December Doldrums, Investor Distraction, and Stock Market Reaction to Unscheduled News Events

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Abstract

We document that the stock market's reaction to unscheduled firm-specific news such as credit rating downgrades and 8-K filings is significantly weaker during December as compared to other months. In contrast, after addressing selection issues, the market's reaction to scheduled earnings announcements is not significantly different in December. We find a similar pattern for trading volume. However, larger firms, firms with higher analyst following, or higher institutional ownership, are less susceptible to this *December distraction* effect. Our results highlight how investor distraction during the December holiday season can lead to a muted market reaction to unscheduled, but salient, firm-specific news.

JEL Classification: G02, G12, G14, G24
Keywords: Investor inattention; unscheduled events; credit ratings; 8-K filings

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I. Introduction

In the United States, the winter holiday season is nearly three times as long as Thanksgiving, the next longest holiday. Typically more than 100 million people take long distance trips of 50 miles or more.[1] However, major stock exchanges in the U.S. are closed only on Christmas Day, making December comparable to other months with officially recognized holidays, such as May (Memorial Day), July (Independence Day), and September (Labor Day). If holidays and personal travel distract investors and potentially lower the quality of their decision making, their response to salient firm-specific information could be muted, and may be more so for unscheduled announcements. In this paper, we study whether there is investor inattention in December to salient firm-specific news.

It is possible that investors, especially institutional investors, consider scheduled firm-specific news releases when making travel plans. But, by definition, they cannot take unscheduled firm-specific news into consideration. Consistent with this, we show that both institutional attention and retail attention towards unscheduled news is lower in December as compared to other months.[2] We do not find similar inattention towards scheduled news in December. Thus, December is an attractive setting to analyze investor attention to salient firm-specific news.

We focus on three important firm-specific news releases: credit rating changes, 8-K filings and earnings announcements. The dates of credit rating downgrades by a third party credit rating agency are not publicly known in advance, but they generate significant market responses (Jorion, Liu, and Shi, 2005; Chava, Ganduri, and Ornthanalai, 2015). Following material events such as bankruptcy, executive turnover, and acquisition/disposition of assets, public firms are required to file an 8-K within four business days, and these generate a significant stock price response (Zhao, 2016). Moreover, credit rating changes and 8-K filings are equally distributed across all months of the year. Earnings announcements are pre-scheduled, but they are not uniformly distributed across different months of the year.

We find that stock markets react significantly negatively to credit rating downgrades but insignificantly to upgrade announcements, in line with the literature (Holthausen and Leftwich, 1986; Chava, Ganduri, and Ornthanalai, 2015). Consistent with the hypothesis of limited investor attention during the December holiday season, we find that downgrades announced in December are met with an immediate stock price reaction that is 44% weaker relative to downgrades announced in other months. Congruently, we find that while 8-K filings (which encompass different types of corporate events) generate a significant *absolute* immediate price response, this response is 11% weaker for December filings relative to filings in other months. We also create a sentiment measure for all 8-K filings, and note that the immediate price response to December filings is 27% weaker relative to comparable non-December filings.

A potential first order concern with our analysis is selection bias in December announce-

[1] Source: The Bureau of Transportation Statistics (BTS), http://www.transtats.bts.gov/holidaydelay.asp.

[2] We use three proxies for investor attention: Searches on the SEC's website for firms' filings as recorded in the SEC EDGAR Log File database, abnormal institutional attention data from Bloomberg, and retail attention data from Google Trends.

ments. In order to address this concern, we follow Michaely, Rubin, and Vedrashko (2016) and split our sample into two groups: firms experiencing at least one unscheduled event in December and firms that never experience any such events in December. Our results show that the *December announcement* effect is distinct from the effect of simply being a *December announcer*, mitigating selection bias concerns. Further, credit rating changes are announced by third party credit rating agencies and 8-Ks are required to be filed within four business days of a material event. Thus, it is not possible for a firm to strategically time the release of these announcements, especially credit rating announcements, making them "unscheduled" from the perspective of both the firm and investors. On the other hand, firms have significantly greater discretion in controlling the information flow of earnings news (Michaely, Rubin, and Vedrashko (2016) and Cohen, Lou, and Malloy (2017)), which can result in selection bias.

We also conduct a matched-sample analysis to match firms experiencing unscheduled events in December to those experiencing such events in other months. This matching takes place along several salient characteristics, and mitigates concerns that there are differences in observable dimensions between firms experiencing unscheduled events in December and those experiencing such events in other months. We find a similar muted price reaction in December in this matched-sample of unscheduled rating downgrades and 8-K filings.

Our results are also robust to the use of alternative econometric specifications, and to alternative definitions of CARs. Our baseline regressions include Fama-French 48 (FF48) industry- and year-fixed effects, with standard errors clustered at the firm level. Our results are robust to Fama-French 12 (FF12) industry-fixed effects, as well as industry $\times$ year-, firm-, quarter-, and year $\times$ quarter-fixed effects. In addition, our results are also robust to clustering standard errors at the event date or event month level, as well as double clustering along the firm and event date or the firm and event month dimensions. Finally, our results are unaffected if we define CARs using the market model, or as the difference between the buy-and-hold return of the announcing firm and that of a size, book-to-market, and momentum matching portfolio as described in Daniel, Grinblatt, Titman, and Wermers (1997).

We also analyze the post-announcement drift in response to unscheduled news releases in December. However, the presence of the anomalous January effect (Rozeff and Kinney, 1976) contaminates the negative drift in response to rating downgrades. We find that relative to the sample of October, November, and January downgrades, December downgrades generate a negative post-announcement drift that is approximately one-and-a-half times stronger. We find similar results for December 8-K filing returns as compared to filings occurring in October, November, and January. These results suggest that there is some longer horizon correction for the immediate muted price reaction to unscheduled news released in December.

We study the stock market reaction to the earnings announcements for all firms in the Compustat-CRSP intersection between January 1996 and December 2015 as a placebo test. As these earnings announcements are pre-scheduled, we do not expect as much investor inattention to earnings news as compared to unscheduled news. Few firms release earnings in months

corresponding to calendar quarter ends and thus companies announcing earnings in March, June, September, and December may differ from companies announcing in the other eight months of the year. After addressing selection bias concerns using the methodology of both Michaely, Rubin, and Vedrashko (2016) and DellaVigna and Pollet (2009), we find that earnings surprises in December generate an immediate price reaction that is not significantly different from the response to earnings news released in other months of the year. Our results thus indicate that investors pay attention to scheduled firm-specific announcements in December.

Consistent with the muted price reaction, we find that December downgrades and 8-K filings are also met with a muted immediate volume reaction. We find that the cumulative abnormal turnover and cumulative abnormal volume in response to December rating downgrades and 8-K filings is significantly weaker relative to the response towards similar news released in other months. Taken together, the muted price and volume reactions help us conclude that there is a muted market reaction to unscheduled news released in December.

We find that our results can be explained by patterns of institutional and retail attention. Using data from the SEC EDGAR Log File, Bloomberg, and Google Trends, we first document a general lack of attention towards firms in December compared to other months. While Google Trends proxies for retail attention (Da, Engelberg, and Gao, 2011), data from the SEC EDGAR Log File and Bloomberg plausibly proxies for the attention of more sophisticated market participants (Ben-Rephael, Da, and Israelsen, 2016). Next, we merge these three datasets with our samples of ratings downgrades, 8-K filings, and earnings announcements. We find that only unscheduled news events are susceptible to low attention in December. Earnings announcements, the dates of which are known in advance, do not generate low attention even if they occur in December. Thus, it appears that investors, who are relatively inattentive during the December holiday season, fail to accurately account for unscheduled news in December, whose release is met with a muted market reaction. However, they consider scheduled news events whose dates are known in advance, and thus, the release of such information does not generate a muted market response.

We next find that the entire December distraction effect towards downgrades is driven by downgrades announced in the latter half of the month. Congruently, we find that the price underreaction is stronger for 8-Ks filed after December 15. These findings suggest that investor inattention is more pronounced closer to Christmas Day and New Year's Eve. Moreover, we find that the rating downgrades and 8-K filings of prominent firms, as determined by size, analyst following, and institutional ownership, are less susceptible to the December effect. These results indicate that a firm's prominence and information environment can temper the December effect.

One possible concern is that our results are driven entirely by positive investor sentiment, rather than distraction, during December. Investor sentiment (or mood) can affect trading decisions (Bassi, Colacito, and Fulghieri, 2013; Goetzmann, Kim, Kumar, and Wang, 2014; Kaustia and Rantapuska, 2016), firm-level managerial behavior (Chhaochharia, Kim, Korniotis, and Kumar, Forthcoming), individual consumption patterns (Agarwal, Chomsisengphet, Meier,

and Zou, 2017), and even aggregate stock markets (Hirshleifer and Shumway, 2003; Edmans, Garcia, and Norli, 2007). Frieder and Subrahmanyam (2004) document that S&P 500 index returns are influenced by the festive nature of St. Patrick's Day and Rosh Hashanah, and the solemn nature of Yom Kippur. Christmas-induced positive sentiment could potentially explain why stock markets fail to adequately penalize December downgrades. However, we find that the price reaction to December 8-K filings relaying positive news is also muted, which is inconsistent with the "positive mood" hypothesis, but consistent with the December distraction hypothesis.

Our findings are also distinct from the summer distraction effect studied in Hong and Yu (2009). While data from the SEC EDGAR Log File, Bloomberg, and Google Trends suggests that investors are inattentive during the summer, we find that the *magnitude of inattention* is significantly higher in December. Moreover, there appear to be no significant differences in the price and volume responses to rating downgrades and 8-K filings released during the summer relative to non-summer months.

Our study is broadly related to models of investor neglect of publicly available accounting information, which results in mispricing (Hirshleifer and Teoh, 2003; DellaVigna and Pollet, 2009). DellaVigna and Pollet (2009) document that investors underreact to both positive and negative earnings surprises on Fridays, which is corrected in the post-announcement horizon. Ben-Rephael, Da, and Israelsen (2016) document that the price drifts following earnings announcements and analyst recommendation changes are predominantly driven by announcements where institutional investors fail to pay sufficient attention.

Our paper contributes to the literature on proxies for investor inattention by identifying a new inattention proxy: the winter holiday season.[3] Unlike prior work that focused mostly on investor distraction towards scheduled earnings news, our findings highlight the differences between scheduled news, which firms can strategically release, and unscheduled news, which firms have no control over.

The rest of the paper is organized as follows. In Section II, we describe the data and the methodology used to calculate abnormal market responses. Our main empirical tests and robustness checks are presented in Section III. In Section IV, we analyze why stock market response to unscheduled firm-specific news is weaker in December. Finally, we conclude in Section V.

II. Data Sources and Computing Abnormal Market Responses

In this section, we discuss our data, key variables and empirical methodology.

A. Unscheduled News

We consider two types of unscheduled firm specific news: credit ratings and 8-K filings. We describe the construction of our datasets below.

[3]Other proxies for inattention include events occurring on Fridays (DellaVigna and Pollet, 2009; Louis and Sun, 2010; Michaely, Rubin, and Vedrashko, 2016), non-trading hours (Francis, Pagach, and Stephan, 1992; Bagnoli, Clement, and Watts, 2005), and down-market periods (Hou, Xiong, and Peng, 2009).

A.1. Credit Ratings

The data on bond ratings are from the Mergent Fixed Income Securities Database (FISD). We restrict the sample to U.S. domestic corporate debentures whose stocks are traded on either the NYSE, AMEX, or NASDAQ, and exclude Yankee bonds, convertible bonds, mortgage-backed bonds, and bonds traded with credit enhancements as well as bonds issued through private placements, preferred stocks, and trust preferred capital. Further, we only consider the ratings issued by the top three Nationally Recognized Statistical Rating Organizations (NRSROs): Standard & Poor's, Moody's, and Fitch. Consistent with Chava, Ganduri, and Ornthanalai (2015), we find that approximately 18% of all ratings are from Fitch, with the remaining split evenly between S&P and Moody's.

We consider any rating change issued by a credit rating agency (CRA) as one observation. When a CRA provides credit rating changes for multiple bonds of a single issuer on the same day, we use the issue that experiences the greatest absolute rating change because such changes are likely to generate the strongest market reaction. Our focus is on rating change announcements that are associated with either "DNG" (downgrades) or "UPG" (upgrades). The final sample of rating events covers the period from January 1, 1996 to December 31, 2015 and consists of 5,667 downgrades and 3,096 upgrades. Consistent with the findings in Dichev and Piotroski (2001), we note that there are approximately two downgrades for every upgrade.

Panel A of Table I displays the distribution of rating events with non-missing abnormal price reactions across different months. We find that both downgrade announcements and upgrade announcements are quite evenly distributed across all months of the year. Moreover, the average change in notches for downgrades and upgrades is not significantly different for December events relative to rating events in other months.

A.2. 8-K Filings

We identify approximately 1.3 million unique 8-K filing events between January 1, 1996 and December 31, 2015 from the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system provided by the U.S. Securities and Exchange Commission (SEC). We match these 8-K filings to the merged CRSP-Compustat database on the basis of historical central index key (CIK) values to identify 686,627 filings with valid stock price responses. This subset of 8-K filings is then parsed to identify the event that triggered the filing.[4] The events that could trigger an 8-K filing are classified into eight broad sections: (1) information regarding the registrant's business and operations, (2) registrant's financial information, (3) matters related to the trading of securities, (4) matters related to accountants and financial statements, (5) corporate governance and management, (6) matters related to asset-backed securities, (7) events related to Regulation FD, and (8) other material events considered important by the firm.

In Panel B of of Table I, we display the distribution of 8-K filings across different months of the year. Broadly, we note that 8-K filings are uniformly distributed across all months of

[4]We are able to identify the triggering event for 99.5% of these filings.

the year, even after accounting for the filing type (or section) of the 8-K filing. Overall, we conclude that there appears to be no seasonality in the release of unscheduled news.[5]

B. Measures of Investor Attention

We describe below the various measures of investor attention that we use in our analysis.

B.1. SEC EDGAR Log File

We measure investor attention to firm-specific news using the SEC EDGAR Log File. This dataset maintains records of approximately 15 billion online searches from February 2003 to December 2015.[6] We transform this raw data on search queries into CIK–date pairs by counting the total number of searches for a given firm on a given date. Using this CIK–date panel, we identify the abnormal attention paid to a given firm, i, on a given date, t, as:

$$AbnormalAttention_{i,t} = \frac{1}{3}\sum_{k=-1}^{+1} Log(TimesAccessed_{i,t+k}) - \frac{1}{30}\sum_{k=-35}^{-5} Log(TimesAccessed_{i,t+k}). \tag{1}$$

where $TimesAccessed_{i,t}$ indicates the number of EDGAR searches involving firm i on date t. Thus, positive (negative) values of $AbnormalAttention_{i,t}$ indicate abnormally high (low) attention towards firm i on date t.

In addition, the log file dataset also contains information on the browser used to search the EDGAR system. We classify searches originating from iPhones, iPads, Android mobile devices, BlackBerrys, and Internet Explorer Mobile as *mobile device* searches. We count the number of mobile device searches for each CIK–date pair. In addition, we set a dummy variable equal to 1 if a given firm is accessed through a mobile device at least once on a given day, and 0 otherwise. It is important to note, however, that the browser field is not well-populated, and has insignificant coverage starting from 2012. Thus, when studying mobile access, we limit our analysis to the period February 2003 – December 2011.

B.2. Abnormal Institutional Attention

Our measure of institutional attention is gathered from Bloomberg. Given that there are only about 320,000 Bloomberg subscriptions worldwide, and annual subscriptions cost approximately $24,000 per machine for a two-year lease, these terminals are more likely to be used by institutional investors than retail investors (Ben-Rephael, Da, and Israelsen, 2016). Bloomberg creates this attention measure by recording the number of times news articles for a particular stock are accessed by users, as well as the number of times users actively search for news regarding a

[5]In Appendix Table IA.I, we show a relatively even distribution of 8-K filings across all months of the year even after accounting for the sentiment of the 8-K filing.

[6]The Division of Economic and Risk Analysis (DERA) has compiled information on internet search traffic for EDGAR filings through the SEC's website starting from Feburary 2003. This dataset maintains search records of accessing users' unique Internet Protocol (IP) anonymized addresses, timestamps associated with searches, and the identity of the companies being searched, which are tracked by their CIK values.

specific stock in a given hour. However, these raw hourly counts or scores are not made available to researchers. Instead, Bloomberg transforms these scores using the following methodology: for any given stock, a value of 1 is assigned to each article read and a value of 10 is assigned for each news search involving said stock. These numbers are aggregated into hourly counts, which are then used to create 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. A score of 0 is assigned if the rolling average is less than 80% of the hourly counts over the previous 30 days. Similarly, scores of 1, 2, 3, or 4 are assigned if the average is between 80% and 90%, 90% and 94%, 94% and 96%, or over 96% of the previous 30 days' hourly counts, respectively. As a final step, these hourly counts are aggregated up to the daily frequency by taking the maximum of all hourly scores throughout the day.

Due to data limitations, we only have access to this institutional attention measure beginning from February 2010. We gather this institutional attention information for all stocks listed on the Russell 3000 between February 2010 and December 2015. To capture the left tail of the distribution, we set our abnormal institutional attention (AIA) measure dummy variable to 1 if the Bloomberg provided daily maximum is 0 or 1, and 0 otherwise. Thus, our AIA dummy captures the absence of institutional investor attention for any particular stock during any particular day and mirrors the presence of institutional attention, as measured by Ben-Rephael, Da, and Israelsen (2016).

B.3. Google Trends Search Volume Index

We measure retail attention through Google's search volume index. Due to data and access limitations on Google Trends, we construct this retail attention measure for S&P 500 firms beginning from 2004. Following Da, Engelberg, and Gao (2011), we scrape data from Google Trends based on firms' ticker search activity at a weekly frequency on a year-to-year basis.[7] When studying retail attention towards rating changes, 8-K filings, or earnings announcements, our sample is restricted to the events of S&P 500 firms. Retail attention data is matched to firm events on the basis of tickers and the week of the event. Note that this attention measure is coarser, and therefore possibly not as precise as the investor attention proxies generated through the EDGAR Log File or Bloomberg, both of which are available at a daily frequency.

[7]There are several nuances to the Google Trends data that are important to note. For one, it provides an index of search activity by query category. The index measures the fraction of queries that include the search term in the specified geography in the chosen search window relative to the total number of queries within said window. The maximum value of the index within the specified geography-search window combination is set to 100, and all other reported values on other dates within the search window are relative to this maximum value. In addition, Google Trends has an unreported privacy threshold – if total searches are below that threshold, a value of 0 will be reported. Given their non-informativeness, we set values of 0 to missing. Lastly, Google Trends data is cached on a daily basis. Thus, the same request made on two separate days can generate different values. We thus take the average across three iterations of the same request conducted across three separate days. More information about Google Trends data is available on Hal Varian's 2015 primer: http://people.ischool.berkeley.edu/ hal/Papers/2015/primer.pdf.

C. Other Data Sources

We use the CDA/Spectrum 13f Institutional Holdings database from Thomson Reuters to determine the total number of institutional owners in a firm for any given quarter between January 1, 1996 and December 31, 2015. For every firm experiencing an unscheduled news event, we identify the total number of institutional owners in the firm in the quarter prior to the event.[8]

Finally, we use Compustat Quarterly and the Center for Research in Security Prices (CRSP) to develop various measures of firm-level controls for our regressions. All of our measures are adjusted for inflation and winsorized at the 0.5% tails. A full listing of all the controls we use, along with detailed descriptions of their construction, is provided in the Internet Appendix.

D. Calculating Abnormal Market Reactions

In this subsection, we describe the methodology used to calculate abnormal market reactions to firm-specific events.

D.1. Cumulative Abnormal Returns

The daily abnormal stock return for firm i on day t ($AR_{i,t}$) is defined as the residual estimated from the market model:

$$AR_{i,t} = R_{i,t} - (\hat{\alpha}_i + \hat{\beta}_i R_{m,t}). \tag{2}$$

Here, $R_{i,t}$ is the raw return for firm i on day t, and $R_{m,t}$ is the value-weighted index return of stocks listed on the NYSE, AMEX, and NASDAQ. We estimate the model coefficients, $\hat{\alpha}_i$ and $\hat{\beta}_i$, using a rolling window over a period of 255 days from -91 to -345 calendar days relative to the event date. We define an event date as the earnings announcement date, the rating change date, or the 8-K filing date. We compute the cumulative abnormal returns ($CAR_{i,t}$) using the three-day window centered on the event date. That is,

$$ImmediateReaction = CAR_i[-1,+1] = \sum_{t=-1}^{1} AR_{i,t}. \tag{3}$$

Kothari and Warner (2007) show that short-horizon studies, such as ours, are not highly sensitive to an assumption of the cross-sectional or time series dependence of abnormal returns, or the benchmark model used for computing abnormal returns.

We are also interested in studying the market's post-announcement reaction to firm-specific announcements. To do so, we define CARs over the window [+2,+61] in trading days relative to the announcement date. Our choice of the post-announcement window covers approximately three calendar months. We adjust the returns by subtracting the returns of a size, book-to-market (B/M), and momentum matching portfolio over the same window. We accomplish this

[8] We use the previous quarter's institutional ownership when institutional ownership for a firm in a particular quarter is missing. When we are unable to identify the number of institutional owners for any firm in the quarter preceding the firm event, the institutional ownership in that firm for that quarter is set to zero.

by matching each stock with one of 125 size-B/M-momentum portfolios. These portfolios are constructed using the methodology described in Daniel et al. (1997).

D.2. Cumulative Abnormal Volume

Investor reaction can also be measured using the trading volume response to firm-specific announcements. Following Llorente et al. (2002), we use daily turnover as a measure of trading volume for individual stocks. A stock's turnover on any given day is defined as the number of shares traded on that day divided by the number of shares outstanding. Due to the non-stationarity of the daily time series of turnover, we measure the turnover in logs, detrend the resulting series, and scale by the standard deviation. To avoid the problem of zero daily trading volume, we add a small constant ($C = 2.55 \times 10^{-6}$) to the turnover before taking logs.[9]

Thus, the abnormal stock turnover on day j relative to the announcement date t is the normalized difference between the log turnover on day j and the average log turnover over trading days [-11,-71] relative to t scaled by the standard deviation of daily logged turnover over the same window:

$$ATO_{i,j} = \frac{Log(TO_{i,t+j} + C) - \frac{1}{60}\sum_{k=t-71}^{t-11} Log(TO_{i,t+k} + C)}{\sqrt{\frac{1}{60}\sum_{k=t-71}^{t-11}(Log(TO_{i,t+j} + C) - \frac{1}{60}\sum_{k=t-71}^{t-11} Log(TO_{i,t+k} + C))^2}}. \quad (4)$$

Similar to the calculation of CARs, we perform regression analyses of the abnormal stock turnover over the three-day window centered on the date of the firm-specific announcement (CATO[-1,+1]). Our results are unchanged if we define cumulative abnormal trading volume using the number of shares traded on a given day as a measure of trading volume.

III. Are Investors Distracted During December?

In this section, we present empirical evidence which suggests that investors are distracted during the winter holiday season, and document that these results are robust to selection bias and other similar econometric concerns.

A. Price Response to Unscheduled News Events

In Panel C of Table I, we report the CARs over the three-day window centered on the date of the unscheduled news event. Consistent with the findings of both Jorion et al. (2005) and Chava et al. (2015), Sub-Panel C.1 shows that overall, stock prices react strongly immediately to downgrades (-3.92%) but only weakly immediately to upgrades (0.15%). We also find that the mean CAR for rating downgrades announced across all months, except December, is -4.13% and significantly different from zero at the 1% level. On the other hand, the immediate reaction

[9] The value of the constant helps bring the distribution of daily trading volume closer to a normal distribution. See Richardson, Sefcik, and Thompson (1986), Ajinkya and Jain (1989), and Cready and Ramanan (1991) for a detailed explanation.

to downgrades announced in December is −1.56%. In effect, the immediate price response to downgrade announcements in December is approximately 62.5% (2.58/4.13) weaker than the response to downgrades in other months of the year, and this difference is significant at the 1% level. Moreover, our findings suggest that the immediate price response to December upgrades is not economically or statistically different from that to upgrades in other months.

Panel C also shows how the stock price response to 8-K filings differs depending on the month in which the filing occurs. We examine the *absolute* CARs in the three-day window centered on the date of the filing.[10] In column (I) of Sub-Panel C.2, we find that 8-Ks filed in months other than December generate an absolute immediate return of 4.65% compared to an absolute immediate return of 4.46% for 8-Ks filed in December. This difference of -0.19% is significant at the 5% level. Thus, 8-Ks filed in December generate an absolute immediate price response that is approximately 4% (0.19/4.65) weaker than that to material events filed with the SEC in other months. In columns (II) and (III), we subset the data to focus on 8-K filings that generated immediate negative and immediate positive price responses, respectively. We note a muted price reaction at both ends – the filing of 8-Ks generates weak immediate price reactions to both positive and negative events if they are filed in December relative to other months. Importantly, our approach assumes that positive and negative 8-Ks generate only positive and only negative immediate market reactions, respectively, which does not allow for investor mistakes in the short-term. For example, the immediate market reaction to a positive 8-K filing may be negative in the short-run before correcting over the longer horizon. Thus, even though we do not identify whether the information contained in the 8-K filings is positive or negative, our approach biases us against finding a December distraction effect.

Next, following previous studies of credit ratings (Holthausen and Leftwich, 1986; Chava et al., 2015), we run multivariate regressions separately for upgrades and downgrades. The multivariate setting controls for factors that could affect stock price reactions to rating changes. The regression model that we estimate is:

$$CAR[-1,+1]_{i,t} = \beta_0 + \beta_1 dDecember_{i,t} + \sum \gamma_i EventLevelControls_{i,t} + \sum \omega_i FirmLevelControls_{i,t} + \epsilon_{i,t}, \quad (5)$$

where for any bond issue *i*, $CAR[\text{-}1,\text{+}1]_{i,t}$ is the immediate CAR in response to a credit rating change. The main predictor of interest is the indicator variable, *dDecember*. This dummy equals one if the unscheduled news event takes place in December and zero otherwise. The regression specification includes Fama-French 48-industry- and year-fixed effects with robust *t*-statistics clustered at either the firm level, the reporting date level, or both. We test the robustness of our results to alternative fixed effects and alternative definitions of CARs. All control variables are defined in the Internet Appendix.

Panel A of Table II reports the results for rating changes, with Sub-Panels A.1 and A.2 focusing on downgrades and upgrades, respectively. The results show that the immediate

[10]In later analyses, we construct a sentiment measure for the text in 8-Ks using the words list in Bodnaruk, Loughran, and McDonald (2015).

reaction to downgrades announced in December is 1.78% weaker than that to downgrades announced in other months (significant at the 5% level). Thus, the immediate response to downgrades in December appears to be approximately 44% (1.78/4.13) weaker than that to downgrades in other months. In column (II), we cluster standard errors at the reporting date level, and find no change in statistical significance. Lastly, in column (III), we double cluster our standard errors at the firm and reporting date levels, and note that are our results are marginally insignificant at the 5% level.[11] Results in Sub-Panel A.2 indicate that the December dummy is not significantly different from zero in the immediate period in response to upgrades.

We also analyze the post-announcement drift in response to December rating events in Panel A. However, the presence of the anomalous January effect contaminates the negative drift in response to rating downgrades.[12] Thus, we analyze a post-announcement window of [+2,+61] in terms of trading days relative to the rating change date for December rating events compared to rating events occurring in October, November, and January. We choose rating events occurring in these three months as controls since the post-announcement drift following these events extend into January. The results are reported in columns (IV)–(VI) of Sub-Panels A.1 and A.2. We find that relative to the control sample, December downgrades generate a negative post-announcement drift that is 5.64% stronger (significant at the 5% level), which suggests that there is some longer-term correction for the immediate muted price reaction. The statistical significance of our finding is not altered by alternative clustering techniques (columns (II) and (III)). The post-announcement drift for December upgrades, however, is not significantly different from that for October, November, and January upgrades.

Panel B of Table II displays analogous results for 8-K filings occurring in December. We study the absolute price response in Sub-Panel B.1. The dependent variable in columns (I)–(III) is Abs(CAR[-1,+1]). We note that, in absolute terms, 8-Ks filed in December generate an immediate response that is 0.52% weaker than the response to 8-Ks filed in other months. In terms of economic magnitude, December 8-Ks generate an immediate response that is 11% (0.52/4.65) weaker than that to non-December 8-Ks. Our inferences remain unchanged when we cluster standard errors at the reporting date level (column (II)), or double cluster at the firm and reporting date levels (column (III)).

It is important to note that SEC regulations mandate the filing of a Form 8-K within four business days of the occurrence of a material event. Thus, in order to also account for 8-Ks that are not filed immediately following material events, we conservatively study the absolute price response in the [-10,+1] window relative to the 8-K filing date, and get results that are consistent with our base specification. The results are reported in columns (IV)–(VI), and are

[11] We ensure that our results are not driven by other firm-specific news occurring prior to the rating change announcement. We do so by restricting our sample to only include rating downgrades that are not preceded by earnings announcements, rating watch-list updates, rating changes by different credit rating agencies, and 8-K filings. The results of this analysis are presented in Appendix Table IA.II.

[12] Rozeff and Kinney (1976) find that the average monthly return on an equal-weighted index of NYSE prices is 3.5% in January, relative to 0.5% in other months.

unaffected by different clustering techniques.

We further verify our findings above by identifying the "sentiment" of all 8-K filings. We use the words list in Bodnaruk, Loughran, and McDonald (2015) to conduct our sentiment analysis. For each 8-K filing, we calculate the difference between the number of positive words and the number of negative words, and scale it by the total number of words in the document. This measure is then sorted into quintiles at an annual frequency, with the lowest (highest) quintile representing the most negative (most positive) documents. The model we estimate is:

$$\begin{aligned} CAR[-1,+1]_{i,t} = \beta_0 + \beta_1 dDecember_{i,t} + \beta_2 SentimentMeasure_{i,t} \\ + \beta_3 dDecember_{i,t} \times SentimentMeasure_{i,t} + \sum \gamma_{i,t} Controls_{i,t} + \epsilon_{i,t}, \end{aligned} \tag{6}$$

where $dDecember$ is a dummy variable which indicates whether the 8-K filing occurs in December and $SentimentMeasure$ is the sentiment rank measure described above. β_2 captures the slope of the immediate price response to 8-Ks filed in months other than December across different sentiment quintiles, while β_3 captures the differential price reaction for December 8-K filings relative to non-December 8-K filings.

The results presented in Sub-Panel B.2 suggest that the slope of the immediate price response to non-December 8-K filings is positive (0.15–0.18%, significant at the 1% level). In addition, we find that the immediate price response to December 8-K filings is muted relative to non-December filings. The slope is approximately 27% (0.04/0.15) flatter with CAR[−1,+1] as the dependent variable (columns (I)–(III)), and approximately 72% (0.13/0.18) flatter with CAR[−10,+1] as the dependent variable (columns (IV)–(VI)).[13,14]

We also compare the post-announcement drift in response to 8-Ks filed in December relative to 8-Ks filed in October, November, and January and report the results in Sub-Panel B.3. In columns (I)–(III), we compare positive filings to negative filings. We note that non-December filings generate a positive drift slope of 0.19% (significant at the 10% level). In comparison, December 8-Ks generate a slope that is significantly steeper. We study only the extreme quintiles of sentiment in columns (IV)–(VI), and all quintiles of sentiment in columns (VII)–(IX). In comparison, December 8-Ks generate a slope that is 109% (0.12/0.11) to 133% (0.52/0.39) steeper. Taken together, our results suggest that 8-Ks filed in December are met with a muted immediate price reaction, which gets corrected in the longer horizon.

In Panel C, we analyze the relative magnitudes of the immediate response and longer-term correction to unscheduled news released in December. As before, we compare December unscheduled events to unscheduled events that occur in October, November, and January.

[13]We test the robustness of our findings to alternate immediate horizon windows. The results of the analysis are presented in Appendix Table IA.III. We also ensure that our findings for 8-Ks are not driven simply by earnings news-triggered filings. In additional tests, we include an indicator variable that equals one if the 8-K filing firm also releases earnings news in the 15-day window centered on the 8-K filing date, and zero otherwise, and derive consistent inferences. The results are presented in Appendix Table IA.IV.

[14]In additional tests, we show that our results for the immediate price response to December rating downgrades and 8-K filings is robust to controlling for the lagged abnormal turnover. The results of the analysis are presented in Appendix Table IA.V.

Following Hirshleifer, Lim, and Teoh (2009) and DellaVigna and Pollet (2009), we measure the total response in the immediate and longer horizons by studying CARs over the window [−1,+61] trading days relative to the date of the unscheduled firm event.

In Sub-Panel C.1, we present results for rating downgrades. We find the coefficient on the December dummy to be insignificant, and unaffected by alternative clustering techniques. In Sub-Panel C.2, we present results for 8-K filings. We note that the coefficient on the interaction term, $dDecember \times Sentiment$, is insignificant (and unaffected by alternative clustering techniques). Taken together, our findings suggest that over the *full* horizon, the post-announcement drift appears to compensate for the muted immediate reaction towards unscheduled events in December.

B. Addressing Sample Selection Concerns

A significant concern is sample selection bias. It is possible that firm characteristics unobservable to the econometrician could split the sample into two groups: one containing firms that experience unscheduled news events in December and the other containing firms that never do, in a non-random manner. Michaely, Rubin, and Vedrashko (2016) study the underreaction to stock repurchase, equity offering, merger, dividend change, and earnings announcements if they occur on Friday. However, all these events are firm-generated, which allows firms to strategically time the release of such information, and influence its flow. On the other hand, firms have limited control in timing the release of either third-party generated rating downgrades or 8-K information.

Still, to address any potential selection concerns, we follow Michaely et al. (2016) and split the firms in our sample into two groups: those firms experiencing at least one unscheduled event in December (so-called December *announcer* firms) and those firms that never experience any such events in December. We do this separately for our sample of rating downgrades and 8-K filings. In econometric terms, we are attempting to separate out the December *announcement* effect from the effect of simply being a December *announcer* firm with regards to unscheduled news events.

The results of this analysis are presented in Table III. In Panel A, we find no evidence suggesting that firms experiencing downgrades in December generate weak market responses relative to non-December announcers for downgrades experienced in the other 11 months. Moreover, when we study the subsample of December announcer firms, we find that downgrade announcements in December generate a weak stock price response relative to non-December downgrades. Finally, in our full sample of rating downgrades, we find that controlling for the characteristic of being a December announcer does not subsume the significance of the December downgrade announcement dummy. We thus document that the effect of the December announcement is distinct from the effect of simply being a December announcer. In Panel B, we document similar evidence for our sample of 8-K filing events.

C. *Matched-Sample Analysis*

We conduct a matched-sample analysis in order to mitigate any concerns that firms experiencing unscheduled events in December are different on some observable firm- or event-specific characteristics from those experiencing the same in other months of the year. Following Rosenbaum and Rubin (1983), we use a propensity-score matching method that allows for matching on multiple dimensions. Firms experiencing unscheduled events in December are matched to those experiencing the same types of events in other months based on several observable firm- and event-specific characteristics. These matching characteristics include important determinants of CARs such as the magnitude of the downgrade (when matching December downgrades to non-December downgrades), the number of 8-K filings in the recent past (when matching December 8-K filings to non-December 8-K filings), and several firm-level controls, such as leverage, size, and firm performance in the month leading up to the unscheduled event.

We first estimate a firm's propensity of experiencing a rating downgrade in December using a probit model. The dependent variable, *dDecember*, is an indicator variable, which equals one when the downgrade occurs in December, and zero otherwise. All explanatory variables used in the probit model are defined in the Internet Appendix. In Panel A of Appendix Table IA.VI, the column titled "Before match" under "Rating Downgrades" reports results for the probit model using the *before-matching* sample, which includes all downgrades in our sample.

For each firm experiencing a downgrade in December, we use its propensity score to identify a firm experiencing a downgrade in other months with the closest propensity (within a 2% bound) using the nearest-neighborhood caliper method described in Cochran and Rubin (1973). In order to increase the sample of matched pairs, we match each firm experiencing a downgrade in December (treated group) to five firms experiencing downgrades in other months (control group).[15] The matching is carried out with replacement. We follow a similar approach when matching December 8-K filings to filings occurring in other months.

The column titled "After match" in Panel A of Appendix Table IA.VI reports the results of the probit model using the matched sample. We find that all predictors have completely lost significance in the matched sample compared to the before-matching sample. We also observe that the pseudo R^2 is lower in the matched sample than in the before-matching sample. In Panel B of Appendix Table IA.VI, we report the univariate means of the ten observable firm- and event-specific characteristics for the before-matching and after-matching samples. The findings reaffirm the findings in Panel A, which show that the propensity-score matching process significantly reduces observable differences between firms experiencing rating downgrades in December (treated group) and those downgraded in other months of the year (control group). We find consistent results in a matched sample of December and non-December 8-K filings.

In column (I) of Sub-Panel A.1 of Table IV, we report the regression results using a matched sample of rating downgrades. Even though we employ a matched sample, we use all match-

[15] Our results are unchanged if we consider a 1:1 propensity-score matched sample. The results are presented in Appendix Table IA.VII.

ing characteristics as controls to control for any possible remaining differences along these observable dimensions. We find that the immediate price response to downgrades released in December is 1.84% weaker relative to downgrades announced in other months. We also find that December 8-K filings demonstrate a distracted response even when matched to comparable non-December 8-K filings (Panel B, columns (I) and (II)). Finally, our inferences for the post-announcement drift in response to both types of unscheduled events remain consistent in a matched sample. Overall, we find that our results are robust to the use of a matched sample.[16]

D. Placebo Test: Is Scheduled News Also Met with a Muted Reaction in December?

It is possible that investors, especially institutional investors, take scheduled firm-specific news releases into account when making December travel plans. If this is the case, then the December holiday season should not affect investor attention, and thus the price response, to earnings news released in December.

We use the Institutional Brokers' Estimate System (IBES) database and compute firms' quarterly earnings surprise as $ES_{i,t} = \frac{EPS_{i,t} - Forecast(EPS)_{i,t}}{P_{i,t}}$, where $EPS_{i,t}$ is the announced earnings per share as reported by IBES, $Forecast(EPS_{i,t})$ is the consensus earnings per share forecast computed as the median of the most recent forecasts from individual analysts using the IBES detail tape and $P_{i,t}$ is the stock price at the end of the corresponding quarter.[17] Hereafter, we refer to earnings announcements that meet or beat the earnings forecast as *positive* earnings surprises and earnings announcements that fail to meet the earnings forecast as *negative* earnings surprises.

Table V presents summary statistics of 241,069 unique earnings announcements with valid earnings surprises during the January 1996 – December 2015 sample period. The distribution of earnings announcements across different months of the year displayed in Panel A indicates that earnings announcements are much less likely to occur in months coinciding with calendar quarter ends; only about 8% of all earnings announcements occur in March, June, September, and December, with the remaining 92% occurring in other months of the year.

The distribution of earnings announcements across calendar months suggests that selection issues are important in studying earnings announcements, since firms can endogenously select when to report earnings news (See Michaely, Rubin, and Vedrashko (2016)). Only 1.46% of earnings news is released in December, making selection a major concern for our analysis of the December effect. Thus, for every firm in our sample, we count the number of earnings announcements released in December over the period 1996–2015. We then group firms into

[16] We also note that our results for the December effect in the market response to unscheduled news events are robust to alternative groupings of fixed effects, alternative definitions of CARs, and alternative clustering techniques. The results of all these analyses are presented in Appendix Tables IA.VIII, IA.IX, IA.X, and IA.XI.

[17] We only include analyst forecasts issued or reviewed in the 90 days prior to the earnings announcement date to exclude the effects of stale forecasts on the consensus (median) forecast. While $EPS_{i,t}$ and $P_{i,t}$ are unadjusted for stock splits, we adjust $Forecast(EPS_{i,t})$ for any stock splits and stock dividends that occur in the 90 days prior to the earnings announcement date. Also, if an analyst makes multiple forecasts for any firm during that period, we only consider the most recent forecast.

buckets, where the buckets are created on the basis of percentage of firms' earnings news released in December. The results are presented in Panel B. We find that 9,796 firms in our data never release any earnings news in December. In contrast, only 773 firms release earnings news at least once in December in our data. In Panel C, we study the distribution of earnings announcements across months for the 773 firms that release earnings news at least once in December. Unlike the distribution displayed in Panel A, we find that earnings announcements in months corresponding to calendar quarter ends are relatively common for firms that report earnings in December. Moreover, the distribution in Panel C is relatively more even than the one displayed in Panel A. Thus, from here on, we restrict our analysis to these *December announcer* firms – i.e., we only consider the 773 firms that announce earnings at least once in December when studying the effect of the holiday season on the price reaction to earnings news.

We sort the standardized unexpected earnings (earnings surprises) into quintiles at the calendar quarter frequency and present the results in Panel D of Table V. Sub-Panel D.1 displays the average earnings surprise across different quintiles. By construction, the average earnings surprise is most negative in the bottom quintile and most positive in the top quintile. There appears to be no clear or monotonic difference between December and non-December earnings announcements. Sub-Panel D.2 presents the average immediate price reactions to earnings announcements across various quintiles. We find that the immediate price reaction towards both negative earnings surprises (bottom quintile) and positive earnings surprises (top quintile) is insignificantly different in December compared to other months.

Next, we next estimate the following multivariate specification:

$$\begin{aligned} CAR[-1,+1]_{i,t} = \beta_0 + \beta_1 dDecember_{i,t} + \beta_2 dTopSUEQuintile_{i,t} \\ + \beta_3 dDecember_{i,t} \times dTopSUEQuintile_{i,t} + \sum \gamma_{i,t} Controls_{i,t} + \epsilon_{i,t}, \end{aligned} \tag{7}$$

where *dDecember* is an indicator variable that equals one if the earnings announcement takes place in December, and zero otherwise and $CAR[-1,+1]_{i,t}$ is the abnormal stock return for firm i announcing earnings at time t. The sample only includes observations from the top and bottom quintiles of the earnings surprise distribution. Thus, $dTopSUEQuintile$ takes the value one if the surprise associated with an earnings announcement falls in the top quintile, and zero otherwise. In this specification, β_2 captures the return to good news (top quintile) relative to bad news (bottom quintile) for non-December earnings announcements, while β_3 captures the differential reaction for December earnings news relative to non-December earnings news. Following DellaVigna and Pollet (2009), our set of control variables includes indicators for the year of the earnings announcement, indicators for the day of the week of the earnings announcement, the quintile of the firm's market capitalization (size), the quintile for the firm's book-to-market ratio, and the standard deviation of earnings in the previous 16 quarters. Standard errors are double clustered at the firm and earnings announcement date levels.

The results of the analysis are presented in Table VI. Without controls (column (I)), the top-to-bottom average return for non-December announcements is 8.37%, significant at the 1% level. Compared to this value, the top-to-bottom return for December announcements is 0.14%

larger, and this estimate is not statistically significant. The results in column (I) indicate that the short-run response to December earnings announcements is insignificantly different from the response to non-December announcements. The inference slope remains insignificant in the presence of controls (column (II)). Column (III) presents the results for all earnings surprise quintiles. In the absence of controls, we find that earnings announcements made in December generate an insignificantly different response relative to non-December earnings news. The slope remains insignificant in the presence of controls (column (IV)). Thus, we conclude that there appears to be no case of investor distraction towards scheduled firm-specific news, such as earnings releases, if they occur in December.[18]

E. Is There an Associated Volume Underreaction?

In this section, we explore whether the weak immediate stock price reaction to unscheduled events announced in December is accompanied by a weak immediate volume reaction. We replace the dependent variable in Equation 5 with $CATO[-1,+1]_{i,t}$ ($CAV[-1,+1]_{i,t}$), which is the cumulative abnormal stock turnover (cumulative abnormal volume) in response to an unscheduled event over the three-day window centered on the event date. As earlier, *dDecember* is a dummy that equals one if the unscheduled event occurs in December and zero otherwise.

Our results regarding abnormal volume reaction are presented in Table VII. Panel A presents the results of the full sample of rating downgrades. In column (I), the dependent variable is the cumulative abnormal stock turnover. The coefficient on *dDecember* suggests that rating downgrades in December generate weaker stock turnover responses than downgrades occurring in other months. The inference remains the same when the dependent variable is the cumulative abnormal stock trading volume (CAV) (column (II)). A similar effect is documented for the abnormal volume reaction to 8-K filings in December (Panel B). Both $CATO[-1,+1]$ and $CAV[-1,+1]$ are lower in response to 8-K filings in December relative to other months. Thus, our muted price reaction results from Table II are corroborated with a muted volume reaction to unscheduled news occurring in December.[19]

IV. What Explains the Underreaction?

In this section, we study the factors driving the underreaction to unscheduled firm-specific news in December.

[18] We also run tests on the full sample of earnings announcements, while also accounting for selection concerns as described in Michaely et al. (2016). We continue to find that December earnings news does not generate a significantly different immediate price response relative to comparable news released in other months once selection issues are accounted for. These findings are presented in Appendix Table IA.XII.

[19] In additional tests, we also find that weekend proximity plays a crucial role in determining the immediate market reaction to unscheduled firm-specific news. Specifically, rating downgrades and 8-K filings occurring on Fridays generate weaker price and volume reactions relative to comparable events occurring on different days of the week. Thus, these findings indicate that the weekend proximity effect in the market reaction to earnings news, as examined in DellaVigna and Pollet (2009), extends to both rating downgrades and 8-K filings. The results of this analysis are presented in Appendix Table IA.XIII.

A. Role of Investor Attention

In this subsection, we attempt to identify the reasons behind the market's underreaction to unscheduled news released in December by analyzing investor attention. We proxy for investor attention through three data sources. The first dataset we use is the SEC EDGAR Log File, which tracks Internet searches on the SEC's website for firms' EDGAR filings. The second data source is the abnormal institutional attention dataset provided by Bloomberg. Lastly, we proxy for retail attention towards firms using data from Google Trends. The results of our analysis are presented in Table VIII.

In Panel A, we present results documenting general trends of investor (in)attention in December. In Sub-Panel A.1, we proxy investor attention using the SEC EDGAR Log File. We track the daily search activity across different months over the years 2003–2015 for a 5% random sample of firms in this dataset. We estimate the following general specification:

$$Y_{i,t} = \beta_1 dDecember_{i,t} + \alpha_i + \delta_t + \epsilon_{i,t} \tag{8}$$

In column (I), the dependent variable is abnormal attention, defined as detrended SEC EDGAR Log File access (see Equation (1)). Our findings suggest that abnormal attention is 1.55% lower in December. Moreover, in column (II), we study mobile access in December.[20] We find that incidences of mobile access are significantly greater in December relative to other months. Univariate results suggest that the mean for the mobile access dummy is 0.046 in non-December months. Thus, our estimate suggests that incidences of mobile access are 32.6% (0.015/0.046) higher in December relative to other months. This finding is consistent with investors being distracted by extensive travel in December, and possibly relying on remote access to firm news released during the holiday season.

Next, we examine abnormal institutional attention through Bloomberg towards all stocks listed on the Russell 3000. We define our absence of institutional attention measure, *LowAttention*, as a dummy variable that takes the value of one when the Bloomberg-supplied measure equals 0 or 1, and zero otherwise. We estimate a simple linear probability model with *LowAttention* as the dependent variable, and a dummy independent variable indicating whether the date occurs in December. Our findings suggest that the probability of low attention on the part of sophisticated market participants is higher in December relative to other months (Sub-Panel A.2, column (IV)).

Lastly, we track retail attention towards S&P 500 firms through Google Trends using Equation (8), and report our results in Sub-Panel A.3. We define retail attention using the raw attention measure (column (I)), logged attention (column (II)), and abnormal attention (column (III)), and conclude that retail attention towards S&P 500 firms is lower in December.

In Panel B, we study December inattention towards firm news. In Sub-Panel B.1, we proxy investor attention through the SEC EDGAR Log File and augment Equation (8) with firm

[20] As explained in Section II, searches originating from iPhones, iPads, Android mobile devices, Blackberrys, and Internet Explorer Mobile are defined as mobile device searches. Given issues of data coverage for this variable, we limit our analysis to the years 2003–2011.

and announcement level controls to study December inattention towards firm-specific news. In column (I), we study rating downgrades, and find that December downgrades are faced with significantly lower EDGAR Log File attention than non-December downgrades. Similarly, December 8-K filings are faced with significantly lower attention than non-December filings (column (II)). Our findings in column (III) suggest that investor attention towards earnings news released in December is not significantly different from attention to news released in other months, especially once we account for selection issues.

In Sub-Panel B.2, institutional attention is proxied through Bloomberg. The results suggest that there is higher likelihood of low attention only towards unscheduled news events such as rating downgrades (column (I)) and 8-K filings (column (II)), but not to scheduled earnings announcements (column (III)). Our inferences remain unchanged when we study retail attention through Google Trends (Sub-Panel B.3).

Taken together, these findings suggest that only unscheduled firm-specific news experiences low investor attention along with a muted market reaction in December, which gets corrected in the longer horizon; scheduled firm news, which does not suffer from low attention in December, is not susceptible to muted market reactions in December. This is consistent with Ben-Rephael et al. (2016), who suggest that the price drifts following earnings are concentrated in events where institutional investors fail to pay sufficient attention.[21]

B. Investor Inattention and Immediate Price Response to Firm News

In this section, we examine the direct impact of investor inattention on the immediate price response to firm news. Broadly, we use a specification of the following form:

$$\begin{aligned} CAR[-1,+1]_{i,t} = \beta_1 Attention_{i,t} + \beta_2 dDecember_{i,t} + \beta_3 Attention_{i,t} \times dDecember_{i,t} \\ + \sum \gamma_i EventLevelControls_{i,t} + \sum \omega_i FirmLevelControls_{i,t} + \epsilon_{i,t} \end{aligned} \tag{9}$$

This analysis tests our main hypothesis that investor inattention results in a muted immediate price reaction, and helps in understanding whether the month of December is special beyond what the attention measure delivers. Thus, if higher attention is associated with a stronger immediate price response, we expect β_1 to be significant. If β_2 is still significant, then we can infer that the December indicator is capturing an effect that the attention measure cannot capture. Lastly, if β_3 is significant, we can conclude that the attention measure's effect is quite special in December.

We proxy investor attention through the the logged three-day centered average of the number of times a specific firm is accessed through the SEC EDGAR Log File on the firm event date. In Panel A of of Table IX, we study the impact of attention on the immediate price response (CAR[-

[21] Though unlikely, we also examine whether unscheduled events in December are met with a muted market reaction because investors struggle to evaluate multiple signals (Hirshleifer et al., 2009). The results of this analysis, presented in Appendix Table IA.XIV, indicate that information overload has no effect on the reaction to downgrade announcements and 8-K filings in December. Moreover, we also show that our results are not driven by investors being distracted by large aggregate market movements, as described in Kottimukkalur (2017). The results of this analysis are presented in Table IA.XV.

1,+1]) to rating downgrades. The estimate on the attention measure is negative and significant, which suggests that higher attention results in a more negative immediate price response; i.e., immediate mispricing is lower when attention is higher. Moreover, the estimate on the December indicator is positive and significant, which indicates that December downgrades are faced with a muted immediate reaction compared to downgrades in other months. More importantly, the significance of the December dummy suggests that it is picking up an effect not captured by the attention measure. Lastly, we note that the estimate on $dDecember \times Attention$ is insignificant, which suggests that the attention measure is not special in December. Our inferences remain robust to different definitions of investor attention.

In Panel B, we study the impact of attention on the *absolute* immediate price response (Abs(CAR[-1,+1])) to 8-K filings. The estimate on the attention measure is positive and significant, which suggests that higher attention to the 8-K filing results in a stronger *absolute* immediate price response. Moreover, the estimate on the December indicator is negative and significant, which indicates that December filings are faced with a muted immediate reaction and that the December dummy is picking up an effect not captured by the attention measure. Lastly, we note that estimate on $dDecember \times Attention$ is not consistently significant across different definitions of investor attention.

Lastly, in Panel C, we study earnings announcements. The estimate on $ESQuintile \times Attention$ is positive and significant, which indicates that non-December earnings news associated with larger attention generates a stronger immediate reaction at both ends – i.e, negative (positive) earnings news generates a stronger immediate negative (positive) price response. In contrast, the estimate on $dDecember \times ESQuintile \times Attention$ is insignificant, which suggests that attention towards earnings news does not have a special role in December. Our inferences remain consistent when we proxy attention through abnormal attention (column (II)).

C. Are Some Weeks More Important Than Others?

In this subsection, we attempt to narrow down the specific weeks that drive the December effect. Since Christmas holidays occur towards the end of the month, the average investor or market participant typically schedules any travel plans in the latter half of the month. This implies that unscheduled firm events announced in the first half of the month should be less prone to investor inattention and that the majority of the holiday season distraction is driven by the latter half of the month. We test this hypothesis using the following regression:

$$\begin{aligned} Y_{i,t} = \beta_0 + \beta_1 dDecember\_1stHalf_{i,t} + \beta_2 dDecember\_2ndHalf_{i,t} \\ + \sum \gamma_i EventLevelControls_{i,t} + \sum \omega_i FirmLevelControls_{i,t} + \epsilon_{i,t} \end{aligned} \tag{10}$$

where $dDecember\_1stHalf$ is a dummy variable indicating whether the unscheduled event occurs on or between December 1 and December 15, which is our proxy for the first half of December. Similarly, $dDecember\_2ndHalf$ is a crude proxy for the latter half of December. β_1 captures the immediate market reaction to events occurring between December 1–15, whereas β_2 captures the immediate market reaction to events occurring between December 16–31.

The results are presented in Table X. In Sub-Panel A.1, we proxy attention through Internet searches on the SEC's website using a 5% random sample of firms in the SEC EDGAR Log File dataset. We find that investor attention is lower in both the first and second half of December. However, our estimates suggest that inattention is higher in the second half of December. In Sub-Panel A.2, we study institutional attention towards Russell 3000 firms through Bloomberg, and find that institutional attention is much lower in the second half of December. Lastly, in Sub-Panel A.3, we proxy retail attention towards S&P 500 firms through Google Trends, and find that inattention is greater in the second half of December.

In Panel B, we study the immediate absolute price response to unscheduled news. The results in column (I) show that downgrades released after December 15 generate an immediate reaction that is 2.14% weaker relative to downgrades announced in other months (significant at the 5% level). However, downgrades released in the first half of December do not appear to generate a weak immediate response relative to other months. In column (II), we find that the immediate absolute price reaction to 8-K filings is 0.69% weaker (significant at the 1% level) if they occur in the latter half of December, but only 0.37% weaker if they occur in the first half of December. These results are consistent with investors being more distracted with holiday related travel during the second half of December.

D. Does Firm Prominence Play a Role?

In this subsection, we examine whether all firms are equally susceptible to investor distraction in December. It is possible that smaller and less prominent firms receive less attention from investors, especially in periods of investor distraction. We use the following regression to analyze the heterogeneity in the December effect:

$$CAR[-1,+1]_{i,t} = \beta_0 + \beta_1 dDecember_{i,t} + \beta_2 dProminence_{i,t} + \beta_3 dDecember_{i,t} \times dProminence_{i,t} + \sum \gamma_i RatingLevelControls_{i,t} + \sum \omega_i FirmLevelControls_{i,t} + \epsilon_{i,t} \quad (11)$$

where *dDecember* is an indicator variable equal to one if the rating downgrade is announced in December and zero otherwise. *dProminence* is an indicator variable equal to one if the firm experiencing a rating change is a prominent firm and zero otherwise. A firm is *prominent* if its market value, analyst following, or institutional ownership falls in the top quintile of their respective distributions.

In column (I) of Panel A of Table XI, the coefficient on the December dummy indicates that non-large-cap firms that receive downgrades in December generate an immediate response that is 2.43% weaker relative to similar firms downgraded in other months. The sum of the December dummy and the interaction between the December dummy and the dummy indicating large-cap firms is not statistically different from zero, which suggests that large-cap firms downgraded in December do not generate immediate price responses that are significantly different from those downgraded in other months. We document consistent inferences when we define firm prominence in terms of analyst following and institutional ownership, and report the results in columns (II) and (III) of Panel A, respectively.

We also examine the impact of firm prominence on the immediate price response to December 8-K filings and report our findings in Panel B. Across all sub-panels, columns (I) and (III) report results for non-prominent firms, while columns (II) and (IV) report results for prominent firms. The dependent variable in columns (I) and (II) is CAR[-1,+1], while the dependent variable in columns (III) and (IV) is CAR[-10,+1]. When firm prominence is defined in terms of market value or institutional ownership, we find that non-prominent firms experience a muted immediate reaction towards December filings (as determined by the significance of the interaction term between the December indicator and the 8-K filing sentiment measure quintile). On the other hand, prominent firms do not experience a muted immediate price response. When firm prominence is defined in terms of analyst following, we find that both non-prominent and prominent firms experience a muted immediate response towards December filings.

Overall, our results suggest that the December distraction to unscheduled news is primarily driven by investor inattention to less prominent firms.

E. Is December Different From Summer Months?

In this section, we examine whether the December effect documented in this paper is distinct from the summer effect documented in Hong and Yu (2009). To do so, we replicate the analysis conducted in Table VIII, but replace the December dummy with a summer dummy that indicates whether the event date occurs in the summer. Following Hong and Yu (2009), we classify the months of July, August, and September as summer months.

In Panel A of Table XII, we study general investor attention in summer months. Using the SEC EDGAR Log File, we note that abnormal attention appears to be lower in summer months. Moreover, our findings indicate that there are significantly higher incidences of users accessing firms' EDGAR files online through mobile devices. Moreover, through Bloomberg data for Russell 3000 firms, we document that institutional investors are more likely to be inattentive in summer months relative to other months of the year. Lastly, using Google Trends data for S&P 500 firms, we find that retail attention in the summer is not significantly different from that in other months. Taken together, our findings in Panel A provide evidence suggesting that investor attention is markedly lower in the summer, consistent with the findings in Hong and Yu (2009).

Next, we directly compare the *magnitude of inattention* in December to that in the three summer months through the following specification:

$$Attention_{i,t} = \beta_1 dDecember_{i,t} + \beta_2 dSummer_{i,t} + \sum \gamma_i Controls + \epsilon_{i,t} \tag{12}$$

The findings presented in Panel B show that, across all three datasets, investor attention in December and the three summer months is significantly lower compared to that in the other eight months of the year. However, the magnitude of the December dummy is significantly larger than the magnitude of the summer dummy. Moreover, F-statistics of equality reject the null hypothesis that the coefficients on the two dummy variables are equal. Thus, we conclude that while investor attention is significantly lower in both December and summer, the

magnitude of inattention is significantly larger in December.

In Panel C, we examine the attention paid to firms news released in the summer. In column (I), we study rating downgrades, and find that summer downgrades are not faced with significantly lower EDGAR Log File attention than non-summer downgrades. Similarly, summer 8-K filings are not faced with significantly lower attention than non-summer filings (column (II)). Our findings in columns (III) suggest that investor attention towards earnings news released in the summer is not significantly different from attention to earnings released in other months. Our inferences remain unchanged when we proxy attention through Bloomberg (Sub-Panel C.2) or Google Trends (Sub-Panel C.3). Consistenly, in Panel D, we find that the immediate price and volume reaction to unscheduled news released in the summer months is not significantly different relative to comparable events in other months.

V. Conclusion

In this paper, we present evidence that investor inattention during December impacts the stock market's reaction to unscheduled firm-specific announcements. Credit rating downgrade announcements and 8-K filings in December generate significantly weaker stock market reactions than similar downgrades released and 8-Ks filed in other months, respectively. In contrast, after addressing selection issues, the stock market reaction to the release of scheduled earnings announcements in December is similar to the market reaction to earning news released in other months of the year. Moreover, there is no muted stock market response to unscheduled news releases by larger firms, firms with higher analyst following, or higher institutional ownership. Further, the muted stock market response to unscheduled firm-specific news in December is mainly driven by news releases in the latter half of December, during the peak holiday season. Using various proxies for institutional and retail attention, we also find that only unscheduled news events are susceptible to low attention in December. Earnings announcements, the dates of which are known in advance, do not generate low attention even if they occur in December. Taken together, our findings suggest that investors pay limited attention to unscheduled, but salient, firm-specific news during December.

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Table I: Unscheduled Firm News Announcements – Summary Statistics

This table reports descriptive statistics of credit rating change announcements and 8-K filings indicating the occurrence of material events. The rating events sample consists of 5,667 downgrades and 3,096 upgrades on taxable corporate bonds issued by U.S. firms during the period from January 1996 to December 2015. The 8-K sample consists of 686,627 filings by U.S. firms during the period from January 1996 to December 2015. Panel A (Panel B) displays the distribution of rating events (8-K filings) across months of the year. In Panel C, we study the stock price reaction to rating events and 8-K filings occurring in December relative to rating events and 8-K filings occurring in other months, respectively. The cumulative abnormal return, CAR[-1,+1], is calculated using the market model. In Sub-Panel C.1, the dependent variable is CAR[-1,+1], whereas in Sub-Panel C.2, the dependent variable is Abs(CAR[-1,+1]). Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Distribution of Credit Rating Changes by Month

	Downgrades			Upgrades		
	Count	%	Avg(Δ Notches)	Count	%	Avg(Δ Notches)
January	420	7.41	−1.59	198	6.40	1.15
February	462	8.15	−1.61	237	7.66	1.20
March	555	9.79	−1.56	339	10.95	1.33
April	468	8.26	−1.73	281	9.08	1.22
May	450	7.94	−1.49	330	10.66	1.21
June	477	8.42	−1.59	299	9.66	1.24
July	423	7.46	−1.67	238	7.69	1.19
August	417	7.36	−1.50	234	7.56	1.25
September	404	7.13	−1.33	247	7.98	1.17
October	565	9.97	−1.64	239	7.72	1.23
November	554	9.78	−1.48	232	7.49	1.20
December	472	8.33	−1.47	222	7.17	1.16
# Events	5,667			3,096		

Panel B: Distribution of 8-K Filings by Month

	Overall		By filing section type (%)								
	Count	%	Sec 1	Sec 2	Sec 3	Sec 4	Sec 5	Sec 6	Sec 7	Sec 8	Sec 9
January	53,018	7.72	7.56	7.73	7.32	6.88	7.75	8.60	7.06	8.03	8.02
February	61,761	8.99	8.04	10.34	7.32	7.53	8.89	8.74	8.43	7.92	8.91
March	54,874	7.99	9.09	6.16	8.81	10.04	8.96	7.71	8.11	8.41	7.79
April	62,953	9.17	7.84	10.92	8.49	10.77	8.12	10.21	9.80	8.31	10.00
May	72,098	10.50	8.83	10.68	8.71	10.01	12.69	8.10	10.81	9.17	9.82
June	47,183	6.87	8.50	3.49	8.09	9.33	9.13	6.80	7.12	8.55	6.74
July	59,983	8.74	7.34	11.13	7.14	9.12	6.61	9.51	8.96	8.40	9.46
August	59,511	8.67	7.63	10.43	8.43	7.93	6.96	8.83	8.58	8.02	9.68
September	42,797	6.23	8.00	3.37	8.34	6.28	6.71	6.48	7.26	7.70	6.00
October	62,213	9.06	8.46	11.59	8.39	8.13	7.10	9.95	8.25	8.57	8.91
November	61,361	8.94	8.25	10.28	9.02	7.59	7.56	8.12	9.22	8.18	8.87
December	48,875	7.12	10.46	3.89	9.93	6.38	9.53	6.95	6.39	7.75	5.79
# Filings	686,627		98,779	251,072	22,582	13,032	146,567	3,397	131,462	48,434	8,667

Panel C: Difference in CAR Response to Unscheduled Firm News in December

		C.1: Rating Changes		C.2: 8-K Filings		
		Downgrades (I)	Upgrades (II)	(I)	(II)	(III)
		CAR[−1,+1]	CAR[−1,+1]	Absolute CAR[−1,+1]	Negative CAR[−1,+1]	Positive CAR[−1,+1]
Overall Effect		-3.92***	0.15**	4.64***	-4.56***	4.72***
December	(1)	-1.56* [-1.78]	0.47 [1.48]	4.46*** [51.48]	-4.27*** [-48.89]	4.65*** [47.77]
Other Months	(2)	-4.13*** [-12.66]	0.13* [1.68]	4.65*** [132.21]	-4.59*** [-125.60]	4.73*** [124.80]
Difference	(1) − (2)	2.58*** [2.81]	0.34 [1.05]	-0.19** [-2.28]	0.31*** [3.61]	-0.07* [-1.67]

Table II: December Effect in Stock Price Reaction to Unscheduled News

Panel A of this table reports the results of stock price reactions to credit rating changes. Sub-Panel A.1 presents the results of rating downgrades, whereas Sub-Panel A.2 presents the results of rating upgrades. In the regression for the results in columns (I), (II), and (III) of both sub-panels, the dependent variable is CAR[-1,+1], calculated using the market model. In Sub-Panel A.1, the analysis is conducted on the full sample of rating downgrades. In the regression for the results in columns (IV), (V), and (VI) of both sub-panels, the dependent variable is the post-announcement drift calculated over the 60-trading day period following the rating change, calculated as the difference between the buy-and-hold return of the firm experiencing a rating change and that of a size, book-to-market, and momentum matching portfolio over the 60-trading day period following the rating change announcement. In Sub-Panel A.2, the analysis is conducted on downgrades announced in October, November, December, and January. In column (I) (column (II)) of both sub-panels, standard errors are clustered at the firm (reporting date) level. In column (III) of both sub-panels, standard errors are double clustered at the firm and reporting date levels.

Panel B of this table reports results of stock price reactions to filings indicating the occurrence of a material event. Sub-Panel B.1 reports results for the absolute immediate price response to 8-K filings. The dependent variable in columns (I)–(III) is Abs(CAR[-1,+1]). The dependent variable in columns (IV)–(VI) is Abs(CAR[-10,+1]). Sub-Panel B.2 reports results for the immediate price response to filings. The dependent variable in columns (I)–(III) is CAR[-1,+1]. The dependent variable in columns (IV)–(VI) is CAR[-10,+1]. In Sub-Panels B.1 and B.2, the analysis is conducted on the full sample of 8-K filings. In Sub-Panels B.1 and B.2, standard errors are clustered at the firm (reporting date) level in columns (I) and (IV) (columns (II) and (V)). In columns (III) and (VI), standard errors are double clustered at the firm and reporting date levels. Finally, Sub-Panel B.3 reports results for the post-announcement drift. The dependent variable is CAR[+2,+61]. In Sub-Panel B.3, the analysis is conducted on 8-K filed in October, November, December, and January. Standard errors are clustered at the firm (reporting date) level in columns (I), (IV), and (VII) (columns (II), (V), and (VIII)). Lastly, standard errors are double clustered at the firm and reporting date levels in columns (III), (VI), and (IX).

Panel C reports results for the total price response to unscheduled events occurring in October, November, December, and January. The dependent variable in Panel C is CAR[-1,+61]. Sub-Panel C.1 (C.2) studies the total response to rating downgrades (8-K filings). In both sub-panels, column (I) (column (II)) reports results where standard errors are clustered at the firm level (firm and reporting date levels).

All the variables are defined in the Internet Appendix. T-statistics, clustered as described above, are displayed in square brackets. *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: December Effect in Response to Credit Rating Changes

A.1: Rating Downgrades

	CAR[-1,+1]			CAR[+2,+61]		
	(I)	(II)	(III)	(IV)	(V)	(VI)
dDecember	1.78**	1.78**	1.78*	-5.64**	-5.64**	-5.64**
	[2.08]	[2.13]	[1.94]	[-2.05]	[-1.98]	[-2.00]
Observations	5,336	5,336	5,336	1,714	1,714	1,714
Adjusted R^2	0.11	0.11	0.11	0.09	0.09	0.09
Controls	✓	✓	✓	✓	✓	✓
Fixed Effects	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*
Clustering	*F*	*D*	*F,D*	*F*	*D*	*F,D*

A.2: Rating Upgrades

	CAR[-1,+1]			CAR[+2,+61]		
	(I)	(II)	(III)	(IV)	(V)	(VI)
dDecember	0.52	0.52	0.52	-0.74	-0.74	-0.74
	[1.55]	[1.55]	[1.50]	[-0.43]	[-0.41]	[-0.41]
Observations	2,910	2,910	2,910	744	744	744
Adjusted R^2	0.01	0.01	0.01	0.08	0.08	0.08
Controls	✓	✓	✓	✓	✓	✓
Fixed Effects	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*
Clustering	*F*	*D*	*F,D*	*F*	*D*	*F,D*

Panel B: December Effect in Response to 8-K Filings

B.1: Absolute Price Response

	Absolute(CAR[-1,+1])			Absolute(CAR[-10,+1])		
	(I)	(II)	(III)	(IV)	(V)	(VI)
dDecember	-0.52***	-0.52***	-0.52***	-0.60***	-0.60***	-0.60***
	[-18.93]	[-13.88]	[-12.87]	[-13.15]	[-10.20]	[-9.28]
N	663,299	663,299	663,299	662,928	662,928	662,928
Adj. R^2	0.19	0.19	0.19	0.27	0.27	0.27
Controls	✓	✓	✓	✓	✓	✓
Fixed Effects	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*
Clustering	*F*	*D*	*F,D*	*F*	*D*	*F,D*

B.2: Sentiment Analysis

	CAR[-1,+1]			CAR[-10,+1]		
	(I)	(II)	(III)	(IV)	(V)	(VI)
dDecember	0.40***	0.40***	0.40***	1.05***	1.05***	1.05***
	[5.45]	[4.74]	[4.73]	[7.57]	[6.33]	[5.94]
Sentiment (SM)	0.15***	0.15***	0.15***	0.18***	0.18***	0.18***
	[22.03]	[22.69]	[21.28]	[15.77]	[16.19]	[15.16]
dDecember × SM	-0.04*	-0.04	-0.04*	-0.13***	-0.13***	-0.13***
	[-1.69]	[-1.64]	[-1.65]	[-3.33]	[-3.50]	[-3.33]
N	663,299	663,299	663,299	662,928	662,928	662,928
Adj. R^2	0.01	0.01	0.01	0.12	0.12	0.12
Controls	✓	✓	✓	✓	✓	✓
Fixed Effects	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*
Clustering	*F*	*D*	*F,D*	*F*	*D*	*F,D*

B.3: Long-Run Response

	Positive v. Negative Filing			Extreme Sent. Quintiles			All Sent. Quintiles		
DV: CAR[+2,+61]	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)
dDecember	0.45***	0.45***	0.45***	0.56**	0.56**	0.56**	0.30	0.30	0.30
	[3.16]	[3.09]	[2.82]	[2.54]	[2.49]	[2.37]	[1.23]	[1.24]	[1.16]
dPositiveFiling (dPos)	0.19*	0.19**	0.19*						
	[1.95]	[2.10]	[1.90]						
dDecember × dPos	0.44**	0.44**	0.44**						
	[2.10]	[2.20]	[2.11]						
dTopQuintile (dTop)				0.39**	0.39***	0.39**			
				[2.38]	[2.65]	[2.37]			
dDecember × dTop				0.52*	0.52*	0.52*			
				[1.71]	[1.74]	[1.67]			
Sentiment (SM)							0.11***	0.11***	0.11***
							[2.93]	[3.27]	[2.90]
dDecember × SM							0.12*	0.12*	0.12*
							[1.76]	[1.78]	[1.70]
N	193,114	193,114	193,114	78,717	78,717	78,717	193,113	193,113	193,113
Adj. R^2	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fixed Effects	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*	*I,Y*
Clustering	*F*	*D*	*F,D*	*F*	*D*	*F,D*	*F*	*D*	*F,D*

Panel C: Total Response to Unscheduled News Events

C.1: Rating Downgrades

	(I) CAR[-1,+61]	(II) CAR[-1,+61]
dDecember	-3.33 [-1.29]	-3.33 [-1.29]
Observations	1,712	1,712
Adjusted R^2	0.09	0.09
Controls	Rating, Firm	Rating, Firm
Fixed Effects	FF48, Year	FF48, Year
Clustering	*F*	*F,D*

C.2: 8-K Filings

	(I) CAR[-1,+61]	(II) CAR[-1,+61]
dDecember × Sentiment	0.08 [1.02]	0.08 [0.99]
dDecember	0.69*** [2.59]	0.69** [2.47]
Sentiment	0.30*** [7.32]	0.30*** [7.19]
Observations	193,086	193,086
Adjusted R^2	0.06	0.06
Controls	8-K, Firm	8-K, Firm
Fixed Effects	FF48, Year	FF48, Year
Clustering	*F*	*F,D*

Table III: December Effect in Response to Unscheduled News Events: Addressing Selection Concerns

In Panel A, the dependent variable is CAR[-1,+1], calculated using the market model over the three-day window centered on the date of the rating change. The dependent variable in Panel B is Abs(CAR[-1,+1]) centered on the date of the 8-K filing. *dDecember* is an indicator variable equal to one for announcements made in December and zero otherwise. *dDecAnnouncer* is an indicator equal to one for firms that experienced at least one unscheduled announcement in December during the sample period and zero otherwise. This indicator is defined separately for the sample of rating downgrades and the sample of 8-K filings. Odd columns present univariate regressions, while even columns report multivariate regressions controlling for industry- and year-fixed effects along with firm characteristics. Firm characteristics include market capitalization, leverage, market-to-book, analyst following, and institutional ownership. Robust T-statistics, clustered at the firm level, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Rating Downgrades

	Full Sample		January-November Subsample		December Announcers Subsample		Full Sample	
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
Constant	-4.13***		-4.35***		-3.95***		-4.35***	
	[-12.94]		[-9.03]		[-9.26]		[-9.03]	
dDecember	2.58***	1.98**			2.40***	1.58*	2.40***	1.70*
	[2.91]	[2.17]			[2.61]	[1.72]	[2.61]	[1.84]
dDecAnnouncer			0.40	0.76			0.40	0.75
			[0.62]	[1.31]			[0.62]	[1.29]
Observations	5667	4593	5195	4198	3353	2771	5667	4593
Adjusted R^2	0.00	0.06	-0.00	0.06	0.00	0.04	0.00	0.06
Firm Chars.		✓		✓		✓		✓
Fixed Effects		*FF48, Y*		*FF48, Y*		*FF48, Y*		*FF48, Y*

Panel B: 8-K Filings

	Full Sample		January-November Subsample		December Announcers Subsample		Full Sample	
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
Constant	4.65***		5.85***		4.60***		5.85***	
	[169.16]		[65.29]		[163.12]		[65.29]	
dDecember	-0.19***	-0.28***			-0.15***	-0.26***	-0.15***	-0.26***
	[-6.18]	[-9.11]			[-4.66]	[-8.62]	[-4.66]	[-8.64]
dDecAnnouncer			-1.25***	-0.36***			-1.25***	-0.32***
			[-13.26]	[-4.70]			[-13.26]	[-4.16]
Observations	686627	582560	637752	541572	661810	561651	686627	582560
Adjusted R^2	0.00	0.12	0.00	0.12	0.00	0.12	0.00	0.12
Firm Chars.		✓		✓		✓		✓
Fixed Effects		*FF48, Y*		*FF48, Y*		*FF48, Y*		*FF48, Y*

Table IV: December Effect in Response to Unscheduled News Events: Matched Sample Analysis

Panel A of this table reports results of stock price reactions to bond rating downgrades in a 1:5 propensity-score matched sample with replacement. In column (I), the dependent variable is CAR[-1,+1] calculated using the market model over the three-day window centered on the date of the rating change. In column (I), downgrades occurring in December are matched to downgrades announced in other months. In column (II), the dependent variable is CAR[+2,+61] in trading days relative to the rating downgrade date, and is calculated as the difference between the buy-and-hold returns of the firm experiencing the rating change and a matched size, book-to-market, and momentum portfolio. The 125 size-B/M-momentum portfolios are constructed using the methodology described in Daniel et al. (1997). In column (II), downgrades occurring in December are matched to downgrades announced in October, November, and January. In columns (I) and (II) of Panel B, 8-K filings occurring in December are matched to 8-K filings occurring in other months of the year. The dependent variable in column (I) of Panel B is the absolute value of the three-day cumulative abnormal return (calculated using the market model) centered on the date of the 8-K filing. The dependent variable for the regression result reported in Column (II) is CAR[-1,+1]. In column (III) of Panel B, 8-K filings occurring in December are matched to 8-K filings occurring in October, November, and January. The dependent variable in column (III) of Panel B is CAR[+2,+61] in trading days relative to the Form 8-K filing date. All the variables are defined in the Internet Appendix. Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Panel A: Rating Changes		**Panel B**: 8-K Filings		
	(I) CAR[-1,+1]	(II) CAR[+2,+61]	(I) Abs(CAR[-1,+1])	(II) CAR[-1,+1]	(III) CAR[+2,+61]
dDecember	1.84**	-5.72**	-0.54***	0.45***	0.21
	[1.99]	[-2.01]	[-13.01]	[4.91]	[0.82]
Sentiment Measure (SM)				0.18***	0.10**
				[13.92]	[2.31]
dDecember × SM				-0.06**	0.15**
				[-2.22]	[2.05]
Observations	2,042	1,360	236,874	236,874	147,767
Adjusted R^2	0.09	0.07	0.21	0.01	0.07
Controls	Rating, Firm	Rating, Firm	8-K, Firm	8-K, Firm	8-K, Firm
Fixed Effects	FF48, Year	FF48, Year	FF48, Year	FF48, Year	FF48, Year

Table V: Scheduled Firm News Announcements - Summary Statistics

This table reports descriptive statistics of earnings announcements. The sample consists of all earnings announcements made by U.S. firms during the period from January 1996 to December 2015. Panel A displays the distribution of earnings announcements across months of the year. Panel B documents the issue of firms self-selecting to report earnings news in December. In this panel, firms are grouped into different buckets on the basis of the percentage of their earnings news released in December over the period 1996–2015. Panel C displays the distribution of earnings announcements across months of the year for firms that announce earnings at least once in December over the period 1996–2015. Panel D displays the immediate stock price reaction to earnings announcements released in December relative to those released in other months after accounting for the firm selection issue highlighted in Panel B. The cumulative abnormal return, CAR[-1,+1], is calculated using the market model over the three-day window centered on the date of the earnings announcement. We sort all earnings announcements with valid earnings surprises into quintiles based on quarterly sorts, where the lowest quintile (Quintile 1) contains earnings announcements with the most negative earnings surprises, and the highest quintile (Quintile 5) contains earnings announcements with the most positive earnings suprises. Panel D.1 displays the average standardized unexpected earnings (earnings surprise) across the different quintiles and how it varies between December announcements and non-December announcements. Panel D.2 displays the average CAR[-1,+1] across different quintiles of the earnings surprise distribution. Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Distribution of Earnings Announcements by Month

	All	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Number	241,069	21,446	25,463	8,702	36,115	24,270	3,558	36,315	22,151	3,244	35,062	21,235	3,508
Fraction	100	8.90	10.56	3.61	14.98	10.07	1.48	15.06	9.19	1.35	14.54	8.81	1.46

Panel B: How Common Are December Announcements Among Firms?

% Earnings News in December	0%	$> 0\%$	(0, 5]%	(5, 10]%	(10, 15]%	(15, 20]%	(20, 25]%	$> 25\%$
# Firms	9,796	773	122	123	119	122	122	165

Panel C: Distribution of Earnings Announcements by Month Accounting For Firm Self-Selection

	All	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Number	25,076	933	1,983	3,121	1,223	2,638	2,714	1,111	2,622	2,478	922	1,784	3,547
Fraction	100	3.72	7.91	12.45	4.88	10.52	10.82	4.43	10.46	9.88	3.68	7.11	14.14

Panel D: Differences between Earnings in December and Other Months by Surprise Quintile Accounting For Selection

	D.1: Mean SUE					D.2: Mean CAR[-1,+1]				
Quintile	1 Low	2	3	4	5 High	1 Low	2	3	4	5 High
December	-0.0348***	-0.0004***	0.0005***	0.0017***	0.0106***	-4.07***	-2.14***	0.06	1.79***	4.43***
	[-3.60]	[-11.30]	[24.90]	[34.09]	[16.55]	[-8.55]	[-6.52]	[0.17]	[5.73]	[9.74]
Other Months	-0.0202***	-0.0004***	0.0005***	0.0017***	0.0115***	-3.98***	-1.71***	0.42***	2.51***	4.38***
	[-14.70]	[-19.66]	[61.74]	[78.81]	[18.60]	[-22.10]	[-12.19]	[3.37]	[18.92]	[22.14]
Difference	-0.0146	0.0000	0.0000	-0.0000	-0.0009	-0.09	-0.42	-0.36	-0.71**	0.04
	[-1.56]	[0.63]	[0.97]	[-0.63]	[-1.14]	[-0.18]	[-1.17]	[-0.95]	[-2.21]	[0.09]

Table VI: December Effect in Stock Price Response to Scheduled News

This table reports the results of stock price reactions to earnings announcements. The sample is restricted to firms that have released earnings news in December at least once over the period January 1996 to December 2015. Columns (I) and (II) present the results of earnings announcements with earnings surprises that fall in the lowest quintile (most negative earnings surprises) and highest quintile (most positive earnings surprises). Columns (III) and (IV) present the results of all quintiles of earnings announcements. The dependent variable is CAR[-1,+1] calculated over the three-day event window centered around the earnings announcement date using the market model. The set of controls includes indicators for the year of earnings announcement, indicators for the day of week of earnings announcement, the quintile of a firm's market capitalization (size), the quintile of a firm's book-to-market ratio, and the standard deviation of earnings in the previous sixteen quarters. All control variables are interacted with the indicator for the top quintile of earnings surprises (columns (I) and (II)) or with the earnings surprise quintile variable (columns (III) and (IV)). All the variables are defined in the Internet Appendix. Robust T-statistics, double clustered at the firm and earnings announcement date level, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Extreme Surprise Quintiles		All Surprise Quintiles	
	(I)	(II)	(III)	(IV)
Constant	-3.98***		-3.86***	
	[-22.10]		[-28.02]	
dDecember	-0.09	-0.63	-0.31	-0.56
	[-0.18]	[-1.12]	[-0.85]	[-1.44]
dTopQuintile	8.37***	7.69***		
	[30.94]	[4.24]		
dDecember × dTopQuintile	0.14	0.87		
	[0.21]	[1.28]		
Earnings Surprise Quintile			2.09***	1.83***
			[34.07]	[4.58]
dDecember × (Earnings Surprise Quintile)			-0.00	0.12
			[-0.02]	[0.83]
Observations	9,841	7,580	24,758	19,588
Controls (Interacted)		✓		✓
Adjusted R^2	0.14	0.16	0.10	0.11

Table VII: December Effect in Volume Reaction to Unscheduled News Events

This table reports results of volume reactions to unscheduled news events. Panel A presents the results of rating downgrade announcements, whereas Panel B presents the results of 8-K filings. In the regression results reported in column (I) of both panels, the dependent variable is the cumulative normalized abnormal stock turnover in the three-day window centered on the firm event date. In the regression results reported in column (II) of both panels, the dependent variable is the cumulative normalized abnormal volume in the three-day window centered on the firm event date. All specifications include industry- and year-fixed effects. The construction of all independent variables is explained in the Internet Appendix. Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Panel A: Rating Downgrades		**Panel B**: 8-K Filings	
	(I) CATO[-1,+1]	(II) CAV[-1,+1]	(I) CATO[-1,+1]	(II) CAV[-1,+1]
dDecember	-0.57**	-0.55**	-0.33***	-0.34***
	[-2.17]	[-2.06]	[-5.66]	[-5.94]
Observations	5,321	5,321	663,207	663,207
Adjusted R^2	0.13	0.13	0.02	0.02
Controls	Rating, Firm	Rating, Firm	8-K, Firm	8-K, Firm
Fixed Effects	FF48, Year	FF48, Year	FF48, Year	FF48, Year

Table VIII: Low Investor Attention in December?

This table reports the results of investor attention towards firms in December using three unique datasets. Panel A reports results for general investor inattention in December. Sub-Panel A.1 reports results for investor attention towards a 5% random sample of firms in the SEC EDGAR Log File database in December compared to other months over the period 2003–2015, where attention is proxied through the number of times a given firm is accessed on a given date through the SEC EDGAR system. In column (I), the dependent variable is logged abnormal attention (defined as $Log(TimesAccessed_{[-1,+1]} - Log(TimesAccessed_{[-35,-5]})$. In column (II), the dependent variable is a dummy variable that takes the value 1 if the firm's information is accessed through the SEC EDGAR system using a mobile phone, and 0 otherwise. The specifications reported in columns (I) and (II) include firm, year, and day-of-week fixed effects. Sub-Panel A.2 reports results for institutional attention towards Russell 3000 firms over the period 2011–2015. In column (III), the dependent variable is one if the Bloomberg-supplied abnormal institutional attention measure is 0 or 1, and zero otherwise. Sub-Panel A.3 reports results for retail attention towards S&P 500 firms over the period 2004–2015. In column (IV), the dependent variable is the raw weekly attention measure provided by Google Trends. In column (V), the dependent variable is the natural log of the attention measure provided by Google Trends. In column (VI), the dependent variable is the demeaned (or abnormal) attention paid towards a specific firm in a given week. The specifications in columns (IV)–(VI) include firm and year fixed effects. Panel B reports results for investor attention towards scheduled firm news (earnings announcements) and unscheduled firm news (rating downgrades and 8-K filings) in December. Sub-Panels B.1, B.2, and B.3 report results based on the SEC EDGAR Log File, Bloomberg, and Google Trends datasets, respectively. Robust T-statistics, double clustered at the firm and time levels, are presented in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: General Investor Inattention in December

	A.1: SEC EDGAR Log File		**A.2**: Bloomberg AIA	**A.3**: Google Trends		
	Abnormal Attention	Mobile Access	$\mathbb{P}$(Low Attention)	Attention	Log Attention	Abnormal Attention
	(I)	(II)	(III)	(IV)	(V)	(VI)
dDecember	-1.55***	0.015***	3.19***	-2.70***	-5.54***	-6.84***
	[-3.03]	[5.75]	[7.07]	[-6.28]	[-6.34]	[-7.19]
Observations	91,812,402	46,910,336	7,721,148	377,595	377,595	374,795
Adj. R^2	0.03	0.03	0.29	0.43	0.41	0.01
Fixed Effects	F, Y, DoW	F, Y, Dow	F, Y	F, Y	F, Y	F, Y

Panel B: December Inattention Towards Firm News

B.1: SEC EDGAR Log File

	Rating Downgrades	8-K Filings	Earnings Announcements
DV: Abnormal Attention	(I)	(II)	(III)
dDecember	-14.36**	-10.87***	3.29
	[-2.23]	[-3.43]	[0.66]
Observations	2,957	582,967	11,337
Adj. R^2	0.11	0.04	0.05

B.2: Bloomberg Abnormal Institutional Attention

	Rating Downgrades	8-K Filings	Earnings Announcements
DV: P(Low Attention)	(I)	(II)	(III)
dDecember	13.92*	9.63***	8.09
	[1.78]	[6.61]	[1.46]
Observations	680	156,665	2,661
Adj. R^2	0.12	0.19	0.35
Controls	R,F	8-K,F	EA,F
Fixed Effects	$FF48, Y$	$FF48, Y$	F, Y,DoW

B.3: Google Trends Retail Attention

	Rating Downgrades	8-K Filings	Earnings Announcements
DV: Abnormal Attention	(I)	(II)	(III)
dDecember	-8.92**	-6.64***	-2.67
	[-2.03]	[-7.46]	[-1.22]
Observations	1,227	91,827	1,988
Adj. R^2	0.06	0.01	0.00

Table IX: Investor Inattention and Immediate Price Response

This table reports results documenting the impact of investor attention on the immediate price response to scheduled and unscheduled firm events. Attention is proxied through the number of times a given firm is accessed on a given date through the SEC EDGAR system. Panel A reports results for rating downgrades. Panels B and C report results for 8-K filings and earnings announcements, respectively. In columns (I), (III), and (V), attention is defined as the logged three-day centered average of the number of times a specific firm is accessed through the SEC EDGAR system on a given date (defined as $Log(TimesAccessed_{[-1,+1]})$. In columns (II), (IV), and (VI), attention is defined as logged abnormal attention (defined as $Log(TimesAccessed_{[-1,+1]} - Log(TimesAccessed_{[-35,-5]})$. The dependent variable across all columns is CAR[-1,+1]. Robust T-statistics, double clustered at the firm and event date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Panel A: Rating Downgrades		**Panel B**: 8-K Filings		**Panel C**: Earnings News	
Investor attention defined as:	Log Attention	Abnormal Attention	Log Attention	Abnormal Attention	Log Attention	Abnormal Attention
	(I)	(II)	(III)	(IV)	(V)	(VI)
	CAR[-1,+1]	CAR[-1,+1]	Absolute CAR[-1,+1]	Absolute CAR[-1,+1]	CAR[-1,+1]	CAR[-1,+1]
dDecember	3.98**	2.84***	-0.66***	-0.56***	0.91	0.14
	[2.02]	[2.83]	[-6.55]	[-12.83]	[0.86]	[0.25]
Attention	-0.52*	-1.34***	0.18***	0.39***	-0.33***	-0.54**
	[-1.90]	[-3.82]	[13.46]	[23.61]	[-2.97]	[-2.41]
dDecember × Attention	-0.16	0.31	0.02	0.08*	-0.09	0.61
	[-0.62]	[0.20]	[0.96]	[1.84]	[-0.43]	[1.29]
ES Quintile					3.59***	3.76***
					[8.31]	[8.99]
dDecember × ES Quintile					-0.26	-0.13
					[-0.59]	[-0.60]
ES Quintile × Attention					0.10**	0.23**
					[2.48]	[2.50]
dDecember × ES Quintile × Attention					0.02	-0.07
					[0.24]	[-0.33]
Observations	2,949	2,949	583,070	583,070	11,332	11,331
Adj. R^2	0.10	0.11	0.18	0.19	0.14	0.14

Table X: Importance of Specific Weeks in Driving the December Effect

This table reports results determining the importance of specific weeks that drive the December effect. Panel A reports results for inattention proxied through three separate datasets. In A.1, attention is proxied through the SEC EDGAR Log File. In column (I), the dependent variable is the logged three-day centered average of the number of times a specific firm is accessed through the SEC EDGAR system on a given date (defined as $Log(TimesAccessed_{[-1,+1]})$. The regression specification in A.1 includes firm, year, and day-of-week fixed effects. In A.2, institutional attention is proxied through Bloomberg's abnormal institutional attention measure. In column (II), the dependent variable is one if the Bloomberg-supplied measure is 0 or 1, and zero otherwise. In A.3, retail attention is determined through Google Trends. In column (III), the dependent variable is the natural log of the attention measure provided by Google Trends. The regression specification in A.3 includes firm and year fixed effects. Panel B reports results for the immediate price response to unscheduled firm events. B.1 reports the results of credit rating downgrades, whereas B.2 reports the results of 8-K filings. The dependent variable in B.1 is the cumulative abnormal return over a three-day period centered on the day of the rating event, CAR[-1,+1]. In B.2, the dependent variable is Abs(CAR[-1,+1]), centered on the 8-K filing date. *dDecember_1stHalf* is an indicator variable that equals one if the event is released between December 1 and December 15, and zero otherwise. Similarly, *dDecember_2ndHalf* is an indicator variable that equals one if the event is released between December 16 and December 31. Both regressions in Panel B include industry- and year-fixed effects. All the variables are defined in the Internet Appendix. Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Panel A: Investor Inattention			**Panel B**: Unscheduled News	
	A.1 EDGAR Log Log(Attention)	**A.2** Bloomberg $\mathbb{P}$(Low Attention)	**A.3** Google Trends Log(Attention)	**B.1** Downgrades CAR[-1,+1]	**B.2** 8-K Filings Abs(CAR[-1,+1])
	(I)	(II)	(III)	(I)	(II)
dDecember_1stHalf	-0.14***	0.54	-2.24***	1.46	-0.37***
	[-2.59]	[0.93]	[-3.56]	[1.10]	[-7.28]
dDecember_2ndHalf	-1.13***	5.67***	-8.64***	2.14**	-0.69***
	[-23.45]	[9.99]	[-7.27]	[1.98]	[-12.51]
Observations	92,010,092	7,721,148	377,595	5,336	663,299
Adj. R^2	0.54	0.29	0.41	0.11	0.19
Fixed Effects	F, Y, DoW	F, Y	F, Y	FF48, Y	FF48, Y

Table XI: Do Certain Firm Characteristics Mitigate or Exacerbate the December Effect?

This table reports the results of stock price reactions to bond rating downgrades (Panel A) and 8-K filings (Panel B). The dependent variable in Panel A is the cumulative abnormal return over a three-day period centered on the day of the rating downgrade, CAR[-1,+1]. In column (I) of Panel A, *dProm* = 1 if firm size falls in the top quintile of the sample distribution and 0 otherwise. In column (II), *dProm* = 1 if the analyst following of a firm falls in the top quintile of the sample distribution and 0 otherwise. In column (III), *dProm* = 1 if the number of institutional owners in a firm falls in the top quintile of the sample distribution and 0 otherwise. In Panel B, we report results of stock price reactions to 8-K filings. We analyze cross-sectional cuts based on market capitalization, analyst following, and institutional ownership in Sub-Panels B.1, B.2, and B.3, respectively. In all three sub-panels, the dependent variable in columns (I) and (II) is CAR[-1,+1], and the dependent variable in columns (III) and (IV) is CAR[-10,+1]. The definition of *dProm* is consistent across Panels A and B. All columns include industry- and year-fixed effects. All the variables are defined in the Internet Appendix. Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Effects of Firm Characteristics on Response to Rating Downgrades

	MarketCap	NumAnalysts	NumInstOwn
	(I)	(II)	(III)
dDecember	2.43**	2.01*	2.06**
(Non-Prominent Firms in December)	[2.20]	[1.69]	[2.03]
dProm	-0.93	-0.00	0.37
	[-1.36]	[-0.01]	[0.64]
dDecember × *dProm*	-2.97**	-0.71	-0.96
	[-1.96]	[-0.50]	[-0.47]
Prominent Firms in December	-0.54	1.30	1.09
T-statistic	[-0.48]	[1.26]	[0.59]
N	5,336	5,336	5,336
Adjusted R^2	0.11	0.11	0.11
Controls	✓	✓	✓
Fixed Effects	*FF48, Y*	*FF48, Y*	*FF48, Y*

Panel B: Effects of Firm Characteristics on Response to 8-K Filings

B.1: Market Capitalization

	CAR[−1,+1]		CAR[−10,+1]	
	Non-Prominent Firms (I)	Prominent Firms (II)	Non-Prominent Firms (III)	Prominent Firms (IV)
dDecember	0.48***	0.09	1.23***	0.36*
	[4.67]	[0.92]	[6.03]	[1.75]
Sentiment Measure (SM)	0.17***	0.09***	0.20***	0.10***
	[19.96]	[8.75]	[14.27]	[6.25]
dDecember × SM	-0.04	-0.02	-0.14***	-0.08
	[-1.42]	[-0.64]	[-2.97]	[-1.46]
Observations	526,524	136,404	526,524	136,404
Adjusted R^2	0.01	0.01	0.12	0.10

B.2: Analyst Following

	CAR[−1,+1]		CAR[−10,+1]	
	Non-Prominent Firms (I)	Prominent Firms (II)	Non-Prominent Firms (III)	Prominent Firms (IV)
dDecember	0.40***	0.39***	1.10***	0.80***
	[3.93]	[2.92]	[5.58]	[2.83]
Sentiment Measure (SM)	0.16***	0.11***	0.19***	0.12***
	[20.00]	[8.47]	[14.32]	[6.20]
dDecember × SM	-0.02	-0.08**	-0.12**	-0.19**
	[-0.86]	[-2.08]	[-2.46]	[-2.57]
Observations	532,418	130,510	532,418	130,510
Adjusted R^2	0.01	0.01	0.12	0.11

B.3: Number of Institutional Owners

	CAR[−1,+1]		CAR[−10,+1]	
	Non-Prominent Firms (I)	Prominent Firms (II)	Non-Prominent Firms (III)	Prominent Firms (IV)
dDecember	0.49***	0.08	1.23***	0.35
	[4.79]	[0.73]	[6.15]	[1.62]
Sentiment Measure (SM)	0.17***	0.09***	0.20***	0.10***
	[20.13]	[8.22]	[14.41]	[5.80]
dDecember × SM	-0.04	-0.01	-0.15***	-0.07
	[-1.53]	[-0.44]	[-3.12]	[-1.23]
Observations	526,818	136,110	526,818	136,110
Adjusted R^2	0.01	0.01	0.12	0.10

Table XII: Attention to Firms in Summer

This table reports the results of investor attention towards firms in the summer months using three unique datasets. Following Hong and Yu (2009), the independent variable of interest, *dSummer*, is a dummy variable that takes the value of 1 if the date is in July, August, or September, and 0 otherwise. Panel A reports results for general investor attention in the summer. A.1 reports results for investor attention towards a 5% random sample of firms in the SEC EDGAR database in summer compared to other months over the period 2003–2015, where attention is proxied through the number of times a given firm is accessed on a given date through the SEC EDGAR system. In column (I), the dependent variable is logged abnormal attention. In column (II), the dependent variable is a dummy variable that takes the value 1 if the firm's information is accessed through the SEC EDGAR system using a mobile phone, and 0 otherwise. The specifications reported in columns (I) and (II) include firm, year, and day-of-week fixed effects. A.2 reports results for institutional attention towards Russell 3000 firms over the period 2011–2015. In column (III), the dependent variable is one if the Bloomberg-supplied abnormal institutional attention measure is 0 or 1, and zero otherwise. A.3 reports results for retail attention towards S&P 500 firms over the period 2004–2015. In column (IV), the dependent variable is the raw weekly attention measure provided by Google Trends. In column (V), the dependent variable is the natural log of the attention measure provided by Google Trends. In column (VI), the dependent variable is the demeaned (or abnormal) attention paid towards a specific firm in a given week. The specifications in columns (IV)–(VI) include firm and year fixed effects. Panel B reports results comparing the magnitude of (in)attention in December relative to summer months. Panel C reports results comparing attention towards firm news released in the summer relative to other months of the year. Panel D reports results for the summer effect in the price and volume response to unscheduled news events. Robust T-statistics, double clustered at the firm and event date levels, are presented in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: General Attention in Summer Months

	A.1: SEC EDGAR Log File		**A.2**: Bloomberg AIA	**A.3**: Google Trends		
	Abnormal Attention	Mobile Access	$\mathbb{P}$(Low Attention)	Attention	Log Attention	Abnormal Attention
	(I)	(II)	(III)	(IV)	(V)	(VI)
dSummer	-0.29**	0.009***	1.06***	0.23	0.33	0.06
	[-2.50]	[3.84]	[5.04]	[1.11]	[0.86]	[0.13]
Observations	91,812,402	46,910,336	7,721,148	377,595	377,595	374,795
Adj. R^2	0.03	0.03	0.29	0.43	0.41	0.01
Fixed Effects	F, Y, DoW	F, Y, DoW	F, Y	F, Y	F, Y	F, Y

Panel B: Comparing Attention in December and Summer Months

	B.1: SEC EDGAR Log File		**B.2**: Bloomberg AIA	**B.3**: Google Trends		
	Abnormal Attention	Mobile Access	$\mathbb{P}$(Low Attention)	Attention	Log Attention	Abnormal Attention
	(I)	(II)	(III)	(IV)	(V)	(VI)
dDecember	-1.68***	0.017***	3.60***	-2.74***	-5.65***	-7.09***
	[-3.21]	[7.03]	[7.91]	[-6.34]	[-6.43]	[-7.42]
dSummer	-0.48***	0.011***	1.43***	-0.12	-0.37	-0.83*
	[-2.76]	[4.61]	[6.81]	[-0.59]	[-1.00]	[-1.87]
Observations	91,812,402	46,910,336	7,721,148	377,595	377,595	374,795
Adj. R^2	0.03	0.03	0.29	0.43	0.41	0.01
Fixed Effects	F, Y, DoW	F, Y, DoW	F, Y	F, Y	F, Y	F, Y

Panel C: Attention in Summer – By Announcements

C.1: SEC EDGAR Log File

	Rating Downgrades	8-K Filings	Earnings Announcements
DV: Abnormal Attention	(I)	(II)	(III)
dSummer	6.23	-0.16	0.30
	[1.15]	[-0.08]	[0.13]
Observations	2,957	582,967	102,556
Adj. R^2	0.11	0.04	0.05

C.2: Bloomberg Abnormal Institutional Attention

	Rating Downgrades	8-K Filings	Earnings Announcements
DV: P(Low Attention)	(I)	(II)	(III)
dSummer	6.01	-0.76	-2.88
	[1.10]	[-0.81]	[-1.46]
Observations	680	156,665	24,350
Adj. R^2	0.11	0.19	0.39
Fixed Effects	$FF48, Y$	$FF48, Y$	$F, Y, Do W$

C.3: Google Trends Retail Attention

	Rating Downgrades	8-K Filings	Earnings Announcements
DV: Abnormal Attention	(I)	(II)	(III)
dSummer	1.82	1.10**	1.23
	[0.72]	[2.04]	[0.12]
Observations	1,227	91,827	19,502
Adj. R^2	0.05	0.00	0.01

Panel D: Summer Effect in Price and Volume Response to Unscheduled Firm News

	D.1: Rating Downgrades		**D.2**: 8-K Filings	
	(I) CAR[-1,+1]	(II) CATO[-1,+1]	(I) Abs(CAR[-1,+1])	(II) CATO[-1,+1]
dSummer	-0.11	-0.14	0.08***	-0.22***
	[-0.20]	[-0.78]	[5.23]	[-5.47]
Observations	5,336	5,321	663,299	663,207
Adjusted R^2	0.11	0.13	0.19	0.02
Controls	Rating, Firm	Rating, Firm	8-K, Firm	8-K, Firm
Fixed Effects	FF48, Year	FF48, Year	FF48, Year	FF48, Year

Internet Appendix:
December Doldrums, Investor Distraction, and Stock Market Reaction to Unscheduled News Events

A. *Variable Definitions*

A.1. Rating-level Control Variables

- *dDecember* is an indicator equal to one if the rating change is announced in December and zero otherwise
- *dFriday* is an indicator equal to one if the rating change is announced on Friday and zero otherwise
- *Previous Rating* is the credit rating level prior to the rating change. It is expressed as the natural logarithm of the cardinal rating scale
- *Abs(Rating Change)* is the absolute value of the difference in rating scale changes between after and before rating change events
- *Log(Days Since Last Rating)* is the natural logarithm of the number of days between the previous rating change in the same direction for the same bond issue, but by another rating agency. Following Jorion, Liu, and Shi (2005), the number of days is set to 60 if
  - if both rating agencies rate on the same day
  - if the rating by the second rating agency is in the opposite direction
  - if the rating change by the other rating agency is separated by more than 60 days
- *Earnings Ann Related* is an indicator variable equal to one if there is an earnings announcement within (-1,+1) days of the rating change event day, and zero otherwise

A.2. 8-K-level Control Variables

- *dDecember* is an indicator equal to one if the 8-K form is filed in December and zero otherwise
- *dFriday* is an indicator equal to one if the 8-K form is filed on Friday and zero otherwise
- *Log(Days Since Last Filing)* is the natural logarithm of the number of days since the last 8-K filing by the same firm
- *Log(#8-K Filings Last Year)* is the natural logarithm of the number of 8-K filings by the same firm in the previous calendar year
- *Earnings Ann Triggered* is an indicator variable equal to one if there is an earnings announcement within (-7,+7) days of the 8-K filing event day, and zero otherwise
- *Sentiment Measure* helps capture the 'tone' of the 8-K filing. It is constructed in the following manner:

- Utilize words list in Bodnaruk, Loughran, and McDonald (2015) to count the total number of positive and negative words in each 8-K filing[22]
- For each filing, calculate the difference between the number of positive words and the number of negative words, and scale this difference by the total number of words in the document (Note that this is a variant of the methodology used in Tetlock, Saar-Tsechansky, and Macskassy (2008))
- Sort above measure into quintiles at an annual frequency, with the lowest (highest) quintile representing the most negative (most positive) documents

A.3. Firm-level Control Variables

- *Size* is the natural logarithm of a firm's market capitalization in the quarter prior to experiencing an unscheduled event
- *MTB* is a firm's market-to-book ratio in the quarter prior to experiencing an unscheduled event
- *Profitability* is a firm's lagged quarterly ratio of operating income to sales
- *Leverage* is the firm's quarterly total debt divided by its assets
- *Earnings* is the firm's lagged quarterly ratio between income before extraordinary items and assets
- *Volatility* is the standard deviation of daily stock returns in the 30 trading days prior to experiencing an unscheduled event expressed in natural logarithm form
- *Average Trading Volume* is the average trading volume in the 30 trading days prior to experiencing an unscheduled event expressed in natural logarithm form
- *Average Return* is the average daily return in the 30 trading days prior to experiencing an unscheduled event
- *FF48* refers to the Fama-French 48 industry to which the firm belongs
- *FF12* refers to the Fama-French 12 industry to which the firm belongs

B. Additional Tests

- Table IA.I reports results for the distribution of 8-K filings across months of the year by the sentiment of the filing. In addition, it also displays the distribution of 8-K filings by sentiment and section type in the weeks surrounding the calendar year end.
- Table IA.II reports results documenting the robustness of the December effect in the immediate stock price reaction to rating downgrades by only accounting for downgrade events that are not preceded by other firm-specific news.
- Table IA.III documents the robustness of the December effect in response to 8-K filings to alternate, longer immediate horizon windows.

[22]The words list can be found on Bill McDonald's website here: http://www3.nd.edu/~mcdonald/Word_Lists.html

- Table IA.IV shows that our findings for 8-K filings are robust to the inclusion of an indicator variable that equals one if the filing firm releases earnings news in the 15-day window centered on the 8-K filing date, and zero otherwise. This helps ensure that our findings are not driven by earnings news-triggered filings.

- Table IA.V reports results documenting the robustness of the December effect in the immediate price response to unscheduled news events to controlling for lagged abnormal turnover.

- Table IA.VI presents results for the probit models underlying the 1:5 propensity-score matched-samples analyzed in Table IV.

- Table IA.VII shows that our results are robust to the use of a 1:1 propensity-score matched sample in addition to the 1:5 propensity-score matched sample studied in Table IV.

- Table IA.VIII shows that our baseline results (reported in Table II) are robust to the use of Fama-French 12 industry-fixed effects instead of Fama-French 48 industry-fixed effects.

- Table IA.IX shows that our baseline results are robust to the use of industry $\times$ year fixed effects that account for time-varying trends within industry, clustering at the event date level, and double clustering along the firm and event date levels. In addition, we also show that our results are unchanged if we define CARs as the difference between the buy-and-hold return of the announcing firm and that of a size, book-to-market, and momentum matching portfolio based on Daniel et al. (1997).

- Table IA.X shows that our baseline results are robust to the use of firm-fixed effects, year- and quarter-fixed effects, and year $\times$ quarter fixed effects.

- Table IA.XI shows that our baseline results are robust to double clustering at the firm and month levels, which helps account for cross-sectional dependencies in the data.

- Table IA.XII reports results addressing selection concerns of firms reporting earnings news in December. Specifically, the table shows that earnings news released in December is not susceptible to a differential immediate price response once selection issues are addressed following the tests suggested in Michaely, Rubin, and Vedrashko (2016).

- Table IA.XIII shows that the Friday distraction effect towards earnings news documented in DellaVigna and Pollet (2009) extends to unscheduled news events.

- Table IA.XIV shows that our baseline results are not driven by information overload as documented in Hirshleifer, Lim, and Teoh (2009).

- Table IA.XV shows that our baseline results are not driven by investor attention towards market price movements as documented in Kottimukkalur (2017).

- Table IA.XVI reports results for specific subsets of unscheduled firm news that are responsible for the generating the December effect. In Panel A, we examine three subsamples of rating downgrades: speculative-grade bonds that receive downgrades (SG-SG sample), investment-grade bonds that receive downgrades but retain their investment-grade status (IG-IG sample), and investment-grade bonds that become speculative-grade because of the announced downgrade (IG-SG sample). We find that the the overall December effect

is dominated by the subsample of downgrades that cause the rated bonds to cross the investment-grade-speculative-grade boundary.

In Panel B, we examine if broad sections of 8-K-triggering events or individual 8-K-triggering events are responsible for driving the distracted response to 8-K filings in December. We do so by including vectors of section and trigger event fixed effects, and find that our results are not driven by broad categories of triggering events, or specific triggering events.

- Table IA.XVII shows results documenting the immediate underreaction to December 8-K filings separately for broad sections of triggering events, as well as individual triggering events.
- Table IA.XVIII reports results for the moderating effect of 8-K filing length on the immediate price reaction to 8-K filings occurring in December. We proxy 8-K length through the number of words in the filing. We find that longer 8-K filings in December are faced with a more muted immediate price and volume reaction.
- Table IA.XIX lists the numbering and classification of credit rating codes.
- Table IA.XX lists the various triggering events underlying the filing of a Form 8-K, grouped together under broad umbrella sections.

Table IA.I: Distribution of 8-K Filings by Sentiment

This table reports the distribution of mandatory 8-K filings indicating the occurrence of material events across different months of the year. The 8-K sample consists of 686,627 filings by U.S. firms during the period from January 1996 to December 2015. In Panel A, 8-K filings are grouped into quintiles on the basis of the sentiment of the filing across different months of the year. The bottom (top) quintile represents the most most negative (most positive) filings. Panel B (Panel C) presents the distribution of 8-K filings by filing sentiment (filing section) in the first two weeks of December, the last two weeks of December, and the first two weeks of January.

Panel A: Distribution of 8-K Filings by Month and Sentiment

	Sentiment Quintiles					
Month	Most Negative Filings	Quintile 2	Quintile 3	Quintile 4	Most Positive Filings	Total
January	10,876	10,095	11,036	9,593	11,418	53,018
February	11,055	11,848	13,881	12,099	12,878	61,761
March	12,417	10,966	10,366	9,589	11,536	54,874
April	11,373	12,716	14,669	11,707	12,488	62,953
May	13,032	16,016	17,479	12,899	12,672	72,098
June	11,640	9,636	8,866	7,622	9,419	47,183
July	10,468	11,640	14,555	11,611	11,709	59,983
August	10,930	12,356	13,537	11,220	11,468	59,511
September	10,336	8,019	7,623	7,665	9,154	42,797
October	11,173	12,149	14,892	11,841	12,158	62,213
November	11,412	12,371	13,961	11,825	11,792	61,361
December	12,629	9,510	7,916	8,210	10,610	48,875
Total	137,341	137,322	148,781	125,881	137,302	686,627

Panel B: Distribution of 8-K Filings by Filing Sentiment in Weeks Surrounding Calendar Year End

Sentiment Quintile	December 1st Half	December 2nd Half	January 1st Half
Negative Filings	6,133	6,496	5,061
Quintile 2	4,842	4,668	3,683
Quintile 3	4,484	3,432	3,358
Quintile 4	4,778	3,432	3,598
Positive Filings	5,768	4,842	4,837

Panel C: Distribution of 8-K Filings by Filing Section in Weeks Surrounding Calendar Year End

Filing Section	December 1st Half	December 2nd Half	January 1st Half
Section 1	4,770	5,556	3,572
Section 2	5,236	4,527	5,447
Section 3	1,059	1,184	814
Section 4	401	431	376
Section 5	6,985	6,977	5,076
Section 6	117	119	124
Section 7	5,285	3,121	3,921
Section 8	2,314	2,180	1,873
Section 9	262	240	221

Table IA.II: Credit Rating Downgrades – Controlling for Prior Credit Events

This table reports results documenting the robustness of the December effect in the immediate stock price reaction to credit rating downgrades to additional controls that account for prior rating events. The sample only consists of downgrade events that are not preceded by other firm-specific news, such as rating watch-list updates, rating changes, 8-K filings, and earnings announcements. Column (I) reports results for downgrade events that are not preceded by other rating events or earnings announcements in the previous 1 trading day. Similary, columns (II), (III), and (IV) report results for downgrade events that are not preceded by other rating events or earnings announcements in the previous 3, 5, and 10 trading days, respectively. The dependent variable across all columns in both panels is the cumulative abnormal return over a three-day period centered on the day of the rating event, CAR[-1,+1]. All specifications include industry- and year-fixed effects. All the variables are defined in the Internet Appendix. Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	No events in prior:			
	1 day	3 days	5 days	10 days
	(1)	(2)	(3)	(4)
dDecember	1.86**	1.95**	2.04***	1.96***
	[2.26]	[2.37]	[2.73]	[2.67]
Observations	4,697	4,415	4,182	3,653
Adj. R^2	0.11	0.10	0.11	0.13
Controls	✓	✓	✓	✓

Table IA.III: 8-K Filings – Varying Immediate Reaction Windows

This table reports results documenting the robustness of the December effect in the immediate stock price reaction to 8-K filings to different immediate reaction windows. The dependent variable in column (I) and column (II) is Abs(CAR[-1,+1]) and CAR[-1,+1], respectively. The dependent variable in column (III) and column (IV) is Abs(CAR[-3,+1]) and CAR[-3,+1], respectively. The dependent variable in column (V) and column (VI) is Abs(CAR[-5,+1]) and CAR[-5,+1], respectively. Lastly, the dependent variable in column (VII) and column (VIII) is Abs(CAR[-10,+1]) and CAR[-10,+1], respectively. The CARs are all computed using the market model. All specifications include industry- and year-fixed effects. All the variables are defined in the Internet Appendix. Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Absolute CAR[−1,+1]	CAR[−1,+1]	Absolute CAR[−3,+1]	CAR[−3,+1]	Absolute CAR[−5,+1]	CAR[−5,+1]	Absolute CAR[−10,+1]	CAR[−10,+1]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
dDecember	-0.52***	0.40***	-0.54***	0.70***	-0.56***	0.80***	-0.60***	1.05***
	[-12.86]	[4.73]	[-11.92]	[6.63]	[-10.72]	[6.28]	[-9.28]	[5.94]
Sentiment (SM)		0.15***		0.16***		0.18***		0.18***
		[21.28]		[19.46]		[18.74]		[15.16]
dDecember × SM		-0.04*		-0.11***		-0.11***		-0.13***
		[-1.65]		[-4.03]		[-3.36]		[-3.33]
Observations	663,299	663,299	662,928	662,928	662,928	662,928	662,928	662,928
Adj. R^2	0.19	0.01	0.16	0.03	0.24	0.05	0.27	0.12
Fixed Effects	FF48, Y	FF48, Y	FF48, Y	FF48, Y	FF48, Y	FF48, Y	FF48, Y	FF48, Y

Table IA.IV: Accounting for 8-K Filings Triggered by Earnings News

This table reports results which show that the December effect towards 8-K filings is not driven by earnings news-trigged filings. Cumulative abnormal returns are computed using the market model. The dependent variables in columns (I), (II), and (III) are CAR[-1,+1], CAR[-3,+1], and CAR[+2,+61], respectively, measured in trading days relative to the 8-K filing date. The regressions presented in columns (I) and (II) are conducted on the entire sample of 8-K filings, whereas the regression presented in column (III) is only conducted on 8-Ks filed in the months of December and January. All the variables are defined in the Internet Appendix. Robust T-statistics, clustered at the firm level, are displayed in square brackets. *, ** and *** indicate significance at the 10%, 5%, and 1%, respectively.

	CAR[-1,+1]	CAR[-3,+1]	CAR[+2,+61]
	(I)	(II)	(III)
dDecember × Sentiment Measure	-0.04*	-0.09**	0.18*
	[-1.79]	[-2.26]	[1.91]
Sentiment Measure	0.15***	0.17***	0.11*
	[22.00]	[17.01]	[1.68]
dDecember	0.38***	0.72***	0.53
	[5.12]	[5.48]	[1.62]
Observations	644531	644522	95173
Adjusted R^2	0.01	0.03	0.08
Controls	✓	✓	✓
Earnings News Dummy	✓	✓	✓
Fixed Effects	FF48, Year	FF48, Year	FF48, Year

Table IA.V: Controlling for Lagged Abnormal Turnover

This table reports results documenting the robustness of the December effect in the stock price response to unscheduled news to controlling for lagged abnormal turnover. Panel A reports results for credit rating downgrades. The dependent variable in column (I) is CAR[-1,+1], determined using the market model. Panel B reports results for 8-K filings. The dependent variable in column (II) and column (III) is Abs(CAR[-1,+1]) and CAR[-1,+1], respectively. The dependent variable in column (IV) and (V) is Abs(CAR[-3,+1]) and CAR[-3,+1], respectively. All specifications include industry- and year-fixed effects. The construction of all independent variables is explained in the Internet Appendix. Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Panel A: Downgrades	Panel B: 8-K Filings			
	(I) CAR[−1,+1]	(I) Abs(CAR[−1,+1])	(II) CAR[−1,+1]	(III) Abs(CAR[−10,+1])	(IV) CAR[−10,+1]
dDecember	1.83**	-0.53***	0.41***	-0.62***	1.06***
	[1.96]	[-12.87]	[4.85]	[-9.29]	[5.99]
Sentiment (SM)			0.15***		0.18***
			[21.66]		[15.72]
dDecember × SM			-0.04*		-0.13***
			[-1.68]		[-3.39]
Observations	5,308	662,836	662,836	662,836	662,836
Adjusted R^2	0.10	0.19	0.01	0.26	0.12
Controls	Rating, Firm	8-K, Firm	8-K, Firm	8-K, Firm	8-K, Firm
Fixed Effects	FF48, Year	FF48, Year	FF48, Year	FF48, Year	FF48, Year

Table IA.VI: Propensity Score Matched Sample for Stock Price Reactions

This table presents results which highlight the process of creating a matched sample. All variables are defined in the Internet Appendix. It shows the results of the probit model used in the matching process. We estimate the probability of an unscheduled event occurring in December. In all columns, the dependent variable is an indicator variable that equals one if the unscheduled event occurs in December, and zero otherwise. Column (I) reports the results using the full sample of downgrades for which all independent variables are available. Column (II) reports the results of the probit model which is estimated using the propensity-score matched downgrade data. Congruently, Column (III) reports the results using the full sample of 8-K filings for which all independent variables are available, whereas Column (IV) reports the results of the probit model which is estimated using the propensity-score matched 8-K filing data. In our matching algorithm, every firm experiencing an unscheduled event in December (treatment firms) is matched with up to five firms that did not experience unscheduled events in December (control firms) based on the propensity score of experiencing an unscheduled event in December. In Columns (I) and (II), the outcome variable on which the treatment and control groups are matched is the cumulative abnormal return over the three-day window centered on the date of the rating downgrade. In Columns (III) and (IV), the outcome variable used for matching is the absolute value of the cumulative abnormal return over the three-day window centered on the date of the 8-K filing. *, **, and *** indicate statistical significance greater than the 10%, 5%, and 1% levels, respectively.

	Rating Downgrades		8-K Filings	
	(I) Before match	(II) After match	(I) Before match	(II) After match
Abs(Rating Change)	-0.06**	-0.01		
	[-2.12]	[-0.35]		
Log(Days Since Last Rating)	0.03**	0.01		
	[1.98]	[0.62]		
Size	0.09**	0.03	0.05***	0.01
	[2.46]	[0.74]	[4.25]	[1.15]
Market-to-Book	-0.12	-0.06	-0.02***	-0.01**
	[-1.46]	[-0.56]	[-5.68]	[-2.19]
Leverage	0.33*	0.11	0.05***	0.01
	[1.78]	[0.49]	[3.26]	[0.41]
Profitability	0.20**	0.14	-0.00	-0.00
	[2.06]	[0.99]	[-0.96]	[-0.31]
Earnings	-2.49***	-1.25	-0.57***	-0.11
	[-3.46]	[-1.32]	[-7.06]	[-1.20]
Log(Volatility)	0.17*	0.04	0.14***	0.05
	[1.77]	[0.38]	[3.43]	[0.97]
Log(Trading Volume)	-0.05*	-0.01	-0.01	-0.00
	[-1.85]	[-0.40]	[-1.13]	[-0.16]
Average Return	0.47	-3.54	-5.86**	-1.09
	[0.09]	[-0.58]	[-2.04]	[-0.34]
Log(#8-Ks Filed Last Year)			-0.11***	-0.02
			[-5.60]	[-1.16]
Log(Days Since Last Filing)			-0.03***	-0.01
			[-5.98]	[-1.47]
Observations	5360	2042	665280	237588
Pseudo R^2	0.02	0.00	0.01	0.00

Table IA.VII: December Effect in Stock Price Reaction to Credit Rating Changes - 1:1 Matching

Panel A of this table reports results of stock price reactions to bond rating downgrades in a 1:1 propensity-score matched sample with replacement. In column (I), the dependent variable is CAR[-1,+1] calculated using the market model over the three-day window centered on the date of the rating change. In column (I) downgrades occurring in December are matched to downgrades announced in other months. In column (II), the dependent variable is CAR[+2,+61] in trading days relative to the rating change date, and is calculated as the difference between the buy-and-hold returns of the firm experiencing the rating change and a matched size, book-to-market, and momentum portfolio. The 125 size-B/M-momentum portfolios are constructed using the methodology described in Daniel et al. (1997). In column (II), downgrades occurring in December are matched to downgrades announced in October, November, and January. In columns (I) and (II) of Panel B, 8-K filings occurring in December are matched to 8-K filings occurring in other months of the year. The dependent variable in column (I) of Panel B is the absolute value of the three-day cumulative abnormal return (calculated using the market model) centered on the date of the 8-K filing. The dependent variable for the regression result reported in column (II) is CAR[-1,+1]. In column (III) of Panel B, 8-K filings occurring in December are matched to 8-K filings occurring in October, November, and January. The dependent variable in columns (III) of Panel B is CAR[+2,+61] in trading days relative to the Form 8-K filing date. All the variables are defined in the Internet Appendix. Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Panel A: Rating Downgrades		Panel B: 8-K Filings		
	(I) CAR[-1,+1]	(II) CAR[+2,+61]	(I) Abs(CAR[-1,+1])	(II) CAR[-1,+1]	(III) CAR[+2,+61]
dDecember	2.61**	-5.82*	-0.51***	0.45***	0.18
	[2.27]	[-1.70]	[-11.35]	[4.20]	[0.57]
Sentiment Measure (SM)				0.20***	0.08
				[8.25]	[1.25]
dDecember × SM				-0.07**	0.17*
				[-2.16]	[1.90]
N	866	739	93,431	93,431	75,520
Adjusted R^2	0.14	0.06	0.22	0.01	0.06
Controls	Rating, Firm	Rating, Firm	8-K, Firm	8-K, Firm	8-K, Firm
Fixed Effects	FF48, Year	FF48, Year	FF48, Year	FF48, Year	FF48, Year

Table IA.VIII: December Effect – Robustness to Alternative Industry Groupings

This table reports results that document the robustness of the December effect to alternative industry groupings. Panel A reports results for credit rating downgrades. In column (I), the dependent variable is CAR[-1,+1], calculated using the market model, and the regression is run on the full sample of downgrades. In column (II), the dependent variable is CAR[+2,+61], calculated in the 60-day trading period following the rating change announcement, as the difference between the buy-and-hold return of the firm experiencing the rating change and a matched size-B/M-momentum portfolio. The 125 size-B/M-momentum portfolios are constructed using the methodology described in Daniel et al. (1997). The regression in column (II) is run on downgrades that are announced in December and January.

Panel B reports results for 8-K filings. In column (I), the dependent variable is the absolute value of the 3-day CAR centered on the 8-K filing date. Columns (II) and (III) report the results for 8-K filings generating a negative immediate price reaction and a positive immediate price reaction, respectively. Columns (IV) and (V) report the results of sentiment analysis conducted on the 8-Ks. The dependent variable in column (IV) is CAR[-1,+1], and in column (IV) is CAR[+2,+61] measured in trading days relative to the 8-K filing date. The regressions in columns (I), (II), (III), and (IV) are conducted on the entire sample of 8-K filings, whereas the regression in column (V) is only conducted on 8-K filings occurring in the months of December and January.

All the control variables are defined in the Internet Appendix. Robust T-statistics, clustered at the firm level, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. *FF12*, *Y*, *F*, and *R* refer to Fama-French 12-industry, year, firm, and rating, respectively.

	Panel A: Rating Downgrades		Panel B: 8-K Filings				
			B.1: Baseline	B.2: Partitioned Samples		B.3: Sentiment Analysis	
	(I)	(II)	(I)	(II)	(III)	(IV)	(V)
	CAR[-1,+1]	CAR[+2,+61]	Absolute CAR[-1,+1]	Negative CAR[-1,+1]	Positive CAR[-1,+1]	CAR[-1,+1]	CAR[+2,+61]
dDecember	1.68**	-5.08*	-0.52***	0.65***	-0.38***	0.41***	0.44
	[1.98]	[-1.71]	[-19.07]	[19.79]	[-10.09]	[5.48]	[1.39]
Sentiment Measure (SM)						0.15***	0.12*
						[21.98]	[1.71]
dDecember × SM						-0.04*	0.15*
						[-1.72]	[1.65]
Observations	5337	825	665256	341916	323340	665256	98373
Adjusted R^2	0.12	0.05	0.19	0.20	0.19	0.01	0.08
Controls	*R*,*F*	*R*,*F*	8-K,*F*	8-K,*F*	8-K,*F*	8-K,*F*	8-K,*F*
Fixed Effects	*FF12*,*Y*	*FF12*,*Y*	*FF12*,*Y*	*FF12*,*Y*	*FF12*,*Y*	*FF12*,*Y*	*FF12*,*Y*

Table IA.IX: December Effect – Robustness to Alternative Econometric Specifications and Definitions of CARs

This table reports results documenting the robustness of the December effect in the stock price response to unscheduled news to alternative econometric specifications specifications and definitions of CARs. In Panel A.1 (B.1), the dependent variable is CAR[-1,+1] (Abs(CAR[-1,+1])), calculated using the market model. In Panel A.2 (B.2), the dependent variable is BHAR[-1,+1] (Abs(BHAR[-1,+1])), calculated as the difference between the buy-and-hold return of the firm experiencing an unscheduled event and that of a matching size, book-to-market, and momentum matching portfolio. In all four subpanels, column (I) includes industry- and year-fixed effects, with standard errors clustered at the firm level. Column (II) repeats the same analysis as column (I), but with standard errors clustered at the event-date level, with the event date being the date of the rating change in Panel A, and the 8-K filing date in Panel B. In column (III), standard errors are double clustered at the firm and event-date levels, and continues to include industry- and year-fixed effects. Columns (IV) through (VI) repeats the analysis of columns (I) through (III), but with industry-year fixed effects instead of industry- and year-fixed effects. All the control variables are defined in the Internet Appendix. Robust T-statistics are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. *I*, *Y*, *F*, *RD*, and *FD* refer to Fama-French 48 industry groupings, year, firm, rating date, and 8-K filing date, respectively.

Panel A: Credit Rating Downgrades

	Panel A.1: CAR[-1,+1]						Panel A.2: BHAR[-1,+1]					
	(I)	(II)	(III)	(IV)	(V)	(VI)	(I)	(II)	(III)	(IV)	(V)	(VI)
dDecember	1.78**	1.78**	1.78*	1.66*	1.66*	1.66*	1.70***	1.70***	1.70**	1.91***	1.91***	1.91**
	[2.08]	[2.13]	[1.94]	[1.84]	[1.85]	[1.72]	[2.67]	[2.70]	[2.55]	[2.66]	[2.68]	[2.56]
Observations	5336	5336	5336	5234	5234	5234	5003	5003	5003	4896	4896	4896
Adjusted R^2	0.11	0.11	0.11	0.10	0.10	0.10	0.11	0.11	0.11	0.10	0.10	0.10
Rating Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fixed Effects	*I,Y*	*I,Y*	*I,Y*	*I*×*Y*	*I*×*Y*	*I*×*Y*	*I,Y*	*I,Y*	*I,Y*	*I*×*Y*	*I*×*Y*	*I*×*Y*
Clustering	*F*	*RD*	*F,RD*	*F*	*RD*	*F,RD*	*F*	*RD*	*F,RD*	*F*	*RD*	*F,RD*

Panel B: 8-K Filings

	Panel B.1: Abs(CAR[-1,+1])						Panel B.2: Abs(BHAR[-1,+1])					
	(I)	(II)	(III)	(IV)	(V)	(VI)	(I)	(II)	(III)	(IV)	(V)	(VI)
dDecember	-0.52***	-0.52***	-0.52***	-0.52***	-0.52***	-0.52***	-0.48***	-0.48***	-0.48***	-0.48***	-0.48***	-0.48***
	[-18.93]	[-13.88]	[-12.87]	[-18.88]	[-13.82]	[-12.81]	[-17.53]	[-12.25]	[-11.53]	[-17.49]	[-12.18]	[-11.47]
Observations	663299	663299	663299	663299	663299	663299	589994	589994	589994	589994	589994	589994
Adjusted R^2	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
8-K Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fixed Effects	*I,Y*	*I,Y*	*I,Y*	*I*×*Y*	*I*×*Y*	*I*×*Y*	*I,Y*	*I,Y*	*I,Y*	*I*×*Y*	*I*×*Y*	*I*×*Y*
Clustering	*F*	*FD*	*F,FD*	*F*	*FD*	*F,FD*	*F*	*FD*	*F,FD*	*F*	*FD*	*F,FD*

Table IA.X: December Effect – Accounting for Macroeconomic Trends

This table reports results that document the robustness of the December effect to concerns of varying macroeconomic trends within the year. In Panel A (Panel B), we report results for credit rating downgrades (8-K filings). The dependent variable in the results reported in Panel A (Panel B) is CAR[-1,+1] (Abs(CAR[-1,+1])), calculated using the market model. Column (I) of both panels report results that account for industry-, year-, and quarter-fixed effects. Column (II) in both panels reports results for regressions that include industry- and year-quarter-fixed effects. The analysis in columns (I) and (II) is repeated in columns (III) and (IV), but with firm-fixed effects instead of industry-fixed effects. All the control variables are defined in the Internet Appendix. Robust T-statistics, clustered at the firm level, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. I, Y, Q, F, and R refer to Fama-French 48 industry groupings, year, quarter, firm, and rating, respectively.

	Panel A: Rating Downgrades				Panel B: 8-K Filings			
	(I)	(II)	(III)	(IV)	(I)	(II)	(III)	(IV)
dDecember	1.87**	1.97**	1.70*	1.89**	-0.58***	-0.59***	-0.57***	-0.58***
	[1.97]	[2.05]	[1.95]	[2.12]	[-19.77]	[-19.95]	[-19.72]	[-19.85]
Observations	5336	5336	5337	5337	663299	663299	665280	665280
Adjusted R^2	0.11	0.11	0.16	0.16	0.19	0.19	0.21	0.21
Controls	R,F	R,F	R,F	R,F	8-K,F	8-K,F	8-K,F	8-K,F
Fixed Effects	I,Y,Q	$I,Y\times Q$	F,Y,Q	$F,Y\times Q$	I,Y,Q	$I,Y\times Q$	F,Y,Q	$F,Y\times Q$

Table IA.XI: December Effect – Addressing Cross-Sectional Heterogeneity

This table reports results of the December effect while accounting for cross-sectional dependencies in the data. In Panel A (Panel B), we report results for credit rating downgrades (8-K filings). The dependent variable in the results reported in Panel A (Panel B) is CAR[-1,+1] (Abs(CAR[-1,+1])), calculated using the market model. Column (I) of both panels reports results that account for industry- and year-fixed effects. Columns (II) and (III) report results that include industry-, year-, and quarter-fixed effects, and industry- and year-quarter-fixed effects, respectively. The analysis in columns (I)–(III) is repeated in columns (IV)–(VI), but with firm-fixed effects instead of industry-fixed effects. Robust T-statistics, double clustered at the firm and month levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. I, Y, Q, F, R, and M refer to Fama-French 48 industry groupings, year, quarter, firm, rating, and month, respectively.

	Panel A: Rating Downgrades						Panel B: 8-K Filings					
	(I)	(II)	(III)	(IV)	(V)	(VI)	(I)	(II)	(III)	(IV)	(V)	(VI)
dDecember	1.78***	1.87*	1.97*	1.26**	1.70**	1.89**	-0.52***	-0.58***	-0.59***	-0.49***	-0.57***	-0.58***
	[4.00]	[2.03]	[2.02]	[2.58]	[2.35]	[2.46]	[-6.82]	[-3.39]	[-3.44]	[-6.82]	[-3.41]	[-3.45]
Observations	5336	5336	5336	5337	5337	5337	663299	663299	663299	665280	665280	665280
Adjusted R^2	0.11	0.11	0.11	0.16	0.16	0.16	0.19	0.19	0.19	0.21	0.21	0.21
Controls	R,F	R,F	R,F	R,F	R,F	R,F	8-K,F	8-K,F	8-K,F	8-K,F	8-K,F	8-K,F
Fixed Effects	I,Y	I,Y,Q	I,$Y\times Q$	F,Y	F,Y,Q	F,$Y\times Q$	I,Y	I,Y,Q	I,$Y\times Q$	F,Y	F,Y,Q	F,$Y\times Q$

Table IA.XII: December Distraction Towards Earnings Announcements – Addressing Selection Issues through Michaely, Rubin, and Vedrashko (2016) Tests

This table reports results which address the selection concerns associated with firms endogenously announcing earnings news in December. The table employs selection tests proposed in Michaely, Rubin, and Vedrashko (2016). The dependent variable is CAR[-1,+1], calculated using the market model over the three-day window centered on the date of the earnings announcement. *dDecember* is an indicator variable equal to one for announcements made in December and zero otherwise. *dDecember_Announcer* is an indicator equal to one for firms that release at least one earnings announcement in December during the sample period and zero otherwise. The set of controls includes indicators for the year of earnings announcement, indicators for the day of week of earnings announcement, the quintile of a firm's market capitalization (size), the quintile of a firm's book-to-market ratio, and the standard deviation of earnings in the previous sixteen quarters. All control variables are interacted with earnings surprise quintile variable. All the variables are defined in the Internet Appendix. Robust T-statistics, clustered at the earnings announcement date level, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	January–November Subsample	December Announcers	Full Sample
ES Quintile	2.28***	1.83***	2.28***
	[19.40]	[5.11]	[19.70]
dDecember_Announcer	-0.48***		-0.48***
	[-3.45]		[-3.46]
dDecember_Announcer × ES Quintile	0.40***		0.40***
	[6.84]		[6.84]
dDecember		-0.56	-0.48
		[-1.47]	[-1.28]
dDecember × ES Quintile		0.12	0.10
		[0.83]	[0.65]
Observations	177,502	19,588	180,305
Adj. R^2	0.08	0.11	0.08

Table IA.XIII: Friday Effect in Response to Unscheduled News Events

This table reports results documenting the presence of a weekend-proximity effect in the market response to credit rating downgrades. In Panel A, the analysis is conducted on the full sample of rating downgrades. In Column (I), the dependent variable is the abnormal return calculated on the date of the rating downgrade using the market model, whereas the dependent variable in Column (II) is the abnormal stock turnover on the date of the rating downgrade. Panel B is defined analogously for rating upgrades. In Panel C, the analysis is conducted on 8-K filings. In Column (I), the dependent variable is the absolute cumulative abnormal return calculated on the date of the filing using the market model. In Column (II), the dependent variable is the abnormal stock turnover on the date of the 8-K filing. All the control variables are defined in the Internet Appendix. Robust T-statistics, clustered at the firm level, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Panel A: Rating Downgrades		Panel B: Rating Upgrades		Panel C: 8-K Filings	
	(I) CAR[0,0]	(II) CATO[0,0]	(I) CAR[0,0]	(II) CATO[0,0]	(I) Abs(CAR[0,0])	(II) CATO[0,0]
dFriday	0.82***	-0.14**	0.01	0.07	-0.14***	-0.06***
	[2.60]	[-2.30]	[0.10]	[1.10]	[-10.71]	[-9.88]
Observations	5316	5321	2911	2912	663202	663207
Adjusted R^2	0.08	0.12	0.01	0.05	0.16	0.02
Controls	R,F	R,F	R,F	R,F	8-K, Y	8-K, Y
Fixed Effects	$FF48, Y$	$FF48, Y$	$FF48, Y$	$FF48, Y$	$FF48, Y$	$FF48, Y$

Table IA.XIV: Information Overload in December?

This table reports results determining the importance of information overload in driving the holiday season distraction effect. Information overload is defined as the number of competing earnings announcements, rating change announcements, and 8-K filings made on any given trading day. *IO Rank* is the information overload ranking variable formed by ranking trading days into quintiles based on the total number of competing earnings announcements, rating change announcements, and 8-K filings made on a given day. The quintiles are formed on the basis of monthly sorts. Panel A focuses on the full sample of rating downgrades, with the dependent variable being CAR[-1,+1] (calculated using the market model), while Panel B focuses on the full sample of 8-K filings, with the dependent variable being Abs(CAR[-1,+1]). Column (I) in both panels focuses on the subsample of "low overload" days (bottom quintile), while Column (II) focuses on the subsample of "high overload" days (top quintile). All the variables are defined in the Internet Appendix. Robust T-statistics, clustered at the firm level, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Rating Downgrades		8-K Filings	
	(I) Low Overload	(II) High Overload	(I) Low Overload	(II) High Overload
dDecember	5.94**	2.85**	-0.16**	-0.79***
	[2.14]	[2.44]	[-2.11]	[-14.73]
Observations	654	1200	63542	188890
Adjusted R^2	0.27	0.15	0.21	0.18
Controls	Rating, Firm	Rating, Firm	8-K, Firm	8-K, Firm
Fixed Effects	FF48, Year	FF48, Year	FF48, Year	FF48, Year

Table IA.XV: Attention to Large Market Price Movements?

This table reports results determining the importance of attention to aggregate market movements in driving the holiday season distraction effect. Market movement is defined as the absolute value of the daily return on the CRSP value-weighted index. *MMRANK* is the market movement ranking variable formed by ranking trading days into quintiles based on the absolute aggregate market movement on a given day. The quintiles are formed on the basis of quarterly sorts, and these quintile break points are lagged to avoid look-ahead bias. Panel A focuses on the full sample of rating downgrades, with the dependent variable being CAR[-1,+1] (calculated using the market model), while Panel B focuses on the full sample of 8-K filings, with the dependent variable being Abs(CAR[-1,+1]). Column (I) in both panels focuses on the subsample of "small movement" days (bottom quintile), while Column (II) focuses on the subsample of "large movement" days (top quintile). All the variables are defined in the Internet Appendix. Robust T-statistics, clustered at the firm level, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Rating Downgrades		8-K Filings	
	(I) Small Movement	(II) Large Movement	(I) Small Movement	(II) Large Movement
dDecember	3.43**	6.18**	-0.57***	-0.50***
	[2.52]	[2.04]	[-11.80]	[-8.15]
Observations	1169	1180	137649	155057
Adjusted R^2	0.19	0.10	0.19	0.20
Controls	Rating, Firm	Rating, Firm	8-K, Firm	8-K, Firm
Fixed Effects	FF48, Year	FF48, Year	FF48, Year	FF48, Year

Table IA.XVI: Types of Unscheduled News Events Driving the December Effect

This table reports results determining the importance of specific types of unscheduled news events that drive the December effect. Panel A reports the results for credit rating downgrades, whereas Panel B reports the results for 8-K filings. In Panel A, the dependent variable is the cumulative abnormal return over a three-day period centered on the day of the rating event. Column (I) reports the stock price reaction to rating downgrades which result in a downward movement of rating notches within the speculative grade class. Column (II) reports the same, but for downgrades which result in a downward movement of rating notches within the investment grade class. Finally, Column (III) reports the stock price reaction to downgrades which result in a downward movement of rating notches across the investment grade-speculative grade boundary. In Panel B, the dependent variable in columns (I) and (V) is Abs(CAR[-1,+1]). The dependent variable in columns (II) and (VI) is Abs(CAR[-10,+1]). The dependent variable in columns (III) and (VII) is CAR[-1,+1]. The dependent variable in columns (IV) and (VIII) is CAR[-10,+1]. Columns (I)–(IV) account for the unobserved heterogeneity of broad sections of triggering events in determining the (absolute) immediate price response to 8-K filings through section fixed effects. Column (V)–(VI) include individual triggering event fixed effects. All regression specifications include industry- and year-fixed effects. All the variables are defined in the Internet Appendix. Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Panel A: Rating Downgrades			Panel B: 8-K Filings							
	SG-SG Downgrades	IG-IG Downgrades	IG-SG Downgrades	Section FE				Trigger FE			
	(I)	(II)	(III)	(I) Absolute	(II) Absolute			Absolute	Absolute		
	CAR[-1,+1]	CAR[-1,+1]	CAR[-1,+1]	CAR[-1,+1]	CAR[-10,+1]	CAR[-1,+1]	CAR[-10,+1]	CAR[-1,+1]	CAR[-10,+1]	CAR[-1,+1]	CAR[-10,+1]
dDecember	1.08	0.93*	5.11**	-0.25***	-0.44***	0.37***	0.98***	-0.45***	-0.56***	0.40***	1.03***
	[0.54]	[1.65]	[2.39]	[-6.60]	[-6.86]	[4.36]	[5.58]	[-11.70]	[-8.63]	[5.46]	[5.83]
Sentiment Measure (SM)						0.17***	0.20***			0.15***	0.18***
						[23.12]	[16.75]			[21.97]	[15.15]
dDecember × SM						-0.04*	-0.13***			-0.04*	-0.12***
						[-1.65]	[-3.36]			[-1.66]	[-3.15]
Observations	1,855	2,526	622	663,299	662,928	663,299	662,928	660,109	659,740	660,109	659,740
Adjusted R^2	0.10	0.05	0.15	0.21	0.27	0.01	0.12	0.20	0.27	0.01	0.12
Controls	Rating,Firm	Rating,Firm	Rating,Firm	8-K,Firm	8-K,Firm	8-K,Firm	8-K,Firm	8-K,Firm	8-K,Firm	8-K,Firm	8-K,Firm
Fixed Effects	*FF48, Y*	*FF48, Y*	*FF48, Y*	*FF48, Y, S*	*FF48, Y, S*	*FF48, Y, S*	*FF48, Y, S*	*FF48, Y, T*	*FF48, Y, T*	*FF48, Y, T*	*FF48, Y, T*

Table IA.XVII: December Effect in Stock Price Response to 8-K Filings by Sections and Triggers

This table reports results documenting the December effect in the stock price response to 8-K filings. Panel A reports results by broad sections of triggering events. We follow Zhao (2016) and focus on five broad sections: Business and Operations (Section 1), Financial Information (Section 2), Corporate Governance (Section 5), Regulation FD (Section 7), and Other Events (Section 8). In Panel B, we study the December effect in response to individual trigger events underlying the above five categories. The dependent variable in all columns is the absolute value of CAR[-1,+1], calculated in the three day window centered on the 8-K filing date. All the control variables are defined in the Internet Appendix. Robust T-statistics, clustered at the firm level, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: December Effect in Response to 8-K Filings by Filing Sections

	Section 1: BusOps	Section 2: FinInfo	Section 5: CorpGov	Section 7: RegFD	Section 8: Other
dDecember	-0.22***	-0.63***	-0.24***	-0.23***	-0.22***
	[-4.24]	[-9.84]	[-6.00]	[-3.70]	[-5.71]
Observations	92777	242481	138449	124268	228094
Adjusted R^2	0.20	0.17	0.21	0.20	0.22
Controls	8-K,F	8-K,F	8-K,F	8-K,F	8-K,F
Fixed Effects	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y

Panel B: December Effect in Response to 8-K Filings by Triggering Events

	Section 1: Business and Operations				Section 2: Financial Information					
	Entry MDA	Term. MDA	Bankruptcy	Mine Safety	Acq./Dis. Assets	Results Ops. Cond.	Creation DFO	Trigger DFO	Costs Exit Disposal	Impair
dDecember	-0.23***	0.10	-0.11	2.79	-0.24***	0.12	-0.32***	1.08	-0.80***	-0.75**
	[-4.29]	[0.65]	[-0.24]	[1.12]	[-2.79]	[1.18]	[-4.16]	[1.17]	[-2.84]	[-2.11]
Observations	87822	7934	2328	118	36925	191304	21858	678	3544	2137
Adjusted R^2	0.20	0.24	0.36	0.18	0.20	0.18	0.25	0.36	0.18	0.24
Controls	8-K,F	8-K,F	8-K,F	8-K,F	8-K,F	8-K,F	8-K,F	8-K,F	8-K,F	8-K,F
Fixed Effects	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y

	Section 5: Corporate Governance					
	Changes Control	Officers	Amend. Articles	Temp. Susp. Trading	Sub. Vote	SH Dir. Nominations
dDecember	-0.02	-0.26***	-0.46***	0.57	0.16	1.11
	[-0.04]	[-6.42]	[-4.31]	[1.57]	[0.85]	[0.78]
Observations	3404	121417	17575	742	19191	75
Adjusted R^2	0.27	0.20	0.23	0.30	0.19	0.26
Controls	8-K,F	8-K,F	8-K,F	8-K,F	8-K,F	8-K,F
Fixed Effects	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y	*FF48*,Y

Table IA.XVIII: Does Length of 8-K Filings Matter?

This table reports results of a regression model which examines the moderating effect of 8-K filing length on the December effect towards 8-K filings. 8-K length is defined as the logarithm of the number of words in the 8-K filing. This measure has been standardized to facilitate interpretation. The results in column (I) report the price response, while the results in Column (II) report the volume response. The regressions for the results in both columns include industry- and year-fixed effects. All the variables are defined in the Internet Appendix. Robust T-statistics, double clustered at the firm and reporting date levels, are displayed in square brackets. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

	Abs(CAR[-1,+1])	CATO[-1,+1]
	(I)	(II)
dDecember	-0.49***	-0.30***
	[-11.91]	[-5.16]
Length (Std.)	0.38***	0.42***
	[35.14]	[43.85]
dDecember × Length (Std.)	-0.18***	-0.23***
	[-5.60]	[-8.18]
Observations	663299	663207
Adjusted R^2	0.19	0.04
8-K Controls	✓	✓
Firm Controls	✓	✓
Fixed Effects	*FF48, Y*	*FF48, Y*

Table IA.XIX: Classification by Rating Agencies

The table presents mapping of rating codes issued by the credit rating agencies to the cardinal scale we use in our analysis. The rating codes used by S&P and Fitch are similar and are different from those used by Moody's. Moody's uses code from Aaa down to C to rate bonds whereas S&P rates bonds from AAA down to D. Within the 6 classes - AA to CCC for S&P and Aa to Caa for Moody's, both rating agencies have three additional gradations with modifiers +,- for S&P and 1,2,3 for Moody's (For example AA+, AA, AA- for S&P and Aa1, Aa2, Aa3 for Moody's). We transformed the credit ratings for S&P (Moody's) into a cardinal scale starting with 1 as AAA (Aaa), 2 as AA+ (Aa1), 3 as AA (Aa2), and so on until 23 as the default category. As Fitch provides three ratings for default, following Jorion, Liu and Shi (2005), we chose 23 instead of 22 for the default category which is the average of the default DD rating.

Explanation	Standard & poor's (modifiers)	Moody's (modifiers)	Fitch (modifiers)	Cardinal Scale
Investment grade				
Highest grade	AAA	Aaa	AAA	1
High grade	AA (+,none,-)	Aa (1,2,3)	AA (+,none,-)	2,3,4
Upper medium grade	A (+,none,-)	A (1,2,3)	A (+,none,-)	5,6,7
Medium grade	BBB (+,none,-)	Baa (1,2,3)	BBB (+,none,-)	8,9,10
Speculative grade				
Lower medium grade	BB (+,none,-)	Ba (1,2,3)	BB (+,none,-)	11,12,13
Speculative	B (+,none,-)	B (1,2,3)	B (+,none,-)	14,15,16
Poor standing	CCC (+,none,-)	Caa (1,2,3)	CCC (+,none,-)	17,18,19
Highly speculative	CC	Ca	CC	20
Lowest quality	C	C	C	21
In default	D		DDD/DD/D	23

Table IA.XX: Classification of 8-K Filings

This table presents information on various material events that trigger a public company's obligation to file a current report. The various kinds of material events, called items, are aggregated into broad sections.

Section Number	Section Name	Item	Description
1	**Registrant's Business and Operations**	1.01	Entry into a material definitive agreement
		1.02	Termination of a material definitive agreement
		1.03	Bankruptcy or receivership
		1.04	Mine safety - Reporting of shutdowns or patterns of violations
2	**Financial Information**	2.01	Completion of acquisition or disposition of assets
		2.02	Results of operations and financial condition
		2.03	Creation of a direct financial obligation or an obligation under an off-balance sheet arrangement of a registrant
		2.04	Triggering events that accelerate or increase a direct financial obligation under an off-balance sheet arrangement
		2.05	Costs associated with exit or disposal activities
		2.06	Material impairments
3	**Securities and Trading Markets**	3.01	Notice of delisting or failure to satisfy a a continued listing rule or standard; transfer of listing
		3.02	Unregistered sales of equity securities
		3.03	Material modification of rights of security holders
4	**Matters Related to Accountants and Financial Statements**	4.01	Changes in registrant's certifying accountant
		4.02	Non-reliance on previously issued financial statements or a related audit report or completed interim review

5	**Corporate Governance and Management**	5.01	Changes in control of registrant
		5.02	Departure of directors or certain officers; election of directors; appointment of certain officers; compensatory arrangements of certain officers
		5.03	Amendments to articles by incorporation or bylaws; change in fiscal year
		5.04	Temporary suspension of trading under registrant's employee benefit plan
		5.05	Amendment to registrant's code of ethics, or waiver of a provision of the code of ethics
		5.06	Change in shell company status
		5.07	Submission of matters to a vote of security holders
		5.08	Shareholder director nominations
6	**Asset-Backed Securities**	6.01	ABS informational and computational material
		6.02	Change of servicer or trustee
		6.03	Change in credit enhancement or other external support
		6.04	Failure to make a required distribution
		6.05	Securities act updating disclosure
7	**Regulation FD**	7.01	Regulation FD disclosure
8	**Other Events**	8.01	Other events
9	**Financial Statements and Exhibits**	9.01	Financial statements and exhibits