# Who Pays Attention to SEC Form 8-K?

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# Abstract

The SEC requires public companies to disclose material information on Form 8-K within four days of a triggering event. We show that, on 8-K event and filing dates, there is significant abnormal attention on Bloomberg terminals, which are a source of information for institutional investors, while traditional media attention tends to be higher on filing days. Significant price discovery occurs on the event date and on the days between that day and the filing date. The traditional media coverage on the filing day appears to attract the attention of retail investors and leads to further price changes in the direction of the pre-filing day price change. Institutional investors exploit this price pressure via opportunistic liquidity provision. Overall, our evidence suggests that the Form 8-K filing may have little direct informational benefit, particularly to retail investors.

Key Words: SEC 8-K filings; Investor Attention; Price discovery; Price pressure, Media coverage, Stale news JEL Codes: D8; G1; G2; M4

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# 1. Introduction

Section 409 of the Sarbanes-Oxley Act of 2002 requires public companies to disclose "on a rapid and current basis" material information regarding changes in financial condition or operations that the Securities Exchange Commission (SEC) determines to be necessary or useful for the protection of investors.<sup>1</sup> The disclosure is filed with the SEC on Form 8-K. The SEC's goal in requiring the filings is "[to provide] current information to help investors make informed decisions." Some filings may arrive up to four days after the triggering event. We thus address the following questions: who seeks 8-K information—institutional investors, retail investors, or both—when and how are they informed, and how does their attention affect price formation?

We find that significant price discovery occurs before the filing date, suggesting that some investors have early access to information. Little is known about who these investors are or how they become informed. We show that institutional investors pay significant abnormal attention to firms filing 8-Ks by increasing their searches on Bloomberg on both the filing and event dates. Their abnormal searching is significantly higher on the event date than on the filing date. In sharp contrast, using Google search volumes to proxy for retail attention, we find much weaker abnormal attention paid by retail investors on the event date; their abnormal attention peaks on the filing date. This evidence suggests that institutional investors may learn about events by means other than 8-K filings, while retail investors become informed on the filing date.

We conjecture that retail investors acquire information mostly through traditional news media (TN). We show that coverage of the firm on the Dow Jones Newswires is generally higher on the filing date than on the event date, consistent with the pattern shown via Google search

<sup>&</sup>lt;sup>1</sup> Securities and Exchange Commission (SEC), (2004): Financial reporting release nos. 33-8400; 34-49424. Final rule: Additional Form 8-K disclosure requirements and acceleration of filing date (August 23).

volume. This is especially true for 8-K filings regarding management turnover. The frequency of abnormal traditional media coverage associated with this item is only 12 percent on the event day, whereas it is 43 percent on the filing date.<sup>2</sup> Furthermore, on the filing day, we observe retail attention spike only if there is abnormal traditional media coverage.

Institutional investors have access to professional news services, such as Bloomberg, which costs more than \$250,000 per year.<sup>3</sup> Information about the 8-K events sometimes is released before the filing via a press release by the firm or discovery by journalists, and this information almost always appears on Bloomberg immediately. We show abnormal professional news coverage on 63 percent of the event dates, significantly higher than our simulated benchmark of 44 percent, which suggests that Bloomberg is one way institutional investors learn about 8-K events before retail investors do.<sup>4</sup>

After documenting these differences in information access, we examine their effect on price discovery. We find that institutions trade and a significant part of the price discovery occurs during the pre-filing period. <sup>5</sup> These results suggest that the actual 8-K filing has limited informational benefit: institutional investors have already learned about the event, trade on it and the price has adjusted before the filing date.

 $<sup>^{2}</sup>$  We construct a measure of traditional news media coverage (denoted "*TN*") using the Dow Jones Edition of RavenPack Analytics. Details are provided in section 3.3.

<sup>&</sup>lt;sup>3</sup> To analyze the media coverage available to institutional investors, we augment the traditional news coverage with news on the Bloomberg terminal. We denote this media coverage as professional news ("PN"). Details are provided in section 3.4.

<sup>&</sup>lt;sup>4</sup> Of course, institutional investors have financial incentives and resources to acquire this information via other channels (e.g. satellite images, web traffic, social media, etc.), as recently studied by Zhu (2019), Katona, Painter, Patatoukas, and Zeng (2019), and Mukherjee, Panayotov, and Shon (2020) among others. In addition, they may also acquire this information via private channels; for example, according to Bloomberg News on January 13, 2020, JP Morgan put a CDS trader on leave after the firm discovered the trader has been exchanging information with colleagues using WhatsApp group chat. By definition, these alternative and private information channels are hard to systematically identify and measure.

<sup>&</sup>lt;sup>5</sup> The pre-filing period includes the event day and the days between the event day and the filing day.

Nevertheless, we show that retail investors seem to heed 8-Ks and the associated media coverage and trade on the information. Using data from NYSE ReTrac we show that retail investors continue to trade in the same direction as the filing information and cause price pressure. Using institutional transaction data from ANcerno Ltd., we further show that institutional investors appear to trade against the retail investors, profiting from providing liquidity. In short, our analyses suggest that the Form 8-K may not protect retail investors; in fact, they may be hurt inasmuch they trade on stale news and institutional investors trade against them.

We illustrate our results in Figure 1 using Range Resources Corp. as an example. On December 13, 2011 (the filing day), the company filed an 8-K involving changes in management. The event had occurred on December 8, 2011. There was abnormal institutional interest that day but no media coverage. The firm issued a press release on December 13 that appeared on Bloomberg terminals as a news alert within seconds, contributing to the abnormal institutional attention that day. Share trading volume spiked, reaching a level of 5 million shares, and the stock price dropped by 4.57 percent. In sharp contrast, retail attention, as measured by Google searches, spiked on December 14, the day *after* the 8-K filing.<sup>6</sup> This retail attention coincided with more trading (3.8 million shares) and a further price decline of 3.47 percent on December 14. But this additional price drop reverted in a few days.

To be clear, we do *not* suggest that the SEC should abolish 8-K filing requirements. Rather, our findings suggest that the incremental information content of the filing is limited in and of itself and that retail investors, whom the SEC aims to protect, seem unaware of this fact and thus

<sup>&</sup>lt;sup>6</sup> While this is an example, we find a systematic pattern of a spike in retail attention due to TN coverage on the filing day, in particular for item 5.02.

overreact to stale news.<sup>7</sup> Going forward, better financial education may help retail investors to better differentiate new information from stale information.

Our paper proceeds as follows. In Section 2, we discuss the literature on the information content of Form 8-K. In Section 3, we describe our measures of institutional and retail attention, traditional and professional news coverage, retail and institutional trading and our data sources. In section 4, we present descriptive statistics and, in Section 5, provide evidence of the extent of retail and institutional attention and of different types of media coverage on the event and filing dates. In section 6, we investigate the effect of institutional investor attention on price discovery and, in Section 7, how retail attention on the filing dates affects retail and institutional trading and returns on the filing day and subsequent days. In Section 8, we conclude.

# 2. Review of related literature

Carter and Soo (1999) study a sample of 5,736 8-Ks from 1993 and find a strong price reaction around the event date and very little price change on the filing date for most filings; filings within five business days of the triggering event resulted in some price reaction on the filing date. In August 2004, the SEC expanded the scope of events that may trigger the filing of an 8-K and reduced the maximum delay in filing to four business days from prior deadlines of between five and 15 days depending on the item.<sup>8</sup> After this change, Lerman and Livnat (2010) examine a large sample of 8-Ks filed between 2005 and 2007 and find a strong price reaction around both the event and filing dates. McMullin et al. (2018) examine the timing of the intra-quarter price formation

<sup>&</sup>lt;sup>7</sup> In her 2014 speech to the Consumer Federation of America, SEC Commissioner Mary Jo White said: "... we are ... focused on protecting the consumers in our securities markets – especially the individual investors, who we often refer to as 'retail' investors – who invest their own money to save for retirement, or to buy a home or to send their children to college. The retail investor must be a constant focus of the SEC – if we fail to serve and safeguard the retail investor, we have not fulfilled our mission."

<sup>&</sup>lt;sup>8</sup> The SEC mandated new disclosure requirements in Form 8-K, which became effective on August 23, 2004. The new Form 8-K includes 33 different items across nine categories (Lerman and Livnat, 2010).

around the SEC's expansion of the scope and timeliness of 8-K filings and show that, afterward, price formation occurs earlier in the quarter. Watkins (2019) finds that, after this regulatory change, the length of and quantitative information in 8-Ks decline and that 8-Ks more constrained by the increase in required timeliness showed a greater decrease in detail than less constrained ones. We contribute to the 8K literature by demonstrating that institutional investors pay attention on the event day and their trading contributes to price discovery before the 8-K filings are published. We further show that in contrast to institutional investors, retial investors' attention, connected to media coverage, is associated with price reversals and institutional investors take advantage of these reversals by providing liquidity.

Recently, Cohen et al. (2015), Rogers et al. (2017), and Bolandnazar et al. (2019) have shown that investors who have paid for earlier access to regulatory filings can trade profitably. Our findings are related but distinct. We find that institutional investors can derive an additional benefit even after the filing date (when their information advantage evaporates) by providing liquidity to retail traders. A voluminous literature has documented that institutional investors have superior trading skills (i.e., Puckett and Yan (2011), Henry and Koski (2017), Hu et al. (2018), Bushee et al. (2019) among others). We add to this literature by providing a novel measure of the information advantage enjoyed by institutional investors and demonstrating their use of this advantage.

While we focus on examining the attention of different types of investors on both the 8-K event and filing dates, we acknowledge that filing dates are often chosen endogenously, as modeled theoretically by Guttman et al. (2014). Indeed, recent studies by Niessner (2015), Goldstein and Wu (2015), Bird et al. (2016), and Segal and Segal (2017) show that firms may strategically delay or misclassify 8-K filings to manipulate the attention paid them.

## 3. Measures of Attention, News Coverage, and Trading and Sources of Data

In this section, we describe our measures of institutional and retail attention, traditional and professional news coverage, and retail and institutional trading. We use a measure of searching by institutional investors developed by Ben-Rephael et al. (2017); this measure is based on Bloomberg searches. We also focus on media coverage on the event and filing days, identifying two different news categories. Finally, we augment our analysis with a measure of searching Google by retail investors developed by Da et al., 2011.

# 3.1 Abnormal Institutional Attention (AIA)

Bloomberg provides data that include transformed measures of news-reading and newssearching on Bloomberg terminals. The majority of Bloomberg users are likely to be institutional investors, who have the incentives and financial resources to react quickly to important news (Ben-Rephael et al., 2017).<sup>9</sup>

To construct its own measure of attention, Bloomberg records the number of times users of its terminals read news articles on a particular stock and the number of times users search for news about a specific stock. Searching for news requires typing in the firm's stock ticker symbol, followed by the function "CN" (company news). However, users may read an article without initially realizing it refers to a specific firm. To place more emphasis on deliberate news seeking for a specific firm, Bloomberg assigns a score of 10 when users search for news and 1 when users read a news article and aggregates these numbers to hourly counts. Using the hourly counts,

<sup>&</sup>lt;sup>9</sup> Ben-Rephael et al. 2017 observe: "Since Bloomberg terminals are expensive, with annual subscriptions costing \$20,000 to \$24,000 per machine, and are leased on a two-year basis, they are much more likely to be used by institutional investors than retail investors. In fact, there are only about 320,000 subscriptions worldwide. A search of Bloomberg terminal user profiles reveals that almost 80 percent of users work in financial industries (including banking, asset management, and institutional financial service). Their most common job titles include portfolio/fund/investment managers, analyst, trader, executive, director, president and managing director."

Bloomberg creates a numerical attention score each hour by comparing the average hourly count during the previous eight hours to all hourly counts over the previous month for the same stock. Bloomberg assigns a score of 0 if the rolling average is in the lowest 80 percent of the hourly counts over the previous 30 days. Similarly, Bloomberg assigns a score of 1, 2, 3, or 4 if the average is between 80 percent and 90 percent, 90 percent and 94 percent, 94 percent and 96 percent, or greater than 96 percent of the previous 30 days' hourly counts, respectively. Finally, Bloomberg aggregates up to the daily frequency by taking a maximum of all hourly scores throughout the calendar day. Bloomberg provides these transformed scores but does not provide the raw hourly counts or scores.<sup>10</sup>

Since we are interested in abnormal attention and not just the level of attention, the Ben-Rephael et al. (2017) measure of abnormal institutional attention (*AIA*), which we use, is a dummy variable that has a value of 1 if Bloomberg's daily maximum is 3 or 4 and 0 otherwise. This captures the right tail of the search activity. In other words, *AIA* equal to one indicates the existence of substantial institutional investor attention on a particular stock during a trading day. The dummy variable allows an easier interpretation of the differential effect of high versus low institutional attention on economic outcomes. We include results from analyzing a continuous version of AIA in appendix B.

User requests at the SEC's EDGAR (Electronic Data Gathering, Analysis, and Retrieval) online system have also been used to track investor attention, and those users are likely to include institutional investors. The advantage of *AIA* over the EDGAR measure in the context of 8-K events is clear: *AIA* uniquely allows us to measure institutional investor attention on the *event* date.

<sup>&</sup>lt;sup>10</sup> See the online data appendix to Ben-Rephael et al. (2017) for details on downloading the Bloomberg search data: <u>https://www3.nd.edu/~zda/</u>

## 3.2 Abnormal Attention by Retail Investors

Following Da et al. (2011), we measure retail attention using the daily Google Search Volume Index (*DSVI*), which is the search volume on a stock ticker on a particular day divided by the time-series average. Numerous studies have found that *DSVI* captures retail attention. For example, Da et al. (2011) find that *DSVI* correlates with Dow Jones news coverage of the firm and spikes when Jim Cramer discusses the stock on CNBC's *Mad Money*. Drake et al. (2012) find that *DSVI* spikes with earnings announcements. Similarly, deHaan et al. (2015) use *DSVI* to measure retail attention around earnings announcements. Madsen and Niessner (2019) show that *DSVI* increases when a firm advertises, especially in weekend business publications.

To reduce measurement errors associated with ticker searches on Google (emphasized by deHaan et al., 2019), we follow Madsen and Niessner (2019) and require that searching for the stock ticker in Google actually brings up the stock price or a box with information about the firm in question. In addition, we exclude "noisy" tickers such as "GPS," "DNA," "A," and "ALL." Interested readers can refer to Da et al. (2011) for more discussion on measurement issues. Given these filters, the data coverage of *DSVI* is considerably smaller than *AIA*.

To facilitate the comparison with *AIA*, which is a dummy variable, we create a dummy variable version of *DSVI* following Bloomberg's methodology. (We denote this variable as *DADSVI*.) We assign *DSVI* on day t one of the potential 0, 1, 2, 3, or 4 scores using the firm's past 30 trading days' *DSVI* values before each 8-K event day. Similar to Bloomberg's methodology, if *DSVI* on day t is in the lowest 80 percent of past *DSVI* values, it receives the score 0; if *DSVI* on day t is between 80 percent and 90 percent, 90 percent and 94 percent, 94 percent and 96 percent, or greater than 96 percent, it receives a score of 1, 2, 3, or 4, respectively. Then, on day t, the

dummy variable *DADSVI* is set to one if the score is 3 or 4 and zero otherwise. In other words, a *DADSVI* of one indicates a spike in retail attention on that day in a manner that resembles the way an *AIA* of one indicates a spike in institutional attention. Defining *AIA* and *DADSVI* consistently as dummy variables that capture spikes in searches has two advantages. First, firm events, rather than measurement error, likely drive spikes in searches. Second, the dummy variable definition is robust to the fact that Bloomberg searches and Google searches have different underlying distributions. For completeness, we include results using a continuous version of *DADSVI* in appendix B.

The data coverage of *DADSVI* is smaller than *AIA* (see Table 2). To maintain statistical power in our analyses and avoid creating any bias in the sample by deleting firms with no *DADSVI* information, we follow Pontiff and Woodgate (2008). That is, we define a dummy variable (*DADSVI\_DUM*), which equals 1 whenever *DADSVI* exists and zero otherwise. Next, we replace the missing *DADSVI* observations with zero values. Finally, in the regressions, we include both *DADSVI\_DUM* and the augmented *DADSVI* variable. The analyses in appendix B confirm that dropping these observations with the missing *DADSVI* does not qualitatively alter our main conclusions.

## 3.3 Traditional News (TN)

We construct a measure of traditional news coverage (denoted "*TN*") using the Dow Jones Edition of RavenPack Analytics from 2010 to 2018 which includes news from the Dow Jones Newswires as well as the Wall Street Journal, Barron's and MarketWatch. To ensure that we capture relevant news, we follow Engelberg et al. (2012) and Reed et al. (2018). In particular, we identify news with a relevance score of 100, which ensures that the news is about the firm of interest, from the following news-types: news-flash, hot-news-flash, full article, and press release.<sup>11</sup> We exclude articles with (1) news categories that relate to market activity (i.e., stock-prices, technical analysis, and order-imbalance); (2) news categories, connected to earnings news (revenues, price-targets, and investor-relation); and (3) news categories that have scarce representation in RavenPack (less than 0.1 percent of RavenPack's news stories). Our final sample includes the following 13 news categories: acquisitions-mergers, analyst-ratings, assets, credit, credit-ratings, dividends, earnings, equity-actions, labor-issues, legal, marketing, products-services, and partnerships.

We use these categories of news articles to construct our traditional news coverage measures. Specifically, *TN* is a dummy variable equal to one on a given day for a given stock if the number of news articles published on the Dow Jones Newswires across these categories during the day is positive. *TN* is set to zero otherwise. Following Engelberg, et al. (2012) and others, news articles that occur after market close (i.e., 4 pm–midnight) are treated as if they become available on the next trading day. For each news category, we also construct a *TN* category news dummy variable, which is equal to one if, for a given stock on a given day, the number of news articles published in the category is nonzero. The category news dummy is set to zero otherwise.

# 3.4 Professional News

To analyze the media coverage available to institutional investors, we augment the traditional news coverage with Bloomberg news. We denote this media coverage as professional news ("PN"). Bloomberg disseminates news articles from third parties as well as original articles. We add the Bloomberg variable "number of news stories" to capture the supply of news on

<sup>&</sup>lt;sup>11</sup> RavenPack assigns a relevance score for each news release; a score of zero means the entity was passively mentioned, while a score of 100 means the entity was prominent in the news story.

Bloomberg. Since Bloomberg covers many firms every day, we focus on abnormal news coverage; we construct a dummy variable that has a value of one if the number of news stories is greater than the median over the previous quarter and zero otherwise.<sup>12</sup> Since this definition can miss relevant news disseminated to Bloomberg users, we augment the Bloomberg measure with RavenPack's *TN* measure and any additional information from RavenPack's press-release file not covered in *TN*. Thus our *PN* dummy variable is one if either the *TN* dummy variable, the Bloomberg abnormal coverage dummy variable, or RavenPack's press-release dummy variable is equal to one and zero otherwise.

#### 3.5 Retail Trading

We obtain our retail trading data from the New York Stock Exchange Summary of Retail Trading Activity End of Day (NYSE ReTrac EOD) database. The data provide daily data on the total amount of shares bought versus sold for each stock traded by retail customers. NYSE ReTrac data are available from the NYSE until April 30, 2016. As a result, the sample used in our retail trading analysis ends on that date.

# 3.6 Institutional Trading

We obtain institutional trading data from ANcerno Ltd. ANcerno is a widely recognized firm, which consults to institutional investors regarding transaction costs. The data, which we use, includes all trades made by ANcerno's clients, which are primarily mutual funds and pension plans. A detailed explanation of the variables in the ANcerno database is provided in the appendix

<sup>&</sup>lt;sup>12</sup> Our *TN* coverage variable can be viewed as a similarly defined abnormal coverage measure since the median number of news stories on traditional media in a quarter is close to zero (0.22). In other words, *TN* and *PN* are defined consistently.

of Puckett and Yan (2011). Our sample of transactions from ANcerno ends on April 30, 2015, and the sample used in our trading analysis ends on that date.

# 3.7 Other Variables

Other variables used in our analysis are obtained from Compustat, CRSP, I/B/E/S, and TAQ. They include the natural logarithm of the firm's market capitalization, the natural logarithm of the firm's book-to-market, daily turnover, the standard deviation of returns, the natural logarithm of the number of analysts covering the firm, institutional holdings, the natural logarithm of the stock price, the stock's intraday effective spread, and the stock's intraday variance ratios. Table 1 defines each of these variables.

# 3.8 Sample Construction

Due to the availability of our institutional search measure, our sample period ranges from February 2010 to December 2018.<sup>13</sup> Following Da et al. (2011), we begin with the sample of Russell 3000 stocks. We then require the stocks in our sample to satisfy the following conditions: (1) have measures of news-searching and news-reading activity on Bloomberg terminals, (2) have a share code of 10 or 11 in the Center for Research in Securities Prices (CRSP) database, and (3) have book-to-market information for the Daniel, Grinblatt, Titman, and Wermers, 1997 (DGTW) risk adjustment.

We obtain form 8-K filings from the WRDS SEC Analytics Suite, which includes the EDGAR filings database, and we begin with the full sample of 667, 967 8-K filings issued between February 17, 2010, and December 31, 2018 (WRDS, "List of 8-K Items" section). We exclude

<sup>&</sup>lt;sup>13</sup> Bloomberg's historical attention measures begin on Feb. 17, 2010. Historical data are missing for the periods of Dec. 6, 2010–Jan. 7, 2011 and August 17, 2011–Nov. 2, 2011.

filings with the form type 8-K/A. Merging with CRSP reduces the sample to 287,612 8-K filings. Additional filters such as requiring just one 8-K filing on the event-date (Rdate) or filing date (Fdate) and requiring Bloomberg's attention measures reduces the sample to 114,468 unique single-item 8-K filings across 2,108 firms, and 32,638 8-K filings multi-item 8-K filings. See Appendix A for a detailed discussion of our sample construction process.

Attributing outcome variables, such as investor attention and market reaction, to any particular item is difficult with the multiple-item filings. For this reason, we focus on single-item 8-K filings in our main analyses, where we separately consider different item types. In appendix B, we confirm that results from stock-level analyses (rather than item-type analyses) are similar among multiple-item filings.

WRDS 8-K filing data includes the filing form type (i.e., 8-K or 8-K/A), the event date (also called the reported date or Rdate), the filing date to the SEC (Fdate), the filing time (secatime), and the filer (firm) CIK number. The data also include the item type, where each type has a unique row. Importantly, each filing has a specific identifier, called the "accession number," or file name (fname). Thus we can link multiple items to a unique filing via fname.

For most item types, firms must file an 8-K within four business days of the event date. There are three exceptions: "results of operations and financial condition" (Item 2.02), "Regulation Fair Disclosure" (Item 7.01 and 8.01), and voluntary disclosures, for "other events that are not specifically called for by Form 8-K" (Item 8.01). When the release of a firm's results of operations or financial condition is accompanied by a conference call, the 8-K need only be released before the call, which can be up to 48 hours following the initial release. Filings associated with Regulation Fair Disclosure must be made as soon as the intentional release of nonpublic information is made or as soon as the unintentional release of such information is discovered. Voluntary disclosures made under Item type 8.01 have no filing deadline. However, most 8-K's with Item type 8.01 are filed within four business days.

# 4. **Descriptive Statistics**

Table 2 provides summary statistics for our sample of 8-K filings. Panel A provides descriptive statistics for selected firm characteristics. Since part of the analysis focuses on *DADSVI*, we report statistics for the full sample together with statistics for the subsample of stocks with valid *DADSVI* information (*DADSVI* sample). The latter sample, although substantially smaller, allows an apples-to-apples comparison between institutional and retail attention.

The average (median) market capitalization of firms in our full sample is \$7.78 (\$1.36) billion. The average (median) daily dollar trading volume is \$59.8 (\$12.4) million. The *DADSVI* sample includes larger stocks, with an average (median) market capitalization of \$11.27 (\$1.46) billion; larger stocks attract more retail attention. Panel A further shows that the average institutional holding in our full (*DADSVI*) sample is 62.7 (63.3) percent, with 9.2 (10.1) analysts covering the firm, on average.

Panel B reports statistics regarding the number of 8-K filings per firm in our full sample. Focusing on the means, there are, on average, six to eight 8-K filings per firm in a given year. Among these filings, Item 2.02 "Results of operations and financial condition" comprise almost three single-item annual 8-K filings, and Item 7.01 "Regulation FD disclosure" accounts for one.<sup>14</sup> These two items are somewhat special, as they require filing within a business day.

<sup>&</sup>lt;sup>14</sup> There are fewer than four earnings announcements per year in our sample because some of the filings of these announcements are accompanied by filings of other items and therefore excluded from our sample.

Table 3 provides additional statistics regarding the number of 8-K filings in our full sample, conditioning on item type and filing gap. Filing gap is the number of business days between the event and filing days. For example, a gap of zero means that the event and the filing occurred on the same business day. Similarly, a filing gap of 1 means that the 8-K filing occurred on the next business day. According to Panel A, although there are 33 potential items that require an 8-K filing, six of these account for 96.13 percent of all observations. Thus, in our analysis that explores differences across items, we focus on these major items.

The items are Item 1.01 "entry into a material definitive agreement", Item 2.02 "results of operations and financial condition", Item 5.02 "departure/election of directors or principal officers", Item 5.07 "submission of matters to a vote of security holders", Item 7.01 "Regulation FD disclosure", and Item 8.01 "other events that are not specifically called for by Form 8-K" that the firm considers to be of importance).

Panel B of Table 3 provides a further breakdown based on item type. Items 2.02 "results of operations and financial condition" and 7.01 "Regulation FD disclosure" stand out from the rest. For these two items, more than 80 percent of all 8-K filings are made on the event date, and very few are filed more than one business day after that. This is consistent with the differential regulatory treatment of these items.

From this point onward, our paper will focus on major 8-K items with a positive filing gap. These are the most interesting cases where information differences may arise during the filing gap. In total, this sample contains 40,578 filings (that is, 110,043 – 69,465 in Panel A). Items 2.02 "results of operations and financial condition" and 7.01 "Regulation FD disclosure" account for about 20 percent of this sample. The analyses in appendix B show that removing these two items has very little effect on the results of our analyses and does not change our conclusions.

In Table 4, we use the RavenPack news category classifications to provide statistics regarding traditional news coverage on the event and filing days for each of the six main 8-K items. Columns (5) and (6) confirm that traditional news coverage on event and filing dates for item 2.02 "results of operations and financial condition" is about earnings: 79.8 percent of the news on the event date is in the "earnings" category. This percentage increases to 95.6 percent on the filing date. Column (8) confirms that item 5.02 "Departure/election of directors or principal officers" is mostly about labor issues. Column (7) shows that, on the earlier event date, 33.3 percent of the news is about labor issues, suggesting that the information could be disclosed by traditional media, even before the filing. In addition, the coverage on the filing date (Column 8) is 87.5 percent, which shows that the 8-K filing triggers additional media coverage.

## 5. Institutional Attention, Retail Attention and Media Coverage on Event and Filing Days

We start by showing, in Figure 2, the changes in institutional attention (*AIA* in graphs 2.A) and retail attention (*DADSVI* in graphs 2.B) on the 8-K event and filing days. We show *AIA* and *DADSVI* for the 21 days centered on the event day. We plot the frequencies for filing gaps of one, two, three, and four business days. The graphs plot the mean change in *AIA* and *DADSVI* (the solid lines) and the 95 percent confidence interval (the dotted blue lines), where day 0 is the event date.

The graphs in Panel A show that institutional attention (*AIA*) increases considerably on both the event and filing days. Moreover, for filing gaps greater than one day, the *AIA* is greater on the event day than on the filing day, indicating that institutional investors are gathering information before it is filed in the 8-K. In contrast, Panel B reveals that the abnormal activity of retail investors (*DADSVI*) is relatively muted, and, in most cases, neither economically nor statistically significant, especially for items with a gap of more than one day. Overall, Figure 2 reveals stark differences in the levels and the patterns of *AIA* and *DADSVI*.

Next, we conduct statistical tests of the significance of *AIA* and *DADSVI* on the event and filing days, again for filings with a filing gap of at least one day. Table 5 presents the results. As mentioned earlier, we focus on the six major items with a positive filing gap. We start with reporting *AIA* and *DADSVI* average frequencies on the filing and event day together with the statistical significance of their differences (Panel A). We then provide information on the average frequencies of *TN* and *PN* on the event and filing days (Panel B). Finally, we report the average frequencies of *AIA* and *DADSVI*, conditional on media coverage on the event day (Panel C). Since stocks with *DADSVI* are much larger, for robustness, we report results for both the full and *DADSVI* samples in Table 5.

Starting with Panel A of Table 5, the statistics for "All" filings in columns 1 and 4 show that, across all six major items, there is a significant 0.093 (0.104) increase in abnormal institutional attention on the event date for the full (for the *DADSVI*) sample. The increase in *AIA* on the filing date is also significant but smaller in magnitude, with values of 0.071 and 0.073 (Columns 2 and 5).

Among the six items, Item 2.02 "Results of operations and financial condition" naturally attracts abnormal attention because it is a scheduled anticipated event: the change in *AIA* is 0.352 (0.402) on the event day for the full (*DADSVI*) sample. The next items in terms of economic significance are Items 7.01 "Regulation FD disclosure" and 8.01 "Other events that are not called for by Form 8-K", which have a change in *AIA* of 0.121 and 0.121 (0.162 and 0.142), respectively,

for the full (*DADSVI*) sample. Item 5.07 "Submission of matters to a vote of security holders" attracts the least attention on the event day.

Overall, *AIA* is higher on the event day than on the filing day. The difference in *AIA* between the filing and event days (see the *F-R Diff* column) across all items is negative and statistically significant (-0.023 with a *t*-statistic of -5.93). Panel A also indicates that the only item associated with an increase in *AIA* between the event and filing days is Item 5.02 "Departure/election of directors or principal officers". Interestingly, for Item 5.07 "Submission of matters to a vote of security holders", where the information regarding the matter to be put to the vote of shareholders likely is well known by the filing date, there appears to be less than average *AIA* on the filing date.

Since Bloomberg does not say which news its users view after their searches or what is available when they search, we do not have smoking gun evidence that institutional investors are always paying attention to the 8-K event on the event day. Nevertheless, we note that the average increase in *AIA* of 0.093 on the event day is 102 percent of the level of *AIA* on an average day (0.091). In other words, abnormal institutional attention is 102 percent more likely to occur on event days than on other days. The 8-K event most likely triggers this spike in attention.

To buttress the conclusion that the attention is most likely triggered by the 8-K event, we simulate random event dates and their corresponding filing dates, which match the empirical distribution of the filing gaps. We run 1,000 rounds of the simulation. For each round, we first retain all firms in the analyzed sample together with their item type and filing gap information. Then, for each firm-8-K filing pair, we randomly draw a random event date from the set the days that the firm exists in our sample. Based on the filing gap information, we add to the random event-

date additional future days to complete/fill the filing window. After creating this simulated sample, we include the variable of interest (i.e., *AIA*, *DADSVI*, *TN*, and *PN*) for each day from the simulated event day to the simulated filing day, and we repeat our analyses. The simulation allows us to keep the same filing structure and the time-series properties of the variable of interest.

The statistics at the bottom of Columns 1–3 of Panel A report the simulation results of *AIA* for the case of all items ("All"). In particular, "*Avg. Sim. Est.*" reports the average simulated *AIA* from the 1,000 random draws. Under the null of randomized filings, the abnormal spike in *AIA*, relative to the rolling average, is negligible. We also report the simulated *p*-value (*Sim p-value*), which is calculated based on the number of simulated *AIA* estimates that exceed the empirical estimates of *AIA* in the actual data. The simulated *p*-values indicate that observing such a spike is *AIA* on the actual 8-K filing days is not random.

When compared to columns 4 to 6, the analysis of *DADSVI* (columns 7 to 9) reveals stark differences between *AIA* and *DADSVI* across all items. First, consistent with Figure 2, the magnitudes of the *DADSVI* changes are much smaller. The highest retail attention on the event day is associated with Item 2.02 "Results of operations and financial condition", with a change of 0.066, followed by Items 7.01 "Regulation FD disclosure" and 8.01 "Other events that are not called for by Form 8-K", with values of 0.028 and 0.022, respectively. Second, we do observe a significant spike in abnormal retail attention on the filing day (0.021 with a *t*-statistic of 5.57), especially for Items 2.02, 7.01, and 8.01. However, the difference in abnormal retail attention between the filing and event days, although positive, is only marginally statistically significant. Interestingly, the only item that is associated with a statistically significant increase in attention on the filing day is Item 5.02 "Departure/election of directors or principal officers", where the difference between the filing and event day attention is 0.013, with a *t*-statistic of 2.24. Overall,

the response across all items on the event and filing days is much smaller than *AIA*, with values of 0.015 and 0.021. The economic significance of the retail attention on the event day is due to Items 2.02 and 7.01.<sup>15</sup> Once removed, retail attention is not significantly different from zero on the event day and is greater and marginally statistically significant on the filing day (*t*-statistic of 1.94).

To this stage our evidence is that institutional attention increases significantly on both the event date and the filing date, more so on the event date. Abnormal retail attention is much less, with no statistically significant differences between the event and filing days, except for Item 5.02 "Departure/election of directors or principal officers". This evidence suggests that, *on average*, institutional investors potentially learn about the event by means other than the 8-K and can search for further information before its filing. In contrast, retail investors tend to acquire the information at the filing date.

A natural follow-up question is: how do institutional investors learn about events prior to filing? Institutional investors, in general, have better information access through professional news (*PN*) services, such as Bloomberg. For example, firms may disclose important events through a press release prior to filing the 8-K. A press release typically appears on Bloomberg terminals within seconds via a news alert, but traditional news media may only cover the same information with a significant delay. In addition, journalists at Bloomberg may also discover and write about news events. Further, institutional investors have more financial incentives and resources to pay attention to the news immediately.

<sup>&</sup>lt;sup>15</sup> Information in delayed Items 2.02 and 7.01 filings is likely to be released via alternative channels on the event days, explaining why we see a stronger response in *DADSVI* on that day. The average *DADSVI* after excluding these two items is 0.0064.

Using *PN* and *TN* to proxy for abnormal news coverage for institutional and retail investors, respectively, Panel B of Table 5 provides evidence that institutional investors have better information access on the event date. Focusing on all items on event days, only 16.08 percent (17.65 percent) of the days are associated with abnormal traditional news coverage for the full (*DADSVI*) sample. In contrast, 62.73 percent (63.47 percent) of these days are associated with abnormal professional news coverage, significantly higher than the benchmark of 43.64 percent (45.40 percent) from the simulated sample.

There are several reasons why news coverage on Bloomberg terminals is higher than that of the traditional news media on the event date. Roughly 1 million articles per day from thousands of sources appear on the terminals – more than on any other similar service (see Fedyk and Hodson, 2021). Moreover, journalists from traditional news media may not subscribe to the Bloomberg terminal. Even if they do have access to Bloomberg, they face many constraints that prevent them from publishing all firm-specific information that is covered on the Bloomberg terminal (such as 8-K events) on a timely basis. For example, newspapers regularly face space constraints. Compared to institutional investors, journalists from traditional news media have less financial incentives and resources to pay close attention to 8-K events on the Bloomberg terminal, and they may cover the news with a delay (after the event day).

The reported average PN and TN in Panel B are higher on the filing dates than on the event dates, but the increase is larger for TN. Focusing again on all items, TN increases from 16.08 (17.65 percent) on event days to 31.05 percent (33.74 percent) on filing days, whereas PN increases from 62.73 percent (63.47 percent) on event days to 71.91 percent (73.3 percent) on filing days. The most noticeable increases in TN are for Items 2.02 "Results of operations and financial condition" and 5.02 "Departure/election of directors or principal officers"; for Item 5.02, TN

coverage is 26.01 percent (31.25 percent) higher on the filing day, relative to the event day, for the full (*DADSVI*) sample. One exception is Item 5.07 "Submission of matters to a vote of security holders", where the *TN* coverage is much higher on the event day. This is not surprising, given that the date of the shareholders meeting is known in advance. Interestingly, for Items 7.01 "Regulation FD disclosure" and 8.01 "Other events that are not called for by Form 8-K", *TN* coverage on the event day is comparable to that on the filing day.

We further examine the link between news coverage and retail attention, in Panel C of Table 5, which shows *DADSVI* average frequencies conditioning on *TN* on the event day. The analysis reveals that *DADSVI* significantly spikes on the event day when TN = 1 (i.e., there was firm-specific relevant news in the traditional media). For these cases, the differences in *DADSVI* between the filing and event days are negative and statistically significant (e.g., Column 13 of Table 5C, where the difference is -0.018 with a t-statistic of -1.95). In contrast, when TN = 0 (i.e., there was no firm-specific relevant news) on the event day, there is higher abnormal retail attention on the filing day (difference of 0.11 with a t-statistic of 2.75). That is, there is more traditional news on the filing day than on the event day.

A natural question to ask is, "would retail investors react as they do in the absence of increased traditional media coverage on the filing date?" To provide evidence on this question, in Table 5D, we repeat the analysis conducted in Table 5C, but we condition on *TN* during the *filing* day (instead of the event day). The analysis reveals that *DADSVI* significantly spikes on the filing day when TN = 1. For these cases, the differences in *DADSVI* between the filing and event days are positive and statistically significant (e.g., Column 13 of Table 5D, where the difference is 0.025 with a t-statistic of 5.32). In contrast, when TN = 0, there is no abnormal retail attention on the

filing day (difference of -0.004 with a *t*-statistic of -1.08). Thus, media coverage on the filing day is indeed associated with abnormal retail investor attention.

#### 6. Institutional Investor Attention and Price Discovery

# 6.1 Pre-filing, Filing, and Post-Filing Returns and Abnormal Institutional Attention

In this section, we examine the effect of abnormal institutional investor attention (*AIA*) on price discovery during the pre-filing and filing periods. Denoting the filing day as day t, the pre-filing cumulative return is the return from the event day to day t-1. In turn, the filing return is the return on day t and t+1. We also examine the cumulative return for the post-filing period, days t+2 to t+30. We focus on 8-K filings with a filing gap of two or more business days to ensure a clean separation of the event-day and filing-day return.

We begin by reporting average returns when AIA = 1 (i.e., there was abnormal institutional attention) and AIA = 0 (i.e., there was no abnormal institutional attention). For ease of presentation, we report average absolute returns, multiplying the pre-filing and filing average returns by -1 if the total cumulative returns from the event day to the filing day are negative. Panels A to C of Table 6 report the average absolute returns for two to four business-day filing gaps, respectively. For most item types and filing gaps, there is more price discovery in the pre-filing period than in the filing period, and the price discovery in the pre-filing period is higher when there is abnormal institutional attention. An example of an item where these patterns are evident is Item 7.01 "Regulation FD disclosure". There, for a filing gap of three days, average pre-filing returns are 2.92 percent, and average filing returns are 0.93 percent for all filings. These returns are 3.63 percent and 0.99 percent when there is abnormal institutional attention. In Panel A, we see that the majority of price discovery happens during the pre-filing period. Post-filing returns are small,

suggesting that most, if not all, of the information, is incorporated during the event to filing period. The results are qualitatively similar for filings with a two, three, or four business-day filing gap. Not surprisingly, when the gap increases, price discovery during the pre-filing period becomes even more important.

# 6.2 Effects of AIA on Price Discovery

We use the Barclay and Hendershott (2003) weighted-price-contribution (*WPC*) statistic to identify the proportion of the price discovery that occurs during the filing period, as follows.

$$WPC_{i} = \sum_{s=1}^{S} \left[ \left( \frac{|ret_{s}|}{\sum_{s=1}^{S} |ret_{s}|} \right) \left( \frac{ret_{i,s}}{ret_{s}} \right) \right], \tag{1}$$

where *i* is the filing period, *s* is the period from the event date to the filing date, and S is the total number of firms. The intuition behind this statistic may be seen via an example: an unconditional average of 40 percent during the filing period suggests that 60 percent of the total price change from the event date to the filing date (inclusive) occurred during the filing period. Use of a weighted average gives more weight to more important events and reduces the noise in estimation. We delete the upper and lower one percent of the distribution of *WPC* to avoid the effect of outliers.

We use WLS regression analyses (using  $|ret_s|$  as the weight) to examine the extent to which WPC<sub>i</sub> is explained by abnormal institutional attention, *AIA*, abnormal retail attention, *DADSVI*, professional news, *PN*, and other firm characteristics. Of particular interest is the effect of pre-filing *AIA* and *DADSVI* on filing-day price discovery. Consequently, *AIA Pre-Filing* and *DADSVI Pre-Filing* are measured during the pre-filing periods (i.e., *AIA Pre-Filing* = 1 (*DADSVI*) *Pre-Filing* = 1) if there is abnormal institutional (retail) attention on any pre-filing day). Including both *AIA Pre-Filing* and *DADSVI Pre-Filing* variables in the same regression allows us to explore their incremental effects on price discovery. We add firm-specific control variables measured prior to the event date. We control for media coverage (*PN*) to separate the effect of the institutional search for information from the supply of information. We also control for abnormal trading volume because studies have found that trading volume increases on the event day (Lerman and Livnat, 2010). Finally, we add pre-filing stock returns, as there may be a relation between filing day returns and the returns on these earlier days.<sup>16</sup>

Table 7 summarizes the results of the regression. The nine specifications explore different subsamples; specifications 1 to 3 explore different filing gaps, while specifications 4 to 9 explore different item types. Abnormal investor attention in the pre-filing period results in statistically significantly less price discovery during the filing period (-11.9 percent, -13.1 percent, and -5.4 percent, for filing gaps of two, three, and four days, respectively). That is, greater price discovery during the pre-filing period, when institutional investors are paying attention, results in less price discovery during the filing period. Consistent with the results in Table 6, where the absolute abnormal returns in the pre-filing period are highest when there is abnormal institutional attention to an Item 7.01 "Regulation FD disclosure" event, the decrease in the filing-period price discovery is greatest (20.9 percent). We also observe significant *AIA* price discovery for Item 5.02 "Departure/election of directors or principal officers" and Item 8.01 "Other events that are not called for by Form 8-K", with values of -9.6 percent and -9 percent, respectively.

<sup>&</sup>lt;sup>16</sup> We also include a number of firm-specific control variables, including *LnSize*, *LnBM*, *SDRET*, *LnNumEst*, *InstHold*, *CumRet*, *LnAvePrc*, *AveVR*, and *AveES*, as well as day-of-week, year, month, and industry fixed effects. All variables are described in Table 1.

The estimates of the coefficient on *DADSVI* on price discovery reveal that overall, searches by retail investors have no significant effect on price discovery on the filing day. The only exception is Item 8.01, where *DADSVI* is associated with a price discovery of 9.5 percent. Importantly, this is one of few results not robust to the use a continuous version of *AIA* and *DADSVI* (as shown in appendix B).

This increased price discovery on events when there is an increase in pre-filing institutional attention (AIA = 1) is consistent with two explanations. First, institutional attention affects information processing, and, as a result, price discovery is greater. Second, institutional attention is a catalyst for larger changes in prices. Importantly, the negative *AIA* coefficients on the filing day and the fact that we control for the pre-filing returns is consistent with the notion that institutional attention contributes to the price discovery during the pre-filing period and this, in turn, leads to relatively less price discovery on the filing day.

The estimates of the coefficients on *PN* are both economically and statistically significant; for filing gaps 2 and 3 and for all but Item 7.01 "Regulation FD disclosure". (For example, the estimate of the coefficient on *PN* for filing gap = 3 is 0.084 with a t-statistic of -3.40.) That is, information supply matters. This is not surprising, given that, when constructing this variable, we identified relevant news. The estimate of the coefficient on pre-filing turnover is also highly significant, consistent with the notion that information is incorporated into prices through trading before the filing date. Importantly, *AIA* remains significant after controlling for news coverage and trading volume, confirming the incremental effect of attention paid by institutional investors. The result is intuitive: the mere supply of news does not guarantee attention, and liquidity needs, rather than information, may drive trading volume. In short, news coverage and trading volume do not subsume the role of institutional attention in price discovery.

# 6.3 AIA, Institutional Trading, and Price Discovery

In this section, we explore the relation between *AIA*, institutional directional trading (*InstDirTrd*, see Table 1), and the price discovery reported in the previous subsection. We use ANcerno data to calculate daily institutional trading for each stock and day, defined as the stock's net number of shares purchased and sold by institutional investors normalized by the stock's daily volume obtained from CRSP. We then extend theanalysis from Table 7, where we explore the relation between *InstDirTrd and AIA* during the pre-filing period and include pre-filing *InstDirTrd* as an additional explanatory variable. Table 8 reports the results.

We start in Columns 1 and 2 by establishing a link between *AIA* and *InstdirTrd* during the pre-filing period. Since *InstDirTrd* is a directional measure, we sign *AIA* based on the return during the pre-filing period (*SignAIA*). We immediately observe that *AIA* is associated with more institutional trading in the same direction as the returns during the pre-filing period. This relation survives the inclusion of the pre-filing news coverage, trading volume, and the return during the pre-filing period. The estimated coefficients are also economically significant. For example, in Column 2 of Table 8, a 1 unit change in *AIA* results in an increase in institutional directional trading of 2.1 percent of the stock daily trading volume.

Next, In Columns 3 and 4, we reexamine the price discovery reported in Table 7. Since our WPC measure is in absolute terms, we include the absolute value of *AncDirTrd* as an additional explanatory variable. We immediately observe that an increase in institutional directional trading during the pre-filing period has a direct and economically significant effect on the price discovery during the pre-filing period. In comparison with *AIA*, a change in *AnsDirTrd* from 0 to its 90<sup>th</sup> sample percentile results in an increase in pre-filing price discovery of 0.056 (i.e., 0.181\*0.31).

Overall, institutional trading is necessary for price discovery. We show that *AIA* is associated with more institutional trading in the same direction as the event returns and that institutional investors (the clientele of *AIA*) directly contribute to the price effects that occur during the pre-filing period.

# 7. Retail Attention on the Filing Day, Subsequent Stock Returns, and Retail and Institutional Trading

In this section, we explore the market price reaction to the 8-K filing for the filings analyzed in Table 7. We also examine the relation between filing day returns and subsequent returns. We observe that retail investor attention on the filing day is associated with price pressure, which drives prices away from fundamental values. These prices later revert. In contrast to retail attention, disproportionate institutional attention on the filing day measured in a similar manner is not associated with a reversal. The reversal leads us to examine the relation between retail trades and institutional trades, where we find that institutional investors take the other side of the retail trades.

We provide an example of an Item 5.02 filing that resulted in an overreaction and reversal in Figure 1 based on an event that affected Range Resources Corp. Range Resources is a petroleum and natural gas exploration and production company headquartered in Fort Worth, Texas. On December 13, 2011 (the filing day) at 4:59 pm, it filed an 8-K under Item 5.02 "Departure/election of directors or principal officers". The event involved changes in management, which occurred on December 8, 2011 (the event day). Our evidence suggests that institutional investors' attention spiked on that day. Share trading volume spiked and reached a level of 5 million shares, and the stock price dropped by 4.57 percent. In addition, the firm issued a pertinent press release at 6:00 am on December 13, which Bloomberg posted immediately, contributing to the *AIA* spike on that

day. In other words, institutional investors learned about the 8-K event before the opening of the market on that day, even though the firm only filed the 8-K after the market closed.

In sharp contrast, retail attention only spiked on the day after the filing, seemingly responding to the post-filing media coverage, which was as broad as the coverage on the filing day.<sup>17</sup> The spike in retail attention coincided with more trading volume (3.8 million shares) and a further price decline of 3.47 percent on December 14.<sup>18</sup> This additional price drop reverted in a few days.

This example is representative of all Item 5.02 "Departure/election of directors or principal officers" filings. For instance, the results for item 5.02 in Column 8 of Table 5.A show that *DADSVI* significantly spiked only on the filing day. Moreover, Table 5.B shows that traditional media coverage is three times as large on the filing day for Item 5.02. A similar result is observed for Item 5.02 in Table 5.C (Columns 5 and 6), where *DADSVI* spikes as a result of media coverage on the filing day.

# 7.1 Price Response on the Filing Day and Subsequent Returns

To link the price response on the filing day to subsequent returns and extend our analysis beyond the example, we regress cumulative Daniel, Grinblatt, Titman, and Wermers (1997) (DGTW) abnormal returns over several intervals subsequent to the filing period on the return during the filing period (*FRET*), *AIA*, and *DADSVI*. We define day t+2 as the first day after the filing period. (Recall that the filing period is days t and t+1.)

<sup>&</sup>lt;sup>17</sup> The main news outlets included the US FED News with a link to the 8-K filing on EDGAR, MarketWatch, News Bites, and two industry specific news outlets, the Oil Daily and the NGI's Daily Gas Price Index.

<sup>&</sup>lt;sup>18</sup> This price decline includes a \$0.04 dividend payment (or 7 bps in return). The dividend payment carried no incremental information since it had been declared on December 1.

In these analyses, institutional interest is considered abnormal if AIA = 1 on either the day of or the day after the filing date. Similarly retail attention is considered abnormal if DADSVI = 1on either of these days. Thus we create variables  $AIA_F$  and  $DADSVI_F$ . In a similar manner, we create a variable  $PN_F$ , which equals one if there is abnormal professional news on either day. The variables *FRET* and *TURNOVER F* are return and turnover over the two-day filing period.

Our focus in this regression is on the estimate of the coefficients on *FRET\*AIAF* and *FRET\*DADSVIF*, which capture the relation between the effect of *AIA* and *DADSVI* on filing-period and post-filing returns. For example, a negative and significant estimate of the coefficient on *FRET\*DADSVIF* would indicate that part for the filing returns associated with abnormal retail attention reverts in the post-filing period after higher levels of retail attention on the filing day.

Table 9 reports the regression results. Focusing first on *AIA*, overall, the estimates of its interaction coefficients with the filing return suggest that there is neither under- nor overreaction to the 8-K filing when institutional investors pay attention. (None of the estimates of the coefficients on *FRET\*AIAF* is significantly different from zero, and no specific pattern is detected.) In contrast, the interaction of *DADSVIF* and *FRET* is negative and significant, both statistically and economically. Interestingly, it takes up to four trading days for the price reversal to become economically and statistically significant (coefficient estimate of -0.245 with a t-statistic of 3.19). A reason may be that retail investors continue to trade in the same direction as the filing day return, and the reversal begins only after the trading pressure subsides. We test this hypothesis in the next subsection. Overall, the reversal reaches its peak around seven to eight trading days with a magnitude of -28 percent and a *t*-statistic is 3.38. This suggests that, when the filing of an 8-K triggers attention from retail investors, this attention results in price pressure that drives prices away from their fundamental value.

# 7.2 Retail and Institutional Investor Trading

Table 10 explores the trading of both retail (Panel A) and institutional investors (Panel B). In particular, we follow the analyses in Table 9, where we replace the dependent variable, cumulative returns, with cumulative retail and institutional investor trading as a percentage of the daily trading volume. Given the findings in Table 9, our focus is on the interaction between *FRET* and *DADSVIF*.

We use NYSE ReTrac data to calculate daily retail trading for each stock and day, defined as the stock's net number of shares purchased and sold by retail investors normalized by the stock's daily volume obtained from CRSP. The results in Panel A show that, after the 8-K filing, when retail investors are paying attention, they continue to trade, pushing prices further in the direction of the filing returns. Specifically, the estimate of the coefficient on the interaction between *FRET* and *DADSVIF* is positive and significant. Importantly, retail trading reaches its peak on day t+6(coefficient estimate of 4.645 with a t-statistic of 2.40). This is consistent with the observation documented in Table 8 that the reversal occurs mainly from day t+5 to t+8. We observe a clear reversal when retail trading subsides.

As in Table 8, in Panel B, we use ANcerno data to calculate daily institutional trading for each stock and day, defined as the stock's net number of shares purchased and sold by institutional investors normalized by the stock's daily volume obtained from CRSP. Strikingly, the results indicate that institutional investors trade in the opposite direction to retail investors. Specifically, the interaction between *FRET* and *DADSVIF* is negative and significant, which suggests that institutional investors trade against the return observed during the filing period. The trading of institutional investors peaks at day t+6 (coefficient estimate of 1.545 with a t-statistic of -1.85).

Thus it appears that institutional investors provide liquidity to retail investors and exploit the correction in prices.

Taken together, these results suggest that, when the filing captures the attention of retail investors, they tend to trade in the direction of the filing-date return. Their trades require liquidity and therefore result in the initial price pressure and subsequent price reversal, as documented in Tables 8 and 10.A. Institutional investors, on the other hand, tend to trade against the filing date return once retail investors pay attention (Table 10.B). In other words, institutional investors are likely to benefit from providing liquidity to retail traders.

# 8. Conclusions

Using novel data on searches by institutional investors from 2010 to 2018 as well as data on media coverage, we provide evidence regarding who seeks information and who trades on 8-K event and filing dates. We show that there is significant abnormal attention paid by institutional investors on both the event and filing dates, more so on the event date. In contrast, traditional media coverage and retail attention are generally higher on the filing date.

We further show that most price discovery occurs before the filing date, when institutional investors are paying attention. These results suggest that the 8-K filing itself has little informational benefit to retail investors, as institutional investors have learned about the event already and the price has adjusted substantially before the filing.

In addition, the 8-K filings appear to have the undesirable consequence of attracting excessive media coverage and retail attention, which are associated with price pressure on the event date, and this price change eventually reverts. We show that institutional investors appear to trade against retail investors, profiting from providing liquidity. Overall, our analyses suggest

that retail investors fail to understand that many 8-K filings actually contain stale news. The 8-K filing may serve as a coordination device for uninformed retail trading. Institutional investors strategically trading against these retail investors after the 8-K filing, providing an example of of their superior trading skill.

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#### **Appendix A. Sample Construction Process**

The table reports the 8-K sample construction process. Detailed discussion appears below.

Sample Construction	Filing Observations
Raw 8-K filings excluding 8-K/A	667,967 8-K filings (1,399,014 filing-items)
Merging with WRDS linking tables and CRSP data	287,612 8-K filings (603,597 filing-items)
Keeping single item filing (excluding from the count Item 9.01, which is a supplement)	222,321 8-K filings (the other 65,291 8-K filings include multiple items)
Removing 8-K filings that share a filing date or event date with another 8-K filing by the same firm	187,533 8-K filings
Keeping reporting gap up to four business days	184,098 8-K filings
CRSP share codes 10 and 11 and exchange codes 1, 2, and 3	169,798 8-K filings
Keeping firms with data on Bloomberg's attention measures	118,445 8-K filings
Applying the DGTW (1997) filters	114,468 8-K filings

WRDS parses each 8-K filing into specific items. For example, a filing with three items will appear three times in the data. Consequently, the 667,967 8-K filings generate 1,399,014 observations. Each filing includes a unique filing number (Fname), the item type, the event-date (Rdate), and the filing-date (Fdate). In addition, the data also include the timestamp of the filing. Note that, based on the SEC rules, filing submissions to EDGAR that are received after 5:30 pm are assigned the next trading day date as the Fdate. For example, a filing that occurred on Jan. 29, 2016, at 8:45 pm received Feb. 1, 2016, as its Fdate.

Merging with WRDS linking tables and CRSP data yields 287,612 8-K filings (603,597 filing-items). Of these filings, 222,321 8-K filings include only a single item (excluding Item 9.01, which is a supplement), and 65,291 include multiple items. Attributing outcome variables, such as investor attention and market reaction, to any particular item is difficult with the multiple-item filings. For this reason, we focus on single-item 8-K filings in our main analyses, where we separately consider different item types. Removing 8-K filings that share a filing date or event date with another 8-K filing by the same firm reduces the number of single-item 8-K filings from 222,321 to 187,533. Note that we exclude Item 9.01 from this requirement because it is used to provide additional financial statements and exhibits and always accompanies another item.

Limiting the sample to filings with a reporting gap up to four business days (i.e., Fdate-Rdate) reduces the number to 184,098. Limiting filings to those made by firms with common stock trading in the United States (CRSP share codes 10 and 11 and exchange codes 1, 2, and 3) further reduces this number to 169,798 filings. Limiting firms to those with data on Bloomberg's attention measures reduces the sample to 118,445 filings. Finally, after applying the DGTW filters, our final sample includes 114,468 unique 8-K filings across 2,108 firms. Following the same data procedures, the final set of multi-item 8-K filings includes 32,638 8-K filings.

**Table 1. Variable Definitions** 

Variable	Definition
Ret	Daily stock return obtained from CRSP.
DGTW	CRSP daily stock return minus the stock's benchmark portfolio daily return estimated as in Daniel, Grinblatt, Titman, and Wermers (1997).
Size	Market capitalization of the firm, rebalanced every June, in millions of dollars.
LnSize	The natural logarithm of average market capitalization millions of dollars from day $t-25$ to $t-5$ .
LnBM	The natural logarithm of the firm's book-to-market ratio (BM) rebalanced every June following Fama-French (1992).
SDRET	The standard deviation of daily stock returns from days $t-25$ to day $t-5$ prior to filing day $t$ .
CumRet	The daily cumulative returns ( <i>Ret</i> ) over the days from day $t-25$ to $t-5$ prior to filing day $t$ .
LnNumEst	The natural logarithm of $(1+NumEst)$ , where $NumEst$ is the number of analysts covering the stock using the most recent information.
Dvol	The daily stock dollar trading volume in millions of dollars.
InstHold	The percentage of shares held by institutional investors obtained from the Thomson Reuters CDA/Spectrum institutional holdings' (S34) database.
AveTO	The daily average of stock turnover over the days $t-25$ to $t-5$ prior to filing day $t$ . TO is the daily stock turnover, calculated as the number of traded shares divided by the number of shares outstanding.
LnAvePrc	The natural logarithm of the daily average stock price over days $t-25$ to $t-5$ prior to filing day $t$ .
AveVR	The daily average of stock variance ratio over the days $t-25$ to $t-5$ prior to filing day $t$ . $VR$ is the intraday variance ratio minus one, calculated using TAQ data during regular trading hours. The $VR$ is based on 1-minute intervals.
AveES	The daily average effective spread over day $t-25$ to $t-5$ prior to filing day $t$ . ES is calculated using TAQ data during regular trading hours.
InstDirTrd	A measure of daily directional trading by institutional investors, based on the ANcerno database. The measure is calculated for each stock as the net shares purchased and sold during the day divided by the CRSP daily volume. ANcerno data are available until April 2015.

<i>RtlDirTrd</i>	A measure of daily directional trading by retail investors, based on the NYSE ReTrac EOD database. The measure is calculated for each stock as the net shares purchased and sold during the day divided by the CRSP daily volume. NYSE ReTrac data are available until April 2016, when the NYSE program ended.
Industry Dummies	We construct 10 industry dummy variables based on Kacperczyk, Sialm and Zheng (2005) industry classification. The classification aggregates Fama and French's (1997) 48-industry classification (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data Library) into 10 main industrie groups.
Tuesday- Friday	Dummy variables equal to one if the day of the week is Tuesday-Friday, respectively, zero otherwise.

#### Table 2. Summary Statistics for the 8-K Filing Sample

The table reports summary statistics for our 8-K sample from February 2010-December 2018. Our initial sample includes all 8-K filings for the universe of Russell 3000 stocks with CRSP Share Codes 10 and 11, *AIA* information, and book-to-market information for the DGTW risk adjustment (Daniel et al., 1997). 8-K data are obtained from the WRDS SEC Analytics Suite, which includes all SEC Filings on EDGAR. We remove 8-K filing days with more than one item type (not counting Item 9.01) and filings that share a filing date or event date with another filing by the same firm. This results in 114,468 unique 8-K filings across 2,108 firms (the "Full-Sample"). In addition, we also report statistics for stocks with valid *DADSVI* information (the "*DADSVI*-Sample"). Specifically, to reduce noise due to SVI measurement errors (deHaan, et al. 2019), we follow Madsen and Niessner (2019) and use only tickers for which a Google search produced a stock-specific information box. Panel A reports the mean, median, and standard deviation of time-series averages for selected firm characteristics for the *full sample* and *DADSVI*-sample. Panel B reports annual cross-sectional statistics on the number of 8-K filings per firm in our full sample. Variables are defined in Table 1.

Panel 2.A - Cross-Sectional Statistics of Selected Firm Characteristics

		Full Sample			DADSVI Sample						
Variables	Mean	Median	SD	_	Mean	Median	SD				
Size	7,780	1,355	27,182		11,278	1,458	36,970				
BM	0.676	0.535	0.521		0.530	0.440	0.416				
SDRET	2.191	1.957	0.970		2.281	1.946	1.128				
Turnover	0.009	0.008	0.008		0.010	0.008	0.009				
Dvol	59.765	12.413	191.395		84.920	14.155	268.529				
Inst Hold	0.627	0.685	0.228		0.633	0.691	0.230				
NumEst	9.283	7.067	7.080		10.099	7.639	7.662				
HLtoH	0.030	0.027	0.012		0.032	0.028	0.015				
# 8-K Filings	114,468				34,339						
# Firms	2,108				959						

Panel 2.B – Number of 8-K Filings per Firm – Full Sample

					Item 2.02				
				Results	of operatio	ns and		Regulation	
		All 8Ks		fina	ncial condit	ion	F	D disclosur	e
year	Mean	Median	90%	Mean	Median	90%	Mean	Median	90%
2010	6.84	6.00	11.00	2.39	3.00	4.00	1.04	0.00	3.00
2011	6.49	6.00	11.00	2.27	3.00	4.00	1.00	0.00	3.00
2012	8.22	7.00	14.00	2.75	3.00	4.00	1.28	0.00	4.00
2013	8.21	7.00	13.00	2.78	3.00	4.00	1.33	0.00	4.00
2014	8.10	7.00	13.00	2.76	3.00	4.00	1.27	0.00	4.00
2015	8.08	7.00	13.00	2.70	3.00	4.00	1.28	0.00	4.00
2016	7.90	7.00	13.00	2.73	3.00	4.00	1.24	0.00	4.00
2017	7.82	7.00	13.00	2.73	3.00	4.00	1.24	0.00	4.00
2018	7.38	7.00	12.00	2.67	3.00	4.00	1.27	0.00	4.00

#### Table 3. Number of 8-K Filings by Item Types and Filing Gap

The table reports the number of the 8-K filings in our full sample conditioning on filing gap and item type. See Table 2 for sample definitions. Filing Gap is the number of business days between the calendar event day and the calendar filing day, stated in the 8-K filing. For example, a filing gap of 0 means that the event and the filing occurred on the same business day. In a similar manner, a filing gap of 1 means that the filing occurred on the next business day. *All Items* include all 8-K filings: Item 1.01 (entry into a material definitive agreement); Item 2.02 (results of operations and financial condition); Item 5.02 (departure/election of directors or principal officers); Item 5.07 (submission of matters to a vote of security holders); Item 7.01 (regulation FD disclosure); and Item 8.01(other events that are not specifically called for by Form 8-K that the firm considers to be of importance to security holders). *Num Cases* is the number of filings in the item category (from the total number of filings in the *Major Items* group).

Panel 3.A – Aggregate Statistics Conditioning on Filing Gap

	All	ltems	Majo	r Items		
	(	1)	(	2)		
Filing Gap	Num Cases	%	Num Cases	%		
0	70,705	61.77%	69,465	63.13%		
1	19,140	16.72%	18,260	16.59%		
2	8,806	7.69%	8,155	7.41%		
3	7,797	6.81%	7,077	6.43%		
4	8,020	7.01%	7,086	6.44%		
	114,468	100.00%	110,043	100.00%		

Panel 3.B – Breakdown by Item Type and Filing Gap

Filing	Num	% from	% from	Filing	Num	% from	% from	Filing	Num	% from	% from		
Gap	Cases	Item	Major	Gap	Cases	Item	Major	Gap	Cases	Item	Major		
Item 1.0	01 - Entr	y into a ma	terial	Item 2.	02 - Res	ults of oper	ations	Item 5.02 - Departure/election of					
definiti	ve agree	ment		and fin	ancial co	ondition		directo	ors or prin	ncipal offic	ers		
0	969	22.21%	0.88%	0	33,830	85.93%	30.74%	0	4,597	24.59%	4.18%		
1	1,003	22.99%	0.91%	1	4,445	11.29%	4.04%	1	3,409	18.24%	3.10%		
2	707	16.20%	0.64%	2	588	1.49%	0.53%	2	3,178	17.00%	2.89%		
3	779	17.85%	0.71%	3	313	0.80%	0.28%	3	3,139	16.79%	2.85%		
4	905	20.74%	0.82%	4	192	0.49%	0.17%	4	4,370	23.38%	3.97%		
	4,363	100.00%	3.96%		39,368	100.00%	35.78%		18,693	100.00%	16.99%		
Item 5.0	07 - Subi	mission of 1	matters	Item 7.	01 - Reg	ulation FD		Item 8.	01 - Othe	er events th	at are not		
to a vot	te of secu	urity holder	s	disclos	sure			specif	ically cal	lled for by	Form 8-K		
0	1,328	18.59%	1.21%	0	14,975	82.48%	13.61%	0	13,766	61.67%	12.51%		
1	2,006	28.09%	1.82%	1	2,429	13.38%	2.21%	1	4,968	22.26%	4.51%		
2	1,699	23.79%	1.54%	2	415	2.29%	0.38%	2	1,568	7.02%	1.42%		
3	1,387	19.42%	1.26%	3	219	1.21%	0.20%	3	1,240	5.56%	1.13%		
4	722	10.11%	0.66%	4	118	0.65%	0.11%	4	779	3.49%	0.71%		
	7,142	100.00%	6.49%		18,156	100.00%	16.50%		22,321	100.00%	20.28%		

#### Table 4. Traditional News Coverage by News Category and 8-K Filing with a Gap

The table reports the representation of each news category on days with traditional news (*TN*) in our full sample for filings with a filing gap of 1 or more business days, for the six major Items together, and Item by Item across the 13 analyzed traditional news categories (see Table 1 for more information). For each specification, we report the news categories' average representation on days with traditional news (i.e., TN = 1) based on the event date (Rdate) or the filing date (Fdate). For example, in columns 7 and 8, 33.3 percent (86.0 percent) of the *TN* associated with Item 5.02's event (filing) days, are based on the Labor-Issues news category. Based on the SEC rules, filings submitted after 5:30 pm receive the next trading day date. For consistency, we treat filings that occur between 4-5:30 pm as if they become available on the next trading day. Similarly, news articles occurring after market close (i.e., 4 pm-midnight) shift to the next trading day. OBS in the number of day-firm observations.

							% of Days	with News						
					Item	2.02	Item	5.02	Item	5.07			Item	8.01
			Item	1.01	Results of operations		Departure	election of	Submi	Submission of		7.01	Other events that are	
				Entry into a material		nancial	directors or principal		matters to	a vote of	Regula	tion FD	not called for by	
	Major Items		definitive agreement		condition		officers		security holders		disclosure		Form 8-K	
Category	Rdate	Fdate	Rdate	Fdate	Rdate	Fdate	Rdate	Fdate	Rdate	Fdate	Rdate	Fdate	Rdate	Fdate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Acquisitions-Mergers	7.7%	6.1%	15.8%	24.2%	3.7%	1.4%	4.4%	1.6%	3.8%	7.0%	10.5%	14.4%	13.0%	17.2%
Analyst-Ratings	8.9%	6.3%	12.5%	7.2%	4.6%	6.5%	13.0%	3.9%	8.6%	14.2%	8.3%	11.8%	7.5%	7.8%
Assets	2.6%	2.3%	3.1%	4.9%	4.1%	2.8%	1.8%	0.7%	0.5%	1.9%	2.7%	5.1%	3.4%	3.8%
Credit	5.4%	2.3%	15.5%	7.9%	1.0%	0.5%	1.0%	0.6%	0.7%	1.5%	5.1%	4.9%	13.2%	7.5%
Credit-Ratings	10.2%	2.9%	26.5%	8.3%	1.2%	0.7%	3.8%	1.4%	2.8%	6.6%	6.8%	5.3%	24.3%	6.9%
Dividends	19.0%	8.3%	4.8%	3.1%	10.2%	4.5%	19.7%	3.3%	52.7%	24.3%	8.8%	20.0%	12.9%	20.1%
Earnings	28.3%	31.6%	9.0%	9.6%	79.8%	95.6%	12.1%	4.7%	17.2%	13.9%	44.1%	20.1%	10.0%	9.5%
Equity-Actions	9.7%	7.9%	17.5%	12.5%	11.2%	9.4%	4.8%	1.8%	7.5%	6.5%	10.2%	16.0%	12.3%	17.3%
Labor-Issues	13.5%	39.4%	7.4%	5.2%	4.2%	1.3%	33.3%	87.5%	10.4%	15.4%	8.0%	7.1%	7.2%	7.9%
Legal	1.1%	1.5%	0.9%	3.6%	0.2%	0.3%	0.8%	0.5%	1.0%	1.7%	1.4%	3.1%	2.1%	5.0%
Marketing	4.5%	2.0%	4.6%	2.9%	1.1%	0.5%	4.9%	1.5%	4.5%	7.0%	10.0%	6.1%	4.8%	3.0%
Products-Services	11.2%	8.0%	15.1%	31.4%	4.8%	3.0%	12.4%	4.2%	9.3%	13.9%	12.5%	14.8%	14.6%	15.4%
Partnerships	1.8%	1.1%	2.6%	4.2%	0.3%	0.1%	2.8%	0.7%	1.6%	3.4%	1.0%	2.1%	2.3%	1.8%
OBS	40,578		3,394		5,538		14,096		5,814		3,181		8,555	

# Table 5. Abnormal Attention and Media coverage Measures on Event and Filing days with a Gap

The table reports the average frequency of AIA and DADSVI attention measures, media coverage, and attention frequencies conditioning on media coverage, for filings with a filing gap of 1 or more business days, for the six major items (see Tables 1 and 3 for more details). We report frequencies based on the event date (Rdate) or the filing date (Fdate). Based on the SEC rules, filings submitted after 5:30 pm receive the next trading day date. For consistency, we treat filings that occur between 4-5:30 pm as if they become available on the next trading day. Similarly, news articles occurring after market close (i.e., 4 pm-midnight) shift to the next trading day. AIA is our Abnormal Institutional Attention measure from Bloomberg. DADSVI is our Abnormal Retail Attention measure calculated in a similar manner. We adjust AIA and DADSVI frequencies to reflect a deviation in attention shock from its pre-event unconditional mean. In particular, for each stock and event, we calculate the unconditional mean using all days during t-25 - t-5 relative to the event day. In Panel A, we report the abnormal AIA and DADSVI averages for the six major 8-K items and all items together ("All"). To compare AIA with DADSVI on the same basis, we report AIA frequencies for the full sample and the DADSVI sample. F-R Diff is the difference between the filing date (Fdate) and event date (Rdate) averages. In addition, we report simulation results for the case of all items. In each simulation round (of the 1,000 simulation rounds), we randomly draw 8-K event dates for all the firms in the analyzed sample based on their filling distribution. We then rerun our regressions and store the simulated coefficient estimates. A detailed description of the procedure appears in Section 3. "Ave. Sim Est." refers to the average simulated coefficient estimates. "Sim p-value" reports the simulated *p*-values, which is calculated based on the number of simulated coefficient estimates that exceed the empirical regression coefficient. In Panel B, we report the media coverage average frequencies on the Rdate and Fdate, for our two media coverage measures: Traditional News (TN), based on RavenPack's news dummy, and Professional News (PN), based on Bloomberg Terminal News augmented with RavenPack's news and press release information. We run a similar simulation to report the benchmark TN and PN sample frequency, report the abnormal news coverage and its significance. In panel C (D), we report the DADSVI average frequencies conditioning on TN. In particular, "TNI" ("TNO") refers to the case in which TN=1(TN=0) on the event (filing) day. The last two Columns report similar simulation statistics to the ones reported in Panel A. Standard errors are clustered by firm and *t*-statistics are reported below the coefficient estimates.

			A	IA				DADSVI	
	F	ULL SAMPLI	E	DA	DSVI SAMPI	LE	DA	DSVI SAMP	LE
	Rdate	Fdate	F-R	Rdate	Fdate	F-R	Rdate	Fdate	F-R
Item	Mean	Mean	Diff	Mean	Mean	Diff	Mean	Mean	Diff
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Item 1.01 - Entry into a material	0.070	0.056	-0.013	0.086	0.064	-0.022	0.014	0.002	-0.012
definitive agreement	(10.01)	(8.71)	(-1.39)	(5.89)	(5.12)	(-1.16)	(1.33)	(0.22)	(-0.89)
Item 2.02 - Results of operations	0.352	0.252	-0.100	0.402	0.281	-0.121	0.066	0.083	0.017
and financial condition	(21.57)	(16.53)	(-5.99)	(13.87)	(5.12)	(-4.18)	(4.45)	(5.08)	(1.23)
Item 5.02 - Departure/election of	0.010	0.030	0.020	0.012	0.031	0.019	0.000	0.013	0.013
directors or principal officers	(3.74)	(10.43)	(5.76)	(2.11)	(5.57)	(2.78)	(-0.09)	(2.35)	(2.24)
Item 5.07 - Submission of matters	0.008	-0.030	-0.039	0.017	-0.017	-0.035	-0.006	0.001	0.007
to a vote of security holders	(1.75)	(-8.11)	(-7.31)	(1.65)	(-2.01)	(-2.86)	(-0.71)	(0.11)	(0.63)
Item 7.01 - Regulation FD	0.121	0.102	-0.019	0.162	0.112	-0.050	0.028	0.005	-0.023
disclosure	(10.22)	(10.78)	(-1.37)	(7.38)	(6.00)	(-1.87)	(2.27)	(0.48)	(-1.77)
Item 8.01 - Other events that are not	0.121	0.084	-0.037	0.142	0.078	-0.063	0.022	0.028	0.006
called for by Form 8-K	(16.35)	(15.88)	(-4.36)	(9.68)	(8.49)	(-3.71)	(3.19)	(3.51)	(0.73)
All	0.093	0.071	-0.023	0.104	0.073	-0.031	0.015	0.021	0.006
	(23.89)	(22.98)	(-5.93)	(14.87)	(13.67)	(-4.48)	(4.23)	(5.57)	(1.60)
Avg. Sim. Est.	0.0034	0.0036	0.0003	0.0040	0.0042	0.0002	-0.0003	-0.0003	-0.0001
Sim <i>p</i> -value	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.038

Panel 5.A	A –AIA an	d DADSVI	[Average]	Frequency	v bv	Item '	Туре
					$\sim J$		

# Panel 5.B – Media Coverage Average Frequency by Item Type

			FULL SAMPLE		L	DADSVI SAMPLE	
ITEM	NEWS	Rdate	Fdate	F-R Diff	Rdate	Fdate	F-R Diff
		(1)	(2)	(3)	(4)	(5)	(6)
Item 1.01 - Entry into a material	TN	13.47%	16.33%	2.86%	15.98%	16.52%	0.54%
definitive agreement	PN	49.35%	62.63%	13.28%	52.51%	63.44%	10.92%
Item 2.02 - Results of operations	TN	23.11%	61.76%	38.65%	22.93%	66.30%	43.38%
and financial condition	PN	90.43%	90.18%	-0.25%	90.61%	92.16%	1.55%
Item 5.02 - Departure/election of	TN	11.24%	37.25%	26.01%	12.01%	43.26%	31.25%
directors or principal officers	PN	50.37%	71.17%	20.81%	51.44%	74.81%	23.37%
Item 5.07 - Submission of matters	TN	16.58%	9.07%	-7.51%	20.28%	10.28%	-10.01%
to a vote of security holders	PN	63.78%	62.15%	-1.63%	64.76%	61.53%	-3.23%
Item 7.01 - Regulation FD	TN	18.55%	22.67%	4.13%	18.18%	25.09%	6.91%
disclosure	PN	68.41%	74.25%	5.84%	68.66%	77.35%	8.70%
Item 8.01 - Other events that are not	TN	19.27%	24.85%	5.58%	23.08%	25.75%	2.67%
called for by Form 8-K	PN	67.67%	70.72%	3.04%	70.74%	70.37%	-0.37%
ALL	TN	16.08%	31.05%	14.98%	17.65%	33.74%	16.09%
	TN-SIM-BM	7.90%	7.90%	0.00%	9.42%	9.42%	0.00%
	AbnTN	8.18%	23.16%	14.98%	8.23%	24.32%	16.09%
	Sim p-value	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	PN	62.73%	71.91%	9.17%	63.47%	73.30%	9.83%
	PN-SIM-BM	43.64%	43.63%	-0.01%	45.40%	45.39%	-0.02%
	AbnPN	19.09%	28.28%	9.19%	18.07%	27.92%	9.85%
	Sim p-value	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

# Panel 5.C – Event Day TN and Retail Attention

	Item Entry into definitive	1.01 a material agreement	Item Results of and fir cond	2.02 operations nancial lition	Item 5.02 Departure/election of directors or principal officers		Item 5.07 Submission of matters to a vote of security holders		Item 7.01 Regulation FD disclosure		Item 8.01 Other events that are not called for by Form 8-K		ALL			
News on Event Day	TN1	TN0	TN1	TN0	TN1	TN0	TN1	TN0	TN1	TN0	TN1	TN0	TN1	TN0	TN1	TN0
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	Avg.Sim.Est. a	& Sim p -value
Rdate	0.067 (2.26)	0.004 (0.33)	0.074 (3.01)	0.063 (3.95)	0.032 (1.88)	-0.005 (-1.00)	0.024 (1.17)	-0.014 (-1.57)	0.073 (2.95)	0.018 (1.29)	0.043 (2.73)	0.016 (2.09)	0.046 (5.20)	0.008 (2.18)	0.000 <.0001	0.000 0.018
Fdate	0.033	-0.004	0.047	0.093	0.027	0.011	-0.021	0.007	0.032	-0.001	0.045	0.023	0.028	0.019	0.000	0.000
F-R Diff	(1.21) -0.034 (-0.96)	(-0.32) -0.008 (-0.52)	(1.74) -0.027 (-0.94)	(4.92) 0.030 (1.87)	(1.68) -0.005 (-0.26)	(1.93) 0.016 (2.58)	(-1.23) -0.045 (-1.91)	(0.71) 0.021 (1.72)	(1.21) -0.040 (-1.81)	(-0.08) -0.019 (-1.17)	(2.63) 0.001 (0.09)	(2.65) 0.007 (0.83)	(3.22) -0.018 (-1.95)	(4.80) 0.011 (2.75)	0.005 0.001 0.046	<.0001 0.000 0.004
N % from all item filings	143 16.0%	752 84.0%	293 22.9%	985 77.1%	512 12.0%	3751 88.0%	316 20.3%	1242 79.7%	192 18.2%	864 81.8%	601 23.1%	2003 76.9%	2057 17.7%	9597 82.3%		

Panel 5.D – Filing Day TN and Retail Attention

	Item Entry into definitive	1.01 a material agreement	Item Results of and fi	2.02 operations nancial dition	Item Departure directors o offi	5.02 election of or principal cers	Item Submis matters to security	5.07 ssion of a vote of holders	Item Regula discl	7.01 tion FD osure	Item Other even not calle Form	8.01 hts that are ed for by h 8-K			ALL	
News on Filing Day	TN1	TN0	TN1	TN0	TN1	TN0	TN1	TN0	TN1	TN0	TN1	TN0	TN1	TN0	TN1	TN0
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	Avg.Sim.Est.	& Sim p -value
Rdate	0.040	0.007	0.059	0.080	0.009	-0.006	-0.027	-0.006	0.034	0.026	0.020	0.024	0.023	0.011 (2.67)	0.000 0.006	0.000 <.0001
Fdate	0.063	-0.009	0.108	0.033	0.015	0.012	0.050	-0.005	0.030	-0.003	0.065	0.015	0.047	0.007	0.000	0.000
F-R Diff	(1.96) 0.022 (0.60)	(-0.76) -0.016 (-1.12)	(4.85) 0.049 (2.84)	(1.73) -0.047 (-1.90)	(1.91) 0.006 (0.66)	(1.54) 0.018 (2.09)	(1.46) 0.077 (2.18)	(-0.56) 0.002 (-0.21)	(1.24) -0.004 (-0.19)	(-0.29) -0.029 (-1.75)	(4.23) 0.045 (2.86)	(1.78) -0.009 (-0.95)	(6.82) 0.025 (5.32)	(1.72) -0.004 (-1.08)	<.0001 0.001 <.0001	0.067 0.000 0.138
N % from all item filings	150 16.5%	757 83.5%	854 66.3%	434 33.7%	1831 43.2%	2405 56.8%	160 10.3%	1396 89.7%	267 25.1%	797 74.9%	676 25.7%	1950 74.3%	3938 33.7%	7739 66.3%		

# Table 6. Abnormal Institutional Attention and Price Discovery - Average Returns during Pre-Filing, Filing, and Post-Filing Periods

The table reports average absolute DGTW risk-adjusted returns for the pre-filing, filing, and post-filing periods based on filing gap and the six major item types. We focus on our 8-K sample, where the filing gap is two or more business days. For ease of presentation, we focus on absolute average returns, where we multiply the pre-filing and filing averages by -1 if the total cumulative return from event day to filing day is negative. Denoting the firm's 8-K filing submission day as day *t*, the pre-filing period return is calculated from the event day to day *t*-1, the filing period return is calculated from day *t* to *t*+1, and the post-filing period return is calculated from day t+2 - t+30. Panels A - C report the absolute averages for 2 to 4 business-day filing gaps, respectively.

#### Panel 6.A – Absolute Return Averages for Filing with a 2-Business-Day Filing Gap

		A	verage Absol	ute Return			Avera	age Absolute	Return
	Ν	Pre-Filing	Filing	Post-Filling		Ν	Pre-Filing	Filing	Post-Filling
		(1)	(2)	(3)			(4)	(5)	(6)
Item 1.01 - Er	ntry into a m	aterial definitive	agreement		Item 5.07 - Su	bmission of	matters to a vote	e of security l	nolders
ALL	707	1.82%	1.54%	-0.52%	ALL	1,699	1.33%	1.17%	-0.10%
AIA-Pre =0	534	1.46%	1.63%	-0.26%	AIA- $Pre = 0$	1,451	1.16%	1.18%	-0.15%
AIA-Pre =1	173	2.95%	1.25%	-1.33%	AIA-Pre =1	248	2.31%	1.08%	0.17%
Item 2.02 - Re	esults of ope	erations and finan	cial condition		Item 7.01 - Re	gulation FD	disclosure		
ALL	588	3.97%	1.99%	0.22%	ALL	415	2.00%	1.31%	-0.08%
AIA-Pre =0	322	3.39%	2.10%	0.57%	AIA- $Pre = 0$	323	1.26%	1.44%	-0.12%
AIA-Pre =1	266	4.66%	1.86%	-0.21%	AIA-Pre =1	92	4.62%	0.84%	0.09%
Item 5.02 - De	eparture/ele	ction of directors	or principal	officers	Item 8.01 - Ot	her events t	hat are not called	for by Form	8-K
ALL	3,178	1.32%	1.42%	-0.04%	ALL	1,568	1.92%	1.57%	0.61%
AIA-Pre =0	2,647	1.14%	1.41%	-0.01%	AIA-Pre =0	1,149	1.43%	1.52%	0.54%
AIA-Pre =1	531	2.19%	1.48%	-0.19%	AIA-Pre =1	419	3.26%	1.69%	0.82%

#### Panel 6.B – Absolute Return Averages for Filing with a 3-Business-Day Filing Gap

		A	verage Absol	ute Return			Avera	age Absolute	Return
	N	Pre-Filing	Filing	Post-Filling		Ν	Pre-Filing	Filing	Post-Filling
		(1)	(2)	(3)			(4)	(5)	(6)
Item 1.01 - Er	ntry into a m	aterial definitive	agreement		Item 5.07 - Sul	bmission of	matters to a vote	of security l	nolders
ALL	779	2.47%	1.33%	0.45%	ALL	1,387	1.89%	1.13%	-0.14%
AIA-Pre =0	531	2.01%	1.48%	0.75%	AIA- $Pre = 0$	1,108	1.78%	1.12%	-0.11%
AIA-Pre =1	248	3.45%	1.01%	-0.18%	AIA-Pre =1	279	2.35%	1.18%	-0.25%
Item 2.02 - Re	esults of ope	erations and finan	cial condition	L	Item 7.01 - Re	gulation FD	disclosure		
ALL	313	4.70%	0.89%	0.37%	ALL	219	2.92%	0.93%	0.24%
AIA-Pre =0	161	4.35%	1.04%	1.39%	AIA-Pre =0	162	2.67%	0.92%	0.63%
AIA-Pre =1	152	5.07%	0.73%	-0.70%	AIA-Pre =1	57	3.63%	0.99%	-0.86%
Item 5.02 - De	eparture/ele	ction of directors	or principal of	officers	Item 8.01 - Ot	her events t	hat are not called	for by Form	8-K
ALL	3,139	1.82%	1.25%	0.50%	ALL	1,240	2.01%	1.15%	0.18%
AIA-Pre =0	2,517	1.59%	1.31%	0.37%	AIA- $Pre = 0$	742	1.70%	1.36%	0.15%
AIA-Pre =1	622	2.76%	1.03%	1.03%	AIA-Pre =1	498	2.46%	0.84%	0.22%

		A	lverage Absoli	ute Return			Avera	ige Absolute	Return
	N	Pre-Filing	Filing	Post-Filling		Ν	Pre-Filing	Filing	Post-Filling
		(1)	(2)	(3)			(4)	(5)	(6)
T 4 64 T									
Item 1.01 - Er	ntry into a m	aterial definitive	agreement		Item 5.07 - Sul	bmission o	f matters to a vote	of security l	nolders
ALL	905	2.72%	1.35%	0.22%	ALL	722	2.10%	0.94%	0.00%
AIA- $Pre = 0$	629	2.29%	1.41%	0.23%	AIA- $Pre = 0$	573	1.92%	0.87%	0.49%
AIA-Pre =1	276	3.72%	1.22%	0.23%	AIA-Pre =1	149	2.81%	1.23%	-1.82%
Item 2.02 - Re	esults of ope	erations and finan	cial condition		Item 7.01 - Re	gulation FI	O disclosure		
ALL	192	6.08%	0.94%	-0.28%	ALL	118	3.40%	0.79%	0.12%
AIA- $Pre = 0$	92	6.17%	1.25%	-0.93%	AIA- $Pre = 0$	87	2.65%	0.98%	0.41%
AIA-Pre =1	100	6.00%	0.66%	0.29%	AIA-Pre =1	31	5.52%	0.28%	-0.70%
Item 5.02 - De	eparture/ele	ction of directors	or principal of	officers	Item 8.01 - Otl	her events t	hat are not called	for by Form	8-K
ALL	4,370	2.49%	1.29%	-0.06%	ALL	779	2.53%	1.22%	0.65%
AIA-Pre =0	3,204	2.16%	1.27%	0.14%	AIA- $Pre = 0$	525	2.34%	1.39%	0.66%
AIA-Pre =1	1.166	3.39%	1.35%	-0.59%	AIA-Pre = 1	254	2.91%	0.86%	0.61%

# Panel 6.C – Absolute Return Averages for Filing with a 4-Business-Day Filing Gap

# Table 7. Abnormal Institutional Attention and Price Discovery during the Filing period: Regression Analysis

The table reports the results of panel regressions of price discovery during the filing period on pre-filing abnormal institutional attention (*AIA*), abnormal retail attention (*DADSVI*), and other explanatory variables (denoted with the suffix *Pre-Filing*). Table 6 defines the pre-filing period, filing period, and the 8-K sample. We focus on our 8-K sample with a filing gap of two or more business days and conduct the analysis based on the filing gap and the six major item types. To maintain statistical power and avoid creating any bias in the sample by dropping firms with no *DADSVI* information, we conduct our analysis based on the full sample. We treat missing observations for *DADSVI* using Pontiff and Woodgate's (2008) approach. First, we define a dummy variable that takes a value of one whenever the *DADSVI* exists and zero otherwise. Then, we replace *DADSVI* missing values with zeros. We follow Barclay and Hendershott (2003) and use their weighted-price-contribution (WPC) measure as our price discovery measure. The WPC measure is defined as

$$WPC_{i} = \sum_{s=1}^{S} \left[ \left( \frac{|ret_{s}|}{\sum_{s=1}^{S} |ret_{s}|} \right) \left( \frac{ret_{i,s}}{ret_{s}} \right) \right]$$

where i is the pre-event or filing period, and S is the total number of firms. For each period i, we run WLS regressions, using  $|ret_r|$  as the weight on WPC<sub>I</sub>, on AIA, DADSVI. We use the DGTW risk-adjusted returns as

*ret.* We censor the upper and lower 1 percent of the distribution of *WPC* to avoid the effect of outliers. *AIA*, *DADSVI*, and *PN* are calculated as the max of *AIA*, *DADSVI*. We control for media coverage (*PN*) during the pre-filing period, pre-filing average abnormal trading volume and pre-filing return. We also control for pre-filing firm characteristics, which include *LnSize*, *LnBM*, *SDRET*, *LnNumEst*, *InstHold*, *LnPRC*, the average effective spreads, average variance-ratio and cumulative returns over the past 21 trading days. We also include year, month, day-of-week, item, and industry fixed effects. For the single-item analysis (Columns 4-9), the item fixed effects only includes Item 9.01. The controls are not reported for brevity. Standard errors are clustered by firm and *t*-statistics are reported below the coefficient estimates.

	Items with Gap=2	Items with Gap=3	Items with Gap=4	Item 1.01 Entry into a material definitive agreement	Item 2.02 Results of operations and financial condition	Item 5.02 Departure/el ection of directors or principal officers	Item 5.07 Submission of matters to a vote of security holders	Item 7.01 Regulation FD disclosure	Item 8.01 Other events that are not called for by Form 8-K
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	0.588	0.459	0.796	0.579	0.904	0.505	0.495	0.063	0.842
	(4.13)	(4.06)	(6.10)	(2.76)	(2.78)	(5.30)	(2.64)	(0.13)	(4.53)
AIA Pre-Filing	-0.119	-0.131	-0.054	-0.034	-0.053	-0.096	-0.003	-0.209	-0.090
	(-5.49)	(-6.17)	(-2.61)	(-0.85)	(-1.23)	(-4.86)	(-0.08)	(-3.35)	(-3.10)
DADSVI Pre-Filing	-0.053	-0.008	-0.016	-0.026	-0.046	0.004	-0.056	-0.140	-0.095
	(-1.39)	(-0.23)	(-0.48)	(-0.43)	(-0.49)	(0.15)	(-1.05)	(-1.27)	(-2.09)
PN Pre-Filing	-0.076	-0.084	-0.041	-0.090	-0.368	-0.056	-0.098	-0.111	-0.093
	(-3.77)	(-3.40)	(-1.59)	(-2.32)	(-3.47)	(-3.30)	(-2.93)	(-1.53)	(-2.65)
Ret Pre-Filing	0.081	-0.115	0.061	0.066	0.047	0.116	0.216	-0.134	-0.011
	(0.84)	(-1.39)	(0.56)	(0.32)	(0.30)	(1.22)	(1.38)	(-0.52)	(-0.19)
Turnover Pre-Fling	-2.122	-2.545	-3.308	-4.981	-4.295	-4.574	-8.033	-3.552	-1.440
	(-5.73)	(-5.88)	(-3.29)	(-5.27)	(-3.80)	(-6.10)	(-4.70)	(-2.65)	(-8.14)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Day-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	7,995	6,912	6,907	2,326	1,071	10,438	3,749	738	3,492
AdjRSQ	3.19%	2.56%	1.61%	4.06%	1.57%	1.36%	1.21%	3.65%	4.36%

#### **Table 8. Directional Institutional Trading and Price Discovery**

The table analyzes the relationship between the price discovery reported in Table 7 and institutional directional trading (*InstDirTrd*, Table 1). To identify institutional trading, we use the ANcerno data to calculate daily institutional trading for each stock and day, defined as the net number of shares of the stock purchased and sold normalized by the CRSP daily volume for the stock. The pre-filing period, filing period, and the 8-K sample are defined in Table 7. In Columns 1-2, we start by establishing a link between *AIA* and *InstdirTrd* during the pre-filing period. Since *InstDirTrd* is a directional measure, we sign *AIA* based on the return during the pre-filing period (*SignAIA*). Next, In Columns 3-4, we reexamine the price discovery reported in Table 7 and include the absolute value of *AncDirTrd* as an additional explanatory variable. Finally, to reduce noise, in Columns 1-2 (3-4), we run WLS regressions using the total absolute event trading (return) as the weight. Standard errors are clustered by firm, and *t*-statistics are reported below the coefficient estimates.

	InstDii	rTrd PF	WP	C F
	(1)	(2)	(3)	(4)
Intercept	0.054	0.076	0.339	0.571
*	(0.57)	(0.80)	(3.73)	(6.01)
SignedAIA Pre-Filing	0.060	0.021		
	(6.40)	(2.00)		
AIA Pre-Filing			-0.172	-0.117
			(-11.94)	(-7.77)
AbsInstDirTrd Pre-Filing			-0.166	-0.181
			(-3.70)	(-4.05)
PN Pre-Filing		0.000		-0.104
		(0.03)		(-6.28)
Ret Pre-Filing		1.070		-0.026
		(7.37)		(-0.31)
Turnover Pre-Fling		-0.180		-2.107
		(-0.39)		(-5.19)
Firm Controls	Yes	Yes	Yes	Yes
<i>Year FE</i>	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Day-of-Week FE	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Ν	13,841	13,841	13,623	13,623
AdjRSQ	2.03%	3.54%	0.24%	0.39%

# Table 9. Abnormal Institutional and Retail Attention Measures and After-Filing-Period Cumulative Abnormal Returns

The table reports the results of panel regressions of cumulative day t+2 to t+11 DGTW risk-adjusted returns, on AIA, and DADSVI controlling for news coverage, trading volume, returns, various firm characteristics and a battery of fixed effects. Day t+2 is defined as the first day after the filing period (which is days t and t+1). The pre-filing period, filing period, and the 8-K sample are defined in Table 6, where we focus on our 8-K sample with a filing gap of two or more business days for our six major items. To maintain statistical power and avoid creating any bias in the sample by dropping firms with no DADSVI information, our analysis is conducted based on the full sample. We treat missing observations for DADSVI using Pontiff and Woodgate's (2008) approach. First, we define a dummy variable that takes a value of one whenever the DADSVI exists and zero otherwise. Then, we replace DADSVI missing values with zeros. EVRET is the cumulative return during the pre-filing period, and FRET is the cumulative return during the filing period. AIA F is our abnormal institutional attention measure calculated as the max of AIA during the filing-period days. DADSVI F is our abnormal retail attention measure calculated as the max of DADSVI during the filing-period days. PN F is our professional media coverage measure calculated as the max of PN during the filing-period days. FRET\*AIAF (FRET\*DADSVIF) is the interaction between AIA F (DADSVI F) and FRET. Finally, to reduce noise, as in Table 7, we run WLS regressions using the total event return | ret | as the weight. Standard errors are clustered by firm, and t-statistics are reported below the coefficient estimates.

	Cumulative DGTW Returns										
	t+2_t+2	<i>t</i> +2_ <i>t</i> +3	<i>t</i> +2_ <i>t</i> +4	<i>t</i> +2_ <i>t</i> +5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	<i>t</i> +2_ <i>t</i> +8	t+2_t+9	t+2_t+10	t+2_t+11	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
AIA_F	0.000	0.001	0.000	0.000	0.000	0.000	-0.001	-0.001	0.000	-0.001	
	(0.20)	(0.70)	(0.12)	(0.17)	(-0.20)	(-0.13)	(-0.37)	(-0.20)	(0.07)	(-0.29)	
DADSVI_F	-0.002	-0.001	-0.002	0.000	0.001	0.005	0.002	0.000	0.006	0.005	
	(-0.89)	(-0.42)	(-0.49)	(0.00)	(0.39)	(1.13)	(0.46)	(0.01)	(1.25)	(1.08)	
PN_F	0.003	0.004	0.004	0.004	0.006	0.010	0.010	0.009	0.010	0.010	
	(2.39)	(1.94)	(1.59)	(1.77)	(2.54)	(3.10)	(3.11)	(2.90)	(3.02)	(3.01)	
TURNOVER_F	0.023	0.107	0.172	0.191	0.305	0.287	0.365	0.334	0.348	0.392	
	(0.48)	(1.67)	(2.38)	(2.82)	(3.64)	(2.90)	(3.56)	(3.39)	(3.53)	(3.43)	
EVRET	0.003	0.000	0.004	0.005	-0.002	0.001	0.007	0.004	-0.014	-0.013	
	(0.35)	(0.02)	(0.30)	(0.35)	(-0.15)	(0.03)	(0.33)	(0.22)	(-0.61)	(-0.49)	
FRET	-0.024	-0.075	-0.054	-0.018	0.014	0.014	0.030	0.010	0.033	0.007	
	(-1.09)	(-1.69)	(-1.34)	(-0.44)	(0.26)	(0.24)	(0.52)	(0.22)	(0.62)	(0.12)	
FRET * AIAF	-0.013	0.050	0.037	0.055	0.005	0.038	0.028	0.037	-0.030	0.011	
	(-0.40)	(0.94)	(0.65)	(1.03)	(0.08)	(0.54)	(0.38)	(0.53)	(-0.40)	(0.14)	
FRET * DADSVIF	-0.002	-0.030	-0.093	-0.245	-0.217	-0.246	-0.262	-0.284	-0.258	-0.248	
	(-0.05)	(-0.63)	(-1.59)	(-3.19)	(-3.22)	(-3.51)	(-3.33)	(-3.38)	(-3.18)	(-2.74)	
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Day-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Ν	22,233	22,232	22,230	22,225	22,225	22,222	22,220	22,216	22,215	22,212	
AdjRsq	1.96%	2.10%	1.97%	2.55%	2.66%	2.59%	2.67%	2.43%	2.47%	2.54%	

# Table 10. Abnormal Institutional and Retail Attention Measures and Cumulative Retail and Institutional Trading on After-Filing-Period Subsequent Days

The table reports the results of panel regressions of retail investors cumulative trading (Panel A) and institutional investors cumulative trading (Panel B) from day t+2 to t+11, on AIA, and DADSVI controlling for new coverage, returns, and various firm characteristics and fixed effects. In both panels, we repeat the analysis conducted in Table 9, where we replace cumulative returns from day t+2 to day t+11 with cumulative directional trading as a percentage from daily volume. Day t+2 is defined as the first day after the filing period. The pre-filing period, filing period, and the 8-K sample are defined in Table 6, where we focus on our 8-K sample with a filing gap of two or more business days for our six major items. Panel A reports the results for the retail directional trading measure (*RtlDirTrd*, Table 1). To identify retail trading, we use the NYSE Re-Trac data to calculate daily retail trading for each stock and day, defined as the net number of shares of the stock purchased and sold normalized by the CRSP daily volume for the stock. In a similar manner, Panel B reports the results for the institutional directional trading measure (*InstDirTrd*, Table 1). To identify retail to a day, defined as the net number of shares of the stock purchased and sold normalized by the CRSP daily institutional trading for each stock and day, defined as the day, defined as the net number of shares of the stock for the institutional directional trading measure (*InstDirTrd*, Table 1). To identify institutional trading, we use ANcerno data to calculate daily institutional trading for each stock and day, defined as the net number of shares of the stock. To reduce noise, as in Table 7, we run WLS regressions using the total event return |  $ret_s$  | as the weight. Standard errors are clustered by firm, and t-statistics are reported below the coefficient estimates.

	Cumulative Retail Directional Trading from Daily Volume										
	t+2_t+2	t+2_t+3	<i>t</i> +2_ <i>t</i> +4	t+2_t+5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	t+2_t+8	<i>t</i> +2_ <i>t</i> +9	t+2_t+10	t+2_t+11	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
AIA_F	0.035	0.066	0.086	0.071	0.063	0.043	-0.005	0.002	0.051	0.052	
	(1.24)	(1.61)	(1.63)	(1.22)	(0.97)	(0.58)	(-0.06)	(0.02)	(0.53)	(0.50)	
DADSVI_F	-0.072	-0.069	-0.081	-0.153	-0.222	-0.209	-0.255	-0.274	-0.362	-0.377	
	(-1.38)	(-0.87)	(-0.79)	(-1.32)	(-1.59)	(-1.35)	(-1.55)	(-1.55)	(-1.92)	(-1.87)	
$PN_F$	(-0.00)	(0.02)	(0.04)	(0.03)	(0.01)	(0.03)	(0.11)	(0.11)	(0.08)	(0.09)	
	(-0.01)	(0.65)	(0.83)	(0.48)	(0.13)	(0.34)	(1.04)	(0.90)	(0.55)	(0.64)	
EVRET	0.250	0.413	1.147	0.865	0.944	1.224	1.243	1.112	1.067	0.935	
	(0.70)	(0.92)	(2.25)	(1.67)	(1.53)	(1.23)	(1.01)	(0.85)	(0.76)	(0.66)	
FRET	-1.788	-1.928	-2.386	-2.432	-2.916	-3.090	-4.306	-3.348	-3.246	-4.304	
	(-3.28)	(-2.24)	(-3.23)	(-2.69)	(-2.40)	(-2.12)	(-2.18)	(-1.42)	(-1.28)	(-1.56)	
FRET * DADSVIF	0.905	1.546	4.226	4.341	4.645	4.187	5.487	3.898	2.898	4.092	
	(1.00)	(1.39)	(2.78)	(2.86)	(2.40)	(2.12)	(2.21)	(1.42)	(0.99)	(1.26)	
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Dav-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
	6.625	6 (2)	6 (22)	6 612	6 600	6.605	6 602	6 500	6.506	6.505	
N	6,635	6,631	6,623	6,613	6,608	6,605	6,602	6,598	6,596	6,595	
AdjRsq	5.50%	3.78%	3.69%	4.33%	4.93%	5.63%	6.93%	4.98%	5.20%	5.69%	

Panel 10.A – Cumulative Retail Trading after Filing-Period

Panel 10.B – Cumulative Institutional Trading after Filing-Period

	Cumulative Institutional Directional Trading from Daily Volume									
	t+2_t+2	<i>t</i> +2_ <i>t</i> +3	<i>t</i> +2_ <i>t</i> +4	<i>t</i> +2_ <i>t</i> +5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	t+2_t+8	<i>t</i> +2_ <i>t</i> +9	t+2_t+10	t+2_t+11
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AIA_F	-0.001	-0.006	-0.006	-0.007	-0.007	-0.005	-0.002	0.001	0.000	0.002
	(-0.20)	(-1.12)	(-0.86)	(-0.81)	(-0.64)	(-0.38)	(-0.12)	(0.05)	(-0.01)	(0.13)
DADSVI_F	0.003	-0.004	0.003	0.004	0.006	0.012	0.020	0.013	0.021	0.023
	(0.69)	(-0.47)	(0.22)	(0.20)	(0.25)	(0.44)	(0.70)	(0.42)	(0.61)	(0.66)
PN_F	0.002	0.003	0.005	0.005	0.012	0.014	0.017	0.011	0.016	0.012
	(0.86)	(0.51)	(0.78)	(0.69)	(1.22)	(1.29)	(1.38)	(0.81)	(1.06)	(0.75)
EVRET	0.048	0.156	0.213	0.256	0.285	0.349	0.376	0.352	0.447	0.465
	(1.92)	(3.36)	(3.77)	(3.82)	(3.73)	(3.43)	(3.44)	(3.36)	(3.51)	(3.44)
FRET	0.113	0.174	0.242	0.362	0.412	0.446	0.492	0.513	0.574	0.576
	(3.81)	(3.44)	(3.57)	(3.38)	(3.03)	(2.94)	(2.91)	(2.81)	(2.67)	(2.52)
FRET * DADSVIF	-0.172	-0.221	-0.577	-0.891	-1.416	-1.545	-1.447	-1.370	-1.326	-1.278
	(-1.95)	(-1.81)	(-1.84)	(-1.83)	(-2.03)	(-1.85)	(-1.67)	(-1.69)	(-1.52)	(-1.46)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dav-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	12,768	12,768	12,768	12,768	12,768	12,768	12,768	12,768	12,768	12,768
AdjRsq	1.29%	1.72%	1.96%	2.12%	2.11%	2.17%	2.02%	1.97%	2.13%	2.16%



**Figure 1 – Range Resources Corporation Reversal Example** 

The figure plots the cumulative return and daily share trading volume of Range Resources Corporation from 12/8/2011 (the 8-K Event Day) to 12/30/2011. Range Resources Corp is a petroleum and natural gas exploration and production company headquartered in Fort Worth, Texas. On December 13, 2011, the company issued a press release at 6:00 am, and filed an 8-K at 4:59pm (the Filing Day) under Item 5.02, which involved changes in management that occurred on December 8, 2011 (the Event Day). RavenPack news data indicates that there were 5 articles in the Labor Issues category on 12/13/11 and not beforehand. In particular, Jeff Ventura, current president and COO was to assume role as CEO; John Pinkerton, current CEO was to assume role as Executive Chairman; and Ray Walker was to assume role as Senior Vice president and COO. Institutional investors paid attention before the filing. Share trading volume spiked and reached a level of 5 million shares, and the stock price dropped by -4.57% on December 13 (Black line on the graph). Retail attention only spiked on the following day (*DADSVI* = 1), which was the first regular trading day after the after-market-close filing. Share trading volume reached 3.8 million shares and the price further declined by -3.47% (first Red line in the graph). There was an additional price drop on 14 December. After a few days, the price reverted to the pre-filing price (second Red line).

#### Figure 2. AIA and DADSVI Relative to Event Day Conditioning on Filing Gap

The figures plot the average frequencies of *AIA* and *DADSVI* for 10 days before and after the 8-K event day (day 0) for all major 8-K filings in our sample, conditioning on the filing gap. Graphs A (B) plot the *AIA* (*AIA* and *DADSVI*) average frequencies for 8-K filings for the Full Sample (DADSVI Sample), with 1 to 4 business-day filing gaps, respectively. In each graph, the solid black line represents the average and the dashed blue lines represent the 95 percent confidence intervals. All graphs are centered around 0 at day *t*-10 before the event day.

#### Graph 2.A – AIA Averages for Filing based on 1-4 Business-Day Filing Gaps – Full Sample



Mean AIA Relative to Event Date for 1-Business-Day Filing Gap Mean AIA Relative to Event Date for 2-Business-Day Filing Gap

# Graph 2.B –AIA and DADSVI Averages for Filing based on 1-4 Business-Day Filing Gaps – DADSVI Sample



Mean DADSVI Relative to Event Date for 1-Business-Day Filing Gap Mean DADSVI Relative to Event Date for 2-Business-Day Filing Gap

Mean DADSVI Relative to Event Date for 3-Business-Day Filing Gap





### **Appendix B: Supplementary Analyses**

This appendix extends the main empirical analysis conducted in the paper. The appendix includes four parts. In part one, we use a continuous version of *AIA*, *DADSVI*, and *PN*. In part two, we exclude items 2.02 and 7.01. In part three, we report the results for the sample of 8-K filings with multiple items. In part four, we report the results after excluding observations with missing *DADSVI*. In part five, we report the full set of control variables used in the regressions.

### Part 1 – A Continuous Version of AIA, DADSVI, and PN

#### **B.1 Table 7 - Continuous Variables**

The table repeats the analysis conducted in Table 7 using a continuous version of *AIA*, *DADSVI*, and *PN*. We transform *AIA*, *DADSVI*, and *PN* 0, 1, 2, 3, and 4 scores to continuous values, using the conditional means of truncated normal distribution. We denote the transformed variables as *CAIA*, *CDADSVI*, and *CPN*, respectively. Specifically, under the normal distributional assumption, the corresponding values are -0.350, 1.045, 1.409, 1.647, and 2.154.<sup>19</sup> For the calculation of *CPN*, we first construct a continuous version of RavenPack news and Bloomberg's number of stories (BNS) news, denoted as *CRP* and *CBNS*, respectively. Then, to capture professional news, *CPN* is calculated as the max score of *CRP* and *CBNS*.

	Items with <u>Gap=2</u> (1)	Items with <u>Gap=3</u> (2)	Items with <u>Gap=4</u> (3)	Item 1.01 Entry into a material definitive agreement (4)	Item 2.02 Results of operations and financial <u>condition</u> (5)	Item 5.02 Departure/el ection of directors or principal officers (6)	Item 5.07 Submission of matters to a vote of security holders (7)	Item 7.01 Regulation FD disclosure (8)	Item 8.01 Other events that are not called for by Form 8-K (9)
Intercent	0.562	0.429	0.767	0.605	0.940	0 499	0.482	0.022	0.828
	(3.96)	(3.76)	(5.79)	(2.87)	(2.87)	(5.17)	(2.57)	(0.05)	(4.42)
CAIA Pre-Filing	-0.064	-0.087	-0.031	0.015	-0.009	-0.045	-0.003	-0.103	-0.043
8	(-5.24)	(-6.01)	(-1.88)	(0.48)	(-0.36)	(-3.36)	(-0.13)	(-2.58)	(-2.36)
CDADSVI Pre-Filing	0.018	0.009	-0.023	-0.014	-0.010	0.026	-0.002	0.000	-0.004
	(0.81)	(0.35)	(-0.71)	(-0.31)	(-0.18)	(1.27)	(-0.04)	(-0.00)	(-0.13)
CPN Pre-Filing	-0.077	-0.086	-0.043	-0.101	-0.384	-0.061	-0.100	-0.124	-0.098
	(-3.79)	(-3.46)	(-1.69)	(-2.61)	(-3.58)	(-3.63)	(-2.95)	(-1.72)	(-2.76)
Ret Pre-Filing	0.062	-0.109	0.059	0.075	0.044	0.125	0.214	-0.066	-0.012
	(0.64)	(-1.32)	(0.54)	(0.37)	(0.28)	(1.31)	(1.35)	(-0.24)	(-0.20)
Turnover Pre-Fling	-2.188	-2.495	-3.263	-5.283	-4.420	-4.876	-8.226	-3.728	-1.518
	(-5.61)	(-5.59)	(-3.16)	(-5.27)	(-3.86)	(-6.42)	(-5.03)	(-2.90)	(-7.83)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Day-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	7,995	6,912	6,907	2,326	1,071	10,438	3,749	738	3,492
AdjRSQ	3.14%	2.54%	1.58%	4.05%	1.48%	1.25%	1.21%	3.07%	4.15%

<sup>&</sup>lt;sup>19</sup> For example, a Bloomberg score of three translates to a CAIA of 1.647 since 1.647 is the conditional mean of a standard normal random variable x for x between NORMINV(0.94) and NORMINV(0.96), where NORMINV() denotes the standard normal inverse cumulative distribution function.

#### **B.2** Table 9 - Continuous Variables

The table repeats the analysis conducted in Table 9 using a continuous version of *AIA*, *DADSVI*, and *PN*. See Table B.1 for more information on the continuous variable construction.

	Cumulative DGTW Returns										
	<i>t</i> +2_ <i>t</i> +2	<i>t</i> +2_ <i>t</i> +3	<i>t</i> +2_ <i>t</i> +4	<i>t</i> +2_ <i>t</i> +5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	<i>t</i> +2_ <i>t</i> +8	<i>t</i> +2_ <i>t</i> +9	t+2_t+10	t+2_t+11	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
CAIA Pre-Filing	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.001	0.001	0.000	
	(-0.19)	(1.24)	(0.49)	(0.08)	(-0.31)	(0.12)	(-0.16)	(0.31)	(0.46)	(0.14)	
CDADSVI Pre-Filing	0.000	0.001	0.000	0.000	0.000	0.001	0.001	-0.002	0.002	0.001	
	(0.37)	(0.33)	(0.20)	(-0.03)	(0.18)	(0.51)	(0.40)	(-0.73)	(0.69)	(0.41)	
CPN Pre-Filing	0.003	0.004	0.003	0.004	0.006	0.009	0.010	0.009	0.010	0.010	
	(2.45)	(1.94)	(1.54)	(1.75)	(2.57)	(3.07)	(3.06)	(2.85)	(2.99)	(2.97)	
TURNOVER_F	0.018	0.092	0.156	0.177	0.299	0.272	0.349	0.315	0.336	0.378	
	(0.35)	(1.39)	(2.09)	(2.52)	(3.54)	(2.76)	(3.45)	(3.20)	(3.40)	(3.39)	
EVRET	0.003	0.000	0.004	0.005	-0.002	0.001	0.007	0.005	-0.014	-0.012	
	(0.35)	(-0.01)	(0.29)	(0.37)	(-0.12)	(0.05)	(0.35)	(0.22)	(-0.58)	(-0.48)	
FRET	-0.024	-0.061	-0.054	-0.033	-0.006	0.003	0.011	-0.008	-0.001	-0.010	
	(-1.30)	(-2.11)	(-1.78)	(-1.03)	(-0.17)	(0.07)	(0.24)	(-0.21)	(-0.02)	(-0.22)	
FRET * AIAF	-0.009	0.005	0.003	0.006	-0.017	-0.013	-0.012	-0.012	-0.029	-0.023	
	(-0.59)	(0.27)	(0.11)	(0.23)	(-0.53)	(-0.36)	(-0.31)	(-0.33)	(-0.83)	(-0.60)	
FRET * CDADSVIF	0.016	-0.019	-0.035	-0.104	-0.108	-0.110	-0.129	-0.130	-0.126	-0.121	
	(0.95)	(-0.75)	(-1.18)	(-2.44)	(-3.17)	(-2.96)	(-3.48)	(-3.29)	(-3.07)	(-2.81)	
Firm Controls	Yes	Yes	Yes								
Year FE	Yes	Yes	Yes								
Month FE	Yes	Yes	Yes								
Dav-of-Week FE	Yes	Yes	Yes								
Item FE	Yes	Yes	Yes								
Industry FE	Yes	Yes	Yes								
Ν	22,233	22,232	22,230	22,225	22,225	22,222	22,220	22,216	22,215	22,212	
AdjRsq	2.00%	2.02%	1.87%	2.27%	2.68%	2.48%	2.65%	2.34%	2.46%	2.54%	

#### **B.3** Table 10 - Continuous Variables

The table repeats the analysis conducted in Table 10 using a continuous version of *AIA*, *DADSVI*, and *PN*. See Table B.1 for more information on the continuous variable construction.

#### Panel A – Retail Trading

	Cumulative Retail Directional Trading from Daily Volume										
		<i>t</i> +2_ <i>t</i> +3	$t+2_t+4$	$t+2_t+5$	<i>t</i> +2_ <i>t</i> +6	$t+2_t+7$	t+2_t+8	t+2_t+9	t+2_t+10	t+2_t+11	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
CAIA Pre-Filing	0.011	0.025	0.037	0.035	0.053	0.034	0.019	0.001	0.029	0.038	
	(0.65)	(1.06)	(1.28)	(1.03)	(1.31)	(0.68)	(0.34)	(0.01)	(0.44)	(0.55)	
CDADSVI Pre-Filing	-0.041	-0.065	-0.100	-0.111	-0.125	-0.133	-0.153	-0.144	-0.169	-0.144	
	(-1.58)	(-1.74)	(-1.62)	(-1.69)	(-1.71)	(-1.72)	(-1.84)	(-1.63)	(-1.83)	(-1.51)	
CPN Pre-Filing	(0.01)	(0.01)	(-0.01)	(-0.00)	(-0.04)	(-0.03)	(-0.05)	(-0.03)	(-0.04)	(-0.05)	
	(0.77)	(0.26)	(-0.43)	(-0.09)	(-0.95)	(-0.67)	(-0.99)	(-0.58)	(-0.60)	(-0.72)	
EVRET	0.237	0.391	1.077	0.799	0.882	1.164	1.132	1.021	1.003	0.835	
	(0.67)	(0.88)	(2.12)	(1.56)	(1.44)	(1.18)	(0.92)	(0.79)	(0.72)	(0.59)	
FRET	-1.608	-1.632	-1.676	-1.668	-2.123	-2.369	-3.486	-2.800	-2.856	-3.763	
	(-3.46)	(-2.24)	(-2.57)	(-2.21)	(-2.11)	(-1.97)	(-2.06)	(-1.39)	(-1.33)	(-1.59)	
FRET * CDADSVIF	0.816	1.246	2.351	2.914	3.041	2.808	2.024	1.141	0.900	0.606	
	(1.52)	(1.78)	(2.62)	(3.19)	(2.67)	(2.33)	(1.24)	(0.61)	(0.45)	(0.26)	
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Day-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Ν	6,635	6,631	6,623	6,613	6,608	6,605	6,602	6,598	6,596	6,595	
AdjRsq	5.59%	3.87%	3.75%	4.55%	5.12%	5.78%	6.79%	4.86%	5.09%	5.50%	

#### **Panel B – Institutional Trading**

	_		Cumu	lative Institut	tional Directi	onal Trading	from Daily V	Volume		
		<i>t</i> +2_ <i>t</i> +3	<i>t</i> +2_ <i>t</i> +4	<i>t</i> +2_ <i>t</i> +5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	t+2_t+8	<i>t</i> +2_ <i>t</i> +9	t+2_t+10	t+2_t+11
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
CAIA Pre-Filing	0.000	-0.004	-0.006	-0.006	-0.007 (-1.05)	-0.007	-0.006 (-0.71)	-0.002	-0.002	0.002
CDADSVI Pre-Filing	0.000	-0.005	0.004	0.006	0.011	0.017	0.022	0.023	0.027	0.032
CPN Pre-Filing	0.001 (0.42)	0.001 (0.41)	0.002 (0.36)	0.004 (0.81)	0.009 (1.51)	0.010 (1.50)	0.008	0.003 (0.42)	0.003 (0.28)	0.000
EVRET	0.049 (1.91)	0.157 (3.34)	0.218 (3.81)	0.261 (3.88)	0.293 (3.77)	0.358 (3.71)	0.386 (3.53)	0.363 (3.35)	0.458 (3.50)	0.478 (3.63)
FRET	0.081 (2.93)	0.122 (2.72)	0.127 (1.96)	0.191 (1.88)	0.159 (1.19)	0.169 (1.09)	0.213 (1.27)	0.252 (1.46)	0.306 (1.55)	0.318 (1.53)
FRET * CDADSVIF	-0.120 (-2.78)	-0.209 (-3.54)	-0.438 (-3.46)	-0.661 (-3.36)	-0.954 (-3.38)	-1.046 (-3.02)	-1.072 (-3.00)	-0.998 (-2.96)	-1.034 (-2.81)	-0.996 (-2.63)
Firm Controls	Yes									
Year FE Month FE Day-of-Week FE Item FE Industry FE	Yes Yes Yes Yes Yes									
N AdjRsq	12,768 1.35%	12,768 1.82%	12,768 2.17%	12,768 2.41%	12,768 2.50%	12,768 2.55%	12,768 2.36%	12,768 2.22%	12,768 2.37%	12,768 2.38%

# Part 2 – analysis of 8-K filings excluding items 2.02 and 7.01

### B.4 Table 7 - Excluding Items 2.02 and 7.01

The table repeats the analysis conducted in Table 7, where items 2.02 and 7.01 are excluded from the sample.

	Gap=2	Gap=3	Gap=4
	(1)	(2)	(3)
Intercept	0.619	0.369	0.803
	(4.11)	(3.18)	(6.00)
AIA Pre-Filing	-0.114	-0.140	-0.052
	(-4.94)	(-6.36)	(-2.33)
DADSVI Pre-Filing	-0.032	-0.026	-0.009
	(-0.81)	(-0.76)	(-0.26)
PN Pre-Filing	-0.070	-0.075	-0.044
	(-3.35)	(-2.98)	(-1.64)
Ret Pre-Filing	0.078	-0.115	0.088
	(0.82)	(-1.38)	(0.73)
Turnover Pre-Fling	-1.988	-2.428	-3.259
	(-6.21)	(-5.66)	(-3.18)
Firm Controls	Yes	Yes	Yes
<i>Year FE</i>	Yes	Yes	Yes
Month FE	Yes	Yes	Yes
Day-of-Week FE	Yes	Yes	Yes
Item FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Ν	7,013	6,387	6,605
AdjRSQ	2.65%	1.91%	1.26%

### B.5 Table 9 - Excluding Items 2.02 and 7.01

The table repeats the analysis conducted in Table 9, where items 2.02 and 7.01 are excluded from the sample.

		Cumulative DGTW Returns $t+2$ $t+10$ $t+2$ (2)         (3)         (4)         (5)         (6)         (7)         (8)         (9)         (1)           (1)         (2)         (3)         (4)         (5)         (6)         (7)         (8)         (9)         (1)           (1)         (0.002         0.001         0.000         0.000         -0.001         (0.001         0.005         0.003         0.001         0.005         0.003         0.001         0.005         0.003         0.001         0.005         0.003         0.001         0.005         0.003         0.001         0.005         0.003         0.001         0.005         0.003         0.001         0.005         0.003         0.001         0.005         0.003         0.001         0.003         0.010         0.009         0.010         0.001         <								
	t+2_t+2	t+2_t+3	t+2_t+4	<i>t</i> +2_ <i>t</i> +5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	t+2_t+8	t+2_t+9	t+2_t+10	t+2_t+11
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AIA_F	0.001	0.002	0.001	0.001	0.000	0.000	-0.001	0.000	0.001	0.000
	(0.53)	(1.02)	(0.59)	(0.49)	(-0.04)	(-0.01)	(-0.20)	(-0.01)	(0.27)	(-0.14)
DADSVI_F	-0.001	-0.002	-0.003	-0.001	0.001	0.005	0.003	0.001	0.005	0.005
	(-0.57)	(-0.63)	(-0.80)	(-0.37)	(0.37)	(0.99)	(0.55)	(0.24)	(0.93)	(0.91)
PN_F	0.003	0.004	0.003	0.004	0.006	0.010	0.010	0.009	0.010	0.010
	(2.04)	(1.75)	(1.35)	(1.49)	(2.40)	(2.95)	(3.02)	(2.74)	(2.70)	(2.65)
TURNOVER_F	0.032	0.102	0.160	0.164	0.325	0.307	0.391	0.371	0.357	0.407
	(0.68)	(1.48)	(2.05)	(2.28)	(3.52)	(2.90)	(3.58)	(3.57)	(3.29)	(3.18)
EVRET	0.006	-0.002	-0.001	0.001	-0.003	-0.001	0.009	0.007	-0.017	-0.017
	(0.55)	(-0.11)	(-0.09)	(0.08)	(-0.18)	(-0.03)	(0.38)	(0.30)	(-0.58)	(-0.55)
FRET	-0.018	-0.078	-0.050	0.005	0.033	0.033	0.049	0.029	0.052	0.018
	(-0.70)	(-1.54)	(-1.15)	(0.11)	(0.56)	(0.52)	(0.76)	(0.57)	(0.87)	(0.28)
FRET * AIAF	-0.017	0.057	0.030	0.023	-0.013	0.026	0.021	0.028	-0.045	0.006
	(-0.48)	(0.93)	(0.47)	(0.39)	(-0.19)	(0.32)	(0.25)	(0.37)	(-0.55)	(0.07)
FRET * DADSVIF	-0.056	-0.045	-0.081	-0.198	-0.268	-0.296	-0.349	-0.397	-0.370	-0.371
	(-1.29)	(-0.79)	(-1.16)	(-3.08)	(-3.33)	(-3.17)	(-3.53)	(-4.23)	(-4.10)	(-3.63)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Voar FF	Vec	Vec	Vec	Vec	Ves	Vec	Vec	Vec	Vec	Ves
Month EF	Vas	Vas	Vas	Ves	Vas	Vos	Vos	Ves	Ves	Vac
Druge West FF	I CS	I es	I CS	I es	I es	I es	I es	I CS	I es	Vee
Day-oj-week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	20,394	20,393	20,391	20,387	20,387	20,384	20,382	20,378	20,378	20,375
AdjRsq	2.19%	2.32%	1.83%	2.04%	2.87%	2.76%	3.06%	2.91%	2.82%	2.84%

#### B.6 Table 10 - Excluding Items 2.02 and 7.01

The table repeats the analysis conducted in Table 10, where items 2.02 and 7.01 are excluded from the sample.

#### **Panel A – Retail trading**

		Cumulative Retail Directional Trading from Daily Volume $2 t+2$ $t+2 t+3$ $t+2 t+4$ $t+2 t+5$ $t+2 t+6$ $t+2 t+7$ $t+2 t+8$ $t+2 t+9$ $t+2 t+10$ $t+2$ $(1)$ $(2)$ $(3)$ $(4)$ $(5)$ $(6)$ $(7)$ $(8)$ $(9)$ $(7)$ $(1)$ $(2)$ $(3)$ $(4)$ $(5)$ $(6)$ $(7)$ $(8)$ $(9)$ $(7)$ $(0.20)$ $0.072$ $0.092$ $0.078$ $0.088$ $0.084$ $0.059$ $0.074$ $0.127$ $0$ $(0.81)$ $(1.79)$ $(1.83)$ $(1.36)$ $(1.37)$ $(1.11)$ $(0.72)$ $(0.81)$ $(1.34)$ $(7)$ $(0.90)$ $-0.043$ $-0.047$ $-0.137$ $-0.221$ $-0.235$ $-0.286$ $-0.313$ $-0.392$ $-0$ $(1.67)$ $(-0.50)$ $(-0.45)$ $(-1.13)$ $(-1.54)$ $(-1.44)$ $(-1.63)$ $(-1.64)$ $(-1.93)$ $(-1.64)$ $(0.00)$ $(0.04)$ $(0.06)$ $(0.05)$ $(0.06)$ $(0.08)$ $(0.16)$ $(0.17)$ $(0.17)$ $(0.17)$ $(0.09)$ $(0.09)$ $(1.17)$ $(1.35)$ $(0.82)$ $(0.74)$ $(0.89)$ $(1.47)$ $(1.40)$ $(1.17)$ $(1.6)$ $(0.09)$ $(1.17)$ $(1.35)$ $(0.82)$ $(0.74)$ $(0.89)$ $(1.47)$ $(1.40)$ $(1.17)$ $(1.6)$ $(1.09)$ $(1.17)$ $(1.35)$ $(0.82)$ $(0.74)$ $(0.89)$ $(1.47)$ $(1.40)$ $(1.17)$ $(1.6)$ $(0.09)$ $(0.64)$ </th								
	<i>t</i> +2_ <i>t</i> +2	t+2_t+3	t+2_t+4	<i>t</i> +2_ <i>t</i> +5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	<i>t</i> +2_ <i>t</i> +8	<i>t</i> +2_ <i>t</i> +9	t+2_t+10	<i>t</i> +2_ <i>t</i> +11
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AIA_F	0.020	0.072	0.092	0.078	0.088	0.084	0.059	0.074	0.127	0.129
	(0.81)	(1.79)	(1.83)	(1.36)	(1.37)	(1.11)	(0.72)	(0.81)	(1.34)	(1.26)
DADSVI_F	-0.090	-0.043	-0.047	-0.137	-0.221	-0.235	-0.286	-0.313	-0.392	-0.401
	(-1.67)	(-0.50)	(-0.45)	(-1.13)	(-1.54)	(-1.44)	(-1.63)	(-1.64)	(-1.93)	(-1.84)
PN_F	(0.00)	(0.04)	(0.06)	(0.05)	(0.06)	(0.08)	(0.16)	(0.17)	(0.17)	(0.19)
	(0.09)	(1.17)	(1.35)	(0.82)	(0.74)	(0.89)	(1.47)	(1.40)	(1.17)	(1.22)
EVRET	0.191	0.368	1.123	0.907	1.059	1.502	1.573	1.579	1.317	1.304
	(0.45)	(0.68)	(1.87)	(1.46)	(1.46)	(1.25)	(1.06)	(0.99)	(0.76)	(0.75)
FRET	-1.752	-2.107	-2.754	-2.888	-3.707	-4.342	-5.808	-5.045	-4.537	-5.746
	(-2.65)	(-2.10)	(-3.24)	(-2.86)	(-2.79)	(-2.70)	(-2.57)	(-1.83)	(-1.51)	(-1.78)
FRET * DADSVIF	1.433	1.027	3.159	3.610	4.059	4.772	6.085	4.697	2.842	4.121
	(1.49)	(0.73)	(2.13)	(2.20)	(1.84)	(1.97)	(1.95)	(1.36)	(0.79)	(1.06)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Voge FF	Vac	Vac	Vac	Vac	Vac	Vac	Vac	Vac	Vac	Vas
Manth EE	I CS	I CS	I CS	Vee	V	Vee	Nee	I CS	V	Vee
Monin FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Day-oj-week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	6,107	6,103	6.095	6.086	6.081	6.078	6.075	6.071	6.069	6.068
AdiRsa	5.92%	4.31%	4.46%	5.10%	5.91%	7.05%	8.53%	6.34%	6.59%	7.06%
	2.7270			2.2070	21, 170		0.0070		0.0000	

#### **Panel B – Institutional trading**

		Cumulative Institutional Directional Trading from Daily Volume $2 t+2 t+3 t+2 t+3 t+2 t+4 t+2 t+5 t+2 t+6 t+2 t+7 t+2 t+8 t+2 t+9 t+2 t+10 t+2(1)(2)(3)(4)(5)(6)(7)(8)(9)(1)(1)(2)(3)(4)(5)(6)(7)(8)(9)(1)(1)(2)(3)(4)(5)(6)(7)(8)(9)(1)(1)(2)(3)(4)(5)(6)(7)(8)(9)(1)(1)(2)(3)(4)(5)(-0.014)-0.010-0.005-0.005-0.005(0)(-0.010)(-0.015)(-0.015)(-0.012)(-0.025)(-0.26)(C)(0)(-0.61)(0.25)(0.19)(0.35)(0.68)(0.98)(0.77)(0.95)(0)(1.01)(-0.61)(0.25)(0.19)(0.35)(0.68)(0.98)(0.77)(0.95)(0)(0.03)0.0020.0060.0070.0110.0150.0160.0100.0120.(0.03)0.0020.0060.0070.0110.0150.0160.0100.0120.(1.81)(3.16)(3.44)(3.47)(3.25)(3.39)(3.30)(3.41)(2.97)(3)(1.81)(3.16)(3.44)(3.42)(3.02)(2.94)(2.56)(2.47)(2.32)(2)(1.88)-0.278-0.684-1.057-1.591-1.741-1.561-1.530-1.457<$								
	<i>t</i> +2_ <i>t</i> +2	t+2_t+3	<i>t</i> +2_ <i>t</i> +4	<i>t</i> +2_ <i>t</i> +5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	t+2_t+8	<i>t</i> +2_ <i>t</i> +9	t+2_t+10	<i>t</i> +2_ <i>t</i> +11
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AIA_F	-0.002	-0.010	-0.010	-0.015	-0.015	-0.014	-0.010	-0.005	-0.005	-0.007
	(-0.53)	(-1.70)	(-1.38)	(-1.78)	(-1.42)	(-1.12)	(-0.72)	(-0.35)	(-0.26)	(-0.38)
DADSVI_F	0.005	-0.006	0.004	0.004	0.008	0.019	0.030	0.025	0.033	0.027
	(1.01)	(-0.61)	(0.25)	(0.19)	(0.35)	(0.68)	(0.98)	(0.77)	(0.95)	(0.74)
PN_F	0.003	0.002	0.006	0.007	0.011	0.015	0.016	0.010	0.012	0.011
	(0.96)	(0.35)	(0.93)	(0.88)	(1.11)	(1.41)	(1.30)	(0.74)	(0.81)	(0.65)
EVRET	0.053	0.171	0.217	0.265	0.279	0.330	0.319	0.391	0.421	0.445
	(1.81)	(3.16)	(3.44)	(3.47)	(3.25)	(3.39)	(3.30)	(3.41)	(2.97)	(3.01)
FRET	0.120	0.184	0.282	0.414	0.467	0.506	0.473	0.517	0.574	0.576
	(3.64)	(3.51)	(3.88)	(3.42)	(3.02)	(2.94)	(2.56)	(2.47)	(2.32)	(2.22)
FRET * DADSVIF	-0.188	-0.278	-0.684	-1.057	-1.591	-1.741	-1.561	-1.530	-1.457	-1.383
	(-1.98)	(-2.11)	(-2.03)	(-2.04)	(-2.12)	(-1.95)	(-1.71)	(-1.76)	(-1.56)	(-1.46)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Day-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	11,640	11,640	11,640	11,640	11,640	11,640	11,640	11,640	11,640	11,640
AdjRsq	1.44%	1.98%	2.06%	2.23%	2.19%	2.28%	1.99%	2.09%	2.16%	2.15%

#### Part 3 - Analysis of Multi-Item 8-K filings

#### **B.7 Summary Statistics of the Multi-Item 8-K Sample**

The table reports statistics for the sample of 8-K filings with multiple items, from February 2010-December 2018. There are 32,986 filings with multiple items. Panel A reports the summary statistics for all the firms in our sample with single- and multi-item filings. There are 147,454 filings in total, across 2,210 firms (114,468 single-item filings and 32,986 multi-item filings). Panel B reports the frecency of each item in the multi-item sample. Panel C reports the breakdown of the multi-item sample by item type and filing gap.

Panel A – Summary Statistics

Variables	Mean	Median	SD
Size	7,797	1,352	27,200
BM	0.675	0.534	0.523
SDRET	2.191	1.959	0.978
Turnover	0.009	0.008	0.008
Dvol	60.211	12.467	193.706
Inst Hold	0.626	0.685	0.228
NumEst	9.259	7.044	7.085
HLtoH	0.030	0.027	0.013
# 8-K Filings	147,454		
# Firms	2,210		

Panel B – Frequency of Multi-Items by Item Type

Туре	Num Filings	Item 1.01	Item 2.02	Item 5.02	Item 5.07	Item 7.01	Item 8.01
Item 1.01	10,986	100.0%	4.8%	10.7%	2.8%	19.0%	28.4%
Item 2.02	11,598	4.5%	100.0%	10.1%	2.8%	63.5%	29.7%
Item 5.02	8,844	13.3%	13.3%	100.0%	33.5%	22.3%	26.9%
Item 5.07	4,909	6.3%	6.6%	60.4%	100.0%	10.6%	25.6%
Item 7.01	12,775	16.3%	57.6%	15.4%	4.1%	100.0%	16.8%
Item 8.01	11,286	27.6%	30.5%	21.0%	11.1%	19.1%	100.0%

Panel C – Breakdown of multi-Items by Item Type and Filing Gap

Item 1.	01 - Entr	y into a ma	terial	Item 2	.02 - Res	ults of oper	rations	Item 5.	.02 - Dep	arture/elec	tion of
definit	ive agree	ment		and fir	nancial co	ondition		directo	ors or pri	ncipal offic	ers
0	2,714	24.70%	8.23%	0	8,090	69.75%	24.53%	0	2,087	23.60%	6.33%
1	2,784	25.34%	8.44%	1	1,980	17.07%	6.00%	1	1,822	20.60%	5.52%
2	1,609	14.65%	4.88%	2	645	5.56%	1.96%	2	1,631	18.44%	4.94%
3	1,786	16.26%	5.41%	3	495	4.27%	1.50%	3	1,597	18.06%	4.84%
4	2,093	19.05%	6.35%	4	388	3.35%	1.18%	4	1,707	19.30%	5.17%
	10,986	100.00%	33.31%		11,598	100.00%	35.16%		8,844	100.00%	26.81%
Item 5.	07 - Subi	nission of	matters	Item 7	.01 - Reg	ulation FD		Item 8	.01 - Oth	er events th	at are not
to a vo	te of secu	rity holder	s	disclo	sure			specif	ically ca	lled for by	Form 8-K
0	855	17.42%	2.59%	0	7,848	61.43%	23.79%	0	4,773	42.29%	14.47%
1	1,155	23.53%	3.50%	1	2,560	20.04%	7.76%	1	2,797	24.78%	8.48%
2	1,049	21.37%	3.18%	2	881	6.90%	2.67%	2	1,274	11.29%	3.86%
3	1,002	20.41%	3.04%	3	737	5.77%	2.23%	3	1,232	10.92%	3.73%
4	848	17.27%	2.57%	4	749	5.86%	2.27%	4	1,210	10.72%	3.67%
	4,909	100.00%	14.88%		12,775	100.00%	38.73%		11,286	100.00%	34.21%

### B.8 Table 7 - Multi-Item 8-K Sample

	Gap=2	Gap=3	Gap=4
	(1)	(2)	(3)
Intercept	0.800	0.580	0.648
	(5.21)	(3.49)	(4.19)
AIA Pre-Filing	-0.196	-0.148	-0.135
	(-6.14)	(-4.75)	(-5.17)
DADSVI Pre-Filing	-0.102	-0.051	-0.062
	(-1.68)	(-0.95)	(-1.31)
PN Pre-Filing	-0.069	-0.031	-0.098
-	(-2.64)	(-0.95)	(-2.81)
Ret Pre-Filing	-0.360	-0.139	-0.040
_	(-2.32)	(-0.72)	(-0.52)
Turnover Pre-Fling	-1.282	-3.678	-2.626
	(-3.45)	(-3.41)	(-5.29)
Firm Controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Month FE	Yes	Yes	Yes
Dav-of-Week FE	Yes	Yes	Yes
Item FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Ν	3.877	3.811	4.019
AdjRSQ	5.44%	5.08%	4.25%

The table repeats the analysis conducted in Table 7 for the sample of 8-K filings with multiple items.

#### B.9 Table 9 - Multi-Item 8-K Sample

The table repeats the analysis conducted in Table 9 for the sample of 8-K filings with multiple items. Panel A reports results for cumulative returns from day t+2 after the filing period (which is days t and t+1). Panel B, reports the cumulative returns from day t+3 after the filing period.

				(	Cumulative D	GTW Return	15			
	t+2_t+2	t+2_t+3	t+2_t+4	t+2_t+5	t+2_t+6	<i>t</i> +2_ <i>t</i> +7	t+2_t+8	t+2_t+9	t+2_t+10	t+2_t+11
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AIA_F	0.001	0.001	-0.001	-0.001	-0.001	0.001	0.000	0.002	0.000	0.001
	(0.42)	(0.39)	(-0.36)	(-0.48)	(-0.17)	(0.21)	(0.06)	(0.49)	(0.09)	(0.13)
DADSVI_F	-0.007	-0.009	-0.011	-0.005	-0.009	-0.006	-0.006	-0.008	-0.010	-0.012
	(-2.13)	(-2.25)	(-2.09)	(-0.78)	(-1.61)	(-1.02)	(-0.95)	(-1.22)	(-1.52)	(-1.65)
PN_F	0.004	0.008	0.008	0.005	0.010	0.010	0.006	0.006	0.011	0.011
	(2.09)	(2.54)	(1.67)	(1.01)	(1.86)	(1.64)	(0.76)	(0.97)	(1.80)	(1.46)
TURNOVER_F	-0.008	-0.049	-0.053	-0.101	-0.057	-0.033	0.010	0.002	0.008	0.054
	(-0.12)	(-0.57)	(-0.48)	(-0.72)	(-0.42)	(-0.27)	(0.08)	(0.01)	(0.07)	(0.40)
EVRET	0.004	-0.020	-0.054	-0.086	-0.066	-0.048	-0.031	-0.007	-0.010	-0.035
	(0.50)	(-1.11)	(-1.07)	(-1.13)	(-1.00)	(-1.06)	(-0.92)	(-0.24)	(-0.32)	(-0.79)
FRET	-0.012	-0.033	-0.054	0.014	0.023	-0.060	-0.170	-0.186	-0.110	-0.098
	(-0.41)	(-0.87)	(-1.00)	(0.18)	(0.38)	(-1.31)	(-1.21)	(-1.25)	(-1.18)	(-1.35)
FRET * AIAF	0.022	0.075	0.105	0.029	-0.001	0.052	0.140	0.118	0.046	0.012
	(0.42)	(1.37)	(1.75)	(0.42)	(-0.01)	(0.86)	(1.06)	(0.84)	(0.47)	(0.15)
FRET * DADSVIF	0.136	0.075	0.069	0.027	-0.007	-0.023	0.023	0.018	-0.001	0.008
	(1.34)	(0.78)	(0.78)	(0.41)	(-0.15)	(-0.36)	(0.25)	(0.16)	(-0.01)	(0.09)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dav-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	11.022	11.021	11.021	11.020	11.019	11.015	11.014	11.012	11.012	11.012
N	11,922	11,921	11,921	11,920	11,918	11,915	11,914	11,913	11,912	11,912
AdjKsq	6.35%	4.19%	4.89%	5.93%	3.75%	4.13%	6.02%	5.04%	3.37%	4.52%

Panel A – Cumulative returns from day t+2

#### Panel B – Cumulative returns from day t+3

				(	Cumulative D	GTW Return	ıs			
	<i>t</i> +3 <i>t</i> +3	t+3 t+4	t+3 t+5	<i>t</i> +3 <i>t</i> +6	<i>t</i> +3 <i>t</i> +7	t+3 t+8	t+3 t+9	t+3_t+10	t+3 t+11	t+3 t+12
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AIA_F	0.000	-0.002	-0.002	-0.001	0.001	0.001	0.003	0.001	0.001	0.003
	(-0.02)	(-1.13)	(-0.84)	(-0.31)	(0.24)	(0.14)	(0.56)	(0.23)	(0.25)	(0.67)
DADSVI_F	-0.002	-0.004	0.003	-0.002	0.001	0.002	0.000	-0.002	-0.004	-0.006
	(-0.83)	(-0.93)	(0.51)	(-0.37)	(0.22)	(0.23)	(-0.03)	(-0.28)	(-0.55)	(-0.88)
PN_F	0.004	0.004	0.002	0.006	0.007	0.003	0.003	0.008	0.007	0.010
	(1.98)	(1.04)	(0.34)	(1.31)	(1.18)	(0.37)	(0.52)	(1.31)	(1.02)	(1.50)
TURNOVER_F	-0.046	-0.051	-0.107	-0.073	-0.062	-0.022	-0.032	-0.023	0.026	-0.016
	(-0.92)	(-0.58)	(-0.88)	(-0.64)	(-0.59)	(-0.21)	(-0.25)	(-0.19)	(0.21)	(-0.14)
EVRET	-0.025	-0.059	-0.092	-0.071	-0.053	-0.036	-0.012	-0.015	-0.041	-0.049
	(-1.67)	(-1.20)	(-1.21)	(-1.09)	(-1.23)	(-1.18)	(-0.49)	(-0.54)	(-0.98)	(-1.08)
FRET	-0.021	-0.043	0.032	0.044	-0.031	-0.137	-0.151	-0.076	-0.065	0.001
	(-0.59)	(-0.76)	(0.41)	(0.67)	(-0.56)	(-0.98)	(-0.99)	(-0.77)	(-0.84)	(0.02)
FRET * AIAF	0.051	0.080	-0.010	-0.051	-0.019	0.065	0.033	-0.038	-0.070	-0.105
	(1.36)	(1.55)	(-0.14)	(-0.64)	(-0.17)	(0.39)	(0.18)	(-0.25)	(-0.53)	(-0.94)
FRET * DADSVIF	-0.075	-0.085	-0.155	-0.216	-0.279	-0.242	-0.265	-0.284	-0.267	-0.273
	(-2.08)	(-1.87)	(-1.79)	(-1.60)	(-1.22)	(-0.95)	(-0.90)	(-0.98)	(-1.02)	(-1.19)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Day-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2										
Ν	11.922	11.921	11.921	11.920	11.918	11.915	11.914	11.913	11.912	11.912
AdiRsa	3.48%	5.57%	8.99%	7.45%	9.63%	10.52%	10.33%	8.83%	9.88%	8.02%
	51.670	0.0,,0	0.7770		2100273	10102/0	10.0070	0.0070	210070	0.02/0

#### B.10 Table 10 - Multi-Item 8-K Sample

The table repeats the analysis conducted in Table 10 for the sample of 8-K filings with multiple items.

#### Panel A – Retail trading

			Cu	nulative Reta	ail Directiona	al Trading fro	m Daily Vol	ume		
	<i>t</i> +2 <i>t</i> +2	t+2 t+3	t+2 t+4	t+2 t+5	<i>t</i> +2 <i>t</i> +6	t+2 t+7	t+2 t+8	t+2 t+9	t+2 t+10	t+2 t+11
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AIA_F	0.103	0.003	0.029	0.096	0.128	0.124	0.140	0.143	0.032	0.019
DADSVI_F	(1.67) -0.111 (1.52)	(0.03) -0.178	(0.24) -0.119	(0.63) -0.082	(0.82) -0.078	(0.71) -0.039	(0.74) 0.023	(0.72) 0.056	(0.14) 0.063	(0.08) 0.039
PN_F	(0.02)	(-0.05)	(-0.98) (-0.09) (-0.58)	(-0.03) (-0.13)	(-0.13)	(-0.30) (-0.14) (-0.65)	(-0.16)	(-0.17) (-0.79)	(-0.08)	(-0.19)
EVRET	-0.794	-1.181	-0.692	-0.203	-0.675	-0.449	0.165	0.571	0.843	1.934
FRET	-3.107	-3.574	-3.330	-4.483	-4.840 (-3.48)	-5.009	-4.834	-5.011	-4.606 (-2.61)	-6.275
FRET * DADSVIF	2.268 (1.50)	2.070 (0.77)	2.477 (0.94)	3.257 (1.20)	4.048 (1.81)	4.196 (1.76)	3.700 (1.46)	4.253 (1.75)	2.456 (0.92)	4.566 (1.52)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE Day-of-Week FF	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N AdjRsq	1,075 19.48%	1,075 22.74%	1,075 21.75%	1,074 19.82%	1,074 17.57%	1,074 16.58%	1,074 14.54%	1,074 13.03%	1,073 13.71%	1,073 14.71%

#### Panel B – Institutional trading

		Cumulative Institutional Directional Trading from Daily Volume									
	t+2_t+2	t+2_t+3	t+2_t+4	t+2_t+5	t+2_t+6	t+2_t+7	t+2_t+8	t+2_t+9	t+2_t+10	t+2_t+11	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
AIA_F	0.009	0.015	0.021	0.020	0.017	0.016	0.018	0.018	0.016	0.019	
	(1.62)	(1.54)	(1.24)	(1.01)	(0.83)	(0.71)	(0.74)	(0.71)	(0.56)	(0.63)	
DADSVI_F	0.000	-0.008	-0.021	-0.017	-0.014	-0.016	-0.016	-0.023	-0.020	-0.010	
	(0.01)	(-0.51)	(-0.85)	(-0.60)	(-0.43)	(-0.46)	(-0.44)	(-0.60)	(-0.47)	(-0.24)	
PN_F	-0.006	-0.008	-0.005	-0.010	-0.009	-0.008	-0.011	-0.016	-0.019	-0.015	
	(-1.31)	(-0.99)	(-0.36)	(-0.69)	(-0.55)	(-0.42)	(-0.54)	(-0.71)	(-0.81)	(-0.58)	
EVRET	0.018	-0.011	0.027	0.072	0.088	0.086	0.093	0.119	0.115	0.134	
	(1.01)	(-0.33)	(0.57)	(1.35)	(1.45)	(1.28)	(1.30)	(1.51)	(1.27)	(1.38)	
FRET	-0.011	-0.005	-0.048	-0.041	-0.025	-0.011	-0.001	-0.005	0.014	0.034	
	(-0.35)	(-0.10)	(-0.60)	(-0.48)	(-0.28)	(-0.12)	(-0.01)	(-0.04)	(0.11)	(0.25)	
FRET * DADSVIF	0.030	0.125	0.130	0.114	0.126	0.114	0.050	0.039	0.054	-0.051	
	(0.37)	(0.89)	(0.67)	(0.52)	(0.51)	(0.43)	(0.21)	(0.15)	(0.19)	(-0.18)	
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Dav-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Ν	6,709	6,709	6,709	6,709	6,709	6,709	6,709	6,709	6,709	6,709	
AdjRsq	1.50%	1.49%	2.08%	2.08%	2.08%	1.81%	1.80%	1.54%	1.45%	1.44%	

# Part 4 – Results after excluding observations with missing DADSVIs

#### **B.11 Table 7 – Excluding missing DADSVI observations**

This table repeats the analysis conducted in Table 7 of the paper for the *DADSVI* sample. That is, instead of augmenting *DADSVI* with 0 based on Pontiff and Woodgate (2008) approach, we remove missing *DADSVI* observations.

						Item 5.02	Item 5.07		
				Item 1.01	Item 2.02	Departure/el	Submission		Item 8.01
				Entry into a	Results of	ection of	of matters to	Item 7.01	Other events
	Items	Items	Items	material	operations	directors or	a vote of	Regulation	that are not
	with	with	with	definitive	and financial	principal	security	FD	called for by
	Gap=2	Gap=3	Gap=4	agreement	condition	officers	holders	disclosure	Form 8-K
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	0.406	0.210	0.826	0.563	-0.172	0.349	0.590	2.145	0.787
	(1.81)	(0.95)	(3.14)	(1.11)	(-0.20)	(1.78)	(1.48)	(2.39)	(2.51)
AIA Pre-Filing	-0.137	-0.161	-0.035	0.009	-0.048	-0.084	-0.119	-0.311	-0.073
	(-3.24)	(-4.23)	(-0.97)	(0.11)	(-0.35)	(-2.49)	(-1.93)	(-2.82)	(-1.32)
DADSVI Pre-Filing	-0.046	-0.017	0.015	-0.011	-0.054	0.015	-0.092	-0.139	-0.094
	(-1.09)	(-0.47)	(0.48)	(-0.17)	(-0.38)	(0.50)	(-1.67)	(-0.74)	(-1.89)
PN Pre-Filing	-0.040	-0.034	0.044	0.046	-0.095	-0.017	0.089	-0.128	-0.113
	(-1.03)	(-0.71)	(0.88)	(0.67)	(-0.26)	(-0.57)	(1.37)	(-0.83)	(-2.36)
Ret Pre-Filing	0.151	-0.176	0.155	0.838	0.208	-0.003	0.147	0.747	0.066
	(1.24)	(-1.19)	(0.70)	(2.54)	(0.32)	(-0.01)	(0.42)	(0.86)	(0.96)
Turnover Pre-Fling	-1.789	-2.335	-5.192	-6.039	-7.312	-5.796	-5.260	3.562	-1.158
	(-4.21)	(-3.92)	(-3.17)	(-3.86)	(-2.82)	(-3.57)	(-2.65)	(0.79)	(-4.75)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Day-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	2,239	1,996	1,969	595	226	3,061	941	211	1,170
AdjRSQ	2.48%	2.28%	3.58%	7.52%	-7.81%	1.49%	-0.13%	-9.83%	4.22%

#### **B.12** Table 9 – Excluding missing DADSVI observations

This table repeats the analysis conducted Table 9 of the current version paper for the *DADSVI* sample. That is, instead of augmenting *DADSVI* with 0 based on Pontiff and Woodgate (2008) approach, we remove missing *DADSVI* observations.

	Cumulative DGTW Returns - DADSVI Sample									
	t+2_t+2	<i>t</i> +2_ <i>t</i> +3	<i>t</i> +2_ <i>t</i> +4	<i>t</i> +2_ <i>t</i> +5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	<i>t</i> +2_ <i>t</i> +8	<i>t</i> +2_ <i>t</i> +9	t+2_t+10	t+2_t+11
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AIA_F	0.001	0.004	0.001	0.002	0.001	0.001	0.000	0.001	-0.002	-0.005
	(0.30)	(1.30)	(0.43)	(0.62)	(0.37)	(0.26)	(-0.00)	(0.23)	(-0.49)	(-0.86)
DADSVI_F	-0.001	0.002	0.001	0.003	0.005	0.009	0.005	0.003	0.007	0.008
	(-0.42)	(0.68)	(0.57)	(1.03)	(1.66)	(2.29)	(1.33)	(0.91)	(1.79)	(1.75)
PN_F	0.004	0.010	0.008	0.008	0.011	0.012	0.012	0.013	0.015	0.015
	(1.89)	(2.09)	(1.93)	(1.78)	(2.16)	(2.13)	(2.12)	(2.38)	(2.53)	(2.32)
TURNOVER_F	-0.123	-0.139	-0.053	-0.005	0.066	0.022	0.205	0.102	0.208	0.249
	(-1.85)	(-1.66)	(-0.57)	(-0.04)	(0.64)	(0.14)	(1.24)	(0.70)	(1.39)	(1.24)
EVRET	0.005	0.019	0.012	0.028	0.002	-0.040	-0.017	-0.011	-0.031	-0.047
	(0.34)	(0.98)	(0.68)	(1.55)	(0.09)	(-1.50)	(-0.63)	(-0.40)	(-0.93)	(-1.33)
FRET	-0.060	-0.132	-0.059	-0.006	-0.015	0.003	-0.018	-0.020	-0.002	0.024
	(-1.27)	(-1.11)	(-0.65)	(-0.07)	(-0.17)	(0.04)	(-0.25)	(-0.23)	(-0.02)	(0.26)
FRET * AIAF	0.064	0.148	0.143	0.187	0.099	0.128	0.098	0.067	0.012	0.009
	(1.36)	(1.45)	(1.66)	(2.08)	(1.04)	(1.31)	(0.99)	(0.60)	(0.10)	(0.08)
FRET * DADSVIF	-0.005	-0.024	-0.138	-0.313	-0.218	-0.249	-0.229	-0.261	-0.241	-0.251
	(-0.10)	(-0.30)	(-1.89)	(-3.73)	(-2.69)	(-3.14)	(-2.55)	(-2.67)	(-2.35)	(-2.43)
Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dav-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ν	6,506	6,506	6,506	6,505	6,505	6,504	6,503	6,502	6,502	6,501
AdjRsq	7.10%	6.33%	5.19%	7.90%	6.47%	7.54%	5.98%	4.66%	5.03%	5.35%

# Part 5 – Reporting the Full Set of Control Variables

### **B.13 Table 7 - Full Set of Controls Reported**

The table reports Table 7's results, including the full set of control variables used in the regression.

						Item 5.02	Item 5.07		
				Item 1.01	Item 2.02	Departure/el	Submission		Item 8.01
				Entry into a	Results of	ection of	of matters to	Item 7.01	Other events
	Items	Items	Items	material	operations	directors or	a vote of	Regulation	that are not
	with	with	with	definitive	and financial	principal	security	FD	called for by
	Gap=2	Gap=3	Gap=4	agreement	condition	officers	holders	disclosure	Form 8-K
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	0.588	0.459	0.796	0.579	0.904	0.505	0.495	0.063	0.842
*	(4.13)	(4.06)	(6.10)	(2.76)	(2.78)	(5.30)	(2.64)	(0.13)	(4.53)
AIA Pre-Filing	-0.119	-0.131	-0.054	-0.034	-0.053	-0.096	-0.003	-0.209	-0.090
-	(-5.49)	(-6.17)	(-2.61)	(-0.85)	(-1.23)	(-4.86)	(-0.08)	(-3.35)	(-3.10)
DADSVI Pre-Filing	-0.053	-0.008	-0.016	-0.026	-0.046	0.004	-0.056	-0.140	-0.095
e	(-1.39)	(-0.23)	(-0.48)	(-0.43)	(-0.49)	(0.15)	(-1.05)	(-1.27)	(-2.09)
PN Pre-Filing	-0.076	-0.084	-0.041	-0.090	-0.368	-0.056	-0.098	-0.111	-0.093
0	(-3.77)	(-3.40)	(-1.59)	(-2.32)	(-3.47)	(-3.30)	(-2.93)	(-1.53)	(-2.65)
Ret Pre-Filing	0.081	-0.115	0.061	0.066	0.047	0.116	0.216	-0.134	-0.011
0	(0.84)	(-1.39)	(0.56)	(0.32)	(0.30)	(1.22)	(1.38)	(-0.52)	(-0.19)
Turnover Pre-Fling	-2.122	-2.545	-3.308	-4.981	-4.295	-4.574	-8.033	-3.552	-1.440
C	(-5.73)	(-5.88)	(-3.29)	(-5.27)	(-3.80)	(-6.10)	(-4.70)	(-2.65)	(-8.14)
LnSize	0.005	-0.002	-0.033	-0.036	-0.027	-0.007	-0.010	-0.018	-0.029
	(0.39)	(-0.16)	(-2.54)	(-1.29)	(-0.61)	(-0.71)	(-0.60)	(-0.38)	(-1.88)
LnBM	0.007	-0.004	-0.024	-0.006	0.018	-0.007	-0.003	-0.031	-0.008
	(0.73)	(-0.42)	(-2.21)	(-0.32)	(0.79)	(-0.81)	(-0.21)	(-0.97)	(-0.58)
SDRET	-0.004	-0.011	-0.001	-0.004	-0.018	-0.002	-0.008	-0.010	-0.017
	(-0.57)	(-1.69)	(-0.27)	(-0.45)	(-0.78)	(-0.40)	(-1.03)	(-0.34)	(-1.74)
CumRET	0.000	0.001	0.000	0.000	0.002	0.000	0.000	0.002	0.000
	(0.41)	(0.98)	(0.05)	(-0.37)	(1.07)	(0.30)	(-0.37)	(1.22)	(0.02)
LnNumEst	0.040	0.018	0.007	-0.006	0.090	0.019	0.022	-0.028	0.049
	(2.03)	(0.90)	(0.43)	(-0.17)	(1.82)	(1.24)	(0.81)	(-0.41)	(2.08)
InstHold	-0.021	-0.064	0.044	0.024	-0.043	-0.041	-0.007	-0.135	-0.035
	(-0.52)	(-1.43)	(1.06)	(0.30)	(-0.46)	(-1.16)	(-0.11)	(-1.09)	(-0.64)
AveTO	2.283	2.656	1.554	1.872	1.633	2.807	6.916	4.716	2.062
	(2.14)	(3.18)	(1.44)	(1.05)	(0.43)	(2.72)	(3.73)	(1.23)	(2.47)
AveVR	0.078	-0.303	-0.239	-0.216	-0.173	-0.190	-0.031	-0.704	-0.004
	(0.82)	(-3.31)	(-2.20)	(-1.12)	(-0.83)	(-2.13)	(-0.23)	(-2.11)	(-0.03)
AveES	0.922	2.146	4.007	5.742	-0.046	-1.014	2.373	12.636	0.662
	(0.46)	(1.16)	(0.97)	(2.51)	(-0.01)	(-0.33)	(1.54)	(0.55)	(0.19)
LnAvePRC	0.003	-0.012	0.009	0.020	-0.030	0.001	-0.007	0.029	0.026
	(0.29)	(-0.96)	(0.69)	(0.80)	(-0.96)	(0.13)	(-0.37)	(0.57)	(1.66)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dav-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7.995	6.912	6.907	2.326	1.071	10.438	3.749	738	3.492
AdiRSO	3 19%	2.56%	1.61%	4 06%	1.57%	1.36%	1.21%	3 65%	4 36%
	5.1770	2.5070	1.01/0	1.0070	1.0770	1.5070	1.21/0	5.0570	1.5075

#### **B.14 Table 9 - Full Set of Controls Reported**

	Cumulative DGTW Returns									
	t+2t+2	<i>t</i> +2_ <i>t</i> +3	<i>t</i> +2_ <i>t</i> +4	<i>t</i> +2_ <i>t</i> +5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	<i>t</i> +2_ <i>t</i> +8	<i>t</i> +2_ <i>t</i> +9	t+2_t+10	t+2_t+11
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
ALA F	0.000	0.001	0.000	0.000	0.000	0.000	-0.001	-0.001	0.000	-0.001
_	(0.20)	(0.70)	(0.12)	(0.17)	(-0.20)	(-0.13)	(-0.37)	(-0.20)	(0.07)	(-0.29)
DADSVI F	-0.002	-0.001	-0.002	0.000	0.001	0.005	0.002	0.000	0.006	0.005
_	(-0.89)	(-0.42)	(-0.49)	(0.00)	(0.39)	(1.13)	(0.46)	(0.01)	(1.25)	(1.08)
PN_F	0.003	0.004	0.004	0.004	0.006	0.010	0.010	0.009	0.010	0.010
	(2.39)	(1.94)	(1.59)	(1.77)	(2.54)	(3.10)	(3.11)	(2.90)	(3.02)	(3.01)
TURNOVER_F	0.023	0.107	0.172	0.191	0.305	0.287	0.365	0.334	0.348	0.392
	(0.48)	(1.67)	(2.38)	(2.82)	(3.64)	(2.90)	(3.56)	(3.39)	(3.53)	(3.43)
EVRET	0.003	0.000	0.004	0.005	-0.002	0.001	0.007	0.004	-0.014	-0.013
	(0.35)	(0.02)	(0.30)	(0.35)	(-0.15)	(0.03)	(0.33)	(0.22)	(-0.61)	(-0.49)
FRET	-0.024	-0.075	-0.054	-0.018	0.014	0.014	0.030	0.010	0.033	0.007
	(-1.09)	(-1.69)	(-1.34)	(-0.44)	(0.26)	(0.24)	(0.52)	(0.22)	(0.62)	(0.12)
FREI * AIAF	-0.013	0.050	0.037	0.055	0.005	0.038	0.028	0.03/	-0.030	0.011
EDET * DADSVIE	(-0.40)	(0.94)	0.003	(1.03)	0.217	0.246	0.262	0.284	(-0.40)	(0.14)
TREI DADSVII	(-0.05)	(-0.63)	(-1.59)	(-3, 19)	(-3.22)	(-3.51)	(-3.33)	(-3.38)	(-3.18)	(-2.74)
	( 0.05)	( 0.05)	( 1.55)	( 5.15)	( 3.22)	( 5.51)	( 5.55)	( 5.50)	( 5.10)	(2.7.1)
LnSize	0.001	0.001	0.002	0.002	0.001	0.001	0.002	0.001	0.001	0.003
	(1.27)	(1.45)	(1.98)	(2.14)	(1.22)	(1.05)	(1.43)	(1.20)	(1.04)	(1.91)
LnBM	0.000	0.000	-0.001	0.000	0.000	0.000	0.000	0.000	0.000	-0.001
SDRET	(-0.87)	(-0.60)	(-0.54)	(-0.10)	(0.34)	(0.14)	(0.01)	(-0.28)	(0.04)	(-0.48)
SDREI	0.000	(0.35)	0.000	(0.72)	(0.71)	(1.10)	(1.67)	(1.02)	(1.62)	(1.70)
CumPET	0.000	0.000	0.48)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cumiter	(1.64)	(0.62)	(1.57)	(2.20)	(1.73)	(1.52)	(1.57)	(1.90)	(1.90)	(2.07)
InNumFst	-0.002	-0.002	-0.003	-0.003	-0.004	-0.003	-0.004	-0.003	-0.004	-0.005
Lintanilist	(-2.36)	(-1.74)	(-2.25)	(-1.99)	(-1.81)	(-1,48)	(-1.80)	(-1.30)	(-1.64)	(-2.09)
InstHold	0.002	-0.001	-0.003	-0.001	0.000	0.003	0.003	0.003	0.002	0.003
	(0.74)	(-0.34)	(-0.89)	(-0.33)	(-0.08)	(0.56)	(0.55)	(0.65)	(0.38)	(0.49)
AveTO	-0.073	-0.115	-0.094	-0.072	-0.090	-0.205	-0.335	-0.361	-0.293	-0.427
	(-1.36)	(-1.24)	(-0.82)	(-0.55)	(-0.59)	(-1.30)	(-2.22)	(-2.58)	(-1.75)	(-2.33)
AveVR	0.002	0.005	0.010	0.015	0.012	0.012	0.012	0.017	0.015	0.018
	(0.39)	(0.87)	(1.30)	(1.89)	(1.32)	(1.21)	(1.18)	(1.72)	(1.42)	(1.42)
AveES	-0.360	-0.307	-0.498	-0.509	-0.662	-0.699	-0.528	-0.440	-0.381	-0.355
	(-2.13)	(-2.53)	(-2.32)	(-2.30)	(-2.31)	(-2.48)	(-1.96)	(-1.70)	(-1.35)	(-1.17)
LnAvePRC	-0.002	-0.002	-0.002	-0.001	-0.001	-0.001	0.000	-0.001	-0.002	-0.002
	(-2.47)	(-2.11)	(-1.70)	(-0.87)	(-0.67)	(-0.50)	(-0.31)	(-0.61)	(-1.00)	(-1.52)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Day-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	22 222	22 222	22 230	22 225	22 225	<u></u>	22 220	22.216	22 215	22 212
IN AdiPag	1 06%	2 1 0 9/	1 079/	22,223	266%	2 50%	22,220	22,210	22,213	22,212
лијлза	1.90%	2.10%	1.9/%	2.33%	2.00%	2.39%	2.0/%	2.43%	2.4/%	2.34%

The table reports Table 9's results, including the full set of control variables used in the regression.
## B.15 Table 10 - Full Set of Controls Reported

The table reports Table 10's results, including the full set of control variables used in the regression.

## Panel A – Retail trading

	Cumulative Retail Directional Trading from Daily Volume									
	<i>t</i> +2_ <i>t</i> +2	<i>t</i> +2_ <i>t</i> +3	<i>t</i> +2_ <i>t</i> +4	<i>t</i> +2_ <i>t</i> +5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	<i>t</i> +2_ <i>t</i> +8	<i>t</i> +2_ <i>t</i> +9	t+2_t+10	t+2_t+11
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AIA_F	0.035	0.066	0.086	0.071	0.063	0.043	-0.005	0.002	0.051	0.052
DADSVI_F	-0.072	-0.069	-0.081	-0.153	-0.222	-0.209	-0.255	-0.274	-0.362	-0.377
PN_F	(-1.38) (-0.00)	(-0.87) (0.02)	(-0.79) (0.04)	(-1.32) (0.03)	(-1.59) (0.01)	(-1.35) (0.03)	(-1.55) (0.11)	(-1.55) (0.11)	(-1.92) (0.08)	(-1.87) (0.09)
EVRET	(-0.01) 0.250	(0.65) 0.413	(0.83) 1.147	(0.48) 0.865	(0.13) 0.944	(0.34) 1.224	(1.04) 1.243	(0.90) 1.112	(0.55) 1.067	(0.64) 0.935
FRET	(0.70) -1.788	(0.92) -1.928	(2.25) -2.386	(1.67) -2.432	(1.53) -2.916	(1.23) -3.090	(1.01) -4.306	(0.85) -3.348	(0.76) -3.246	(0.66) -4.304
FRET * DADSVIF	(-3.28) 0.905	(-2.24) 1.546	(-3.23) 4.226	(-2.69) 4.341	(-2.40) 4.645	(-2.12) 4.187	(-2.18) 5.487	(-1.42) 3.898	(-1.28) 2.898	(-1.56) 4.092
LnSize	(1.00) 0.028	(1.39) 0.024	(2.78) 0.003	(2.86) -0.020	(2.40) -0.030	(2.12) -0.047	(2.21) -0.039	(1.42) -0.008	(0.99) -0.004	(1.26) -0.019
LnBM	(1.53) 0.017	(0.91) 0.028	(0.10) 0.035	(-0.58) 0.050	(-0.75) 0.061	(-0.92) 0.073	(-0.74) 0.091	(-0.15) 0.097	(-0.06) 0.104	(-0.33) 0.104
SDRET	(1.25) -0.202	(1.60) -0,448	(1.82) -2.259	(2.29) -2.756	(2.46) -4.285	(2.61) -4.955	(2.99) -6.400	(2.77) -5.920	(2.77) -1.832	(2.78) -2.779
CumRET	(-0.19) -0.290	(-0.38) -0.635	(-1.46) -0.607	(-1.61) -0.847	(-1.98) -1.006	(-1.65) -1.246	(-1.76) -1.513	(-1.61) -1.740	(-0.47) -1.722	(-0.62) -1.766
InNumEst	(-1.30)	(-2.06)	(-1.61) -10 346	(-1.80) 13.828	(-2.02)	(-2.22)	(-2.30) 36.885	(-2.51) 26.273	(-2.28)	(-2.22)
InstHold	(-0.53)	(0.15)	(-0.28)	(0.30)	(0.33)	(0.65)	(0.43)	(0.27)	(0.17)	(0.61)
AusTO	(0.66)	(0.50)	(-0.41)	(-0.91)	(-0.97)	(-0.51)	(-0.58)	(-0.10)	(0.16)	(0.43)
Avero	-0.041 (-2.71)	-0.039 (-2.02)	(-1.64)	-0.040	-0.066	(-2.03)	-0.116 (-2.28)	-0.142 (-2.44)	-0.143	-0.171 (-2.59)
Avevk	(-0.27)	-0.001 (-0.34)	(-1.31)	-0.004 (-1.90)	-0.004 (-1.64)	-0.005	(-2.40)	-0.010	-0.010	-0.010 (-2.08)
AveES	0.064 (2.09)	-0.001 (-0.01)	0.015 (0.27)	0.018 (0.27)	0.060 (0.77)	0.043 (0.50)	0.055 (0.56)	0.068 (0.63)	0.021 (0.17)	0.128 (0.99)
LnAvePRC	0.036 (0.58)	0.033 (0.36)	0.065 (0.72)	0.044 (0.41)	0.076 (0.57)	0.139 (0.78)	0.251 (1.10)	0.254 (0.98)	0.264 (0.95)	0.305 (1.06)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	6,635	6,631	6,623	6,613	6,608	6,605	6,602	6,598	6,596	6,595
AdjRsq	5.50%	3.78%	3.69%	4.33%	4.93%	5.63%	6.93%	4.98%	5.20%	5.69%

Panel B –	Institutional	trading
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	Cumulative Institutional Directional Trading from Daily Volume									
	<i>t</i> +2_ <i>t</i> +2	t+2_t+3	t+2_t+4	t+2_t+5	<i>t</i> +2_ <i>t</i> +6	<i>t</i> +2_ <i>t</i> +7	t+2_t+8	t+2_t+9	t+2_t+10	t+2_t+11
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AIA F	-0.001	-0.006	-0.006	-0.007	-0.007	-0.005	-0.002	0.001	0.000	0.002
_	(-0.20)	(-1.12)	(-0.86)	(-0.81)	(-0.64)	(-0.38)	(-0.12)	(0.05)	(-0.01)	(0.13)
DADSVI F	0.003	-0.004	0.003	0.004	0.006	0.012	0.020	0.013	0.021	0.023
_	(0.69)	(-0.47)	(0.22)	(0.20)	(0.25)	(0.44)	(0.70)	(0.42)	(0.61)	(0.66)
PN F	0.002	0.003	0.005	0.005	0.012	0.014	0.017	0.011	0.016	0.012
_	(0.86)	(0.51)	(0.78)	(0.69)	(1.22)	(1.29)	(1.38)	(0.81)	(1.06)	(0.75)
EVRET	0.048	0.156	0.213	0.256	0.285	0.349	0.376	0.352	0.447	0.465
	(1.92)	(3.36)	(3.77)	(3.82)	(3.73)	(3.43)	(3.44)	(3.36)	(3.51)	(3.44)
FRET	0.113	0.174	0.242	0.362	0.412	0.446	0.492	0.513	0.574	0.576
	(3.81)	(3.44)	(3.57)	(3.38)	(3.03)	(2.94)	(2.91)	(2.81)	(2.67)	(2.52)
FRET * DADSVIF	-0.172	-0.221	-0.577	-0.891	-1.416	-1.545	-1.447	-1.370	-1.326	-1.278
	(-1.95)	(-1.81)	(-1.84)	(-1.83)	(-2.03)	(-1.85)	(-1.67)	(-1.69)	(-1.52)	(-1.46)
LnSize	-0.001	-0.001	-0.002	-0.002	-0.002	-0.007	-0.012	-0.012	-0.017	-0.016
	(-0.53)	(-0.47)	(-0.65)	(-0.50)	(-0.41)	(-1.08)	(-1.71)	(-1.69)	(-2.13)	(-1.82)
LnBM	-0.001	-0.004	-0.004	-0.004	-0.004	-0.004	-0.008	-0.008	-0.008	-0.011
	(-0.86)	(-1.75)	(-1.13)	(-1.01)	(-0.70)	(-0.67)	(-1.23)	(-1.09)	(-1.05)	(-1.37)
SDRET	0.000	0.000	0.001	0.000	0.001	0.002	0.001	0.004	0.005	0.008
	(0.01)	(-0.04)	(0.36)	(0.06)	(0.25)	(0.47)	(0.18)	(1.21)	(1.39)	(1.75)
CumRET	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001
	(0.36)	(1.81)	(1.65)	(1.18)	(0.78)	(1.05)	(1.25)	(1.05)	(1.38)	(1.51)
LnNumEst	-0.001	-0.001	-0.001	-0.004	-0.005	-0.001	0.004	0.010	0.006	0.010
	(-0.40)	(-0.12)	(-0.20)	(-0.60)	(-0.56)	(-0.11)	(0.31)	(0.83)	(0.43)	(0.70)
InstHold	-0.005	-0.008	-0.017	-0.025	-0.031	-0.044	-0.044	-0.052	-0.058	-0.060
	(-0.94)	(-0.87)	(-1.37)	(-1.74)	(-1.81)	(-2.15)	(-1.88)	(-1.94)	(-1.96)	(-1.75)
AveTO	-0.039	0.040	-0.066	0.036	0.069	-0.177	-0.416	-0.659	-0.841	-0.913
	(-0.33)	(0.17)	(-0.22)	(0.10)	(0.16)	(-0.35)	(-0.72)	(-1.11)	(-1.30)	(-1.35)
AveVR	0.017	0.038	0.071	0.081	0.073	0.043	0.029	0.080	0.044	0.111
	(1.10)	(1.53)	(2.17)	(1.90)	(1.47)	(0.74)	(0.43)	(1.16)	(0.51)	(1.33)
AveES	-0.111	-0.646	-2.337	-3.476	-2.306	-0.531	-0.350	-1.684	-0.420	-1.767
	(-0.13)	(-0.44)	(-1.14)	(-1.39)	(-0.77)	(-0.16)	(-0.09)	(-0.44)	(-0.09)	(-0.39)
LnAvePRC	0.003	0.005	0.007	0.007	0.011	0.018	0.021	0.022	0.031	0.030
	(1.52)	(1.60)	(1.81)	(1.47)	(1.79)	(2.54)	(2.74)	(2.58)	(3.19)	(2.82)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dav-of-Week FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Item FF	Ves	Ves	Ves	Ves	Ves	Ves	Ves	Ves	Ves	Ves
Industry FE	Ves	Ves	Ves	Ves	Ves	Ves	Ves	Ves	Ves	Ves
maasa y r E	10.700	10.700	10.700	10.700	10.765	10.700	10.700	10.700	10.700	10.700
N	12,768	12,768	12,768	12,768	12,768	12,768	12,768	12,768	12,768	12,768
AdjRsq	1.29%	1.72%	1.96%	2.12%	2.11%	2.17%	2.02%	1.97%	2.13%	2.16%