Emotional shifts in earnings conference calls and investor reactions

Dinithi Ranasinghe*

Department of Accountancy and Finance, School of Business, University of Otago, Dunedin 9054, New Zealand. E-mail address: dinithi.ranasinghe@otago.ac.nz
* *Corresponding Author*

Gihan Gamage

Department of Accounting and Data Analytics, La Trobe Business School, La Trobe University, Bundoora, Victoria 3086, Australia. E-mail address: g.gamage@latrobe.edu.au

Luisa A. Unda

Faculty of Business Economics, University of the Balearic Islands, Palma, 07122, Spain. E-mail address: luisa-ana.unda@uib.es

Daswin De Silva

Department of Accounting and Data Analytics, La Trobe Business School, La Trobe University, Bundoora, Victoria 3086, Australia. E-mail address: d.desilva@latrobe.edu.au

Paul Mather

Department of Accounting and Data Analytics, La Trobe Business School, La Trobe University, Bundoora, Victoria 3086, Australia. E-mail address: p.mather@latrobe.edu.au

Emotional shifts in earnings conference calls and investor reactions

Abstract

We assert that emotional shifts (i.e., change of emotions) during earnings conference calls, particularly those expressed by CEOs, serve as important signals to investors, influencing their perceptions of the firm's performance and prospects. Our results suggest that negative emotional shifts are associated with adverse market reactions, especially in competitive market environments. Our study provides practical insights for managers on the strategic use of emotional cues during earnings calls and highlights the role of emotional dynamics in shaping investor behavior and market outcomes.

Keywords: emotional shifts, investor reactions, conference calls

JEL Classifications: M41, G11, G41

1. Introduction

The question and answer (Q&A) section of the earnings conference calls provides a vital platform for managers and analysts to engage in dynamic, interactive communication. These interactions enable analysts to probe managerial insights and extract critical information that aids in evaluating a company's performance. However, managers exercise significant discretion in framing their responses to analysts' inquiries, leveraging these interactions to influence market perceptions of their firms. Prior research highlights the informational benefits of conference calls, demonstrating that frequent and transparent calls reduce information asymmetry and lower the cost of capital (Brown et al., 2004). Beyond the content of disclosures, linguistic features of managerial communication, such as tone, complexity, and emotional expressions, have been shown to shape investor perceptions and influence market reactions (Allee & DeAngelis, 2015; Bushee et al., 2018; Call et al., 2023). A growing body of literature explores the role of emotions in managerial communication. Emotional expressions during earnings calls can act as powerful signals that bridge information asymmetry and provide investors with cues about managerial confidence, the firm's underlying performance (Momtaz, 2021; Spence, 2002). Wang et al. (2024) find that emotions portrayed in social media channels affect firm value, and Unda et al. (2024) show that emotions expressed in the conference call, including the Q&A section, affect investor reactions. Prior studies have primarily focused on static emotions or tone, neglecting the dynamic nature of emotional expressions and their potential to convey incremental information. In other words, prior research has not yet examined how the emotional shifts that occur among the conference call participants affect investor responses. Therefore, emotional shifts may reveal new insights about managerial confidence or uncertainties that are not immediately apparent in the content of the disclosure.

Building on this premise, our study examines whether and how emotional shifts during the Q&A section of the earnings conference calls influence investor reactions, as measured by cumulative abnormal returns (CAR). Specifically, we focus on two types of emotional shifts: positive emotional shifts and negative emotional shifts Positive emotional shifts occur when a speaker transitions from negative to positive emotions or from low to high positive intensity. Conversely, negative emotional shifts occur when emotions shift from positive to negative or from low to high negative intensity. Furthermore, we analyze these shifts at two levels: at the CEO level, and at the call level, summarizing the broader emotional dynamics of all participants during the Q&A section. These distinctions allow us to explore both the individual

and collective emotional dynamics during earnings calls and their impact on investor perceptions. Drawing on EASI (Emotions as Social Information) theory, emotions influence investor behavior through two primary mechanisms: inferential processes and affective reactions (Van Kleef, 2009). In the context of earnings calls, inferential processes allow investors to interpret shifts in managers' emotions as signals of their confidence and evaluations of the firm's performance and outlook. For example, a shift from a positive to a negative emotion may indicate uncertainty or emerging risks, prompting investors to reassess the firm's prospects (Cardon et al., 2009). These emotional cues are particularly salient during the Q&A section of the conference call, where managers dynamically respond to analysts' questions, revealing real-time emotional shifts.

Using a sample of earnings conference calls from S&P 500 firms between 2010 and 2020, we find that emotional shifts are significantly associated with stock market reactions. Specifically, investors react negatively to negative emotional shifts, such as a transition from positive to negative emotions, an increase in the intensity of negative emotions, or a decrease in the intensity of positive emotions. This reaction is particularly pronounced when these shifts are expressed by the CEO, underscoring the importance of managerial emotions in shaping market perceptions. Our findings also indicate that positive emotional shifts—including a transition from negative to positive emotions, an increase in the intensity of positive emotions, or a decrease in the intensity of negative emotions—are not always viewed favorably by investors. In certain contexts, excessive positivity at the CEO level may raise skepticism, potentially leading to adverse market reactions. Furthermore, we observe that the strength of these associations is influenced by the information environment. Negative emotional shifts have a stronger negative impact on stock returns in high-information-asymmetry environments, while the impact is less pronounced in more transparent settings. We further find that the emotional shifts' association with stock returns is stronger in a more competitive environment. These findings underscore the critical role of emotional dynamics in managerial communication and their ability to influence investor decision-making and market outcomes.

Our study contributes to the literature on managerial communication, corporate governance, and behavioral finance by providing novel insights into the role of emotional dynamics in shaping capital market outcomes. First, we extend prior research on managerial emotional expressions by focusing on emotional shifts, highlighting their importance as dynamic signals of managerial sentiment. Second, we leverage state-of-the-art natural language processing (NLP) techniques to quantify emotional shifts with precision, enabling a rigorous

analysis of their impact on stock market reactions. Finally, we provide empirical evidence on how emotional shifts interact with the information environment—specifically, in conditions of high or low information asymmetry—to influence investor reactions. By linking emotional dynamics to investor decision-making, our findings highlight the importance of managerial communication as a tool for shaping market perceptions and outcomes.

We organize the remainder of the paper as follows. In Section 2, we review the relevant literature and develop our hypothesis. Section 3 describes the sample selection, measurement of emotional shifts, and empirical methodology. Section 4 presents and discusses the empirical results and robustness tests. Section 5 concludes the paper.

2. Literature and Hypothesis Development

Earnings conference calls offer a unique platform for managers and analysts to engage in interactive communication. Analysts use these calls to extract critical information that enables them to evaluate a company's financial performance and future prospects. At the same time, managers exercise considerable discretion in framing their responses to analysts' questions, leveraging these interactions to influence market perceptions of their firms. Prior studies highlight the informational benefits of conference calls, showing that frequent and transparent calls reduce information asymmetry, thereby lowering the cost of capital (Brown et al., 2004). Moreover, the linguistic traits of managers' disclosures during these calls have been found to hold significant relevance to investors. For instance, the use of tone (Allee & DeAngelis, 2015; Davis et al., 2015), linguistic complexity (Bushee et al., 2018), extremity (Bochkay et al., 2020), self-inclusiveness (Chen & Loftus, 2019), and even humor (Call et al., 2023) can influence how the market interprets managerial communication. Managers may strategically use these linguistic tools to influence investors' perceptions and guide the narrative surrounding the firm's performance. In particular, the Q&A section of the earnings calls provides an ideal setting for managers to control the information flow, whether by selecting specific analysts for questions (Mayew, 2008; Cohen et al., 2020) or evading difficult inquiries through non-answers or scripted responses (Hollander et al., 2010; Gow et al., 2021; Barth et al., 2023).

Beyond linguistic traits, emotional expressions during conference calls play a critical role in shaping investor reactions. Emotions serve as powerful signals (Momtaz, 2021) that can bridge information gaps between firms and investors (Spence, 2002). Managers' emotional

shifts—positive vs. negative changes, intensity changes—can provide investors with cues about managerial confidence, underlying performance, and future prospects. Drawing on the conversational nature of the Q&A section of earnings calls, EASI (Emotions as Social Information) theory (Van Kleef, 2009) offers a robust framework to understand how expressed emotions influence receivers' behaviors. According to EASI theory, emotional expressions impact investors through two mechanisms: affective reactions and inferential processes. Affective reactions involve emotional contagion, where investors mirror the emotions conveyed by managers. Drawing insights from this assertion, existing research highlights the significant role of managerial emotions in shaping investor perceptions and market outcomes. For instance, Unda et al. (2024) find that emotion profiles during earnings conference calls are significantly associated with stock returns, with investors reacting favorably to positive emotional expressions and unfavorably to negative ones, supporting emotional contagion view. In contrast, inferential processes of EASI theory posit that observers extract crucial information from emotional expressions to deduce the emotions and intentions of the individuals displaying them (Haidt & Keltner, 1999). For instance, investors extract information from managers' emotional shifts, interpreting them as indicators of managerial evaluations of the firm's performance and outlook. Cardon et al. (2009) emphasized that when investors perceive executives expressing positive emotions, such as enthusiasm, they are likely to experience similar emotions, leading to increased optimism, confidence, and a more favorable outlook on the firm's prospects, which can ultimately drive higher investment in the firm (Cardon et al., 2009). These emotional cues can influence investors' valuation of the firm and their subsequent investment decisions (Goleman et al., 2013; Tsai & Men, 2017). Wang et al. (2024) demonstrate that emotions such as fear and anger expressed by social executives in public communications, including social media posts, are significantly linked to firm value, particularly in smaller firms. These findings underscore the broader social effect of emotions and their importance as signals that influence investor decision-making and corporate valuation.

We extend these perspectives to an emotional shift setting. Emotional shifts, such as transitions between negative and positive states (e.g., fear to relief) or changes in emotional intensity, can influence beliefs (Nabi & Green, 2015). Narratives are particularly effective in facilitating these shifts by allowing audiences to follow characters through events that evoke and resolve emotional experiences. Messages involving shifts from positive to negative or from

negative to positive are more effective in influencing intentions to avoid excessive drinking (Carrera, et al., 2008; 2010) than solely negative messages. This enhanced effectiveness is attributed to the ability of emotional shift messages to lower defensive processing and, in the case of negative-to-positive shifts, to enhance perceptions of self-efficacy (Olsen & Pracejus, 2004).

Positive emotional shifts may elicit optimism and confidence in the firm, while negative shifts may evoke skepticism and dampen market sentiment. A shift from positive to negative emotions may signal uncertainty or concern, prompting investors to reassess the firm's prospects. Earnings conference calls provide managers with an opportunity to influence the narrative surrounding the firm's financial performance and future prospects. Managers often prepare for these calls by crafting a coherent narrative to contextualize current earnings and guide investors in interpreting the results (Bamber & Abraham, 2020). While the Q&A format imposes restrictions on managers' ability to deliver their message as intended, emotional shifts offer an alternative strategy to influence investor perceptions. By modulating their emotional responses, managers can signal confidence, clarify uncertainties, and reinforce their message, providing incremental information to the market. For instance, a manager who responds to questions about declining sales with a positive emotional shift may implicitly highlight the firm's resilience or potential areas of growth, thereby signaling optimism about the future. However, emotional shifts may also carry risks. A negative emotional shift, such as expressions of hesitation or concern, may be interpreted as a signal of bad news, undermining managerial credibility and investor confidence. Similarly, overly positive emotional shifts may raise concerns about inauthenticity, leading to skepticism about the veracity of the firm's disclosures. These dynamics underscore the dual nature of emotional shifts: while they can enhance investor understanding when aligned with the firm's narrative, they may also detract from it if perceived as evasive or inconsistent. The impact of emotional shifts on investor reactions is therefore an open empirical question. Based on these considerations, we formally state our hypothesis in null form:

H1: Emotional shifts during conference calls are not associated with investors' response to the concurrent earnings information.

3. Methodology

3.1 Sample Selection

We analyze a sample of 17,226 earnings conference call transcripts from S&P 500 firms between 2010 and 2020, obtained from EIKON Refinitiv Thomson Reuters. To measure emotional shifts (see Section 3.2), we focus on transcripts in PDF format that provide essential details, including the company name, earnings quarter, conference call date, participants (e.g., CEO, CFO, analysts), and a clearly structured Q&A section identifying each speaker's name, position, and spoken text. After applying these criteria, the sample size is reduced to 15,512 calls. We further exclude 10,259 calls due to missing data in Compustat, CRSP, or IBES, which are required for calculating control variables. This results in a final sample of 5,253 unique calls with complete data for our empirical analysis. To identify emotion scores, we focus on the Q&A section of each transcript, which includes shorter segments of dialogue between the CEO, other managers, and analysts. Using regular expressions (regex), we separate the text by speaker and perform a sentence-level analysis, splitting each segment into individual sentences. We construct emotion scores for each sentence, enabling a granular analysis of emotional shifts during these interactions.

3.2 Measurement of emotional shifts

In this study, we analyze emotional shifts that occur when managers interact with analysts during earnings conference calls. To quantify these shifts, we apply Plutchik's (1980) emotion model, which classifies emotions into eight primary categories: joy, anger, sadness, fear, trust, disgust, anticipation, and surprise. These emotions are structured into polar opposites (e.g., joy vs. sadness, trust vs. disgust) and can vary in intensity from mild to extreme (e.g., serenity to ecstasy for joy). Additionally, we categorize emotions as either positive (e.g., joy, anticipation, trust, surprise) or negative (e.g., anger, sadness, fear, disgust), providing a systematic framework for analyzing emotional expressions in managerial communication. To extract emotional expressions from earnings call transcripts, we use DistilBERT, a pre-trained deep learning language model. Each text segment (such as a sentence or paragraph) is analyzed to determine its top emotion label and corresponding intensity score. This enables us to track emotional changes over time and across speakers during the Q&A section.

We define emotional shifts as changes in emotional valence (i.e., movement between positive and negative emotions) or changes in emotional intensity (i.e., amplification or inhibition of an emotion). These shifts are categorized into positive and negative emotional shifts. A positive emotional shift occurs: an emotion transitions from negative to positive (e.g., sadness to trust); a positive emotion increases in intensity (e.g., joy rising from low to high intensity); a negative emotion decreases in intensity, moving closer to neutrality (e.g., sadness reducing from high to low intensity). A negative emotional shift occurs: an emotion transitions from positive to negative (e.g., trust to sadness); a negative emotion increases in intensity (e.g., fear strengthening from mild to extreme); a positive emotion decreases in intensity, moving closer to neutrality (e.g., joy decreasing from high to low intensity). To quantify these shifts, we calculate a valence fluctuation score, which ranges from -2.00 to +2.00. The polarity of this score indicates the direction of the shift. Positive values indicate a positive shift, reflecting movement toward a more positive emotional state or a reduction in negative intensity. Negative values indicate a negative shift, reflecting movement toward a more negative emotional state or a reduction in positive intensity. For positive shifts, we compute the difference in emotion intensity scores between the CEO's emotion and the preceding speaker's emotion, when the shift moves toward a more positive valence. For negative shifts, we compute the sum of emotion intensity scores, when the shift moves toward a more negative valence.

[Insert Table 1 about here]

Table 1 provides an illustration of emotional shifts during CEO-analyst interactions. For example, at t_3, the CEO's emotion shifts from joy (0.33) to disgust (0.56), resulting in a negative shift of -0.89 (0.33 + 0.56). At t_5, the CEO transitions from sadness (0.15) to trust (0.11), leading to a positive shift of +0.26 (0.15 + 0.11). At t_7, the CEO's joy intensifies from 0.44 to 0.78, contributing to another positive shift of +0.34. We analyze emotional shifts at two levels. First, we compute CEO Emotional Shifts, which capture changes in the CEO's emotions as they interact with analysts. CEO Positive Emotional Shift is measured as the sum of positive valence fluctuations (e.g., 0.26 + 0.34 = 0.60 in Table 1), while CEO Negative Emotional Shift is the sum of negative valence fluctuations (e.g., 0.89 (0.33 + 0.56) in Table 1). Second, we calculate Overall Call-Level Emotional Shifts, aggregating the emotional shifts of all speakers in the conference call. This provides a broader measure of emotional dynamics and sentiment conveyed throughout the discussion. By analyzing emotional shifts at both levels, we gain a dual perspective: the CEO's individual emotional dynamics and the collective sentiment of the call. A CEO exhibiting frequent negative emotional shifts and high valence inhibition may

signal uncertainty or defensiveness, potentially influencing investor sentiment and stock price volatility. Conversely, a conference call dominated by positive shifts may indicate confidence and alignment between the CEO and analysts, reinforcing investor confidence. This dual-level analysis provides a structured, quantitative approach to understanding how emotional transitions shape market reactions and investor perceptions of firm value.

3.3 Empirical model

To examine the market reaction on emotional shifts, we use the regression model (1):

$$CAR_{i,t} = \alpha + \beta_1 EMOTION\_SHIFT_{i,t} + \beta_2 Tone_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 MTB_t + \beta_5 RETVOL_{i,t} + \beta_6 LEV_{i,t} + \beta_7 LAG_{i,t} + \beta_8 FORE_{NUM\,i,t} + \beta_9 FORE_{DISP\,i,t} + \beta_{10} LOSS_{i,t} + \text{Industry}FE + YearQuarterFE + \epsilon_i \quad (1)$$

CAR is the cumulative abnormal size-decile adjusted return during two trading day window surrounding firm *i*'s conference call in quarter *q*. CAR (0, +1) starts on the conference call date and ends a day following it. We calculate the abnormal returns based on the Fama-French three-factor model calibrated on the estimation window of 90 days from t_{-120} to t_{-31} days. Our key explanatory variable, EMOTION_SHIFT, consists of four distinct measures. NEG_SHIFT_CALL: measures the extent of negative emotional shifts across all participants (CEO, managers, and analysts) in the Q&A section of the call. NEG_SHIFT_CEO: focuses specifically on negative emotional shifts expressed by the CEO during the Q&A section. POS_SHIFT_CALL: captures positive emotional shifts across all participants in the Q&A section. POS_SHIFT_CEO: focuses on positive emotional shifts specifically by the CEO during the Q&A section.

We measure all the emotional shifts variables as an indicator variable which takes the value of one if the absolute emotion score (as explained in Section 3.2) is greater than the 75th percentile and zero otherwise. We control for other quantitative and qualitative information that is available to investors around the earnings announcement date and is associated with the market reaction to the call (Huang et al. 2014, Lee 2016, Suslava, 2021, Call et al. 2023). We control for size, growth, and risk, which have been shown to be related to market returns. Firm size (*SIZE*) is the natural logarithm of market value of equity at the end of the current quarter; firm growth (*MTB*) is the market-to-book ratio, calculated as the market value of shareholders' equity at the end of the current quarter scaled by the book value of equity; and firm risk is the

return volatility (*RETVOL*), measured as the standard deviation of daily stock returns over the 125 trading days prior to the conference call date. Leverage (*LEV*), measured by total liabilities divided by total assets, controls for increased information demand when firms are experiencing financial distress. We capture the uncertainty of firm operations (*FORE_DISP*) using the standard deviation of analysts' earnings forecasts scaled by the most recent stock price. The model also includes the reporting lag (*LAG*); the number of annual earnings forecasts (*FORE_NUM*); and an indicator variable equal to one if firm *i* reported negative income before taxes in at least one of the most recent four quarters preceding firm *i*'s conference call at time *t*, and zero otherwise (*LOSS*). Appendix A reports the variables definitions.

[**Insert Appendix A about here**]

4. Empirical Results

4.1 Descriptive Statistics

Table 2 presents the descriptive statistics for the key variables used in the analysis. The sample includes measures of cumulative abnormal returns (CAR), emotional shifts, and various firm and market characteristics. The mean cumulative abnormal return (CAR) over the two-day window surrounding the conference call is 0.0013, with a standard deviation of 0.0540. The 25th percentile is -0.0285, the median is 0.0018, and the 75th percentile is 0.0332, indicating a relatively symmetric distribution of abnormal returns around the conference call. For emotional shifts, the average negative emotional shift at the call level (NEG_SHIFT_CALL) is 1.1706, with a standard deviation of 1.4933. The median value is 0.6880, and the distribution is skewed toward higher values, as indicated by the 75th percentile of 1.5850. At the CEO level, negative emotional shifts (NEG_SHIFT_CEO) have a mean of 1.5881 and a standard deviation of 1.5500, with a median value of 1.5500. Positive emotional shifts exhibit higher mean values compared to negative shifts. Positive shifts at the call level (POS_SHIFT_CALL) have an average of 2.4039 with a standard deviation of 1.7356. The median is 2.0500, with a 75th percentile of 3.2600. Similarly, positive shifts at the CEO level (POS_SHIFT_CEO) have a mean of 1.5962 and a standard deviation of 1.5195, with a median of 2.1620.

[Insert Table 2 about here]

Among the control variables, firm size (SIZE) has a mean of 9.6710, with relatively low variation (standard deviation = 1.0263). The market-to-book ratio (MTB) has a mean of -1.3264, with a median of -1.2646, and displays moderate variation. Return volatility

(RETVOL) averages 0.0177, with a median of 0.0155, and is generally low across the sample. For other firm-level characteristics, leverage (LEV) has a mean of 0.6072, with a 75th percentile of 0.7272, reflecting a relatively leveraged sample. Unexpected earnings (UNEXP_EARN) average -0.0007, with a small standard deviation of 0.0256. Forecast dispersion (FORE_DISP) has a mean of 0.0020, while forecast numbers (FORE_NUM) average 18.0853. Finally, the indicator variable for firms reporting a loss (LOSS) shows that only 2.75% of the sample reported negative earnings in the prior quarter. The lag variable (LAG) averages 60.7522, representing the number of lagged days in the analysis.

4.2 Determinants of emotional shifts

We explore the determinants of managerial emotional shifts during conference calls. Specifically, we examine how emotional shifts relate to firm performance. On one hand, research in linguistics and social psychology suggests that the ability to navigate and express varying emotions confidently within a conversation reflects the speaker's confidence and competence in addressing the subject matter (Palmer 1989; Rienks et al. 2006). This perspective implies that positive emotional shifts observed during conference calls may signal managers' favorable assessment of current and future firm performance. On the other hand, managers may exhibit controlled or evasive emotional responses to deflect attention from unfavorable topics or to obscure bad news, potentially indicating a negative relation between emotional shifts and firm performance. Following Gow et al. (2021), we analyze the association between emotional shifts and three measures of financial performance: ROA, the return on assets during the same quarter as the conference call; ROA Next Quarter, the return on assets in the subsequent quarter; and ROA Next Three Years, the average return on assets over the following three years.

[Insert Table 3 about here]

Table 3 presents the regression results examining the relation between emotional shifts (both positive and negative) and firm performance, alongside other firm-level characteristics. We consider emotional shifts, at the call level and at the CEO level, with negative emotional shifts shown in Columns (1) and (2) and positive emotional shifts in Columns (3) and (4). The findings indicate that current performance, as measured by ROA, is positively and significantly associated with both call-level and CEO-level negative emotional shifts. This suggests that firms with stronger current performance are more likely to experience pronounced negative

emotional shifts during conference calls. This could reflect managers addressing challenging or sensitive topics despite favorable performance results. For prior performance, as measured by ROA in the previous quarter, a weakly significant positive association is observed with call-level negative emotional shifts. However, no significant relationship is found at the CEO level. For positive emotional shifts, the results show a significant positive relationship with ROA at the CEO level, but not at the call level. This indicates that CEOs tend to exhibit positive emotional shifts when the firm performs well, reflecting confidence and a favorable outlook on the part of managers. In contrast, no significant association is observed between prior-quarter ROA and positive emotional shifts, suggesting that such shifts are more reflective of the current performance than past results. Other firm characteristics, such as firm size, market-to-book ratio, and leverage, show limited explanatory power in determining emotional shifts. We find a weakly negative relationship between firm size and call-level positive emotional shifts, while the other variables display no significant associations with either positive or negative shifts. Overall, the results highlight the importance of current financial performance as a determinant of emotional shifts, particularly at the CEO level. Positive emotional shifts appear to signal managerial confidence in favorable performance, while negative shifts may reflect the need to address sensitive topics, even in periods of strong performance. These results underscore the nuanced relation between firm performance and managerial emotional expressions during earnings calls.

4.3 Stock market reaction to emotional shifts displayed during earnings conference calls

In Table 4, we present regression estimates examining the relation between emotional shifts during earnings calls Q&A section and cumulative abnormal returns (CAR). Panel A focuses on negative emotional shifts, while Panel B examines positive emotional shifts. We analyze emotional shifts at both the call level (entire Q&A section) and the CEO level. Columns (1) and (2) present pooled OLS regression estimates with industry and time fixed effects, while Columns (3) and (4) include firm-level fixed effects to control for unobserved time-invariant characteristics.

[Insert Table 4 about here]

As shown in Panel A, Column (1), the coefficient of NEG_SHIFT_CALL is negative and significant ($\beta = -0.0037$, $p < 0.05$), indicating that negative emotional shifts at the call level are associated with lower CAR. The results suggest that negative emotional shifts experience

a decline in investor confidence, leading to a drop in CAR. Column (2) presents similar results for CEO-level negative emotional shifts (NEG_SHIFT_CEO), with a significant negative coefficient ($\beta = -0.0035$, $p < 0.05$). These findings highlight the critical role of the CEO's emotional shifts in shaping market perceptions during earnings calls. In Columns (3) and (4), firm fixed effects are included to account for time-invariant characteristics. The results remain consistent, showing a significant negative association between negative emotional shifts (both at the call and CEO levels) and CAR, providing robust support for the negative impact of negative emotional expressions on market outcomes. In Panel B, we examine the impact of positive emotional shifts on CAR. In Column (1), the coefficient of POS_SHIFT_CALL is negative but not significant, suggesting no meaningful relation between positive emotional shifts at the call level and CAR. However, in Column (2), the coefficient of POS_SHIFT_CEO is negative and significant ($\beta = -0.0035$, $p < 0.05$), indicating that positive emotional shifts by the CEO during the Q&A section are associated with lower CAR. This result suggests that excessive positivity in the CEO's emotion may raise concerns among investors, potentially signaling overconfidence or a lack of authenticity. The inclusion of firm fixed effects in Columns (3) and (4) yields consistent results, reinforcing the finding that CEO-level positive emotional shifts are negatively associated with CAR.

Across both panels, firm characteristics also play a significant role in determining CAR. Firm size (SIZE) is positively associated with CAR across all specifications, suggesting that larger firms generally experience better market reactions. In contrast, market-to-book ratio (MTB) is negatively associated with CAR, potentially reflecting concerns about overvaluation. Return volatility (RETVOL) shows a significant positive association with CAR, indicating that higher volatility amplifies market reactions. Overall, these results suggest that negative emotional shifts—particularly those expressed by CEOs—are associated with declines in CAR, reflecting reduced investor confidence. While positive emotional shifts are not significantly associated with CAR at the call level, CEO-level positive emotional shifts exhibit a negative association, potentially indicating skepticism from investors toward overly positive or optimistic communication. These findings underscore the importance of emotional shifts during earnings calls in influencing market reactions and provide support for the critical role of managerial communication in shaping investor perceptions.

4.4 Emotional shifts and investor reactions: the role of information environment

Table 5, Panel A investigates the effect of negative emotional shift on CAR in varying information environments, using SPREAD (bid-ask spread) and AMIHUD (illiquidity measure) as proxies for information asymmetry. We measure SPREAD as a dummy variable taking the value of one if the value is greater than the industry year median bid-ask spread, calculated as the difference between the bid price and ask price. As shown in the Column (1) when SPREAD equals 1 (high bid-ask spread, indicating high information asymmetry), the results show that negative emotional shifts (NEG_SHIFT) are significantly negatively associated with CAR ($\beta=-0.0046$, $p < 0.10$). This indicates that in less transparent environments, negative emotional shifts lead to a further decline in CAR. We observe a similar trend for CEO-specific negative emotional shifts (NEG_SHIFT_CEO) in column (3), where the association remains significant and negative ($\beta=-0.0050$, $p < 0.05$). Conversely, when SPREAD equals 0 (low bid-ask spread, indicating low information asymmetry), as shown in columns (2) and (4), neither NEG_SHIFT_CALL nor NEG_SHIFT_CEO is significantly associated with CAR. This suggests that lack of transparency in the information environment aggravates the investors' lack of confidence generated through negative emotional shifts.

[Insert Table 5 about here]

Columns (5) to (8) examine the role of information environment using AMIHUD as the proxy for information asymmetry. We measure AMIHUD as a dummy variable taking the value of 1 if the firm's illiquidity value exceeds the industry-year median. A higher AMIHUD value indicates lower market liquidity and higher information asymmetry. The results in column (5) show that negative emotional shifts (NEG_SHIFT_CALL) are significantly negatively associated with CAR in high illiquidity environments ($\beta=-0.0056$, $p < 0.01$), as are CEO-specific negative emotional shifts (NEG_SHIFT_CEO) in column (7) ($\beta=-0.0054$, $p < 0.05$). However, when AMIHUD = 0 (low illiquidity, columns (6) and (8), neither measure is significant. These findings suggest that negative emotional shifts, especially CEO-driven shifts, have a stronger negative effect on CAR in opaque or constrained market environments. Panel B shows the empirical estimates when CAR regressed on positive emotional shifts under similar information environment conditions. As shown in Column (1) positive emotion shift (POS_SHIFT_CALL) are not significantly associated with CAR in either high (SPREAD = 1) or low (SPREAD = 0) bid-ask spread conditions. However, CEO-specific positive shifts (POS_SHIFT_CEO), as shown in column (3), are negatively associated with CAR when

SPREAD equals 1 (β=−0.0048, $p < 0.05$), suggesting that even positive emotional cues from the CEO may lead to unfavorable market reactions in high asymmetry environments. This pattern is consistent with the AMIHUD results in column (7), where POS_SHIFT_CEO is also significantly negatively associated with CAR (β=−0.0056, $p < 0.05$) in high illiquidity conditions. In contrast, when SPREAD = 0 or AMIHUD = 0, as shown in columns (4), (6), and (8), we observe no significant relations. The negative impact of CEO-specific positive emotional shifts on CAR in high-information-asymmetry environments may reflect investor skepticism or perceived over-optimism. When positive shifts are not aligned with market fundamentals, these can erode confidence rather than inspire it, especially in opaque markets. The results indicate that negative emotional shifts are more impactful in high-information-asymmetry environments, significantly reducing CAR. CEO-specific negative emotional shifts exacerbate these effects. Interestingly, CEO-specific positive emotional shifts also negatively impact CAR in high-information-asymmetry contexts, possibly due to investor perceptions of overconfidence or misalignment with reality. These findings highlight the importance of contextualizing shifts within the broader information environment to understand their effects on market reactions.

4.5 Emotional shifts and investor reactions: the role of product market competition

Panel A examines the effect of positive-to-negative emotional shifts on CAR under varying levels of market competition. We measure product market competition (COMP) by multiplying the HHI index by -1, so the higher values represent higher competition. The COMP=1 sub-sample includes observations that have HHI value greater than the industry-quarter median and COMP=0 sub-sample includes observations that have HHI value smaller than industry-quarter median. Columns (1) and (2) focus on the entire Q&A session, while Columns (3) and (4) narrow the analysis to CEO-specific emotional shifts. As shown in Column (1), in highly competitive markets (COMP = 1), positive-to-negative emotional shifts (NEG_SHIFT_CALL) are significantly negatively associated with CAR (β = −0.0058, $p < 0.05$), indicating that such shifts reduce investor confidence in competitive environments. Conversely, in low-competition markets (COMP = 0, Column (2)), we observe no significant relation. Similarly, CEO-specific positive-to-negative emotional shifts (NEG_SHIFT_CEO), as shown in Column (3), are significantly negatively associated with CAR in competitive markets (β = −0.0046, $p < 0.05$), while the association remains insignificant in low-competition markets (Column 4). These findings suggest that in competitive environments, investors are particularly sensitive to

negative emotional cues, especially when expressed by CEOs, leading to adverse market reactions.

[Insert Table 6 about here]

Panel B explores the effects of negative-to-positive emotional shifts on CAR across different levels of market competition. Columns (1) and (2) analyze overall emotional shifts, while Columns (3) and (4) focus on CEO-specific emotional shifts. In highly competitive markets (COMP = 1), as shown in Column (1), negative-to-positive emotional shifts (NEG_SHIFT_CALL) are not significantly associated with CAR. Similarly, we observe no significant relationship in low-competition markets (COMP = 0, Column 2). However, CEO-specific negative-to-positive emotional shifts (NEG_SHIFT_CEO), as shown in Column (3), are significantly negatively associated with CAR in competitive markets ($\beta = -0.0056$, $p < 0.05$), whereas we find no significant relationship in low-competition markets (Column 4).
These results indicate that the impact of emotional shifts on CAR is contingent on market competition. In competitive environments, positive-to-negative emotional shifts have a stronger negative effect on CAR, with CEO-driven shifts amplifying this impact. Interestingly, even negative-to-positive emotional shifts fail to elicit favorable market reactions in competitive contexts, with CEO-specific shifts leading to negative outcomes. This suggests that investors in competitive markets may scrutinize emotional cues more closely and interpret them, even positive ones, as signals of overconfidence or misalignment with market fundamentals, ultimately eroding confidence.

4.6 Robustness Tests

We present robustness tests in Table 6. In Panel A, we regress CAR on emotional shifts using alternative event windows. Columns 1 to 4 report estimates for CAR(-1,+1), while Columns 5 to 8 present estimates for CAR(0,+3). All regressions include control variables, industry fixed effects, and year-quarter fixed effects. The results remain consistent with our main findings, reinforcing the robustness of our conclusions. As an additional robustness check, we control for tone-related variables to ensure that our results are not driven by broader sentiment changes in analyst interactions. Specifically, we include measures of tone uncertainty and total Q&A tone change in our regressions. The results (untabulated) remain consistent with our main findings, confirming that the relation between emotional shifts and cumulative abnormal returns holds even after accounting for these additional sentiment-based controls. As a further

robustness check, we conduct a placebo test by randomly assigning emotional shifts across firms while maintaining the original distribution. If our main findings are driven by spurious correlations, we would expect to observe significant coefficients even with randomly generated emotional shift variables. However, as shown in the untabulated results, none of the placebo variables exhibit statistically significant relationships with cumulative abnormal returns (CAR). This confirms that our main findings are not driven by chance and that the observed relationship between emotional shifts and investor reactions is meaningful.

5. Conclusion

Emotional expressions during earnings conference calls can act as powerful signals that bridge information asymmetry and provide investors with cues about managerial confidence and the firm's underlying performance. In this study, we investigate the impact of managerial emotional shifts, during conference calls, on stock returns. Emotional shifts may reveal insights into firm performance and prospects that are not immediately apparent in the content of the disclosure. We focus on two types of emotional shifts: positive emotional shifts (e.g., a shift from negative to positive emotions, or a shift from lower to higher intensity of positive emotions) and negative emotional shifts (e.g., a shift from positive to negative emotions, or a shift from higher to lower intensity of positive emotions). We argue that positive emotional shifts may elicit optimism and confidence in the firm, while negative shifts may evoke skepticism and dampen market sentiment. Our results suggest that negative emotional shifts—particularly those expressed by CEOs—are associated with declines in stock returns, reflecting reduced investor confidence. Positive emotional shifts exhibit a negative association with stock returns, potentially indicating skepticism from investors toward overly positive or optimistic communication. These findings highlight the importance of emotional shifts during earnings calls in influencing market reactions and provide support for the critical role of managerial communication in shaping investor perceptions.

An important implication of our study is that information gleaned from emotional shifts during interaction between managers and analysts at the quarterly conference calls have economic consequences. Therefore, understanding these emotional shifts is of interest to corporate executives, analysts, and investors who participate in earnings calls and/or use call information to make decisions.

References

Allee, K. D., & DeAngelis, M. D. (2015). The structure of voluntary disclosure narratives: Evidence from tone dispersion. Journal of Accounting Research, 53(2), 241-274.

Bamber, M., & Abraham, S. (2020). On the "realities" of investor-manager interactivity: Baudrillard, hyperreality, and management Q&A sessions. Contemporary Accounting Research, 37(2), 1290-1325.

Brown, S., Hillegeist, S.A., & Lo, K. (2004). Conference calls and information asymmetry. *Journal of Accounting and Economics*, 37(3), 343-366.

Barth, A., Mansouri, S., & Woebbeking, F. (2023). "Let Me Get Back to You"—A Machine Learning Approach to Measuring NonAnswers. Management Science, 69(10), 6333-6348.

Bochkay, K., Hales, J., & Chava, S. (2020). Hyperbole or reality? Investor response to extreme language in earnings conference calls. The Accounting Review, 95(2), 31-60.

Bushee, B. J., Gow, I. D., & Taylor, D. J. (2018). Linguistic complexity in firm disclosures: Obfuscation or information?. Journal of Accounting Research, 56(1), 85-121.

Call, A. C., Flam, R. W., Lee, J. A., & Sharp, N. Y. (2024). Managers' use of humor on public earnings conference calls. Review of Accounting Studies, 29(3), 2650-2687.

Cardon, M. S., Sudek, R., & Mitteness, C. (2009). The impact of perceived entrepreneurial passion on angel investing. Frontiers of entrepreneurship research, 29(2), 1.

Carrera, P., Caballero, A., & Muñoz, D. (2008). Comparing the effects of negative and mixed emotional messages on predicted occasional excessive drinking. Substance Abuse: Research and Treatment, 1, 117822180800100001.

Carrera, P., Muñoz, D., & Caballero, A. (2010). Mixed emotional appeals in emotional and danger control processes. Health communication, 25(8), 726-736.

Cohen, L., Lou, D., & Malloy, C. J. (2020). Casting conference calls. Management Science, 66(11), 5015-5039.

Chen, Z. and Loftus, S. (2019), "Multi-method evidence on investors' reactions to managers' self-inclusive language", Accounting, Organizations and Society, Vol. 79, 101071, doi: 10.1016/j.aos.2019.101071.

Davis, A.K., Ge, W., Matsumoto, D., & Zhang, J.L. (2015). The effect of manager-specific optimism on the tone of earnings conference calls. Review of Accounting Studies, 20(2), 639-673.

Goleman, D., Boyatzis, R., & McKee, A. (2013). Primal leadership, with a new preface by the authors: Unleashing the power of emotional intelligence. Harvard Business Review Press.

Gow, I. D., Larcker, D. F., & Zakolyukina, A. A. (2021). Non-answers during conference calls. Journal of Accounting Research, 59(4), 1349-1384.

Haidt, J., & Keltner, D. (1999). Culture and facial expression: Open-ended methods find more expressions and a gradient of recognition. Cognition & Emotion, 13(3), 225-266.

Hollander, S., Pronk, M., & Roelofsen, E. (2010). Does silence speak? An empirical analysis of disclosure choices during conference calls. Journal of Accounting Research, 48(3), 531-563.

Mayew, W.J. (2008). Evidence of management discrimination among analysts during earnings conference calls. Journal of Accounting Research, 46(3), 627-659.

Momtaz, P.P. (2021). CEO emotions and firm valuation in initial coin offerings: an artificial emotional intelligence approach. *Strategic Management Journal*, 42(3), 558-578.

Nabi, R. L., & Green, M. C. (2015). The role of a narrative's emotional flow in promoting persuasive outcomes. Media Psychology, 18(2), 137-162.

Olsen, G. D., & Pracejus, J. W. (2004). Integration of positive and negative affective stimuli. Journal of Consumer Psychology, 14(4), 374-384.

Plutchik, R. (1980). A general psychoevolutionary theory of emotion. Theories of emotion (pp. 3-33). Academic Press.

Spence, M. (2002). Signaling in retrospect and the informational structure of markets. *American economic review*, *92*(3), 434-459.

Tsai, W. H. S., & Men, L. R. (2017). Social CEOs: The effects of CEOs' communication styles and parasocial interaction on social networking sites. New media & society, 19(11), 1848-1867.

Unda, L., Gamage, G., Ranasinghe, D., De Silva, D. and Mather, P. (2024). Do Emotions Matter? The Impact of Emotion Profiles on Stock Returns. SSRN https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5078172

Van Kleef, G.A. (2009). How emotions regulate social life: the emotions as social information (EASI) model. Current Directions in Psychological Science, 18(3), 184–188.

Wang, Q., Lau, R. Y. K., Xie, H., Liu, H., & Guo, X. (2024). Social Executives' emotions and firm value: An empirical study enhanced by cognitive analytics. Journal of Business Research, 175, 114575.

Appendix A: Variable definitions

$CAR_{(0,+1)i,q}$	The cumulative abnormal size-decile adjusted return for firm *i* during the [0, + 1] trading day window surrounding firm *i*'s conference call in quarter *q*
NEG_SHIFT_CALL	Negative Emotional Shifts are defined as instances where the emotional score shifts toward a more negative valence (e.g., from trust to sadness, from a higher to lower intensity of joy, from low to high intensity of sadness). NEG_SHIFT_CALL is a binary indicator variable equal to 1 if the absolute emotion valence fluctuation score of the earnings conference call Q&A section falls in the top quartile (greater than the 75th percentile) and 0 otherwise. The emotion valence fluctuation score is calculated using natural language processing (NLP) techniques, as detailed in Section 3.2.
NEG_SHIFT_CEO	Negative Emotional Shifts occur when the emotional tone shifts toward a more negative valence (e.g., from trust to sadness, from a higher to lower intensity of joy, from low to high intensity of sadness). NEG_SHIFT_CEO is a binary indicator variable equal to 1 if the CEO's absolute emotion valence fluctuation score during the Q&A section of the earnings conference call falls in the top quartile (greater than the 75th percentile) and 0 otherwise. The emotion valence fluctuation score is calculated using natural language processing (NLP) techniques, as detailed in Section 3.2.
POS_SHIFT_CALL	Positive Emotional Shifts occur when the emotional score shifts toward a more positive valence (e.g., from sadness to trust, from a lower to higher intensity of joy, from high to low intensity of sadness). POS_SHIFT_CALL is a binary indicator variable equal to 1 if the absolute emotion valence fluctuation score of the earnings conference call Q&A section falls in the top quartile (greater than the 75th percentile) and 0 otherwise. The emotion valence fluctuation score is calculated using natural language processing (NLP) techniques, as detailed in Section 3.2.
POS_SHIFT_CEO	Positive Emotional Shifts occur when the emotional score shifts toward a more positive valence (e.g., from sadness to trust, from a lower to higher intensity of joy, from high to low intensity of sadness). POS_SHIFT_CEO is a binary indicator variable equal to 1 if the CEO's absolute emotion valence fluctuation score during the Q&A section of the earnings conference call falls in the top quartile (greater than the 75th percentile) and 0 otherwise. The emotion valence fluctuation score is calculated using natural language processing (NLP) techniques, as detailed in Section 3.2.
SIZE	The natural logarithm of the market value of equity of the firm *i* in quarter *q*.
MTB	The market-to-book ratio of firm *i* in quarter *q*, calculated as the market value of equity divided by the book value of common equity as of the fiscal quarter end of firm *i* in quarter *q*.
RETVOL	Return volatility, measured as the standard deviation of daily stock returns over the 125 trading days prior to the conference call date in quarter *q*.
UNEXP_EARN	Actual annual earnings minus the most recent mean analyst forecast scaled by the most recent stock price prior to the conference call date in quarter *q*.
LEV	Total liabilities divided by total assets as of the fiscal quarter end of firm *i* in quarter *q*.
LAG	The log of number of days from the quarter end to the conference call date in quarter *q* reported by Thomson Reuters.
FORE_NUM	The number of Analysts providing an earnings per share forecast for firm *i* as of the most recent fiscal quarter end preceding firm *i*'s conference call at quarter *q*.
FORE_DISP	The standard deviation of Analysts' earnings forecasts scaled by the most recent stock price for firm *i* as of the most recent fiscal quarter end preceding firm *i*'s conference call at quarter *q*.
LOSS	An indicator variable equal to 1 if firm *i* reported negative income before taxes in at least one of the most recent four quarters preceding firm *i*'s conference call at quarter *q*, and 0 otherwise.

Table 1: Emotional shifts calculation illustration

Time	Speaker	Text Segment	Top Emotion label	Emotion score	Valence Fluctuation	Emotional shift
t1	CEO	XXXXXX	Joy	0.24	-	
t2	Analyst X	XXXXXX	Joy	0.33	-	
t3	CEO	XXXXXX	Disgust	0.56	-0.89 (0.33 + 0.56)	negative shift
t4	Analyst X	XXXXXX	Sadness	0.15	-	
t5	CEO	XXXXXX	Trust	0.11	+0.26 (0.15 + 0.11)	positive shift
t6	Analyst Y	XXXXXX	Joy	0.44	-	
t7	CEO	XXXXXX	Joy	0.78	+0.34 (0.78 - 0.44)	positive shift

Table 2: Descriptive statistics

Variable	Mean	SD	P25	P50	P75
CAR	0.0013	0.0540	-0.0285	0.0018	0.0332
NEG_SHIFT_CALL	1.1706	1.4933	1.5850	0.6880	0.1720
NEG_SHIFT_CEO	1.5881	1.5500	2.1480	1.5500	0.5440
POS_SHIFT_CALL	2.4039	1.7356	1.1650	2.0500	3.2600
POS_SHIFT_CEO	1.5962	1.5195	0.5470	2.1620	13.339
SIZE	9.6710	1.0263	8.9793	9.5308	10.2865
MTB	-1.3264	0.8475	-1.7164	-1.2646	-0.8014
RETVOL	0.0177	0.0086	0.0122	0.0155	0.0204
UNEXP_EARN	-0.0007	0.0256	-0.0008	0.0004	0.0023
LEV	0.6072	0.1665	0.4934	0.5996	0.7272
LAG	60.7522	15.7983	54.0000	61.0000	67.0000
FORE_NUM	18.0853	7.1809	13.0000	17.0000	22.0000
FORE_DISP	0.0020	0.0042	0.0004	0.0009	0.0020
LOSS	0.0275	0.1635	0.0000	0.0000	0.0000

Table 1 presents descriptive statistics of the variables used in the CAR model.

Table 3: Determinants of emotional shifts

	(1)	(2)	(3)	(4)
VARIABLES	NEG_SHIFT_CALL	NEG_SHIFT_CEO	POS_SHIFT_CALL	POS_SHIFT_CEO
ROA	0.8934***	1.0105***	0.2831	0.9822***
	(0.301)	(0.353)	(0.354)	(0.347)
ROA_{t-1}	0.5423*	0.1922	0.0841	0.2794
	(0.303)	(0.297)	(0.296)	(0.295)
SIZE	-0.0146	-0.0222	-0.0270*	-0.0223
	(0.014)	(0.015)	(0.014)	(0.015)
BMTS	0.0113	0.0121	0.0025	0.0126
	(0.020)	(0.021)	(0.018)	(0.021)
LEV	-0.0128	-0.0545	-0.1131	-0.0438
	(0.111)	(0.120)	(0.108)	(0.119)
Constant	0.7591***	0.8036***	0.8234***	0.8100***
	(0.166)	(0.188)	(0.171)	(0.188)
Observations	5,067	5,067	5,067	5,067
Ad. R2	0.0901	0.0826	0.0489	0.0866
Year-Fixed effects	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes

This Table presents empirical estimates when performance and other firm-level characteristics are regressed on emotional shifts. Columns (1) and (2) show the estimates when NEGATIVE and NEGATIVE of the CEO is regressed on firm performance and other characteristics respectively while Columns (3) and (4) show the results when POSITIVE and POSITIVE of CEO regressed on firm performance and firm-level characteristics. Standard errors are clustered by firm. Firm and year-quarter fixed effects are included. All variables are defined in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table 4: Emotional shifts and cumulative abnormal returns

Panel A: Impact of positive to negative emotional shift on cumulative abnormal returns

	(1)	(2)	(3)	(4)
NEG_SHIFT	-0.0037**		-0.0038*	
	(0.002)		(0.002)	
NEG_SHIFT_CEO		-0.0035**		-0.0034
		(0.002)		(0.002)
SIZE	0.0022**	0.0022**	0.0071**	0.0070**
	(0.001)	(0.001)	(0.003)	(0.003)
MTB	-0.0057***	-0.0056***	-0.0135***	-0.0135***
	(0.001)	(0.001)	(0.003)	(0.003)
RETVOL	0.5787***	0.5699***	0.5506**	0.5497**
	(0.200)	(0.199)	(0.217)	(0.217)
UNEXP_EARN	0.0345	0.0343	0.0293	0.0286
	(0.034)	(0.034)	(0.041)	(0.041)
LEV	-0.0092*	-0.0092	-0.0060	-0.0062
	(0.006)	(0.006)	(0.015)	(0.015)
LAG	0.0001	0.0001	0.0001	0.0001
	(0.000)	(0.000)	(0.000)	(0.000)
FORE_NUM	-0.0004**	-0.0004**	-0.0004	-0.0004
	(0.000)	(0.000)	(0.000)	(0.000)
FORE_EST	-0.6623**	-0.6647**	-0.2939	-0.2903
	(0.300)	(0.300)	(0.413)	(0.414)
LOSS	0.0054	0.0056	0.0061	0.0061
	(0.006)	(0.006)	(0.008)	(0.008)
Constant	-0.0256**	-0.0251**	-0.0867**	-0.0856**
	(0.011)	(0.012)	(0.034)	(0.034)
Observations	5,346	5,346	5,334	5,334
Adj.R2	0.0161	0.0160	0.0235	0.0234
Firm Fixed Effects	No	No	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes

Panel B: Impact of negative to positive emotional shift on cumulative abnormal returns

	(1)	(2)	(3)	(4)
POS_SHIFT	-0.0020		-0.0004	
	(0.002)		(0.002)	
POS_SHIFT_CEO		-0.0035**		-0.0032
		(0.002)		(0.002)
SIZE	0.0021**	0.0022**	0.0069**	0.0070**
	(0.001)	(0.001)	(0.003)	(0.003)
MTB	-0.0056***	-0.0056***	-0.0136***	-0.0135***
	(0.001)	(0.001)	(0.003)	(0.003)
RETVOL	0.5635***	0.5696***	0.5470**	0.5489**
	(0.199)	(0.199)	(0.216)	(0.217)
UNEXP_EARN	0.0339	0.0345	0.0286	0.0287
	(0.034)	(0.034)	(0.041)	(0.041)
LEV	-0.0090	-0.0092	-0.0065	-0.0060
	(0.006)	(0.006)	(0.015)	(0.015)
LAG	0.0001	0.0001	0.0001	0.0001
	(0.000)	(0.000)	(0.000)	(0.000)
FORE_NUM	-0.0004**	-0.0004**	-0.0004	-0.0004
	(0.000)	(0.000)	(0.000)	(0.000)
FORE_EST	-0.6747**	-0.6644**	-0.2942	-0.2913
	(0.301)	(0.300)	(0.416)	(0.414)
LOSS	0.0055	0.0056	0.0060	0.0060
	(0.006)	(0.006)	(0.008)	(0.008)
Constant	-0.0257**	-0.0251**	-0.0859**	-0.0860**
	(0.012)	(0.011)	(0.034)	(0.034)
Observations	5,346	5,346	5,334	5,334
Adj.R2	0.0156	0.0160	0.0229	0.0233
Firm Fixed Effects	No	No	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes

The table presents estimates when emotion shifts is regressed on cumulative abnormal returns. Panel A (B) shows the empirical estimates for emotion NEGATIVE (emotion POSITIVE) respectively. Column (1) & (2) present pooled OLS models for the whole earnings conference call Q&A section and the CEO emotion shifts respectively. Column (3) & (4) present fixed effect estimates with time, industry and firm fixed effects for the whole earnings conference call Q&A section and the CEO emotion shifts respectively. Standard errors are clustered by firm. Firm and year-quarter fixed effects are included. All variables are defined in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table 5: Emotional shifts and cumulative abnormal returns: Role of information environment

Panel A: Positive to negative emotional shifts

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	SPREAD=1	SPREAD=0	SPREAD=1	SPREAD=0	AMIHUD=1	AMIHUD=0	AMIHUD=1	AMIHUD=0
NEG_SHIFT	-0.0046*	-0.0023			-0.0056***	-0.0022		
	(0.002)	(0.002)			(0.002)	(0.003)		
NEG_SHIFT_CEO			-0.0050**	-0.0013			-0.0054**	-0.0019
			(0.002)	(0.003)			(0.002)	(0.003)
Constant	-0.0093	-0.0494***	-0.0087	-0.0497***	-0.0190	-0.0503**	-0.0185	-0.0501**
	(0.015)	(0.018)	(0.015)	(0.019)	(0.018)	(0.019)	(0.019)	(0.019)
Observations	2,977	2,369	2,977	2,369	2,981	2,365	2,981	2,365
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Year quarter-fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Adj R2	0.0127	0.0247	0.0129	0.0245	0.0191	0.0137	0.0190	0.0136

Panel B: Negative to positive emotional shifts

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	SPREAD=1	SPREAD=0	SPREAD=1	SPREAD=0	AMIHUD=1	AMIHUD=0	AMIHUD=1	AMIHUD=0
POS_SHIFT	-0.0020	-0.0014			-0.0011	-0.0035		
	(0.002)	(0.002)			(0.002)	(0.003)		
POS_SHIFT_CEO			-0.0048**	-0.0015			-0.0056**	-0.0018
			(0.002)	(0.003)			(0.002)	(0.003)
Constant	-0.0103	-0.0494***	-0.0090	-0.0495***	-0.0184	-0.0474**	-0.0187	-0.0502**
	(0.015)	(0.019)	(0.015)	(0.018)	(0.018)	(0.020)	(0.019)	(0.019)
Observations	2,977	2,369	2,977	2,369	2,981	2,365	2,981	2,365
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Year quarter-fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Adj R2	0.0127	0.0247	0.0129	0.0245	0.0175	0.0142	0.0191	0.0136

The table presents estimates when emotion shifts is regressed on cumulative abnormal returns when there is information asymmetry. Panel A (B) shows the empirical estimates for emotion shift from positive to negative (emotion shift from negative to positive) respectively. Columns 1 to 4 presents estimates when the information asymmetry is measured using bid-ask spread, where SPREAD=1 sub sample includes all observations that have a bid-ask spread value greater than industry-year quarter and SPREAD=0 subsample includes all observations that have a bid-ask spread value smaller than industry-year quarter. Columns 5 to 8 presents estimates when the information asymmetry is measured using Amihud illiquidity measure, where AMIHUD=1 sub sample includes all observations that have a value greater than industry-year quarter and AMIHUD=0 subsample includes all observations that have a bid-ask spread value smaller than industry-year quarter. Columns 1, 2, 5 and 6 includes estimates for the overall call whiles Columns 3, 4, 7, and 8 includes estimates for the CEO. Standard errors are clustered by firm. Firm and year-quarter fixed effects are included. All variables are defined in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table 6: Emotional shifts and cumulative abnormal returns: Role of market competition

Panel A: Positive to negative emotional shift

	(1)	(2)	(3)	(4)
VARIABLES	COMP=1	COMP=0	COMP=1	COMP=0
NEG_SHIFT	-0.0058**	-0.0016		
	(0.002)	(0.003)		
NEG_SHIFT_CEO			-0.0046**	-0.0025
			(0.002)	(0.003)
Constant	-0.0267	-0.0205	-0.0264	-0.0193
	(0.016)	(0.018)	(0.017)	(0.019)
Observations	2,762	2,033	2,762	2,033
Controls	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES
Year quarter-fixed effects	YES	YES	YES	YES
Adj R2	0.0116	0.0155	0.0109	0.0157

Panel B: Negative to positive emotional shift

	(1)	(2)	(3)	(4)
VARIABLES	COMP=1	COMP=0	COMP=1	COMP=0
NEG_SHIFT	-0.0036	-0.0004		
	(0.003)	(0.003)		
NEG_SHIFT_CEO			-0.0056**	-0.0013
			(0.002)	(0.003)
Constant	-0.0258	-0.0212	-0.0259	-0.0204
	(0.017)	(0.019)	(0.017)	(0.018)
Observations	2,762	2,033	2,762	2,033
Controls	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES
Year quarter-fixed effects	YES	YES	YES	YES
Adj R2	0.0105	0.0154	0.0115	0.0155

The table presents estimates when emotion shifts is regressed on cumulative abnormal returns when there is product market competition. Product market competition (COMP) is measured using HHI index. Panel A (B) shows the empirical estimates for emotion shift from positive to negative (emotion shift from negative to positive) respectively. Columns 1 and 3 includes observations when the HHI index is greater than the industry-quarter HHI whereas Columns 2 and 4 includes observations when the HHI is smaller than the industry-quarter HHI value. Columns 1 and 2 includes estimates for the entire Q&A whereas the Columns 3 and 4 include observations CEO. Standard errors are clustered by firm. Firm and year-quarter fixed effects are included. All variables are defined in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table 7: Robustness tests: Alternative event windows

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$CAR_{(1,1)}$				$CAR_{(0,3)}$			
NEG_SHIFT_CALL	-0.0034***				-0.0034***			
	(0.001)				(0.001)			
NEG_SHIFT_CEO		-0.0035**				-0.0035**		
		(0.001)				(0.001)		
POS_SHIFT_CALL_			-0.0019				-0.0020	
			(0.002)				(0.002)	
POS_SHIFT_CEO				-0.0034**				-0.0034**
				(0.001)				(0.001)
Constant	-0.0295**	-0.0288**	-0.0296***	-0.0289**	-0.0289**	-0.0282**	-0.0289**	-0.0283**
	(0.010)	(0.010)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)
Observations	5,346	5,346	5,346	5,346	5,346	5,346	5,346	5,346
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Year quarter-fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Adj R2	0.0181	0.0182	0.0177	0.0181	0.0184	0.0184	0.0180	0.0184

The table presents estimates when emotion shifts is regressed on cumulative abnormal returns. Columns 1 to 4 show the estimates for the $CAR_{(1,1)}$ while Columns 5 to 8 show the estimates when $CAR_{(0,3)}$. Columns 1 and 5 show the estimates for the negative emotion shift for the call. Columns 2 and 6 show the estimates for the negative emotion shift of the CEO. Columns 3 and 7 present the estimates for the positive emotion shift for the call and Columns 4 and 8 show the estimates for the positive emotion shift for the CEO. Standard errors are clustered by industry. Firm and year-quarter fixed effects are included. All variables are defined in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.