Corporate Lobbying, Political Protection, and Earnings Management

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Abstract

We provide evidence on the effects of corporate lobbying on earnings management (EM). We argue that corporate lobbying provides firms with some degree of political protection from enforcement of laws and regulations. Thus, lobbying firms face a lower threat of enforcement and this in turn reduces the costs of EM for these firms. Moreover, the potentially weaker enforcement alters the relative costs of accrual management (AM) and real earnings management (RM). We expect lobbying firms to engage in more income increasing AM and less income increasing RM. We find strong evidence consistent with lobbying firms engaging in more EM (in absolute terms), more income increasing AM, and less income increasing RM. Furthermore, we find that when firms directly lobby the SEC the impact on firm AM and RM is greater compared to lobbying other government organizations. Our results are robust to several tests to rule out endogeneity as an explanation for our results and to the use of alternative estimation approaches. Overall, our evidence is consistent with lobbying firms facing lower regulatory enforcement and using this flexibility to reduce RM that is potentially value destructive.

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1. Introduction

In this paper, we investigate whether earnings management (hereafter 'EM') varies with corporate lobbying in the US, a country with a strong enforcement setting. We argue that lobbying reduces the threat of regulatory enforcement and expect that it increases EM in general, as well as income increasing accrual management in particular. Furthermore, given the trade-off documented in prior research between accrual management (hereafter 'AM') and real earnings management (hereafter 'RM'), we also expect that corporate lobbying reduces the need for income increasing RM (Zang [2012]). We document robust evidence consistent with our expectations.

This question is important for several reasons. First, US firms spend a substantial amount on corporate lobbying, and the amount has been increasing over time. More specifically, total lobbying expenditures increased from about $1.45 billion in 1997 to over $3 billion per year from 2008 to 2016 (CRP [2018]). Average lobbying expenditures per firm increased from around $722,000 in 1998 to nearly $1.4 million in 2016, almost doubling in size. Second, corporate lobbying is one of the most prominent ways that firms can directly and legally influence the development of new laws and regulations. For example, in the 1997–1998 election cycle, expenditures on lobbying were $2.6 billion, which was more than 9 times the campaign contributions given by political action committees (Milyo et al. [2000]). Given these magnitudes and influence it is important to investigate the effects of lobbying in general, as well as whether lobbying has any implications for financial reporting.[1]

An additional motivation for our study is that while one expects firms in countries with strong legal enforcement and dispersed ownership, such as the US, generally to have higher quality accounting and less EM (Hope [2003], Leuz et al. [2003]), two prior studies document that

[1] The political cost hypothesis suggests that firms lobby to mitigate regulatory uncertainty, and that lobbying firms are likely to adopt policies with this outcome in mind (Watts, and Zimmerman [1978], Watts, and Zimmerman [1986]).

lobbying in the US is associated with lower likelihood of fraud detection and SEC enforcement actions as well as lower penalties in case an enforcement action is pursued (Yu, and Yu [2011], Correia [2014]). These findings suggest that SEC enforcement may be lax for lobbying firms.[2] On the other hand, Heese et al. [2017] argue that enforcement actions are very infrequent so these findings don't necessarily reflect lax SEC oversight. Furthermore, they document that lobbying is associated with a higher likelihood of receiving an SEC comment letter and conclude that SEC enforcement is not lax. However the scope of comment letters is broader than accounting quality and includes generic business issues, adequacy of disclosure, and other issues unrelated to accounting quality. Thus, it is not clear that the conclusions from Heese et al. [2017] would apply to accounting quality or EM. We examine the effects of lobbying on EM, an outcome that is less severe than fraud but more frequent and more directly related to accounting quality than SEC comment letters, to provide indirect evidence on whether lobbying firms face a reduced threat of enforcement.

The main idea underlying our hypotheses is that lobbying affords firms some type of political protection from strict enforcement of laws and regulations by increasing the SEC's costs of initiating an investigation against the firm. Correia [2014] argues that this does not necessarily require a politician to directly lobby a regulator, rather, the presence of an established public relation between the firm and key politicians might be sufficient to reduce the threat of enforcement. If this is the case, then lobbying reduces the costs of EM and thus results in lobbying firms engaging in more EM than non-lobbying firms.

[2] In a cross-national study, Chaney et al. [2011] find that politically connected firms exhibit lower accounting quality. It is not clear that these findings apply to a country with strong institutions like the US. Moreover, the definition of political connections in this study does not relate to lobbying nor is very relevant to the US setting.

Furthermore, lobbying likely alters the trade-off between AM and RM. In particular, if lobbying reduces the costs of AM, we expect lobbying firms to substitute AM for RM (Cohen et al. [2008], Cohen, and Zarowin [2010], Zang [2012]). Thus, we expect lobbying firms to engage in a greater extent of income increasing AM and a lower extent of income increasing RM. The reduction of RM, which is more likely to be value destructive, is a potential benefit of lobbying that has not been previously explored.

Our hypotheses can be rejected if SEC enforcement is not lax for lobbying firms, as suggested by Heese et al. [2017]. Furthermore, an alternative hypothesis in the literature is that lobbying firms have incentives to hide any potential benefits that they derive from lobbying or at least delay reporting of these benefits (Chaney et al. [2011]). Hiding or delaying benefits would also lead to greater EM in absolute terms. However, it suggests greater levels of income decreasing EM, which is opposite to our expectations.

We obtain lobbying data from the Center for Responsive Politics database which includes data from 1998 to 2016. We manually match names of public firms to Compustat firms for which there is data available to calculate our EM measures. Thus, we obtain a final sample of 3,616 firm-year observations on lobbying firms. Using this sample, we find strong evidence that both absolute discretionary accruals and signed discretionary accruals are significantly positively related to lobbying. Moreover, we find that (signed) RM is negatively related to lobbying consistent with the costs of AM being reduced and managers substituting AM for RM.

Our results are robust to the following tests: 1) controlling for self-selection bias using the two stage Heckman procedure, 2) using an instrumental variable for lobbying expenditures, 3) using a propensity score matched sample, 4) using a 'suspect' firm sample, and 5) using a continuous measure of lobbying. Furthermore, we also perform a pre- and post- lobbying initiation

analysis, examining the change in EM for firms that begin lobbying during our sample period, and find results consistent with our hypotheses.

We also perform several cross-sectional tests and find that the overall effects on EM are incrementally stronger for firms that lobby the SEC or that lobby on relevant issues (e.g. issues relating to accounting, taxes, or finance policies, etc.).[3] Finally, a recent study by Chen et al. [2018] suggests that using residuals (such as discretionary accruals) from a first stage regression as the dependent variable in a second stage regression can lead to systematic biases in the second stage coefficients. Following their suggestion, we repeat our signed discretionary accrual tests and RM tests in a single stage with industry-year indicator variables and interactions of these indicators with the first stage variables. Our inferences are not affected by use of this alternative estimation approach.

Our paper contributes to a growing literature examining the effects of lobbying or political connections on financial reporting quality.[4] Chaney et al. [2011] document that accounting quality is lower for politically connected firms across the globe. However, it is not clear that these findings would hold in the US, a country with relatively strong legal enforcement. Yu and Yu [2011] find that lobbying firms have a lower likelihood of being detected for fraud, a 38% lower chance of being pursued for fraud, and that even if they are pursued, they evade detection for 117 days longer than non-lobbying firms. Correia [2014] finds that politically connected firms are less likely to be involved in SEC enforcement actions, and even if such firms are prosecuted by the SEC, they face lower penalties on average. Heese et al. [2017] argue that because fraud and SEC enforcement are

[3] We define relevant issues in detail within Section 4.7.2.

[4] These literatures are highly related. Specifically, Drutman [2015] argues that the nature of corporate lobbying has expanded to include firms that use lobbying to establish political connections. Furthermore, researchers frequently proxy for US political connections using corporate lobbying expenditures (Correia [2014], Meade and Li [2015], Chen et al. [2015], Kong et al. [2017]).

relatively infrequent, and SEC monitoring is broader than just enforcement actions, the findings in Yu and Yu [2011] and Correia [2014] are not necessarily consistent with lax SEC monitoring. Our findings, based on a broader outcome variable than fraud or SEC enforcement actions, suggest that lobbying does appear to provide a type of political protection by reducing the threat of regulatory enforcement to lobbying firms.

The remainder of the paper proceeds as follows. Section 2 presents the institutional background, related literature and hypotheses. We discuss sample selection, variable measurement and empirical models in Section 3 and the results in Section 4. We conclude in Section 5.

2. Literature Review and Hypothesis Development

The existing political connectedness literature focuses on analyzing political connections and their impact on businesses in a variety of different settings such as government bailouts, corporate financing, and regulatory enforcement.[5] These 'connections' refer to actions which firms take in order to influence politicians. There are a series of behaviors that are classified as measures of political connections by prior literature. These include (i) lobbying performed by the firm, (ii) having management or directors on the board that are or that were involved in politics, and (iii) political action committee ('PAC') contributions made by the firm during campaigns (Faccio et al. [2006], Yu and Yu [2011], Correia [2014], Kong et al. [2017]). There are two reasons we specifically examine corporate lobbying instead of PAC contributions and firms with management or board of directors that are currently or were previously involved in politics.

First, Faccio [2006] documents that within the US the occurrence of such situations is very infrequent. In fact, only 0.20% (14) of all US firms analyzed (7,124) were found to have such

[5] See Faccio et al. [2006], Claessens et al. [2008], Cooper et al. [2010], Chaney et al. [2011], Yu and Yu [2011], Correia [2014], Guedhmi et al. [2014], Chen et al. [2015], Kong et al. [2017], Heese et al. [2017].

connections. Thus, we decided that the use of this particular measure for our study of US firms was not feasible. Corporate lobbying data, on the other hand, became widely available in the US with the passing of the Lobbying Disclosure Act of 1995.

Second, there are a series of existing studies that investigate PAC contributions made by firms (Milyo et al. [2000], Correia [2014]). However, these contributions are limited to very specific time frames and situations (namely, around elections), and are much smaller in amounts compared to lobbying. In the 1997–1998 election cycle, expenditures on lobbying were $2.6 billion, which was more than 9 times the PAC contributions made during the same period (Milyo et al. [2000]). Additionally, lobbying efforts can directly target the SEC, whereas PAC contributions are generally geared towards candidates. Total lobbying expenditures to influence the SEC during 2005-2016 amounted to approximately $4.4 billion. In 2016 alone these expenditures amounted to $371 million dollars, which was approximately 21% of the total budget the SEC requested for 2017 (SEC [2017]). Considering these factors, we determined corporate lobbying as the most appropriate measure of political connections for our analysis.

2.1. The Lobbying Process

Lobbying is the process of petitioning the government in order to influence public policy. It often refers to the act of asking a key decision-maker to vote a certain way or to take a certain stance on a piece of legislation. Lobbying involves a series of complex negotiations between several interested parties. However, it is not a direct exchange of money for a particular piece of legislation and should not be confused with such. All registered lobbying money is directly given to registered lobbying firms and/or in-house lobbying operations. It is not directly given to politicians or legislative staffers. More often than not, as a result of the continued discussions and

negotiations between lobbyists and key-decision makers, the outcomes that lobbyists are left with are often slightly, or widely, different from their original aim (Richter et al. [2009]). There is usually more than one lobbying group involved with a single piece of legislation, and the different groups may represent multiple corporations and multiple viewpoints. This further contributes to potential differences between actual and desired outcomes.

However, despite the demanding negotiation process and the presence of multiple players, there are numerous examples of firm-specific benefits appearing in legislation. For example, within the Jobs Creation Act of 2004 there was a clause added that allowed for specific types of construction expenses on any motorsport entertainment complex to be treated using accelerated tax depreciation. However, the clause was written in such a way that only one motorsport company, International Speedway Corp., could actually receive the benefits.[6] Within the two year period preceding the favorable legislation, International Speedway Corp. was also the only firm that performed any lobbying. It increased its lobbying expenditure from $180,000 in 2003 to $200,000 in 2004, before beginning to receive tax benefits in 2005 (Richter et al. [2009]). As illustrated by this example, firms can receive substantial benefits from lobbying, despite the complexity of the process.

2.2 Previous Research

As previously discussed, corporate lobbying is one of the most prominent ways that firms, associations, and even private citizens can directly and legally influence the development and

[6] It would be applicable so long as the entertainment complex was placed into service after October 22, 2004 and before December 31, 2007. At this point in time, the clause could have applied to any firms that owned and ran NASCAR facilities: International Speedway Corp., Speedway Motorsports Inc., and/or Dover Motorsports Inc. Yet, since there was a short three-year window to receive the beneficial tax treatment, firms would need to have planned construction projects already in order to receive the benefits. Out of the firms listed, International Speedway Corp. was the only one that possessed any major construction plans for 2005–2007 (Richter et al. [2009]).

implementation of new laws and regulations within the US. Lobbying is distinct from other forms of political contributions as it does not rely on the firm funding the eventual winner of an election to enact favorable policies, but can use the lobbyist's political capital to achieve these goals.

Prior work demonstrates that lobbying provides a wide variety of benefits to firms in the US (Alexander et al. [2009], Richter et al. [2009], Yu and Yu [2011], Correia [2014], Hadani et al. [2018], Lambert [2018]). Industry specific studies have also demonstrated the success of lobbying in shaping trade policy in the steel industry (Schuler [1996]) and influencing legislation in the tobacco industry (Glantz, and Begay [1994]). In the banking sector, Igan, and Mishra [2014] find that lobbying is positively associated with legislators switching their stance towards greater financial deregulation.[7]

Lobbying is also beneficial to politicians as lobbyists provide access to information, legislation expertise, and campaign contributions. Although politicians are aware that lobbyists provide information beneficial to their client base, they still view them as a reliable source of information, due to the complexities of legislation, and are willing to cross party lines to receive their expertise (Bertrand et al. [2014]). Furthermore, politicians have incentives to meet with lobbyists as they can provide a connection to potential sources of campaign contributions (Koger, and Victor [2009]). Finally, maintaining political connections with lobbyists can help former elected officials cash in on their public service through the revolving door as 25% of former House members and 29% of former Senators registered as lobbyists between 1976 and 2012 (Lazarus et al. [2016]).

[7] Studies on financial performance and lobbying has found mixed results as Hill et al. [2013] and Chen et al. [2015] find evidence of a positive relation between financial performance and lobbying while Hadani and Schuler [2013] document a negative relation. Recent studies have addressed this disparity by examining potential moderating effects of lobbying such as CEO political affiliation, organizational complexity, and growth opportunities (Unsal et al. [2016], Cao et al. [2018]).

2.3 Hypotheses Development

Existing literature documents that corporate lobbying is related to lower regulatory enforcement. For example, in a sample of 205 frauds between 1998 and 2004, Yu and Yu [2011] find that lobbying firms have a lower likelihood of being detected for fraud, a 38% lower chance of having the fraud first detected by regulators, and even the fraud detection is delayed by 117 days compared to non-lobbying firms. Similarly, Correia [2014] finds that politically connected firms (including lobbying firms) are less likely to be involved in SEC enforcement actions, and even if such firms are prosecuted by the SEC, they face lower penalties on average. Additionally, the influence of lobbying is greater when the target of the contributions have a greater ability to impact the SEC's activities. These studies demonstrate that lobbying firms experience a reduced likelihood of regulatory enforcement compared to non-lobbying firms. We argue that this reduced likelihood of regulatory enforcement results from lobbying firms receiving a form of political protection.

Reduced regulatory enforcement levels, in turn, have implications for firm EM practices. Roychowdhury [2006] argues that that AM is more likely to draw regulatory scrutiny compared to RM, which is why managers choose to use RM. When investigating reasons for SEC enforcement, Dechow et al. [1996] document that neither pricing or production decisions, nor decisions on discretionary expenses (i.e. RM practices) are listed as causes for initiating an action. Given these findings, we argue that regulatory enforcement is a cost associated with AM and that a reduction in the likelihood of regulatory enforcement will decrease the cost of AM. If this is the case then we would expect lobbying firms to engage in greater levels of AM compared to non-lobbying firms. Thus, our first hypothesis is stated as follows:

H1: Lobbying is positively associated with accrual based earnings management

The cost of AM also impacts the level of RM because managers view these types of EM as substitutes (Zang [2012]). RM is typically seen as more costly as it results in real changes in cash flows (e.g. cash paid to produce additional inventory to decrease fixed costs per unit, inventory holding costs due to increased manufacturing, and cuts to research and development impacting future profitability).[8] Consistent with the increased cost of RM, Bhojraj et al. [2009] find that firms cutting discretionary spending are more likely to have equity issuances and greater insider stock sales. This finding is consistent with managers understanding the costs of RM.

Prior work also suggests that income increasing AM is negatively related to its potential costs (Cohen and Zarowin [2010], Zang [2012]). A reduced threat of enforcement implies that lobbying reduces the costs of income increasing AM, which should lead to a reduction in income increasing RM. Put differently, if managers can use income increasing AM more freely, they have less of a need to use the more costly income increasing RM. Thus, the decreased cost of AM relative to RM leads to the following hypotheses:

H2a: Lobbying is positively associated with income increasing accrual management

H2b: Lobbying is negatively associated with income increasing real earnings management.

[8] We focus our study on Income increasing RM as income decreasing RM tends to have fewer negative future implications. For example, a firm may shift R&D spending from a future period to the current period if they will beat analyst forecasts by a significant margin.

2.4 Arguments for the Null Hypothesis

One of the basic premises underlying our paper is the idea that lobbying firms experience reduced levels of regulatory enforcement (Yu and Yu [2011], Correia [2014]). However, in contrast with these studies on fraud and SEC enforcement, Heese et al. [2017] find that the likelihood of receiving an SEC comment letter is significantly higher for lobbying firms relative to non-lobbying firms. They also find that lobbying firms appear to receive more substantive reviews, considering the amount of days it takes to close the comment, the topics covered by the comment letters (e.g. core earnings), and the involvement of a supervisor.[9] These results indicate that SEC oversight, in terms of finding comment letter issues, is not lax when it comes to lobbying firms. Potentially this supports the null hypothesis in our study, where corporate lobbying would be unrelated to EM. However, while lobbying firms may not experience a reduced level of regulatory oversight, they may still experience a reduced level of regulatory enforcement (Yu and Yu [2011], Correia [2014], Heese et al. [2017]). Lobbying firms may still have incentives to engage in differing levels of EM, because even though total regulatory oversight may not be reduced, the ultimate level or threat of enforcement is reduced.

Another argument supporting the null comes from the Chaney et al. [2011] study. Using a sample of 4,500 firms from over 19 countries, Chaney et al. [2011] find that political connections are associated with lower accrual quality and argue that managers with political connections have incentives to hide, obscure, or attempt to delay reporting the benefits they receive, with an intent of misleading investors. Furthermore, Chaney et al. [2011] find evidence that politically connected firms across the globe have higher volatility (or magnitude) of performance-adjusted discretionary

[9] However, evidence in Johnston and Petacchi [2017] suggest that SEC comment letters are not necessarily related to accounting quality, but rather generic business issues, tone/level of disclosure, or to request a citation from the authoritative literature to support an accounting treatment.

current accruals.[10] If the argument in Chaney et al. [2011], where lobbying firms have incentives to hide the benefits of lobbying, apply in the US setting, then we should observe lobbying firms using income decreasing EM. This is in contrast with our predictions in H2a and H2b. However, we note that Chaney et al. [2011] perform their analysis using an international sample of firms, and thus their findings may not hold for the US, a country with relatively strong legal enforcement. A further reason why we may not observe results consistent with the above predictions is that lobbying firms may be concerned about public or media scrutiny as Kong et al. [2017] suggest. If so, they may have incentives to use income decreasing EM.

3. Research Design

In this section we discuss our data sources and sample selection process, our EM measures and our primary estimation model.

3.1 Data and Sample Selection

As in prior studies (Chen et al. [2015], Kong et al. [2017]), we obtain corporate lobbying data from the Center for Responsive Politics (CRP) database. Their data is compiled from the semi-annual lobbying disclosure reports filed with the Senate's Office of Public Records. Lobbying data is available starting in 1998, therefore our sample includes data from the years 1998-2016.

We calculate annual lobbying amounts per firm by summing the mid-year and year-end lobbying totals provided by CRP. We note that lobbying amounts disclosed are limited to those over a certain dollar threshold, which can change depending on whether the lobbying is done in-house or externally. The data provided by CRP includes information on lobbying expenditures

[10] Chaney et al. [2011] do not investigate the impact of lobbying on accruals, as they define political connectivity as a large investor or top director being a member of parliament, head of state, or otherwise related to a politician.

made by public firms, private firms, associations, alliances and non-profits.[11] We limit our sample to public firms for which there is available financial data (Compustat) to calculate our variables of interest and controls. We winsorize all continuous variables at the 1% and 99% levels. As CRP does not use company identifiers (CIK, CUSIP, etc.), we manually match public firm names within the lobbying data to Compustat firm names. This results in a total sample size of 3,616 lobbying firm-year observations.

3.2 Estimation Models

3.2.1 Accruals Management

We proxy for AM using signed and unsigned (absolute) discretionary accruals (Jones [1991], Dechow et al. [1995], Kothari et al. [2005], Zang [2012]). Discretionary accruals are calculated as the difference between total accruals and the normal level of accruals. Our model is run using two-steps. In a robustness test we repeat our tests using a single-step estimation model with indicator variables as suggested by Chen et al. [2018].

First, we estimate a cross-sectional model of normal or expected accruals for every industry-year. This allows us to control for industry-wide changes that may affect total accruals, while allowing the coefficients to vary over time. We estimate normal accruals using the following model as in Cohen et al. [2008]:

$$\frac{\text{Accruals}_{it}}{A_{it-1}} = \alpha_0 + \alpha_1\left(\frac{1}{A_{it-1}}\right) + \alpha_2\left(\frac{\Delta\text{Sale}_{it}}{A_{it-1}}\right) + \alpha_3\left(\frac{\text{PPE}_{it}}{A_{it-1}}\right) + \varepsilon_t \quad (1)$$

[11] It is difficult to track any lobbying performed by an association back to the individual firms which contributed to the association. Business associations do not typically disclose all of their members, nor which of their members contributed to lobbying efforts. As such, we remove any lobbying amounts paid by corporate associations (or other similar groups) from the sample used in our analysis.

where Accruals_{it} is the earnings before extraordinary items minus the operating cash flows for firm i in year t; and PPE_{it} is the gross property, plant and equipment for firm i in year t. Equation (1) is estimated cross-sectionally for each industry-year that has at least 15 observations.[12] In the second step, we use the coefficient estimates from Equation (1) to estimate the firm-specific normal accruals (*NA*) as follows:

$$\text{NA}_{it} = \alpha_0 + \alpha_1\left(\frac{1}{\text{A}_{it-1}}\right) + \alpha_2\left(\frac{\Delta\text{Sale}_{it} - \Delta\text{AR}_{it}}{\text{A}_{it-1}}\right) + \alpha_3\left(\frac{\text{PPE}_{it}}{\text{A}_{it-1}}\right) \quad (2)$$

where ΔAR_{it} is the change in accounts receivable for firm i from year t-1 to t. Following existing literature, when calculating normal accruals we adjust revenues for the change in accounts receivable in order to capture any potential discretion arising from credit sales (Cohen et al. [2008]). The abnormal level of accruals, AM, is measured as the difference between total accruals and the fitted normal accruals as follows:

$$\text{DA}_{it} = (\text{Accruals}_{it}/\text{A}_{it-1}) - \text{NA}_{it} \quad (3).$$

3.2.2 Real Activities Management

Following prior literature, we examine the following measures of RM: the abnormal levels of production costs, discretionary expenditures and cash flow from operations (Roychowdhury [2006], Cohen et al. [2008], Zang [2012]). We discuss and present the associated models used to develop each of these measures below.

We estimate the normal level of production costs using the following model as in Roychowdhury [2006]:

[12] We repeat our tests using the Kothari et al. (2005) measure of performance-based discretionary accruals, by matching each firm-year observation to the firm with the closest ROA in the same industry-year. Our results remain consistent using this performance adjusted measure of discretionary accruals.

$$\frac{PROD_{it}}{A_{it-1}} = \alpha_0 + \alpha_1\left(\frac{1}{A_{it-1}}\right) + \alpha_2\left(\frac{Sale_{it}}{A_{it-1}}\right) + \alpha_3\left(\frac{\Delta Sale_{it}}{A_{it-1}}\right) + \alpha_4\left(\frac{\Delta Sale_{it-1}}{A_{it-1}}\right) + \varepsilon_t \quad (4)$$

where $PROD_{it}$ is the sum of the cost of goods sold in year t and the change in inventory from t-1 to t for firm i; A_{it-1} is the total assets for firm i in year t; $Sale_{it}$ is the net sales for firm i in year t; and $\Delta Sale_{it}$ is the change in net sales for firm i from t-1 to t. Equation (4) is estimated cross-sectionally for each industry-year that has at least 15 observations. The abnormal level of production costs is measured using the estimated residual from Equation (4). The greater the residual, the greater the inventory overproduction and the greater the increase in reported earnings due to reduced cost of goods sold.

We estimate the normal level of discretionary expenditures using the following model as in Roychowdhury [2006]:

$$\frac{DISX_{it}}{A_{it-1}} = \alpha_0 + \alpha_1\left(\frac{1}{A_{it-1}}\right) + \alpha_2\left(\frac{Sale_{it-1}}{A_{it-1}}\right) + \varepsilon_t \quad (5)$$

where $DISX_{it}$ is the discretionary expenditures (i.e. the sum of R&D, advertising, and SG&A) for firm i in year t. Equation (2) is estimated cross-sectionally for each industry-year that has at least 15 observations. The abnormal level of discretionary expenditures is measured as the estimated residual from Equation (2). We multiply the residuals by (-1) for ease of interpretation. Thus, higher values indicate a larger cut to discretionary expenditures, which increases reported earnings.

Finally, we estimate the normal levels of cash flow from operations using the following model as in Roychowdhury [2006]:

$$\frac{CFO_{it}}{A_{it-1}} = \alpha_0 + \alpha_1\left(\frac{1}{A_{it-1}}\right) + \alpha_2\left(\frac{Sale_{it}}{A_{it-1}}\right) + \alpha_3\left(\frac{\Delta Sale_{it}}{A_{it-1}}\right) + \varepsilon_t \quad (6)$$

where CFO_{it} is the cash flow from operations for firm i in year t. Equation (6) is estimated cross-sectionally for each industry-year that has at least 15 observations. The abnormal level of

cash flow from operations is measured as the residual from Equation (6).[13] For our later analyses, we aggregate the three real activities measures into one proxy, RM, by taking their sum.

3.3 Empirical Model

To examine the impact of corporate lobbying on EM, we estimate the following regression model:

$$\mathrm{EM} = \alpha_0 + \alpha_1 \mathrm{Lobby} + \alpha_2 \mathrm{Controls} + \varepsilon_t \quad (7)$$

where the dependent variables (referred to collectively as EM) are the measures of RM and AM respectively. The variable of interest in Equation (7) is *Lobby*, a dummy variable set equal to one if the firm had lobbying expenditures during the year, and zero otherwise. We also run our main analyses using a continuous measure of lobbying, *lnLobby*, which equals the logarithm of total lobbying expenditures made by firm i in year t.

Following prior studies (Yu [2008], Badertscher [2011], Zang [2012], Chan et al. [2015]), we control for firm characteristics that could impact AM and RM, respectively. For both types of EM, we include controls for firm size, MTB (market-to-book ratio), ROA (return on assets), leverage, firm age, and balance sheet bloat (Badertscher [2011], Zang [2012]). Firm size (*Size*) is the natural log of total assets. Market-to-book (*MTB*) is market value scaled by book value. Return on assets (*ROA*) is income before extraordinary items divided by total assets. Leverage (*Leverage*) is the sum of long-term debt and debt in current liabilities, scaled by total assets. Firm age (*FirmAge*) equals the number of days from the first date a firm appeared in Compustat to the fiscal

[13] This particular residual is difficult to interpret. As discussed in Roychowdhury [2006], price discounts, channel stuffing and overproduction have a negative effect on abnormal CFO. However, the reduction of discretionary expenditures has a positive effect on abnormal CFO. Thus, there is an unclear net effect on abnormal CFO. Considering this ambiguous effect, we run our analyses both including and excluding the CFO measure. We obtain similar results whether we include of exclude the CFO measure in calculating our RM proxy.

year end date. Lastly, balance sheet bloat (*Bloat*) equals net operating assets scaled by lagged total sales. Balance sheet bloat is meant to represent the total amount of unreversed accruals still remaining on the balance sheet (Badertscher [2011]). The use of EM in the current year is constrained by the use of AM in the prior year, thus we expect to find a negative relation between *Bloat* and both AM measures (Barton and Simko [2002], Badertscher [2011]).

Controls specific to AM are sales growth, sales volatility and litigation (Badertscher [2011], Collins et al. [2017]). Sales growth (*SG*) is the annual percentage change in sales revenue. Sales volatility (*VolRev*) is equal to the standard deviation in sales (scaled by total assets) over the prior five periods. Litigation (*Litigation*) is a dummy variable, equal to 1 if the firm is in a high litigation industry, 0 otherwise. Collins et al. [2017] argue that existing discretionary accruals models do not adequately control for nondiscretionary accruals that occur naturally due to firm growth. Thus, it is necessary to control for sales growth when examining AM.[14] Separately, we also include a control for sales volatility. Considering the emphasis management places on earnings persistence, firms which have a greater volatility in sales are more likely to engage in AM to compensate for the associated volatility (Graham et al. [2005], Hribar and Nichols [2007], Chan et al. [2015]). Thus, we expect to see a positive relation between AM (signed and unsigned) and our *VolRev* control. Lastly, in-line with Badertscher [2011] we also include a control for highly litigious industries in our AM analysis. Existing literature finds that firms that engage in income increasing AM are exposed to greater litigation risk (Dechow et al. [1996]). Considering this increased litigation risk, we argue that firms in highly litigious industries are less likely to engage in income increasing AM. Therefore, we expect to see a negative relation between signed AM and our *Litigation* variable.

[14] Directional predictions for the effect of sales growth on AM are not discussed in existing literature, thus we make no prediction on the sign of the relation between AM and *SG*.

Controls specific to RM are total market share and financial distress (Badertscher [2011], Zang [2012]). Market share (*MktShare*) is calculated as the percentage of the firm's total sales to the total Fama-French 48 industry sales. Financial distress (*Distress*) is the firm's Altman Z-score (Altman [1968]) calculated as follows: 1.2*(Net Working Capital/Total Assets) + 1.4*(Retained Earnings/Total Assets) + 3.3*(EBIT/Total Assets) + 0.6*(Market Value of Equity/Book Value of Liabilities) + 1.0*(Sales/Total Assets). Zang [2012] shows that firms with better financial health (a higher Z-score) and larger market share are more likely to engage in RM. Thus, we expect a positive relation between RM and our *MktShare* and *Distress* variables. Note, we define all variables in greater detail in Appendix A.

As suggested by Zang [2012], in our main analyses we include measures of RM as a potential determinant of AM. Both Zang [2012] and Cohen et al. [2008] find evidence of a trade-off between AM and RM. Zang [2012], in particular, argues that RM occurs during the fiscal year and is realized by the fiscal year-end. After RM, managers have a chance to adjust the level of AM. This difference in timing implies that managers would adjust AM depending on the outcome of RM. Thus, it is appropriate to include RM as a determinant in the AM regression. Similar to the AM regression, we also include AM as a determinant within the RM regression. Considering prior studies document a substitution between RM and AM, we expect a negative relation between AM and RM variables (Cohen et al. [2008], Zang [2012]).

4. Results

4.1 Descriptive Statistics

Table 1 provides descriptive statistics for both lobbying and non-lobbying firms, as well as correlations between our variables of interest. Panels A and B show that lobbying firms tend to

be both larger and older compared to non-lobbying firms. Additionally, they tend to have lower sales growth, higher return on assets, less leverage, and larger market-to-book ratios. Considering the differences in firm characteristics between lobbying firms and non-lobbying firms, we perform a series of tests to address potential endogeneity issues.[15] Table 1 Panel B, shows that the total average lobbying amount per firm within our sample period equals about $1 million. As Figure 1 illustrates, average lobbying expenditures per firm have nearly doubled since the start of the sample period, increasing from an average of about $722,000 (1998) to an average of about $1.4 million (2016).

Table 1 Panel C provides correlations between our variables of interest. The panel shows that lobbying is highly correlated with firm size and firm age, respectively. Lobbying also has a positive correlation with AM and a negative correlation with RM. This is consistent with our predictions that lobbying is positively associated with income increasing AM (H2a) and negatively associated with income increasing RM (H2b).

4.2 Full Sample Results

Table 2 provides the Equation (7) estimation results using the entire sample of lobbying and non-lobbying firms. Table 2 columns 1, 2, 4 and 5 present the results for our main analysis when AM (signed or absolute) is our dependent variable, while Table 2 columns 3 and 6 present the results when RM is our dependent variable. Based on our first hypothesis, we expect a positive relation between absolute AM and lobbying (H1). Based on our second set of hypotheses, we

[15] Our tests include controlling for self-selection bias using the two-stage Heckman procedure, using an instrumental variable for lobbying expenditures, using a propensity score matched sample, and running a pre- and post- lobbying initiation analysis. These procedures are discussed in further detail in the subsequent sections.

expect a positive relation between signed AM and lobbying (H2a), but a negative relation between signed RM and lobbying (H2b).

Table 2, columns 1, 2 and 3 provide results for our binary lobbying variable (*Lobby*), while columns 4, 5 and 6 provide results for the continuous lobbying variable (*lnLobby)*. Results from our binary variable analyses provide evidence on the relation between EM and the presence, or lack thereof, of lobbying. While results from our continuous variable analyses provide evidence on the relation between EM and the intensity of lobbying expenditures made by firms.

Within the AM analyses (Table 2, columns 1, 2, 4, and 5) we find the coefficients on *Lobby* to be positive and significant for both signed and unsigned measures of AM. The positive coefficients on *Lobby* indicate that lobbying firms engage in greater amounts of absolute AM as well as greater amounts of income increasing AM. We find similar results with the continuous lobbying variable (*lnLobby*). Consistent with the trade-off between types of EM documented in the previous literature (Zang [2012]), the coefficient on RM is negative and significant in our AM regressions. Overall, these results provide evidence supporting both H1 and H2a.

In our RM analyses (Table 2, columns 3 and 6), we find a negative and significant relation between lobbying and RM. The negative coefficient on *Lobby*, combined with our earlier AM results, provide interesting insight into the interaction between AM and RM for lobbying firms. These results are consistent with managers of lobbying firms using income increasing AM rather than RM due to a reduction in the cost of AM. The coefficients on our lobbying intensity measure (*lnLobby*) suggest that these relations appear to increase with the intensity of lobbying.

Turning to the control variables for both the AM and RM analyses, we find coefficients consistent with our expectations. Similar to Badertscher [2011], we find a negative relation between our balance sheet bloat measure (*Bloat*) and both our AM measures, as well as a negative

relation between our highly litigious industries measure (*Litigation*) and our signed AM measure. Additionally, we find a positive relation between our sales volatility measure (*VolRev*) and our AM measures consistent with Hribar and Nichols [2007]. The remaining coefficients on our control variables are generally consistent with existing literature (Badertscher [2011], Zang [2012]).

4.2 Controlling for Self-Selection Bias

Using a non-randomly selected sample within regression estimation (in this case, lobbying firms) can potentially create an omitted variables problem. This, in turn, can bias the coefficient estimates of independent variables. In order to address this issue, we use the Heckman [1979] two-step procedure to correct for self-selection bias. In the first step, we estimate the probability of a firm engaging in lobbying by using the following model:

$$\text{Lobby} = \alpha_0 + \alpha_1 \text{Size} + \alpha_2 \text{MTB} + \alpha_3 \text{ROA} + \alpha_4 \text{Leverage}$$
$$+\alpha_5 \text{FirmAge} + \alpha_6 \text{LagCFO} + \varepsilon_t \quad (8)$$

where the dependent variable is our previously defined *Lobby* (or *lnLobby*) variable. Following prior studies, we include controls for size (*Size*), market-to-book (*MTB*), return on assets (ROA), leverage (*Leverage*), firm age (*FirmAge*), and lagged operating cash flows (*LagCFO*) as determinants of corporate lobbying (Hill et al. [2013], Chen et al. [2015], Kong et al. [2017]).

The results from estimating Equation (8) are provided in Table 3 Panel A. They indicate that large firms, firms with high market-to-book ratios, firms with low return on assets, firms with low leverage, and older firms are more likely to engage in corporate lobbying. We use these estimates to obtain the inverse mills ratio for all sample firms. We then include the inverse mills ratio in our EM regressions as an additional control variable to correct for potential self-selection

bias. Table 3 Panel B shows the results from incorporating the inverse mills ratio in model (7). The coefficients on *Lobby* are positive and significant in both the signed and unsigned AM regressions, while the coefficient on *Lobby* is negative and significant in the RM regression. We find similar results when we use the continuous lobbying variable (*lnLobby*). Overall, these results are consistent with those presented in Table 2. Thus, controlling for self-selection bias does not alter our inferences.

4.3 Instrumental Variable Estimation

As a second way to address endogeneity, we use an instrumental variable approach. The first stage of our instrumental variable analysis uses the average level of lobbying made by other firms in the same industry over the same period (Correia [2014], Heese et al. [2017]) as an instrument for firm level lobbying. Following Larcker, and Rusticus [2010], we check the validity of our instrument by looking at the first-stage F-test (untabulated). The values of our F-statistics are 243.01 for the binary variable estimation and 372.16 for the continuous variable estimation. These values fall well above the single instrument threshold of 8.96 recommended by Stock et al. [2002]. Thus, we consider our instrument to be appropriate.

Results for the instrumental variable analysis are presented in Table 4. The coefficients on *Lobby* for our AM and ABS_AM analyses, provide evidence consistent with our prediction that lobbying firms engage in greater amounts of AM, particularly income increasing AM. Meanwhile, the coefficient on *Lobby* for our RM analyses, provides evidence consistent with our expectation of the reduced need for lobbying firms to engage in income increasing RM, due to reductions in the cost of AM. Results are qualitative similar when using the continuous lobbying measure

(*lnLobby*). The results from our instrumental variable model are consistent with the results obtained from our original estimation model in Table 2.

4.4 Propensity Score Matched Sample

To further examine the robustness of our primary results we use propensity score matching. Our propensity score matching approach begins with modeling the probability of a firm engaging in lobbying activities. We use similar determinants to those presented in Equation (8) for our self-selection model, but we limit our matching to firms within the same industry-year and firm size decile. Thus, we do not include firm size as a separate determinant, nor do we include industry and year fixed effects. Similar to existing literature, we match lobbying and non-lobbying firms within a propensity score radius (i.e. caliper) of 0.005. We allow for replacement in the selection of matches to ensure that we find a meaningful match for each of the lobbying firms (Shipman et al. [2017]).[16] In order to have a sufficient sample size, we perform a two to one match between our treatment and control groups. Based on the Rosenbaum, and Rubin [1985] study, we calculate the standard percentage bias between our treatment and control samples, where a sample is considered appropriately balanced if the bias is less than 25. Our bias falls well below the noted threshold, thus we consider our propensity score matched sample to be appropriately balanced. Following this, we rerun our original estimation model (Equation (7)) using the treatment and propensity score matched control samples and present the results in Table 5.

[16] Shipman et al. [2017] argue that matching without allowing for replacement can result in low quality matches compared to matching with replacement. This is because if each control observation can only be matched once, then even if it is the best match for several treatment observations it can only be used once and a worse match will replace it. Thus, replacing observations reduces potential bias because each treated observation will be matched with the most similar control observation.

In Table 5, the coefficients on *Lobby* for both our AM (signed and unsigned) and RM analyses support our hypotheses, which posit that lobbying is positively related to absolute AM and signed AM (H1 and H2a) and that lobbying is negatively related to RM (H2b). These relations also hold when we use our continuous lobbying measure (*lnLobby*). Overall, the results from our propensity score matched sample are also consistent with those from our original estimation model (Table 2).

4.5 Pre- and Post- Lobbying Initiation

An additional concern with our original estimation model is reverse causality, as our primary tests do not provide evidence over the direction of the relation between lobbying and EM (i.e. whether the choice to lobby determines firm EM policies, or firm EM policies determine the choice to lobby). Thus, we estimate Equation (7) on a sub-sample of firms that initiate lobbying during our sample period (treatment group) and compare them to firms that never engaged in lobbying activities (control group). We define lobbyist firms (*Lobbyist*) using a dummy variable, equal to 1 if the firm lobbied at any time during its life, 0 otherwise. Using the same propensity score matching approach as we outlined in Section 4.4., we match lobbyist firms in their first year of lobbying to non-lobbyist firms in the same year and compare EM in the pre- and post-lobbying initiation period for the matched sample. We define our post-lobbying initiation period (*Post*) using a dummy variable, equal to 1 if it is during or after the initial year of lobbying for the firm (or its corresponding match in the treatment group), 0 otherwise. Our main variable of interest is the interaction term, *Post*Lobbyist*.

If lobbying causes firm EM behavior to change, then we would expect to see a significant and positive relation between AM (both signed and absolute) and *Post*Lobbyist*, as well as a

significant and negative relation between RM and *Post*Lobbyist*. This would indicate that the EM behavior of lobbyist firms changes only after they begin lobbying.

Our results for the pre- and post-lobbying initiation periods are presented in Table 6. From Table 6, we can see that in the pre-lobbying initiation period, it appears that lobbyist firms engage in greater levels of income increasing RM compared to non-lobbyist firms. However, there is no significant difference in the amount of absolute AM, nor in the amount of income increasing AM between lobbyist and non-lobbyist firms in the pre-lobbying initiation period.

In the post-lobbying initiation period we see a significant change in both types of EM for lobbyist firms. The results in Table 6 show positive and significant coefficients on *Post*Lobbyist* in the signed and unsigned AM regressions, and a negative and significant coefficient on *Post*Lobbyist* in the RM regression. This suggests that once firms initiate lobbying, they experience an increase in income increasing AM, and a decrease in income increasing RM. Thus, if the cost of RM is less than the cost of engaging in lobbying activities the substitution from RM to AM may be beneficial to shareholders. Overall, these results are consistent with our primary findings in that lobbying firms engage in greater levels of EM post lobbying initiation and substitute the use of AM for RM.

4.6 Lobbying the SEC and Relevant Issue Lobbying

The bulk of our analyses thus far examine the implications of total corporate lobbying on firm EM. While prior literature generally investigates the effects of lobbying as a whole without distinguishing between lobbying to particular government organizations or lobbying on specific issues (Yu and Yu [2011], Chen et al. [2015], Kong et al. [2017]), we examine subsamples of

lobbying where we expect the incremental effects to be stronger. In particular, we investigate the incremental effects on EM of lobbying the SEC and of lobbying over relevant issues.

4.6.1 Lobbying to the SEC

Similar to prior literature, we perform an additional analysis that investigates the incremental impact of directly lobbying the SEC (Correia [2014], Heese et al. [2017]). As the SEC has oversight over publicly traded firms, the SEC can directly impact on the level of regulatory enforcement a firm receives. Thus, by lobbying the SEC directly, a firm potentially receives a greater reduction in the threat of regulatory enforcement compared to lobbying other government organizations. This reduced level of enforcement, in turn, could result in a greater impact on firm EM. In order to investigate the incremental effect of lobbying to the SEC on EM, we run the following modified version of our original estimation model:

$$\mathrm{EM} = \alpha_0 + \alpha_1 \mathrm{Lobby} + \alpha_2 \mathrm{SEC} + \alpha_3 \mathrm{Controls} + \varepsilon_t \quad (9)$$

where *SEC* is a dummy variable, equal to 1 if the firm lobbied to the SEC during the fiscal year, 0 otherwise. We rerun the same analysis using our continuous lobbying variable (*lnLobby*), and with a continuous SEC lobbying variable (*lnSEC*). Where *lnSEC* is equal to the logarithm of the total amounts lobbied to the SEC for firm i during year t. If lobbying the SEC has a greater impact on firm EM compared to lobbying other government organizations, then the coefficient on *SEC* should be positive and significant in our AM regressions (signed and absolute) and negative and significant in our RM regressions. Results for our modified analysis are presented in Table 8.

Table 8, columns 1, 2 and 3 present the results for our binary variable (*SEC*). While Table 8, columns 4, 5 and 6 present the results for our continuous variable (*lnSEC*). The coefficients on *SEC* indicate that there appears to be an even greater impact on EM policies if the firm lobbies the

SEC directly for both the dichotomous and continuous measures of lobbying. Not only does the absolute amount of AM increase, but the trade-off between income increasing AM and RM also appears to be greater if a firm lobbies the SEC. Overall, our results suggest that lobbying to the SEC in particular has a greater impact on firm EM when compared to lobbying other government organizations. This evidence suggests that lobbying to the SEC directly reduces the threat of enforcement to a greater extent, compared with lobbying to other government organizations.

4.6.2 Lobbying on Relevant Issues

In addition to lobbying specific government organizations, firms can choose to lobby on specific issues. Issue categories can relate to taxes, environmental policy, defense, financial policy, education, banking, etc. Similar to our SEC analyses, we investigate the incremental impact that lobbying on relevant issues has on firm EM policies. We classify lobbying as being on a relevant issue when it falls into one of the following categories: accounting, banking, federal budgets and appropriations, finance, taxes, and trade. Arguably, when firms lobby about an issue that is more relevant to accounting and EM, the overall impact on EM should be greater. Thus, we would expect to see an exacerbated effect of lobbying on EM, if the firm engages in lobbying on relevant issues.

We use a similar model to Equation (9), except instead of having an SEC related variable we now use a variable (both dummy and continuous) to indicate whether a firm lobbies on a relevant issue. Our variables of interest are *RI* and *lnRI*. Where *RI* is a dummy variable, equal to 1 if the firm lobbied over a relevant issue during the fiscal year, 0 otherwise, and *lnRI* is equal to the logarithm of the total amounts lobbied to relevant issues for firm i during year t. Results for our relevant issues analysis are presented in Table 9.

Table 9, columns 1, 2 and 3 present the results for our binary variable (*RI*) and Table 9, columns 4, 5 and 6 present the results for our continuous variable (*lnRI*). Similar to when a firm lobbies the SEC, it appears that lobbying on a relevant issue results in a larger impact on firm EM using both our dichotomous and continuous measures of relevant issue lobbying. From the coefficients on *RI* for both the AM (signed and unsigned) and RM regressions, not only does lobbying a relevant issue increase total absolute AM, but it also increases the use of income increasing AM and the associated trade-off with income increasing RM. The evidence suggests that when a firm engages in lobbying on relevant issues, there is a larger incremental effect on EM as a result.

Taken together, the SEC and relevant issue analyses indicate that not only does lobbying in general impact firm EM policies, but the specific issue and organization being lobbied can affect the magnitude of the impact. Issues and organizations that have a more direct influence on firm accounting and EM and on firm enforcement levels induce greater changes in firm EM policies.

4.7 Suspect Firm Analysis

A potential concern with our analyses is whether the AM and RM proxies we use are actually capturing EM activities of firms, or capturing a different phenomenon. To help provide some construct validity for our EM proxies, following Cohen et al. [2008], we estimate Equation (7) on a subsample of suspect firms. Similar to prior work, we define suspect firms as those firms that just meet or beat particular earnings benchmarks because these firms have potentially greater incentives to engage in EM in order to meet or beat targets (Roychowdhury [2006], Cohen et al. [2008], Zang [2012]). Our two benchmarks are 1) firms just beating/meeting zero dollar earnings and 2) firms just beating/meeting prior year earnings. For the first benchmark our sample consists

of firm-year observations with net income before extraordinary items scaled by total assets that falls within the interval [0, 0.005]. For the second benchmark our sample consists of firm-year observations where the change in net income before extraordinary items scaled by total assets falls within the interval [0, 0.005].

The results for both subsamples are presented in Table 7. Panel A shows the results for firms that just meet/beat the zero dollar earnings benchmark, while Panel B shows the results for firms that just meet/beat the prior year earnings benchmark. Results from both suspect firm subsamples are consistent with the results from our main analysis (Table 2), thus providing some evidence on the construct validity of our EM measures.

4.8 Robustness Tests

Recent literature raises concerns over using residuals from a first stage regression as dependent variables in a second stage regression. (Chen et al. [2018]). Accounting researchers frequently use OLS to separate a dependent variable (such as accruals) into both its predicted and residual components and then use the residuals (e.g. a proxy for discretionary accruals) as a dependent variable in a second regression. Chen et al. [2018] show that the typical implementation of this two-step procedure potentially generates biased coefficients and standard errors, which can lead to incorrect inferences.

For estimation methods where the first-step regression involves generating residuals by industry-year, Chen et al. [2018] indicate that to correct for potential bias researchers can run a single regression including a set of industry-year indicator variables and their interactions with each of the first-step independent variables. Considering that the bulk of our analyses involve using

residuals as a dependent variable, we rerun our original estimation model using their recommended specification. More specifically, we use the following single-step estimation model:

$$\mathrm{DV} = \alpha_0 + \alpha_1 \mathrm{Lobby} + \alpha_2 \mathrm{Controls} + \alpha_3 \mathrm{IndustryYear} + \sum_{i=1}^{k} \alpha_i \text{ First stage variable}_i$$

$$+ \sum_{i=1}^{k} \beta_i \left(\mathrm{IndustryYear} * \text{First stage variable}_i\right) + \varepsilon_t \quad (10)$$

where *DV* is equal the relevant dependent variable included in our initial AM and RM estimation models from equations (1) through (4); *First stage variable* is equal to the relevant explanatory variables included in our initial AM and RM estimation models (Equations (1) to (4)); and *IndustryYear* denotes industry-year fixed effects based on two-digit SIC codes. As we utilize first step independent variables within our analyses, we rerun our RM analyses broken out by its three component variables relating to discretionary expenditures (DISX), production costs (PROD) and operating cash flows (CFO).[17] Thus, positive values indicate a cut to discretionary expenditures, which increases reported earnings. We present results from our original estimation model (with RM components) and results for our single-step estimation model in Table 10.

Table 10 Panel A presents the results from our original estimation model with the RM components. The coefficients on *Lobby* and *lnLobby* for both the signed AM and RM components analyses are consistent with those from our original estimation model (Table 2). Table 10 Panel A, shows that the relation between lobbying and signed AM is positive and significant, while the relation between lobbying and the various RM measures is negative and significant.

Similarly, we present the results from the single stage model in Table 10 Panel B. For our signed accrual analyses, the coefficients on *Lobby* and *lnLobby* remain positive and significant,

[17] For the DISX analysis we multiply our dependent variable (discretionary expenditures) by (-1) for ease of interpretation.

while for our RM analyses, the *Lobby* and *lnLobby* coefficients for all three RM measures (DISX, PROD, and CFO) remain negative and significant. Thus, using this alternative estimation approach does not alter our inferences.

5. Conclusion

Prior research suggests that corporate lobbying provides some form of political protection from strict enforcement of laws and regulations (Correia [2014]). We argue that this protection reduces the cost of EM for lobbying firms in general and cost of AM in particular, thus allowing firms to engage in more AM. We also argue that, given the trade-off between accrual and RM (Zang [2012]), the decrease in cost of AM results in a greater level of income increasing AM and in a lower level of income increasing RM.

We find strong support for our hypotheses across a range of tests that are intended to mitigate endogeneity concerns. These tests including controlling for self-selection bias using a two stage Heckman procedure, using an instrumental variable for lobbying expenditures, using a propensity score matched sample, using a 'suspect' firm sample, and using a continuous lobbying variable. Additionally, we also perform a pre- and post-lobbying initiation analysis and find similar results after a firm initiates lobbying. Overall, our results suggest that lobbying does appear to provide a type of political protection and that this, in turn, influences the choice of firm EM.

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Appendix A: Variable Definitions

Lobbying variables

Lobby	Dummy variable, equal to 1 if the firm has lobbying expenditures during the fiscal year, 0 otherwise.
lnLobby	Equals the logarithm of total lobbying expenditures made by firm i in year t.
Lobbyist	Dummy variable, equal to 1 if the firm lobbied at any time during its life, 0 otherwise.
Post	Dummy variable, equal to 1 if it is during or after the firm's initial year of lobbying, 0 otherwise.

Earnings management variables

AM	Equals the difference between total accruals and the fitted normal accruals calculated using the Modified Jones Model.
RM	Equal to the sum of the estimated residuals from Equations (4), (5) and (6).
ABS_AM	Equal to the absolute value of the difference between total accruals and the fitted normal accruals calculated using the Modified Jones Model.

Control variables

Bloat	Net operating assets scaled by lagged total sales (SALE). Operating assets equal total assets (AT) minus cash and short-term investments (CHE). Operating liabilities equal total assets (AT) minus short-term debt (DLC) minus long-term debt (DLTT) minus minority interest (MIB) minus preferred stock (PSTK) minus common equity (CEQ). Bloat is equal to the firm-specific balance sheet bloat minus the industry median balance sheet bloat.
Distress	Equals the firm's Altman Z-score (Altman [1968]). Calculated as 1.2*(Net Working Capital/Total Assets) + 1.4*(Retained Earnings/Total Assets) + 3.3*(EBIT/Total Assets) + 0.6*(Market Value of Equity/Book Value of Liabilities) + 1.0*(Sales/Total Assets).
FirmAge	Number of years from the first date in which the firm appears in Compustat.
LagCFO	Lagged cash flows from operations divided by lagged total assets.
Leverage	The sum of long-term debt and debt in current liabilities divided by total assets ((DLTT+DLC)/AT).
Litigation	Dummy variable, equal to 1 if the company operates in a high litigation industry (SIC codes 2833–2836, 3570–3577, 3600–3674, 5200–5961 and 7370–7374), 0 otherwise.
MktShare	Equals the percentage of the firm’s total sales (SALE) to the total Fama-French 48 industry sales.

Control variables continued

MTB	Market to book ratio (PRCC_F*CSHO/CEQ).
RI	Dummy variable, equal to 1 if the firm lobbied over a relevant issue (an issue relating to accounting, banking, federal budgets and appropriations, finance, taxes, or trade) during the fiscal year, 0 otherwise,
lnRI	Equal to the logarithm of the total amounts lobbied to relevant issues for firm i during year t.
ROA	Income before extraordinary items divided by total assets (IB/AT).
SEC	Dummy variable, equal to 1 if the firm lobbied to the SEC during the fiscal year, 0 otherwise.
lnSEC	Equal to the logarithm of the total amounts lobbied to the SEC for firm i during year t.
SG	Current sales minus lagged sales divided by lagged sales.
Size	Logarithm of total assets (AT).
VolRev	Standard deviation of revenues (scaled by total assets) computed over the period t-5 to t.

Figure 1 Average lobbying expenditures over time

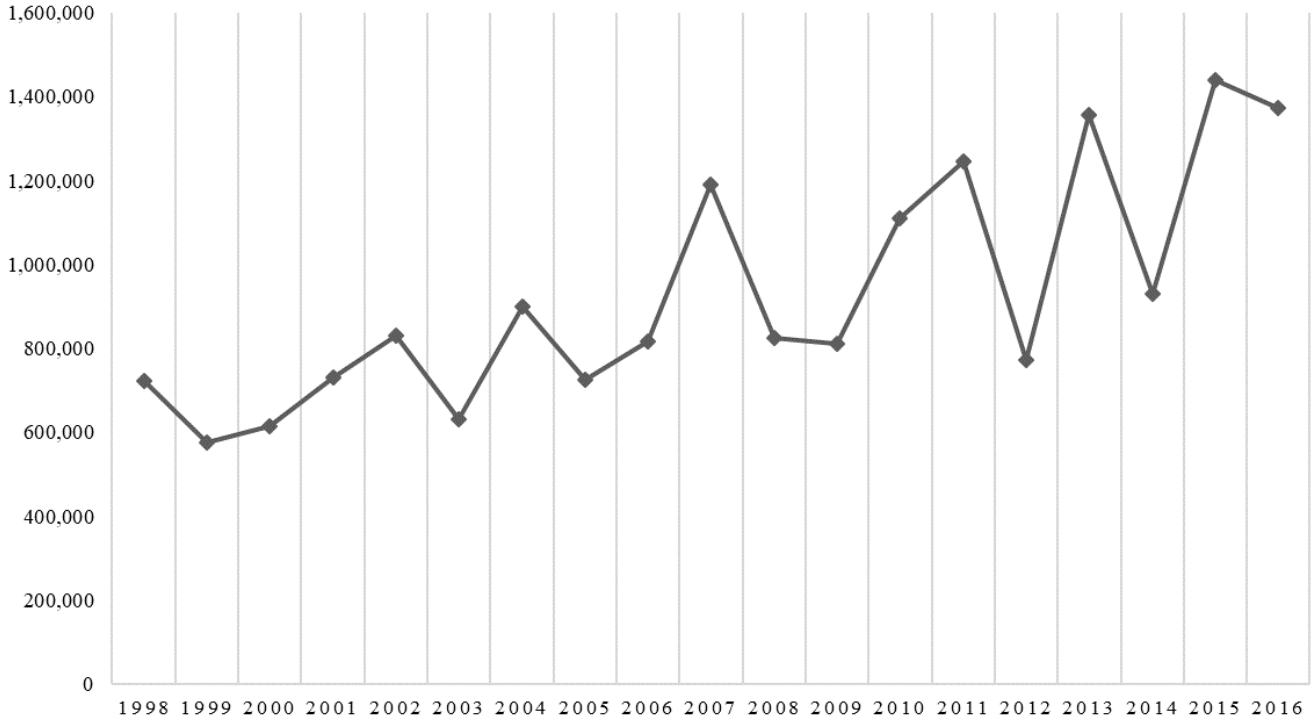

Figure 1 shows the average of total lobbying expenditures per firm over time. The sample includes all lobbying firms from 1998 to 2016.

Table 1: Descriptive statistics for the sample of lobbying and non-lobbying firms

Panel A: Lobbying firm sample

	Count	Mean	Median	S.D.	25%	75%
Size	3,616	9.180	9.354	1.548	8.232	10.35
MTB	3,616	3.687	2.622	5.949	1.608	4.405
ROA	3,616	0.043	0.053	0.118	0.021	0.090
Leverage	3,616	0.252	0.238	0.166	0.140	0.345
FirmAge	3,616	35.34	33.00	19.05	18.00	53.00
Bloat	3,616	0.170	0.080	1.087	-0.158	0.439
SG	3,616	0.071	0.049	0.264	-0.029	0.134
Litigation	3,616	0.362	0.000	0.481	0.000	1.000
VolRev	3,616	0.172	0.116	0.200	0.065	0.209
MktShare	3,616	4.901	3.018	4.832	1.062	7.390
Distress	3,370	1.332	0.884	2.562	0.615	1.320
Lobbying Exp.	3,616	1,003,975	420,000	1,569,326	155,000	1,120,000

Panel B: Non-lobbying firm sample

	Count	Mean	Median	S.D.	25%	75%
Size	63,060	5.260	5.355	2.416	3.555	6.981
MTB	63,060	2.627	1.731	6.005	0.904	3.203
ROA	63,060	-0.130	0.023	0.597	-0.084	0.071
Leverage	63,060	0.275	0.178	0.450	0.013	0.359
FirmAge	63,060	19.74	16.00	12.78	10.00	26.00
Bloat	63,060	0.205	-0.001	2.103	-0.225	0.309
SG	63,060	0.114	0.056	0.465	-0.066	0.192
Litigation	63,060	0.364	0.000	0.481	0.000	1.000
VolRev	63,060	0.317	0.192	0.412	0.100	0.362
MktShare	63,060	0.670	0.101	1.800	0.018	0.464
Distress	49,092	1.879	1.157	3.636	0.694	1.827

Panel C: Correlations between lobbying and independent variables

	Lobby	AM	RM	Size	MTB	ROA	Leverage	FirmAge	Bloat	Distress
Lobby	1.0000									
AM	0.0154	1.0000								
RM	-0.0122	0.0565	1.0000							
Size	0.3621	0.0448	0.1896	1.0000						
MTB	0.0524	0.0372	0.0099	0.0825	1.0000					
ROA	0.0751	0.4360	0.3727	0.4482	0.1203	1.0000				
Leverage	-0.0364	-0.1799	-0.2237	-0.2681	-0.1406	-0.6022	1.0000			
FirmAge	0.2685	0.0570	0.1275	0.3485	0.0218	0.1537	-0.0742	1.0000		
Bloat	0.0066	0.1068	-0.0479	0.1408	0.0494	0.2979	-0.2823	-0.0328	1.0000	
Distress	-0.0375	0.0197	0.1363	-0.0703	0.0654	0.0399	-0.1346	-0.0590	-0.0379	1.0000

The sample includes all non-utility, non-financial domestic firms from 1998 to 2016 with available data. The input variables are winsorized at 1% and 99%. Lobby is a dummy variable, equal to 1 if the firm had lobbying expenditures during the year, 0 otherwise.

Table 2: Effect of lobbying on earnings management (EM) using full sample

	(1) AM	(2) ABS_AM	(3) RM	(4) AM	(5) ABS_AM	(6) RM
Lobby	0.0243***	0.0204***	-0.0946***			
	(13.31)	(13.41)	(-10.61)			
lnLobby				0.0020***	0.0017***	-0.0080***
				(13.97)	(14.31)	(-11.53)
RM	-0.0318***	-0.0167***		-0.0318***	-0.0166***	
	(-16.58)	(-8.92)		(-16.56)	(-8.90)	
AM			-0.3424***			-0.3424***
			(-13.87)			(-13.87)
Size	-0.0173***	-0.0149***	-0.0216***	-0.0174***	-0.0150***	-0.0216***
	(-47.20)	(-40.56)	(-11.87)	(-47.21)	(-40.61)	(-11.89)
MTB	-0.0004*	0.0006***	0.0014***	-0.0004*	0.0006***	0.0014***
	(-1.95)	(3.42)	(2.72)	(-1.96)	(3.41)	(2.73)
ROA	0.1944***	-0.0917***	0.4514***	0.1944***	-0.0917***	0.4513***
	(49.08)	(-25.23)	(41.05)	(49.09)	(-25.21)	(41.05)
Leverage	0.0356***	0.0214***	-0.0812***	0.0356***	0.0214***	-0.0812***
	(8.57)	(5.88)	(-7.18)	(8.57)	(5.88)	(-7.18)
FirmAge	0.0008***	0.0002***	0.0011***	0.0008***	0.0002***	0.0011***
	(17.72)	(6.92)	(6.01)	(17.54)	(6.73)	(6.15)
Bloat	-0.0021***	-0.0030***	-0.0603***	-0.0021***	-0.0029***	-0.0603***
	(-3.44)	(-5.26)	(-28.83)	(-3.44)	(-5.25)	(-28.82)
MktShare			0.0186***			0.0192***
			(14.22)			(14.55)
Distress			0.0223***			0.0223***
			(19.58)			(19.59)
SG	-0.0139***	0.0382***		-0.0139***	0.0383***	
	(-4.86)	(15.35)		(-4.86)	(15.36)	
Litigation	-0.0114***	0.0005		-0.0114***	0.0005	
	(-4.29)	(0.23)		(-4.30)	(0.22)	
VolRev	0.0202***	0.0673***		0.0201***	0.0672***	
	(6.09)	(21.66)		(6.07)	(21.64)	
IFE	Yes	Yes	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes	Yes	Yes
N	66,676	66,676	52,462	66,676	66,676	52,462
adj. R^2	0.237	0.352	0.529	0.237	0.352	0.529

t statistics in parentheses

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

The sample includes all non-utility, non-financial domestic firms from 1998 to 2016 with available data. AM is calculated as the difference between total accruals and fitted normal accruals (equation (3)). RM is the sum of the residuals from equations (4), (5), and (6). Each EM model is estimated cross-sectionally for each industry-year for the period. All industry-years used to estimate the models are required to have at least 15 observations. The input variables are winsorized at 1% and 99%. Lobby is a dummy variable, equal to 1 if the firm had lobbying expenditures during the year, 0 otherwise. lnLobby is equal to the logarithm of total lobbying expenditures made by the firm during the fiscal year.

Table 3: Effect of lobbying on EM after controlling for self-selection bias

Panel A: First stage: Propensity to lobby

	(1) Size	(2) MTB	(3) ROA	(4) Leverage	(5) FirmAge	(6) LagCFO
Lobby	0.4661***	0.0103***	-0.3058***	-0.3984***	0.0154***	0.0100
t-stat	(62.09)	(4.59)	(-5.36)	(-5.95)	(22.57)	(0.09)
N	65,867					
pseudo R^2	0.415					

Panel B: Second stage: Earnings management analyses

	(1) AM	(2) ABS_AM	(3) RM	(4) AM	(5) ABS_AM	(6) RM
Lobby	0.0154***	0.0120***	-0.0845***			
	(7.04)	(5.74)	(-8.63)			
lnLobby				0.0012***	0.0010***	-0.0072***
				(6.83)	(5.59)	(-9.13)
RM	-0.0315***	-0.0164***		-0.0315***	-0.0164***	
	(-16.32)	(-8.66)		(-16.31)	(-8.66)	
AM			-0.3456***			-0.3455***
			(-13.90)			(-13.90)
Inverse Mills Ratio	0.0775***	0.0709***	-0.1341**	0.0759***	0.0694***	-0.1231**
	(7.26)	(5.75)	(-2.35)	(6.96)	(5.51)	(-2.14)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes	Yes	Yes
N	65,867	65,867	52,035	65,867	65,867	52,035
adj. R^2	0.239	0.355	0.530	0.239	0.355	0.530

t statistics in parentheses

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

The sample includes all non-utility, non-financial domestic firms from 1998 to 2016 with available data. AM is calculated as the difference between total accruals and fitted normal accruals (equation (3)). RM is the sum of the residuals from equations (4), (5), and (6). Each EM model is estimated cross-sectionally for each industry-year for the period. All industry-years used to estimate the models are required to have at least 15 observations. The input variables are winsorized at 1% and 99%. Lobby is a dummy variable, equal to 1 if the firm had lobbying expenditures during the year, 0 otherwise. lnLobby is equal to the logarithm of total lobbying expenditures made by the firm during the fiscal year. Inverse Mills Ratio equals the inverse mills ratio, refer to Section 4.2 for further discussion.

Table 4: Effect of lobbying on EM using instrumental variables estimation

	(1) AM	(2) ABS_AM	(3) RM	(4) AM	(5) ABS_AM	(6) RM
PrLobby	0.2543***	0.1770***	-0.9793***			
	(33.11)	(25.11)	(-24.10)			
PrlnLobby				0.0238***	0.0238***	-0.0714***
				(5.33)	(5.13)	(-4.20)
RM	-0.0287***	-0.0146***		-0.0319***	-0.0168***	
	(-15.09)	(-7.93)		(-16.66)	(-9.00)	
AM			-0.3171***			-0.3416***
			(-12.89)			(-13.85)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes	Yes	Yes
N	66,676	66,676	52,462	66,676	66,676	52,462
adj. R^2	0.245	0.356	0.533	0.236	0.352	0.528

t statistics in parentheses

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

Results shown above are for the second-stage of our instrumental variable analysis. The sample includes all non-utility, non-financial domestic firms from 1998 to 2016 with available data. AM is calculated as the difference between total accruals and fitted normal accruals (equation (3)). RM is the sum of the residuals from equations (4), (5), and (6). Each EM model is estimated cross-sectionally for each industry-year for the period. All industry-years used to estimate the models are required to have at least 15 observations. The input variables are winsorized at 1% and 99%. PrLobby is the estimated probability of the firm engaging in lobbying activities based on the first stage analysis. PrlnLobby is the estimated intensity of lobbying expenditures based on the first stage analysis.

Table 5: Effect of lobbying on EM using a propensity score matched sample

	(1) AM	(2) ABS_AM	(3) RM	(4) AM	(5) ABS_AM	(6) RM
Lobby	0.0065**	0.0080***	-0.2020***			
	(2.09)	(3.05)	(-9.63)			
lnLobby				0.0006**	0.0008***	-0.0172***
				(2.55)	(3.90)	(-10.47)
RM	-0.0271***	-0.0144***		-0.0269***	-0.0141***	
	(-9.37)	(-3.48)		(-9.29)	(-3.41)	
AM			-0.8729***			-0.8652***
			(-6.35)			(-6.30)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
IFE	No	No	No	No	No	No
YFE	No	No	No	No	No	No
N	5,040	5,040	4,316	5,040	5,040	4,316
adj. R^2	0.207	0.129	0.195	0.207	0.130	0.197

t statistics in parentheses

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

The sample includes all non-utility, non-financial domestic firms from 1998 to 2016 with available data. AM is calculated as the difference between total accruals and fitted normal accruals (equation (3)). RM is the sum of the residuals from equations (4), (5), and (6). Each EM model is estimated cross-sectionally for each industry-year for the period. All industry-years used to estimate the models are required to have at least 15 observations. The input variables are winsorized at 1% and 99%. Lobby is a dummy variable, equal to 1 if the firm had lobbying expenditures during the year, 0 otherwise. lnLobby is equal to the logarithm of total lobbying expenditures made by the firm during the fiscal year.

Table 6: Effect of lobbying on EM for firms that initiate lobbying

	(1) AM	(2) ABS_AM	(3) RM
Lobbyist	0.0031	-0.0008	0.0740***
	(0.94)	(-0.30)	(4.14)
Post	0.0004	0.0007	-0.0314**
	(0.15)	(0.33)	(-2.53)
Post*Lobbyist	0.0077**	0.0084***	-0.1015***
	(2.11)	(2.83)	(-5.15)
RM	-0.0172***	-0.0047*	
	(-6.22)	(-1.79)	
AM			-0.3864***
			(-6.40)
Controls	Yes	Yes	Yes
IFE	Yes	Yes	Yes
YFE	Yes	Yes	Yes
N	17,105	17,105	14,528
adj. R^2	0.202	0.194	0.561

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The sample includes all non-utility, non-financial domestic firms from 1998 to 2016 with available data. AM is calculated as the difference between total accruals and fitted normal accruals (equation (3)). RM is the sum of the residuals from equations (4), (5), and (6). Each EM model is estimated cross-sectionally for each industry-year for the period. All industry-years used to estimate the models are required to have at least 15 observations. The input variables are winsorized at 1% and 99%. Lobbyist is a dummy variable, equal to 1 if the firm lobbied at any time during its life, 0 otherwise. Post is a dummy variable, equal to 1 if it is during or after the initial year of lobbying, 0 otherwise.

Table 7: Suspect firm analyses

Panel A: Suspect firms, just meeting or beating zero dollar earnings

	(1) AM	(2) ABS AM	(3) RM	(4) AM	(5) ABS AM	(6) RM
Lobby	0.0440***	0.0201***	-0.1262***			
	(7.85)	(4.67)	(-6.62)			
lnLobby				0.0036***	0.0017***	-0.0104***
				(8.10)	(4.89)	(-6.89)
RM	-0.0609***	-0.0162***		-0.0609***	-0.0162***	
	(-15.39)	(-4.58)		(-15.38)	(-4.57)	
AM			-0.4058***			-0.4057***
			(-14.33)			(-14.33)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes	Yes	Yes
N	25,367	25,367	20,095	25,367	25,367	20,095
adj. R^2	0.242	0.379	0.505	0.242	0.379	0.505

Panel B: Suspect firms, just meeting or beating prior year earnings

	(1) AM	(2) ABS AM	(3) RM	(4) AM	(5) ABS AM	(6) RM
Lobby	0.0235***	0.0135***	-0.0870***			
	(7.95)	(5.80)	(-6.47)			
lnLobby				0.0019***	0.0011***	-0.0073***
				(8.21)	(6.28)	(-6.95)
RM	-0.0386***	-0.0097***		-0.0386***	-0.0097***	
	(-12.18)	(-3.30)		(-12.17)	(-3.29)	
AM			-0.4128***			-0.4129***
			(-12.03)			(-12.03)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes	Yes	Yes
N	29,401	29,401	23,254	29,401	29,401	23,254
adj. R^2	0.302	0.420	0.531	0.302	0.420	0.531

t statistics in parentheses

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

The sample includes all non-utility, non-financial domestic firms from 1998 to 2016 with available data. AM is calculated as the difference between total accruals and fitted normal accruals (equation (3)). RM is the sum of the residuals from equations (4), (5), and (6). Each EM model is estimated cross-sectionally for each industry- year for the period. All industry-years used to estimate the models are required to have at least 15 observations. The input variables are winsorized at 1% and 99%. Lobby is a dummy variable, equal to 1 if the firm had lobbying expenditures during the year, 0 otherwise. lnLobby is equal to the logarithm of total lobbying expenditures made by the firm during the fiscal year.

Table 8: Incremental effect of lobbying to the SEC on EM

	(1) AM	(2) ABS AM	(3) RM	(4) AM	(5) ABS AM	(6) RM
Lobby	0.0237***	0.0200***	-0.0927***			
	(12.89)	(13.04)	(-10.32)			
lnLobby				0.0019***	0.0017***	-0.0079***
				(13.51)	(13.92)	(-11.22)
SEC	0.0185***	0.0120***	-0.0721**			
	(3.05)	(2.68)	(-2.02)			
lnSEC				0.0012***	0.0007**	-0.0044*
				(2.72)	(2.23)	(-1.75)
RM	-0.0318***	-0.0167***		-0.0318***	-0.0166***	
	(-16.57)	(-8.91)		(-16.55)	(-8.90)	
AM			-0.3424***			-0.3424***
			(-13.87)			(-13.87)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes	Yes	Yes
N	66,676	66,676	52,462	66,676	66,676	52,462
adj. R^2	0.237	0.352	0.529	0.237	0.352	0.529

t statistics in parentheses

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

The sample includes all non-utility, non-financial domestic firms from 1998 to 2016 with available data. AM is calculated as the difference between total accruals and fitted normal accruals (equation (3)). RM is the sum of the residuals from equations (4), (5), and (6). Each EM model is estimated cross-sectionally for each industry-year for the period. All industry-years used to estimate the models are required to have at least 15 observations. The input variables are winsorized at 1% and 99%. Lobby is a dummy variable, equal to 1 if the firm had lobbying expenditures during the year, 0 otherwise. lnLobby is equal to the logarithm of total lobbying expenditures made by the firm during the fiscal year. SEC is a dummy variable, equal to 1 if the firm lobbied to the SEC during the fiscal year, 0 otherwise.

Table 9: Incremental effect of lobbying over relevant issues on EM

	(1) AM	(2) ABS AM	(3) RM	(4) AM	(5) ABS AM	(6) RM
Lobby	0.0225***	0.0185***	-0.0821***			
	(11.21)	(11.12)	(-8.27)			
lnLobby				0.0018***	0.0015***	-0.0071***
				(11.85)	(11.97)	(-9.18)
RI	0.0064**	0.0067***	-0.0443***			
	(2.04)	(2.60)	(-2.82)			
lnRI				0.0004*	0.0005**	-0.0031**
				(1.84)	(2.40)	(-2.57)
RM	-0.0318***	-0.0167***		-0.0318***	-0.0166***	
	(-16.57)	(-8.92)		(-16.56)	(-8.90)	
AM			-0.3425***			-0.3425***
			(-13.87)			(-13.87)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes	Yes	Yes
N	66,676	66,676	52,462	66,676	66,676	52,462
adj. R^2	0.230	0.362	0.527	0.230	0.362	0.527

t statistics in parentheses

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

The sample includes all non-utility, non-financial domestic firms from 1998 to 2016 with available data. AM is calculated as the difference between total accruals and fitted normal accruals (equation (3)). RM is the sum of the residuals from equations (4), (5), and (6). Each EM model is estimated cross-sectionally for each industry-year for the period. All industry-years used to estimate the models are required to have at least 15 observations. The input variables are winsorized at 1% and 99%. Lobby is a dummy variable, equal to 1 if the firm had lobbying expenditures during the year, 0 otherwise. lnLobby is equal to the logarithm of total lobbying expenditures made by the firm during the fiscal year. RI is a dummy variable, equal to 1 if the firm lobbied over a relevant issue during the fiscal year, 0 otherwise.

Table 10: Effect of lobbying on EM using a one-step estimate

Panel A: Original estimation model with RM components

	(1) AM	(2) PROD	(3) DISX	(4) CFO	(5) AM	(6) PROD	(7) DISX	(8) CFO
Lobby	0.0243***	-0.0398***	-0.0339***	-0.0234***				
	(13.31)	(-4.15)	(-12.85)	(-17.62)				
lnLobby					0.0020***	-0.0038***	-0.0025***	-0.0019***
					(13.97)	(-5.14)	(-12.23)	(-18.17)
RM	-0.0318***				-0.0318***			
	(-16.58)				(-8.90)			
AM		0.0550**	-0.2361***	-0.1539***		0.0551**	-0.2362***	-0.1539***
		(2.05)	(-14.74)	(-17.77)		(2.06)	(-14.75)	(-17.78)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	66,676	52,462	52,462	52,462	66,676	52,462	52,462	52,462
adj. R^2	0.237	0.410	0.626	0.559	0.237	0.410	0.626	0.559

Panel B: Model controlling for residual as a dependent variable

	(1) AM	(2) PROD	(3) DISX	(4) CFO	(5) AM	(6) PROD	(7) DISX	(8) CFO
Lobby	0.0225***	-0.0279***	-0.0391***	-0.0062***				
	(11.96)	(-6.40)	(-9.13)	(-3.65)				
lnLobby					0.0018***	-0.0024***	-0.0033***	-0.0005***
					(12.39)	(-7.13)	(-9.93)	(-3.48)
RM	-0.0146***				-0.0145***			
	(-6.85))				(-6.83)			
AM		0.0988**	0.2868***	-0.3580***		0.0988**	0.2868***	-0.3580***
		(3.62)	(9.24)	(-22.52)		(3.62)	(9.24)	(-22.52)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
YFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	66,676	52,462	52,462	52,462	66,676	52,462	52,462	52,462
adj. R^2	0.618	0.852	0.587	0.640	0.618	0.852	0.587	0.640

t statistics in parentheses

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

The sample includes all non-utility, non-financial domestic firms from 1998 to 2016 with available data. Lobby is a dummy variable, equal to 1 if the firm had lobbying expenditures during the year, 0 otherwise. lnLobby is equal to the logarithm of total lobbying expenditures made by the firm during the fiscal year.