	0.02	0.29	0.57	617
HHI (FF49)	6.62	7.88	1.16	3.03	7.11	80.36	617
CAR(-1;+1) in %	−0.12	2.17	−5.82	−1.61	1.14	8.59	617

Panel B: Lobbying firms

	Mean	Standard deviation	Minimum	25th percentile	75th percentile	Maximum	No. of firms
Lobbying expenses (in 000s)	3,858	6,773	10	380	3,900	55,960	421
Lobbying rank	5.48	2.90	1	3	8	10	421
Lobbying expenses/Total expenses	0.003	0.044	0.000	0.0001	0.0009	0.902	420
Assets (in 000s)	26,931,753	35,219,670	1,366,980	4,895,170	30,304,000	124,615,160	421
Log(assets)	9.47	1.23	7.22	8.50	10.32	11.73	421
MB ratio	3.15	2.06	0.94	1.68	3.99	8.88	421
Concerns	3.88	2.66	0	2	5	16	414
Strengths	3.63	3.33	0	1	5	18	414
Concerns > P75	0.23	0.42	0	0	0	1	414
Strengths > P75	0.22	0.41	0	0	0	1	414
Code of ethics	0.35	0.48	0	0	1	1	367
Team Abramoff	0.002	0.013	0	0	0	0.222	421
D(Team Abramoff)	0.045	0.208	0	0	0	1	421
Republican on board	0.25	0.43	0	0	1	1	421
Democrat on board	0.22	0.42	0	0	0	1	421
SEC action	0.13	0.33	0	0	0	1	421
Regulated industry	0.22	0.41	0	0	0	1	421
PAC contributions rank	5.72	2.86	0	3	8	10	421
PAC contributions (in 000s)	324	513	0	44	365	4,600	421
Low transparency	0.25	0.43	0	0	1	1	414
R&D/total expenses	0.07	0.11	0	0	0.13	0.33	419
Intangibles/assets	0.17	0.17	0	0.03	0.29	0.57	421
HHI (FF49)	6.94	8.65	1.16	3.48	7.11	80.36	421
CAR(-1;+1) in %	−0.15	2.17	−5.82	−1.67	1.11	8.59	421

(*continued*)

From Table 1 we note that firms that lobby are larger, with an average book value of assets of $26.9 billion, compared with $12.2 billion for firms that do not lobby. We control for growth opportunities using *MB ratio*, which is the ratio of a firm's market value of equity to its book value, and firm size using total assets.

Table 1
Continued
Panel C: Non-lobbying Firms

	Mean	Standard deviation	Minimum	25th percentile	75th percentile	Maximum	No. of firms
Assets (in 000s)	12,189,052	21,853,889	1,366,980	2,116,130	9,935,230	124,615,160	196
Log(assets)	8.57	1.16	7.22	7.66	9.20	11.73	196
MB ratio	3.17	1.99	0.94	1.70	3.94	8.88	196
Concerns	2.08	1.72	0	1	3	13	194
Strengths	1.78	1.88	0	0	2	14	194
Concerns > P75	0.16	0.37	0	0	0	1	194
Strengths > P75	0.25	0.43	0	0	0	1	194
Code of ethics	0.20	0.40	0	0	0	1	143
Republican on board	0.10	0.30	0	0	0	1	196
Democrat on board	0.05	0.22	0	0	0	1	196
SEC action	0.05	0.21	0	0	0	1	196
Regulated industry	0.18	0.38	0	0	0	1	196
PAC contributions rank	1.13	2.20	0	0	1	10	196
PAC contributions (in 000s)	36	134	0	0	10	1,171	196
Low transparency	0.26	0.44	0	0	1	1	177
R&D/total expenses	0.07	0.11	0	0	0.12	0.33	195
Intangibles/assets	0.17	0.18	0	0.01	0.28	0.57	196
HHI (FF49)	5.94	5.85	1.16	3.03	7.11	46.77	196
CAR(−1;+1) in %	−0.05	2.17	−4.99	−1.31	1.17	8.36	196

Table 1 reports summary statistics for the sample of firms used in the event study analysis of Abramoff's guilty plea (3 January 2006). Panel A provides summary statistics for the entire sample of firms, while Panels B and C show summary statistics for the subsamples of lobbying and non-lobbying firms, respectively. All variables are described in the Table A1.

Using stock market data from the Center for Research in Security Prices, we construct the 3-day abnormal returns for each firm around the event date using the Fama-French three-factor model. In Table 1, *CAR (−1, +1)* is computed as the sum of the daily abnormal returns in the 3-day window around 3 January 2006, the date of Abramoff's guilty plea. In Figure 2 we plot the median cumulative abnormal returns for the lobbying and non-lobbying sample on each day of the 10-day window around 3 January 2006. Specifically, for each firm we sum up daily abnormal returns starting from day −5 until day +5. The figure suggests that the CARs of firms that lobby are more negative than the CARs of non-lobbying firms, starting from the event date.

We construct two measures of lobbying activity. First, *Lobbying rank* groups firms into deciles based on their 3-year lobbying expenditures prior to 2006. Companies with the highest lobbying expenses are assigned a rank of 10 (average lobbying expenditures of $20.6 million), and those with the lowest lobbying expenses are assigned a rank of 1 (average lobbying expenditures of $66.6 thousand). Table A2 provides the cutoff points for each decile based on lobbying expenditures. Firms that do not lobby are assigned a rank of 0. From Table 1 we note that the average value of *Lobbying rank* is about 3.7.

The second measure, *Lobbying expenses*, is defined as the sum of lobbying expenditures, expressed in thousands, for each firm in the 3 years preceding the Abramoff guilty plea, and constructed for the sample of 421 firms that lobby.

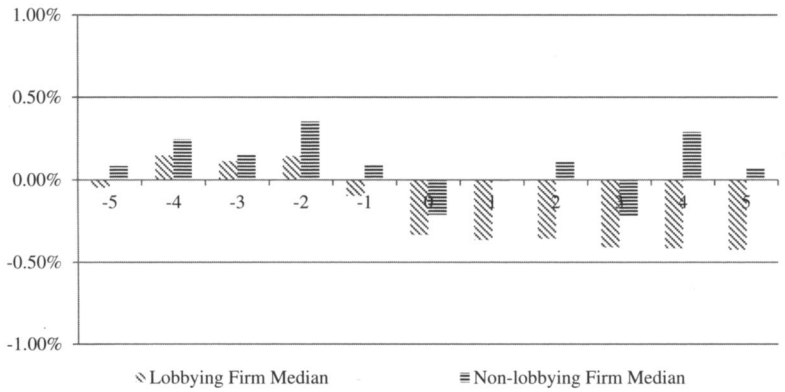

Figure 2
Cumulative abnormal returns around Abramoff's guilty plea
Figure 2 shows the median cumulative abnormal returns for the lobbying and non-lobbying firms on each day during a 10-day event window (−5, +5) centered on the date of Abramoff's guilty plea (3 January 2006). The cumulative abnormal return of a firm on each day during the event window is the sum of the daily abnormal returns experienced by this firm between this day and day −5. Abnormal returns are estimated using the Fama-French 3-factor model.

In unreported results, we verify that our findings are robust to using lobbying expenditures for 2005 only. From Table 1, Panel B, we note that on average firms spent nearly $4 million between 2003 and 2005. The biggest spender during our sample period is General Electric Company, with nearly $56 million in lobbying expenditures. Consistent with the minimum filing requirement, the smallest reported lobbying expense is $10,000.

Figure 3, Panel A, examines the difference in lobbying expenditures between 2005 and 2007 for two groups of firms: Firms that experienced a negative market reaction to Abramoff's plea on 3 January 2006, and those that experienced a positive reaction. Semiannual lobbying expenses for each firm are scaled by the firm's semiannual lobbying expenses during the first half of 2005. The plotted lines, describing the difference in the mean and median values of the lobbying expenditures between the two groups, are consistent with the view that firms with a negative market reaction reduce their lobbying expenditures more than firms with a positive market reaction do. This supports our hypothesis that the Abramoff event increased both implicit and explicit (through legislation) restrictions on lobbying because it appears that firms that experienced the greatest decrease in value in response to the guilty plea subsequently also reduced their lobbying expenditures the most.

We use three different data sources to capture the likelihood that firms may engage in unethical behavior. First, we hand-collect data from the enforcement and litigation sections of the Securities and Exchanges Commission about all investigations, including civil lawsuits and financial reporting–related enforcement actions, to identify firms that were subject to regulatory actions

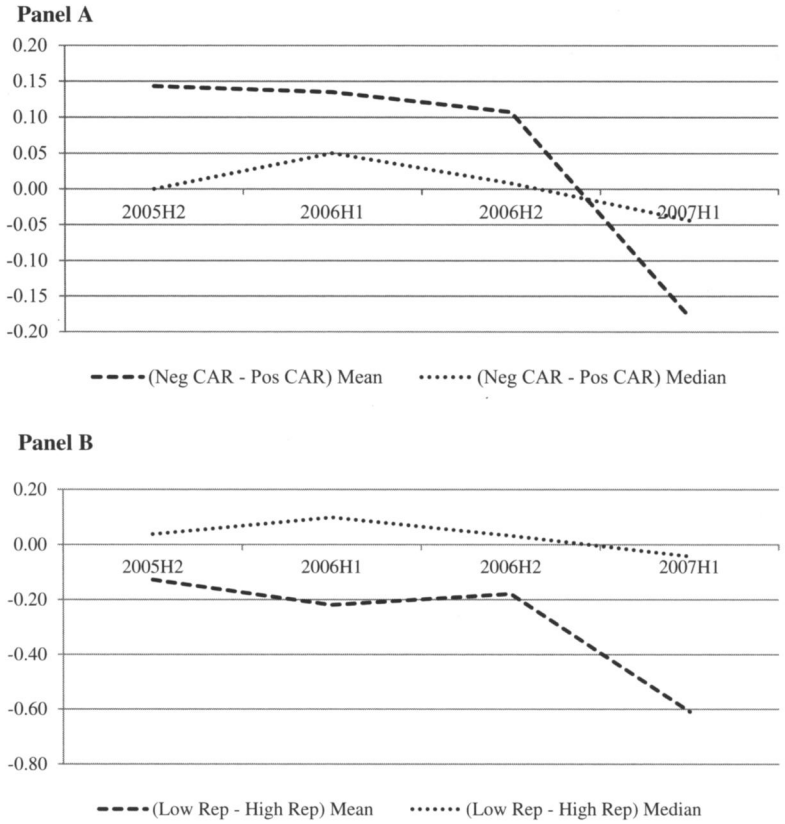

Figure 3
Figure 3 shows time-series profile of mean and median lobbying spending by the sample firms between 2005 and 2007. In Panel A, the dashed (dotted) line represents the difference between average (median) lobbying expenses of firms with negative market reaction around Abramoff's guilty plea and firms with positive market reaction. In Panel B, the dashed (dotted) line represents the difference in the average (median) lobbying expenses of "Low Rep" and "High Rep" firms. "High Rep" firms meet all of the following conditions: (1) no SEC action against firm; (2) the firm has a code of ethics; and (3) the firm's concerns do not exceed the seventy-fifth percentile. "Low Rep" firms meet all of the following conditions: (1) SEC action against firm; (2) the firm does not have a code of ethics; and 3) firm's concerns exceed the seventy-fifth percentile. The semiannual lobbying expenses of each firm are scaled by its semiannual lobbying expenses during the first half of 2005.

and lawsuits brought by the SEC. We define *SEC action* as a dummy variable equal to 1 if a sample firm is involved in any SEC enforcement between 2001 and 2005, and 0 otherwise. On average, about 10% of the firms appear in such actions, as shown in Panel A of Table 1. The incidence of actions against firms that lobby is more than twice as high at 13% compared with 5% for the non-lobbying sample.

Second, we examine the strength of a firm's code of ethics as analyzed by EIRIS, a nonprofit organization conducting research on the ethical codes of

publicly traded firms.[12] The data are collected from annual reports, company websites, and survey responses, and they examine whether a company has a code of ethics, the quality of the code, and the extent to which the firm facilitates the implementation of this code. In particular, the data record whether the firm is committed to obeying the law, has a policy against paying or receiving bribes, gifts, and facilitation payments, among other practices and the quality of enforcement, including the extent to which the firm has a business ethics management system in place to implement the policy (e.g., employee training, whistleblowing procedures, compliance monitoring, regular reporting of breaches and enforcement, and regular review of the code) (EIRIS 2005). Specifically, we evaluate firms based on the following questions: *Does the company have a code of ethics and, if so, how comprehensive is it?* and *Does the company have a system for implementing the code of ethics and, if so, how comprehensive is it?* Firms are considered as having a strong code of ethics if their performance along both of these questions is "Intermediate" or "Advanced." We define the variable, *code of ethics*, as an indicator variable that is equal to 1 for firms with a strong code of ethics and 0 otherwise. As shown in Table 1, on average, about 35% of the lobbying firms have a strong code of ethics, compared with 20% of the non-lobbying firms.

Last, we use the CSR rankings published by KLD Research & Analytics, which evaluates large U.S. firms along the following seven categories: community relations, corporate governance, diversity, human rights, employee relations, products, and environment; and, assigns one point if the firm meets the criteria for a particular strength or concern. We define *Concerns* as the aggregate number of concerns across all categories, and *Strengths* as the aggregate number of strengths along the seven categories. To identify firms with relatively more concerns (strengths) we also construct indicator variables for firms with concerns (strengths) above the seventy-fifth percentile, $Concerns > P75$ ($Strengths > P75$). From Table 1 we note that, on average, the lobbying sample has more concerns and strengths than the non-lobbying sample. For example, Exxon Mobil has the highest number of concerns and ranks among the top spenders with a *Lobbying rank* of 10. In contrast, J.M. Smucker and Symantec are among the companies with the best CSR reputation and a *Lobbying rank* of 0 and 5, respectively. The correlation between *Lobbying rank* and the concerns score is 0.48 for the lobbying sample.

In Panel B of Figure 3, we compare graphically the difference in lobbying expenditures between 2005 and 2007 for "Low Rep" and "High Rep" firms, where "Low Rep" firms are those with (1) an SEC action, (2) without a code of ethics, and, (3) with a KLD Concerns measure that is above the seventy-fifth percentile for the sample. "High Rep" firms are those (1) without an SEC

[12] More about the description, history of the organization, and research methodology may be found at http://www.eiris.org/.

action, (2) with a code of ethics, and (3) with a KLD Concerns measure that is below the seventy-fifth percentile. The plotted lines describing the difference in the mean and median values of the lobbying expenditures between firms with low and high corporate reputation rankings are consistent with the hypothesis that firms with a poor reputation for corporate ethics reduce their lobbying expenditures after the event more compared with firms with a strong ethical reputation.

To establish firm-level connections to Abramoff, we examine all lobbying reports filed between 2003 and 2005, to collect the names of individual lobbyists employed by the firms in our sample. We identify whether any of these lobbyists are members of "Team Abramoff," the team of lobbyists assembled by Abramoff when he worked at the lobbying firm Greenberg Traurig.[13] To measure the relative importance of these lobbyists to the firm, we define the variable *Team Abramoff* as the ratio of a firm's lobbyists who were also close associates of Abramoff, to the total number of lobbyists employed by the firm. We also define *D(Team Abramoff)* as a dummy variable that is equal to one if a firm employs at least one lobbyist who was a close associate of Abramoff between 2003 and 2005. From Panel B of Table 1, we note that on average, about 0.2% of lobbyists employed by firms between 2003 and 2005 were close associates of Abramoff, with a maximum ratio of 22%, and 4.5% of lobbying firms employed at least one Abramoff associate.

As a robustness check, we also examine the effect of corruption in the state where the firm is headquartered using two measures of corruption. The first metric is the *BGA Index*, which is constructed by the Better Government Association (BGA); it measures the relative strength of the states' laws that promote integrity. Specifically, the BGA examines states' laws related to the Freedom of Information Act, Whistleblower Protection Laws, Campaign Finance Laws, Conflict of Interest Laws, and Laws about Gifts, Trips, and Honoraria, and it assigns a combined score to each state along these dimensions. Higher scores indicate stronger laws and better citizen protection. We use the index as of 2002 as it is the last release of these data prior to our event. We also adopt a second measure based on Glaeser and Saks's (2006) study, *Corruption rate*, which is the number of corruption convictions of state-level officials between 1976 and 2002, relative to the average population of the state. In contrast to the *BGA Index*, a higher value of *Corruption rate* indicates a more corrupt state.

To examine the information benefits of corporate lobbying, we use three measures of information asymmetry at the firm level, based on asset intangibility and accounting transparency. To capture asset intangibility we use the ratio of R&D expenditures to total expenses, and the ratio of intangible assets to total assets. For accounting transparency, we use the earnings management

[13] The members of Team Abramoff are identified from news sources http://en.wikipedia.org/wiki/Team_Abramoff.

measure from Leuz, Nanda, and Wysocki (2003), which is defined as the ratio of the standard deviation of a firm's operating income to the standard deviation of the firm's cash flow, where a higher score indicates less earnings management, in terms of earnings smoothing, and less information asymmetry.[14] Based on the earnings management measure, we construct *Low transparency*, as a dummy variable that is equal to 1 if a firm has a transparency metric below the twenty-fifth percentile of the sample.

To capture the partisan affiliations of firms, we use data on the connections of corporate boards from Goldman, Rocholl, and So (2009) to construct two political connection variables. *Republican on board* is equal to 1 if the firm has a Republican Party connection (connected either to the Republican Party or to both the Republican and Democratic Parties) through its executives and board members, and 0 otherwise (connected only to the Democratic Party, or not connected to either party). The second variable, *Democrat on board,* treats connections to the Democratic Party in the same way.

We collect data on campaign contributions made by the PACs of firms during the 2004 and 2006 election cycles from OpenSecrets.org. From Panel B of Table 1, we note that the lobbying firms in our sample spent nearly $324,000 on average during the years 2003 to 2005 through PACs, substantially less than the average lobbying expenditures of about $3.9 million during the same period. We also create a *PAC contributions rank* variable, similar to *Lobbying rank* described above.

Because lobbying may depend on the competitive structure of industries, we construct the industry Herfindahl-Hirschman Index (*HHI*), which measures industry concentration based on the Fama and French 49-industry classifications. We also define *Regulated industry* as a dummy variable indicating whether a firm belongs to a regulated industry such as public utilities, railroad, banking, finance, or insurance.

3. Results

3.1 Does lobbying add value?

The guilty plea by Abramoff on 3 January 2006 to charges of corruption and bribery affected the ability of firms to lobby, while being exogenous to firm characteristics. Hence, the market's response to this event may indicate whether investors view lobbying as a value-enhancing activity. Because all firms experience the event on the same day, there is a potential concern that the residuals in the cross-sectional regression are not independently distributed across firms. To address this, we adopt the portfolio estimation procedure developed by Sefcik and Thompson (ST) (1986), which provides unbiased

[14] Cash flow from operations is calculated as operating income minus accruals, where accruals are calculated as follows: (ΔTotal Current Assets – ΔCash) – (ΔTotal Current Liabilities – ΔShort-term Debt – ΔTaxes Payable) – Depreciation Expense. Standard deviations are estimated over the 5-year period ending in 2005.

estimates of the coefficients with standard errors that account for cross-sectional heteroscedasticity and cross-security dependence (see Binder 1998 for a survey).

Our event study approach is based on the Fama-French three-factor model specification:

$$R_{i,t} = \alpha_i + \beta_{m,i} R_{m,t} + \beta_{HML,i} R_{HML,t} + \beta_{SMB,i} R_{SMB,i} + \gamma_i \delta_t + \varepsilon_{i,t}, \quad (1)$$

where $R_{i,t}$ is the daily return on security i on day t, while $R_{m,t}$, $R_{HML,t}$, and $R_{SMB,t}$ are the returns on each of the factors in the Fama-French model. For the event study we use daily returns for the years 2005 and 2006, and to calculate abnormal daily returns, we use the estimated coefficient of the indicator, δ_t, which is equal to 1 in the 3-day window centered at the event date, and 0 otherwise.

To examine the market response to the Abramoff guilty plea, we estimate the following cross-sectional regression:

$$\gamma_i = \alpha + \beta_1 Lobbying_i + \beta_2 X_i + Industry\ Fixed\ Effects, \quad (2)$$

where γ_i is the average daily abnormal return of firm i (in percentages) estimated in Equation (1) for the 3-day window centered at 3 January 2006. *Lobbying* captures measures of the company's lobbying activity; X_i includes control variables such as firm size captured by *Log(Assets)* and the market-to-book ratio of firms in the year preceding the event. We also include industry fixed effects based on the Fama-French 49-industry classification. Note that the standard errors are corrected for cross-sectional correlation using the ST method, described further in Appendix A.2.[15]

In Table 2, Columns (1) and (2) we report the results for the full sample (*All firms*), and Columns (3)–(6) for the sample of firms with positive lobbying expenditures (*Lobbying sample*). From the results reported in the first two columns, we note that in response to the event, firms that spend more on lobbying experience a significant decrease in abnormal returns compared with firms that spend less, and those that do not lobby. For example, from the estimated coefficient of *Lobbying rank* in Column (2), we note that a one standard deviation increase in *Lobbying rank* is associated with a $35 million decrease in market value on average in the 3-day window around this event.[16]

Considering lobbying expenditures in Columns (5) and (6) for the sample of lobbying firms, we find that firms that spend more, experience a larger decrease in abnormal returns around Abramoff's plea. To illustrate, from the coefficient of *Log(lobbying expenses)* in Column (6), we estimate that a one standard

[15] As a benchmark, in Appendix A.1, we provide the results for the specifications in Table 2 without the ST correction.

[16] Note that to calculate cumulative abnormal returns when interpreting economic magnitudes, here and below, we aggregate the daily abnormal returns over the 3-day window.

Table 2
Average daily abnormal returns around Abramoff's guilty plea

	All firms		Lobbying sample			
	(1)	(2)	(3)	(4)	(5)	(6)
Lobbying rank	−0.025***	−0.017*	−0.047***	−0.039**		
	(0.001)	(0.087)	(0.001)	(0.010)		
Log(lobbying expenses)					−0.080***	−0.064***
					(0.001)	(0.003)
Log(assets)		−0.042		−0.032		−0.036*
		(0.285)		(0.178)		(0.068)
MB ratio		−0.005		0.033		0.033
		(0.785)		(0.426)		(0.427)
Constant	−0.569	−0.206	−0.371	−0.161	0.488	0.559
	(0.137)	(0.680)	(0.472)	(0.813)	(0.285)	(0.241)
Industry FE FF49	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	617	617	421	421	421	421

Table 2 reports the results from an event study examining average daily abnormal returns in the 3-day event window around Abramoff's guilty plea (3 January 2006). Abnormal returns are computed using the Fama-French three-factor model. Results for the full sample of lobbying and non-lobbying firms are reported in Columns (1) and (2), and for the sample of firms that lobby in Columns (3)–(6). All variables are described in Table A1. *P*-values based on robust standard errors and using the ST method are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

deviation increase in lobbying expenditures is associated with a $49 million decrease in value on average, around the event. The negative market response to an event that reduces the influence of lobbyists is consistent with the view that the market views lobbying as a value-enhancing activity. Note that we examine firms included in the S&P 500 index, which are larger and more likely to lobby.

3.2 Do firms that are less ethical benefit more from lobbying?

Does lobbying add value simply by allowing firms to communicate specialized information to overburdened policy makers or does it also add value by facilitating potentially unethical arrangements between firms and politicians? To investigate this question, we focus on the lobbying sample and examine whether the value from lobbying varies based on the likelihood that firms that lobby may engage in unethical practices. We use three broad categories of measures to identify the likelihood of unethical behavior: violations of SEC regulations; rules and procedures put in place by the firm to address unethical practices; and metrics of corporate reputation based on social responsibility rankings. The results are reported in Table 3, Panels A through C.

We start by investigating whether the loss in value resulting from lobbying is greater for firms that have been charged with violating SEC rules against insider trading, accounting fraud, or bribery, among other things. Columns (1) and (3) of Table 3, Panel A, first show that violating SEC rules is not associated with a significant market response, although the coefficients of the lobbying variables remain negative and statistically significant. From the negative coefficients of the interaction terms in Columns (2) and (4), we note that in response to the guilty plea, the decrease in value associated with higher lobbying expenditures

Table 3
Corporate ethical reputation and the value of lobbying

Panel A

	Lobbying sample			
	(1)	(2)	(3)	(4)
Lobbying rank	−0.039***	−0.031**		
	(0.007)	(0.010)		
Log(lobbying expenses)			−0.065***	−0.052***
			(0.002)	(0.001)
Lobbying rank × SEC action		−0.058***		
		(0.005)		
Log(lobbying expenses) × SEC action				−0.106**
				(0.022)
SEC action	0.078	0.417***	0.083	1.593***
	(0.446)	(0.001)	(0.416)	(0.007)
Log(assets)	−0.033	−0.031	−0.036*	−0.033
	(0.186)	(0.222)	(0.073)	(0.121)
MB ratio	0.032	0.033	0.032	0.032
	(0.433)	(0.426)	(0.434)	(0.431)
Constant	−0.175	−0.237	0.552	0.338
	(0.792)	(0.727)	(0.239)	(0.523)
Industry FE FF49	Yes	Yes	Yes	Yes
Number of firms	421	421	421	421

Panel B

	Lobbying sample			
	(1)	(2)	(3)	(4)
Lobbying rank	−0.031**	−0.057**		
	(0.020)	(0.028)		
Log(lobbying expenses)			−0.054**	−0.096**
			(0.018)	(0.021)
Lobbying rank × Code of ethics		0.072**		
		(0.046)		
Log(lobbying expenses) × Code of ethics				0.121**
				(0.029)
Code of ethics	−0.102***	−0.535**	−0.099***	−1.830**
	(0.002)	(0.012)	(0.002)	(0.020)
Log(assets)	−0.011	−0.007	−0.011	−0.010
	(0.612)	(0.738)	(0.692)	(0.686)
MB ratio	0.028	0.031	0.028	0.031
	(0.476)	(0.441)	(0.474)	(0.441)
Constant	0.114	0.184	0.336	0.948
	(0.750)	(0.570)	(0.593)	(0.182)
Industry FE FF49	Yes	Yes	Yes	Yes
Number of firms	367	367	367	367

(*continued*)

is greater on average for firms previously charged with a SEC violation. For example, from the results reported in Column (4) of Panel A of Table 3, we note that a $100,000 increase in lobbying expenditures is associated with a decrease in value of about $3.1 million for a firm charged with a SEC violation, compared with a $1 million decrease for firms without violation. Whereas the estimated coefficient of *SEC action* is positive and statistically significant in Columns (2) and (4), on average, this variable does not have a statistically significant effect on returns.

Table 3
Continued
Panel C

	Lobbying sample			
	(1)	(2)	(3)	(4)
Lobbying rank	−0.049**	−0.046***		
	(0.019)	(0.009)		
Log(lobbying expenses)			−0.083**	−0.084***
			(0.013)	(0.005)
Lobbying rank × Concerns >P75		−0.053***		
		(0.005)		
Lobbying rank × Strengths >P75		0.014		
		(0.378)		
Log(lobbying expenses) × Concerns >P75				−0.094***
				(0.001)
Log(lobbying expenses) × Strengths >P75				0.049**
				(0.019)
Concerns >P75	0.084	0.460**	0.084	1.481***
	(0.129)	(0.014)	(0.121)	(0.001)
Strengths >P75	0.196*	0.128	0.197*	−0.499
	(0.073)	(0.427)	(0.074)	(0.135)
Log(assets)	−0.059*	−0.055	−0.062*	−0.058*
	(0.085)	(0.126)	(0.050)	(0.075)
MB ratio	0.021	0.019	0.021	0.019
	(0.537)	(0.568)	(0.541)	(0.574)
Constant	0.113	0.034	1.034*	0.986
	(0.873)	(0.964)	(0.080)	(0.138)
Industry FE FF49	Yes	Yes	Yes	Yes
Number of firms	414	414	414	414

Table 3 reports the results from an event study examining the average daily abnormal returns of the sample of firms that lobby based on corporate ethical reputation, in the 3-day event window around Abramoff's guilty plea (3 January 2006). All variables are described in Table A1. *P*-values, based on robust standard errors and using the ST method, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Next, we use two reputation-ranking measures to examine whether firms that have a poor reputation for corporate ethics react differently to the Abramoff event. First, in Panel B of Table 3, we consider the variable *Code of ethics*, which ranks firms based on the strength of their policies against bribery and corruption, among other unethical practices. We note from the coefficients of the interaction terms reported in Columns (2) and (4) of Panel B, that in response to the Abramoff event, the loss in value associated with higher lobbying expenditures is greater for firms without a strong ethics code. From the estimated coefficients of *Log(lobbying expenses)* and *Code of ethics* in Column (4) of Panel B, we note that a $100,000 increase in lobbying expenditures is associated with a loss in value of about $1.9 million on average for a firm lacking a strong code of ethics. In contrast, this effect is reversed for a firm with a strong ethical code, and it suggests a gain in value of about $487,000 on average. Hence, the interaction term is consistent with the view that the market reaction to lobbying following the guilty plea is more negative for firms that may be more likely to engage in unethical practices.

The third group of reputation measures is based on the CSR rank of firms. We consider the effect of both *Concerns* and *Strengths*, where higher values

of the *Concerns* variable indicate a worse reputation for socially responsible practices. From the negative and statistically significant coefficients of the interaction between the lobbying variables and *Concerns*, we note that the loss in value associated with higher lobbying expenditures is greater for firms with a greater number of CSR concerns (Columns (2) and (4), Table 3, Panel C). For example, from the coefficient of the interaction between *Log(lobbying expenses)* and *Concerns* > *P*75 in Column (4), we estimate that a $100,000 increase in lobbying expenditures is associated with a loss in value of about $3.5 million on average for firms that score above the seventy-fifth percentile of CSR concerns, compared with a loss of about $1.6 million on average for firms with fewer concerns. It also appears that *Concerns* and *Strengths* do not have a symmetric effect on firm value. In particular, CSR strengths may not be informative because firms may strategically implement policies that count as strengths to counteract the effects of a large number of concerns on their overall CSR rank.[17]

3.3 Do opaque firms benefit more from lobbying?

Theory suggests that lobbying allows experts to communicate specialized information to overburdened policy makers (Grossman and Helpman 2001), but empirical research suggests that lobbyists are valued more for their political connections than their issue-based knowledge (Bertrand, Bombardini, and Trebbi 2014; Blanes i Vidal, Draca, and Fons-Rosen 2012). To investigate the information role of lobbying, we examine if opaque firms, characterized by greater information asymmetry, benefit from their lobbying activities more than other firms.

We use three firm-level measures of asset opacity and accounting transparency: The ratio of a firm's intangible assets to total assets (*Intangibles/assets*); the ratio of R&D expenditures to total expenses (*R&D/total expenses*); and an earnings management measure based on Leuz, Nanda, and Wysocki (2003). The results from examining the market response to the Abramoff plea are reported in Table 4. The estimated coefficients of the interaction terms between the lobbying variables and the opaqueness measures are not statistically significant, indicating that opaque firms that spent more on lobbying did not experience a significantly different change in market value in response to this event.

However, the absence of evidence for the informational role of lobbying in our analysis does not imply that lobbying has no such role. Instead, those involved in the market may have determined that the Abramoff event affected primarily firms engaged in unethical lobbying activities rather than firms that lobby for a legitimate informational purpose.

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[17] We also examine the interaction between firm-level corporate governance measures and lobbying, and do not find significant effects.

Table 4
Examining alternative explanations

	Lobbying sample					
	(1)	(2)	(3)	(4)	(5)	(6)
Lobbying rank	−0.047*	−0.045**	−0.046***			
	(0.050)	(0.025)	(0.004)			
Log(lobbying expenses)				−0.078**	−0.077**	−0.073***
				(0.043)	(0.017)	(0.001)
Lobbying rank × Intangibles/assets	0.055					
	(0.439)					
Lobbying rank × R&D/Total expenses		0.081				
		(0.370)				
Lobbying rank × Low transparency			0.024			
			(0.403)			
Log(lobbying expenses) × Intangibles/assets				0.085		
				(0.538)		
Log(lobbying expenses) × R&D/total expenses					0.156	
					(0.320)	
Log(lobbying expenses) × Low transparency						0.036
						(0.531)
Intangibles/assets	−0.437			−1.334		
	(0.300)			(0.492)		
R&D/total expenses		1.272			−0.434	
		(0.293)			(0.848)	
Low transparency			−0.135			−0.509
			(0.518)			(0.556)
Log(assets)	−0.035*	−0.042*	−0.033	−0.037**	−0.045**	−0.038*
	(0.096)	(0.089)	(0.228)	(0.034)	(0.037)	(0.089)
MB ratio	0.032	0.021	0.032	0.031	0.021	0.032
	(0.428)	(0.639)	(0.459)	(0.432)	(0.642)	(0.456)
Constant	−0.454	−0.458	−0.565	0.411	0.425*	0.272
	(0.256)	(0.205)	(0.197)	(0.464)	(0.066)	(0.507)
Industry FE FF49	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	421	419	414	421	419	414

Table 4 shows the results from an event study of the average daily abnormal returns of lobbying firms in the 3-day event window around Abramoff's guilty plea (3 January 2006), based on measures of firm opaqueness, to examine the informational role of lobbying. All variables are described in Table A1. *P*-values, based on robust standard errors and using the ST method, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

4. Robustness Checks

Next, we investigate the robustness of our results to alternative specifications and interpretations. First, to corroborate that we capture the effect of Abramoff's guilty plea, and not confounding events, we examine the effect of the guilty plea on firms that employed close associates of Abramoff as lobbyists. Specifically, the variable *Team Abramoff* calculates the number of close associates of Abramoff employed by a firm between 2003 and 2005 as a ratio of the total number of lobbyists employed by the firm during that period. Moreover, *D(Team Abramoff)* is defined as a dummy variable that is equal to one if a close associate of Abramoff has been employed by the firm between 2003 and 2005, and zero otherwise. The results reported in Table 5 show that firms that employed more Abramoff associates as lobbyists experienced a greater decrease in value in response to the guilty plea, compared with firms that employed fewer or none of his associates. Note that the coefficients of the lobbying measures remain negative and statistically significant, indicating that among the sample

Table 5
Firms connected to Team Abramoff

	Lobbying sample			
	(1)	(2)	(3)	(4)
Lobbying rank	−0.037**	−0.038**		
	(0.019)	(0.012)		
Log(lobbying expenses)			−0.061***	−0.062***
			(0.008)	(0.005)
D(Team Abramoff)	−0.138		−0.139	
	(0.133)		(0.116)	
Team Abramoff		−3.998***		−3.966***
		(0.006)		(0.007)
Log(assets)	−0.031	−0.035	−0.035*	−0.039*
	(0.181)	(0.148)	(0.068)	(0.051)
MB ratio	0.032	0.029	0.032	0.029
	(0.431)	(0.492)	(0.432)	(0.492)
Constant	−0.176	−0.131	0.511	0.575
	(0.794)	(0.851)	(0.254)	(0.230)
Industry FE FF49	Yes	Yes	Yes	Yes
Number of firms	421	421	421	421

Table 5 shows results from an event study of the average daily abnormal returns of lobbying firms in the 3-day event window around Abramoff's guilty plea (3 January 2006), based on their connections to Team Abramoff. All variables are described in Table A1. *P*-values, based on robust standard errors and using the ST method, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

of firms that lobby, those that did not use Abramoff or his associates as lobbyists also experience a significant decrease in value.[18]

Second, we implement a propensity score matching method to perform a matched sample analysis and investigate the robustness of our results to using this alternative specification. In particular, we adopt a generalized propensity score methodology developed by Hirano and Imbens (2004), designed for settings with a continuous treatment, such as the amount of lobbying expenditures. This method allows us to reduce the bias that may arise from systematic differences across firms with different lobbying expenditures. We restrict the analysis to the lobbying sample and match each firm, based on firm size, market to book, and industry classification, to a firm in a different "bin" of lobbying expenditures. We estimate the treatment effect, or the change in the outcome variable for a unit change in the treatment variable, and plot the results in Figure 4.[19] The treatment variable (t) is *Log (lobbying expenses)* and the outcome variable is cumulative abnormal returns around the guilty plea. The horizontal axis of the figure shows different levels of the treatment variable, whereas the vertical axis shows the change in the conditional expectation of

[18] As a robustness check, we also examine two additional events, 11 August 2005, when Abramoff was arrested for wire fraud, and 15 December 2005, when his associate Adam Kidan pleaded guilty to fraud. Providing support for our hypothesis, we find that lobbying firms experience a significant decrease in abnormal returns in response to both events. Lobbying firms with a poor ethical reputation also experience a decrease in abnormal returns on these dates, although this effect is not significant. From Figure 1, we note that there were far fewer news reports of these events compared with those of the Abramoff guilty plea.

[19] The estimation of the generalized propensity score method uses the algorithm and program developed by Bia and Mattei (2008).

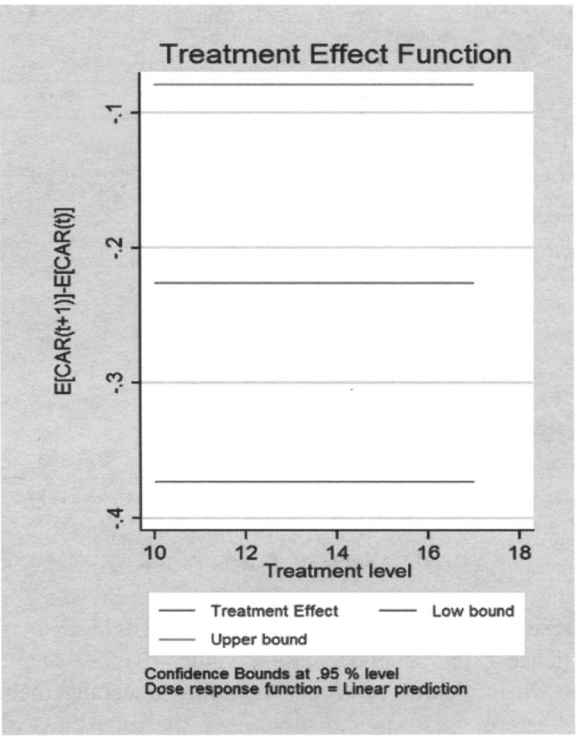

Figure 4
Generalized propensity score with continuous treatment
Figure 4 shows the estimated treatment-effect function of the generalized propensity score analysis, along with its 95% confidence interval obtained from 500 bootstrap replications. The treatment variable (t) is *Log*(*lobbying expenses*). The horizontal axis shows different levels of the treatment variable, whereas the vertical axis shows the change in the conditional expectation of the outcome variable (cumulative abnormal returns around Abramoff's guilty plea) given the treatment and generalized propensity score for a unit change in the treatment variable.

the CARs. The middle line of the graph indicates the change in cumulative abnormal returns for a one-unit increase in *Log*(*lobbying expenses*), and is negative. Hence, the graph is consistent with the view that firms with higher lobbying expenditures experience a greater decrease in value compared with otherwise similar firms that spend less on lobbying. The *Low bound* and *Upper bound* plot the 95% confidence interval generated with bootstrapped standard errors, and, since 0 is not in this interval, indicate that the negative treatment effect is statistically significant.

We also construct a one-to-one matched sample, where, for each firm that lobbies, we identify a comparable non-lobbying firm based on size, market to book, and industry. For this matching process, we include all non-lobbying firms in the S&P 1500 index during our sample period. Matching is based on the estimated probability of lobbying for each firm and follows the method of nearest-neighbor matching with replacement. The returns of each lobbying

firm are then adjusted by the returns of the matched non-lobbying firm. The results, reported in Columns (1) and (2) of Table 6, Panel A, are robust. As an alternative robustness check, we control for the relative importance of lobbying expenditures as a share of total expenditures at the firm level. The results are robust to this alternative measure, as shown in Column (3) of Panel A, Table 6.

We also investigate whether our results may be driven by calendar time effects, given the proximity of the plea date to the New Year's Day holiday. In Table 6, Panel B, we examine the market reaction on the same event date in the 2 years prior and the year after our event year. We do not find a significant association between the lobbying activity of a firm and its market value during this event window in other years.

To investigate whether lobbying may be a proxy for other political activities of firms, we collect data from the CRP for the 2004 and 2006 election cycles on campaign contributions made by firm-level PACs. The results described in Table 6, Panel C, using the full sample in Column (1) and the lobbying sample in Columns (3) and (4), indicate that the lobbying variables retain their sign and statistical significance, consistent with the hypothesis that lobbying is not a proxy for campaign contributions.

Another potential channel for political influence is through a firm's political connections. Using data on the political connections of corporate boards, we examine the market response for firms around the plea. From the results reported in Column (2) of Table 6, Panel C, we note that the estimated coefficient of *Lobbying rank* remains negative and statistically significant after controlling for the party affiliation of connected board members. For the lobbying sample in Columns (5) and (6), we note that the coefficients of the lobbing variables remain negative and statistically significant after controlling for political connections, consistent with the view that lobbying is not a proxy for partisan affiliations and/or political preferences.

Because the decision to lobby and its value implications are likely to be affected by industry-specific factors such as government regulation and competitive structure, we establish the robustness of our results to industry regulation and competition. In Columns (1), (3), and (4) of Panel D, we include a dummy variable that takes the value of one if the firm is in a regulated industry (public utilities, banking, finance, or insurance). The results confirm that lobbying firms experience a decrease in value in response to the Abramoff event after controlling for the presence of regulated industries. To examine whether the competitive structure of industries affects the market response to the event, we estimate our main specifications controlling for the HHI based on the Fama and French 49-industry categories.[20] The results reported in Panel D show that controlling for industry concentration, firms that lobbied experienced

[20] Our results are robust if we use 2-digit SIC codes for industry classification purposes instead of the Fama and French 49-industry groups to construct *HHI*.

Table 6
Additional robustness checks

Panel A: Propensity score matching and relative lobbying expenses

	Propensity score matched		Lobbying sample
	(1)	(2)	(3)
Lobbying rank	−0.099*		
	(0.055)		
Log(lobbying expenses)		−0.201**	
		(0.017)	
Lobbying expenses/total expenses			−2.154***
			(0.006)
Log(assets)			−0.101***
			(0.001)
MB ratio			0.029
			(0.473)
Constant	0.746**	3.008**	0.366
	(0.042)	(0.015)	(0.483)
Industry FE FF49	No	No	Yes
R^2	0.009	0.013	n.a.
Number of firms	421	421	420

Panel B: Controlling for calendar effects

	All firms			Lobbying sample		
	2004	2005	2007	2004	2005	2007
	(1)	(2)	(3)	(4)	(5)	(6)
Lobbying rank	0.003	−0.011	0.007			
	(0.703)	(0.104)	(0.675)			
Log(lobbying expenses)				0.015	0.003	−0.013
				(0.587)	(0.777)	(0.406)
Log(assets)	0.032*	0.126**	−0.029	0.048***	0.140**	0.012
	(0.095)	(0.025)	(0.587)	(0.002)	(0.020)	(0.769)
MB ratio	−0.005	−0.001	−0.025	−0.058*	0.001	−0.029
	(0.684)	(0.971)	(0.159)	(0.065)	(0.948)	(0.245)
Constant	−0.248	−1.159**	0.528	−0.596	−1.521**	0.577
	(0.707)	(0.012)	(0.423)	(0.387)	(0.023)	(0.309)
Industry FE FF49	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	600	607	588	385	391	412

Panel C: Controlling for campaign contributions and political connections

	All firms		Lobbying sample			
	(1)	(2)	(3)	(4)	(5)	(6)
Lobbying rank	−0.017*	−0.018*	−0.032**		−0.038**	
	(0.078)	(0.079)	(0.035)		(0.022)	
Log(lobbying expenses)				−0.058**		−0.062**
				(0.019)		(0.011)
PAC contributions rank	−0.011		−0.014			
	(0.941)		(0.164)			
Log(PAC contributions)				−0.013		
				(0.323)		
Republican on board		−0.095**			−0.166***	−0.163***
		(0.031)			(0.001)	(0.001)
Democrat on board		0.083			0.074	0.069
		(0.351)			(0.373)	(0.392)
Log(assets)	−0.041	−0.041	−0.022	−0.031	−0.023	−0.028
	(0.371)	(0.342)	(0.464)	(0.169)	(0.292)	(0.135)
MB ratio	−0.005	−0.006	0.033	0.033	0.034	0.034
	(0.783)	(0.735)	(0.418)	(0.423)	(0.391)	(0.391)
Constant	−0.211	−0.224	−0.218	0.488	−0.247	0.456
	(0.686)	(0.645)	(0.757)	(0.339)	(0.703)	(0.308)
Industry FE FF49	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	617	617	421	421	421	421

(*continued*)

Table 6
Continued

Panel D: Controlling for regulated industries

	All firms		Lobbying sample			
	(1)	(2)	(3)	(4)	(5)	(6)
Lobbying rank	−0.014***	−0.011**	−0.035***		−0.032***	
	(0.001)	(0.042)	(0.004)		(0.001)	
Log(lobbying expenses)				−0.063***		−0.058***
				(0.005)		(0.001)
Regulated industry	−0.066**		−0.037	−0.038		
	(0.039)		(0.297)	(0.275)		
HHI		−0.004			−0.004	−0.004
		(0.660)			(0.550)	(0.562)
Log(assets)	−0.033	−0.047	−0.003	−0.001	−0.012	−0.011
	(0.226)	(0.117)	(0.795)	(0.956)	(0.138)	(0.247)
MB ratio	−0.011	−0.007	0.035	0.036	0.038	0.038
	(0.425)	(0.552)	(0.303)	(0.301)	(0.270)	(0.268)
Constant	0.360*	0.485*	0.071	0.735***	0.159	0.776***
	(0.071)	(0.051)	(0.689)	(0.001)	(0.156)	(0.001)
Industry FE FF49	No	No	No	No	No	No
Number of firms	617	617	421	421	421	421

Panel E: Controlling for state-level corruption

	All firms		Lobbying sample	
	(1)	(2)	(3)	(4)
Lobbying rank	−0.019*	−0.018*		
	(0.081)	(0.090)		
Log(lobbying expenses)			−0.064***	−0.058***
			(0.005)	(0.006)
BGA Index <median	−0.122*		−0.134**	
	(0.061)		(0.040)	
Corruption rate >median		−0.151***		−0.164***
		(0.005)		(0.003)
Log(assets)	−0.033	−0.036	−0.030	−0.035
	(0.414)	(0.409)	(0.294)	(0.214)
MB ratio	−0.011	−0.010	0.029	0.029
	(0.434)	(0.454)	(0.424)	(0.427)
Constant	−0.237	−0.207	0.511	0.490
	(0.661)	(0.706)	(0.333)	(0.365)
Industry FE FF49	Yes	Yes	Yes	Yes
Number of firms	596	596	402	402

(*continued*)

a greater decrease in value in response to the Abramoff event. Note that the specifications in Panel D do not include industry dummies.

Based on the finding in the literature that corruption at the state level may have an effect on financial markets (see, for example, Butler, Fauver, and Mortal 2009), we investigate whether firms headquartered in states that are more corrupt may experience a more negative market reaction to the Abramoff guilty plea. In Table 6, Panel E, we control for state-level corruption in the state where firms' headquarters are located. We use two measures of corruption at the state level: first, the *BGA Index*, measuring the relative strength of states' laws that promote integrity, where higher values of this variable indicate stronger laws. The second measure, *Corruption rate*, captures the number of convictions of public officials for corruption relative to the average population

Table 6
Continued
Panel F: Monte Carlo simulation results

		All firms		Lobbying sample			
		(1)	(2)	(3)	(4)	(5)	(6)
Lobbying rank	β	−0.08***	−0.05*	−0.14***	−0.11**		
	E[β]	0.00	0.00	0.00	0.00		
	p-value	(0.00)	(0.07)	(0.00)	(0.02)		
Log(lobbying expenses)	β					−0.23***	−0.19***
	E[β]					0.01	0.00
	p-value					(0.00)	(0.01)
Log(assets)	β		−0.12		−0.09		−0.10
	E[β]		0.01		0.00		0.00
	p-value		(0.18)		(0.27)		(0.26)
MB ratio	β		−0.01		0.10*		0.10*
	E[β]		0.00		0.00		0.00
	p-value		(0.45)		(0.07)		(0.07)
Constant	β	−1.71*	−0.66	−1.12	−0.53	1.39	1.58
	E[β]	−0.02	−0.07	−0.02	−0.03	−0.08	−0.09
	p-value	(0.08)	(0.40)	(0.20)	(0.39)	(0.20)	(0.18)

Table 6 reports results from additional robustness tests. In Panel A, Columns (1) and (2) use a propensity score matching approach to create a matched sample of non-lobbying firms as a control group, and report the results from an event study of the cumulative abnormal returns of lobbying firms compared to the matched control group in the 3-day event window around Abramoff's guilty plea (3 January 2006). Panel A, Column (3) uses the lobbying sample, and an alternative measure of lobbying expenses expressed as a fraction of total expenses. Panel B reports the results from an event study of the average daily abnormal returns in a 3-day event window around the same date as the guilty plea, January 3, but in the years 2004, 2005, and 2007, to control for potential calendar time effects. Panel C controls for the campaign contributions made by firm-level PACs, and for the political connections of the firms' corporate boards. Panel D controls for industry concentration (HHI) and regulated industries (2-digit SIC codes 40, 48, 49, 60, 61, and 63). Panel E controls for state-level corruption based on the location of firms' headquarters. Panel F presents results from a Monte Carlo analysis simulating the expected cross-sectional variation in event returns under the null hypothesis. Under this method, we estimate coefficients from a regression of cumulative abnormal returns on the lobbying variable and the control variables for the event date. We then randomly select 1,000 nonevent days from January 2005 through December 2006, regress abnormal returns for these nonevents on the lobbying and control variables, and obtain coefficient estimates for each iteration. We then report p-values for the test β=E[β]. All variables are described in Table A1. P-values, based on robust standard errors and using the ST method (except for Panel A, Columns (1) and (2), and Panel F), are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

of the state. The results reported in Panel E show that firms located in states with below-median strength in laws promoting public integrity, and higher than the sample median number of convictions of public officials, experienced a greater decrease in market returns in response to the Abramoff event. The lobbying variables retain their sign and statistical significance after controlling for state-level corruption.

Last, we have a single event affecting all firms that may lead to contemporaneous correlation of returns, which we address using the portfolio-based ST methodology. Moreover, we also provide results from an alternative approach that estimates bootstrapped p-values calculated via Monte Carlo simulations using nonevent day returns (see, for example, Zhang 2007; Larcker, Ormazabal, and Taylor 2011). Under this method, we first estimate coefficients from a regression of abnormal returns on the lobbying variable and the control variables on 3 January 2006, the event date. We then select randomly 1,000 nonevent days from January 2005 through December 2006, regress firms'

abnormal returns for these nonevents on the lobbying and control variables, and obtain coefficient estimates for each iteration. The empirical methodology is described in more detail in Appendix A.2.

In Table 6, Panel F, we report the estimated coefficients of the variables from a regression of abnormal returns for the event days, denoted by β, and the average value of the coefficients from an abnormal returns regression for the 1,000 randomly drawn nonevent days denoted by E[β]. We also report p-values for the test $\beta = E[\beta]$. From the p-values of the estimated coefficients of *Lobbying rank* and *Log*(*lobbying expenses*), we note that the results are robust. The results for the specifications in Table 3 are substantively similar using this approach, and to save space, we do not report them in the article.

5. Conclusion

Despite the fact that corporations and interest groups spend billions of dollars lobbying policy makers, there is a lack of robust evidence on whether firms' lobbying expenditures create value for shareholders. Moreover, while the public perception of the lobbying process is that it involves unethical behavior that may bias rather than inform politicians, this is difficult to show because unethical practices are not typically observable.

Our main contribution is to identify an event that exogenously affects corporate lobbying. Using lobbyist Jack Abramoff's guilty plea to bribery charges as an exogenous negative shock to the ability of firms to lobby, we find that firms that lobbied more experienced a significant decrease in market value around this event.

We also examine whether lobbying adds value simply by informing politicians or whether the value to firms might partly arise from lobbyists using unethical means to influence policy makers. Using SEC enforcement actions against firms for violations, such as insider trading, accounting fraud, and bribery, to identify firms that are more likely to engage in unethical practices, we show that, the value loss associated with lobbying activity around the guilty plea, is greater for firms charged with violating SEC rules.

Based on the argument that firms with weak policies against bribery and corruption may be more likely to engage in unethical practices, we also show that the lobbying-related loss of value around the scandal is significantly greater among firms with a weak code of ethics. We obtain similar results for firms with a poor reputation for CSR. Taken together, our results suggest that lobbying is valuable to shareholders and that part of the value from lobbying may arise from potentially unethical arrangements between firms and policy makers.

Appendix

Table A1

Variable	Description
CAR(-1;+1) in %	The cumulative abnormal return of each firm calculated over a 3-day window centered at the event date. The abnormal returns are in percentage. Abnormal returns are calculated using the Fama-French 3-factor model.
Lobbying expenses (in 000s)	Continuous variable that measures the amount of money (in thousands of $s) spent on lobbying by a firm in the 3-year period 2003–2005 (included). It is constructed as the sum of lobbying expenses made by each firm over this period. Source: OpenSecrets.org
Lobbying expenses/total expenses	Continuous variable that measures the amount of money spent on lobbying by a firm in the 3-year period 2003–2005 as a fraction of the total expenses incurred by the firm during this period. *Total expenses* are defined as the sum of advertising expenses, interest expense, R&D expense, and selling, general, and administrative expense.
Lobbying rank	Ordinal variable that measures the rank of each firm in terms of lobbying activity. To construct this variable, we split all firms with non-zero lobbying over the period 2003–2005 into 10 deciles. The variable is increasing in lobbying expenditures. Decile 10 (Decile 1) includes firms with the largest (smallest) lobbying expenses. *Lobbying rank* takes the value of the decile in which a firm falls based on its lobbying expenses. All firms that have no lobbying activities in the period 2003-2005 (included) are assigned a rank of 0.
Log(lobbying expenses)	Natural logarithm of the sum of the lobbying expenses (in thousands of $s) made by a firm during the 3-year period 2003–2005 (included).
Assets	Book value of the firm's total assets as of the end of year 2005. Expressed in thousands of $s.
MB ratio	A continuous variable that is the ratio of the firm's market value of equity to its book value. Market value is constructed as price multiplied by shares outstanding. *Book value* is the book value of equity and deferred taxes and investment tax credit minus the book value of preferred stock. Book value of preferred stock is redemption, liquidation, or par value (in that order), whereas book value of equity is stockholders' equity, common equity plus par value of preferred, or book value of total assets minus total liabilities (in that order). The measure is for 2005.
Industry FE FF49	Indicator variable for each of the industry groups following the Fama-French 49-industry classification. Source: Kenneth French's website.
Concerns	The sum of all concerns raised by KLD across seven dimensions of corporate social responsibility (CSR): Community relations, corporate governance, diversity, human rights, employee relations, products, and environment. The score is for 2005. Source: KLD Research & Analytics, Inc.
Concerns>P75	An indicator variable that takes the value of 1 if the *Concerns* of a firm's CSR practices exceed the seventy-fifth percentile of the sample, and 0 otherwise.
Strengths	The sum of all strengths identified by KLD across seven dimensions of CSR: Community relations, corporate governance, diversity, human rights, employee relations, products, and environment. The score is for 2005. Source: KLD Research & Analytics, Inc.
Strengths>P75	An indicator variable that takes the value of 1 if the *Strengths* of a firm's CSR practices exceed the seventy-fifth percentile of the sample, and 0 otherwise
Code of ethics	An indicator variable that takes the value of 1 if the score by the firm is "Advanced" or "Intermediate" on both survey questions: Does the company have a code of ethics and, if so, how comprehensive is it? and Does the company have a system for implementing a code of ethics and, if so, how comprehensive is it?, and 0 otherwise. The score is for 2005. Source: EIRIS
Team Abramoff	The ratio of the number of close associates of Abramoff employed by the firm during 2003–2005 to the total number of lobbyists employed by the firm during that period.
D(Team Abramoff)	An indicator variable that takes the value of 1 if a close associate of Abramoff has been employed by the firm during 2003–2005, and 0 otherwise.
SEC action	An indicator variable that takes the value of 1 if the Securities and Exchange Commission has brought a civil lawsuit, investigation and administrative proceeding, or enforcement action against the firm during the 5-year period 2001–2005, and 0 otherwise. Source: SEC Litigation and Enforcement Releases sections.

(*continued*)

Table A1
Continued.

Variable	Description
High/low rep	"High rep" firms meet all of the following three conditions: No SEC action against firm; the firm has a code of ethics; and the firm's concerns do not exceed the seventy-fifth percentile. "Low Rep" firms meet all of the following three conditions: SEC action against firm; the firm does not have a code of ethics; and the firm's concerns exceed the seventy-fifth percentile.
PAC contributions (in 000s)	A continuous variable that measures the amount of money (in thousands of $s) spent on campaign contributions by a firm's political action committee (PAC) in the 3-year period 2003–2005 (included). This includes the amount spent during the 2004 cycle and half of the 2006 cycle. It is measured as the sum of all campaign contributions through PACs made by each firm over this period. Source: OpenSecrets.org
PAC contributions rank	An ordinal variable that measures the rank of each firm in terms of political campaign contributions. To construct this variable, we split all firms over the period 2003–2005 into 10 deciles. The variable is increasing in campaign contributions. Decile 10 (Decile 1) includes firms with the largest (smallest) donations. *PAC contributions rank* takes the value of the decile in which a firm falls based on its campaign contributions.
Intangibles/assets	Book value of a firm's intangible assets scaled by the book value of its total assets. The measure is for 2005.
Low transparency	Indicator variable that takes the value of 1 if a firm's *transparency score* is below the twenty-fifth percentile of the sample scores and 0 otherwise, where *transparency score* is defined as the ratio of the standard deviation of the operating income of a firm to the standard deviation of its cash flow. Standard deviations are estimated over 5-year period ending 2005 (included). Cash flow is calculated as operating income minus accruals, where accruals are (ΔTotal Current Assets – ΔCash) – (ΔTotal Current Liabilities – ΔShort-term Debt – ΔTaxes Payable) – Depreciation Expense. Source: Leuz, Nanda, and Wysocki (2003).
R&D/total expenses	A continuous variable that measures a firm's R&D expenditures as a fraction of its total expenses. Total expenses are defined as the sum of advertising expenses, interest expense, R&D expense, and selling, general, and administrative expense. The measure is for 2005.
HHI	A continuous variable that measures industry concentration at the Fama and French 49-industry classification level. The measure is the equally weighted sum of squared sales-based market shares of all firms on the Compustat tape in that industry. The measure is for 2005.
Democrat on board	Indicator variable that takes the value of 1 if the firm is connected to the Democratic Party or to both the Democratic and Republican Parties, and 0 otherwise (if the firm is connected only to the Republican Party or if it is not connected). Source: Goldman, Rocholl, and So (2009).
Republican on board	An indicator variable that takes the value of 1 if the firm is connected to the Republican Party or to both the Republican and Democratic Parties, and 0 otherwise (if the firm is connected only to the Democratic Party or if it is not connected). Source: Goldman, Rocholl, and So (2009).
Regulated industry	An indicator variable that takes the value of 1 if the firm is in a regulated industry and 0 otherwise. Regulated industries are industries with the following 2-digit Standard Industrial Classification (SIC) codes: 40, 48, 49, 60, 61, and 63.
BGA Index	*BGA Index* measures the relative strength of the states' laws that promote integrity. Higher scores indicate stronger laws and better citizen protection. We use the index of the firm's headquarters state as of 2002. *BGA Index <Median* is an indicator that takes the value of 1 if the state has below-median index, and 0 otherwise. Source: Better Government Association.
Corruption rate	*Corruption rate* measures the number of convictions of public officials for corruption during 1976–2002, relative to the average population in the state. *Corruption Rate >Median* is an indicator that takes the value of 1 if the state has above-median rate, and 0 otherwise. Source: Glaeser and Saks (2006).

Table A2

Lobbying rank	Mean lobbying expenses (in 000s)	Min lobbying expenses (in 000s)	Max lobbying expenses (in 000s)
0	$0	$0	$0
1	$66.6	$10.0	$120.0
2	$205.3	$130.0	$280.0
3	$403.1	$284.0	$520.0
4	$644.8	$540.0	$880.0
5	$1,120.8	$900.0	$1,340.0
6	$1,702.2	$1,356.7	$2,005.0
7	$2,647.4	$2,066.3	$3,320.0
8	$4,049.6	$3,350.0	$5,050.0
9	$7,132.9	$5,267.2	$10,520.0
10	$20,591.3	$10,640.0	$55,960.0

A.1 Daily abnormal returns around Abramoff's plea without ST correction

Table A3 reports the OLS results for the specifications in Table 2. Results for the full sample of lobbying and non-lobbying firms are reported in Columns (1) and (2), and for the sample of firms that lobby in Columns (3)–(6). All variables are described in Table A1. *P*-values based on robust standard errors are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A3

	All firms		Lobbying sample			
	(1)	(2)	(3)	(4)	(5)	(6)
Lobbying rank	−0.025***	−0.017*	−0.046***	−0.038**		
	(0.001)	(0.082)	(0.001)	(0.017)		
Log(lobbying expenses)					−0.078***	−0.063**
					(0.001)	(0.021)
Log(assets)		−0.041		−0.031		−0.034
		(0.212)		(0.457)		(0.421)
MB ratio		−0.004		0.034		0.034
		(0.850)		(0.115)		(0.117)
Constant	−0.569	−0.219	−0.374	−0.175	0.464	0.525
	(0.153)	(0.655)	(0.479)	(0.781)	(0.447)	(0.391)
Industry FE FF49	Yes	Yes	Yes	Yes	Yes	Yes
Firms	617	617	421	421	421	421
R-square	0.267	0.269	0.333	0.342	0.333	0.342

A.2 Describing the Sefcik and Thompson (ST) (1986) and Monte Carlo Methodologies

A.2.1 ST methodology. We implement the ST approach to address cross-security correlation as follows: First, we form a matrix X of firm characteristics measured the year prior to the Abramoff event. The dimensions of the matrix are $N \times P$, where N is the number of firms and P is the number of characteristics. For instance, when estimating the cross-sectional model with *Lobbying rank*, *Log(assets)*, *MB ratio*, and *Industry fixed effect*, P is 52 because there are 52 characteristics (Lobbying rank, Log (assets), MB ratio, and 49-industry indicators). In this case, the matrix X can be written as follows:

$$X = (1 \quad LobbyingRank \quad Log(Assets) \quad MBRatio \quad Ind),$$

where 1 is a vector of 1's, *Lobbying rank* is a vector of the lobbying ranks of the sample firms, *Log(Assets)* is a vector of the sizes of the sample firms, etc.

Next, we use X to form a weighting matrix W, computed as $(X'X)^{-1}X'$,with dimensions $P \times N$. We multiply this matrix by the $N \times 1$ vector of daily returns to form P portfolios of daily stock returns, for the period 2005–2006. For example, the second portfolio gives the returns corresponding to *Lobbying rank*. We then estimate the following model P times (i.e., using P separate regressions for each portfolio constructed above):

$$R_t = \alpha + \beta_m R_{m,t} + \beta_{HML} R_{HML,t} + \beta_{SMB} R_{SMB,t} + \beta_P \delta_t + \varepsilon_t,$$

where p corresponds to each characteristic, and R_t is the daily return on the respective portfolio on day t, while the remaining variables represent the returns on the factors in the Fama-French three-factor model. δ_t is an indicator variable that takes the value of 1 during the event window, and 0 otherwise. The estimated coefficient β_p on the indicator $\delta_t$represents the effect of a given characteristic p on the average daily abnormal returns of the sample firms during the event window.

For the second portfolio, β_p represents lobbying, and is equivalent to estimating $\beta_{Lobbying}$ in the event study procedure described below, but with standard errors corrected for cross-correlation. This approach is equivalent to an event study that would estimate the daily abnormal returns γ_i from:

$$R_{i,t} = \alpha_i + \beta_{m,i} R_{m,t} + \beta_{HML,i} R_{HML,t} + \beta_{SMB,i} R_{SMB,i} + \gamma_i \delta_t + \varepsilon_{i,t},$$

and the effect of firm characteristics on abnormal returns is estimated from the following cross-sectional regression:

$$\gamma_i = \beta_{Cons} + \beta_{Lobbying} Lobbying_i + \beta_{Size} Log(Assets)_i + \beta_{MB} MBRatio_i + Industry\ Fixed\ Effects$$

A.2.2 Monte Carlo simulation methodology. In Panel F of Table 6, we present results from a Monte Carlo analysis simulating the expected cross-sectional variation in event returns under the null hypothesis, using the methodology described in Larcker, Ormazabal, and Taylor (2011) to address the potential problem of cross-security correlation resulting from a single event. Specifically, we select randomly 1,000 nonevent days between January 2005 and December 2006, (excluding the event date, 3 January 2006), and for each nonevent date T, we estimate the following regression using daily returns during 2005 and 2006:

$$R_{i,t} = \alpha_i + \beta_{m,i} R_{m,t} + \beta_{HML,i} R_{HML,t} + \beta_{SMB,i} R_{SMB,i} + \gamma_i \delta_t + \varepsilon_{i,t}$$

where $R_{i,t}$ is the daily return of security i on day t; $R_{m,t}$, $R_{HML,t}$, and $R_{SMB,t}$ are the returns on the three factors in the Fama-French three-factor model; and δ_t is an indicator variable that takes the value of 1 on days T-1, T, and T+1, and 0 otherwise, where T denotes a nonevent day. The coefficient γ_i of the indicator $\delta_t$represents the average daily abnormal return for firm i during the 3-day window around each nonevent date T. To calculate cumulative abnormal returns, CAR_i, we multiply the estimated value of γ_i by 3, the number of days in each window. We then regress CAR_i cross-sectionally on the lobbying variable and controls (size, MB ratio, and industry fixed effects) using the following specification:

$$CAR_i = \alpha + \beta_1 Lobbying_i + \beta_2 X_i + Industry\ Fixed\ Effects$$

From this regression, we obtain an estimate of β for the lobbying and control variables. We repeat these steps for each of the randomly drawn 1,000 nonevent dates. In Panel F of Table 6, we report the mean value of these 1,000 estimates of β, for the lobbying and control variables, denoted by E[β].

We repeat this procedure for the actual event date, 3 January 2006, and report the coefficients in the table, denoted by β. We then test whether the estimated coefficients for the event days (β) are significantly different from the average of the 1,000 estimated coefficients for the nonevent days (E[β]) using the empirical distribution of β on nonevent days. P-values for the test β=E[β] appear in the table, and the asterisks denote significance at standard levels.

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