Managerial vocal cues and investors' limited attention*

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Abstract

This paper explores how investors react to managerial vocal cues using material information press briefings of Taiwanese listed companies from 2014 through 2021. The findings are as follows: (i) Both the presentation and questions-and-answer (Q&A) portions are informative. Investors react to the incremental information of managerial linguistic tone in the presentation and vocal uncertainty when answering reporters' questions. (ii) The daily price reactions are more pronounced for briefings with bad news. (iii) When the briefing is accompanied by Q&A, both managerial linguistic tone and vocal uncertainty provide information about realizations of future long-term earnings. Analysts incorporate information on managerial vocal uncertainty but not information on linguistic tone when revising their expectations about long-term stock recommendations. (iv) Investors spend longer responding to information about linguistic tone than vocal uncertainty, which is related to both limits to arbitrage and the amount of attention.

Keywords: Layered Voice Analysis, Managerial Vocal Uncertainty, Material Information Press Briefings

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I. Introduction

In the last decade, several studies have explored how investors react to one type of qualitative nonverbal information, vocal cues, such as those contained in managerial disclosures during earnings conference calls and discussions of corporate policies and future performance. On the one hand, affective states contained in managerial voices during English conference calls, aroused from psychological cognitive evaluation of a stimulus such as analysts' questions, are related to contemporaneous stock returns and future profitability (Mayew and Venkatachalam, 2012; Price, Seiler, and Shen, 2017). On the other hand, managerial vocal emotion due to psychological cognitive dissonance during English conference calls is useful for predicting financial irregularity restatements (Hobson, Mayew, and Venkatachalam, 2012).[1]

In this project, we explore how investors in the Taiwanese stock market react to managerial vocal cues when the disclosure is made in a non-English language, Chinese. Psychology literature suggests that emotional behavior is related to cultural beliefs that organize how we express or suppress affective states (Mesquita and Leu, 2007). As for vocal emotion, speakers may use language-specific and culture-specific expressions containing suprasegmental cues, such as intonation or rhythm (Scherer, Banse, and Wallbott, 2001). Consequently, findings related to affective states produced by the same stimulus in one culture could be different from those in another (Liang, 2013; Huang et al., 2014). The literature on finance and accounting also emphasizes the importance of analyses in non-English languages and the challenges, particularly in Chinese (e.g., Loughran and McDonald, 2016). Therefore, additional tests are warranted. To the best of our knowledge, this study is the first to empirically analyze the reaction of Taiwanese stock market investors to managerial vocal cues.

In addition to language, the second way in which this study extends the literature is by investigating an alternative, unexplored route of managerial disclosure: the release of material information through firm press briefings. In particular, our sample consists of 998 material information press briefings held from 2014 through 2021 by companies listed on the Taiwan Stock Exchange and Taipei Exchange. We call attention to the several advantages of discussing material information in press briefings. First, in earnings conference calls, researchers may not provide a reason for managers to exhibit

[1] Throughout the paper, we use the terms "affective states contained in the managerial voice" and "managerial vocal emotion" interchangeably.

affective states (Hobson, Mayew, and Venkatachalam, 2012). By contrast, the firm-specific material information contained in press briefings establishes why positive or negative affective states arise in the first place. Second, the breadth of material information contained in press briefings enables researchers to consistently apply the same event-study design to a variety of information. This allows researchers to examine not only common patterns in the relation between managerial affective states and stock returns and profitability but also the relative importance of the affective states between the various information in a systematic manner. Third, as the literature generally focuses on one particular type of event at a time, analyzing material information press briefings not only adds to the categories of information examined but also provides new implications for categories of information that have not received attention previously. Finally, studying a variety of information avoids potential bias, for, as argued by Fama (1998), "Splashy results get more attention and this creates an incentive to find them" (p. 287).

We follow Mayew and Venkatachalam (2012) and Price, Seiler, and Shen (2017) in measuring the managerial vocal emotion in the audiovisual recordings of briefings mentioned above using Layered Voice Analysis (LVA) software. We examine the impact of managerial vocal emotion on future performance, controlling for the effect of information-related variables documented in previous literature (Matsumoto, Pronk, and Roelofsen, 2011; Mayew, Sethuraman, and Venkatachalam, 2020). Such variables include managerial linguistic tone, length of a press briefing, number of words managers use, number of questions taken, trading turnover, future unexpected earnings, and the last trading day's abnormal return before the press briefing. Through this, we explore investors' response to managerial vocal emotion through daily and intraday returns as a whole of press briefings. The third way in which this paper extends the literature is the discussion of intraday returns. On the one hand, intraday returns permit a finer estimation of the influence of psychological factors than daily returns (Busse and Green, 2002) because the shorter the measurement period is, the less likely it is for any empirical effect to be related to confounding factors (Chang et al., 2008). On the other hand, because more non-vocal information is gained following press briefings, the influence of managerial vocal emotion on stock returns may differ across the entire trading day. Consequently, intraday returns allow us to measure market efficiency in real-time, which could not be discussed in previous literature because of the use of daily, rather than intraday, returns. Moreover, we test whether the effect of managerial vocal

emotion is pronounced during the questions-and-answer (Q&A) section. In particular, questioning by reporters could be an external stimulus, which is likely to produce affective states according to the appraisal theory of emotion (Arnold, 1960; Roseman, 1984).

We start the empirical analyses by exploring whether investors perceive information contained in the managerial voice and then react to vocal emotion. The investors' reaction is measured by the abnormal return after the press briefing on the next trading day. The first important finding shows that both the presentation and Q&A portions are informative, and investors react to the information contained, particularly in the managerial linguistic tone of the presentation and vocal uncertainty when answering reporters' questions. The information gained from the managerial linguistic tone and vocal uncertainty is incremental with respect to the quantitative information on future unexpected earnings and information gathered before the press briefing. These findings are similar under various robustness checks and are not merely for the opening minutes but last for the entire trading day throughout an intraday analysis. Moreover, we find that the daily price reactions are more pronounced for briefings with bad news, where the definition of bad news is lower future unexpected earnings or managerial linguistic tone in the presentation.

We next test whether the managerial linguistic tone in the presentation and vocal uncertainty when answering reporters' questions provide information about future earning realizations. We find that when the briefing is with Q&A, both managerial linguistic tone and vocal uncertainty provide information about future long-term earnings realizations. Moreover, analysts incorporate information on managerial vocal uncertainty but not information on linguistic tone when revising their expectations about long-term stock recommendations.

We also examine whether managerial linguistic tone in the presentation and vocal uncertainty when answering reporters' questions predict future long-run stock returns. Empirical evidence firstly shows that the cumulative abnormal return from days 64 to 252 is significantly and negatively related to linguistic tone but not vocal uncertainty. This finding is consistent with that both linguistic tone and vocal uncertainty provide information about future long-term earnings realizations. In contrast, analysts fail to incorporate information of linguistic tone when revising their long-term stock recommendations. Secondly, the cumulative abnormal return from days 2 to 21 is significantly and positively related to linguistic tone but not vocal uncertainty, showing

that investors may spend a longer time responding to the information of linguistic tone than that of vocal uncertainty.

For the issue that investors may have a delayed reaction to the information of linguistic tone of presentation, we further test whether the delayed reaction is due to investors' limited attention. Psychology literature suggests that people fail to pay attention to all stimuli (such as corporate information) because they have limited information processing capacity. Attention tends to be drawn to stimuli that can be more easily encoded. If an individual focuses on a stimulus, he/she may be unable to draw attention to another. The finance literature suggests that limited investor attention offers a possible explanation for delayed market reactions. The finance literature suggests that limited investor attention offers a possible explanation for the delayed market reaction to various news such as a new issue and repurchase (Loughran and Ritter, 1995; Ikenberry, Lakonishok, and Vermaelen, 1995), stock splits and bond ratings changes (Desai and Jain, 1997; Dichev and Piotroski, 2001), and post-earnings announcement drift (Bernard and Thomas, 1989). In particular, theoretical models (Hirshleifer and Teoh, 2003; Hirshleifer, Lim, and Teoh, 2009) assume that some investors in the market are inattentive to the news and form their expectations using heuristics. Other investors are sophisticated, know the underlying firm value, and face limits to arbitrage, which prevent the market from efficiently reacting to the news. Applying our explanation, whether investors' delayed reaction to the information of linguistic tone of presentation depends on the extent of limits to arbitrage and the relative frequency of inattentive investors.

We start the analyses by exploring whether investors' delayed reaction is related to limits to arbitrage. In particular, we use proxies for limits to arbitrage, such as transaction cost, arbitrage risk, and information uncertainty. Transaction cost is measured by Amihud's (2002) illiquidity, share price, and dollar trading volume. Arbitrage risk is measured using return idiosyncratic volatility. Information uncertainty is measured by dispersion in brokers' earnings forecasts and cash flow volatility. Empirically, we find that investors' delayed reaction is related to their limits to arbitrage. With more limits to arbitrage, the market reacts less efficiently to the information of managerial linguistic tone, so we observe a stronger positive relation between the cumulative abnormal return from days 2 to 21 and linguistic tone.

We also investigate whether investors' reactions to managerial linguistic tone are related to the amount of attention they pay. In particular, we use two kinds of empirical

measures of investor attention: measures based on competing stimuli that substitute investors' attention and measures that are the results of investor attention. For the first kind of measures, investors pay less attention to managerial linguistic tone because other stimuli substitute their attention. We explore whether investors have delayed reactions to managerial linguistic tone when a press briefing is held on Friday or on a day when more firms release material information, both of which could distract investors from processing the information (DellaVigna and Pollet, 2009; Hirshleifer, Lim, and Teoh, 2009; Nekrasov, Teoh, and Wu, 2022).

The literature also considers the results of investor attention as the second kind of measures (Lim and Teoh, 2010). In particular, Baker, Nofsinger, and Weaver (2002) and Cliff and Denis (2004) suggest that increased analyst coverage might lead to greater investor attention and visibility. Bodnaruk and Ostberg (2009) and Lehavy and Sloan (2008) suggest that the level of sophisticated investors can serve as a proxy for the level of attention and recognition of a firm. Drake, Roulstone, and Thornock (2012) suggest that investors express demand for information via the Internet so that Google search volume can be a measure of investor attention. We explore whether investors have delayed reactions to managerial linguistic tone when the firm has a lower extent of brokers' coverage, institutional ownership, or abnormal Google search results. We find that investors' delayed reaction is related to the amount of attention. With less attention, the market reacts less efficiently to the information of managerial linguistic tone, so we observe a stronger relation between the cumulative abnormal return from days 2 to 21 and linguistic tone.

We offer two notable contrasts with the various lines of research. First, this project is close to the line of research that discusses the effect of managerial vocal emotion during English conference calls (Hobson, Mayew, and Venkatachalam, 2012; Mayew and Venkatachalam, 2012; Price, Seiler, and Shen, 2017). We contribute to this literature by discussing an alternative language (Chinese), a new route of managerial disclosure (material information press briefings), and unexplored issues of market reaction in real-time. We also complement two recent studies that explore the Taiwanese stock market. Huang, Chung, and Shen (2019) discuss short-run daily market reactions to managerial emotion during Chinese conference calls, but their focus is managerial tone rather than vocal cues. Chen, Hung, and Tsai (2015) explore daily and intraday return reactions to the material information of the Market Observation Post System. However, they focus on general information rather than managerial tone or vocal cues.

Second, this paper is the first empirical study to analyze the reaction to the managerial tone in material information press briefings. Our evidence suggests that investors' limited attention can be an explanation for why managerial linguistic tone predicts future long-run stock returns, which complements the literature that directly examines the effect of limited attention on market price (see the survey by Lim and Teoh, 2010). Moreover, our sample facilitates the examination of the underreaction to the qualitative information by various categories of material information press briefings, and it complements the prior evidence of delayed reaction to corresponding news. For example, a delayed reaction to qualitative repurchase information from press briefings complements the repurchase puzzle documented in Ikenberry, Lakonishok, and Vermaelen (1995).

The rest of the paper proceeds as follows. Section II describes the data and descriptive statistics. Section III provides the details of the evidence mentioned above. Section IV concludes.

II. Data

A. Sample

We derive our sample of audiovisual recordings from material information press briefings from 2014 through 2021 held by companies listed on the Taiwan Stock Exchange and Taipei Exchange. Taiwanese listed companies are required to hold a material information press briefing[2] and disclose an audiovisual record of the press briefing on the internet information reporting systems of the Taiwan Stock Exchange[3] and Taipei Exchange[4], when specific types of events that materially affect information occur. We start a sample of 1,388 press briefings from the internet information reporting systems. We manually record the press briefing audiovisuals on the internet information reporting systems and obtain textual transcripts through a speech-to-text program. Also, the aggregate audiovisuals are parsed into separate manager-specific audio files through a labor-intensive procedure. The manager-specific audio files are then processed through meaningful voice analysis to produce vocal emotion measures, as discussed

[2] See Chapter III of the regulation, "Taiwan Stock Exchange Corporation Procedures for Verification and Disclosure of Material Information of Companies with Listed Securities," and Chapter III of regulation, "Taipei Exchange Procedures for Verification and Disclosure of Material Information of Companies with TPEx Listed Securities,"

[3] webpro.twse.com.tw/webportal/vod/102/?categoryId=102

[4] www.tpex.org.tw/web/about/news/media/media_gallery.php?l=zh-tw#2

further in the next section. We require press briefings whose audiovisuals are qualified to produce both textual transcripts and vocal emotion measures, which reduces the size of our sample to 1,234 press briefings. To clearly measure the effect of own managerial disclosure, we discard 81 press briefings held jointly by two or more listed companies. (Including these press briefings does not materially impact our results.) Last, we remove 155 press briefings for which we lack firm financial, price, and trading data to compute the variables used in our empirical analyses. Our final sample includes a total of 998 press briefings.

Panel A of Table I presents the distribution of press briefings over the year and month. No more than 120 press briefings are annually before 2016, and the number steadily increases, and a peak occurs in 2019. In addition, comparatively more press briefings were held in March, May, August, and December. About 79% of the 998 press briefings the media reporters do not ask any questions. Panels B and C of Table I, respectively, present the distributions of press briefings with and without questions by year and month. Panel D presents the distributions of press briefings by day of the week, showing that more press briefings are given on Wednesdays and Fridays. The basic firm information, firm accounting data, price and trading variables, and brokers' recommendation revisions are from the Taiwan Economic Journal (TEJ) database.

<< Insert Table I about here>>

B. Measuring Managerial Emotion

We extract measures of managerial vocal emotion and managerial linguistic tone during the material information press briefing from the aforementioned audiovisual records. For the managerial vocal emotion, we follow Mayew and Venkatachalam (2012) and Price, Seiler, and Shen (2017) by analyzing the managerial voice of the manager-specific audio files using Layered Voice Analysis (LVA) software, a product of Nemesysco Ltd. in Israel.[5] Specifically, when analyzing an audio file, the LVA software produces a series of layered voice-related parameters and fundamental variables. We follow Mayew and Venkatachalam (2012) to measure managerial vocal emotion using two of the LVA fundamental variables: Emotional Level and Cognitive

[5] Given that Nemesysco currently does not sell software to universities, we thank Nemesysco for providing us with the LVA software at no charge.

Level. The Emotion Level is constructed using the parameters technically termed "SPT" and captures the extent of the speaker's excitement and positive affective state. The SPT measures the average number of thorns in the vocal wave, where a thorn represents three successive high-low-high or low-high-low amplitude measurements. The Cognitive Level is constructed using parameters termed "SPJ" and captures the extent of speaker uncertainty and cognitive dissonance (Festinger, 1957). That is, a high Cognitive Level indicates that a speaker has high uncertainty, high cognitive dissonance, and a negative affective state. The SPJ measures the average length of plateaus and reflects speech that is interrupted by cognitive effort. A plateau is defined as a local flatness of amplitude. In the most current version of the LVA software, the fundamental variables are normalized from 0 to 30.[6] The speaker is negatively (positively) excited when Emotion is below (above) 15 and is more certain (uncertain) when Cognitive is below (above) 15.

For briefings where the media reporters ask questions, we further separate the whole press briefing into the presentation portion and the Q&A portion. For each speaker, the vocal emotion is measured for not only the whole press briefing but also the presentation and Q&A portions because the speaker in the two portions may disclose different vocal waves that require separate calibration by the LVA software. For a given presentation or Q&A section of a briefing with two or more managers' voices, Emotion or Cognitive is calculated as the average of all the managers' Emotion or Cognitive Levels.[7]

To create the measures of managerial linguistic tone, we adopt a dictionary-based approach. In particular, we use Linguistic Inquiry and Word Count (LIWC; Pennebaker et al., 2015) to read the spoken words in the managerial presentation and dialogue between the managers and reporters in the Q&A portion and categorize the words based on the corresponding Chinese version of the LIWC2015 dictionary (CLIWC2015; Lin et al., 2020). We follow the literature (e.g., Huang, Teoh, and Zhang, 2014) to calculate the managerial linguistic tone (Tone) as the frequency difference between the positive and negative words, scaled by the total words for a given presentation or Q&A portion

[6] Mayew and Venkatachalam (2012) use an earlier (Ex-Sense) version of the LVA software, but the calibration processes differ from the current versions. Therefore, the LVA software fundamental variables we obtain are similar to Price, Seiler, and Shen (2017). Nevertheless, in Price, Seiler, and Shen (2017) the LVA software fundamental variables are scaled from 1 to 8.

[7] In untabulated tests, we also try (i) the median of all the managers' Emotion or Cognitive Levels, (ii) the mean of all the managers' Emotion or Cognitive Levels, and (iii) the Emotion and Cognitive Levels of the manager who give the longest speech. All the results are similar.

of a briefing. We also similarly calculate the linguistic tone of reporters' questions.

<< Insert Table II about here>>

Table II presents the summary statistics for the empirical variables of this paper. We observe means of Emotion and Cognitive for the whole briefing, which are 16.10 and 14.07, respectively. These indicate that the managers are, on average, positively excited and more certain. However, the mean of A-Emotion (15.00) is smaller than that of P-Emotion (16.09), whereas the mean of A-Cognitive (14.30) is larger than that of P-Cognitive (13.99). This indicates that in comparison to the presentation section, managers are, on average, less excited and more uncertain when answering questions. We also observe that managers exhibit a relatively less positive linguistic tone and use more words in answering questions compared with the presentation sections. That is, A-Tone (1.09) and P-WC (337) have smaller means than P-Tone (1.78) and A-WC (839). The average for the whole briefing is around 4.7 minutes, while the presentation portion averages less than 2.7 minutes. For the briefings that include Q&A, the average length is more than eight minutes, and the portions include an average of more than ten questions (2.2574*998/210~10.73).

III. Research analysis

A. information contained in the presentation and Q&A portions

We start the analyses by exploring whether investors perceive information from the affective state contained in the managerial voice and then react to managerial vocal emotion. Specifically, we examine the relation between the next trading day's abnormal return after a press briefing (i.e., day +1) (AR_{d1}) and, respectively, Emotion and Cognitive through the following cross-sectional regression:[8]

$$\mathrm{AR}_{d1,i} = \beta_0 + \beta_1 Emotion_i + \beta_2 Cognitive_i + \beta_3 Tone_i + \beta_4 Time_i + \beta_5 WC_i + \beta_6 QA_i + \beta_7 Tr_{d1,i} + \beta_8 UE_{+1,i} + \beta_9 \mathrm{AR}_{0,i} + \mathbf{BX}_i + IndustryFE + YearFE + \varepsilon_i. \quad (1)$$

In addition to Emotion and Cognitive, we include in Equation (1) information-related variables such as managerial linguistic tone (Tone), length of press briefing (Time), number of words used (WC), number of questions (QA), trading turnover (Tr_{d1}),

[8] When a press briefing is held with a trading halt, the next trading day refers to the day of trading resumption.

future unexpected earnings in the next quarter after the press briefing (i.e., quarter +1; UE_{+1}), and the last trading day's abnormal return before the press briefing (i.e., day 0; AR_0). The length of the press briefing, the number of words used, and the number of questions all measure the amount of information contained in the press briefing (Matsumoto, Pronk, and Roelofsen, 2011; Mayew, Sethuraman, and Venkatachalam, 2020). The last trading day's abnormal return is included to control possible information released prior to the press briefing (Frankel, Johnson, and Skinner, 1999). The trading turnover measures the information on which investors trade. Future unexpected earnings provide quantitative information on accounting performance. We also include other control variables that could be related to returns. In particular, **X** includes controlling variables such as Fama and French (2015) five factors (beta, size, book-to-market value of equity, return on equity, and asset growth), return volatility, and the leverage ratio. Factors, return volatility, and leverage ratio proxy for systematic, non-systematic, and financing risks.

<< Insert Table III about here>>

We estimate Equation (1) using ordinary least squares regression with clustering of the residual at the firm level, and we report the results in Table III. Panel A examines the information for the whole sample. In column (1), we find that for the full sample, the coefficients are not significant at any conventional level on Emotion and Cognitive but is positive and significant at the 5% level on tone. We further examine the information contained in the presentation and Q&A portions in Panels B and C, and we find that managers' linguistic tone and vocal emotion have pronounced but different effects. In particular, regardless of whether the press briefings are with only managerial presentation (reported in Panel B) or with Q&A (reported in Panel C), the coefficients are positively significant on P-Tone but not significant on P-Cognitive in columns (1). When the press briefings are with Q&A, the coefficient is negatively significant at the 1% level on A-Cognitive but not significant on A-Tone. In column (1), the coefficient on A-Cognitive is -0.35, with an absolute *t*-value of 2.39. The findings indicate that in the presentation, investors gain information mainly from the managerial linguistic tone, and the focus turns to the vocal uncertainty in managers' responses when reporters ask questions. The results are consistent with common practices that the texts of managerial

presentations are written in advance and issued to the reporters in the briefings. Consequently, the presentation portion is likely reading a written narrative aloud with less affection. By contrast, the Q&A is more likely to be extemporaneous. The information gathered from vocal emotion is also consistent with the appraisal theory of emotion (Arnold, 1960; Roseman, 1984), which suggests that affective states are responses to external stimuli. Mayew and Venkatachalam (2012) find similar results in the case of earnings conference calls and suggest outsider questions could be an external stimulus likely to produce affective states.

In other columns of Table III, we examine whether the information from the managers' linguistic tone and vocal uncertainty is incremental to that contained in other information-related variables. First, we examine information related to the length of the press briefing, the number of words used, and the number of questions. We find that investors respond positively when managers use more words in the presentation. The coefficient on WC in column (5) in Panel A and coefficients on P-WC in column (4) in Panel B and column (5) in Panel C are all significantly positive when the length of the press briefing and the number of questions are also included in the regressions. By contrast, we fail to find evidence that investors respond to information related to the length of the press briefing and the number of questions. The coefficients on Time and QA are generally negative but insignificant, where in column (5) of Panel A, the absolute *t*-values are 1.58 and 1.71, respectively. Second, we further control quantitative information on future unexpected earnings and information gathered before the press briefing. We do find that investors react to the information. In the rightmost columns of Table III, both the coefficients on UE_{+1} and AR_0 are positively significant, with *t*-values from 2.27 to 4.17. Moreover, we still observe pronounced coefficients on P-Tone and A-Cognitive, showing that the information from the managers' linguistic tone and vocal uncertainty is incremental with the information mentioned above. Overall, the results in Table III show that both the presentation and Q&A portions are informative, and the information is contained particularly in managers' linguistic tone in the presentation and vocal uncertainty when answering reporters' questions.

B. Robustness check

We conduct various robustness checks in Table IV. First, in the first four columns, we measure investors' immediate response over longer event windows using returns such as $CAR_{0, d1}$, $CAR_{d1,d2}$, $CAR_{d1, d3}$, and $CAR_{d1, d5}$ as the dependent variables instead

of AR_{d1} in Equation (1). Second, in the fifth columns we estimate the normal return by the market model using daily returns from days -252 to -2 and use the abnormal return of day +1 as the dependent variables instead of AR_{d1}. Third, in the sixth columns we estimate the expected EPS for quarter +1 from the median brokers' forecast before the press briefing and use unexpected EPS for quarter +1 as the independent variables instead of UE_{+1}. Finally, in the rightmost columns, we use net income as the definition of earnings instead of EPS. We obtain similar findings in the sense that investors respond to the information contained in managers' linguistic tone in the presentation and vocal uncertainty when answering reporters' questions. The information is incremental, with quantitative information on future unexpected earnings and information gathered before the press briefing.

<< Insert Table IV about here>>

C. Intraday price reaction

There are two concerns regarding the results of the previous section because the market reaction is measured through daily returns. On the one hand, one concern is that the longer measurement period of daily returns decreases the estimate efficiency of psychological factors and increases the source of variability, which could be due to confounding variables (Busse and Green, 2002; Chang et al., 2008). On the other hand, the daily price reaction may only partially capture market efficiency. The market can be very efficient on an intraday basis when the influence of information from the managerial linguistic tone and vocal uncertainty diminishes within a trading day. In this case, the daily price reaction is pronounced because of the immediate impact. Moreover, investors can overreact to the information in the earlier hours of the trading day. Return reversals in the latter hours could cause the daily reaction to be less pronounced. In Table II, we find that the median AR_{d1} is -0.0392%, while the median abnormal returns from the close price of day 0 to the opening price of day +1 (CAR_{CtoO}) is 0.17%, which is consistent with this overreaction argument. We also observe return reversals after the opening in day +1. In particular, the median abnormal returns calculated from the close price of day 0 decrease from 0.029% 30 minutes after the opening (CAR_{m30}) to -0.0775%, the close price of day +1 (CAR_{OtoC0}).

In Table V, we further deal with the concerns mentioned above using intraday

returns, such as CAR_{CtoO}, CAR_{m30} to CAR_{m240}, and $CAR_{OtoC,}$ as the dependent variables instead of AR_{d1} in Equation (1). In Panels A and B, we find coefficients on Tone and P-Tone are positively significant with *t*-values from 1.67 to 3.08 for the full sample and subsample without Q&A. By contrast, for the subsample with Q&A in Panel C, some pronounced coefficients on P-Tone and A-Cognitive fail to be significant. Because the number of observations in Panel C is less than 90, the insignificant results could be related to the smaller test power. In general, the daily price reactions reported in Tables III and IV to the information contained in the managerial linguistic tone and vocal uncertainty are not merely for the opening minutes but last for the entire trading day.

<< Insert Table V about here>>

D. Impact of bad news

We further explore the impact of bad news. Specifically, literature (Busse and Green, 2002; Hong, Lim, and Stein, 2000) suggests a slower diffusion for negative firm-specific information than for positive firm-specific information. Consequently, we examine whether the current results depend on whether the press briefing contains bad or good news. The definition of bad news is based on either the quantitative information on future unexpected earnings or the managerial linguistic tone in the presentation. In particular, we sort sample press briefings into three groups separately based on UE_{+1} and P-Tone. The bad news group includes press briefings, with UE_{+1} in the lowest 30% or with P-Tone in the lowest 30%. In the first and fourth columns of Panels A and B, Table VI, we find that coefficients on Tone and P-Tone are only positively significant, with bad news for the full sample and subsample without Q&A. For the subsample with Q&A in Panel C, coefficients on P-Tone and A-Cognitive are also significant only with bad news. Therefore, the daily price reactions reported in Tables III and IV are more pronounced for bad news.

<< Insert Table VI about here>>

E. Future EPS and analyst recommendations

In the last sections, we find that stock prices reflect the information contained in the managerial linguistic tone in the presentation and vocal uncertainty when answering

reporters' questions. We now link the investors' responses to future firm performance. Specifically, we examine whether the managerial linguistic tone and vocal uncertainty provide information about future earnings realizations. We use unexpected future earnings (UE_{+1}, $UE_{+1, +2}$, $UE_{+1, +3}$, and $UE_{+1, +4}$) as a proxy for the fundamental news inherent in the investors' response, where $UE_{+1,+q}$ is the aggregate unexpected EPS for quarters +1 to +q. All unexpected EPS are scaled by the price on day -2 with the expectation of the same quarterly EPS as the year before.[9] In Table II, we find gradually increasing means when the EPSs are aggregated across more quarters. The means of UE_{+1} to $UE_{+1,+4}$ are, respectively, -0.0070, 0.0011, 0.0223, and 0.0487. In the regression specification, we use these UEs as dependent variables instead of returns in Equation (1). The control variables exclude UE and trading volume. The first four columns of Table VII report the coefficients. We fail to find significant coefficients on Tone, P-Tone, and A-Cognitive when the dependent variables are $UE_{+1, +1}$ and $UE_{+1, +2}$ in the first two columns. However, when the dependent variables are $UE_{+1, +3}$ and $UE_{+1, +4}$, the coefficients on A-Cognitive in Panel C are -0.02 and -0.04, respectively, with negatively significant absolute *t*-values of 1.72 and 2.12. Moreover, when the dependent variable is $UE_{+1, +4}$, the coefficients on P-Tone are also significant. The findings suggest that when the briefing is with Q&A, both the managerial linguistic tone of the presentation and vocal uncertainty of responses provide information about future long-term earnings realizations.

<< Insert Table VII about here>>

We also investigate analysts' responses to managerial linguistic tone and vocal uncertainty. In particular, we examine whether analysts incorporate the information contained in the managerial linguistic tone and vocal uncertainty when revising their expectations about long-term stock recommendations. We use the brokers' recommendation revisions (BRECR), where the revision is the difference between the mean for the recommendation issued one quarter after and before the press briefing with strong buy 5, buy 4, hold 3, sell 2, and strong sell 1. In Table II, we find the mean and median of BRECR are, respectively, 0.0053 and 0, showing weak evidence of

[9] In untabulated tests, we define the expectation of median brokers' forecasts before the press briefing and find qualitatively similar results.

analysts' revising their recommendations. In the regression specification, we use BRECR as the dependent variable instead of UEs. The rightmost column of Panel C of Table VII reports significant coefficients on A-Cognitive but insignificant coefficients on P-Tone for the subsample with Q&A, showing evidence that analysts incorporate information of managerial vocal uncertainty when revising their expectations about long-term stock recommendations.

F. Future long-run returns

In this section, we examine whether managerial linguistic tone and vocal uncertainty predict future long-run stock returns. We analyze the CARs for days +2 to +21, +2 to +63, +64 to +126, and +64 to +252 and use these long-run CARs as dependent variables instead of AR_{d1} used in Equation (1). Table VIII reports the coefficients. We find that investors may spend a longer time to respond the information of linguistic tone than that of vocal uncertainty. In particular, we observe positive coefficients on P-Tone when the dependent variable is $CAR_{d1, d21}$, with *t*-values 1.77 and 1.28 for respective subsamples without and with Q&A in Panels B and C. The *t*-value on A-Cognitive when the dependent variable is $CAR_{d1, d21}$ is 0.72. We also observe that for the subsample with Q&A in Panel C, the coefficients are negatively significant on P-Tone but insignificant on A-Cognitive when the dependent variable is $CAR_{d64, d252}$. One plausible explanation is consistent with the findings in Table VII that both the linguistic tone of the presentation and vocal uncertainty of responses provide information about future long-term earnings realizations. However, analysts may incorporate information of vocal uncertainty but not linguistic tone when revising their long-term stock recommendations.

<< Insert Table VIII about here>>

G. Investors' reaction to the information of linguistic tone and limits to arbitrage

For the issue that investors may have a delayed reaction to the information of linguistic tone of presentation, we further test whether the delayed reaction is due to investors' limited attention. Psychology literature suggests that people fail to pay attention to all stimuli (such as corporate information) because they have limited information processing capacity. The finance literature suggests that limited investor attention offers a possible explanation for delayed market reactions. In particular,

theoretical models (Hirshleifer and Teoh, 2003; Hirshleifer et al., 2009) assume that some investors in the market are inattentive to the news and form their expectations using heuristics. Other investors are sophisticated, know the underlying firm value, and face limits to arbitrage, which prevent the market from efficiently reacting to the news. Applying our explanation, whether investors' delayed reaction to the information of linguistic tone of presentation depends on the extent of limits to arbitrage and the relative frequency of inattentive investors.

We start the analyses by exploring whether investors' delayed reaction is related to their limits to arbitrage. Specifically, we follow Lam and Wei (2011) by using six proxies for limits to arbitrage, such as Amihud (2002) illiquidity (ILLIQ), share price (PRICE), dollar trading volume (VOL), return idiosyncratic volatility (IVOL), dispersion in brokers' earnings forecasts (DISP), and cash flow volatility (CVOL). Amihud (2002) illiquidity, share price, and dollar trading volume measure a firm's transaction cost; return idiosyncratic volatility measures a firm's arbitrage risk; and dispersion in brokers' earnings forecasts and cash flow volatility measure information uncertainty. Investors are less likely to react efficiently to the information of managerial linguistic tone when the transaction cost, arbitrage risk, or information uncertainty is high.

We then estimate the following specifications:

$$\begin{aligned} \mathrm{CAR}_{d2,d21,i} = {} & \beta_0 + \beta_1 Emotion_i + \beta_2 Cognitive_i + \beta_3 Tone_i + \beta_4 Time_i + \beta_5 WC_i + \beta_6 QA_i + \beta_7 Tr_{d2,d21,i} \\ & + \beta_{\mathrm{FLA}}\mathrm{FLA}_i + \beta_{\mathrm{FE}}\mathrm{FLA}_i Emotion_i + \beta_{\mathrm{FC}}\mathrm{FLA}_i Cognitive_i + \beta_{\mathrm{FT}}\mathrm{FLA}_i Tone_i \\ & + \mathbf{BX}_i + Industry\ FE + Year\ FE + \varepsilon_i. \end{aligned} \tag{2}$$

Following Table VIII, the dependent variable in Equation (2) is $\mathrm{CAR}_{\mathrm{d2,\,21}}$. FLA is the extent of fewer limits to arbitrage, that is, 1/ILLIQ, PRICE, VOL, 1/IVOL, 1/DISP, and 1/CVOL. The inverses of ILLIQ, IVOL, DISP, and CVOL are taken so that the interaction coefficient is predicted to be consistent across the FLA measures. The coefficients are reported in Table IX. We find evidence that for the subsample with Q&A in Panel C, four of the six interaction coefficients between FLA and P-Tone are negatively significant, while five of the six P-Tone coefficients are positively significant. The finding is consistent with the argument that investors' delayed reaction is related to their limits to arbitrage. With more limits to arbitrage, the market reacts less efficiently to the information of managerial linguistic tone, so we observe a stronger relation

between $CAR_{d2,\,21}$ and P-Tone.

<< Insert Table IX about here>>

H. Investors' reaction to the information of linguistic tone and investor attention

We next investigate whether investors' reactions to managerial linguistic tone are related to the amount of attention they pay. In particular, we use two kinds of empirical measures of investor attention: measures based on competing stimuli that substitute investors' attention and measures that are the results of investor attention. For the first kind of measures, investors pay less attention to managerial linguistic tone because other stimuli substitute their attention. DellaVigna and Pollet (2009) suggest that weekends distract investors and lower decision-making quality so that the immediate response to Friday earnings announcements is less pronounced and followed by stronger drift in subsequent periods compared to other weekday announcements. Hirshleifer, Lim, and Teoh (2009) suggest that investors' efforts to process a news release by a firm can be hampered by extraneous events announced by other firms, causing market underreactions. Nekrasov, Teoh, and Wu (2022) find that investor attention to a firm's Twitter earnings announcement can be distracted by other tweets, even those sent by the firm itself.

The literature also considers the results of investor attention as the second kind of measures (Lim and Teoh, 2010). In particular, Baker, Nofsinger, and Weaver (2002) and Cliff and Denis (2004) suggest that increased analyst coverage might lead to greater investor attention and visibility. Bodnaruk and Ostberg (2009) and Lehavy and Sloan (2008) suggest that the level of sophisticated investors can serve as a proxy for the level of attention and recognition of a firm. Drake, Roulstone, and Thornock (2012) suggest that investors express demand for information via the Internet so that Google search volume can be a measure of investor attention.

Overall, we explore whether investors have delayed reactions to managerial linguistic tone when they pay less attention through measures such as (i) a dummy variable for press briefings held on non-Fridays, D_{NF}, (ii) the number of firms that release material information on day 0 (collected from the Market Observation Post System), NRA_0, (iii) the number of brokers covers the firm in quarter -1, BkCov, (iv) the institutional ownership at the end of quarter -1, IO, and (v) the abnormal Google search volume at quarter -1, AbSearch. Investors are less likely to react efficiently to

the information of managerial linguistic tone when the press briefing is held on Friday or with more firms releasing material information on day 0, fewer brokers covering the firm, less institutional ownership, and less Google search volume.

We then estimate the following specifications:

$$\begin{aligned}\mathrm{CAR}_{d2,d21,i} = {} & \beta_0 + \beta_1 Emotion_i + \beta_2 Cognitive_i + \beta_3 Tone_i + \beta_4 Time_i + \\ & \beta_5 WC_i + \beta_6 QA_i + \beta_7 Tr_{d2,d21,i} + \beta_{\mathrm{IA}}\mathrm{IA}_i + \beta_{\mathrm{IE}}\mathrm{IA}_i Emotion_i + \\ & \beta_{\mathrm{IC}}\mathrm{IA}_i Cognitive_i + \beta_{\mathrm{IT}}\mathrm{IA}_i Tone_i + \mathbf{BX}_i + IndustryFE + \\ & YearFE + \varepsilon_i. \end{aligned} \quad (3)$$

IA is the measure of investor attention, that is, D_{NF}, $1/NRA_0$, BkCov, IO, and AbSearch. The inverse of NRA_0 is taken such that the interaction coefficient is predicted to be consistent across the IA measures. The coefficients are reported in Table X. We find evidence that for the subsample with Q&A in Panel C, four of the five interaction coefficients between IA and P-Tone are negatively significant, while all of the five P-Tone coefficients are positively significant. The finding is consistent with the argument that investors' delayed reaction is related to the amount of attention. With less attention, the market reacts less efficiently to the information of managerial linguistic tone, so we observe a stronger relation between $CAR_{d2,\,21}$ and P-Tone.

<< Insert Table X about here>>

IV. Conclusion

This paper explores how investors in the Taiwanese stock market react to managerial vocal cues when the disclosure is made in a non-English language, Chinese. Our sample consists of material information press briefings held from 2014 through 2021 by companies listed on the Taiwan Stock Exchange and Taipei Exchange. The finding shows that both the presentation and Q&A portions are informative, and investors react to the information contained, particularly in the managerial linguistic tone in the presentation and vocal uncertainty when answering reporters' questions. The information gained from the managerial linguistic tone and vocal uncertainty is incremental with respect to the quantitative information on future unexpected earnings and information gathered before the press briefing. These findings are similar under various robustness checks and are not merely for the opening minutes but last for the entire trading day throughout an intraday analysis. Moreover, we find that the daily price reactions are more pronounced for briefings with bad news. We further find that

when the briefing is with Q&A, both managerial linguistic tone and vocal uncertainty provide information about future long-term earnings realizations. Analysts incorporate information on managerial vocal uncertainty but not information on linguistic tone when revising their expectations about long-term stock recommendations.

We also examine whether managerial linguistic tone in the presentation and vocal uncertainty when answering reporters' questions predict future long-run stock returns. Evidence shows that investors may spend a longer time to respond the information of linguistic tone than that of vocal uncertainty. We further find that investors' delayed reaction is related to both limits to arbitrage and the amount of attention. Overall, this paper contributes to the line of research that discusses the effect of managerial vocal emotion during English conference calls by discussing an alternative language (Chinese), a new route of managerial disclosure (material information press briefings), and unexplored issues of market reaction in real time. Moreover, this paper is the first empirical study to analyze the reaction to the managerial tone in material information press briefings. Our evidence suggests that investors' limited attention can be an explanation for why managerial linguistic tone predicts future long-run stock returns, which complements the literature that directly examines the effect of limited attention on market price.

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Table I Numbers of material information press briefings

The sample consists of audiovisual recordings from material information press briefings held by the companies listed on the Taiwan Stock Exchange and Taipei Exchange from 2014 through 2021. We require the audiovisuals to be qualified to produce both textual transcripts and vocal emotion measures and discard press briefings held jointly by two or more listed companies. We also remove press briefings lacking firm financial, price, and trading data.

Panel A: Full sample, by Year and Mon

Mon Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2014	6	5	15	10	13	10	10	11	5	10	12	12	119
2015	2	0	4	5	17	7	6	16	7	11	7	15	97
2016	4	1	3	9	14	7	8	13	8	5	13	13	98
2017	8	5	34	16	14	8	8	10	6	3	13	16	141
2018	6	10	20	16	16	9	11	17	3	5	8	15	136
2019	10	15	23	15	20	6	7	16	5	10	16	13	156
2020	3	7	23	11	24	3	4	14	8	10	6	10	123
2021	5	4	29	15	18	7	10	9	4	8	9	10	128
Total	44	47	151	97	136	57	64	106	46	62	84	104	998

Panel B: Subsample without Q&A by Year and Mon

Mon Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2014	4	3	10	6	10	5	7	6	3	4	11	8	77
2015	0	0	2	4	14	6	5	11	4	7	5	7	65
2016	3	0	0	9	12	7	8	13	6	4	12	11	85
2017	6	5	31	9	12	7	3	8	6	3	13	16	119
2018	3	10	19	12	10	5	7	8	3	3	8	13	101
2019	8	9	18	11	18	5	7	14	2	8	13	12	125
2020	3	5	20	11	22	3	1	11	6	6	5	9	102
2021	5	4	29	15	18	4	8	7	0	7	8	9	114
Total	32	36	129	77	116	42	46	78	30	42	75	85	788

Panel C: Subsample with Q&A by Year and Mon

Mon Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2014	2	2	5	4	3	5	3	5	2	6	1	4	42
2015	2	0	2	1	3	1	1	5	3	4	2	8	32
2016	1	1	3	0	2	0	0	0	2	1	1	2	13
2017	2	0	3	7	2	1	5	2	0	0	0	0	22
2018	3	0	1	4	6	4	4	9	0	2	0	2	35
2019	2	6	5	4	2	1	0	2	3	2	3	1	31
2020	0	2	3	0	2	0	3	3	2	4	1	1	21
2021	0	0	0	0	0	3	2	2	4	1	1	1	14
Total	12	11	22	20	20	15	18	28	16	20	9	19	210

Panel D: By Day

Day	Mon	Tue	Wed	Thu	Fri	Weekend	Total
Full sample	143	180	222	208	223	22	998
Subsample without Q&A	109	140	183	170	174	12	788
Subsample with Q&A	34	40	39	38	49	10	210

Table II Summary statistics

Variable	Mean	Std. Div.	Q1	Median	Q3	N
Emotion	16.0985	3.4104	13.6415	15.8074	18.2118	998
P-Emotion	16.0874	3.4173	13.6471	15.7333	18.1333	998
A-Emotion	15.0037	3.1335	13.0000	14.7656	16.6667	998
Cognitive	14.0709	2.2101	12.7899	14.0000	15.1346	998
P-Cognitive	13.9932	2.2291	12.7253	13.9579	15.1159	998
A-Cognitive	14.3015	2.3089	13.0556	14.2889	15.4286	998
Tone (%)	1.7130	1.8178	0.4700	1.4700	2.7300	998
P-Tone (%)	1.7812	1.9086	0.4950	1.5850	2.9250	998
Q-Tone (%)	0.6934	2.1926	-0.3150	0.4950	1.6400	210
A-Tone (%)	1.0978	1.6767	0.0000	1.0200	1.8500	210
Time (Second)	281.4799	407.5546	91	138	252	998
P-Time (Second)	159.3755	125.2197	83.5	127	193	998
A-Time (Second)	489.1326	562.7088	93	277	650.5	210
WC	573.2907	848.9584	185	294.5	501.5	998
P-WC	337.4390	280.3238	174	268	392.5	998
Q-WC	357.7852	443.0456	70.5	189.5	419.5	210
A-WC	839.3050	1036.9180	154	438	1127	210
QA	2.2574	5.8795	0	0	0	998
UE_{+1}	-0.0070	0.1340	-0.0164	0.0019	0.0222	861
AR_0 (%)	-0.0173	2.6546	-0.8805	-0.0747	0.9083	998
AR_{d1} (%)	-0.0955	4.6295	-1.7066	-0.0392	1.5967	998
$CAR_{0,d1}$ (%)	-0.1323	5.6375	-2.1800	0.0045	2.2890	998
$CAR_{d1,d2}$ (%)	-0.3964	6.8208	-2.3003	-0.1236	1.7211	995
$CAR_{d1,d3}$ (%)	-0.6395	7.7459	-2.7772	-0.2404	1.9163	993
$CAR_{d1,d5}$ (%)	-1.0305	9.5351	-3.4991	-0.3425	2.4775	990
Tr_{d1} (%)	0.5779	1.8899	-0.2459	-0.0547	0.5360	998
$Tr_{0,d1}$ (%)	0.7402	2.8051	-0.4986	-0.1773	0.7165	998
$Tr_{d1,d2}$ (%)	1.0423	3.417	-0.4854	-0.1285	1.121	995
$Tr_{d1,d3}$ (%)	1.3529	4.5971	-0.7281	-0.2054	1.5439	993
$Tr_{d1,d5}$ (%)	1.782	6.5511	-1.2254	-0.3777	2.1261	990
$Tr_{d64, d252}$ (%)	16.1881	127.1835	-44.3466	-22.0041	25.2829	732
$UE_{+1, +2}$	0.0011	0.2344	-0.0352	0.0039	0.0503	764
$UE_{+1, +3}$	0.0223	0.3169	-0.0488	0.0082	0.0775	685
$UE_{+1, +4}$	0.0487	0.4174	-0.0553	0.0059	0.0981	554
BRECR	0.0053	0.6573	-0.3077	0	0.2857	285
Beta	0.7573	0.4037	0.4474	0.757	1.0265	861
Size (in MM)	86.97	192.48	3.29	10.58	39.92	861
BM	1.9155	2.4738	0.8900	1.2400	1.8900	861
ROE (%)	0.0231	19.8745	-0.8450	3.2550	8.2600	861
AGth (%)	5.5016	21.9498	-4.4350	2.9950	10.5650	861
IVOL (%)	4.7332	5.3175	1.1413	2.7677	6.0781	861
Lev (%)	52.6483	21.5767	36.7600	51.3700	65.9600	861
ILLIQ	0.0263	0.0962	0.0003	0.0012	0.0058	998
PRICE	41.2564	49.5228	13.1	25.1	48.65	998
VOL (in thousand)	6210.639	12529.16	176	1070.5	5428	998
DISP	0.2067	0.38	0.0424	0.1003	0.2087	155
CVOL (%)	23.4553	33.7959	9.1347	14.7042	25.3177	904
D_{NF}	0.7837	0.4119	1	1	1	998
NRA_0	175.0249	179.2090	56	95	224	998
BkCov	2.6161	3.7872	0	1	4	998
IO (%)	53.7651	23.5235	34.99	56.91	73.28	998
AbSearch	3.8243	24.6790	-8.0769	-3.925	-1.0753	823

Table III Information from presentation and Q&A portions, daily return analysis

The dependent variable is the abnormal percent daily return of day -1. Emotion and Cognitive are the affective states contained in the individual voice during the press briefing. Tone is the linguistic tone and is defined as the frequency difference between the positive and the negative words scaled by the total words. Time is the length of the press briefing. WC is the number of words managers use in the press briefing. The P- and A- prefixes represent the managers' Emotion, Cognitive, Tone, WC, or the length of the presentation and managers' answers in the press briefing. The Q- prefixes represent the tone or number of words used in the reports' questions in the press briefing.QA is the number of questions in the press briefing and is defined as zero when the press briefing is without questions. UE_{+1} is the unexpected EPS for the next quarter after the press briefing (i.e., quarter +1) scaled by the price on day -2, where the expectation is EPS in the same quarterly of the previous year. AR_0 is the abnormal percent daily return of the last trading day before the press briefing (i.e., day 0), where the normal return is measured by the market return. **X** includes controlling variables such as Beta, Size, BM, ROE, AGth, IVOL, and Lev. To save space, the coefficients on intercept and **X**s are suppressed. Beta is the market beta from the Fama and French (2015) five-factor model using daily returns over the days -252 to -2. Size is the natural logarithm of the market value of equity measured in millions on day -2. BM is the ratio of book to market value of equity on day -2. ROE is the return on equity measured in the last quarter before the press briefing (i.e., quarter -1). AGth is the change in total assets relative to the previous-year assets scaled by the previous-year assets and measured at quarter -1. IVOL is the sum of the squared residuals from the Fama and French (2015) five-factor model using daily returns over the days -252 to -2. Lev is the total debt scaled total assets.*t*-statistics are adjusted for clustering of the residual at the firm level and reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Full sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Emotion	0.0302	0.0246	0.0287	0.0276	0.0207	0.0502	0.0497
	(0.48)	(0.39)	(0.45)	(0.44)	(0.33)	(0.76)	(0.75)
Cognitive	-0.0024	-0.0034	-0.0010	-0.0013	-0.0037	-0.0278	-0.0425
	(-0.05)	(-0.07)	(-0.02)	(-0.03)	(-0.08)	(-0.57)	(-0.86)
Tone	0.3307***	0.3054***	0.3129***	0.3070***	0.3158***	0.3032***	0.2582***
	(4.06)	(3.70)	(3.79)	(3.76)	(3.83)	(3.46)	(2.90)
Time		-0.0006*			-0.0012	-0.0018	-0.0018
		(-1.93)			(-1.58)	(-1.17)	(-1.14)
WC			0.0002		0.0011**	0.0012**	0.0011**
			(1.34)		(2.20)	(2.41)	(2.34)
QA				-0.0713*	-0.1269*	-0.1105	-0.1129
				(-1.74)	(-1.71)	(-1.23)	(-1.27)
Tr_{d1}						0.1290*	0.1125
						(1.73)	(1.58)
UE_{+1}						3.0751***	3.0768***
						(4.17)	(3.74)
AR_0						0.2383***	0.2413***
						(3.85)	(3.81)
X	No	No	No	No	No	No	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.11	0.12	0.12	0.12	0.13	0.17	0.18
Obs	998	998	998	998	998	861	861

Panel B: Subsample without Q&A

	(1)	(2)	(3)	(4)	(5)	(6)
P-Emotion	0.0265	0.0265	0.0275	0.0250	0.0342	0.0300
	(0.36)	(0.36)	(0.38)	(0.34)	(0.44)	(0.39)
P-Cognitive	-0.0078	-0.0063	-0.0089	-0.0043	-0.0213	-0.0392
	(-0.15)	(-0.12)	(-0.17)	(-0.08)	(-0.40)	(-0.73)
P-Tone	0.2957***	0.2939***	0.3366***	0.3287***	0.3133***	0.2947***
	(3.58)	(3.51)	(4.01)	(3.90)	(3.38)	(3.13)
P-Time		-0.0003		-0.0018	-0.0018	-0.0016
		(-0.26)		(-1.39)	(-1.40)	(-1.23)
P-WC			0.0023**	0.0030***	0.0036***	0.0035***
			(2.40)	(2.81)	(3.27)	(3.20)
Tr_{d1}					-0.0339	0.0296

					(-0.35)	(0.29)
UE_{+1}					2.4757***	2.3311***
					(3.20)	(2.68)
AR_0					0.2088***	0.2242***
					(2.78)	(2.89)
X	No	No	No	No	No	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.14	0.15	0.15	0.16	0.17	0.18
Obs	788	788	788	788	788	680

Table III (Continued)

Panel C: Subsample with Q&A

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
P-Emotion	0.1021	0.1008	0.1155	0.1069	0.1269	0.1163	0.1317
	(0.85)	(0.84)	(0.98)	(0.90)	(1.08)	(0.95)	(1.03)
P-Cognitive	0.0390	0.0336	0.0639	0.0388	0.0871	-0.1443	-0.1557
	(0.26)	(0.22)	(0.43)	(0.26)	(0.58)	(-1.00)	(-1.04)
A-Emotion	0.0894	0.0893	0.0652	0.0740	0.0747	-0.0123	-0.0088
	(0.63)	(0.63)	(0.47)	(0.53)	(0.54)	(-0.08)	(-0.06)
A-Cognitive	-0.3525**	-0.3359**	-0.2871**	-0.3043**	-0.2943**	-0.3971***	-0.4179***
	(-2.39)	(-2.27)	(-1.98)	(-2.07)	(-2.03)	(-2.76)	(-2.75)
P-Tone	0.6732***	0.5986***	0.6074***	0.5929***	0.5851***	0.3499*	0.3631*
	(3.07)	(2.70)	(2.81)	(2.71)	(2.67)	(1.68)	(1.78)
Q-Tone	0.2626	0.1852	0.1889	0.2024	0.1612	0.2236	0.2243
	(1.26)	(0.88)	(0.92)	(0.97)	(0.78)	(1.13)	(1.11)
A-Tone	-0.3149	-0.2919	-0.2751	-0.2725	-0.2844	-0.1619	-0.1805
	(-1.26)	(-1.17)	(-1.13)	(-1.10)	(-1.16)	(-0.63)	(-0.66)
P-Time		-0.0013			-0.0019	-0.0006	-0.0001
		(-1.10)			(-1.50)	(-0.11)	(-0.01)
A-Time		-0.0010			0.0001	-0.0033	-0.0033
		(-1.47)			(0.03)	(-0.80)	(-0.75)
P-WC			-0.0001		0.0028*	0.0011	0.0011
			(-0.19)		(1.75)	(0.51)	(0.47)
Q-WC			-0.0036***		-0.0036*	-0.0015	-0.0016
			(-2.91)		(-1.67)	(-0.58)	(-0.61)
A-WC			0.0008		0.0006	0.0013	0.0012
			(1.27)		(0.47)	(0.78)	(0.69)
QA				-0.0873*	0.0171	0.0309	0.0332
				(-1.73)	(0.22)	(0.40)	(0.40)
Tr_{d1}						0.3450**	0.3329**
						(2.17)	(2.03)
UE_{+1}						4.2537***	3.9984**
						(2.81)	(2.50)
AR_0						0.3499***	0.3121**
						(2.75)	(2.27)
X	No	No	No	No	No	No	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.43	0.45	0.47	0.45	0.49	0.57	0.58
Obs	210	210	210	210	210	181	181

Table IV Alternative definitions of returns and expectation earnings, daily return analysis

$CAR_{0, d1}$, $CAR_{d1, d2}$, $CAR_{d1, d3}$, $CAR_{d1, d5}$are the cumulated abnormal percent returns for the days 0 to +1, +1 to +2, +1 to +3, +1 to +5, respectively. AR refers to AR_{-1} (the abnormal percent daily return of day -1) for the first column, with the dependent variable $CAR_{0, d1,}$ and AR_0 for other columns. **X** includes controlling variables such as Beta, Size, BM, ROE, AGth, IVOL, and Lev. The definition of the dependent variables and all the independent variables refers to Table II. To save space, the coefficients on intercept and **X**s are suppressed. *t*-statistics are adjusted for clustering of the residual at the firm level and reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Full sample

	$CAR_{0, d1}$	$CAR_{d1, d2}$	$CAR_{d1, d3}$	$CAR_{d1, d5}$	ARd1, R by Market Model	UE, E is From Brokers	UE, E is NI
Emotion	0.0542	0.0209	-0.0313	-0.1318	0.0478	-0.0815	0.0473
	(0.82)	(0.22)	(-0.30)	(-1.07)	(0.73)	(-1.03)	(0.71)
Cognitive	-0.0421	-0.0690	-0.1059	-0.1005	-0.0329	-0.0935	-0.0386
	(-0.85)	(-0.98)	(-1.38)	(-1.11)	(-0.67)	(-1.48)	(-0.78)
Tone	0.2550***	0.4369***	0.4908***	0.6334***	0.2569***	0.1832*	0.2563***
	(2.86)	(3.45)	(3.54)	(3.85)	(2.91)	(1.67)	(2.87)
Time	-0.0017**	-0.0017	-0.0025**	-0.0038**	-0.0018**	0.0011	-0.0019**
	(-2.04)	(-1.48)	(-1.97)	(-2.51)	(-2.12)	(0.64)	(-2.27)
WC	0.0012**	0.0003	0.0001	0.0006	0.0010**	-0.0011	0.0012**
	(2.38)	(0.43)	(0.08)	(0.68)	(2.10)	(-1.24)	(2.47)
QA	-0.1196**	-0.0586	0.0063	-0.0443	-0.1002**	0.0916	-0.1148**
	(-2.41)	(-0.82)	(0.08)	(-0.48)	(-2.03)	(1.24)	(-2.31)
$Tr_{t1, t2}$	0.0436	0.2036***	0.2066***	0.1773***	0.1198	0.1954**	0.1235*
	(0.84)	(3.26)	(3.95)	(4.66)	(1.62)	(2.18)	(1.65)
UE_{+1}	3.0504***	5.5075***	6.4734***	8.4948***	2.8618***	2.9820**	0.0024***
	(3.71)	(4.71)	(5.07)	(5.61)	(3.51)	(2.57)	(3.36)
AR_{-1}/AR_0	1.2148***	0.3412***	0.3977***	0.4768***	0.2352***	0.1195	0.2294***
	(19.11)	(3.78)	(4.03)	(4.08)	(3.74)	(1.40)	(3.61)
X	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.42	0.21	0.23	0.25	0.18	0.30	0.18
Obs	861	861	861	861	861	427	861

Panel B: Subsample without Q&A

	$CAR_{0, d1}$	$CAR_{d1, d2}$	$CAR_{d1, d3}$	$CAR_{d1, d5}$	ARd1, R by Market Model	UE, E is From Brokers	UE, E is NI
P-Emotion	-0.0392	-0.0761	-0.1183	-0.1213	-0.0280	-0.0426	-0.0352
	(-0.73)	(-1.01)	(-1.46)	(-1.26)	(-0.52)	(-0.59)	(-0.65)
P-Cognitive	0.0312	0.1040	0.1040	0.0414	0.0233	-0.0756	0.0259
	(0.40)	(0.96)	(0.89)	(0.30)	(0.30)	(-0.79)	(0.34)
P-Tone	0.2852***	0.4300***	0.4509***	0.5495***	0.2914***	0.2257*	0.2955***
	(3.02)	(3.24)	(3.16)	(3.26)	(3.10)	(1.95)	(3.14)
P-Time	-0.0015	-0.0016	-0.0023	-0.0036	-0.0015	-0.0011	-0.0016
	(-1.12)	(-0.88)	(-1.18)	(-1.56)	(-1.17)	(-0.12)	(-1.22)
P-WC	0.0036***	0.0034**	0.0029*	0.0020	0.0031***	0.0018	0.0035***
	(3.30)	(2.17)	(1.75)	(1.00)	(2.82)	(0.46)	(3.18)
$Tr_{t1, t2}$	-0.0498	0.0650	0.0379	0.1074*	0.0246	0.1786*	0.0285
	(-0.69)	(0.77)	(0.56)	(1.89)	(0.24)	(1.72)	(0.28)
UE_{+1}	2.2814***	4.8474***	5.9720***	8.6525***	2.1145**	1.9876	0.0020***
	(2.62)	(3.96)	(4.54)	(5.57)	(2.44)	(1.59)	(2.69)
AR_{-1}/AR_0	1.2153***	0.2442**	0.2449**	0.2651*	0.2035***	0.1513	0.2160***
	(15.61)	(2.24)	(2.09)	(1.92)	(2.63)	(1.37)	(2.78)
X	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

R^2	0.40	0.20	0.23	0.25	0.18	0.33	0.18
Obs	680	680	680	680	680	329	680

Table IV (Continued)

Panel C: Subsample with Q&A

	$CAR_{0, d1}$	$CAR_{d1, d2}$	$CAR_{d1, d3}$	$CAR_{d1, d5}$	ARd1, R by Market Model	UE, E is From Brokers	UE, E is NI
P-Emotion	0.1429	0.2757	0.3195	0.3912	0.1098	0.0442	0.1174
	(1.11)	(1.57)	(1.54)	(1.63)	(0.86)	(0.20)	(0.90)
P-Cognitive	-0.0079	-0.0151	-0.0951	-0.0180	-0.0280	0.1011	-0.0178
	(-0.05)	(-0.08)	(-0.43)	(-0.06)	(-0.18)	(0.38)	(-0.11)
A-Emotion	-0.1700	-0.1614	-0.2584	-0.4580	-0.1722	-0.1678	-0.1389
	(-1.13)	(-0.84)	(-1.20)	(-1.63)	(-1.16)	(-0.63)	(-0.92)
A-Cognitive	-0.4237***	-0.4092**	-0.3106*	-0.2507*	-0.4271***	-0.3206*	-0.4202***
	(-2.77)	(-2.09)	(-1.92)	(-1.73)	(-2.83)	(-1.84)	(-2.74)
P-Tone	0.4892*	0.4777*	0.5545*	0.8481*	0.4950**	0.5381	0.4642*
	(1.77)	(1.72)	(1.68)	(1.87)	(2.03)	(1.39)	(1.67)
Q-Tone	0.2404	-0.0995	-0.1171	0.0693	0.2184	0.3505	0.1982
	(1.18)	(-0.38)	(-0.40)	(0.18)	(1.09)	(1.10)	(0.97)
A-Tone	-0.1800	-0.2419	-0.1852	-0.0716	-0.2030	0.5167	-0.2032
	(-0.65)	(-0.68)	(-0.47)	(-0.14)	(-0.74)	(0.97)	(-0.73)
P-Time	0.0001	-0.0056	-0.0088	-0.0066	0.0001	-0.0075	0.0004
	(0.03)	(-0.76)	(-1.07)	(-0.61)	(0.01)	(-0.92)	(0.07)
A-Time	-0.0038	-0.0050	-0.0049	-0.0042	-0.0032	-0.0068	-0.0034
	(-0.84)	(-0.87)	(-0.76)	(-0.51)	(-0.72)	(-0.84)	(-0.76)
P-WC	0.0012	0.0030	0.0037	0.0041	0.0011	0.0054	0.0009
	(0.53)	(1.00)	(1.13)	(0.96)	(0.47)	(1.57)	(0.37)
Q-WC	-0.0013	-0.0056*	-0.0030	-0.0079	-0.0013	0.0015	-0.0014
	(-0.50)	(-1.66)	(-0.80)	(-1.61)	(-0.51)	(0.35)	(-0.52)
A-WC	0.0014	0.0022	0.0018	0.0021	0.0011	0.0013	0.0013
	(0.77)	(0.98)	(0.70)	(0.63)	(0.62)	(0.40)	(0.71)
QA	0.0290	0.2510**	0.2133*	0.2629*	0.0234	0.0135	0.0233
	(0.35)	(2.36)	(1.80)	(1.72)	(0.29)	(0.10)	(0.28)
$Tr_{t1, t2}$	0.2359*	0.2929**	0.3528***	0.2834***	0.3322**	0.2321	0.3413**
	(1.92)	(2.29)	(3.37)	(3.09)	(2.04)	(0.73)	(2.06)
UE_{+1}	3.9800**	6.6539***	9.3564***	13.7996***	3.8374**	16.5686***	0.0026**
	(2.46)	(3.23)	(4.06)	(4.64)	(2.41)	(2.83)	(1.99)
AR_{-1}/AR_0	1.2709***	0.6051***	0.8727***	1.0753***	0.3436**	-0.0338	0.3189**
	(9.20)	(3.40)	(4.42)	(4.23)	(2.52)	(-0.13)	(2.30)
X	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.72	0.69	0.72	0.72	0.58	0.57	0.57
Obs	181	181	181	181	181	110	181

Table V Information from presentation and Q&A sections, intraday return analysis

The dependent variables CAR_t are CAR_{CtoO}, CAR_{m30}, CAR_{m60}, CAR_{m120}, CAR_{m180}, CAR_{m240}, and CAR_{OtoC} respectively. Tr_t is the abnormal trading shares relative to the total number of shares outstanding corresponding to the CAR_t, except CAR_{CtoO}. Tr_t refers to Tr_{m30} when the CAR_t is CAR_{CtoO}. **X** includes controlling variables such as Beta, Size, BM, ROE, AGth, IVOL, and Lev. The definition of the dependent variables and all the independent variables refers to Table II. A press briefing is defined as bad news if the abnormal return surrounding the press briefing is negative. To save space, the coefficients on intercept and **X**s are suppressed. *t*-statistics are adjusted for clustering of the residual at the firm level and reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	CAR_{CtoO}	CAR_{m30}	CAR_{m60}	CAR_{m120}	CAR_{m180}	CAR_{m240}	CAR_{OtoC}
Panel A: Full sample							
Emotion	-0.0241	-0.0424	-0.0138	0.1173	0.1202	0.1282	0.0738
	(-0.41)	(-0.66)	(-0.21)	(1.13)	(1.09)	(1.21)	(0.73)
Cognitive	-0.0601	-0.0494	-0.0082	-0.0509	-0.0553	-0.0408	-0.0791
	(-0.76)	(-0.59)	(-0.09)	(-0.71)	(-0.75)	(-0.56)	(-1.10)
Tone	0.1727*	0.2672**	0.2477**	0.2218*	0.2151*	0.2089*	0.2034*
	(1.76)	(2.54)	(2.29)	(1.83)	(1.71)	(1.81)	(1.81)
Time	-0.0007	-0.0016	-0.0017	-0.0016	-0.0017	-0.0019	-0.0019
	(-0.86)	(-1.61)	(-1.63)	(-1.35)	(-1.43)	(-1.58)	(-1.53)
WC	-0.0004	0.0005	0.0006	0.0004	0.0006	0.0006	0.0008
	(-0.53)	(0.57)	(0.71)	(0.38)	(0.61)	(0.65)	(0.77)
QA	-0.0455	-0.0096	-0.0148	0.0875	0.0910	0.1128	0.0341
	(-0.49)	(-0.09)	(-0.14)	(0.68)	(0.69)	(0.85)	(0.24)
Tr_t	3.9237***	0.3963	0.0808	0.0599	0.0146	-0.1167	-0.2113
	(4.74)	(1.51)	(0.37)	(0.31)	(0.08)	(-0.71)	(-1.38)
UE_{+1}	4.4125***	3.5335***	3.3233***	2.8699**	3.0022**	2.9886**	3.2019***
	(4.70)	(3.36)	(3.07)	(2.45)	(2.45)	(2.51)	(2.75)
AR_0	0.1948**	0.1791*	0.1966*	0.0228	0.0464	0.0282	-0.0117
	(2.06)	(1.75)	(1.91)	(0.19)	(0.36)	(0.23)	(-0.09)
X	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.30	0.24	0.25	0.25	0.25	0.25	0.26
Obs	425	463	459	384	380	379	365
Panel B: Subsample without Q&A							
P-Emotion	-0.0593	-0.0610	-0.0201	-0.0165	-0.0087	0.0082	-0.0023
	(-1.00)	(-0.95)	(-0.31)	(-0.23)	(-0.12)	(0.11)	(-0.03)
P-Cognitive	-0.0596	-0.0214	0.0186	0.0994	0.1169	0.0981	0.0580
	(-0.68)	(-0.23)	(0.19)	(0.96)	(1.06)	(0.93)	(0.56)
P-Tone	0.1705*	0.3186***	0.2973***	0.1859*	0.2361*	0.2188*	0.2003*
	(1.78)	(3.08)	(2.79)	(1.70)	(1.94)	(1.81)	(1.67)
P-Time	-0.0010	-0.0015	-0.0013	-0.0018	-0.0018	-0.0020	-0.0020
	(-0.88)	(-1.24)	(-1.01)	(-1.44)	(-1.37)	(-1.58)	(-1.53)
P-WC	0.0021*	0.0033***	0.0032**	0.0023*	0.0028**	0.0028**	0.0032*
	(1.85)	(2.66)	(2.52)	(1.78)	(1.96)	(1.97)	(1.93)
Tr_t	2.7206**	-0.2166	-0.3598	-0.2512	-0.3175	-0.3892*	-0.5131**
	(2.09)	(-0.63)	(-1.29)	(-0.99)	(-1.37)	(-1.81)	(-2.52)
UE_{+1}	4.3634***	3.6452***	3.3842***	2.9044***	2.9911***	2.8680**	3.1089***
	(4.89)	(3.62)	(3.25)	(2.62)	(2.59)	(2.55)	(2.76)
AR_0	0.2089**	0.1925*	0.1932*	0.0684	0.1033	0.0973	0.1171
	(2.09)	(1.78)	(1.76)	(0.55)	(0.78)	(0.77)	(0.85)
X	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.31	0.28	0.29	0.27	0.27	0.28	0.28
Obs	339	378	376	306	302	304	293

Table V (Continued)

	CAR_{CtoO}	CAR_{m30}	CAR_{m60}	CAR_{m120}	CAR_{m180}	CAR_{m240}	CAR_{OtoC}
Panel C: Subsample with Q&A							
P-Emotion	0.2171	0.2480	0.2275	-0.0416	-0.0482	0.0618	0.0856
	(1.23)	(1.35)	(1.29)	(-0.12)	(-0.13)	(0.15)	(0.21)
P-Cognitive	0.1538	-0.0159	-0.0018	-0.2922	-0.3277	-0.2264	-0.1259
	(0.72)	(-0.07)	(-0.01)	(-0.67)	(-0.75)	(-0.47)	(-0.26)
A-Emotion	-0.1313	-0.2165	-0.2321	-0.6454	-0.6541	-0.7156	-0.7975
	(-0.65)	(-1.00)	(-1.12)	(-1.53)	(-1.55)	(-1.52)	(-1.58)
A-Cognitive	-0.2115	-0.2840	-0.3238	-0.4316	-0.5879*	-0.7062*	-0.6720*
	(-1.00)	(-1.27)	(-1.54)	(-1.26)	(-1.71)	(-1.76)	(-1.74)
P-Tone	0.3918	0.5722*	0.6246*	0.5770	0.4944	0.5518	0.6366
	(1.20)	(1.70)	(1.87)	(1.52)	(1.40)	(1.46)	(1.61)
Q-Tone	0.3533	0.3660	0.3342	0.4685	0.6049	0.6049	0.1361
	(1.33)	(1.34)	(1.24)	(0.93)	(1.20)	(1.07)	(0.22)
A-Tone	0.2208	0.4760	0.3888	-0.0789	-0.2508	-0.4137	-0.6793
	(0.54)	(1.09)	(0.98)	(-0.09)	(-0.30)	(-0.46)	(-0.74)
P-Time	0.0147*	0.0176**	0.0184**	0.0188	0.0168	0.0060	0.0014
	(1.93)	(2.19)	(2.31)	(0.97)	(0.87)	(0.28)	(0.07)
A-Time	-0.0011	0.0022	0.0007	-0.0037	-0.0022	0.0010	0.0053
	(-0.15)	(0.31)	(0.10)	(-0.26)	(-0.15)	(0.06)	(0.33)
P-WC	-0.0044	-0.0055	-0.0058	-0.0074	-0.0076	-0.0020	-0.0019
	(-1.25)	(-1.50)	(-1.61)	(-0.91)	(-0.93)	(-0.22)	(-0.21)
Q-WC	-0.0076*	-0.0082*	-0.0068	-0.0032	-0.0074	-0.0073	-0.0034
	(-1.83)	(-1.89)	(-1.59)	(-0.38)	(-0.88)	(-0.78)	(-0.35)
A-WC	-0.0011	-0.0020	-0.0016	0.0014	0.0016	-0.0006	-0.0015
	(-0.41)	(-0.72)	(-0.57)	(0.23)	(0.26)	(-0.09)	(-0.22)
QA	0.3103**	0.3098**	0.2487*	0.0113	0.0200	0.0422	-0.3602
	(2.26)	(2.12)	(1.71)	(0.05)	(0.08)	(0.15)	(-1.09)
Tr_t	4.7192**	0.4712	0.3522	0.6450	0.6444	0.5375	0.7776**
	(2.14)	(1.10)	(1.00)	(1.34)	(1.53)	(1.31)	(1.97)
UE_{+1}	4.1648**	3.4888*	3.3894*	3.4161	3.4950	4.3089	-20.8155
	(2.15)	(1.72)	(1.70)	(1.12)	(1.14)	(1.24)	(-1.36)
AR_0	0.4500**	0.1585	0.1698	0.1475	0.1634	0.1786	0.1977
	(2.33)	(0.83)	(0.91)	(0.49)	(0.55)	(0.52)	(0.52)
X	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.68	0.70	0.68	0.72	0.72	0.68	0.74
Obs	86	85	83	78	78	75	72

Table VI Information from presentation and Q&A sections, by bad/good news

The dependent variable is the abnormal percent daily return of day -1. **X** includes controlling variables such as Beta, Size, BM, ROE, AGth, IVOL, and Lev. The definition of the dependent variables and all the independent variables refers to Table II. To save space, the coefficients on intercept and **X**s are suppressed. *t*-statistics are adjusted for clustering of the residual at the firm level and reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Bad news is defined by low UE_{+1}			Bad news is defined by low P-Tone		
Coef.	Lowest 30%	Middle 40%	Highest 30%	Lowest 30%	Middle 40%	Highest 30%
Panel A: Full sample						
Emotion	-0.0536	-0.1101	-0.0096	0.1576	-0.0132	-0.0425
	(-0.43)	(-1.44)	(-0.11)	(1.44)	(-0.13)	(-0.53)
Cognitive	-0.1651	0.0949	0.0827	-0.0551	-0.0351	-0.1106
	(-1.05)	(0.91)	(0.69)	(-0.67)	(-0.26)	(-0.97)
Tone	0.4663**	0.2835*	0.1540	1.6342***	0.5079	-0.2338
	(2.38)	(1.94)	(1.26)	(3.04)	(1.30)	(-1.36)
Time	-0.0026**	-0.0012	-0.0009	-0.0019	0.0047	0.0022
	(-2.41)	(-0.38)	(-0.45)	(-1.63)	(0.81)	(0.64)
WC	0.0005	0.0012	0.0004	0.0007	-0.0022	-0.0003
	(0.34)	(1.23)	(0.41)	(0.86)	(-0.91)	(-0.18)
QA	-0.1776**	-0.0830	0.0993	-0.2335***	-0.0103	-0.0609
	(-2.27)	(-0.76)	(0.75)	(-2.96)	(-0.11)	(-0.55)
Tr_{d1}	0.2441*	0.0990	0.1107	0.3439***	-0.2353	0.3428**
	(1.84)	(0.60)	(0.85)	(2.73)	(-1.44)	(2.44)
UE_{+1}	2.3867	1.2021	-3.4414	3.1040**	4.4162***	3.7566**
	(1.45)	(0.65)	(-1.14)	(2.10)	(3.02)	(2.29)
AR_0	0.0903	0.1368*	0.3460***	0.2987***	0.1005	0.2326*
	(1.23)	(1.72)	(2.70)	(2.99)	(0.82)	(1.84)
X	Yes	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.40	0.25	0.38	0.34	0.32	0.35
Obs	258	345	258	258	345	258
Panel B: Subsample without Q&A						
P-Emotion	-0.0301	0.1190	-0.0178	0.1046	0.0725	0.0192
	(-0.20)	(1.08)	(-0.19)	(0.71)	(0.84)	(0.22)
P-Cognitive	-0.2472	-0.1124	0.0109	-0.1281	0.1215	-0.1533
	(-1.15)	(-1.40)	(0.08)	(-1.18)	(0.96)	(-1.21)
P-Tone	0.6095***	0.3313**	0.1389	0.7803*	0.9146	0.0363
	(2.73)	(2.14)	(1.01)	(1.73)	(1.29)	(0.23)
P-Time	0.0270	0.0036	-0.0017	-0.0013	0.0111	0.0092
	(1.24)	(0.62)	(-1.17)	(-0.86)	(0.90)	(0.64)
P-WC	0.0050**	0.0013	-0.0109	0.0031*	-0.0044	0.0034
	(2.05)	(0.61)	(-1.02)	(1.77)	(-0.76)	(0.52)
Tr_{d1}	0.2682	-0.0853	0.0514	0.4231***	-0.2223	0.2480
	(1.43)	(-0.37)	(0.29)	(2.87)	(-1.54)	(0.69)
UE_{+1}	1.5401	-29.9944	0.1392	2.7075*	3.8733***	1.4536
	(1.00)	(-0.93)	(0.07)	(1.76)	(2.67)	(0.78)
AR_0	0.0697	0.1161	0.3782**	0.2511**	0.0876	0.0020
	(0.44)	(0.92)	(2.56)	(2.12)	(0.61)	(0.01)
X	Yes	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.50	0.25	0.41	0.39	0.41	0.37
Obs	204	272	204	204	272	204

Table VI (Continued)

	Bad news is defined by low UE_{+1}			Bad news is defined by low P-Tone		
Coef.	Lowest 30%	Middle 40%	Highest 30%	Lowest 30%	Middle 40%	Highest 30%
Panel C: Subsample with Q&A						
P-Emotion	0.3749	0.1943	-0.2059	0.0234	0.0598	0.1415
	(1.22)	(0.75)	(-0.76)	(0.09)	(0.32)	(0.64)
P-Cognitive	-0.1616	0.1377	0.5601	-0.0712	-0.1070	-0.2165
	(-0.51)	(0.56)	(0.99)	(-0.19)	(-0.22)	(-0.64)
A-Emotion	0.1579	0.3703	0.4578	0.3065	0.1083	0.2425
	(1.21)	(1.03)	(0.45)	(1.09)	(0.24)	(0.96)
A-Cognitive	-0.9778**	-0.3910*	-0.1721	-0.6126*	-0.5933	-0.1353
	(-2.29)	(-1.66)	(-0.20)	(-1.87)	(-0.99)	(-0.48)
P-Tone	1.6526***	-0.1845	7.1455	1.0742*	0.6206	0.8248
	(2.83)	(-0.35)	(0.90)	(1.66)	(0.45)	(1.17)
Q-Tone	0.3292	-0.2591	-0.1823	0.4901	0.1356	-0.1410
	(1.31)	(-0.54)	(-0.15)	(1.14)	(0.55)	(-0.28)
A-Tone	-0.5469***	-0.1763	-1.0219	-0.0412	-0.2816	-0.6011
	(-3.48)	(-0.30)	(-0.45)	(-0.07)	(-0.24)	(-1.12)
P-Time	-0.0164***	0.0038	0.1808	0.0141	0.0226	0.0052
	(-2.69)	(0.54)	(0.95)	(0.86)	(1.03)	(0.62)
A-Time	-0.0044	0.0009	-0.0316	0.0053	-0.0186	0.0015
	(-0.49)	(0.10)	(-0.75)	(0.76)	(-1.00)	(0.13)
P-WC	0.0070***	0.0065	-0.0584	-0.0057	-0.0069	0.0018
	(2.80)	(1.25)	(-0.92)	(-0.82)	(-0.72)	(0.50)
Q-WC	-0.0059	-0.0011	0.0125	-0.0040	-0.0007	0.0008
	(-1.14)	(-0.18)	(0.45)	(-0.89)	(-0.09)	(0.12)
A-WC	0.0018	-0.0013	0.0176	-0.0018	0.0090	-0.0027
	(0.48)	(-0.38)	(0.97)	(-0.57)	(1.01)	(-0.59)
QA	0.1117	-0.0434	-0.0480	0.0062	0.0838	0.0711
	(0.62)	(-0.35)	(-0.20)	(0.04)	(0.31)	(0.42)
Tr_{d1}	4.2421***	0.4787*	0.1627	0.2956	-0.1336	0.3577
	(11.41)	(1.70)	(0.77)	(0.93)	(-0.43)	(1.30)
UE_{+1}	7.9691***	1.6315	-6.7162	1.5314	4.4307*	1.9665
	(2.69)	(0.01)	(-0.68)	(0.66)	(1.75)	(0.46)
AR_0	0.1526	0.3591	0.6272**	0.2875	0.2441	0.4186*
	(0.59)	(0.84)	(2.49)	(1.11)	(0.92)	(1.65)
X	Yes	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.98	0.84	0.97	0.98	0.83	0.98
Obs	54	73	54	54	73	54

Table VII Regressions of future earnings and broker recommendation revisions

The dependent variables UE_{+1}, $UE_{+1, +2}$, $UE_{+1, +3}$, $UE_{+1, +4}$, and BRECR respectively. **X** includes controlling variables such as Beta, Size, BM, ROE, AGth, IVOL, and Lev. The definition of all the dependent variables and independent variables refers to Table II. To save space, the coefficients on intercept and **X** are suppressed. *t*-statistics are adjusted for clustering of the residual at the firm level and reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Dep. Var.	UE_{+1}	$UE_{+1, +2}$	$UE_{+1, +3}$	$UE_{+1, +4}$	BRECR
Coef.					
Panel A: Full sample					
Emotion	-0.0009	-2.7964	-0.0015	-0.0039	-0.0033
	(-0.61)	(-0.91)	(-0.26)	(-0.45)	(-0.24)
Cognitive	-0.0009	-0.2697	-0.0048	-0.0050	0.0014
	(-0.44)	(-0.06)	(-0.58)	(-0.45)	(0.09)
Tone	0.0011	2.5358	0.0124	0.0136	0.0579**
	(0.44)	(0.48)	(1.23)	(0.97)	(2.55)
Time	0.0000	0.0304	-0.0001	-0.0001	-0.0005
	(0.64)	(0.62)	(-0.54)	(-0.94)	(-1.29)
WC	0.0000	-0.0115	0.0000	0.0001	0.0003
	(-0.83)	(-0.39)	(0.43)	(1.07)	(1.26)
QA	-0.0013	-5.7204*	0.0031	-0.0012	0.0120
	(-0.91)	(-1.87)	(0.44)	(-0.12)	(0.78)
X	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
R^2	0.09	0.11	0.17	0.20	0.19
Obs	860	764	685	554	285
Panel B: Subsample without Q&A					
P-Emotion	0.0006	-1.0273	-0.0014	-0.0035	0.0175
	(0.41)	(-0.33)	(-0.22)	(-0.40)	(1.18)
P-Cognitive	-0.0010	-1.5396	-0.0126	-0.0142	-0.0099
	(-0.41)	(-0.33)	(-1.27)	(-1.14)	(-0.53)
P-Tone	0.0016	3.0470	0.0142	0.0134	0.0600**
	(0.57)	(0.56)	(1.22)	(0.88)	(2.26)
P-Time	0.0000	0.0111	0.0000	0.0001	0.0001
	(0.37)	(0.15)	(0.20)	(0.31)	(0.06)
P-WC	0.0001	-0.0124	-0.0001	0.0001	0.0000
	(0.57)	(-0.18)	(-0.39)	(0.56)	(0.04)
X	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
R^2	0.11	0.13	0.21	0.27	0.21
Obs	680	600	552	441	222

Table VII (Continued)

Dep. Var. Coef.	UE_{+1}	$UE_{+1,+2}$	$UE_{+1,+3}$	$UE_{+1,+4}$	BRECR
Panel C: Subsample with Q&A					
P-Emotion	0.0057	0.0021	-0.0071	0.0026	-0.0207
	(0.91)	(0.30)	(-1.15)	(0.19)	(-0.42)
P-Cognitive	-0.0009	0.0011	-0.0050	0.0137	-0.0093
	(-0.17)	(0.13)	(-0.68)	(0.68)	(-0.15)
A-Emotion	0.0081	0.0019	0.0100	-0.0005	0.0185
	(1.60)	(0.26)	(1.52)	(-0.03)	(0.28)
A-Cognitive	-0.0055	-0.0104	-0.0187*	-0.0437**	-0.0973*
	(-1.21)	(-1.01)	(-1.72)	(-2.12)	(-1.68)
P-Tone	0.0009	-0.0128	-0.0170	-0.0309*	-0.1266
	(0.13)	(-1.11)	(-1.58)	(-1.68)	(-1.33)
Q-Tone	-0.0030	-0.0026	0.0060	0.0333	0.0429
	(-0.50)	(-0.27)	(0.62)	(1.43)	(0.56)
A-Tone	0.0054	-0.0049	-0.0235	-0.0508	-0.0066
	(0.64)	(-0.35)	(-1.61)	(-1.61)	(-0.07)
P-Time	0.0002	0.0003	0.0002	0.0001	0.0003
	(1.03)	(0.97)	(0.89)	(0.16)	(0.15)
A-Time	0.0000	0.0001	0.0001	0.0004	0.0007
	(-0.15)	(0.26)	(0.56)	(1.54)	(0.33)
P-WC	-0.0001	-0.0001	-0.0001	0.0000	0.0000
	(-1.01)	(-1.02)	(-0.73)	(0.15)	(0.01)
Q-WC	0.0000	0.0000	0.0002	0.0000	0.0001
	(0.53)	(0.14)	(1.35)	(-0.18)	(0.06)
A-WC	0.0000	0.0000	-0.0001	-0.0002*	-0.0004
	(0.64)	(0.02)	(-1.11)	(-1.69)	(-0.53)
QA	-0.0022	-0.0040	-0.0040	-0.0054	0.0008
	(-0.79)	(-0.85)	(-0.98)	(-0.88)	(0.03)
X	Yes	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
R^2	0.66	0.69	0.89	0.96	0.92
Obs	181	164	133	113	63

Table VIII Information from presentation and Q&A sections, long-run future return

The dependent variables are $CAR_{d2, d21}$, $CAR_{d2, d63}$, $CAR_{d64,d126}$, and $CAR_{d64, d252}$, respectively. **X** includes controlling variables such as Beta, Size, BM, ROE, AGth, IVOL, and Lev. The definition of the dependent variables and all the independent variables refers to Table II. To save space, the coefficients on intercept and **X**s are suppressed. *t*-statistics are adjusted for clustering of the residual at the firm level and reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	$CAR_{d2, d21}$	$CAR_{d2, d63}$	$CAR_{d64,d126}$	$CAR_{d64, d252}$
Panel A: Full sample				
Emotion	-0.0663	-0.0096	-0.1112	-0.1218
	(-0.51)	(-0.05)	(-0.66)	(-0.37)
Cognitive	-0.2900	-0.0580	-0.0782	0.3151
	(-1.56)	(-0.23)	(-0.34)	(0.73)
Tone	0.4299*	0.1573	0.1849	-0.2901
	(1.85)	(0.46)	(0.61)	(-0.50)
Time	-0.0016	-0.0027	0.0116***	0.0061
	(-0.74)	(-0.86)	(4.22)	(1.18)
WC	-0.0025**	-0.0037**	-0.0036**	-0.0015
	(-1.96)	(-1.98)	(-2.18)	(-0.50)
QA	0.2587**	0.4590**	-0.3257*	-0.2288
	(1.99)	(2.42)	(-1.91)	(-0.72)
$Tr_{t1, t2}$	0.0819***	0.0890***	-0.0124	-0.0333
	(3.54)	(5.70)	(-0.86)	(-1.15)
X	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.16	0.19	0.14	0.16
Obs	856	842	830	732
Panel B: Subsample without Q&A				
P-Emotion	-0.1906	0.0332	0.0112	-0.0747
	(-1.41)	(0.16)	(0.05)	(-0.20)
P-Cognitive	-0.3836	-0.3775	-0.3774	0.1081
	(-1.48)	(-1.28)	(-1.27)	(0.21)
P-Tone	0.4153*	0.3840	0.2806	-0.0039
	(1.77)	(1.09)	(0.78)	(-0.01)
P-Time	-0.0039	-0.0030	-0.0012	0.0050
	(-1.21)	(-0.63)	(-0.25)	(0.62)
P-WC	-0.0026	-0.0055	-0.0066	-0.0090
	(-0.92)	(-1.31)	(-1.56)	(-1.22)
$Tr_{t1, t2}$	0.0322	0.0581***	0.0827***	-0.0024
	(1.02)	(3.47)	(4.45)	(-0.06)
X	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.17	0.20	0.22	0.15
Obs	675	662	660	565

Table VIII (Continued)

	$CAR_{d2, d21}$	$CAR_{d2, d63}$	$CAR_{d64,d126}$	$CAR_{d64, d252}$
Panel C: Subsample with Q&A				
P-Emotion	0.5871	0.5749	0.0222	-0.1415
	(1.54)	(1.20)	(0.05)	(-0.19)
P-Cognitive	-0.3477	0.6020	-0.4886	-0.3625
	(-0.80)	(1.05)	(-0.97)	(-0.42)
A-Emotion	0.2778	0.3536	0.4920	0.8662
	(0.63)	(0.63)	(0.95)	(1.17)
A-Cognitive	0.3140	0.8618	-0.0138	-0.0910
	(0.72)	(1.52)	(-0.03)	(-0.11)
P-Tone	0.8968	0.3166	-0.2272	-2.4068*
	(1.28)	(0.35)	(-0.28)	(-1.70)
Q-Tone	0.3036	-0.0591	-0.2001	0.4160
	(0.52)	(-0.08)	(-0.31)	(0.37)
A-Tone	-1.9125	-2.6872***	0.2739	-0.1736
	(-1.40)	(-2.59)	(0.30)	(-0.11)
P-Time	-0.0090	-0.0151	0.0029	0.0224
	(-0.55)	(-0.67)	(0.16)	(0.71)
A-Time	0.0083	0.0084	-0.0015	0.0245
	(0.65)	(0.49)	(-0.10)	(0.90)
P-WC	0.0029	0.0039	-0.0025	-0.0149
	(0.43)	(0.46)	(-0.34)	(-1.16)
Q-WC	-0.0179**	-0.0217**	-0.0006	0.0038
	(-2.36)	(-2.21)	(-0.07)	(0.25)
A-WC	-0.0018	-0.0076	0.0023	-0.0082
	(-0.35)	(-1.14)	(0.40)	(-0.81)
QA	0.5617**	0.5179*	-0.0674	-0.7329
	(2.37)	(1.68)	(-0.25)	(-1.51)
$Tr_{t1, t2}$	0.1460**	0.0095	-0.0161	-0.1477***
	(2.55)	(0.32)	(-0.64)	(-3.42)
X	Yes	Yes	Yes	Yes
Ind. FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R^2	0.61	0.63	0.46	0.54
Obs	181	180	170	167

Table IX The effect of limits-to-arbitrage

FLA is the measure of the extent of fewer limits-to-arbitrage, i.e., 1/ILLIQ, PRICE, VOL, 1/IVOL, 1/DISP, and 1/CVOL. The inverses of ILLIQ, IVOL, DISP, and CVOL are taken so that the interaction coefficient is predicted to be consistent across the FLA measures. PRICE is the closing stock price on day -2. VOL is the closing price multiplied by the trading shares on day -2. DISP is the standard deviation of brokers' forecasts for quarter +1 EPS issued before the press briefing scaled by the price on day -2. CVOL is the standard deviation of cash flow from operations over the quarters -12 to -1.**X** includes controlling variables such as Beta, Size, BM, ROE, AGth, and Lev. The definition of the dependent variables and all the independent variables refers to Table II. To save space, the coefficients on intercept and **X**s are suppressed. *t*-statistics are adjusted for clustering of the residual at the firm level and reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

FLA=	1/ILLIQ	PRICE	VOL	1/IVOL	1/DISP	1/CVOL
Panel A: Full sample						
FLA*Emotion	0.0000	-0.0062	0.0000	0.2256	1.7640	-1.2752
	(1.04)	(-1.56)	(0.14)	(1.38)	(1.43)	(-0.59)
FLA*Cognitive	0.0000	-0.0087	0.0000	0.2131	-5.3473*	0.9640
	(0.99)	(-1.44)	(1.57)	(0.83)	(-1.68)	(0.29)
FLA*Tone	0.0000	0.0003	0.0000	-0.2388	-6.9732	-4.4656
	(-0.45)	(0.06)	(-0.11)	(-0.91)	(-1.49)	(-1.10)
FLA	-0.0006	0.1861***	-0.0003	-3.9402	7.6275	8.2617
	(-1.40)	(2.61)	(-1.26)	(-0.88)	(0.19)	(0.12)
Emotion	-0.1071	0.1774	-0.0658	-0.1792	-0.0379	0.0283
	(-0.80)	(1.12)	(-0.50)	(-1.12)	(-0.13)	(0.13)
Cognitive	-0.2764	0.0572	-0.2853	-0.2940	-0.7789**	-0.2396
	(-1.43)	(0.25)	(-1.60)	(-1.29)	(-1.98)	(-0.76)
Tone	0.3841	0.3770	0.3042	0.3878	0.4610	0.7483*
	(1.47)	(1.30)	(1.23)	(1.26)	(0.85)	(1.69)
Panel B: Subsample without Q&A						
FLA*P-Emotion	0.0000	-0.0062**	0.0000	-10.0117	0.0157	-1.5266
	(1.10)	(-2.11)	(0.11)	(-1.10)	(1.44)	(-0.74)
FLA*P-Cognitive	0.0000	-0.0065	0.0000	0.2855	0.8246	0.0622
	(0.62)	(-1.11)	(0.84)	(1.10)	(0.16)	(0.02)
FLA*P-Tone	0.0000	0.0051	0.0000	-0.1634	0.5040	-1.8721*
	(0.26)	(0.93)	(0.00)	(-0.59)	(0.10)	(-1.67)
FLA	-0.0007	0.1579	-0.0003	-6.6172	-0.3129	12.0943
	(-1.57)	(1.53)	(-0.90)	(-1.47)	(-0.90)	(0.18)
P-Emotion	-0.2723	0.0374	-0.2310	0.2356	0.1803	-0.1166
	(-1.55)	(0.22)	(-1.59)	(0.91)	(0.40)	(-0.52)
P-Cognitive	-0.3160	-0.1468	-0.3156	-0.3706	-1.0065	-0.2718
	(-1.47)	(-0.53)	(-1.50)	(-0.76)	(-1.34)	(-0.74)
Tone	0.3305	0.2245	0.3382	0.3592	0.4598	0.1204
	(1.25)	(0.73)	(1.36)	(1.19)	(0.59)	(0.29)
Panel C: Subsample with Q&A						
FLA*P-Emotion	0.0000	-0.0010	0.0000	0.6073	0.0408	-12.9683*
	(0.06)	(-0.18)	(-0.81)	(0.78)	(0.56)	(-1.89)
FLA*A-Emotion	0.0000	0.0014	0.0000	0.3516	-0.0797	-1.2389
	(-0.08)	(0.19)	(0.57)	(0.53)	(-1.34)	(-0.11)
FLA*P-Cognitive	0.0000	-0.0057	0.0000	-0.9462	0.1579	-5.2731
	(-0.74)	(-1.31)	(-1.21)	(-0.92)	(1.30)	(-0.55)
FLA*A-Cognitive	0.0000	0.0147	0.0000	0.6386	-0.1630	1.1989
	(-0.13)	(1.59)	(0.20)	(0.79)	(-1.32)	(0.11)
FLA*P-Tone	-0.0001	-0.0118*	-0.0001*	-1.7809*	-0.1605	-23.6510*
	(-1.03)	(-1.78)	(-1.87)	(-1.88)	(-0.76)	(-1.95)
FLA*Q-Tone	0.0000	-0.0118	0.0000	-0.2420	0.1666	4.5786
	(-0.13)	(-0.97)	(-0.52)	(-0.21)	(0.96)	(0.29)
FLA*A-Tone	-0.0001	-0.0014	0.0001	-1.8961	-0.0142	-21.3323

	(-1.22)	(-0.12)	(1.22)	(-1.05)	(-0.11)	(-1.09)
P-Emotion	0.7159	0.6003	0.7072*	0.5994	1.0484	1.3218*
	(1.49)	(1.35)	(1.87)	(1.30)	(1.58)	(1.70)
A-Emotion	-0.5083	-0.4790	-0.3625	-0.7946	0.6508	-0.5084
	(-1.02)	(-0.96)	(-0.78)	(-1.28)	(0.97)	(-0.43)
P-Cognitive	0.2362	0.6398	0.5639	0.5093	-1.4347	0.4436
	(0.39)	(1.16)	(1.14)	(0.73)	(-1.40)	(0.46)
A-Cognitive	0.0910	-0.4057	0.0658	-0.2501	0.7369	-0.1242
	(0.14)	(-0.66)	(0.12)	(-0.36)	(1.04)	(-0.11)
P-Tone	1.5361**	1.4512**	1.7427**	1.9980**	2.7641*	1.1667
	(2.13)	(2.05)	(2.40)	(2.32)	(1.68)	(0.76)
Q-Tone	0.1485	0.7684	0.0458	0.1321	0.4162	0.3061
	(0.24)	(1.25)	(0.07)	(0.15)	(0.25)	(0.18)
A-Tone	0.3659	0.2234	-0.0166	1.1066	3.2873	4.3275*
	(0.52)	(0.30)	(-0.02)	(1.20)	(1.21)	(1.89)
FLA	0.0008	0.1880	0.0008	19.1837	0.0539	298.3695
	(0.62)	(1.06)	(0.94)	(1.00)	(0.04)	(1.04)

Table X The effect of investor attention

IA is the measure of investor attention, i.e., D_{NF}, $1/NRA_0$, BkCov, IO, and AbSearch. The inverse of NRA_0 is taken so that the interaction coefficient is predicted to be consistent across the IA measures. D_{NF} is the dummy variable of the press briefings held on non-Friday. NRA_0 is the number of firms releasing material information on day 0. BkCov is the number of brokers covering the firm in quarter -1. IO is the institutional ownership at the end of quarter -1.AbSearch is the raw Google search volume at day 0 minus the average Google search volume at quarter -1, scaled by the average Google search volume at quarter -1.**X** includes controlling variables such as Beta, Size, BM, ROE, AGth, and Lev. The definition of the dependent variables and all the independent variables refers to Table II. To save space, the coefficients on intercept and **X**s are suppressed. *t*-statistics are adjusted for clustering of the residual at the firm level and reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

IA=	D_{NF}	$1/NRA_0$	BkCov	IO	AbSearch
Panel A: Full sample					
IA*Emotion	-0.1979	-0.5878	0.0264	-0.0072	-0.0008
	(-0.70)	(-0.20)	(0.72)	(-1.32)	(-0.14)
IA*Cognitive	-0.3650	-2.5981	-0.0026	-0.0097	-0.0010
	(-0.92)	(-0.54)	(-0.06)	(-1.26)	(-0.13)
IA*Tone	0.0051	4.7892	-0.1080*	-0.0099	-0.0169*
	(0.01)	(0.55)	(-1.65)	(-1.05)	(-1.76)
IA	8.7139	29.9238	-0.0742	0.2772*	0.0654
	(1.10)	(0.38)	(-0.08)	(1.79)	(0.43)
Emotion	0.0804	-0.1080	-0.1292	0.3203	0.0876
	(0.33)	(-0.80)	(-0.82)	(1.03)	(0.70)
Cognitive	-0.0276	-0.2367	-0.2768	0.2382	-0.2529
	(-0.08)	(-1.26)	(-1.23)	(0.53)	(-1.37)
Tone	0.3033	0.2703	0.5604**	0.8372	0.1250
	(0.65)	(1.03)	(1.97)	(1.52)	(0.54)
Panel B: Subsample without Q&A					
IA*P-Emotion	-0.4269	-0.7931	0.0560	0.0035	0.0016
	(-1.47)	(-0.26)	(1.40)	(0.60)	(0.27)
IA*P-Cognitive	-0.5832	-0.9993	0.0634	0.0032	0.0093
	(-1.41)	(-0.10)	(1.18)	(0.37)	(0.96)
IA*P-Tone	0.1416	0.9448	-0.0766	-0.0008	0.0013
	(0.28)	(0.06)	(-1.15)	(-0.09)	(0.11)
IA	15.6775*	16.0428	-1.6203	-0.1056	-0.1599
	(1.93)	(0.13)	(-1.63)	(-0.63)	(-0.89)
P-Emotion	0.1231	-0.2741	-0.3418**	-0.3787	-0.0319
	(0.49)	(-1.64)	(-2.26)	(-1.13)	(-0.22)
P-Cognitive	0.1806	-0.3457	-0.4139*	-0.5714	-0.3367
	(0.52)	(-1.49)	(-1.74)	(-1.15)	(-1.59)
Tone	0.0588	0.1925	0.5082*	0.3685	0.1753
	(0.13)	(0.58)	(1.77)	(0.66)	(0.70)
Panel C: Subsample with Q&A					
IA*P-Emotion	0.5522	30.5852	0.0055	-0.0362**	-0.0043
	(0.67)	(0.32)	(0.06)	(-2.22)	(-0.29)
IA*A-Emotion	0.2230	31.0675	0.0295	0.0045	0.0097
	(0.19)	(0.46)	(0.29)	(0.23)	(0.41)
IA*P-Cognitive	-0.1935	143.8288	-0.0418	-0.0260	0.0158
	(-0.19)	(0.70)	(-0.45)	(-1.26)	(0.78)
IA*A-Cognitive	0.1671	-93.0658	0.1120	-0.0167	0.0218
	(0.16)	(-0.71)	(0.93)	(-0.63)	(0.69)
IA*P-Tone	-4.9403**	-65.0090	-0.2923**	-0.0722***	-0.0122
	(-2.42)	(-0.43)	(-2.07)	(-2.68)	(-0.67)
IA*Q-Tone	1.4413	26.9245	-0.3575**	-0.0424	-0.0152
	(0.95)	(0.16)	(-2.48)	(-1.43)	(-0.79)
IA*A-Tone	2.8716	55.8991	-0.0329	0.0137	0.0129

	(1.35)	(0.36)	(-0.19)	(0.32)	(0.47)
P-Emotion	1.3918	0.5621	0.6356	2.7232***	0.4858
	(1.47)	(0.97)	(1.59)	(2.67)	(1.06)
A-Emotion	-0.7662	-0.2645	-0.4577	-0.3699	-0.1147
	(-0.62)	(-0.51)	(-1.01)	(-0.32)	(-0.21)
P-Cognitive	1.2945	-0.3977	0.4102	1.5595	-0.1284
	(1.13)	(-0.45)	(0.80)	(1.19)	(-0.28)
A-Cognitive	-1.5111	0.5051	-0.5020	1.4945	-0.2462
	(-1.49)	(0.81)	(-0.93)	(0.90)	(-0.37)
P-Tone	5.2875***	1.3175*	1.7356**	4.7495***	1.4703*
	(2.81)	(1.79)	(2.45)	(2.80)	(1.66)
Q-Tone	-0.7567	0.2218	1.0362	2.9416	0.8480
	(-0.57)	(0.35)	(1.58)	(1.51)	(1.27)
A-Tone	-4.6849**	1.0327	0.0886	-2.8131	-2.2912**
	(-2.44)	(0.86)	(0.13)	(-0.98)	(-2.54)
IA	3.3507	-1949.8869*	0.9593	1.2989*	0.0279
	(0.09)	(-1.81)	(0.34)	(1.86)	(0.09)