

Attention to Detail: Learning About Mergers*

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Abstract

We directly study the information gathering process around a merger announcement by using the IP addresses accessing Form 8-K filings for merger agreements. This allows us to measure who pays attention to the announcement, how attention varies across mergers, and if this attention is related to merger outcomes. We link each IP address, when possible, to a particular firm or institution, as well as track if an IP address shows further interest in other filings associated with the target firm. We find that certain attention, such as the search activity of investment management firms, reveals characteristics about the merger, like the eventual withdrawal of the deal or the involvement of an activist. Our results describe the factors that lead institutions to spend effort learning about an important corporate event and what the decision to do so reveals about the prospects for the merger.

JEL classification: G14, G23, G34 *Keywords:* Mergers; Information Acquisition; Institutional Investors; Activism

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1 Introduction

Knowing how and why investors gather information is an important part of understanding belief formation and information production. The ability to follow this process has historically been limited, since we do not typically observe the actions taken by investors as they learn about a security or firm. However, recent work directly studies this granular information gathering process by using new measures of investor attention and effort, such as news interest on Bloomberg terminals (e.g. Ben-Rephael, Da, and Israelsen (2017); Ben-Rephael, Da, Easton, and Israelsen (2020)), Google searches about firms (e.g. Gao, Ren, and Zhang (2020)), and, the focus of our work, activity on SEC EDGAR. Collectively, this growing line of research is interested in who pays attention to financial news, the effort spent collecting this information, the impact this attention might have on price discovery, and what this attention might reveal about the firms themselves.

In our work, we focus on merger announcements and the attention that their related Form 8-K filings receive. Mergers are consequential firm decisions typically negotiated in secret. A public target must file a Form 8-K with the SEC within four business days of the agreement being reached. While the filing date with the SEC does not need to correspond to the date of the merger announcement, these filings are the first chance for others to read about the details in a formal setting. In order to better understand the information gathering process, we study how investors and other institutions, such as government agencies, pay attention to the filings associated with an announced merger, how merger characteristics are related to the attention a merger receives, and if this attention is predictive of the future outcomes of the merger, such as a withdrawal of the agreement or a delay until completion, as well as the eventual involvement of an activist investor.

While we measure the overall attention to the details of the merger, different parties may have separate reasons for being interested in a deal. As such, variation in attention across firm and institution type could reveal information about the merger, as different parties are drawn to different situations. For example, differences across mergers in overall attention,

as well as variation in attention by institutional type, may reveal the types of acquisitions that attract subsequent scrutiny, such as the involvement of an activist. In addition, some investors or institutions may read beyond the merger filing and seek out additional details about the firm from other related documents. This subsequent search activity could suggest that a detail in the initial reading of the announcement filing caught their attention. We use the public SEC search logs to follow these chains of information gathering around the merger.

To measure investor attention, we use the SEC records of Internet Protocol (IP) addresses associated with accessing related filings for 2,051 mergers on EDGAR from August 2004 - June 2017. Previous work has demonstrated that search activity on EDGAR increases around corporate events, as investors and other institutions seek information about the news (e.g. Drake, Roulstone, and Thornock (2015)). We use this fact to measure both overall interest in a merger-related filing, as well as follow Chen, Cohen, Gurun, Lou, and Malloy (2020) in order to identify the firm or institution associated with the IP address, when possible. By mapping IP addresses to their WhoWas registration, we know the identity of 82% of the unique IPs accessing the Form 8-Ks in our sample. In addition, we are also able to trace whether or not a particular IP address reads the Form 8-K and then goes on to read another filing about the target firm, such as a proxy statement. We also relate these measures of further attention to the eventual outcome of the merger.

In order to better understand the decision to learn more about the merger, we first ask what merger characteristics draw the attention of investors, as well as other interested parties, such as law firms, government agencies, and investment banks. Overall, the number of unique searches (i.e. a count of the unique IP addresses reading the Form 8-K about the merger agreement over a seven day window, starting with the filing date) is significantly related to many different deal characteristics, such as abnormal returns and turnover around the filing date. This fits with the existing literature about EDGAR search behavior (e.g. Drake et al. (2015)). We also find that interest is higher in larger deals, as well as cash-only

deals and deals with multiple bidders. Interestingly, searches are lower for hostile takeover announcements, perhaps indicating that media coverage of these deals have made them more widely known prior to the filing date. Using search activity matched to institutional type, we find that the positive relationship between searches and abnormal returns is driven by investment management firms and banks.

We then follow the merger through time and find that aggregate search activity does not have a significant relationship with the subsequent withdrawal of a merger proposal or with the number days to merger completion. While mergers may attract an increase in aggregate search (Drake et al. (2015)), the overall level of search does not reveal information about the subsequent outcome of the merger. However, after categorizing each IP search by firm type, we do find a relationship between certain search activity and the merger outcome. In particular, searches by law firms and investment management firms are related to the eventual withdrawal of the merger, while searches by government agencies are positively related to the length of time until merger completion. We also find that further attention to proxy statements or merger prospectus, after reading the Form 8-K, is positively related to the number of days to merger completion.

Taken together, these findings are consistent with the endogenous information gathering process of institutions with a monetary or regulatory interest in the merger revealing something about the merger type. For example, analysts at investment management firms are more likely to read the filings related to controversial mergers that have a greater probability of being subsequently withdrawn, while employees at government agencies spend more time looking at complex mergers that take longer to complete. By following the information gathering process in such granular detail, we are able to see how institutions decide to spend costly resources to learn about a merger and if this decision is, itself, driven by deal characteristics that reveal themselves at a later date.

Finally, we study the decision to acquire information about a merger and hedge fund activism because of the link between the presence of an activist and merger activity (Boyson,

Gantchev, and Shivdasani (2017)), as well as activism improving the efficiency of the target firm’s M&A decision making (Wu and Chung (forthcoming)). We find that an increase in search activity by investment management firms suggests that an activist investor will become involved in the process. In fact, using a placebo test, we find that search activity around other recently filed 8-Ks does not predict the involvement of an activist – it is interest in the merger itself that predicts their arrival. We believe that this specific attention to the merger again reveals something about the proposal and market participant beliefs about the wisdom of the acquisition. Controversial mergers attract more attention early on and then see activist involvement in the future.

Our paper follows a growing literature and uses search traffic on SEC EDGAR to identify aggregate interest in specific mergers. In earlier work, Drake et al. (2015) find that EDGAR search activity is correlated with corporate events, like a merger, poor performance, and the firm’s information environment. They also find that the EDGAR search measure is distinct from other proxies for firm interest, such as trading volume and Google searches. Additional work by Loughran and McDonald (2017) finds low search volume for EDGAR filings in general. However, Li and Sun (2017) show that abnormal SEC search volume predicts future returns. These returns are related to improving firm fundamentals, while returns are greater for longer, more difficult to process filings, suggesting that costly information acquisition is rewarded. Bauguess, Cooney, and Weiss Hanley (2018) document that SEC filing search is indicative of the information environment around IPOs, distinguishing between searches related to investor interest in the IPO and searches due to a relatively opaque information environment. Iliev, Kalodimos, and Lowry (2021) use SEC searches to study how large mutual fund families devote time and effort to firm governance. They use the fact that fund managers have less time to devote to monitoring in the spring due to seasonal patterns in proxy voting to establish a causal link between search activity, investor attention, and informed voting on governance issues. Finally, Flugum, Lee, and Souther (2021) use EDGAR search activity to identify strategic leaking of plans from activists to other investors.

There are also related papers that use Bloomberg and other search data, either instead of or in combination with EDGAR filings. For example, Ben-Rephael et al. (2017) create a measure of search that they call abnormal investor attention (AIA) using searches for Bloomberg news articles and find that a lack of attention is related to the post-earnings announcement drift and analyst recommendation changes. Chiu, Lourie, Nekrasov, and Teoh (forthcoming) use this measure to study how investor interest relates to analyst timeliness when issuing their forecasts. Ben-Rephael et al. (2020) use EDGAR access logs, along with Bloomberg and Google search activity, to look broadly at when Form 8-Ks are read and the effect on general price discovery. They compare the event and the filing date and find that the initial information gathering happens before the filing. We focus on just Form 8-K filings that are related to merger announcements, as this is one of the most consequential decisions a firm can make and are typically negotiated in secret, making the information environment around them particularly interesting (e.g. Alperovych, Cumming, Czellar, and Groh (forthcoming)). Our work is also about the informativeness of this attention to longer term merger outcomes, rather than price formation due to the information contained in the initial announcement.

2 Sample Construction and Descriptive Statistics

Our data needs are, essentially, three-fold. First, we discuss how we create our sample of mergers from SDC Platinum. Then, following work by Drake et al. (2015), Loughran and McDonald (2017), and others, we build the set of IP addresses that perform searches for SEC filings associated with the target firm. Finally, following Chen et al. (2020), we discuss how we identify a subset of the IP addresses who perform a search in order to categorize the firm or institution that the IP address belongs to. By merging these three sets of data together, along with firm and merger characteristics, we are able to ask the questions posed above.

2.1 Creating the Sample of Mergers

We obtain the initial merger bids identified by the Securities Data Company (SDC) Platinum database. The merger bids are by U.S. or foreign bidders for a U.S. public target between August 23, 2004 and June 30, 2017. Our data window starts on August 23, 2004, so that we can collect the merger agreement announced in the Form 8-K filing from SEC EDGAR.¹ The data span ends on June 30, 2017 based on the availability of SEC EDGAR log file data necessary for examining investors' research activities.² Then, following the filters commonly used in the M&A literature (Hsieh and Walkling (2005); Gaspar, Massa, and Matos (2005); Baker and Savasoglu (2002)), we exclude merger bids (1) that have the deal value less than \$1 million, (2) in which the acquirer must own less than 50% of the target firm shares before the transaction and plan to own 100% after the transaction, and, (3) that are classified as non-regular types such as spinoffs, recapitalizations, or repurchases. We also require a target firm to have available stock price, return, and volume data from the CRSP database, and the Central Index Key (CIK) from the Compustat database to identify the merger agreement from SEC EDGAR. Lastly, related to investor attention, we require each merger bid to remain active - not completed or withdrawn - during the first 7 days. Our final sample consists of 2,051 merger bids.

We give the descriptive statistics for our target firms in Table 1. Definitions and data sources are given in Appendix A. The average merger in our sample takes 123 days to be completed, while 6.4% of the agreements are eventually withdrawn. Targets have multiple bidders in 6.3% of our observations, while less than 1% are started as hostile (unsolicited) bids. The average target firm size is \$3,058 million and the average reported deal size from SDC is \$2,278 million. We note that, in our sample construction, the acquiring firm does not need to be a public company.

¹The categories in Form 8-K have had a major overhaul as of August 23, 2004. After this change, merger agreements are reported under Item 1.01 for Entry into a Material Definitive Agreement.

²The SEC posts all IP-level logs of search activities via the EDGAR service for the period February 14, 2003 through June 30, 2017. See details on the SEC log data at <https://www.sec.gov/dera/data/edgar-log-file-data-set.html>.

2.2 Measuring Investor Attention Around Merger Agreements

Merger agreements provide investors with detailed information regarding the terms of the proposed merger such as the characteristics of the offer, the governance structure of the company after the transaction, and any covenants or conditions. The current SEC regulation requires any agreement and plan of merger to be reported under Item 1.01 of Form 8-K within four business days of the agreement. Using the target firm's CIK, we collect the Form 8-K filing of the merger agreement from SEC EDGAR.³ Out of the 2,051 merger bids, we find almost the half (1,000 bids; 48.8%) file the 8-K immediately on the announcement date, and 561 (27.4%), 221 (10.8%), 177 (8.6%), and 92 (4.5%) bids with 1-, 2-, 3-, and 4-business day to file the 8-K, respectively. None of the merger bids in our sample violates the SEC reporting requirement.

For each of the merger agreements in our sample, we first gather investors' research activities identified by the SEC log file data. The SEC log file data contains IP-level information on internet search traffic for all the EDGAR filings, and we collect all the IP addresses conducting search activities on the Form 8-K over the 7-calendar-day window starting from the filing date of the merger agreement (i.e. $[0, +6]$ days). We use the first 7-day window because it captures investors' initial attention on the announcement for a full calendar week. This way, we can mitigate a concern for possible investor inattention on weekdays or weekends. For example, Dellavigna and Pollet (2009) find that investors are likely distracted on Fridays. Following Loughran and McDonald (2017), we exclude search activities ending at an index page without looking at the details of the filing and search activities by web crawlers identified by the SEC and other possible robots with more than 50 filing requests in a given day. This procedure identifies relevant search activities by regular, presumably human, investors.

Then, we find the identity behind each IP. We use the American Registry for Internet

³We use the 8-K filed by the target firm, because the acquirer may decide not to disclose the agreement. The merger agreement may be deemed material by the target and thus disclosed in Form 8-K filed by the target in any event.

Numbers' (ARIN) WhoWas database to extract the organization information for each IP. WhoWas provides historical details about the registration of an IP, and we review the details to identify the organization registered for the IP address as of the time of the merger agreement.⁴

There are various types of investors conducting research on the merger agreements. However, we identify the following groups, based on each organization's primary business function, with particular interests in a proposed deal. The first group consists of law firms including legal services and consulting firms.⁵ Law firms may have significant interest in mergers on behalf of their clients, and the fact that a larger number of law firms does research on a proposed deal may indicate that the deal contains some critical, perhaps controversial, issues. We exclude legal advisors retained by the acquirer and the target, because they may access the merger agreement to confirm the filing with the SEC, rather than conduct research on the deal. The second group has government agencies such as the U.S. Courts and the U.S. Department of Justice. These institutions focus largely on the procedure, and may require further disclosures if the merger agreements do not provide adequate details. The third group is for facilitators of the M&A market: investment banks and venture capitalists.⁶ These investors may have vested financial interests in a proposed merger both directly and indirectly, and do not necessarily intend to go against or delay the deal. The last group consists of investment management firms including investment advisors, hedge funds, and private equity funds.⁷ Unlike the facilitators of the M&A market, investment management firms may want to maximize their financial gains through a proposed merger, or become interested in the merger when they believe that it might be detrimental to firm value.

⁴The EDGAR Log File data provides only the first three octets of the IP address. For example, an IP in the EDGAR Log File data may be coded as 111.111.111.bfc with the fourth octet obfuscated with a 3-character string. We use Chen et al. (2020) to decipher the hidden octet with an actual octet. See their web appendix for complete details.

⁵For example, we have O'Melveny & Myers LLP, Chimicles Schwartz Kriner & Donaldson-Smith LLP (formerly known as Chimicles & Tikellis LLP), and Pillsbury Madison & Sutro LLP.

⁶For example, this group includes Deutsche Bank, JPMorgan Chase & Co, J.H. Whitney & Co, and Glen Ventures Management Inc.

⁷For example, this group includes Magnetar Capital LLC, Paulson and Co Inc., and Elliot Associates, L.P..

We understand that our approach may underestimate the true number of interested parties in a proposed merger (e.g. see Drake et al. (2015) for a discussion on the general usage patterns of the EDGAR data). While we use research activity through SEC EDGAR, some may conduct research on the merger through other data sources such as Bloomberg or FactSet (e.g. Ben-Rephael et al. (2017); Ben-Rephael et al. (2020)). However, we believe that our approach is reasonable given that many participants may still want to conduct research on the original merger agreements with the full details filed with SEC EDGAR, and that each group in our study may represent a reasonable proportion of the actual pool of participants. Further, others have found that search activity on EDGAR is an additional source of information on the behavior of professional investors, even when many market participants learn about an event prior to the SEC filing (e.g. Ben-Rephael et al. (2020)). Our study is interested in the research effort and attention given to a merger event, as opposed to the price impact of news. As such, we view our measures of search activity as proxies for the attention that a merger is getting.

In addition, research using views of SEC filings uses a variety of definitions for search activity. For example, Iliev et al. (2021) use investor views of the proxy statement, as well as any other filings viewed on the same day by the same IP address. Bauguess et al. (2018) use unique viewers of IPO firm documents on the day of and the day after the firm files their S-1. Using a broad sample of Form 8-K filings for all types of firm events, Ben-Rephael et al. (2020) document that institutional investors learn about the news prior to filings via other means, but engage in further search activity on the day of the filing.

Throughout our paper, we focus on three measures of filing search behavior. First, we use unique searches within a 7-day window $[0, +6]$, starting with the time of the filing. We only include an IP address once in our count (i.e. unique searches) in order to avoid counting the same search multiple times (e.g. the individual loads the document more than once). This search count is similar to others used in the literature, as noted above. We also use the searches matched via IP address in order to determine the type of firm doing

the search. Finally, we capture if an IP address searches for an 8-K and then subsequently searches for the target firm’s 10-K, 10-Q, proxy statements, or Form 425 (i.e. the prospectus about business combinations). We categorize this last set of variables as measuring *further attention*.

We report a break-down of our overall attention measures in Table 2. All of the Form 8-Ks about a merger in our sample are accessed 231,326 times, of which 122,817 are unique IP accesses. From the EDGAR logs, we are able to note if an initial access is for the primary 8-K filing or for an attachment to that filing. We find that 45.9% of our unique searches are for the primary filing first, while 54.1% are directly for an attachment. The latter group may represent those participants learning about the basics from other sources and then looking for further details filed with SEC EDGAR. 101,016 (82.3%) of the unique searches have a WhoWas registration allowing us to identify the firm doing the search.

Table 3 breaks these searches down into averages across the 2,051 mergers by the type of firm doing the search and our further attention measures. For example, a merger in our sample sees its Form 8-K accessed by unique IP addresses 59.88 times on average within the $[0, +6]$ day window. We find that three of our institutional types, law firms, investment banks/venture capitalists, and investment management firms have around 3 unique IP searches per merger, while government agencies almost never access these filings. We note that our measure is based on unique IP searches, not unique firm-level searches. The same firm could have multiple IP addresses accessing the documents. This means that we do not count the same IP address refreshing the web page or reading the document again another day, but do count the access if another IP in the firm or agency also requests the document. We believe that the same IP address accessing the document multiple times is not indicative of increased attention, but multiple IP addresses (e.g. multiple people within the firm) are.

Roughly 7-8% of the unique IP searches in our sample go on to access the target 10-K or 10-Q. 11% go on to access the firm’s proxy statements, while roughly 4% of searches look at a Form 425. We use a moving 7-day window to capture these additional searches. For

example, if an IP address accesses the 8-K on day 6 of the $[0, +6]$ window, then we count additional searches 7 days out from day 6.

Table 4 gives a year-by-year breakdown of the search measures that we have created. The average number of unique IP searches per merger increased over four times from 2004 to 2017 (23.4 to 118.7 per merger).

3 Results

In this section, we discuss our main results. First, we look at the determinants of overall attention to a merger, as well as the merger characteristics that draw the attention of certain types of institutions, such as law firms, investment banks, and government agencies. Next, we ask how attention at the time of the announcement is related to the outcome of the merger, with a focus on activism, given the importance that it plays in the merger process (e.g. Boyson et al. (2017)). We also use our measure of further access in order to see if a “deeper dive” into the target firm suggests something about the nature of the merger. We conclude that aggregate attention at the time of the announcement is not related to merger outcomes, such as withdrawal or time to completion, but that attention by particular institutions does matter. For example, attention to the merger by investment management firms is positively related to the eventual withdrawal of the merger, as well as to the eventual involvement of an activist investor. This suggests that their search activity is identifying controversial mergers. In addition, we find that additional search activity after reading the Form 8-K (i.e. a “deeper dive”) is related to the complexity of the merger, as proxied for by the time to completion.

3.1 Determinants of Attention

Table 5 presents relationships between our attention variable ($\#$ of unique accesses over the $[0, +6]$ day window after the filing) and deal characteristics, as well as the number

of unique IP accesses by different parties interested in the merger: law firms, government agencies, investment banks and venture capital firms, and investment managers. As discussed in Section 2.2, we follow Chen et al. (2020) and count the number of unique IP addresses within firms or agencies, instead of the unique number of firms or agencies, in order to better capture the intensity of the attention. We are interested in how various characteristics of the merger, described in Table 1, are related to the decision to gather information about the merger, as proxied for by the attention paid to the SEC filings. We split CARs into positive and negative values, in order to test if attention to a merger is particularly driven by agreements that positively or negatively received by markets. All models in Table 5 include year and industry (one-digit SIC code) fixed-effects with standard errors clustered by industry.

Our results in model (1) use the natural log of the # of unique accesses as the dependent variable and support the idea that interest in the merger is greater when CARs are more extreme (either positive or negative), when abnormal turnover surrounding the merger announcement are higher, when the target firm and total deal value are larger, when target institutional ownership is lower, and when the target firm has a higher market-to-book value. Together, these suggest that individuals spend the time to gather information when a merger is unexpected by the market or particularly controversial. Specific deal characteristics also matter, as interest is greater when the proposed deal is cash only, or has multiple bidders. Perhaps surprisingly, there is evidence for less interest overall if the deal is hostile, or unsolicited. As noted by Ben-Rephael et al. (2020), many investors learn about important events, like mergers, before the Form 8-K is filed, even if they also search on the filing date. Certain types of mergers, like a hostile one, may have been rumored more, prior to the endogenously chosen 8-K filing date (e.g. Guttman, Kremer, and Skrzypacz (2014)), leading to less search on the event date.

In models (2) – (5), we use the natural log of the counts of unique IP addresses across firm types and government agencies as our dependent variable. Many of the relationships, such

as deal size and whether or not the proposed deal is for cash, are similar across institution type. However, the search behavior of government agencies does not appear to be as related to the deal characteristics. This could be due to government agencies caring more about the industry-overall, as opposed to specific firm details, if they are interested in the merger at all. However, there is more search activity by government agencies when the CARs surrounding the announcement are negative, but not positive. Mergers that are poorly received by the market seem to draw their attention.

3.2 Relationship Between Attention and Merger Outcomes

The results above in Section 3.1 suggest that investor attention varies with target firm and deal characteristics at the time of the merger. This search is obviously endogenously chosen by the various interested parties, and likely part of a broader research effort. Accordingly, given that beliefs about the merger might drive search intensity, does the research attention that a merger gets reveal something about the eventual outcome?

In Table 6, we combine target firm and deal characteristics with the research behavior of investors and other institutions to see if attention is related to two eventual outcomes of the merger: whether or not the merger is eventually withdrawn (*Withdrawal*) and the number of days to merger completion (*Days Completion (Ln)*). Models (1) and (2) use a logit model with the indicator *Withdrawal* as the dependent variable. We again include year and industry fixed-effects with standard errors clustered by industry in all models. Finally, we note that the full set of announced mergers is used in models (1) and (2), while the sample used in other models is conditional on merger completion and additional data availability.

Using both the total number of times that a merger-related 8-K is accessed (*# of Accesses (LN)*) and the number of unique IP addresses accessing that 8-K (*# of Unique Accesses (LN)*), we find no relationship between aggregate search activity and our three measures of outcomes. In other words, while search activity may increase around a merger (Drake et al. (2015)) and be driven by particular deal characteristics, as shown in Table 5, the overall

level of attention paid does not seem to predict eventual outcomes.

While aggregate search may not be indicative of the eventual outcome of the merger, our data also allows us to identify who is doing the searching. Different firms and institutions may have different motivations for paying attention to a merger announcement. For example, a law firm could be interested in potential litigation, a government agency might be focused on anti-trust issues, and an investment management firm could be looking for merger arbitrage opportunities. In Table 7, models (1) – (4) again look at whether or not a merger is withdrawn (*Withdrawal*), but use the type of searcher as the variable of interest, along with our full set of target firm and deal characteristics. We find that more filing access by law firms and investment managers is positively related to the eventual withdrawal of the merger. This suggests that investors pay more attention to the target firm when the merger is less likely to go through. We also find some evidence that more search by government agencies is related to longer time to merger completion.

Why might interest in the filing by law firms and investment management firms be related to the eventual withdrawal of the merger, but not the length to completion? Withdrawing the merger is more drastic and search intensity suggests that shareholders may be unhappy with the announced merger and wish to fight it. However, more complicated mergers that take longer to complete may not receive the same level of attention by these institutions. Instead, controversy drives attention, at least for certain institutions. We discuss the relationship between filing access and activism related to the merger in Section 3.4. However, employees at government agencies appear to spend more time learning about complex mergers that take longer to complete, whether or not they are more controversial.

3.3 Further Attention and Outcomes

So far, our measure of research attention is based on the number of times the merger announcement (the 8-K filing) is accessed by a particular IP address. However, since we can track the IP address, we also know if the user subsequently looked at other filings related to

the merger. We define this “deeper dive” behavior as *further attention*, as discussed above in Section 2.2.

In Table 8, we again use two measures related to the outcome of the merger to study how further attention to a firm’s other SEC filings, such as the 10-K, 10-Q, Proxy Statement, and Form 425, relate to the timeline of the merger. *Withdraw* is again the dependent variable in models (1) – (4), while *Days Completion (Ln)* is the dependent variable in models (5) - (8). However, our four variables of interest are our additional search measures *Further Access 10-K*, *Further Access 10-Q*, *Further Access Proxy*, and *Further Access Form 425*. To create these variables, we note if an IP address that looks at the 8-K filing (and, therefore, is part of our unique access count) subsequently looks at the additional noted filing in a $[0, 6+]$ day window from the first Form 8-K access. For each merger event, we then add up these instances of further research to create a ratio of the number of IPs who do the additional research divided by the total number of unique IPs who access the Form 8-K.

First, we find that further interest in either the 10-K or the 10-Q is not predictive of the merger outcome. We believe that this makes sense, as these two filings are the least likely to contain new information about the merger – the contents are associated with more general business operations. However, reading the 8-K and then reading either the proxy statement or a Form 425 – a prospectus document about mergers – is positively and significantly related to the time to merger completion. This suggests that more complex mergers do require more in-depth research by investors. However, merger details seem less important when the deal is more likely to eventually fail.

3.4 Attention and Activism

More research intensity by investment management firms around a proposed merger appears to be related to the possibility of failure. In other words, their particular SEC search traffic around a merger announcement data identifies deals that are, perhaps, more controversial. Given the role of activism in mergers (e.g. Boyson et al. (2017)), we next ask if research

intensity is related to the arrival of an activist investor.

We present logit results for the relationship between Form 8-K access and eventual activism in Table 9. We define our indicator variables for activism as merger observations where there is either a “Vote No” campaign against the proposed merger, or another hostile acquisition attempt on the same target. We use this definition as our dependent variable in models (1) – (3), with 3, 6, and 12-month windows, respectively. We use just the “Vote No” campaigns in model (4) (*Vote No*) and just the additional hostile acquisition attempts in model (5) (*Hostile*). Overall, out of the 2,051 mergers in our sample, 90 (4.4%) have a “Vote No” campaign associated with them, while 37 (1.8%) have an additional hostile acquisition attempt against the target in the subsequent 12 months.

Our independent variable of interest is the (natural log) of the number of unique searches by investment management firms around each merger observation. We focus on the search behavior of investment management firms, as these institutions are the EDGAR users most likely to be interested in the same mergers that interest activists. We also include our usual set of additional firm and deal characteristic variables.

Models (1) – (3) use the activism indicator defined over 3 (*Activism (3M)*), 6 (*Activism (6M)*), and 12-month (*Activism (12M)*) periods following the merger announcement, respectively. In each case, we find a strong positive relationship between the interest of investment management firms in the merger and subsequent activism. We believe that this result demonstrates that investment management firms are most interested in deals that subsequently involve a campaign against the merger. In other words, deals that are more controversial. We note that these results (unreported) do not hold when we use our other institution categories. As such, we believe that this attention to the merger is more specific than just general interest by all parties. Controversial mergers that catch the attention of an activist first catch the attention of investment managers, in particular, when the initial Form 8-K filing is made.

In models (4) and (5), we also examine this positive relationship separately between

the two types of activism campaigns, *Vote No* and *Hostile*. The results indicate that the significance of the relationship is largely driven by “Vote No” campaigns. The interest of investment management firms may lead to a less expensive route, rather than a full-blown hostile takeover attempt.

3.5 Is All Attention Equal? A Placebo Test with Activism Outcomes

The positive relationship between the attention by investment management firms and the arrival of activism campaign may be driven by prevalent attention on the target firm that is unrelated to the merger announcement. For instance, some firm or managerial attributes might attract attention by both investment management firms and activist investors and then trigger a merger bid later. To mitigate this concern, we provide some counterfactual evidence on how the attention on a proposed merger, rather than general attention, matters for an activist investor.

To do so, we measure attention by investment management firms on a recent Form 8-K before the merger announcement. More specifically, we use the most recent Form 8-K from one month prior to the merger announcement filed by the same target firm. The most recent Form 8-K captures the cross-sectional variation in general attention being paid to the target firms. However, because we use a Form 8-K at least one month prior to the merger announcement, the attention is not likely related to the merger announcement. This gives us a placebo measure that should not be related to future activist outcomes if more interest in mergers, and not overall interest in the firm, is driving the relationship we document in Section 3.4. To minimize a potential measurement error, we measure the placebo attention from the same group of investment management firms identified in our main analysis.

Table 10 presents the results for our placebo attention measure. We use the same models from Table 9 by replacing the attention by investment management firms with the placebo attention. In models (1) through (5), the placebo attention measure does not explain the

arrival of activism campaign, which suggests that general attention given to the target firm is not a significant driver of our results. This analysis adds additional support to our conjecture that activist investors are drawn to mergers, in particular, that are more controversial, and not corporate events more broadly.

4 Conclusion

Spending effort to learn more about a corporate event is costly and endogenous to the event. Using firm and institution-matched IP addresses accessing Form 8-K filings, we establish a link between paying attention to a merger announcement, the type of institutions expending this effort, how “deep” they go in their work, and the eventual outcome of the merger. By following this chain of activity, we find that controversial mergers attract more attention from the start, as the initial attention to the merger is predictive of both a withdrawal and the eventual involvement of an activist investor. As such, we are able to document at a very granular level the circumstances that lead investors and other relevant market participants to gather information about an important corporate event.

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Appendix A. Variable Definitions

# of Accesses	The number of aggregate access activities for the merger agreement (Form 8K) of a given merger deal in the seven-day window [0, 6] from the filing date (Day 0). Source: SEC Edgar
# of Unique Accesses	The number of unique access activities, based on the IP addresses, for the merger agreement (Form 8K) of a given merger deal in the seven-day window [0, 6] from the filing date (Day 0). Source: SEC Edgar
Withdraw	An indicator variable equal to one if the announced deal is terminated; zero otherwise. Source: SDC Platinum
Days Completion	The number of days between the announcement date of the deal and the closing date of the deal with a material definitive agreement signed by all the relevant parties. Source: SDC Platinum
CAR [-1, +1]	The cumulative abnormal returns of the target firm over the [-1, +1] day window around the announcement date of the merger deal. We estimate a market model using the CRSP value-weighted index as the market return over the [-150, -31] day, where day 0 is the merger announcement date. Source: CRSP
Abnormal Turnover [-1, +1]	The average daily turnover of the target firm over the [-1, +1] day window around the announcement date of the merger deal. We use the daily average trading volume over the [-150, -31] day, scaled by the target's shares outstanding, as the normal turnover, where day 0 is the merger announcement date. Source: CRSP
Institution %	The percentage of the target firm's shares held by institutional investors at the end of the quarter prior to the filing. Source: Thomson Reuters 13F
Firm Size	The value of the target's total assets in millions of dollars. Source: Compustat
Leverage	The value of the target's long-term debt scaled by its total assets. Source: Compustat

Appendix A. Continued.

Market to Book	The market value of the target firm divided by its book value. Source: Compustat
Deal Value	The value of transaction in millions of dollars paid by the acquirer, excluding fees and expense. Source: SDC Platinum
HHI	The Herfindahl-Hirschman Index, estimated using the sales of all Compustat firms within each industry based on the two-digit SIC code. Source: Compustat
Stock Only	An indicator variable equal to one if the deal is paid all in stocks; zero otherwise. Source: SDC Platinum
Cash Only	An indicator variable equal to one if the deal is paid all in cash; zero otherwise. Source: SDC Platinum
Hostile	An indicator variable equal to one if the deal is started as unsolicited - an acquiring company makes an offer for another company without prior negotiations; zero otherwise. Source: SDC Platinum
Compete	An indicator variable equal to one if the number of entities bidding for the given target firm is larger than 1; zero if the current acquirer is the only bidder. Source: SDC Platinum
Diversifying	An indicator variable equal to one if the acquirer and target do not belong to the same industry, based on the two-digit SIC code (Matsusake, 1993); zero otherwise. Source: SDC Platinum
Vote No (12M)	An indicator variable equal to one if there is a campaign against the proposed merger within the 12-month period from the merger agreement (Form 8K) filing date; zero otherwise. Source: SharkRepellent
Hostile Takeover (12M)	An indicator variable equal to one if there is a hostile acquisition attempt on the target firm within the 12-month period from the merger agreement (Form 8K) filing date; zero otherwise. Source: SharkRepellent

Table 1
Descriptive statistics for target firms

Table 1 presents descriptive statistics for the 2,051 target firms in our sample of mergers, of which 1,623 are completed. A (1/0) denotes an indicator variable. See Appendix A for variable definitions and data sources.

	mean	sd	min	p25	median	p75	max
Withdraw (1/0)	0.064	0.245	0	0	0	0	1
Days Completion	122.526	86.283	19	66	101	154.5	1161
CAR [-1, +1]	0.281	0.354	-1.087	0.097	0.214	0.365	7.243
Abnormal Turnover [-1, +1]	0.096	0.093	-0.067	0.033	0.069	0.132	1.412
Institution %	62.314	29.822	0.078	38.748	67.256	86.571	193.545
Firm Size (\$, millions)	3,058.489	21,135.770	3.196	157.394	510.448	1,593.166	782,896.000
Leverage	0.172	0.226	0.000	0.000	0.080	0.281	3.232
Market to Book	1.814	1.626	0.412	1.054	1.367	2.033	36.244
Deal Value (\$, millions)	2,277.991	6,034.424	2.770	172.592	538.336	1,916.400	79,406.460
HHI	546.675	527.166	106	286.87	376.485	576.169	5,359.470
Stock Only (1/0)	0.130	0.337	0	0	0	0	1
Cash Only (1/0)	0.592	0.492	0	0	1	1	1
Hostile (1/0)	0.007	0.082	0	0	0	0	1
Compete (1/0)	0.063	0.243	0	0	0	0	1
Diversifying (1/0)	0.414	0.493	0	0	0	1	1
Vote No.12M (1/0)	0.044	0.205	0	0	0	0	1
Hostile Takeover 12M (1/0)	0.018	0.133	0	0	0	0	1

Table 2
Overall attention to merger agreements

Table 2 presents counts of internet protocol (IP) address access to the relevant SEC filings for the target firms in our merger sample. We define access as the aggregate number of IP addresses accessing a merger agreement (Form 8K) in a $[0, +6]$ day window, starting with the filing date. We define a unique access as a unique count of the IP addresses within that window. We provide both counts and the percentage relative to the overall number of unique IP addresses across all of the mergers, as well as note whether or not an IP address is accessing the primary filing, or one of the attachments. We are able to match 82.25% of the unique IP addresses in our sample with WhoWas registration, in order to identify the name of the firm that the IP address belongs to. See Appendix A for variable definitions and data sources.

Type of Attention	# of Accesses	Relative %
Total Access for Merger Agreements	231,326	
Total # of Unique Accesses	122,817	100.00%
for Primary 8-K Filing	56,392	45.92%
for Attachments	66,425	54.08%
Total # of Unique Accesses with WhoWas Registration	101,016	82.25%

Table 3
Attention to merger agreements by search type

Table 3 summarizes our access variable across the 1,734 mergers in our sample. For example, the average Form 8-K for a merger in our sample is accessed 112.8 times by 59.9 unique IP addresses. We also report descriptive statistics for unique number of IP addresses, by institution type, that are accessing the merger agreements. For example, the average Form 8-K for a merger is accessed by 3.1 unique IP addresses associated with law firms. Finally, we report descriptive statistics for our set of further access variables. These variables capture if an IP address accessing a Form 8-K also accesses another filing associated with the target firm within a $[0, +6]$ day window following the Form 8-K access. For example, 7.6% of IP addresses accessing the Form 8-K also access the 10-K. If an IP address does not access another document beyond the Form 8-K, we count these as zeroes when creating the further access sample. See Appendix A for variable definitions and data sources.

	mean	sd	min	p25	median	p75	max
# of Accesses	112.787	188.417	0	24	67	151	4573
# of Unique Accesses	59.882	122.555	0	15	36	77	3908
# of Law Firms	2.683	3.296	0	0	2	4	44
# of Government Agencies	0.075	0.346	0	0	0	0	8
# of Banks (IB & VC)	2.662	3.317	0	0	2	4	31
# of Investment Management Firms	2.614	3.759	0	0	1	4	56
Further Access for 10-K (%)	7.580	6.789	0	2.500	6.818	11.111	100
Further Access for 10-Q (%)	6.785	7.144	0	0.621	5.660	10.000	100
Further Access for Proxy Statements (%)	11.300	10.995	0	2.674	8.491	17.742	100
Further Access for Form 425 (%)	3.910	8.767	0	0.000	0.000	0.000	100

Table 4
Attention by year and additional classifications

Table 4 shows the same variables described in Table 3, but on an annual basis from 2004 – 2017, the extent of our sample of 1,734 mergers. For example, the average number of unique IP addresses accessing a Form 8-K rises from 28.8 in 2004 to 121.6 in 2014. See Appendix A for variable definitions and data sources.

	Overall		Access by Type				Further Access (%)			
	# of Accesses	# of Unique	Law	Gov't	IB & VC	Inv. Manage	10-K	10-Q	Proxy	Form 425
2004	44.000	23.404	2.231	0.019	1.673	1.096	6.759	7.805	12.960	8.485
2005	21.444	13.061	1.247	0.010	0.848	0.626	4.968	3.187	8.122	5.489
2006	23.511	13.443	0.963	0.027	0.858	0.904	5.723	6.702	9.300	2.482
2007	30.996	18.330	1.387	0.043	1.500	1.339	6.488	5.815	11.870	3.159
2008	66.306	37.918	2.347	0.136	2.680	2.224	5.943	6.686	11.885	2.444
2009	106.021	59.823	2.896	0.094	4.010	3.427	8.721	9.326	12.166	4.730
2010	142.786	87.409	2.717	0.132	4.572	3.648	9.668	7.991	13.784	3.656
2011	172.049	76.343	3.503	0.084	4.469	3.378	10.033	8.555	15.283	2.856
2012	132.105	69.059	2.431	0.072	3.582	2.810	8.910	8.423	13.723	3.479
2013	150.724	76.252	3.764	0.106	3.285	3.341	7.956	7.729	11.905	2.693
2014	184.350	90.394	3.912	0.117	3.263	3.496	9.332	7.167	11.715	4.704
2015	189.676	98.121	4.254	0.092	3.046	3.665	8.235	6.971	9.052	6.299
2016	219.613	119.890	4.381	0.090	2.800	4.452	7.985	5.947	10.055	3.272
2017	218.515	118.712	4.061	0.030	2.515	4.727	7.587	5.359	8.217	4.748

Table 5

Determinants of attention

Table 5 presents OLS models for the determinants of attention. The dependent variable in model (1) is the (natural log) of the unique number of IP addresses accessing a merger announcement (i.e. the target firm's Form 8-K) in a $[0, +6]$ day window after the filing is made. Models (2) – (5) use the (natural log) of the unique number of IP addresses within law firms, government agencies, investment banks and venture capital firms, and investment management firms, respectively, that are accessing the filings. All models include year and industry (one-digit SIC code) fixed-effects. See Appendix A for variable definitions and data sources. t -statistics are calculated using White (1980) standard errors clustered by industry and are reported in parentheses. ***, **, and * represent significance levels at the 1%, 5%, and 10%, respectively.

	# of Unique (Ln) (1)	# of Law (Ln) (2)	# of Gov't (Ln) (3)	# of IB & VC (Ln) (4)	# of Inv. Manage (Ln) (5)
CAR [-1, +1] if ≥ 0	0.218*** (5.792)	0.100** (3.171)	-0.015 (-1.499)	0.094*** (4.416)	0.112*** (4.662)
CAR [-1, +1] if < 0	-0.763*** (-10.943)	-1.022*** (-8.205)	-0.281*** (-4.772)	-0.574* (-1.943)	-0.790** (-2.922)
Abnormal Turnover [-1, +1]	0.803*** (4.406)	0.622** (2.818)	0.142 (1.174)	0.871*** (7.964)	0.671*** (3.969)
Institution %	0.000 (0.225)	-0.001 (-0.829)	-0.001*** (-5.721)	-0.000 (-0.789)	0.001** (2.658)
Firm Size (Ln)	0.061* (2.118)	0.052** (2.526)	0.016*** (5.677)	0.024 (1.810)	0.005 (0.236)
Leverage	-0.023 (-0.221)	-0.096 (-1.463)	-0.003 (-0.208)	-0.066 (-1.139)	0.104 (1.452)
Market to Book	0.025 (1.538)	0.009 (0.850)	-0.001 (-0.456)	0.012* (2.067)	0.026** (2.730)
Deal Value (Ln)	0.180*** (8.397)	0.125*** (8.454)	0.009 (1.453)	0.191*** (10.698)	0.211*** (15.206)
HHI (Ln)	0.042 (0.855)	-0.015 (-0.580)	-0.008 (-1.294)	0.057 (1.829)	0.057** (2.363)
Stock Only	-0.060 (-1.371)	-0.104* (-1.863)	0.001 (0.156)	-0.023 (-0.798)	-0.032 (-0.624)
Cash Only	0.207** (2.970)	0.123** (2.791)	-0.003 (-0.389)	0.203*** (5.554)	0.124*** (3.304)
Hostile	-0.353 (-1.721)	-0.282 (-1.178)	0.003 (0.061)	-0.343*** (-3.513)	-0.319*** (-3.967)
Compete	0.355*** (3.663)	0.245** (3.005)	0.018 (0.756)	0.196*** (4.017)	0.230** (2.339)
Diversifying	0.060 (1.038)	0.074** (3.045)	0.018 (1.328)	0.046 (1.478)	0.039 (1.641)
Obs.	2,051	2,051	2,051	2,051	2,051
R^2	0.639	0.402	0.064	0.469	0.482
Fixed Effects			Year / Industry		

Table 6

Overall attention and merger outcomes

Table 6 presents the relationship between attention to merger and two merger outcome variables. Models (1) and (2) are logits, where the dependent variable is an indicator variable for whether or not the proposed merger is eventually withdrawn. In models (3) and (4), the dependent variable is the (natural log) of the number of days until the merger is completed and are estimated using OLS. All models include year and industry (one-digit SIC code) fixed-effects. See Appendix A for variable definitions and data sources. For logit and OLS models, respectively, z -statistics and t -statistics are calculated using White (1980) standard errors clustered by industry and are reported in parentheses. ***, **, and * represent significance levels at the 1%, 5%, and 10%, respectively.

	Withdraw		Days Completion (Ln)	
	(1)	(2)	(3)	(4)
# of Accesses (Ln)	0.070 (0.494)		-0.015 (-1.791)	
# of Unique Accesses (Ln)		0.082 (0.525)		-0.013 (-1.270)
CAR [-1, +1]	-0.487 (-0.896)	-0.489 (-0.901)	-0.058*** (-3.437)	-0.058*** (-3.405)
Abnormal Turnover [-1, +1]	-5.919** (-2.373)	-5.944** (-2.378)	-0.897*** (-4.902)	-0.899*** (-4.842)
Institution %	0.005 (1.321)	0.005 (1.313)	-0.002*** (-3.844)	-0.002*** (-3.830)
Firm Size (Ln)	0.629*** (5.315)	0.627*** (5.296)	0.180*** (11.334)	0.180*** (11.163)
Leverage	-0.261 (-0.675)	-0.258 (-0.664)	-0.053 (-0.476)	-0.053 (-0.475)
Market to Book	0.128* (1.923)	0.128* (1.886)	0.006 (0.546)	0.006 (0.545)
Deal Value (Ln)	-0.614*** (-5.437)	-0.615*** (-5.458)	-0.040* (-1.969)	-0.041* (-2.013)
HHI (Ln)	0.316** (2.047)	0.316** (2.037)	0.008 (0.142)	0.008 (0.142)
Stock Only	-0.035 (-0.103)	-0.037 (-0.109)	0.093 (1.418)	0.094 (1.430)
Cash Only	-0.702** (-2.491)	-0.701** (-2.508)	-0.198*** (-7.207)	-0.199*** (-7.320)
Hostile	0.470 (0.465)	0.470 (0.466)	-0.183 (-1.114)	-0.181 (-1.097)
Compete	3.058*** (8.381)	3.056*** (8.402)	0.080 (1.032)	0.079 (1.016)
Diversifying	0.283 (1.301)	0.284 (1.305)	-0.003 (-0.133)	-0.003 (-0.154)
Obs.	2,045	2,045	1,920	1,920
Pseudo R^2	0.2426	0.2426		
R^2			0.408	0.408
Fixed Effects			Year / Industry	

Table 7
Attention identity and merger outcomes

Table 7 presents similar models to those found in Table 6, but where the variables of interest are searches by institution type, rather than overall attention. See Table 3 for details on our investor type definitions. Models (1) – (4) are logits, where the dependent variable is an indicator variable for whether or not the proposed merger is eventually withdrawn. In models (5) – (8), the dependent variable is the (natural log) of the number of days until the merger is completed and are estimated using OLS. All models include year and industry (one-digit SIC code) fixed-effects. See Appendix A for variable definitions and data sources. For logit and OLS models, respectively, z -statistics and t -statistics are calculated using White (1980) standard errors clustered by industry and are reported in parentheses. ***, **, and * represent significance levels at the 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
# of Law Firms (Ln)	0.570*** (3.213)				-0.010 (-0.763)			
# of Government Agencies (Ln)		0.383 (1.018)				0.115** (2.684)		
# of IB & VC (Ln)			0.050 (0.226)				-0.013 (-0.826)	
# of Investment Management (Ln)				0.390*** (3.832)				0.019 (0.979)
CAR [-1, +1]	-0.482 (-0.950)	-0.467 (-0.844)	-0.483 (-0.879)	-0.450 (-0.867)	-0.060*** (-3.558)	-0.058*** (-3.627)	-0.060*** (-3.399)	-0.062*** (-3.808)
Abnormal Turnover [-1, +1]	-6.356** (-2.314)	-5.939** (-2.278)	-5.873** (-2.200)	-6.531** (-2.549)	-0.902*** (-5.007)	-0.930*** (-5.226)	-0.899*** (-5.059)	-0.924*** (-4.904)
Institution %	0.005 (1.464)	0.005 (1.308)	0.005 (1.295)	0.005 (1.235)	-0.002*** (-3.773)	-0.002*** (-3.753)	-0.002*** (-3.919)	-0.002*** (-3.919)
Firm Size (Ln)	0.562*** (4.911)	0.631*** (5.632)	0.636*** (5.797)	0.624*** (5.472)	0.180*** (11.153)	0.177*** (10.380)	0.180*** (10.916)	0.179*** (10.853)
Leverage	-0.166 (-0.428)	-0.258 (-0.714)	-0.269 (-0.721)	-0.299 (-0.779)	-0.053 (-0.477)	-0.051 (-0.458)	-0.053 (-0.475)	-0.054 (-0.490)
Market to Book	0.124** (2.082)	0.133** (2.184)	0.130** (1.992)	0.118* (1.762)	0.006 (0.527)	0.006 (0.526)	0.006 (0.541)	0.006 (0.487)
Deal Value (Ln)	-0.643*** (-5.306)	-0.608*** (-4.989)	-0.614*** (-5.732)	-0.676*** (-5.776)	-0.042* (-1.988)	-0.044* (-2.141)	-0.041* (-2.018)	-0.047* (-2.186)
HHI (Ln)	0.331* (1.918)	0.328** (2.049)	0.316** (2.133)	0.282* (1.736)	0.007 (0.131)	0.008 (0.141)	0.008 (0.145)	0.007 (0.119)
Stock Only	0.036 (0.096)	-0.046 (-0.137)	-0.039 (-0.114)	-0.029 (-0.083)	0.094 (1.413)	0.094 (1.428)	0.095 (1.436)	0.095 (1.444)
Cash Only	-0.761*** (-2.967)	-0.690** (-2.440)	-0.696** (-2.500)	-0.717*** (-2.617)	-0.201*** (-7.092)	-0.201*** (-7.428)	-0.199*** (-6.933)	-0.204*** (-7.210)
Hostile	0.647 (0.585)	0.450 (0.450)	0.458 (0.467)	0.551 (0.547)	-0.178 (-1.031)	-0.177 (-1.001)	-0.179 (-1.044)	-0.163 (-0.941)
Compete	2.975*** (7.885)	3.077*** (8.172)	3.075*** (8.520)	3.013*** (7.879)	0.077 (0.985)	0.074 (0.961)	0.078 (1.015)	0.072 (0.940)
Diversifying	0.231 (0.995)	0.279 (1.273)	0.289 (1.342)	0.269 (1.252)	-0.003 (-0.157)	-0.006 (-0.279)	-0.003 (-0.165)	-0.004 (-0.236)
Obs.	2,045	2,045	2,045	2,045	1,920	1,920	1,920	1,920
Pseudo R^2	0.2538	0.243	0.2423	0.2474				
Fixed Effects					0.407	0.409	0.408	0.408
					Year /	Industry		

Table 8
Further Attention and merger outcomes

Table 8 presents the relationship between merger outcomes and our set of further attention measures. Models (1) – (4) are logits, where the dependent variable is an indicator variable for whether or not the proposed merger is eventually withdrawn. In models (5) – (8), the dependent variable is the (natural log) of the number of days until the merger is completed and are estimated using OLS. Each further attention measure is defined as the ratio of IP addresses that go on to access the additional noted filing, after accessing the Form 8-K, divided by the total number of unique IPs that access the Form 8-K. All models include year and industry (one-digit SIC code) fixed-effects. See Appendix A for variable definitions and data sources. For logit and OLS models, respectively, z -statistics and t -statistics are calculated using White (1980) standard errors clustered by industry and are reported in parentheses. ***, **, and * represent significance levels at the 1%, 5%, and 10%, respectively.

	Withdraw				Days Completion (Ln)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Further Attention to 10-K	0.289 (0.191)				-0.091 (-0.549)			
Further Attention to 10-Q		-0.358 (-0.210)				0.050 (0.352)		
Further Attention to Proxy Statement			1.076 (1.132)				0.752*** (3.276)	
Further Attention to Form 425				-0.734 (-0.654)			0.347*** (3.307)	
CAR [-1, +1]	-0.484 (-0.880)	-0.490 (-0.906)	-0.493 (-0.879)	-0.500 (-0.900)	-0.061*** (-3.733)	-0.061*** (-3.689)	-0.059*** (-2.771)	-0.058*** (-3.572)
Abnormal Turnover [-1, +1]	-5.768** (-2.246)	-5.784** (-2.269)	-5.764** (-2.243)	-5.844** (-2.265)	-0.909*** (-5.009)	-0.910*** (-4.947)	-0.834*** (-4.437)	-0.902*** (-4.906)
Institution %	0.005 (1.237)	0.005 (1.347)	0.004 (1.179)	0.005 (1.322)	-0.002*** (-3.803)	-0.002*** (-3.726)	-0.002*** (-3.854)	-0.002*** (-3.854)
Firm Size (Ln)	0.640*** (6.066)	0.640*** (6.021)	0.642*** (6.063)	0.641*** (6.013)	0.179*** (10.929)	0.179*** (11.007)	0.178*** (10.736)	0.178*** (11.350)
Leverage	-0.269 (-0.730)	-0.271 (-0.748)	-0.267 (-0.719)	-0.286 (-0.769)	-0.052 (-0.467)	-0.052 (-0.477)	-0.054 (-0.485)	-0.046 (-0.416)
Market to Book	0.131** (2.069)	0.131** (2.102)	0.134** (2.186)	0.132** (2.124)	0.006 (0.529)	0.006 (0.526)	0.007 (0.705)	0.005 (0.473)
Deal Value (Ln)	-0.606*** (-4.861)	-0.610*** (-5.420)	-0.603*** (-4.971)	-0.605*** (-5.003)	-0.043* (-2.171)	-0.043* (-2.133)	-0.042* (-2.217)	-0.043* (-2.177)
HHI (Ln)	0.321** (1.997)	0.318** (2.028)	0.327** (2.010)	0.317** (1.963)	0.008 (0.134)	0.008 (0.136)	0.007 (0.130)	0.008 (0.143)
Stock Only	-0.037 (-0.108)	-0.038 (-0.114)	-0.027 (-0.075)	-0.024 (-0.069)	0.094 (1.414)	0.095 (1.426)	0.100 (1.400)	0.083 (1.400)
Cash Only	-0.683** (-2.494)	-0.690** (-2.407)	-0.725** (-2.446)	-0.740** (-2.571)	-0.202*** (-7.423)	-0.202*** (-7.461)	-0.231*** (-7.506)	-0.177*** (-7.156)
Hostile	0.438 (0.435)	0.442 (0.433)	0.497 (0.514)	0.456 (0.448)	-0.171 (-0.998)	-0.171 (-1.009)	-0.121 (-0.660)	-0.174 (-1.000)
Compete	3.084*** (8.350)	3.085*** (8.197)	3.096*** (7.871)	3.091*** (8.309)	0.076 (0.959)	0.075 (0.958)	0.072 (0.900)	0.071 (0.894)
Diversifying	0.290 (1.367)	0.295 (1.318)	0.277 (1.317)	0.292 (1.336)	-0.004 (-0.194)	-0.003 (-0.179)	-0.013 (-0.719)	-0.003 (-0.136)
Obs.	2.045	2.045	2.045	2.045	1.920	1.920	1.920	1.920
Pseudo R^2	0.2423	0.2423	0.2436	0.2426				
Fixed Effects					0.407	0.407	0.425	0.409
					Year / Industry			

Table 9
Attention and activism

Table 9 presents models for the eventual involvement of an activist investor, where the variable of interest is the (natural log) of the number of unique searches by investment management firms around each merger observation. All models are logits, where the dependent indicator variables in models (1) – (3) is the eventual involvement of an activist 3 months, 6 months, and 12 months after the filing of the merger agreement, respectively. In model (4), the dependent variable is an indicator for a campaign against the merger within 12 months of the filing. In model (5), the dependent variable is an indicator for a hostile acquisition attempt on the target within 12 months of the filing date. All models include year and industry (one-digit SIC code) fixed-effects. See Appendix A for variable definitions and data sources. z -statistics are calculated using White (1980) standard errors clustered by industry and are reported in parentheses. ***, **, and * represent significance levels at the 1%, 5%, and 10%, respectively.

	Activism (3M) (1)	Activism (6M) (2)	Activism (12M) (3)	Vote No (12M) (4)	Hostile Takeover (12M) (5)
# of Investment Management (Ln)	0.462*** (3.802)	0.485*** (3.647)	0.472*** (3.412)	0.325*** (4.304)	0.811* (1.887)
CAR [-1, +1]	-1.187*** (-3.682)	-1.206*** (-3.565)	-1.366*** (-4.297)	-1.811*** (-3.906)	-0.208 (-0.228)
Abnormal Turnover [-1, +1]	-1.069 (-0.980)	-1.489 (-1.353)	-1.628* (-1.675)	-1.691*** (-2.601)	-5.802 (-1.288)
Institution %	0.007 (1.461)	0.007 (1.444)	0.007 (1.413)	0.008* (1.733)	0.002 (0.150)
Firm Size (Ln)	-0.039 (-0.186)	-0.007 (-0.034)	0.028 (0.144)	0.106 (0.497)	-0.239 (-1.111)
Leverage	-0.075 (-0.076)	-0.194 (-0.215)	-0.279 (-0.289)	0.097 (0.121)	-1.488 (-1.482)
Market to Book	-0.219 (-1.029)	-0.164 (-0.960)	-0.122 (-0.891)	-0.064 (-0.437)	-0.538*** (-3.231)
Deal Value (Ln)	-0.145 (-0.742)	-0.162 (-0.977)	-0.204 (-1.258)	-0.264 (-1.449)	0.075 (0.250)
HHI (Ln)	0.186 (0.650)	0.240 (0.858)	0.247 (0.857)	0.148 (0.584)	0.688 (1.557)
Stock Only	0.177 (0.445)	-0.027 (-0.072)	0.041 (0.117)	-0.086 (-0.236)	0.005 (0.005)
Cash Only	0.031 (0.173)	-0.267* (-1.767)	-0.302* (-1.775)	-0.305 (-1.222)	0.004 (0.009)
Hostile	-0.443 (-0.468)	-0.696 (-0.741)	-0.720 (-0.790)	-0.352 (-0.308)	-0.372 (-0.285)
Compete	2.632*** (11.785)	2.753*** (11.251)	2.748*** (11.348)	1.148*** (3.610)	6.327*** (6.701)
Diversifying	0.039 (0.203)	0.071 (0.288)	0.136 (0.683)	0.298** (2.074)	-1.162** (-2.455)
Obs.	1,993	1,993	1,993	1,993	1,993
Pseudo R^2	0.1776	0.1919	0.1923	0.0857	0.6012
Fixed Effects			Year / Industry		

Table 10

Placebo test for attention and activism

Table 10 gives our placebo tests for attention and the eventual involvement of an activist investor, similar to Table 9. However, our attention variable is now created using the search activity of the investment manager firms in our sample for the most recent Form 8-K from at least one month prior to the merger announcement filed by the same target firm. This captures the attention given to another recent, non-merger event for the target firms in our sample. All models are logits, where the dependent indicator variables in models (1) – (3) is the eventual involvement of an activist 3 months, 6 months, and 12 months after the filing of the merger agreement, respectively. In model (4), the dependent variable is an indicator for a campaign against the merger within 12 months of the filing. In model (5), the dependent variable is an indicator for a hostile acquisition attempt on the target within 12 months of the filing date. All models include year and industry (one-digit SIC code) fixed-effects. See Appendix A for variable definitions and data sources. z -statistics are calculated using White (1980) standard errors clustered by industry and are reported in parentheses.***, **, and * represent significance levels at the 1%, 5%, and 10%, respectively.

	Activism (3M) (1)	Activism (6M) (2)	Activism (12M) (3)	Vote No (12M) (4)	Hostile Takeover (12M) (5)
Placebo # of Investment Management (Ln)	0.088 (0.214)	0.080 (0.215)	0.034 (0.090)	-0.148 (-0.436)	0.442 (0.615)
CAR [-1, +1]	-1.198*** (-3.939)	-1.212*** (-3.675)	-1.379*** (-4.504)	-1.851*** (-4.055)	-0.398 (-0.327)
Abnormal Turnover [-1, +1]	-0.494 (-0.441)	-0.880 (-0.761)	-1.043 (-0.994)	-1.346** (-1.965)	-2.701 (-0.523)
Institution %	0.007 (1.534)	0.007 (1.490)	0.007 (1.457)	0.008* (1.901)	-0.000 (-0.041)
Firm Size (Ln)	-0.028 (-0.123)	0.005 (0.024)	0.044 (0.208)	0.125 (0.541)	-0.226 (-1.281)
Leverage	-0.032 (-0.032)	-0.158 (-0.174)	-0.241 (-0.249)	0.162 (0.204)	-1.348 (-1.135)
Market to Book	-0.206 (-0.934)	-0.149 (-0.862)	-0.107 (-0.775)	-0.050 (-0.339)	-0.524*** (-3.748)
Deal Value (Ln)	-0.049 (-0.232)	-0.062 (-0.340)	-0.108 (-0.596)	-0.206 (-1.100)	0.222 (0.713)
HHI (Ln)	0.209 (0.722)	0.268 (0.956)	0.276 (0.963)	0.168 (0.660)	0.730** (1.999)
Stock Only	0.150 (0.381)	-0.046 (-0.126)	0.020 (0.058)	-0.103 (-0.279)	0.060 (0.063)
Cash Only	0.088 (0.487)	-0.206 (-1.333)	-0.244 (-1.356)	-0.263 (-1.025)	0.058 (0.147)
Hostile	-0.608 (-0.587)	-0.860 (-0.821)	-0.882 (-0.860)	-0.502 (-0.423)	-0.587 (-0.485)
Compete	2.695*** (12.392)	2.821*** (11.613)	2.822*** (11.778)	1.224*** (3.751)	6.413*** (6.390)
Diversifying	0.064 (0.332)	0.095 (0.394)	0.157 (0.814)	0.305** (2.104)	-1.066*** (-2.620)
Obs.	1,993	1,993	1,993	1,993	1,993
Pseudo R^2	0.1701	0.1836	0.1842	0.082	0.5928
Fixed Effects			Year / Industry		