Lobbying in Mergers and Acquisitions

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Abstract: We study the economics of regulatory frictions during firms' investment activities, particularly the corporate mergers. Government approvals are a major source of risks to complete takeover deals. Receiving an adverse antitrust review opinion leads to -2.84 percentage points decreases in the combined merging firm values, which is more than half of the synergy perceived at the merger, the combined announcement return 4.2%. We find that corporate lobbying activities significantly associate with outcomes of takeovers. Specifically, increasing lobbying spending by the bidders facilitates deal completion through a lower likelihood of adverse opinions from the antitrust agencies and reduced time in completing the deal. We interpret the results as consistent with a "voice" hypothesis, where firms directly influence the regulatory outcomes. We also show that such effects being well perceived by investors. One standard deviation increase in lobby spending by the bidders results in 1.8 percentage points in the target announcement abnormal returns. Furthermore, the evidence that lobbying spending is only positively correlated with non-entrenched bidders implies that regulatory risk management does not necessarily creating value for the bidders.

JEL Classification: G32, G34, G38, K21, L41, D72

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1 Introduction

During recent years, regulatory costs in completing mergers and acquisitions have drawn the attention of both practioners and researchers. In 2011, AT&T publicly proposed a \$39-billion acquisition of T-Mobile USA, and the presumable merged company would take a 43% share in the wireless market.¹ The deal was blocked by Antitrust Division in the Department of Justice (DOJ), and AT&T stocks were down by 4% on the formal announcement day by DOJ. In addition, AT&T eventually paid a reverse breakup fee of up to \$4.2 billion to the target, or almost 10% of its market value then. The case demonstrates the substantial regulatory costs in big corporate transactions. The U.S. antitrust agencies report that, for all transactions with a reported value larger than \$1 billion in 2011, over 40% has been reviewed in detail by the antitrust agencies and over 15% has been challenged officially.² The antitrust review is a form of regulatory frictions in the corporate takeover market. It may result in direct obstruction of existing merger activities, as well as deterrence against future merger activities (e.g., Seldeslachts, Clougherty, and Barros 2009). While firms may choose an "exit" option by refraining merger activities or even by flowing to industries or countries with lower regulatory frictions³, firms may opt for the "voice" channel by directly influencing the decision makers. In this study, we investigate whether firms actively engage in political activities to mitigate political costs during their takeovers, and, if so, how such activities influence the governance decision making process.

A well explored exit channel by firms facing regulatory frictions is regulatory arbitrate, a legal planning technique by firms to utilize the loopholes in regulations to avoid tax, disclosures, and other regulatory costs. Firms retain oversea cash holdings to avoid taxation (e.g. Zucman 2014), relocate headquarters to low tax countries through "invert" mergers, or flow investment to states or countries with lower regulatory costs (Karolyi and Taboada 2013). In addition to "racing to efficiency" to optimize the investment activities, firms can also be actively involved in the policy

¹ http://money.cnn.com/2011/09/01/technology/att_tmobile_lawsuit/

² The statistics are from Hart-Scott-Rodino Annual Report for the Fiscal Year 2011, reported by Federal Trade Commission and Department of Justice. <u>http://www.ftc.gov/os/2012/06/2011hsrreport.pdf</u>.

³ See the evidence of "regulatory arbitrage" in the banking sector through cross-border mergers in Karolyi and Taboada (forthcoming).

making process to reduce regulatory costs in the current legal environment. In particular, firms often actively communicate with the government through lobbyists.⁴

Previous literature has documented that firms collectively lobby for the passage of legislation (e.g. Alexander, Mazza, and Scholz 2009; Adelino and Dinc 2014; Kerr and Lincoln 2014). Those studies focus on the aggregate lobbying effort and the passage of one particular law. It is difficult to establish the casual link between lobbying activity by a specific firm and the consequence on a favorable legislation change. One exception is Adelino and Dinc (2014) which finds that firms that have lobbied more before the Stimulus Act, are more likely to receive Stimulus fund afterwards. We extend the research by exploring corporate lobbying activities during a more common investment activity – mergers and acquisitions – and consider whether such proactive corporate political activities can positively influence the deal specific outcomes. The antitrust agencies, supposedly to be efficient government agencies, should be objective and closely follow the pre-written Merger Guidelines. Therefore, efficient decision making of the merger reviews should not be influenced by the lobbying activities by the merging firms. Under this efficient agency hypothesis, there should be no correlation between corporate lobbying spending and deal review outcomes. In contrast, there are two common views on the channels through which corporate lobbying spending may correlate with merger review outcomes. First, firms may obtain better information of the prospect of regulatory risks via lobbying, and then selectively announce deals with better chance to clear the antitrust reviews or retract deals with higher regulatory costs at earlier stage. The government agencies may be objective in reviewing the mergers but still allow the privileged lobbying parties with better knowledge about potential regulatory risks. It could be considered as a form of deterrence effects as firms are preemptively restricting the merger activities in the light of high regulatory risks (exit hypothesis). Second, firms can gain more favorable government review outcomes directly through voice. This is the voice hypothesis. By lobbying, firms either provide extra information or reach private deals with government to alter the government antitrust review toward a favorable direction. Understanding

⁴ In the merger where Medco successfully acquired its direct rival Express Scripts, the role of lobbying was highlighted: "... The question was whether Congress would let the FTC do its job, or push them to raise unending red flags on the deal.... It was no mean feat. There were 80 legislative letters about the deal sent to federal and state regulators and 30 state attorneys general were involved in the review. And in 2011 and 2012, the companies spent more than USD 7.5m on federal lobbyists..." ("*How Medco won antitrust approval for a deal Wall Street considered doomed*", http://www.ft.com/cms/s/2/2e0b6ec4-a07d-11e2-88b6-00144feabdc0.html#axz3IwvBftvL)

whether corporate lobbying spending impact government decisions and through which channel firms try to mitigate regulatory risks via lobbying can be important to evaluate the role of lobbying in corporate investment activities.

We start the analysis by evaluating the regulatory frictions in mergers and acquisitions. By focusing on merger antitrust reviews of mergers above \$100 million from 2008 to 2012 in the US, we document a huge economic impact of antitrust regulatory frictions, and present the evidence that firms actively engage in lobbying to manage the regulatory risks in completing corporate takeover deals. Almost every economically significant merger is subject to the approval of antitrust agencies before deal consummation. Antitrust reviews can lead to huge costs for merging firms. First, the regulatory challenges directly undermine the potential profits for the merging firms. For large deals, potential challenges from the agencies are rather frequent as the market power concerns are prominent.⁵ The challenged deals are either failed or imposed with a consent decree with the government which lower profits. Moreover, the majority of regulatory costs lies in deals that are not blocked by the agencies. The investigation process conducted by agencies when entering a further stage (known as the "Second Request") is usually time-consuming and costly. Upon receiving second requests, it takes on average 142 days to complete or withdrawn the deal, which is tripling the average time to complete for approved deals. And the conditional failing probability for these Second Request deals is 26.47%, comparing to 5.83% for all the other deals. The review process by government agencies could potentially result in huge economic loss to the merging firms and it is a risk that firms need to manage. Regulatory challenges for the economically significant M&A deals are closely followed by the stock market. In particular, receiving an adverse opinion (Second Request) from the antitrust agencies leads to -2.84% return for the bidder and the target combined,⁶ comparing to the average combined abnormal announcement return 4.2%. The previous literature has documented the deterrence effects of regulatory enforcement that lower the merger activities in the subsequent periods (e.g. Seldeslachts, Clougherty, and Barros 2009; Clougherty and

⁵ For instance, when two of the largest companies in the industry are involved in the deal, the product market will be very likely dominated by the merged firm.

⁶ Aktas, de Bodt, and Roll (2004) document that the European stock market reacts to the European Commission antitrust agency decisions on business combinations. Consistently, we show that the U.S. stock markets react to the decisions of the antitrust agencies.

Seldeslachts 2012). Our evidence compliments to the previous literature by evaluating the actual costs of receiving an adverse Second Request.

Next, we investigate whether firms actively manage the regulatory risks. We observe that firms lobby more intensively facing the uncertain regulatory risks to complete an M&A transaction. Firms increase lobbying spending by almost doubling the average lobbying intensity, and hire additionally 0.6 lobbyists in the quarter before the announcement and the announcement quarter. The positive correlations between the lobbying spending and the merger review outcomes seem to justify the increased lobbying spending around mergers. The lobbying spending of the bidder can increase the probability of getting favorable antitrust clearance, decrease the probability of getting adverse decision from the antitrust agencies and of deal failure, and shorten the days to complete the transaction. A standard deviation increase in lobbying in the quarter before announcement decreases the probability to receive adverse opinions (known as "Second Request") by 7 percentage points compared to the sample mean 14.2%, decreases the probability of being officially challenged by the agencies by 7 percentage points compared to the sample mean 8.7%, and decreases the probability of withdrawn by 5.13 percentage points compared to the sample mean of 8.3%. Hence we reject the efficient agency hypothesis. The merger review outcomes are correlated on lobbying spending, especially lobbying spending in the quarter before public announcements. It suggests that the antitrust agencies either lack sufficient information or necessary resources or skills, leaving room for merging firms to voice their opinions, or to strategically exit from merger activities with high regulatory risk prospects.

We also address the potential endogeneity biases. Lobbying spending could be driven by omitted variables. There are unobservable costs and benefits of lobbying, and the negative correlations between deal completion risks and lobbying spending could be driven by the omitted determinants of lobbying. We use an instrument variable that may correlates with lobbying behavior but are exogenous to the deal characteristics, the busyness of the government. The busyness of the government is a proxy for the difficulties to communicate with the government. Such costs should enter into firm lobbying decisions as determinants, but should not influence the merger review outcome by the agencies. The government agencies are not supposed to issue negative review opinions (Second Requests and official challenges) depend on how busy they

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are.⁷ The effectiveness of lobbying on merger review outcomes is robust to the inclusion of the IV variables. The results are robust to the IV approach.⁸

We then test the exit and voice hypotheses using cross-border mergers and small mergers as benchmarks. We argue that cross-border mergers or mergers with small value, which are not subject to *U.S.* antitrust reviews, should not be selectively announced based on the U.S. antitrust review prospects. And the outcome of the cross-border deals should not be driven by the lobbying spending in US federal government. If the exit hypothesis is true, we should observe that bidders on average are less likely to announce domestic mergers versus cross-border mergers or small mergers when bidder spend more on lobbying. In contrast, the voice hypothesis predicts no such a negative relation. We construct a risky merger activity measure by calculating the proportion of the total value of above-100-million domestic mergers in proportion to total value of all merger activities by a bidder in a quarter. We find that there is no negative correlation between quarterly lobbying spending and subsequent risky merger activity in the subsequent quarter. Since decision making for firms to engage a merger may be a two-stage process, where the first stage is to decide to initiate a merger or not, and the second stage is to decide to initiate big domestic mergers or not, we also model the regression in a nested logit model. The results do not support the exit hypothesis.

Finally, we explore the value implication of lobbying for shareholders. Adverse regulatory decisions bring in significant drops in both the bidder and target shareholder value and lobbying is negatively associated with such risks. And consistently, the target announcement return indeed increase by 3.6 percentage points if the bidder increases lobbying spending in the quarter before announcement by one standard deviation. Considering the fact that the dollar amount of lobbying spending is in a much smaller scale compare the size of the firm or the deal value, we expect to see the value adding through lobbying for bidders as well. However, the lobbying spending is not correlated with announcement return of the bidders. It indicates that although corporate lobbying

⁷ Since it is a standard practice for firms to strategically withdrawn and refile the merger review filings (HSR filings) to provide extra time for the antitrust agencies when more time is needed, time constrain is not a driving factor for issuance of a Second Request.

⁸ We also employ the distance to Washington D.C. as I.V. and results also hold. However, this IV suffers from weak instrument problem in our bidder sample.

can reduce the regulatory frictions in corporate major investment activities by directly altering the government decisions, it may not spend in the benefit of the shareholders.

This study adds to the growing literature of regulatory arbitrage in investment activities. The banking literature demonstrates strong evidence that bank capitals strategically flow to countries where the regulatory costs are lower (e.g., Houston, Lin, and Ma 2012; Karolyi and Taboada 2013). The corporate finance literature documents that firms avoid tax by holding cash in offshore accounts and reinvest the cash overseas (Zucman 2014). In addition to that, Adelino and Dinc (2014) show that firms aggressively lobby for government bailout money. However, they indicate that it may be in a substitution of future investment. Marceau and Smart (2003) build a theoretical model that even when firms can exit from currently levied regulation, there still remains a significant opportunity to voice through lobbying to secure their investment activities. Consistently, we present the evidence that firms do use lobbying as a voice channel to get favorable government decisions in their major investment activities.

The results of this paper also add to the growing literature of corporate political activities and firm value. Previous literature highlights the role of corporate lobbying in legislation, such as tax rebates (Alexander, Mazza, and Scholz 2009), Stimulus Act funding (Adelino and Dinc 2014), and high skilled immigration (Kerr and Lincoln 2014). Kerr et al. (2014) conclude that corporate lobbying is one of the key determinants of economic policies. We add to this literature showing that the government antitrust review decisions are indeed under the influence of corporate lobbying. Via lobbying, firms have the opportunity to voice their views under mandatory regulatory reviews. We utilize the most economically significant corporate transactions takeovers – and study the value implication of corporate lobbying under the M&A setting. This setting allows us to study the effectiveness of lobbying on government decisions on the firm level, since the government agencies make specific decisions for each transaction. The previous literature indicates firms collectively lobby for certain legislation and enjoy the economic benefit after the passage of the favored legislation. Under the M&A setting, we show that lobbying is associated with more favorable government decisions on merger transactions. The heterogeneous decisions received by each firm provide better assessment of the effectiveness of lobbying at the firm level.

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Our study also contributes to the finance literature by detailed documentation on the US antitrust review process. It helps to better understand the process and shows the severity of adverse interim outcomes. The previous literature (Eckbo and Wier 1985; Eckbo 1992) mainly focus on the officially challenged deals in the 80s and 90s. Up until now, the regulatory environment for takeovers has changed dramatically. The current regulatory process for antitrust review has been changed so that deals cannot consummate without government approvals. Most of the challenged deals end up with consent agreements with the antitrust agencies to eliminate anticompetitive concerns while letting the deals go forward. Only rarely are the challenged cases trapped in long and expensive lawsuit fights with the governments or get brutal rejection on the deals, while most of the officially challenged deals are completed. Thus, the officially challenged deal sample is only a partial demonstration of the regulatory frictions on mergers. Issuance of Second Requests significantly prolongs the time to complete mergers. The deterrent value of antitrust reviews is more revealed in the deals not announced in the face of high regulatory risks. We collect the detailed dates and outcomes in the antitrust regulatory review process for all economic significant, domestic, and publically announced M&A deals from 2008 to 2012 and show a more complete scope of the regulatory risks. The actual impact of antitrust review is much more complex and broader than the binary outcome of whether the transaction is officially challenged or not. We provide a thorough picture on the antitrust regulatory process for the domestic M&As in the US.

Lastly, our study adds to the understanding to the valuation of mergers. It is the first study documents lobbying activities around M&As. At least in the short run lobbying helps firms to go through M&A reviews, which implies that lobbying helps to facilitate the review processes. The target announcement abnormal return is positively associated with lobbying spending which indicates lobbying by the bidder can increase the target shareholder value significantly. However, the bidder or the merging firms combined abnormal announcement returns are not positively correlated with lobbying spending. Corporate lobbying activities relate to the corporate governance or agency conflicts in the bidding firms, which could correlate to the motivation of initiating a deal. Lobbying may let value destroying deals succeed more easily and therefore value destroying for the bidding firm.

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The organization of the paper is as follows: firstly we briefly introduced the intuitional background of the merger review process; secondly we describe our data; then we document the lobbying spending patterns and discuss the determinants lobbying spending; and lastly we show the results of regressions of merger review outcomes and stock returns on lobbying spending to evaluate its effectiveness and value implications.

2 Backgrounds of the Antitrust Review on M&As

The completion of a merger normally depends on several regulatory approvals.⁹ In the U.S., the economically significant mergers are often required to achieve antitrust clearance before consummating the deals. Pursuant to the The Hart–Scott–Rodino Antitrust Improvements Act of 1976 ("HSR Act" thereafter), most M&A transactions with the deal value above a size threshold¹⁰ are required to report to two government agencies --- the Bureau of Competition of the Federal Trade Commission (FTC) or the Antitrust Division in Department of Justice (DOJ). We generally introduce the procedure of antitrust review on mergers in this section. ¹¹

2.1 Premerger Notification Filings and Waiting Period

Before consummation of merger transactions, both the bidder and the target are required to report to the antitrust agencies by filling out the premerger Notification and Report form ("HSR premerger filling" thereafter) which provides information including the identity of the involved parties, the financial statement, valuation, filings submitted to SEC, and any voluntary disclosure. The submission of HSR premerger fillings starts a statutory waiting period of 30 days (15 days in the case of a cash tender offer or a bankruptcy sale) and the merging firms cannot consummate the deal before the expiration of the waiting period.¹² The information in the HSR premerger filling is not public, while firms often voluntarily disclose to the shareholders the

⁹ In addition to antitrust clearance, merging firms sometimes need to get approval from industry specific agencies. For example, mergers involving a telecommunications company often require the permission of transferring communication licenses from the Federal Communications Commission (FCC). Sometimes, firms also need to get approvals from foreign antitrust agencies if the parties do business in other countries. But, US antitrust review applies to almost all the economically significant deals involving a US target.

¹⁰ The threshold is adjusted yearly based on GNP growth rate, and ranges between \$50 million and \$100 million. In 2014, the threshold is \$75.9 million.

¹¹ For more information, see Appendix xxx and the documents of guidance and rule on HSR-related issues prepared by FTC: http://www.ftc.gov/enforcement/premerger-notification-program/hsr-resources

¹² If the last day of the waiting period is weekend or a holiday, the expiration day is the next working day.

status and date regarding the HSR premerger filling as an assessment of the regulatory risks and timing of the takeover, especially when a publicly listed target is involved.¹³

Frequently, firms choose to strategically withdraw the HSR premerger filling and refile it later to start another waiting period. It can provide additional time for the agencies to review the case without immediately triggering Second Requests. But this action also lengthens the time to complete the transaction.

2.2 Early Terminations, Second Requests and clearance of antitrust reviews

If the antitrust agencies have determined not to take any antitrust enforcement action during the waiting period, the agencies may clear the antitrust review earlier by terminating the Waiting Period ("Early Termination" thereafter). According to FTC, early termination is granted for most transactions.

If the agencies decide to more closely review the deal after preliminary review, one of the agencies may issue a request to the merging firms for additional information or documentary materials ("Second Request" thereafter). The issuance of a Second Request extends the waiting period. Firms have to substantially comply with the Second Requests before consummating the deals. Upon firms certifying the substantial compliance with the Second Requests, the agencies start a new waiting period for another 30 days (10 days for cash tender offers or bankruptcy sales).

If firms receive an early termination, or do not receive a Second Request before the expiration date of the waiting period, they are free to complete the merger transaction ("Waiting-Period Expiration" thereafter). If the agencies eventually find the M&A transaction to be anti-competitive, they can officially challenge the merger. The agencies can do so by initiating injunction proceedings in the court to block the transaction. However, it is often possible to resolve competitive concerns by consent agreement between the parties, which allows the beneficial aspects of the deal to go forward while eliminating the competitive threat.

¹³ It is indicated by the guidelines to premerger filing that though the agencies do not reveal to the public any information provided in the filings or the fact that a Premerger Notification has been filed, the agencies may interview or handle requests from interested third parties which is a de facto information leak to the public regarding the existence of the deals.

3 Data and Summary Statistics

3.1 The Merger Sample and the Merger Reviews by Antitrust Agencies

To evaluate the magnitude of the regulatory risks in M&A transactions, we investigate a sample of economically significant and domestic mergers. We choose a merger sample from the SDC M&A database and restrict the mergers to the following requirements: (1) the deal value is at least \$100 million and the percentage of shares sought in the deal is at least 50%; (2) the announcement date is between January 1, 2008 and December 31, 2012; (3) the acquirer and the target is a publicly traded company that can be matched to CRSP stock information at the time of the announcement and with at least one year accounting information before the merger announcement from Compustat; (4) both the acquirer and the target are not in financial or utility industries; (5) the target nation is located in the U.S.; and (6) we exclude leveraged buyouts, spinoffs, recapitalizations, self-tenders and exchange offers, repurchases, minority stake purchases, acquisitions of remaining interest, and privatizations. The sample period starts in 2008 due to the availability of quarterly lobby data. We exclude financial and utility merger deals since the regulations in financial and utility industries are tighter and the regulatory approvals for these deals are more complex than other industries¹⁴. We focus on domestic M&A deals so that the US antitrust review can be a major concern in the regulatory approval process. In total, there are 290 deals that meet all the above requirements.

We collect the dates of submitting filings to regulatory agencies, receiving Second Requests, receiving Early Terminations, expiration of waiting periods, and other related events of the antitrust review process from SEC filings. As it is material information regarding the completion and timing of merger transactions, most merging firms involving a public target merger report at least one date related to their antitrust reviews.¹⁵ We search for keywords including "antitrust", "Second Request", "Early Termination", "HSR", in filings S-4, 8K, 424, 425, DEF 14, DEFM 14, DEFR 14, DFAN 14, SC TO, SC 14, their amendments, and press releases. Out of 290 mergers, we find at least one date related to antitrust review for 240 mergers. Other than the 240 mergers, there are 9 mergers where the merging firms explicitly mention they are not required to

¹⁴ The M&As in financial or utility industries not only are subject to the investigations of the antitrust agencies, but also need the approvals from more direct agencies, such as Federal Reserve or Federal Energy Regulatory Commission.

¹⁵ See Appendix A2 for an illustration of the SEC filings on antitrust review procedures.

fulfill the HSR premerger fillings¹⁶, and two mergers where the antitrust approvals have been cleared before deal announcements.

Based on the information collected from SEC filings, we create a flow chart of the process (Figure 1) and report the median days that are taken in each step. We identify the officially challenged cases by collecting merger information from the Hart-Scott-Rodino Annual Congress Report from 2008 to 2013, and the antitrust case filings on the websites of the agencies. ¹⁷ In the annual congress reports, the antitrust agencies describe every officially challenged deal during the year. In total, we are able to find 20 challenged cases in our merger sample. For the challenged cases, we collect the official final ruling dates as the enforcement dates.

On average, firms file the HSR premerger filling 11.5 days after the public announcement date. Though there are 4 mergers where the firms file the HSR premerger filling before the public announcement dates, in all the 240 deals, firms receive Early Terminations, Second Requests, or Waiting-Period Expiration after the public announcement dates. In 34 cases, we observe firms strategically withdraw the HSR premerger filling and refile it to start another waiting period. In most cases, firms explicitly state in the SEC filings that it is to provide extra time for the agencies to review their cases. After HSR premerger filling, most firms clear the antitrust review quickly. In 98 mergers, outright approvals are granted soon-firms receive Early Termination in 12 days after HSR premerger filling dates and complete the transaction in 52 days. 108 mergers have cleared the antitrust review with the natural expiration of waiting periods, and are completed 29 days after the expiration dates. However, 34 mergers are considered likely to be anticompetitive and receive Second Requests. In these cases it takes on average 142 days to finalize the deals. The average days till resolution are almost tripling those of deals that are granted antitrust approvals. Moreover, conditional on receiving Second Requests, the probabilities of being officially challenged or withdrawing the transaction are also significantly higher than others. Although not reported in Figure 1, 21 deals or 61.8% of the Second Request

¹⁶ The exemptions include the acquisition of raw lands, or foreign assets, of which the sales in the US are no more than \$50 million.

¹⁷ For DOJ: <u>http://www.justice.gov/atr/cases/index.html</u> and for FTC: <u>http://www.ftc.gov/enforcement/cases-proceedings</u>.

deals have either eventually failed (withdrawn) or been officially challenged, while only 15 deals or 7.3% of non-Second Request have either failed or been challenged.

Receiving a Second Request not only increases the completion time and risks enormously, but also involves direct costs. It requires many efforts to successfully provide the requested "additional information" to the agencies after receiving Second Requests. Although most of the deals go dark after receiving Second Requests, we find some information in SEC filings or press releases for 13 Second Request mergers. In this small subsample, firms announce the substantial compliance to the Second Requests on average 74 days after the Second Request dates. The Second Requests are described as very time consuming and involve disclosures of proprietary information to the government agencies¹⁸.

Another observation from the sample is that most of the officially challenged deals are completed eventually. Only 5 deals out of the 20 challenged deals are withdrawn eventually and considered to be failures. Most of the challenged deals are completed with consent agreements with the agencies, which usually require the merging firms to divest some assets after the consummation of the deals. The deterrence effect of antitrust agencies could lie in the withdrawn deals. In the presence of a low probability of clearing the antitrust reviews, firms may withdraw the deals before the formal challenge decisions made by the agencies.

3.2 Corporate Lobbying

We use lobbying disclosures from Center of Responsive Politics (CRP).¹⁹ It mostly uses the publicly available lobbying disclosure data from Senate Office of Public Records, but CRP standardizes the company names and identifies the ultimate parent firms of the lobbying clients. The database of lobbying disclosure contains lobbying incomes of lobbyists from 1999 until present. The reporting period before 2008 is on a semi-annual basis. After the passage of the Honest Leadership and Open Government Act in 2007, the reports now are on a quarterly basis

¹⁸ "The second request consists of both document requests and interrogatories... It is the company's responsibility to gather the necessary information and to prepare a narrative response. Gathering the information and documents called for by a second request can be time consuming and expensive for the parties. Business people often react initially that it would be impossible to comply." (ABA Section of Antitrust Law 2006). Also in the SEC filings of Avis Budget Group and Dollar Thrifty: "Avis Budget … has submitted over a million pages of documents and vast quantities of data to the FTC in response to the FTC's Second Request..."

¹⁹ <u>https://www.opensecrets.org/</u>. We focus on corporate lobbying in this paper. For more information on the lobbyist level statistics and the lobbying industry, see Appendix xxx and Bertrand, Bombardini, and Trebbi (forthcoming).

and audited by U.S. Government Accountability Office annually, and the minimum criteria are lowered. We manually match the client names and their ultimate parent company names to the Compustat company names. Following Adelino and Dinc (2014), we treat the lobbying spending for the quarter as zero for firms that we do not find a matched lobbying client in the lobbying data.

Table 2 shows the summary statistics of corporate quarterly lobbying spending for bidder firms. 75.8% of the bidders in our merger sample have at least lobbied once between 2008 and 2012²⁰. 67.9% of them have lobbying experience before the merger announcement. On average, bidders spend around \$434,587 on lobbying per quarter. The amount of lobbying spending is similar to those in other studies on corporate lobbying (Adelino and Dinc 2014; Chen, Parsley, and Yang 2014). We can observe a clear pattern emerging from the lobbying activities for bidders. For deals that are in trouble, the lobbying efforts are significantly less for the bidder. In withdrawn deals, bidders are significantly less experienced in lobbying. And lobbying expenditures are much less for failed, challenged, or Second Request deals. The high correlations between the bidder lobbying and regulatory outcomes indicate that lobbying activities may contribute to the deal outcomes.

4 Consequences of Antitrust Review Outcomes

4.1 Stock Market Reactions to the Merger Review

We focus on the first stage review outcomes (Early Terminations, Second Requests, and Waiting Period Expiration). We choose these three outcomes as our main focus of interests due to three reasons. First, the first review outcomes are clearly observed and have more information available. Second, the adverse review outcome from the first stage is severe enough and highly correlates with deal failures. The days to resolution and risks to be challenged are more than doubled. Third, the first stage outcomes all happen within the same fixed time frame. Firms usually file after the announcement and the waiting period starts shortly after the public announcement of the merger. Firms normally receive either clearance (Early Terminations, and Waiting Period Expiration), or adverse feedbacks (Second Requests) by the end of the waiting

²⁰ We combine the semi-annual lobbying data before 2008 together with the quarterly data after 2008 to measure the lobbying growth and lobbying experience.

period. Thus, the first stage outcome reviews provides an ideal setting to compare the stock market reactions to antitrust review outcomes.

In order to evaluate the potential cost of regulatory challenges in M&As, we calculate the abnormal returns for the bidder and the target. We calculate the abnormal return in the event windows using market model. In order to mitigate the announcement effect on the return analysis, we first choose the abnormal return estimation window for beta estimation to be [-200,-20] before the announcement dates, and then excluding the observations that could be overlapping with the deal announcement event window. Although there is no announcement [-1,+1 event window overlapping with our review outcome [-20,+20] event window, we choose to drop the days before the fifth days after announcement (+5) so that the cumulative abnormal returns are not driven by the short term market correction to the overreaction or underreaction to announcement. Figure 3 presents CARs in the window of [-20,+20] around the review outcome dates. Consistent with Aktas, de Bodt, and Roll (2004), we find that the stock market reacts differently among the different kinds of mergesr antitrust review outcomes. Panel A is for the combined return of the bidder and the target by forming the value-weighted portfolio of the bidder and the target. There is a sharp drop in combined cumulative abnormal return from 10 days before the Second Request dates. And this downward tendency continues afterwards. Waiting Period Expiration is basically a non-event as the CAR plot is relatively flat. CAR plot around Early Termination dates shows a mild upward tendency although it is relatively small compare to the magnitude of the drop in CAR around Second Requests. In Panel B and C, we present the CAR plot for the bidder and the target respectively. The bidder shows very similar pattern, while the target returns for the Second Requested mergers start to drop from day -20. The observations are confirmed by the statistics in Table 3. In Panel B of Table 3, we can see that the CAR[-10,+10] around Second Requests is up to -2.84%, significantly negative at the 1% level. It is more than half of the combined announcement CAR 4.58%. The bidder and the target also suffer from Second Request events with significantly negative abnormal returns, the target with larger loss in market value than the bidder. The Combined CARs are not significant around Early Termination dates and Waiting Period Expiration dates. The bidder and the target have negative CAR[-10,1] around Waiting Period Expiration but they are only significant at 10% level and have much smaller magnitude than those of Second Requests.

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The CARs around antitrust review outcome dates also have implications to the motivation of the mergers. We calculate the abnormal return of the value-weighted portfolio of rivals. The rivals are identified following the Text Based Industry Category (TNIC) in Hoberg and Phillips (2010, 2014). According to Betton et al. (2008), collusion theory predicts that the rivals enjoy positive return at announcement, and negative return at Second Request events since Second Requests reduce the probability of the merger and thus reduce potential monopoly rents. However, the rival announcement returns, even for the rivals of the Second Requested mergers, are not significantly negative. Another market power theory hypothesizes that firms increase pricing powers through taking over other firms, and rivals suffer from deal announcements and benefit from Second Requests. However, the rival returns are the contrary to the predictions. Thus we do not find evidence suggesting the mergers, or even the mergers that subsequently receive Second Requests, are anti-competitive.

Another observation of CAR is based on Figure 2. By calculating the announcement CAR separately for different antitrust review outcomes later on, we find that the mergers that subsequently receive Second Requests have much higher combined announcement CAR. It indicates that the mergers that receive Second Requests from the antitrust agencies have twice the perceived synergies at merger announcements for deals get approvals. It is consistent with Eckbo (1983) that the antitrust agencies select relatively more profitable mergers to scrutinize.

5 Corporate Lobbying Around Mergers

5.1 Corporate Lobbying Patterns

Many news articles have highlight the lobbying activities during corporate takeovers²¹. Kerr, Lincoln, and Mishra (2011) indicate that up-front costs of entering the political process are important in understanding lobbying behaviors. The adverse stock market reactions to Second Requests implies the substantial costs of failing to manage the antitrust review process. It is not

²¹ "... the question was whether Congress would let the FTC do its job, or push them to raise unending red flags on the deal.... It was no mean feat. There were 80 legislative letters about the deal sent to federal and state regulators and 30 state attorneys general were involved in the review. And in 2011 and 2012, the companies spent more than USD 7.5m on federal lobbyists..." ("*How Medco won antitrust approval for a deal Wall Street considered doomed*" *Financial Times, April 8, 2013*)

surprising if firms increase political activities to gain the political clearance from the antitrust agencies. Indeed, our sample supports the view that firms actively engage in lobbying activities during mergers.

First, bidders lobby much more than other firms. Table 2 shows the summary statistics of corporate quarterly lobbying spending for bidder firms. We also calculate the statistics for all firms with book value always above \$100 million (see Table A2 for the Compustat universe lobbying statistics.). Since the bidders in our sample are involved in taking over another firm for over \$100 million, the sample of firms with book value at least \$100 million should provide a more meaningful comparison to our bidder sample. 75.8% of the bidders in our merger sample have at least lobbied once between 2008 and 2012, while in comparison for all firm-quarter observations, 42.5% of them can be matched with lobbying disclosures, i.e. the probability of an average firm engaging in lobbying in a quarter is less than half. Only 28.1% of the unique firms in the panel sample have lobbied at least once between 2008 and 2012. On average, bidders spend around \$434,587 on lobbying per quarter, comparing to \$227,577 for an average Compustat firm-quarter observation. The simple comparison reveals that bidders are also heavy lobbying dollar spenders.

Bidders not just spend more than other firms, but also increase lobbying in the quarters around mergers. Figure 4 reports the time-series pattern of lobbying for these bidders. The value on the vertical axis is the difference lobbying spending comparing to the previous period, standardized by asset value at quarter 0, the announcement quarter. We observe a significant upward jump of around \$5 per \$million assets at the quarter of announcement, and a bigger jump of \$12 per \$million assets in the second quarter after announcement. The average number of calendar quarters for our sample mergers is 2.2. Although the targets also lobby, they on average lobby much less than the bidders. Only several targets have positive lobbying spending and the variation in target lobbying is not enough to run analysis. Therefore, we mainly focus on the bidder lobbying in this study.

The variations in lobbying dollar spending can be induced by changes in firm characteristics. We run panel tobit regressions with all firm-quarter observations for the firms with book value always larger than \$100 million, excluding financial and utility firms. We also include quarterly

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and industry fixed effects to eliminate some industry lobbying pattern or time trend in lobbying. We are interested in the quarter dummies relative to the announcement quarter. Quarter(s) equals one if the firm is involved in a merger as a bidder in the sth quarter relative to the announcement quarter. The results are reported in Table 4. Firms that have lower book-to-market ratio, more heavily levered, are less tangible, are bigger, or are with lower sale growth, are more likely to lobby. These are consistent with Kerr and Lincoln (2014). More interestingly, firms increase their lobbying spending significantly around merger announcements. Across all firm-quarter sample, bidders significantly doubling the average lobbying intensity by increasing almost \$14 per \$million asset in Quarter(-1) and Quarter(0). In the subsample of active lobbiers, where the firms have at least lobbied once during the sample period, the bidders spend around \$10 per \$million asset extra comparing to other average firms. The pattern persists until 3 quarters after the announcement. The number of distinct lobbyists hired are also increased when the firms engage in M&A activities. Bidders hire additional 0.616 lobbyists in the quarter before announcement. If compared to other active lobbyists, bidders also hire almost 0.5 more lobbyists from two quarters before the announcement. All these results suggest that bidders increase the lobbying spending and hire more lobbyists around the announcement quarters.

5.2 Effectiveness of Lobbying on Merger Outcomes

Next we examine whether lobbying spending before announcement and during the mergers reduce the risks in completing merger transactions. We evaluate the regulatory risks in M&As using four categorical merger outcome variables. Firstly, we directly proxy for the deal outcomes by constructing a HSR review outcome variable. It equals zero if the merger receive a *Second Request*, 1 for *Waiting Period Expiration*, and 2 for *Early Termination*. We also use the simple *Second Request* dummy as another proxy of the HSR review outcome. Secondly, we use *Challenge* dummy to indicate the mergers that are eventually challenged by the agencies. The challenged deals normally are completed with consent agreements with the antitrust agencies to divest assets subsequently, or withdrawn. Finally the *Withdrawn* dummy indicates the actual failures of the transaction. Some deals may be withdrawn before being officially challenged. Therefore, *Withdrawn* dummy can capture some of the deterrence effects of antitrust reviews.

Summary statistics of Table 2 provides some preliminary implications. Lobbying spending by bidders are significantly less for the mergers that subsequently get Second Requested,

Withdrawn, or Challenged. The differences are robust to all kinds of standardizations. The least lobbying spending category is the deals that are eventually withdrawn. It could due to lack of efforts to carry out the transaction, or lack of experience in dealing with government agencies.

We then use probit regressions to test the effectiveness of lobbying on reducing regulatory risks. From Table 1, we observe that there are several deal characteristics that are significantly different across the mergers, and could be important determinants for the deal outcome. Since the bidders can perceive the regulatory risks based on the deal characteristics, we include the deal characteristics to control for the perceptions. As lobbying spending has significant dependence on certain firm characteristics, especially the firm size, we also include the firm characteristics as controls. To control for some unobservable industry patterns and time effects, we also include industry and year dummies (see Table 4 for the list of independent variables).

We first carry out a multinomial probit regression of the HSR review outcome, with the Waiting Period Expiration (HSR review outcome=1) is the base case. We then estimate the marginal effects of lobbying measures on the probability of receiving Second Requests or Early Terminations. In the results of Model (1) to (4) of Table 5, the average quarterly \$ lobbying spending per \$million asset during the merger significantly and negatively correlates with regulatory risks. Specifically, one standard deviation increase in lobbying, significantly decreases the probability of receiving Second Requests by 1.9 percentage points comparing to the sample Second Request mean 14.2%, and increases (not significantly) the probability of receiving Early Terminations by 4.5 percentage points comparing to the sample mean 40.8%. The effects are stronger if we use the lobbying measures in the quarter before announcement. And the results are robust to different styles of lobbying measures. We use the log transformation of lobbying dollars, and the number of distinct lobbyists hired. Model (5) to Model (8) report the results under different lobbying measures.

Similarly, the binary probit regression also indicates similar effects of lobbying on merger outcomes. In Table 6, we present the results of the probit regressions of lobbying expenditure per \$million asset in the quarter before announcement on the binary deal outcomes. The magnitude of the lobbying measure coefficient is larger when we use the binary *Second Request* as the antitrust review outcome measure. Increased bidder lobbying spending is associated with the

probability of withdrawing the deal. It could be that the bidder lobbies in the quarter after the announcement is associated with more willingness to complete the deal. One standard deviation increase in the average quarterly lobbying intensity by the bidder is associated 3.8 percentage points less likely to withdraw the deal. This is more than half of the *Withdrawn* risk (mean 8.7%). The effect of lobbying on the probability of being challenged is slightly higher. The one standard deviation increase in the quarter before announcement reduces the probability of challenge by 5.13 percentage points while the average challenge probability is 8.3%.

5.2.1 Endogeneity of the Effectiveness of Lobbying

There could be potential bias due to reverse causality and omitted variables. The reverse causality arise from the following channel: the bidders may predict the risks lying in the mergers and lobby more for riskier mergers. If so, lobbying spending should positively correlate with regulatory risks, and such a bias works against our results. Since we have already found significantly negative correlation between lobbying spending and regulatory risks, the true effects of the effectiveness of lobbying may be even larger. Second, lobbying spending can be a very persistent corporate action (Kerr et al. (2011)), and the correlations we observe are driven by omitted variables. We use instrument variables to mitigate the bias.

We considered using two different instrument variables, the distance to Washington D.C., and the number of mergers received by the antitrust agencies outside of the bidder industry. The second variable can be a valid instrument since the overall busyness of the antitrust agencies can increase the costs of communicating to them, but the busyness cannot direct influence the review outcomes as firms can always strategically withdrawn premerger notification and refill again to start another waiting period. With the possibility to extend the waiting period without triggering Second Requests, busyness of the agencies should not directly impact the deal outcomes. Table 5 reports the two-stage IV probit using the busyness variable as an IV. We see that the significance levels increase, and the economic magnitude are almost doubling the effects in probit regressions.²²

²² We also generate very similar results using the distance to D.C. as instrument and results are not tabulated. However, the distance to D.C. IV suffers from weak instrument problems.

5.3 Value Implications

5.3.1 Announcement Returns and Lobbying Spending

Consistent with the reduced regulatory risks, we observe that the target announcement returns is significantly positively associated with the quarterly lobbying intensity of the bidder. We use the lobby in the quarter before merger announcement, as previous results indicate that lobbying spending starts to increase in the quarter before merger announcement. The economic scale is large. One standard deviation change in the bidder lobbying is positively associated with a 3.6-percentage-point increase in the target announcement return. It is more than a tenth of the total target abnormal return in reaction to the merger announcement. However, the acquirer announcement return is not affected by the lobbying level. It indicates that although lobbying can reduce the regulatory risks and therefore benefit the target shareholders, the payer of the lobbying dollars – the bidder – does not enjoy the benefits.

There should be a potential benefit for the bidder that there is less risk for the bidder to be obliged to pay the breakup fees in the case of merger failure. Such a benefit for the bidder maybe canceled out by either excessive payment of premium to the target, or the sub-optimal decision by the bidder manager to initiate the merger. We run a similar regression with the premium as the dependent variable and we do not find lobbying spending has any impact on premium. Borisov et al. (2014) suggest that part of the value of lobbying arises from likely unethical practices. Aggarwal et al. (2012) show that firms with more political donations are more likely to have characteristics consistent with the existence of a free cash flow problem, and that donations are negatively correlated with stock returns. It could be the case that bidder lobbying spending associated with agency problem or unethical practices is also correlates with actions not to maximize shareholder values by doing a value-destroying takeover, or simply by spending lobbying money to serve the manager's own purposes. We interact lobbying spending with management entrenchment index. The results indicates that for the management entrenched bidders, the increased lobbying spending can lead to value destroying.

6 Robustness Checks

We also use different standardization for our lobbying measures. If we use the merger deal value instead of firm size to standardize lobbying expenditures, all the analysis produces very similar

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results. We also add the rival aggregate lobbying spending standardized by deal value as additional controls. The original results remain unchanged.

6.1 Antitrust related lobbying

As an additional measure to the overall lobbying spending, we calculate the antitrust related lobbying spending in robustness checks. We search for keywords "antitrust", "merger", "acquisition", and "takeover" in the lobbying reports. If a report contains one of the keywords in the lobbying specific issue area, we consider the lobbying spending in the report as merger related lobbying spending. However, since there is no rule to require companies to report the detailed issue in a specific manner, very few lobbying disclosure mentioned these keywords. Many of the filled details are extremely brief. The merger related lobbying measure can underestimate the actual lobbying activities for the merger. Some of the characteristics of the antitrust The chances of lobbying for merger-related issues are much less, with only 2.4% probability. Our merger-related lobbying spending provides an additional check, with the caveat that it could tremendously underestimate the actual merger-related lobbying spending significantly. For those identifiable merger-related lobbying spending, the non-zero mean is around \$538,045, comparable to the \$507,241 lobbying spending excluding these merger-related lobbying. We also find the increase antitrust related lobbying spending cluster for bidders around merger announcement quarters. However, due to lack of variation, we cannot perform other analysis based on antitrust related lobbying.

7 Conclusion & Discussions

Antitrust has been one of the most commonly lobbied issues by the firms. Our analysis indicates that corporate lobbying can leads to more favorable government decisions, which is consistent with Adelino and Dinc (2014) and Alexander et al. (2009). In particular, we show that the bidder can lower the risks of receiving adverse antitrust review opinions, increase the probability of receiving outright approvals, be more likely to complete the transaction successfully, and finish the deal sooner by spending more on lobbying. The stock market reaction of the target at the announcement positively recognizes the effect of lobbying on mitigating regulatory risks.

But it is intriguing to find that such lobbying spending praised by the target shareholders does not always add value to the bidder shareholders. There is a potential benefit for the bidder that

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there is less risk for the bidder to be obliged to pay the breakup fees in the case of merger failure. Such a benefit for the bidder is canceled out by either excessive payment of premium to the target, or the sub-optimal decision by the bidder manager to initiate the merger. It could be the case that bidder lobbying spending associated with agency problem or unethical practices is also correlates with actions not to maximize shareholder values by doing a value-destroying takeover, or simply by spending lobbying money to serve the manager's own purposes. Future research could be done to further discuss the channels.

Taken together, our study documents the regulatory risks in the economically most significant corporate transactions, shows the pattern of firms actively managing regulatory risks in investment activities, adds to the institutional understanding of merger review process, and contributes to the knowledge of the benefits and costs of corporate lobbying. Even though under the M&A setting, firms do get more favorable government decisions by bidder increasing lobbying, the lobbying-dollar payer—the bidder—does not necessarily enjoy the value creation.

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Table 1 Summary statistics of mergers

This table reports the characteristics of mergers. See Table A1 in the Appendix for the variable definitions. Column (1) lists the summary statistics of all the mergers in our sample. Column (2) is for the merger subsample where an "Early Termination" is granted, Column (3) for the subsample where the antitrust agencies issue a "Second Request", Column (4) for the subsample that are eventually withdrawn by the bidder or the target, and Column (5) for the mergers are officially challenged. In Column (2) to (5) statistics tests are performed to compare the subsample statistics from those of the rest of the sample. For the mean statistics, unequal variance *t* tests are performed. For the median statistics, Wilcoxon rank sum test are performed. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

		(1) All		(2) Early Termination				(3) Second Request			(4) Withdrawn			(5) Challenged	
Variable	n	mean	median	n	mean	median	n	mean	median	n	mean	median	n	mean	median
Deal value	240	2084.801	948.565	98	1896.553	876.310	34	3234.579**	1781.990**	21	1761.774	1326.830	20	4119.594**	1765.020***
Relative value	240	0.202	0.119	98	0.214	0.155	34	0.219	0.164	21	0.306**	0.290***	20	0.233	0.262
All cash payment dummy	240	0.608		98	0.541*		34	0.471*		21	0.333**		20	0.500	
All stock payment dummy	240	0.100		98	0.102		34	0.088		21	0.238		20	0.050	
Bidding contest dummy	240	0.083		98	0.061		34	0.176		21	0.476***		20	0.100	
All cash tender offer dummy	240	0.317		98	0.337		34	0.206		21	0.143**		20	0.200	
Deal premium	237	0.478	0.390	96	0.457	0.395	34	0.456	0.405	20	0.507	0.370	20	0.469	0.430
Bidder termination fee in \$million	240	18.024	0.000	98	19.127	0.000	34	42.592**	0.000**	21	7.033***	0.000	20	54.430**	0.000**
Bidder termination fee / deal value	240	0.010	0.000	98	0.012	0.000	34	0.017*	0.000**	21	0.012	0.000	20	0.021*	0.000**
Target termination fee in \$million	240	53.488	25.500	98	48.436	23.500	34	70.778	27.900	21	14.634***	8.520***	20	92.888*	45.300*
Target termination fee / deal value	240	0.029	0.031	98	0.029	0.031	34	0.026	0.031	21	0.020**	0.029	20	0.029	0.031
TNIC intraindustry dummy	240	0.550		98	0.500		34	0.735**		21	0.810***		20	0.700	
HHI before the merger	223	0.162	0.126	91	0.182**	0.138	32	0.170	0.143	20	0.144	0.129	19	0.134**	0.130
Expected Δ HHI	223	0.002	0.000	91	0.001**	0.000	32	0.005**	0.000***	20	0.004	0.000	19	0.006**	0.000***
Δ HHI	203	-0.071	-0.063	87	-0.087**	-0.072	23	-0.065	-0.074				15	-0.053	-0.070
Early Termination	240	0.408								21	0.238*		20	0.100***	
Second Request	240	0.142								21	0.429**		20	0.750***	
Withdrawn	240	0.087		98	0.051*		34	0.265**					20	0.250*	
Challenged	240	0.083		98	0.020***		34	0.441***		21	0.238*				
#days to complete	240	110.150	92.000	98	100.694*	92.000	34	196.941***	198.500***	21	148.143**	154.000**	20	240.400***	257.000***
#days from antitrust filing to complete	230	93.826	75.500	91	83.396**	76.000	32	182.750***	185.000***	17	137.765**	141.000***	20	205.850***	220.500***

Table 2 Summary Statistics of Lobbying: Bidders lobbying around mergers

This table reports the lobbying activities of bidders. See Table A1 in the Appendix for the variable definitions. Column (1) lists the summary statistics of all the bidders in our sample. Column (2) is for the merger subsample where an "Early Termination" is granted, Column (3) for the subsample where the antitrust agencies issue a "Second Request", Column (4) for the subsample that are eventually withdrawn by the bidder or the target, and Column (5) for the mergers are officially challenged. In Column (2) to (5) statistic tests are performed to compare the subsample statistics from those of the rest of the sample. For the mean statistics, unequal variance t tests are performed. For the median statistics, Wilcoxon rank sum test are performed. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) All (2) Early Terr		nination	n (3) Second Request			(4) Withdrawn			(5) Challenged					
Variable	n	mean	median	n	mean	median	n	mean	median	n	mean	median	n	mean	median
Lobbying dummies															
Active lobbier	240	0.758		98	0.745		34	0.735		21	0.667		20	0.650	
Lobby experience before the merger	240	0.679		98	0.663		34	0.618		21	0.429**		20	0.500	
Log value of the dollar amount of lobbying															
Lobbying in the merger	240	7.469	10.309	98	7.533	10.506	34	5.878*	7.766**	21	3.920***	0.000***	20	4.906*	0.000*
Lobbying at the announcement quarter	240	7.524	10.911	98	7.588	11.316	34	5.899	0.000*	21	3.369***	0.000***	20	5.348	0.000
Lobbying in the quarter before the announcement	240	7.520	10.597	98	7.825	11.223	34	5.222**	0.000**	21	3.309***	0.000***	20	4.693*	0.000
Dollar amount of lobbying standardized by firm size	2														
Lobbying in the merger	240	12.824	4.490	98	14.678	5.462	34	6.666***	0.340*	21	2.344***	0.000***	20	5.831**	0.000**
Lobbying at the announcement quarter	240	12.626	3.367	98	14.054	4.919	34	7.831*	0.000*	21	2.403***	0.000***	20	6.797*	0.000*
Lobbying in the quarter before the announcement	240	11.583	3.587	98	12.538	3.991	34	3.930***	0.000***	21	2.786***	0.000***	20	3.788***	0.000**

Table 3 Cumulative Abnormal Returns at Different Event Dates

This table reports the statistics of cumulative abnormal returns (CARs) at different event dates. Panel A presents three-daywindows CARs around the merger announcements. Panel B presents the CAR(-5,1) and the CAR(-10,1) around the dates when the government antitrust review outcomes are determined. There are three mutually exclusive types of events regarding the antitrust review outcomes. The CAR statistics in Panel B are reported respectively. CARs are calculated using the market model and are based on the (-200,-20) estimation windows of the announcement dates. The *Role* columns indicate the CAR statistics on the row is for the bidder and the target combined (*Combined*), for the *Bidder*, for the *Target*, and for the rival firms of the bidders (*Rivals*). The Combined CARs are calculated by forming a value-weighted portfolio of the bidder and the target. The *Rivals* CARs are calculated by forming a value-weighted portfolio of the rival firms for each bidder based on TNIC industry in Hoberg and Phillips (2010, 2014). For the CAR statistics, t tests are performed. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Role	n	CAR(-1,1)	t-stat
Combined	240	4.58%	8.793***
Bidder	240	-0.60%	-1.216
Target	240	33.72%	17.826***
Rivals	223	0.13%	1.522

Panel A: Announcement Returns

Panel B: Abnormal Returns at Antitrust Review Outcome Dates

Event Type	Role	n	CAR(-5,1)	t-stat	n	CAR(-10,1)	t-stat
Early Termination	Combined	98	-0.11%	-0.2402	98	-0.35%	-0.6863
	Bidder	98	-0.02%	-0.0413	98	-0.26%	-0.4627
	Target	98	0.21%	0.4689	98	-0.28%	-0.5565
	Rivals	91	-0.10%	-0.3305	91	-0.19%	-0.5331
Waiting-Period Expiration	Combined	107	-0.08%	-0.2159	107	-0.70%	-1.5829
	Bidder	107	-0.23%	-0.564	107	-0.91%	-1.7073*
	Target	107	-0.31%	-0.5313	107	-1.14%	-1.6619*
	Rivals	99	-0.17%	-0.7978	99	0.00%	0.0184
Second Request	Combined	34	-1.65%	-2.2342**	34	-2.84%	-2.7324***
	Bidder	34	-1.34%	-1.6487	34	-2.91%	-2.4369**
	Target	34	-2.48%	-2.2179**	34	-3.34%	-2.0728**
	Rivals	32	-0.33%	-0.7284	32	-0.82%	-2.0526**

Table 4 Determinants of bidders' lobbying, Tobit regressions.

The table reports the panel results of Tobit regressions for firms with quarterly total assets always above \$100 million. The dependent variables *Lobbying* in Model (1) and (2) are the dollar lobbying spending per million dollar asset. The dependent *#Lobbyists Hired* variables in Model (3) and (4) are the number of unique lobbyists hired during the quarter per thousand dollar asset. The independent variables, *BM*, *ROA*, *Log(Asset)*, *Leverage*, *Tangibility, and Sales Growth*, are lagged one quarter and follow the definition in Appendix Table A1. The quarter dummies *Quarter(-s) / Quarter(s)* indicate the quarter is *s* quarter before/after the announcement of a merger, during which period the firm acts as a bidder. Industry dummies are constructed based on 2-digit SIC codes. Heteroskedasticity-robust standard errors are clustered at the firm level. T-statistics are in parentheses. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent variable	Lobbying	Lobbying	#Lobbyists Hired	#Lobbyists Hired
^	, ,		•	•
Quarter(-3)	8.689	6.351	0.430	0.427
	(1.171)	(1.060)	(1.309)	(1.517)
Quarter(-2)	11.303	8.740	0.492	0.475*
	(1.574)	(1.523)	(1.549)	(1.772)
Quarter(-1)	13.538**	10.271*	0.616**	0.577**
	(1.975)	(1.862)	(1.982)	(2.221)
Quarter(0)	13.961*	10.651*	0.506	0.442*
	(1.915)	(1.764)	(1.614)	(1.678)
Quarter(1)	11.029	9.183*	0.479	0.488*
	(1.616)	(1.676)	(1.592)	(1.927)
Quarter(2)	11.145	11.330**	0.423	0.509**
	(1.603)	(1.979)	(1.489)	(2.245)
Quarter(3)	11.370	11.163**	0.461	0.522**
	(1.641)	(2.021)	(1.643)	(2.358)
Firm characteristic controls				
BM	-65.464***	-57.696***	-2.634***	-2.180***
	(-5.876)	(-5.307)	(-4.792)	(-4.135)
Log(Asset)	25.224***	1.139	0.853***	-0.252***
	(17.589)	(0.723)	(10.723)	(-3.651)
ROA	-196.600*	-126.169	-11.196**	-9.868*
	(-1.928)	(-1.294)	(-2.243)	(-1.939)
Leverage	-1.605	-29.214**	-0.380	-1.807***
	(-0.123)	(-2.087)	(-0.689)	(-2.921)
Tangibility	-22.656	14.403	-0.877	0.638
	(-1.411)	(0.904)	(-1.282)	(0.948)
Sales Growth	-2.428	4.371	0.010	0.351
	(-0.549)	(0.886)	(0.055)	(1.602)
Constant	-135.853**	94.596**	-4.386	6.275**
	(-2.475)	(2.037)	(-1.443)	(2.147)
Firm-quarter Observations	49,286	21,114	49,286	21,114
Industry FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Sample	All	Active Lobbiers	All	Active Lobbiers
Pseudo R-squared	0.0411	0.0134	0.0490	0.0179

Table 5 Effects of lobbying on antitrust review outcomes, multinomial probit.

The table reports the multinomial logit regression results of the effects of lobbying spending on antitrust outcomes. All the coefficient reported are average marginal effects on the probabilities of receiving Second Requests or Early Termination. The independent variable *Lobbying* in Model (1) to Model (3) is the quarterly average dollar lobbying spending per million dollar total asset from the deal announcement quarter to deal resolution quarter. *Lobbying(-1)* in Model (4) is the dollar lobbying spending per million dollar total in the quarter before deal announcement. Lobbying measures in Model (5) and (6) are log transformation of the average lobbying from the deal announcement quarter to deal resolution quarter, and the average number of distinct lobbyists hired from the deal announcement quarter to deal resolution quarter, and the average number of distinct lobbyists hired in the quarter before the announcement quarter, respectively. Lobbyists hired in the quarter before the announcement quarter, respectively. The other independent variables follow the definition in Appendix Table A1. T-statistics are in parentheses. Heteroskedasticity-robust standard errors clustered at the Fama-French five sectors level are used to calculate the significance levels. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

		(1)	((2)	((3)	((4)		(5)		(6)		(7)	((8)
Marginal Probability	Second Request	Early Terminatio n	Second Request	Early Terminatio n	Second Request	Early Terminatio n	Second Request	Early Terminatio n	Second Request	Early Terminatio n	Second Request	Early Terminatio n	Second Request	Early Terminatio n	Second Request	Early Terminatio n
Lobbying(-1)							- 0.0020**	0.0014			0.0143**	0.0158***			- 0.00689* *	0.0168***
							(-2.54)	(1.33)			(-4.96)	(2.63)			(-2.29)	(4.10)
Lobbying	-0.0006*	0.0013	- 0.0006**	0.0011	- 0.0005**	0.0014			0.0107** *	0.0109*			-0.0131	0.0258**		
Log(Deal value)	(-1.71) 0.0364** (2.11)	(1.35) -0.0354** (-2.43)	(-2.48) 0.0507 (1.23)	(1.13) -0.0557* (-1.82)	(-2.23) 0.0416 (0.96)	(1.18) -0.0337 (-1.06)	0.0400	-0.0329 (-1.00)	(-3.36) 0.0411 (0.95)	(1.82) -0.0318 (-1.00)	0.0400	-0.0304 (-0.99)	(-1.55) 0.0306 (0.69)	(2.42) -0.0106 (-0.34)	0.0389 (0.81)	-0.0176 (-0.52)
Relative value	-0.156**	0.0315	-0.248	0.145 (0.70)	-0.249	0.184 (1.00)	-0.235	0.179 (1.02)	-0.258	0.176 (1.05)	-0.247	0.178 (1.08)	-0.214 (-1.13)	0.0861 (0.49)	-0.240	0.114 (0.58)
All cash	0.0319	-0.312***	0.0251	-0.287***	0.0236	-0.241***	0.0302	-0.256***	0.00910	-0.238***	0.0181	-0.245***	0.00758	-0.218***	0.0168	-0.230***
All stock	-0.125**	-0.113	-0.0927	-0.108	-0.0655	-0.0840	-0.0589	-0.0933	-0.0800	-0.0825	-0.0942	-0.0658	-0.0725	-0.0833	-0.0696	-0.0861
Target termination fee / deal value	-4.371**	-0.0308	-3.154	-1.590	-2.597	-1.622	-2.929	-1.607	-3.110*	-1.402	-3.159*	-1.347	-2.599	-2.173	-2.563	-2.027
	(-2.13)	(-0.01)	(-1.31)	(-1.05)	(-1.31)	(-0.74)	(-1.64)	(-0.73)	(-1.77)	(-0.55)	(-1.67)	(-0.59)	(-1.21)	(-0.97)	(-1.20)	(-0.95)
Bidder termination fee / deal value	1.584	3.077*	1.600	3.317**	1.421	3.397***	1.302	3.365***	0.979	3.658***	0.950	3.808***	1.318	3.620***	1.401	3.413***
Bidding contest	(0.99) 0.0141 (0.18)	(1.77) -0.0327 (0.34)	(0.96) 0.0337 (0.45)	(2.43) -0.0719	(0.94) 0.0800 (0.95)	(3.75) -0.133 (0.67)	(0.87) 0.0852 (1.01)	(3.87) -0.147 (.0.67)	(0.67) 0.0907 (1, 10)	(3.85) -0.138 (0.68)	(0.67) 0.0948 (1.30)	(4.00) -0.165	(0.95) 0.0794 (0.96)	(5.06) -0.131 (.0.67)	(0.98) 0.0827 (1.01)	(4.15) -0.138
All cash tender offer	-0.0393	0.190***	-0.0328	0.184***	-0.0189	0.131***	-0.0205	0.144***	-0.00671	0.131***	-0.0148	0.143***	0.00157	0.0986**	-0.0142	0.128***
TNIC intraindustry	0.117***	-0.118	0.109***	-0.0843	0.132***	-0.0460	0.132***	-0.0514	0.125***	-0.0498	0.117***	-0.0409	0.126***	-0.0416	0.129***	-0.0470
Target initiation	0.0294	-0.0874**	0.0420	-0.0862**	0.0182	-0.131***	0.0126	-0.124**	0.0265	-0.129**	0.0195	-0.127**	0.00686	-0.117**	0.0137	-0.116**
HHI before the	(1.08)	(-1.97)	(0.93)	(-2.13)	0.145	(-2.38)	0.164	(-2.32) 0.651**	0.142	(-2.48)	0.128	(-2.31)	0.176	(-2.22)	0.164	(-2.36)
merger					(1.04)	(2.33)	(1.14)	(2.15)	(1.10)	(2.27)	(0.88)	(2.33)	(1.20)	(1.91)	(1.09)	(1.92)
Expected AHHI					-0.0449 (-0.06)	-2.593	-0.0546	-2.285	0.229	-2.528	0.385	-2.750	-0.123	-2.215	-0.105	-2.400
Lobbying measures	Lob	bying	Lob	bying	Lob	bying	Lob	bying	log \$Lot	g(1+ obying)	log(1+\$	Lobbying)	#lol	obyists	#lob	byists
Ν	2	240	2	40	2	15	2	215	2	215	2	215	2	215	2	15
Bidder controls	1	No	Y	es	Y	/es	Y	les	Y	<i>l</i> es	Ì	les	Y	Yes	Y	les
Year Dummy	1	l es	Y	/es	Y	les .	Y	les z	1	í es	1	les z		res .	Y	les .
Industry Dummy	<u>}</u>	í es	Y	es	Ĭ	es	Y	(es	<u>}</u>	í es	2	(es		í es	Y	es

Table 6 Effects of lobbying on merger outcomes, binary outcomes

The table reports the binary probit regression results of the effects of lobbying spending on antitrust outcomes. All the coefficient reported are average marginal effects on the probabilities. The independent variable *Lobbying(-1)* in Model (1) to Model (3) is the dollar lobbying spending per million dollar total in the quarter before deal announcement. The other independent variables follow the definition in Appendix Table A1. Model (1) is a probit model with the *Second Request* dummy as the dependent variable, Model (2) uses *Withdrawn* as the dependent variable, and Model (3) uses *Challenge* dummy as dependent variable. T-statistics are in parentheses. Heteroskedasticity-robust standard errors are used to calculate the significance levels *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(2)
	(1)	(2)	(3)
	Second Request	Withdrawn	Challenge
	Margin	Margin	Margin
Lobbying(-1)	-0.003**	-0.003***	-0.004**
	(-2.258)	(-3.650)	(-2.377)
Deal Characteristics			
Log(Deal value)	0.051**	0.036*	0.045**
	(2.042)	(1.692)	(2.377)
Relative value	-0.388**	-0.239**	-0.273**
	(-2.080)	(-2.243)	(-2.173)
All cash	-0.021	-0.024	0.006
	(-0.341)	(-0.632)	(0.134)
All stock	-0.033	0.021	-0.119*
	(-0.499)	(0.577)	(-1.904)
Target termination fee / deal value	-0.381	-3.469***	1.041
C	(-0.193)	(-2.718)	(0.565)
Bidder termination fee / deal value	1.412	0.524	1.079
	(1.312)	(0.660)	(1.298)
Bidding contest	0.113*	0.192***	-0.153*
	(1.823)	(4.773)	(-1.719)
All cash tender offer	-0.020	-0.060	-0.018
	(-0.353)	(-1 579)	(-0.476)
TNIC intraindustry	0.081	-0.006	-0.003
True intuitidubity	(1.273)	(-0.163)	(-0.077)
HHI before the merger	0.209	-0.207*	-0 294*
Tim before the merger	(0.20)	(-1.837)	(-1.853)
Expected AHHI	(0.927)	-2 122	7 321**
	(1.172)	(0.657)	(2, 120)
	(1.172)	(-0.037)	(2.120)
Firm Characteristics			
RM	0 /27***	0 165**	0 347***
DM	(2,727)	(2.024)	(2.604)
Log(Assot)	(2.737)	(2.034)	(2.094)
Log(Asset)	(0.023)	(2,002)	(0.552)
POA	(-0.946)	(-2.002)	(-0.332)
KOA	(1.522)	-0.109	(1, 226)
T	(1.525)	(-0.039)	(1.250)
Leverage	-0.329***	-0.080	0.043
T 1114	(-2.355)	(-0.8/3)	(0.485)
Tangibility	0.138	0.043	0.110
	(1.091)	(0.612)	(1.051)
Sale growth	0.000	-0.011	0.000
D 4 D	(0.566)	(-1.000)	(1.121)
K&D	0.202	0.469*	0.630
	(0.363)	(1.802)	(1.299)
N	220	220	220
Year Dummy	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes

Table 7 Effects of lobbying on antitrust review outcomes, IV approach

The table reports the regression results of the effects of lobbying spending on merger outcomes. The independent variable *Lobbying* is the dollar lobbying spending per million dollar asset. The other independent variables follow the definition in Appendix Table A1. The two-stage IV probit regressions are performed in Model (1), (2), and (3). Model (5) and Model (6) are two-stage IV regressions. The IV used is the number of mergers received by the antitrust agencies during the fiscal year outside the merger 3-digit NAIC industry. T-statistics are in parentheses. Heteroskedasticity-robust standard errors are used to calculate the significance levels *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
	Second Request	Withdrawn	Challenge
	Margin	Margin	Margin
Lobbying	-0.061***	-0.066***	-0.060***
	(-10.487)	(-2.769)	(-9.788)
Deal Characteristics			
Log(Deal value)	-0.069	-0.014	-0.091
Log(2 cm (muc)	(-0.320)	(-0.033)	(-0.678)
Relative value	-0.069	-0.333	0.102
	(-0.051)	(-0.141)	(0.127)
All cash	-0.122	-0.137	-0.115
	(-0.606)	(-0.587)	(-0.578)
All stock	0.021	0.130	0.006
	(0.063)	(0.329)	(0.017)
Target termination fee / deal value	-6.122	-13.670	-3.798
	(-0.587)	(-0.351)	(-0.563)
Bidder termination fee / deal value	-3.396	-3.493	-4.241
	(-0.437)	(-0.455)	(-0.789)
Bidding contest	0.067	0.487	0.004
	(0.203)	(0.261)	(0.013)
All cash tender offer	0.331*	0.186	0.339**
	(1.831)	(0.270)	(2.011)
TNIC intraindustry	-0.171	-0.185	-0.227
	(-0.491)	(-0.584)	(-1.220)
HHI before the merger	0.484	0.023	0.217
	(0.479)	(0.014)	(0.215)
Expected Δ HHI	26.633	20.972	24.988
	(1.230)	(0.839)	(1.264)
Firm Characteristics			
RM	-0.111	0.059	0 188
DIVI	(0.102)	(0.034)	(0.231)
Log(Asset)	(-0.102)	(0.034)	(-0.231)
Log(Asset)	0.048	-0.033	(0.659)
DOA	(0.357)	(-0.0/7)	(0.668)
ROA	1.091	0.654	1.057
	(0.713)	(0.365)	(0.714)
Leverage	-0.227	-0.101	-0.025
	(-0.258)	(-0.166)	(-0.045)
Tangibility	0.041	-0.034	-0.032
	(0.068)	(-0.065)	(-0.065)
Sale growth	-0.001*	-0.033	-0.001**
	(-1.842)	(-0.260)	(-2.171)
R&D	2.683	3.657	2.557
	(1.187)	(0.694)	(1.246)
N	220	220	220
Year Dummy	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes
J J			

Table 9 Regression of announcement returns on lobbying

The table reports the regression results of the effects of lobbying spending on merger announcement abnormal returns. The dependent variables are the 3-day-window announcement returns. The independent variables follow the definition in Appendix Table A1. Model (1) and Model (2) use the bidder announcement returns as dependent variables, Model (3) the target announcement return. T-statistics are in parentheses. Heteroskedasticity-robust standard errors are used to calculate the significance levels *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) Bidder CAR	(2) Bidder CAR	(3) Target CAR
Lobbying	0.000	0.002*	0.002*
	(1.353)	(1.938)	(1.664)
Lobbying*E index	× ,	-0.001**	
		(-2.089)	
Deal Characteristics		(2.000))	
	0.005	0.011**	0.016
Log(Deal value)	-0.005	-0.011***	-0.016
	(-1.189)	(-2.175)	(-0.606)
Relative value	0.002	0.025	-0.264***
411 1	(0.031)	(0.437)	(-3.037)
All cash	0.033**	0.040***	0.030
	(2.242)	(2.636)	(0.616)
All stock	-0.009	-0.023	-0.142***
	(-0.404)	(-1.025)	(-3.322)
Target termination fee / deal value	-0.081	-0.501	-1.273
	(-0.167)	(-0.995)	(-0.785)
Bidder termination fee / deal value	0.280	0.072	0.724
	(0.861)	(0.222)	(0.819)
Bidding contest	0.029	0.033	-0.079
	(1.385)	(1.343)	(-1.216)
All cash tender offer	-0.012	-0.019*	0.014
	(-1.320)	(-1.821)	(0.321)
TNIC intraindustry	0.002	-0.002	0.025
	(0.164)	(-0.200)	(0.625)
HHI before the merger	0.041	0.008	-0.047
	(0.719)	(0.127)	(-0.301)
Expected Δ HHI	0.570	1.303	2.978
-	(0.470)	(0.976)	(0.633)
Frim Characteristics			
Log(Asset)	-0.002	-0.004	0.001
209(12000)	(-0.312)	(-0.734)	(0.046)
ROA	0 114*	0.067	-0 224
Kon	(1.962)	(0.914)	(-1 614)
Leverage	0.056	0.064	0 147**
Levelage	(1.273)	(1.620)	(2.014)
F index	(1.275)	0.006	(2.014)
Endex		(1.062)	
	0.010	(1.062)	
Constant	-0.019	0.049	0.514***
	(-0.316)	(0.767)	(3.401)
Observations	240	183	240
Year Dummy	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes
R-squared	0.125	0.194	0.244
Adj R-squared	0.0320	0.0653	0.164

Figure 1 Flow chart of antitrust review process

This figure shows the process of the antitrust review process, the number of mergers that are engaged in each step and the number of days to take each step and days till the final effective or withdrawn dates. All days are median.



Figure 2 Announcement CAR plot

This figure plots the announcement cumulative abnormal returns of the bidder and the target combined. The combined CAR are calculated by constructing a value-weighted portfolio of the bidder and the target. The sample is divided into three subsamples according to the antitrust review outcomes released after the deal announcement. The red line represents the deals that later are Second Requested by the antitrust agencies. The blue line represents the subsample that is with the natural Waiting-Period Expiration. The green line represents the subsample in which deals later receive quick approval Early Termination.



Figure 3 CAR plot around antitrust review outcome dates

This figures plot the cumulative abnormal returns of the bidder and the target around the dates when the government antitrust review outcomes are decided. Panel A reports CAR for the combined CAR. The combined CARs are calculated by constructing a value-weighted portfolio of the bidder and the target. Panel B reports CAR for the bidders and Panel C for the targets. The sample is divided into three subsamples according to the antitrust review outcomes released after the deal announcement. The red lines represent the deals that are Second Requested by the antitrust agencies. The blue lines represent the subsample that is with the natural Waiting-Period Expiration. The green lines represent the subsample in which deals receive quick approval Early Termination.





Panel B Bidder CAR



Panel C Target CAR



Figure 4 Changes in Lobbying Spending in Quarters around Merger Announcement.

This graph depicts the lobbying growth of the bidder around the merger announcement quarter. The value on the vertical axis is the quarterly change in the lobbying amount per \$million asset. Zero on the horizontal axis is the quarter of merger announcements.



Appendix

Variable	Variable	Sources
Deal Characteristics		
Deal value	Deal value in \$million.	SDC
Relative value	Relative deal value. Deal value divided by the market value of the bidder 4	
All cash	All cash payment dummy indicating 100% of the payment in cash.	SDC
All stock	All cash payment dummy indicating 100% of the payment in bidder stocks.	SDC
Bidding contest	Bidding contest dummy, indicating the number of entities (including the acquiror) bidding for a target is larger than 1.	SDC
Tender offer	Tender offer dummy, indicating the deal is a tender offer	SDC
All cash tender offer	All cash tender offer dummy, All cash * Tender offer	SDC
Deal premium	Deal premium comparing to the target stock price 4 weeks before the announcement	SDC
Bidder termination fee	Bidder termination fee in \$million. If the termination fee is missing, it is replaced with zero.	SDC
Bidder termination fee / deal value	Bidder termination fee divided by deal value.	SDC
Target termination fee	Target termination fee in \$million. If the termination fee is missing, it is replaced with zero.	SDC
Target termination fee / deal value	Target termination fee divided by deal value.	SDC
TNIC intraindustry	Dummy indicating the bidder and the target are in the same TNIC industry. See Hoberg and Phillips (2010, 2014) for more details on TNIC measures.	Hoberg and Phillips (2010, 2014)
2-digit intraindustry	Dummy indicating the bidder and the target are in the same 2-digit SIC industry.	SDC
4-digit intraindustry	Dummy indicating the bidder and the target are in the same 4-digit SIC industry	SDC
HHI before the merger	HHI before the merger in the bidder TNIC industry.	Hoberg and Phillips (2010, 2014)
Expected AHHI	Expected change in HHI in the bidder TNIC industry for TNIC intra-industry mergers, following Eckbo (1985). 2*market share of the bidder*marketshare of the target	
ΔΗΗΙ	Actual change in HHI of the bidder TNIC industries for completed deals.	

Table A1 Variable Definitions

Variable	Variable	Sources
Early Termination	Early Termination dummy indicating the merging firms receive an Early Termination for the antitrust review waiting period. It is a quick approval from antitrust agencies	SEC filings
Second Request	Second Request dummy indicating the merging firms receive a Second Request for the antitrust review. It means the antitrust agencies find the possibility of anticompetitiveness and will take further steps investigating the merger	SEC filings
Withdrawn	Withdrawn dummy indicating the bidder or the target withdraw the merger and consequently the merger fails.	SDC
Challenged	Challenged	HSR Annual Report
#quarters to complete	The number of calendar quarters to complete the merger from the deal announcement to the deal effective or withdrawn date.	SDC
#days to complete	The number of calendar days to complete the merger from the deal announcement to the deal effective or withdrawn date.	SDC
#days from antitrust filing to complete	The number of calendar days to complete the merger from the antitrust HSR premerger filling date to the deal effective or withdrawn date.	SEC filings
#days from antitrust filing to antitrust clearance	The number of calendar days to complete the merger from the antitrust HSR premerger filling date to the antitrust review clearance date.	SEC filings
Bidder lobbying activities		
Active lobbier	Active lobbier dummy indicating if the firm ever lobbies.	CRP
Lobby experience	Lobby experience dummy indicating if the firm has ever lobbied during the 3 years before the merger announcement.	CRP
Log value of the dollar amount of lobbying		
Lobbying in the merger	Log transformation of average quarterly lobbying dollar spending during the merger. Log(\$lobby spending/#quarters +1)	CRP
Lobbying at the announcement	Log transformation of lobbying dollar spending at the announcement quarter	CRP
Lobbying just before the announcement	Log transformation of lobbying dollar spending in the quarter before the announcement	CRP
Lobbying 2 quarters before the announcement	Log transformation of lobbying dollar spending in the second quarters before the announcement	CRP

Dollar amount of lobbying standardized by firm size

Lobbying in the merger

CRP

Variable	Variable	Sources
Lobbying at the announcement	Average quarterly lobbying dollar spending at the announcement quarter	CRP
Lobbying just before the announcement	Lobbying dollar spending in the quarter before the announcement	CRP
Lobbying 2 quarters before the announcement	Lobbying dollar spending in the second quarters before the announcement	CRP
Firm Characterstics		
BM	Book-to-Market ratio. ATQ/(ATQ- CEQQ+PRCCQ*CSHOQ)	Compustat
ROA	Retrun on Asset. Profitability. OIBDPQ/ATQ	Compustat
Log(Asset)	(OIBDP-(TXT-TXDITC)-TIE-DVP- DVC)/AT	Compustat
FCF	Free cash flow. (OIBDPQ-(TXTQ- TXDITCQ)-TIEQ-DVPQ- DVCQ)/ATQ	Compustat
R&D	R&D expenditures. XRDQ/ATQ	Compustat
Leverage	Leverage ratio. (DLTTQ+DD1Q)/ATQ	Compustat
Tangibility	Tangibility. PPENTQ/ATQ	Compustat
Sales Growth	SALEQ/lag(SALEQ)-1	Compustat

Appendix A2: An example of corporate filings regarding antitrust review from SEC EDGAR

On Nov 23, 2009, Green Mountain Coffee Roasters Inc. ("GMCR" or "Parent") announced a friendly all-cash acquisition of Diedrich Coffee, Inc. ("Diedrich Coffee" or "Company"). The deal value is around \$290 million.

The following is from SEC filing Form SC TO-T filed by both GMCR and Diedrich Coffee on Dec 11, 2009:

Pursuant to the requirements of the HSR Act, the Company ("Diedrich Coffee") filed a Notification and Report Form with respect to the Offer and the Merger on December 8, 2009 and Parent ("GMCR"), on behalf of itself and the Purchaser, <u>filed a Notification and Report</u> <u>Form</u> with respect to the Offer and the Merger with the FTC and the DOJ on December 9, 2009. As a result, the waiting period applicable to the purchase of Shares pursuant to the Offer is scheduled to expire at 11:59 p.m., Eastern Time, on December 24, 2009.

The following is from SEC filing Form SC TO-T/A filed by both GMCR and Diedrich Coffee on Dec 24, 2009:

Effective December 24, 2009, following consultation with the FTC staff, Parent voluntarily withdrew its HSR Act filing. On or before December 29, 2009, Parent expects to re-file its HSR Act filing. <u>This withdrawal and re-filing is being undertaken in order to provide the FTC with additional time</u> to review the information submitted by Parent and the Company.

SEC filing Form SC TO-T/A and filed by both GMCR and Diedrich Coffee on Jan 13, 2010 and a press release issued on the same date:

WATERBURY, Vt. and IRVINE, Calif. – January 13, 2010 – Green Mountain Coffee Roasters, Inc. (NASDAQ: GMCR) ("GMCR") and Diedrich Coffee, Inc. (Nasdaq: DDRX) ("Diedrich Coffee") today announced that they have <u>each received a request for additional</u> <u>information ("Second Requests")</u> from the U.S. Federal Trade Commission ("FTC") with respect to the previously announced \$35.00 per share cash tender offer by Pebbles Acquisition Sub, Inc. (the "Purchaser"), a wholly owned subsidiary of GMCR, to purchase all of the outstanding shares of common stock of Diedrich Coffee.

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GMCR and Diedrich Coffee expect to promptly respond to their respective Second Requests, and to continue to work cooperatively with the FTC as it conducts its review of the proposed transaction. The transaction is expected to be completed in early 2010.

As previously announced, the tender offer is scheduled to expire at midnight, New York City time, on Friday, February 5, 2010. The Purchaser will extend the tender offer's expiration time as necessary to occur concurrently with the HSR waiting period's expiration time.

The following is quoted from SEC filing Form SC TO-T/A filed by both GMCR and Diedrich Coffee on May 3, 2010 and a press release was issued on the same date:

GMCR also noted that, on Friday, April 30, 2010, GMCR <u>certified to the U.S. Federal Trade</u> <u>Commission (the "FTC") that it has substantially complied</u> with the FTC's request for additional information under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 ("Second Request"), in connection with GMCR's offer to purchase all of the outstanding shares of Diedrich Coffee common stock. As a result, GMCR and Purchaser expect the waiting period applicable to the purchase of the outstanding shares of Diedrich Coffee common stock pursuant to the tender offer to expire at 11:59 p.m., New York City time, on Monday, <u>May 10, 2010</u>.

The transaction is completed and effective on May 11, 2010.

Table A3 lobbying spending

	#ob					Medi		
Quarterly lobbying spending	s	Mean	Std. Dev	p10	p25	an	p75	p90
	279							
Lobbying Dummy	45	42.5%						
	279	227,577.	707,058.	0.0	0.0	0.00	105000.	581200.
Dollar amount of lobbying	45	191	354	00	00	0	000	000
	279			0.0	0.0	0.00		
log(lobbing/size)	45	1.273	1.668	00	00	0	2.716	3.870
	#ob							
Firm lever dummies	S	Mean						
Dummy indicating the firm ever lobbies during	145							
the sample period	9	28.1%						
Dummy indicating the firm starts to lobby	145							
during the sample period	9	19.3%						

Firm-quarter observations for firms with book value always larger than 100 million (2008-2012).

Table A4: Merger characteristics in subsamples

	2008	2009	2010	2011	2012
#mergers	41	43	52	52	31
%Challenge	7.3%	14.0%	7.7%	5.8%	9.7%
%Withdrawn	12.2%	7.0%	9.6%	9.6%	3.2%
%Second Request	12.2%	16.3%	15.4%	15.4%	16.1%
%Early Termination	51.2%	32.6%	30.8%	40.4%	54.8%

Panel A: Distribution of mergers across calendar years

Panel B: Distribution of mergers across Fama-French 5 sectors

	Crearra	Mount	LLT- a	T TI 4h	Others
	Cusin	Ivianui	Hilec	HIII	Others
#deals	26	43	92	42	16
% value	9.1%	28.3%	26.1%	26.9%	9.6%
Challenge	11.5%	14.0%	4.3%	9.5%	12.5%
withdrawn	15.4%	4.7%	8.7%	2.4%	25.0%
secondr_dummy	11.5%	25.6%	6.5%	11.9%	50.0%
earlyt_dummy	46.2%	48.8%	41.3%	38.1%	12.5%