Differences in Conference Call Tones: Managers versus Analysts

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Abstract

In this study we extracted the linguistic tones of managers and analysts during earnings conference calls and compared the differences between them. We found that manager tones convey much more optimism (less pessimism) than their analyst counterparts and investors (particularly institutional investors) react more strongly to analyst tones.

JEL Codes: G02; G14; M14
Keywords: Conference calls; Textual analysis; Managers; Financial analysts; Market reaction

There has been increasing interest among investors, managers, and academics in both the quantity and quality of information released during earnings conference calls. This increasing interest has been due at least in part to the Securities and Exchange Commission's (SEC) adoption of Regulation Fair Disclosure (RegFD) on August 15, 2000. RegFD requires that any release of material nonpublic information by publicly-listed companies be accompanied by a public disclosure of such information. One consequence of this regulation for "full and fair disclosure" is that conference calls are open to the public. During a typical conference call, senior managers begin with prepared statements presenting their views on recent corporate performance and future outlook. The introductory session is then followed by an open question and answer (Q&A) session where such views can come under challenge. Previous studies showed that conference calls contained statistically and economically significant information about stock prices, and that investors perceived the Q&A session to be especially informative about future prospects (Matsumoto, Pronk, and Roelofsen 2011; Price, Doran, Peterson, and Bliss 2012). However, despite the importance of the manager-analyst interaction in the Q&A portion of the calls, little is known about their general patterns or dynamics.

There have been occasional stories in the financial press suggesting that these manager-analyst interactions can be contentious. *The Wall Street Journal* reported on May 1, 2012 that David Einhorn, founder and president of Greenlight Capital, had asked a series of challenging questions to the management team of Herbalife during its conference call. The article stated that "After Einhorn appeared on the company's conference call today, and asked several pointed questions, shares of the nutrition company dropped sharply, tripping several circuit breakers on the way down. Shares are now off 20% to $56.08." However, this type of Q&A interaction might be more the exception than the rule. Such encounters are likely to be highlighted by the

financial press, while more mundane interactions are less likely to be publicized and/or receive noticeable attention. Instead of engaging argumentative analysts, recent work suggests that managers actively manipulated their firm's information environment by selectively calling on friendly, bullish analysts during Q&A sessions (Mayew 2008; Cohen, Lou, and Malloy 2013). These contrasting views underline the need for additional research that can isolate manager Q&A responses and analyst Q&A responses and compare differences between the two.

The ability to distinguish and examine "who said what" during conference calls has important implications for understanding the mechanisms by which information is mapped into stock prices. Most studies to date have treated these important interactions between managers and analysts as a black box process[1] – we know who goes in (managers and analysts), and we know what comes out (abnormal stock returns), but we do not know who is responsible for which aspect of what comes out. Matsumoto, Pronk, and Roelofsen (2011, p. 1411) expressed similar concerns about the black box nature of Q&A sessions when concluding their study of conference calls as follows:

> Overall, our results suggest that one of the primary benefits of hosting a conference call—as opposed to simply issuing an earnings press release—is due to the discussion session with analysts. This result is consistent with analysts playing an active role in shaping a firm's information environment. However, we recognize that the results in this study are tests of associations, and represent indirect evidence of the role analysts play in uncovering information during conference calls. Future studies might consider conducting more in-depth examinations of conference-call transcripts to provide more direct evidence of how analysts shape the information environment through their inquiries.

In our study, we conducted just such an in-depth examination of conference-call transcripts by identifying and comparing the linguistic tones of managers and analysts. More specifically, we posed and then answered the following three questions. First, do linguistic tones differ significantly between managers and analysts during the Q&A (discussion) sessions of

earnings conference calls? Second, do investors react differently to manager tones than to analyst tones? Specifically, whose tone has more value relevance for pricing purposes? Third, are there differences in investor ability to extract value-relevant information from linguistic tones? That is, do sophisticated (institutional) investors have a comparative advantage over naïve (individual) investors in processing the subtle signals of linguistic tone relative to the less-than-subtle signals of earnings numbers?

Background

There are mixed findings about managerial voluntary disclosures of good news versus bad news. One line of research suggested that managers facing litigation risk had an incentive to voluntarily disclose bad news more quickly than good news (Kasznik and Lev 1995; Skinner 1994, 1997). Another line of research argued that managers facing career concerns had an incentive to delay or withhold the release of bad news (Kothari, Shu, and Wysocki 2009). While one might expect managers to be relatively optimistic during the prepared introductory statements of their conference calls, it is not clear whether they will be able to remain relatively optimistic during Q&A sessions, given that the conference participants can challenge such optimism.

It is also unclear whether investors put more weight on manager tones or analyst tones since there is a tradeoff between good incentives and good information. Managers have a firm-specific informational advantage over analysts, but analysts have an incentive advantage over managers; that is, analyst incentives are more closely aligned with outside investors. While managerial incentives make their disclosures questionable, recent research has also suggested that analysts compromised their objectivity to maintain good relationships with company

management and investment banks (see, for example, Lin and McNichols 1998; Michaely and Womack 1999; Dechow, Hutton, and Sloan 2000; Bradshaw, Richardson, and Sloan 2003; O'Brien, McNichols, and Lin 2005; and Ljungqvist, Marston, Starks, Wei, and Yan 2007). Using textual analysis, Kothari, Li, and Short (2009) analyzed disclosure by source and found that the market discounts statements from both management and financial analysts. However, prior literature has not contrasted the impact from these two sources directly in the earnings conference call setting. So, whose Q&A tone is more important to the marginal investor when reassessing the company's stock? – the better informed manager or the better incentivized analyst?

A related question is whether investor sophistication plays a role in this weighting scheme. It has been well documented that stocks with greater institutional ownership are priced more efficiently. For instance, Boehmer and Kelley (2009) showed that stock price efficiency was directly related to institutional holdings, even after controlling for institutional trading, analyst coverage, short selling, liquidity, and various firm-specific characteristics. This finding indicated that for firms with higher institutional ownership, stock prices reacted more quickly to value relevant information. However, the way(s) in which sophisticated investors assess manager-versus-analyst tones in particular, and soft-versus-hard information in general, remains an open empirical question.

Data, sample, and variable construction

The implementation of Regulation Fair Disclosure at the end of 2000 required firms to make their conference calls available to the public. Initially, this requirement was typically accomplished by webcasting conference calls (NIRI, 2004). Over time, electronic conference

call transcripts became widely available for a broad cross-section of firms. We used call transcripts to construct a pseudo-random sample that includes conference calls over the 16 quarter period from 2004 through 2007. Our sample period began shortly after call transcripts became widely available and ended shortly before the 2008 financial crisis. We obtained conference call transcripts from two sources, Fair Disclosure Wire and The American Intelligence Wire. Call dates generally accompany the transcripts and were confirmed using Thomson Streetevents.[2]

We implemented several filter rules to construct our final conference call sample. First, we dropped all firms that failed to meet data sufficiency requirements in terms of availability on Compustat and Center for Research in Security Prices (CRSP) databases. We excluded REITs, ADRs, closed end funds, units, as well as firms with CRSP share codes other than 10, 11, or 12.[3] We also excluded financial firms (SIC 6000-6999) and utilities (SIC 4900-4949) due to their highly regulated environment.

For each quarter, we sequentially sorted all firms on the CRSP and Compustat files into terciles by size[4] and book-to-market equity (BM)[5] to ensure that the sample contains a cross section of firms with varying characteristics. Size is the market capitalization of each firm calculated as the number of shares outstanding times the market price of the stock at the end of the preceding quarter. BM is the two-fiscal-quarter lagged Compustat book value of equity divided by the market capitalization of each firm at the end of the preceding quarter. Within the nine size-BM portfolios, we further separated dividend and non-dividend paying firms, resulting in eighteen characteristic portfolios for each quarter. We then randomly selected ten firms from each characteristic portfolio in each of the 16 quarters, resulting in (18 x 16 x 10 =) 2,880 firm-quarter observations.

To obtain the initial measures of conference call tone, we followed Loughran and McDonald (2011). That is, for each conference call, a text file of the transcript was processed through a specialized program which first identifies each word and then categorized the word based on whether it was included on the positive or negative word list of Loughran and McDonald (2011).[6] This process generated raw word counts of positive words ($Positive_j$), negative words ($Negative_j$), and a total word count ($COUNT_j$) for each conference call. We then took the difference in the opposing categories and divided by the sum of the two, (Positive – Negative) / (Positive + Negative), and constructed a measure for linguistic tone ($TONE_j$) for each conference call *j*. This ratio is bounded between –1 and +1 and provides a metric of the relative positivity of the conference call.[7]

We followed Matsumoto, Pronk, and Roelofsen (2011) to differentiate the effects of earnings announcements from their corresponding conference calls. Specifically, we separated all conference calls into two sections (i.e., prepared introductory remarks versus open discussion) to control for the tone of earlier press releases. Kimbrough (2005) and Matsumoto, Pronk, and Roelofsen (2011) argued that the prepared statements by management at the beginning of a call essentially reiterate the information in the carefully-crafted press release. We used the tone of the introductory statements prepared by management as a proxy for the tone of the earnings announcements (INTRO TONE). Following the prepared remarks, the remaining time in a given conference call is opened up for discussion during which management takes questions from call participants. For this open discussion session, we captured and separated the linguistic tone of the managers (MANAGER TONE) from the linguistic tone of the analysts (ANALYST TONE).[8] We constructed OVERALL TONE as the aggregation of INTRO, MANAGER, and ANALYST TONEs – a mutually-exclusive and exhaustive partition of conference calls.

After defining the treatment variables (INTRO TONE, MANAGER TONE, ANALYST TONE, and OVERALL TONE), we specified our main dependent variable as the market reaction to the tone-related information conveyed in conference calls. We measured market reactions by calculating cumulative abnormal returns over two event windows. Our main dependent variable, CAR(0,1), was defined as the cumulative abnormal return from the date of the conference call, day 0, to day +1.[9] We defined an abnormal return for firm *j* as the difference between the return for firm *j* on day *t* and the mean return on day *t* for all firms in the same NYSE size decile as firm *j*. We also examined subsequent market reactions following conference calls by estimating cumulative abnormal returns from day +2 to day +10. We calculated CAR(2,10) in the same manner as described above in the calculation of CAR(0,1).

In addition to our TONE-related treatment variables, we identified several firm-level control variables that might affect abnormal market reactions (i.e., CARs) to conference calls. These variables included measures of unexpected earnings, various word count and word choice complexity measures, institutional ownership, firm size, book-to-market equity, profitability, leverage, returns volatility, analyst coverage, analyst report issuance, dividends, and the run-up in stock price for firm *j*.[10] Unexpected earnings, SURP, is the difference between current earnings-per-share and earnings-per-share in the same quarter of the prior year scaled by the stock price at the close of the lagged quarter.[11] COUNT is the number of words (in thousands) for a given portion of a conference call, where the variable modifiers INTRO, MANAGER, and ANALYST indicate that the referenced COUNT measures are for the introductory statements, managerial answers, and analyst questions, respectively. COMPLEX is word choice complexity, defined as the number of characters in each word, on average, for a given portion of each call.

In addition, #ANALYSTS is the log of one plus the number of analysts who participated in a given conference call; IO is the number of shares owned by institutional investors divided by the number of shares outstanding;[12] SIZE is the log of firm market capitalization (in millions) from the previous quarter; BM is the ratio of book-to-market equity as of the end of the previous quarter; ROA is the return on assets, defined as net income divided by total assets; LEVERAGE is the ratio of total liabilities to total assets; VOLATILITY is the standard deviation of daily returns for the 90-day period ending ten days prior to the conference call; DIVIDEND is an indicator variable equal to one if the firm pays dividends and zero otherwise; and CAR(-60,-2) is the cumulative abnormal return from day -60 to day -2, relative to the conference call. We used CAR(-60,-2) to control for abnormal price changes in the run-up to the conference call.

Empirical results and analysis

Descriptive statistics and correlations. Descriptive statistics are presented for all dependent variables, treatment variables, and control variables in Panels A, B, and C, respectively, of **Table 1**. We reported means, medians, maximums, minimums, standard deviations, and the number of observations for each variable over the 4-year sample period from 2004 to 2007. Panel A shows that the mean and median cumulative abnormal returns from day 0 to day +1 (i.e., CAR(0,1)) are -0.07% and -0.04%, respectively. These results show that firms tend to experience slightly negative abnormal returns during the time around conference calls. The standard deviation of 7.29% reveals considerable variation across the abnormal returns, with a minimum CAR(0,1) of -48.93% and a maximum CAR(0,1) of 37.17%. Panel A also shows the mean and median cumulative abnormal returns from day +2 to day +10 (i.e., CAR(2,10)) are -0.34% and -0.30%, respectively. The post-conference-call results also reveal considerable

variation with a standard deviation of 5.86%, maximum and minimum values of 37.17% and -41.36%, respectively.

Descriptive statistics for our treatment variables are shown in Panel B. During conference calls, the OVERALL TONE tends to be more positive than negative with a mean of 0.20 and a median of 0.20. The standard deviation is 0.20, and the range is from a minimum of -0.48 to a maximum of 0.75. As expected, management's prepared INTRO TONE is the most positive of all tone measures. Its mean and median values are 0.36 and 0.39, respectively, and its maximum of 0.92 is considerably larger in absolute terms than its minimum of -0.64. MANAGER TONE is also strongly positive with a mean of 0.23 and a median of 0.24. It is important to recall that MANAGER TONE represents management's linguistic tone during the question and answer session immediately following the prepared introductory statements. Although MANAGER TONE is positive and relatively high, its mean and median values are also considerably lower than its INTRO TONE counterpart of 0.36 and 0.39, respectively. This pattern suggests that managers are unable to maintain the same level of optimism when moving from their prepared statements (i.e., INTRO TONE) into the question and answer session (i.e., MANAGER TONE). In sharp contrast to the optimism revealed in MANAGER TONE, ANALYST TONE is either negative (mean = -0.01) or neutral (median = 0.00). Overall, these results show that managers and analysts differ in the way that they represent firm performance. We examined how the market reacts to these differences in subsequent empirical analyses.

In Panel C we presented descriptive statistics for the firm-level control variables. The median values for our sample firms are as follows: SIZE is \$1.9 billion (i.e., $e^{7.541}$), BM is 0.33, ROA is 1.56%, LEVERAGE is 50.16%, VOLATILITY is 1.81%, and half of the sample firms are dividend payers (DIVIDEND = 0.50). Questions are asked during conference calls by a

median of eight financial analysts, four journalists, and one investor. [13] Institutional owners hold a median of 79% of the sample firm's underlying stock. The median earnings surprise (i.e., SURP) is 0.14% at the time of the conference call, while the median cumulative abnormal return leading up to the conference call (i.e., CAR (-60,-2)) is -0.67%. In addition to firm-level attributes, we also included various conference call attributes among our control variables. The median number of words in the introduction (INTRO COUNT) is 2,940. Similarly, the median number of words spoken by managers (MANAGER COUNT) and analysts (ANALYST COUNT) during question and answer sessions is 3,150 and 1,420, respectively. We also designed a dummy variable, REPORT, to capture the impact of immediate analyst report following a conference call.[14] REPORT is equal to one if an analyst issued a report during the 2-trading-day window (0,1), and zero otherwise.

Table 2 shows correlations among all of our variables. The correlations between the main dependent variable (CAR(0,1)) and each treatment variable, as well as among all treatment variables, are found in Panel A. Panels B and C contain the correlations among all control variables. The results in Panel A show that CAR(0,1) is 0.12 correlated with OVERALL TONE, 0.07 correlated with INTRO TONE, 0.09 correlated with MANAGER TONE, 0.16 correlated with ANALYST TONE. As expected, correlations are relatively high among most of the treatment variables (e.g. correlation = 0.72 between MANAGER TONE and OVERALL TONE). It is interesting to note, however, that the correlation between MANAGER TONE and ANALYST TONE is relatively low at 0.32, and that the lowest correlation among the treatment variables is between INTRO TONE and ANALYST TONE (correlation = 0.21).

The magnitudes of most correlations among the control variables in Panel B suggest that multicollinearity is unlikely to present problems with interpreting subsequent regressions.

Almost all correlations are considerably less than 0.20, although there are a few exceptions. The correlation between ROA and SURP (SIZE) is 0.33 (0.21), and the correlation between VOLATILITY and DIVIDEND (SIZE) is -0.24 (-0.46). Firms with strong operating performance tend to be large firms with positive earnings surprises; and firms with high stock return volatility tend to be non-dividend-paying small firms.

Manager-analyst differences: Single sorts. We visually inspected the tone distributions for managers and analysts and reported them on the same scale in **Figure 1**. While both distributions appear to be fairly normal, the distribution of MANAGER TONE is shifted substantially to the right when compared to the ANALYST TONE distribution, with the latter being roughly centered at zero. We confirmed that this difference is highly significant (p-value = 0.00) with a difference-in-means test in **Table 3,** Panel A. Panel A also shows difference-in-means tests between other linguistic aspects of the conference calls, MANAGER COUNT and ANALYST COUNT, and MANAGER COMPLEXITY and ANALYST COMPLEXITY. The results show that MANAGER COUNT is significantly larger than ANALYST COUNT (p-value = 0.00). In contrast, MANAGER COMPLEXITY is significantly lower than ANALYST COMPLEXITY (p-value = 0.00). To summarize, these findings demonstrate that managers tend to speak with significantly greater optimism, at greater length, and using less complex language than their analyst counterparts during conference calls.

Given the strong differences between what managers and analysts say (TONE), and how they say it (COUNT and COMPLEXITY), we checked to see if the differences would persist if we controlled for variations across the separate call dimensions. In Table 3, Panel B, we individually sorted MANAGER TONE and ANALYST TONE into terciles (low, medium, and high) based on the separate dimensions (MANAGER TONE, ANALYST TONE, MANAGER

COUNT, ANALYST COUNT, MANAGER COMPLEXITY, ANALYST COMPLEXITY) and then performed difference-in-means tests within each tercile. The purpose of these tests was to determine whether the strongly significant results in Panel A were evenly distributed across the full sample, or whether they were driven by a subset of the sample. The first results were based on sorting MANAGER TONE into low, medium, and high values, and then applying difference-in-means tests (i.e., MANAGER TONE – ANALYST TONE) in each tercile. The results confirm positive and significant differences (all p-values = 0.00) for low, medium, and high terciles, respectively. In addition to finding significantly higher optimistic tones for managers across all terciles, we also found a monotonically increasing pattern from low MANAGER TONE to high MANAGER TONE. That is, the smallest (largest) tone difference occurs when managerial optimism is at its lowest (highest). We found similar results when we performed the initial sort based on low, medium, and high ANALYST TONE and then applied difference-in-means tests (i.e., MANAGER TONE – ANALYST TONE) in each tercile.

We implemented parallel tests for COUNT and COMPLEXITY. Specifically, we sorted MANAGER (ANALYST) COUNT into low, medium, and high terciles and then performed difference-in-means tests between MANAGER TONE and ANALYST TONE within each tercile. In all cases, we found statistically significant differences within each tercile. Sorting on MANAGER (ANALYST) COMPLEXITY and then performing difference-in-means tests did not affect the magnitude or significance of the findings. Overall, these univariate tests indicate that managers are significantly more positive than analysts during earnings conference calls, even when controlling for other dimensions of variation within conference calls using single sorts.

Manager-analyst differences: Double sorts. We extended this analysis in **Table 4** by performing two independent (double) tercile (low, medium, and high) sorts on MANAGER TONE and ANALYST TONE. This process formed nine tone characteristic portfolios ranging from observations with low MANAGER TONE and low ANALYST TONE to high MANAGER TONE and high ANALYST TONE. Panel A shows MANAGER TONE for each of the nine portfolios along with tests of differences between the high and low MANAGER TONE across one sort dimension, while holding the other sort dimension constant. Similarly, ANALYST TONE is shown in Panel B for the same sorts and difference tests. Altogether the results in Panels A and B show that differences between high and low tones are statistically significant in 11 of the 12 tests. It is only in holding the medium tercile for MANAGER TONE constant in Panel A that differences in MANAGER TONE, across a high and low ANALYST TONE sort, are insignificant. These double sorts show that the Table 3 results are robust to two-dimensional interplay between the tone of managers and analysts.

Market reaction to manager-versus-analyst tones: Single sorts. We next examined the relation between the two conference call tone measures (MANAGER TONE and ANALYST TONE) and their impact on concurrent stock market returns (CAR(0,1)). We also examined the impact of the tone measures and any subsequent stock market reactions (CAR(2,60)). The results in Panel A of **Table 5** show that when managerial tones are in the lowest tercile (i.e., the most pessimistic tones), stock market reactions are negative (i.e., CAR(0,1) = –0.78%). Stock market reactions are less negative (i.e., CAR(0,1) = –0.23%) when managerial tones are in the medium tercile, and become positive (i.e., CAR(0,1) = 0.81%) for tones in the high tercile. The CAR(0,1) difference between high and low tones (1.58%) is statistically significant with a p-value of 0.00.

When we performed the same analysis using subsequent stock market returns (i.e., CAR(2,60)), we did not find a monotonic relation from low to medium to high managerial tones, nor did we find a significant difference in high versus low tone CARs(2,60). Taken together, these findings show that: (1) managerial tone has a significant impact on stock prices at the time of the conference call; (2) positive (negative) tones are associated with positive (negative) abnormal returns; and (3) the information content of managerial tone is impounded quickly into stock prices (i.e., no effect in the +2 to +60 trading-day event window).

We examined the stock market reaction to analyst tone during conference calls in Panel B. The CAR(0,1) results in Panel B reveal a monotonic increase from the lowest analyst tone tercile (-1.60%), to the medium tone tercile (0.10%), and then to the highest tone tercile (1.30%). This pattern of stock market reactions to analyst tones is similar to, yet even stronger than, the pattern in stock market reactions to managerial tones. In addition, the CAR(0,1) difference between high-versus-low tone terciles is 2.90%, which is statistically significant with a p-value of 0.00. For the CAR(2,60) event window, we found a monotonic ordering of cumulative abnormal returns across the analyst tone terciles and a high-versus-low difference of 1.13%, which is nearly significant at the 10% level (p-value of 0.101). Nonetheless, this result is qualitatively consistent with Price, Doran, Peterson, and Bliss (2012), which demonstrated that the question and answer portion of quarterly earnings conference calls has explanatory power for medium-horizon announcement returns above and beyond that of the earnings surprise. Altogether, the CAR(0,1) and CAR(2,60) results in Table 5 suggest that the market reaction to the question and answer session is primarily driven by the reaction to the analyst portion of the call tone.

Market reaction to manager-versus-analyst tones: Double sorts. In **Table 6** we analyzed the information content of conference calls on returns using double sorts based on MANAGER TONE and ANALYST TONE. We focused on CAR(0,1) given that Table 5 revealed most of the reaction to be during this initial window. As before, we independently sorted all conferences call observations into terciles to form nine mutually exclusive and exhaustive tone-characteristic portfolios and then presented the mean CAR(0,1) for each, along with difference tests using high-minus-low portfolios. The pattern observed when moving from low to high tone terciles across a particular row captures the differential effects of ANALYST TONE on CAR(0,1) for a given level of MANAGER TONE. The pattern from low to high tone terciles within a particular column captures the differential effects of MANAGER TONE on CAR(0,1) for a given level of ANALYST TONE.

The results in Table 6 clearly show that the market responded to the linguistic tone of analysts during conference calls much more than to the linguistic tone of managers. There is a strong monotonic pattern in each row as one moves from the low tone tercile to the high tone tercile (i.e., across columns). In the first row, corresponding to the lowest MANAGER TONE tercile, the average CAR(0,1) is -1.77% for the lowest ANALYST TONE tercile, -0.15% for the medium ANALYST TONE tercile, and 0.68% for the highest ANALYST TONE tercile. In the second row, corresponding to the medium MANAGER TONE tercile, the average CAR(0,1) is -1.95% for the lowest ANALYST TONE tercile, -0.17% for the medium ANALYST TONE tercile, and 1.30% for the highest ANALYST TONE tercile. And in the third row, corresponding to the highest MANAGER TONE tercile, the average CAR(0,1) is -0.64% for the lowest ANALYST TONE tercile, 0.65% for the medium ANALYST TONE tercile, and 1.56% for the highest ANALYST TONE tercile. Differences between high and low terciles based on

ANALYST TONE sorting (moving across columns in the same row) are positive and significant with p-values of 0.00.

The patterns and statistical results for MANAGER TONE terciles (i.e., moving within the same column) are far weaker than for their ANALYST TONE counterparts. While CAR(0,1) are generally increasing from the low tercile to the high tercile, differences between high and low terciles are statistically insignificant in two out of three columns – and only marginally significant (p-value = 0.07) in the first column. These results confirm that sorting on MANAGER TONE is less informative than sorting on ANALYST TONE. Market participants put more weight on variations in ANALYST TONE than on variations in MANAGER TONE.

Calendar-time portfolio regressions: Excess returns on the Fama-French three-factor model. Because the above analysis has indicated that investors react to the linguistic tone of analysts, it is useful to examine whether investors can earn abnormal returns if they go long stocks with high ANALYST TONE and short sell stocks with low ANALYST TONE.[15] In **Table 7** we estimated regressions using monthly (daily) portfolio returns over a six-month window in Panel A (Panel B) using a simple, calendar-time portfolio approach. In each case we used the difference between the time-series of returns for portfolio *j* and the one-month Treasury bill rates as the dependent variable (XRET). Portfolio formation criteria were established by sorting firms on ANALYST TONE into terciles as shown in Panel B of Table 5, where (L) indicates the portfolio of firms in the bottom tercile of analyst conference call tones, (H) indicates the portfolio of firms in the highest tercile, and (H-L) represents a long-short portfolio. Firms entered their respective portfolios based on the month (day) of their corresponding earnings conference call.[16] ALPHA is the estimate of the average abnormal excess return, in

percent, and BETA, SMB, and HML are the coefficients corresponding to the Fama-French risk factors.

The results in Table 7, Panel A, show that investors would have earned a negative and significant monthly abnormal return (-0.56%) from investing in a portfolio of low-analyst-tone stocks, a positive and significant abnormal return (1.32%) from investing in high-analyst-tone stocks, and a positive and significant abnormal return (1.88%) from investing in high-minus-low tone stocks. We found similarly significant, but smaller magnitude, results based on daily returns in Panel B. Specifically, investors would have earned a negative and significant daily abnormal return (-0.03%) for low-analyst-tone stocks, a positive and significant abnormal return (0.03%) for high-analyst-tone stocks, and a positive and significant abnormal return (0.06%) for a portfolio of high-minus-low tone stocks. Overall, these results show that investors would have earned abnormal stock returns by constructing portfolios based on conference call analyst tones.

Market reaction to manager-versus-analyst tones: Regression analysis. Next, we analyzed the impact of managerial and analyst tones after controlling for other variables that might influence abnormal stock returns. Six cross-sectional regressions are shown in **Table 8**; three regressions without controls (models 1, 2, and 3), and three regressions with controls (models 4, 5, and 6). In addition to model 4's INTRO TONE and MANAGER TONE, we estimated the idiosyncratic components of these two variables (i.e., I-INTRO TONE and I-MANAGER TONE) following Huang, Teoh, and Zhang (2014) and included them as alternative independent variables in model 5.[17] As further robustness, we also examined tone changes (i.e, ΔINTRO TONE, ΔMANAGER TONE, and ΔANALYST TONE) in model 6.[18]

The first three regressions confirm the univariate results where CAR(0,1) was regressed on INTRO TONE, MANAGER TONE, and ANALYST TONE, respectively. As expected, we

found a positive and significant relation for all three variables before adding our controls. Specifically, the estimated coefficients are 1.95, 2.62, and 4.19 for INTRO TONE, MANAGER TONE, and ANALYST TONE, respectively. Each coefficient is significant with a p-value of 0.00.

In regression models 4 (INTRO and MANAGER TONES), 5 (I-INTRO and I-MANAGER TONES), and 6 (ΔINTRO TONE, ΔMANAGER TONE, and ΔANALYST TONE), we included additional variables (described above) to control for non-tone aspects of the conference call (i.e., INTRO COUNT, MANAGER COUNT, ANALYST COUNT), firm characteristics (i.e., SURP, SIZE, BM, ROA, LEVERAGE, VOLATILITY, DIVIDEND), information environment (e.g., #ANALYSTS, REPORT), and previous market performance (e.g., CAR(-60,-2)).

The results from model 4 show that there is a positive and significant relation between CAR(0,1) and MANAGER TONE after accounting for the controls. The estimated coefficient for MANAGER TONE is 1.02, which is marginally significant at the 10% level (p-value = 0.09). In contrast, the relation between CAR(0,1) and INTRO TONE is no longer significant after including the control variables. More importantly, model 4 reveals a much stronger, positive and significant relation between CAR(0,1) and ANALYST TONE after accounting for the controls. The estimated coefficient for ANALYST TONE is 3.76 (p-value = 0.00). These regression-based results including control variables mirror the univariate results in Tables 3 through 6. Specifically, we found that there was a significant market reaction to the linguistic tone of conference calls, and this market reaction was more pronounced for the ANALYST TONE than for the MANAGER TONE.

In model 5 we replaced INTRO and MANAGER TONEs with I-INTRO and I-MANAGER TONEs to account for the idiosyncratic component of managerial tones. The results from model 5 show that there is a positive and significant relation between abnormal returns (i.e., CAR(0,1)) and I-INTRO TONE, but an insignificant relation between abnormal returns and I-MANAGER TONE. The main difference between the model 4 and model 5 results is a reallocation of statistical significance between introductory tones and managerial Q&A tones. More importantly, our main variable of interest (i.e., ANALYST TONE) remains positive and significant in both models. The estimated coefficient for ANALYST TONE is 3.90 with a p-value of 0.00 in model 5, as compared to 3.76 with a p-value of 0.00 in model 4.

The inferences from model 6 are somewhat limited in light of severe sample attrition that stemmed from the computation of the change in tone variables. Consequently, at 2.74 the magnitude of the coefficient on ΔANALYST TONE is roughly one third less than the coefficients on ANALYST TONE in models 4 and 5; however, the analyst tone results are robust with a ΔANALYST TONE coefficient that remained positive and highly significant. Overall, the regression results in Table 8 confirm the value relevance of linguistic tone during conference calls, particularly in the case of ANALYST TONE.

Investor sophistication and conference call tone. In **Table 9** we examined the relation between investor sophistication, as proxied by institutional investors, and the market's ability to price linguistic tone during conference calls. We posited that relatively sophisticated institutional investors would be more capable of extracting value-relevant information from linguistic tone than less sophisticated individual investors. The empirical implication of this hypothesis is that market reactions to conference call tone will increase with institutional ownership (IO). Firms with higher levels of institutional ownership should therefore exhibit

stronger stock market reactions to the ANALYST TONE of conference calls. To examine this hypothesis, we partitioned our sample firms into high, medium, and low terciles based on the level of institutional ownership. We then compared the high tercile to the low tercile.

The first two columns in Table 9 present the results from regression model 4 (i.e., the same regression model that was used in column 4 of Table 8). The third and fourth columns present the results from regression model 5 (i.e., the same regression model that was used in column 5 of Table 8). The fifth and sixth columns present the results from regression model 6 (i.e., the same regression model that was used in column 6 of Table 8). The results in the first (second) column were based on the low (high) tercile of institutional ownership. For the low institutional ownership tercile in column 1, the estimated coefficients for INTRO TONE and MANAGER TONE are insignificant, while the estimated coefficient for ANALYST TONE is positive (2.04) and marginally significant (p-value = 0.06). For the high institutional ownership tercile in column 2, the estimated coefficients for INTRO TONE and MANAGER TONE remain insignificant, while ,the estimated coefficient for ANALYST TONE is positive (6.28) and highly significant (p-value = 0.00). In addition to the stronger significance level for ANALYST TONE in the high institutional ownership subsample, the magnitude of this coefficient is more than three times the magnitude of its counterpart in the low institutional ownership subsample, indicating a strong difference in the economic significance. Consistent with expectations, sophisticated institutional investors were more sensitive to ANALYST TONE during conference calls than less sophisticated individual investors.

We also noted that the estimated coefficient for SURP is positive (0.22) and significant (p-value = 0.00) in column 1, while it is positive (0.04) but insignificant (p-value = 0.59) in column 2. These contrasting results show that institutional investors placed relatively less

weight on quantitative earnings surprises than individual investors.[19] Taken together, these findings suggest that sophisticated investors are likely to be more concerned about (qualitative) linguistic tone and less concerned about (quantitative) earnings surprises than less sophisticated investors.

We found similar results in columns 3 and 4 of Table 9 where we used the idiosyncratic component of managerial tones (i.e., I-INTRO TONE and I-MANAGER TONE) as independent variables. The estimated coefficient for ANALYST TONE is positive (2.03) and marginally significant (p-value = 0.07) for the low institutional ownership tercile; and then increases by a magnitude of three (from 2.03 to 6.47) and becomes highly significant (p-value = 0.00) for the high institutional ownership tercile. These results show that sophisticated institutional investors are more able to discern the information content of ANALYST TONE than less-sophisticated, individual investors. It is also interesting to note that the estimated coefficient for I-INTRO TONE is positive (6.93) and significant (p-value = 0.00) for the low institutional ownership tercile, but insignificant for the high institutional ownership tercile. This finding suggests that unsophisticated investors put considerably more weight on the prepared, introductory section of the conference call than do sophisticated investors. Finally, as in the first two columns, the estimated coefficient on SURP is positive and significant for the low tercile subsample, and positive and insignificant for the high tercile subsample. Overall, the results in columns 3 and 4 are consistent with those in columns 1 and 2.

As additional robustness, tone changes variables (ΔINTRO TONE, ΔMANAGER TONE, and ΔANALYST TONE) were inserted into columns 5 and 6. Even though the number of observations was dramatically reduced, the estimated coefficient for ΔANALYST TONE is positive (2.09) and insignificant (p-value = 0.20) in the low institutional ownership tercile and

positive (7.63) and significant (p-value = 0.00) in the high institutional ownership tercile. In other words, we found the same general relation between institutional ownership and ANALYST TONE to hold when we used tone changes in the limited observation sample.

Investor sophistication and conference call tone: Interaction effects. We used interaction terms in **Table 10** to re-examine the impact of investor sophistication on the relation between linguistic tone and CAR(0,1). In column 1 we interacted the level of institutional ownership (IO) with INTRO TONE, MANAGER TONE, ANALYST TONE, and SURP. The estimated coefficients for IO*INTRO TONE and IO*MANAGER TONE are negative and insignificant. In contrast, the estimated coefficient for IO*ANALYST TONE is positive (6.02) and significant (p-value = 0.01). These results show that higher levels of institutional ownership (i.e., higher percentages of sophisticated investors) have a positive and significant impact on the relation between ANALYST TONE and abnormal stock returns during conference calls. In addition, the estimated coefficient for IO*SURP is negative (-0.36) and significant (p-value = 0.00), confirming that sophisticated investors place less weight on quantitative earnings surprises than less sophisticated investors.[20]

We found similarly strong results for IO*ANALYST TONE and IO*SURP in column 2 after introducing I-INTRO TONE and I-MANAGER TONE, and their respective interaction terms. The estimated coefficient for IO*ANALYST TONE is positive (6.08) and significant (p-value = 0.01) and the estimated coefficient for IO*SURP is negative (-0.36) and significant (p-value = 0.00). While the estimated coefficient for IO*I-MANAGER TONE remains insignificant as in column 1, the estimated coefficient for IO*I-INTRO TONE is negative and significant in column 2. This latter finding suggests that the higher the level of sophisticated

investor ownership, the less weight is placed on introductory remarks – again, consistent with the results in Table 9.

Lastly, as additional robustness we introduced the tone changes variables (ΔINTRO TONE, ΔMANAGER TONE, and ΔANALYST TONE) in column 3 of Table 10. While the signs of the estimated coefficients are consistent with the primary analyses in columns 1 and 2, with a similar magnitude (6.13) for the interaction of IO and ΔANALYST TONE as with IO*ANALYST TONE (6.02 and 6.08, respectively), the standard errors are less precise in the reduced sample. The smaller sample size and, consequently, larger standard errors resulted in a lack of significance at conventional levels. However, this is not surprising given the overall reduction in significance on our variables of interest (i.e. analyst tones) in the interaction setting (Table 10) when compared to the tercile regression setting (Table 9), since the former setting includes observations in the middle tercile (i.e., more directionally ambiguous observations) as well. Nonetheless, the overall results in Table 10 confirm our earlier findings that the more sophisticated the investor base, the stronger the relation between analyst linguistic tones and abnormal returns.

Conclusion

The dynamic interaction between company insiders, represented by senior managers, and the outside investing community, represented by financial analysts, on quarterly earnings conference calls was the main focus of this study. Our empirical findings showed that the most optimistic tone during an entire conference call occurred during the prepared introduction. Once the session was opened up for questions, the overall Q&A tone dropped significantly. Managers were simply unable to maintain their (unchallenged) rosy outlook after analysts weighed in with

questions and comments. During the Q&A session itself, manager tones dropped from their introductory highs, but they were still significantly more positive than analyst tones.

The results also showed that analyst tones carried significantly more weight than manager tones. Although the market did listen to manager tones (i.e., we found positive and significant abnormal returns associated with manager optimism), it listened much more intensely to analyst tones. The coefficients on analyst tones were larger in magnitude and stronger in significance levels than their manager tone counterparts. This is an important result because it demonstrates that investors placed more value on proper incentives than on privileged information.

Lastly, we showed that sophisticated institutional investors had a comparative advantage in evaluating conference call tones relative to earnings-release numbers. Investor sophistication manifested itself most clearly in the ability to process subtle messages, such as the qualitative content of earnings conference calls. Moreover, sophisticated investors represented the driving force behind assigning higher weights to properly-incentivized analysts over information-advantaged managers.

This study makes several contributions to our understanding of the information roles played by managers and analysts. First, we measured and compared the linguistic tones of managers and analysts during conference calls and showed that managers presented more optimistic tones on average than analysts. This finding suggests that investors should pay close attention to managerial incentives when weighing the content and meaning of managerial disclosures. Second, we documented that analyst tones were subject to less discounting by market participants than manager tones. This finding highlights the important role of information intermediaries, such as financial analysts, in discerning the information content of public disclosures. Third, we showed that institutional investors appeared to be more capable of

analyzing and interpreting linguistic tones than individual investors. This finding adds to our knowledge of the source(s) of institutional investors' information advantages.

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Notes

[1] In a concurrent study, Chen, Nagar, and Schoenfeld (2013) separated analyst tones from manager tones. In contrast to our study, the main focus of their investigation was to measure analyst belief revisions during conference calls in order to "establish the stock price relevance of analyst activity." Their results showed the value relevance of analyst opinions and views in real time.

[2] Over 99% of the conference calls in our sample were held on either the same day as the earnings announcement or the following trading day. The few remaining calls were held within the subsequent five trading days.

[3] Results were not sensitive to the exclusion of share code 12 (roughly 8% of the sample), where firms have headquarters outside the U.S. such as Tyco International, Autoliv, Garmin, etc.

[4] We obtained size sorts based on NYSE market capitalization breakpoints from the website of Ken French. Since the breakpoints were only available at five percent increments, we extrapolated terciles as follows: ((p35-p30)/5*3=p33) and ((p70-p65)/5*2=p67).

[5] We excluded all firms with negative BM values.

[6] Loughran and McDonald (2011) and Price, Doran, Peterson, and Bliss (2012) found that discipline-specific word lists (dictionaries) were more powerful than general-use dictionaries (e.g., Harvard Psychosocial dictionary) when applied to financial research. Nonetheless, some research has relied exclusively on general-use dictionaries (Tetlock 2007; Tetlock, Saar-Tsechansky, and Macskassy 2008; Ozik and Sadka 2013). As such we re-estimated all empirical analyses using the Harvard word lists and found that our results were robust to dictionary choice. We also utilized Diction 6.0 and the General Inquirer content analysis packages and found that our analysis was robust to different word recognition platforms.

[7] We also conducted our analysis using an alternative tone measure defined as the percentage of negative words in a given conference call. We obtained consistent results using this definition.

[8] Davis, Ge, Matsomoto and Zhang (2012) examined manager tone in order to define managerial style. In this paper, we contrasted the tone of managers and analysts to address the question of which tone was more credible to market participants.

[9] We also examined a three-day abnormal return, CAR(-1,1), where we included the day before the conference call as well. While the results were slightly stronger over the three-day window, the differences between the two- and three-day windows were negligible. As such, we reported results using CAR(0,1) throughout.

[10] We selected these control variables following related work by Engelberg (2008), Davis, Piger, and Sedor (2012), and Price, Doran, Peterson, and Bliss (2012).

[11] We checked our results using the difference between actual earnings and mean analysts forecasts, scaled by the standard deviation of analyst forecasts over the prior eight quarters, and obtained consistent results. We reported the seasonally adjusted measure to avoid substantial sample attrition, which might have biased the sample towards large firms.

[12] The number of shares held by institutions is from Thomson 13f filings.

[13] It is important to note that the median number of journalists and investors was based on sample sizes of 11 and 23, respectively. For the vast majority of conference calls, no journalist or investor was present.

[14] We are grateful to an anonymous referee for suggesting this control variable. Huang, Lehavy, Zang, and Zheng (2014) concluded that "analyst reports issued promptly after earnings conference calls contain substantial amounts of discussion on exclusive topics that were not referred to in the conference calls. Moreover, when analysts do discuss topics covered in conference calls, they frequently use a different vocabulary than that used by managers, consistent with their information interpretation role."

[15] For a further examination of the medium-term returns phenomena (i.e., the post earnings announcement drift) as it relates to call tones and the earnings surprises, see Price, Doran, Peterson, and Bliss (2012). For our purposes, tthese results confirm that the market places more weight on analyst, as opposed to manager, conference call tones.

[16] Results were robust to variation in the portfolio formation and holding periods.

[17] Huang, Teoh, and Zhang (2014) argued that managerial tones can be subject to biases depending on what they are attempting to convey to the public. As an additional robustness check, we employed a cross-sectional model to isolate the idiosyncratic components of managerial tones. Specifically, we followed the Huang, Teoh, and Zhang (2014) approach by regressing INTRO TONE and MANAGER TONE on "current available fundamental information, growth opportunities, operating risks, and complexity (p. 13)." We then used the residuals from such regressions as a measure of idiosyncratic tones.

[18] Given the hand-collected pseudo-random nature of our sample, which is not a balanced panel, there are limits to the extent to which tone changes can be examined. Nonetheless, there was a small number of observations (373 out

of 2,880) for which we were able to compute tone changes by taking the difference between the tone measures in quarter τ and their counterparts in quarter τ-1.

[19] We found similar results when earnings surprise was defined as the difference between actual earnings and expected earnings based on analyst consensus forecasts.

[20] As in Table 8, we found similar results when earnings surprise was defined as the difference between actual earnings and expected earnings based on analyst consensus forecasts.

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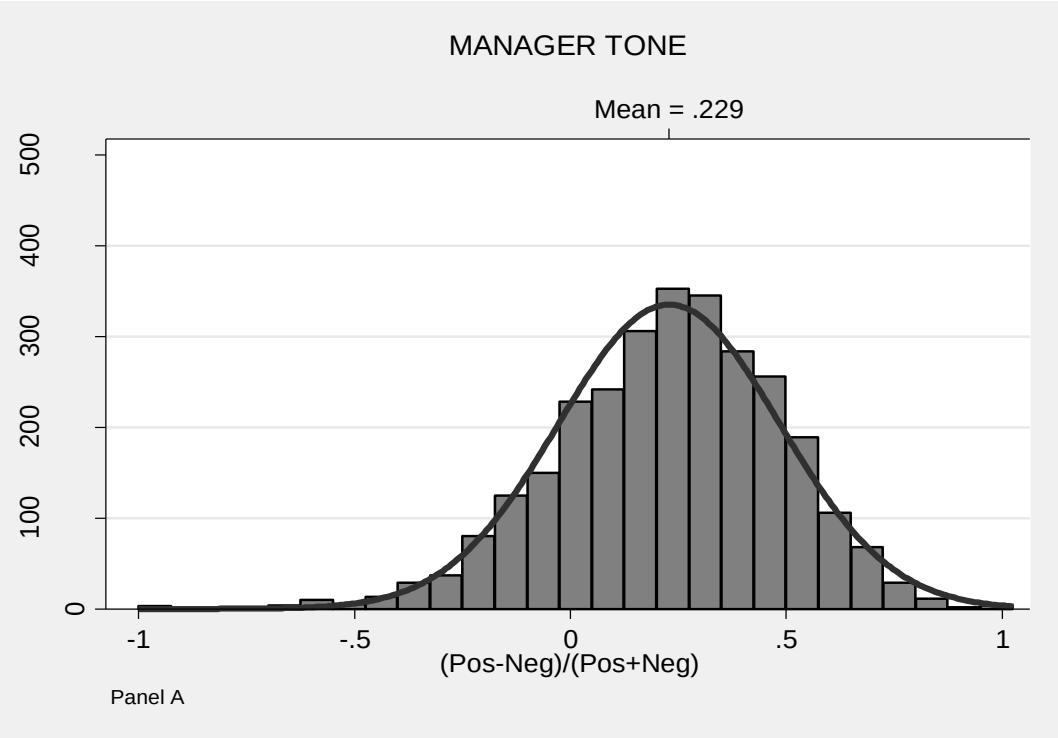
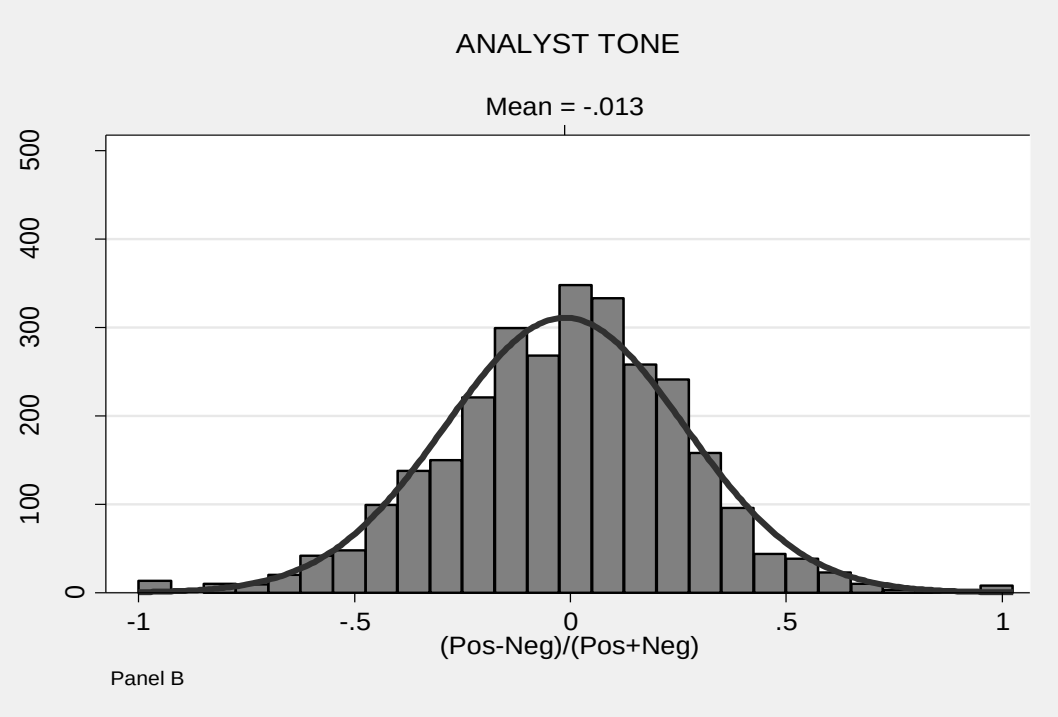
Figure 1. Distribution of Manager and Analyst Tone Measures





Notes: This figure provides a graphical look at the distribution of the tone measures for managers (Panel A) and analysts (Panel B) on the same scale. The TONE variables are calculated as the ratio of (Positive – Negative) / (Positive + Negative), where each category reflects the proportion of words as defined by the Loughran and McDonald (2011) dictionary. The variable modifiers MANAGER and ANALYST indicate that the referenced tone measures are for the managerial answer and analyst question portions of the conference calls. The superimposed black line represents a normal distribution.

Table 1. Descriptive Statistics

	Mean	Median	Max	Min	Std.Dev.	Observations
Panel A						
CAR(0,1)	-0.07%	-0.04%	37.17%	-48.93%	7.29%	2,880
CAR(2,10)	-0.34%	-0.30%	34.54%	-41.36%	5.86%	2,880
Panel B						
OVERALL TONE	0.20	0.20	0.75	-0.48	0.20	2,880
INTRO TONE	0.36	0.39	0.92	-0.64	0.26	2,880
MANAGER TONE	0.23	0.24	1.00	-1.00	0.26	2,880
ANALYST TONE	-0.01	0.00	1.00	-1.00	0.28	2,880
Panel C						
INTRO COUNT	3.10	2.94	15.61	0.28	1.32	2,880
MANAGER COUNT	3.23	3.15	16.45	0.07	1.51	2,880
ANALYST COUNT	1.47	1.42	8.09	0.05	0.70	2,880
NO. ANALYST	7.92	8.00	27.00	1.00	3.81	2,880
NO. JOURNALIST	4.09	4.00	11.00	1.00	3.02	11
NO. INVESTOR	1.65	1.00	8.00	1.00	1.56	23
IO	0.75	0.79	1.59	0.00	0.25	2,760
SURP	0.07%	0.14%	89.47%	-83.48%	5.00%	2,880
SIZE	7.57	7.54	12.77	2.20	1.65	2,880
BM	0.44	0.33	81.91	0.00	1.55	2,880
ROA	1.16%	1.56%	39.61%	-92.53%	4.64%	2,880
LEVERAGE	49.24%	50.16%	99.31%	2.81%	20.46%	2,880
VOLATILITY	2.01%	1.81%	9.67%	0.44%	0.94%	2,880
REPORT	0.86	1.00	1.00	0.00	0.34	2,880
DIVIDEND	0.50	0.50	1.00	0.00	0.50	2,880
CAR(-60,-2)	-0.31%	-0.67%	120.35%	-88.19%	14.71%	2,880

Notes: This table provides descriptive statistics (mean, median, maximum, minimum, standard deviation, and number of observations). CAR(0,1) is the 2-trading-day cumulative abnormal return, in percent, where day 0 is the conference call date, where the abnormal returns are estimated using size-adjusted returns calculated as $AR_{j,t} = R_{j,t} - R_{p,t}$, where the abnormal return for firm *j* on day *t* is the difference between the return for firm *j* on day *t* and the mean return on day *t* for all firms in the same size decile as firm *j*. CAR(2,10) is calculated in the same manner as CAR(0,1) only it is cumulated from trading-days +2 through +10. The TONE variables are calculated as the ratio of (Positive – Negative) / (Positive + Negative), where each category reflects the proportion of words as defined by the Loughran and McDonald (2011) dictionary. The variable modifiers OVERALL, INTRO, MANAGER, ANALYST, and DIFF indicate that the referenced tone measures are for the whole call, introductory managerial statement, managerial answers, analyst questions, and the difference between managerial answers and analysts questions (MANAGER – ANALYST), respectively. COUNT is the number of words, in thousands, for a given portion of a conference call where the variable modifiers are as described above. NO. ANALYST, NO. JOURNALIST, and NO. INVESTOR, represent the number of people identified as analysts, journalists, and investors who participate in a given conference call, respectively. IO is the number of shares owned by institutional investors divided by the number of shares outstanding. SURP is the earnings surprise, in percent, calculated as {[EPS(qtr) – EPS(qtr-4)]/Stock Price(end of qtr-4)*100}. SIZE is the log of firm market capitalization from the previous quarter. BM is the ratio of book-to-market equity as of the end of the previous quarter. ROA represents return on assets, in percent, calculated as net income divided by total assets multiplied by one hundred. LEVERAGE is expressed in percent as the ratio of total liabilities to total assets multiplied by one hundred. VOLATILITY is in percent and is calculated as the standard deviation of daily returns for the ninety trading-days ending ten days prior to the conference call multiplied by one hundred. DIVIDEND is an indicator variable equal to one if the firm pays dividends and zero otherwise. REPORT is an indicator variable set equal to one if an analyst issued a report during the 2-trading-day window (0,1), and zero otherwise. CAR(-60,-2) is calculated in the same manner as CAR(0,1) only it is cumulated from trading-days -60 through -2.

Table 2. Correlations

	CAR(0,1)	OVERALL TONE	INTRO TONE	MANAGER TONE	ANALYST TONE		
Panel A							
CAR(0,1)	1.00						
OVERALL TONE	0.12	1.00					
INTRO TONE	0.07	0.79	1.00				
MANAGER TONE	0.09	0.72	0.39	1.00			
ANALYST TONE	0.16	0.45	0.21	0.32	1.00		
	CAR(0,1)	INTRO COUNT	MANAGER COUNT	ANALYST COUNT	NO. ANALYST	IO	SURP
Panel B							
INTRO COUNT	0.01	1.00					
MANAGER COUNT	-0.01	0.09	1.00				
ANALYST COUNT	-0.01	-0.03	0.72	1.00			
NO. ANALYST	0.03	0.06	0.62	0.70	1.00		
IO	0.04	0.10	0.19	0.17	0.21	1.00	
SURP	0.10	0.00	-0.03	-0.02	-0.02	-0.05	1.00
SIZE	0.07	0.27	0.33	0.31	0.57	0.23	0.01
BM	-0.01	-0.03	0.01	0.04	-0.01	-0.05	-0.03
ROA	0.10	-0.04	0.09	0.11	0.12	0.08	0.33
LEVERAGE	0.06	0.05	0.04	0.01	-0.01	0.10	-0.02
VOLATILITY	-0.07	-0.06	-0.13	-0.14	-0.20	-0.22	0.03
REPORT	0.01	0.09	0.15	0.16	0.18	0.36	-0.02
DIVIDEND	0.01	-0.13	-0.02	0.03	-0.07	0.00	-0.02
CAR(-60,-2)	0.00	-0.03	-0.07	-0.08	-0.09	-0.09	0.10
	SIZE	BM	ROA	LEVERAGE	VOLATILITY	DIVIDEND	CAR(-60,-2)
Panel C							
SIZE	1.00						
BM	-0.12	1.00					
ROA	0.21	-0.05	1.00				
LEVERAGE	0.15	0.03	-0.09	1.00			
VOLATILITY	-0.46	0.00	-0.18	-0.17	1.00		
DIVIDEND	0.10	-0.02	0.13	0.18	-0.24	1.00	
CAR(-60,-2)	-0.02	-0.05	0.02	0.01	0.17	-0.02	1.00

Notes: This table provides correlations for the full sample of 2,880 firm-quarter observations. CAR(0,1) is the 2-trading-day cumulative abnormal return, in percent, where day 0 is the conference call date, where the abnormal returns are estimated using size-adjusted returns calculated as $AR_{j,t} = R_{j,t} - R_{p,t}$, where the abnormal return for firm *j* on day *t* is the difference between the return for firm *j* on day *t* and the mean return on day *t* for all firms in the same size decile as firm *j*. The TONE variables are calculated as the ratio of (Positive – Negative) / (Positive + Negative), where each category reflects the proportion of words as defined by the Loughran and McDonald (2011) dictionary. The variable modifiers OVERALL, INTRO, MANAGER, ANALYST, and DIFF indicate that the referenced tone measures are for the whole call, introductory managerial statement, managerial answers, analyst questions, and the difference between managerial answers and analysts questions (MANAGER – ANALYST), respectively. COUNT is the number of words, in thousands, for a given portion of a conference call where the variable modifiers are as described above. NO. ANALYST represents the number of people identified as analysts who participate in a given conference call. IO is the number of shares owned by institutional investors divided by the number of shares outstanding. SURP is the earnings surprise, in percent, calculated as {[EPS(qtr) – EPS(qtr-4)]/Stock Price(end of qtr-4)*100}. SIZE is the log of firm market capitalization from the previous quarter. BM is the ratio of book-to-market equity as of the end of the previous quarter. ROA represents return on assets, in percent, calculated as net income divided by total assets multiplied by one hundred. LEVERAGE is expressed in percent as the ratio of total liabilities to total assets multiplied by one hundred. VOLATILITY is in percent and is calculated as the standard deviation of daily returns for the ninety trading-days ending ten days prior to the conference call multiplied by one hundred. REPORT is an indicator variable set equal to one if an analyst issued a report during the 2-trading-day window (0,1), and zero otherwise. DIVIDEND is an indicator variable equal to one if the firm pays dividends and zero otherwise. CAR(-60,-2) is calculated in the same manner as CAR(0,1) only it is cumulated from trading-days -60 through -2.

Table 3. Manager and Analyst Differences

Panel A

Tone Differences	Observations	MANAGER TONE	ANALYST TONE	TONE DIFF	p-value
	2,880	0.23	-0.01	0.24***	(0.00)

Count Differences	Observations	MANAGER COUNT	ANALYST COUNT	COUNT DIFF	p-value
	2,880	3.23	1.47	1.76***	(0.00)

Complexity Differences	Observations	MANAGER COMPLEX	ANALYST COMPLEX	COMPLEX DIFF	p-value
	2,880	4.41	4.48	-0.07***	(0.00)

Panel B

MANAGER TONE Sort	Observations	MANAGER TONE	ANALYST TONE	TONE DIFF	p-value
Low	962	-0.06	-0.11	0.06***	(0.00)
Medium	958	0.24	-0.01	0.25***	(0.00)
High	960	0.50	0.09	0.42***	(0.00)
ANALYST TONE Sort					
Low	964	0.13	-0.31	0.45***	(0.00)
Medium	958	0.23	-0.00	0.24***	(0.00)
High	958	0.32	0.28	0.04***	(0.00)
MANAGER COUNT Sort					
Low	960	0.21	0.00	0.21***	(0.00)
Medium	960	0.23	-0.02	0.26***	(0.00)
High	960	0.24	-0.02	0.26***	(0.00)
ANALYST COUNT Sort					
Low	960	0.23	0.01	0.23***	(0.00)
Medium	960	0.23	-0.02	0.26***	(0.00)
High	960	0.22	-0.02	0.24***	(0.00)
MANAGER COMPLEX Sort					
Low	998	0.20	-0.04	0.24***	(0.00)
Medium	991	0.24	0.00	0.23***	(0.00)
High	891	0.25	-0.00	0.25***	(0.00)
ANALYST COMPLEX Sort					
Low	995	0.22	-0.03	0.25***	(0.00)
Medium	980	0.23	-0.01	0.23***	(0.00)
High	905	0.24	0.00	0.24***	(0.00)

***p<0.01, **p<0.05, *p<0.1

Notes: This table provides difference between manager and analyst call characteristics (Panel A) and between manager and analyst tone, by call characteristic terciles (Panel B). The TONE variables are calculated as the ratio of (Positive – Negative) / (Positive + Negative), where each category reflects the proportion of words as defined by the Loughran and McDonald (2011) dictionary. The variable modifiers MANAGER, ANALIST, and DIFF indicate that the referenced tone measures are for the managerial answers, analyst questions, and the difference between managerial answers and analysts questions (MANAGER – ANALYST), respectively. COUNT is the number of words, in thousands, for a given portion of a conference call where the variable modifiers are as described above. COMPLEX measures word choice complexity as the number of characters in each word, on average, for a given portion of each call, where the variable modifiers are as described above. p-values are in parentheses.

Table 4. Tone Measures by Double Tone Tercile Sorts

Panel A: MANAGER TONE

	ANALYST TONE				
MANAGER TONE	Low (L)	Medium	High (H)	H – L	p-value
Low (L)	-0.09	-0.02	-0.03	0.05***	(0.00)
Medium	0.24	0.24	0.25	0.00	(0.58)
High (H)	0.48	0.48	0.52	0.05***	(0.00)
H – L	0.57***	0.50***	0.56***		
p-value	(0.00)	(0.00)	(0.00)		

Panel B: ANALYST TONE

	ANALYST TONE				
MANAGER TONE	Low (L)	Medium	High (H)	H – L	p-value
Low (L)	-0.33	-0.01	0.26	0.59***	(0.00)
Medium	-0.30	0.00	0.25	0.55***	(0.00)
High (H)	-0.29	0.01	0.31	0.60***	(0.00)
H – L	0.04***	0.02***	0.05***		
p-value	(0.00)	(0.00)	(0.00)		

***p<0.01, **p<0.05, *p<0.1

Notes: This table presents manager tone (Panel A) and analyst tone (Panel B) for portfolios formed by double sorting across the two tone measures. The TONE variables are calculated as the ratio of (Positive – Negative) / (Positive + Negative), where each category reflects the proportion of words as defined by the Loughran and McDonald (2011) dictionary. The variable modifiers MANAGER and ANALYST indicate that the referenced tone measures are for the managerial answers and analyst questions, respectively. p-values are in parentheses.

Table 5. CARs by Single Tone Tercile Sorts

Panel A: MANAGER TONE				*Panel B: ANALYST TONE*			
	Observations	CAR(0,1)	CAR(2,60)		Observations	CAR(0,1)	CAR(2,60)
Low (L)	962	-0.78%	-1.19%	Low (L)	964	-1.60%	-1.28%
Medium	958	-0.23%	-0.01%	Medium	958	0.10%	-0.42%
High (H)	960	0.81%	-0.65%	High (H)	958	1.30%	-0.15%
H – L		1.58%***	0.53%	H – L		2.90%***	1.13%
p-value		(0.00)	(0.44)	p-value		(0.00)	(0.10)

***p<0.01, **p<0.05, *p<0.1

Notes: This table presents returns differences sorted into terciles across manager tone (Panel A), analyst tone (Panel B), and the difference between manager and analyst tone (Panel C). The TONE variables are calculated as the ratio of (Positive – Negative) / (Positive + Negative), where each category reflects the proportion of words as defined by the Loughran and McDonald (2011) dictionary. The variable modifiers MANAGER, ANALYST, and DIFF indicate that the referenced tone measures are for the managerial answers, analyst questions, and the difference between managerial answers and analysts questions (MANAGER – ANALYST), respectively. CAR(0,1) is the 2-trading-day cumulative abnormal return, in percent, where day 0 is the conference call date, where the abnormal returns are estimated using size-adjusted returns calculated as $AR_{j,t} = R_{j,t} - R_{p,t}$, where the abnormal return for firm *j* on day *t* is the difference between the return for firm *j* on day *t* and the mean return on day *t* for all firms in the same size decile as firm *j*. CAR(2,60) is calculated in the same manner as CAR(0,1) only it is cumulated from trading-days +2 through +60. Observations is the number of firm-quarter observations in each portfolio. p-values are in parentheses.

Table 6. CARs by Double Tone Tercile Sorts

	ANALYST TONE				
MANAGER TONE	Low (L)	Medium	High (H)	H – L	p-value
Low (L)	-1.77%	-0.15%	0.68%	2.46%***	(0.00)
Medium	-1.95%	-0.17%	1.30%	3.25%***	(0.00)
High (H)	-0.64%	0.65%	1.56%	2.20%***	(0.00)
H – L	1.13%*	0.80%	0.88%		
p-value	(0.07)	(0.16)	(0.15)		

***p<0.01, **p<0.05, *p<0.1

Notes: This table presents cumulative abnormal returns for portfolios formed by double sorting across the two tone measures. The TONE variables are calculated as the ratio of (Positive – Negative) / (Positive + Negative), where each category reflects the proportion of words as defined by the Loughran and McDonald (2011) dictionary. The variable modifiers MANAGER and ANALYST indicate that the referenced tone measures are for the managerial answers and analyst questions, respectively. CAR(0,1) is the 2-trading-day cumulative abnormal return, in percent, where day 0 is the conference call date, where the abnormal returns are estimated using size-adjusted returns calculated as $AR_{j,t} = R_{j,t} - R_{p,t}$, where the abnormal return for firm *j* on day *t* is the difference between the return for firm *j* on day *t* and the mean return on day *t* for all firms in the same size decile as firm *j*. p-values are in parentheses.

Table 7. Calendar-Time Portfolio Regressions of Excess Returns on the Fama-French Three-Factor Model

Panel A: Monthly Returns	XRET (L)	XRET (H)	XRET (H -L)
ALPHA	-0.56%**	1.32%***	1.88%***
	(0.03)	(0.00)	(0.00)
BETA	1.08***	0.53*	-0.55*
	(0.00)	(0.05)	(0.10)
SMB	0.69***	1.05***	0.36
	(0.00)	(0.00)	(0.24)
HML	0.08	-0.40**	-0.48
	(0.65)	(0.04)	(0.07)*
Observations	964	958	
Adjusted R-squared	80.62%	67.74%	
Panel B: Daily Returns	XRET (L)	XRET (H)	XRET (H -L)
ALPHA	-0.03%**	0.03%**	0.06%***
	(0.05)	(0.05)	(0.01)
BETA	0.93***	1.04***	0.11**
	(0.00)	(0.00)	(0.02)
SMB	0.61***	0.59***	-0.02
	(0.00)	(0.00)	(0.72)
HML	-0.03	-0.03	0.01
	(0.48)	(0.62)	(0.94)
Observations	964	958	
Adjusted R-squared	69.37%	83.01%	

***p<0.01, **p<0.05, *p<0.1

Notes: This table provides results for calendar-time portfolio regressions using monthly (daily) portfolio returns over a six month window in Panel A (Panel B). XRET is the difference between the return for portfolio *j* and the one-month Treasury bill rate. (L) indicates the portfolio of firms in the bottom tercile of analyst conference call tone, (H) indicates the portfolio of firms in the highest tercile, and (H-L) represents a long-short portfolio. ALPHA is the estimate of the average abnormal excess return, in percent. The BETA, SMB, and HML coefficients stem from the Fama-French risk factors. For details on the construction of the variables see Kenneth French's online data library. Standard errors are adjusted for heteroscedasticity following White (1980). p-values are in parentheses.

Table 8. Cross-Sectional Regression Analysis of CARs on Tone Measures and Controls

	CAR(0,1)	CAR(0,1)	CAR(0,1)	CAR(0,1)	CAR(0,1)	CAR(0,1)
INTRO TONE	1.95***			0.04		
	(0.00)			(0.95)		
MANAGER TONE		2.62***		1.02*		
		(0.00)		(0.09)		
I-INTRO TONE					3.06***	
					(0.00)	
I-MANAGER TONE					0.84	
					(0.42)	
ΔINTRO TONE						1.69
						(0.23)
ΔMANAGER TONE						1.89
						(0.23)
ANALYST TONE			4.19***	3.76***	3.90***	
			(0.00)	(0.00)	(0.00)	
ΔANALYST TONE						2.74***
						(0.00)
INTRO COUNT				-0.03	-0.02	0.02
				(0.82)	(0.84)	(0.92)
MANAGER COUNT				-0.15	-0.12	0.07
				(0.17)	(0.27)	(0.79)
ANALYST COUNT				-0.38	-0.39	-0.90
				(0.29)	(0.28)	(0.20)
SURP				0.10**	0.10**	0.08
				(0.02)	(0.02)	(0.30)
SIZE				0.06	0.06	0.24
				(0.65)	(0.62)	(0.58)
BM				0.02	0.02	-1.38
				(0.58)	(0.61)	(0.25)
ROA				0.10	0.10	0.04
				(0.11)	(0.11)	(0.67)
LEVERAGE				0.02*	0.02*	-0.01
				(0.06)	(0.06)	(0.73)
VOLATILITY				-0.37*	-0.39*	0.64
				(0.10)	(0.09)	(0.23)
#ANALYST				0.99	0.92	0.32
				(0.11)	(0.14)	(0.82)
REPORT				-0.18	-0.13	0.84
				(0.65)	(0.74)	(0.55)
DIVIDEND				-0.28	-0.31	0.17
				(0.39)	(0.36)	(0.79)
CAR(-60,-2)				-0.01	-0.01	0.01
				(0.46)	(0.54)	(0.70)
Intercept	-0.77***	-0.67***	-0.01	-1.68	-1.38	-2.76
	(0.00)	(0.01)	(0.92)	(0.22)	(0.34)	(0.49)
Observations	2,880	2,880	2,880	2,880	2,880	373
R-squared	0.47%	0.85%	2.54%	4.84%	5.03%	6.58%

***p<0.01, **p<0.05, *p<0.1

Notes: This table provides results for cross-sectional regressions of cumulative abnormal returns regressed on manager and analyst tone measures and controls. CAR(0,1) is the 2-trading-day cumulative abnormal return, in percent, where day 0 is the conference call date, where the abnormal returns are estimated using size-adjusted returns calculated as $AR_{j,t} = R_{j,t} - R_{p,t}$, where the abnormal return

for firm *j* on day *t* is the difference between the return for firm *j* on day *t* and the mean return on day *t* for all firms in the same size decile as firm *j*. The TONE variables are calculated as the ratio of (Positive – Negative) / (Positive + Negative), where each category reflects the proportion of words as defined by the Loughran and McDonald (2011) dictionary. The variable modifiers INTRO, MANAGER, and ANALYST indicate that the referenced tone measures are for introductory managerial statements, managerial answers, and analyst questions, respectively. I-INTRO and I-MANAGER indicate managerial idiosyncratic tone measures following Huang, Teoh, and Zhang (2014). The Δ prefix indicates the difference between in a given tone measure in quarter τ and the same measure in quarter τ-1. COUNT is the number of words, in thousands, for a given portion of a conference call where the variable modifiers are as described above. SURP is the earnings surprise, in percent, calculated as {[EPS(qtr) – EPS(qtr-4)]/Stock Price(end of qtr-4)*100}. SIZE is the log of firm market capitalization from the previous quarter. BM is the ratio of book-to-market equity as of the end of the previous quarter. ROA represents return on assets, in percent, calculated as net income divided by total assets multiplied by one hundred. LEVERAGE is expressed in percent as the ratio of total liabilities to total assets multiplied by one hundred. VOLATILITY is in percent and is calculated as the standard deviation of daily returns for the ninety trading-days ending ten days prior to the conference call multiplied by one hundred. #ANALYST is the log of 1 plus the number of analysts who participate in a given call. REPORT is an indicator variable set equal to one if an analyst issued a report during the 2-trading-day window (0,1), and zero otherwise. DIVIDEND is an indicator variable equal to one if the firm pays dividends and zero otherwise. CAR(-60,-2) is calculated in the same manner as CAR(0,1) only it is cumulated from trading-days -60 through -2. Standard errors are adjusted for heteroscedasticity following White (1980) and for clustering by firm and quarter following Petersen (2009). p-values are in parentheses.

Table 9. Cross-Sectional Regression Analysis of CARs on Tone Measures and Controls by Institutional Ownership Terciles

	Bottom IO Tercile	Top IO Tercile	Bottom IO Tercile	Top IO Tercile	Bottom IO Tercile	Top IO Tercile
	CAR(0,1)	CAR(0,1)	CAR(0,1)	CAR(0,1)	CAR(0,1)	CAR(0,1)
INTRO TONE	-0.07	-0.89				
	(0.95)	(0.50)				
MANAGER TONE	0.77	1.28				
	(0.45)	(0.27)				
I-INTRO TONE			6.93***	1.79		
			(0.00)	(0.28)		
I-MANAGER TONE			-0.94	0.64		
			(0.65)	(0.70)		
ΔINTRO TONE					1.64	0.16
					(0.70)	(0.94)
ΔMANAGER TONE					3.65	1.66
					(0.27)	(0.36)
ANALYST TONE	2.04*	6.28***	2.03*	6.47***		
	(0.06)	(0.00)	(0.07)	(0.00)		
ΔANALYST TONE					2.09	7.63***
					(0.20)	(0.00)
INTRO COUNT	-0.32*	0.33	-0.31*	0.31	-0.43	0.97
	(0.06)	(0.16)	(0.06)	(0.20)	(0.35)	(0.11)
MANAGER COUNT	0.02	-0.45	0.06	-0.43	0.62	-0.97
	(0.91)	(0.10)	(0.75)	(0.12)	(0.37)	(0.11)
ANALYST COUNT	-0.53	-0.95	-0.44	-0.95	-3.36*	-1.12
	(0.28)	(0.21)	(0.38)	(0.21)	(0.05)	(0.41)
SURP	0.22***	0.04	0.22***	0.04	-0.00	0.22
	(0.00)	(0.59)	(0.00)	(0.57)	(0.98)	(0.18)
SIZE	0.10	0.68*	0.09	0.65*	-0.19	0.41
	(0.50)	(0.06)	(0.55)	(0.07)	(0.79)	(0.69)
BM	-0.02	1.98*	-0.03	2.00*	0.46	1.08
	(0.38)	(0.09)	(0.27)	(0.07)	(0.90)	(0.67)
ROA	0.10	0.13	0.10	0.13	-0.00	0.11
	(0.20)	(0.17)	(0.20)	(0.17)	(0.97)	(0.63)
LEVERAGE	0.02**	0.01	0.03**	0.01	-0.05	-0.03
	(0.02)	(0.50)	(0.02)	(0.48)	(0.22)	(0.39)
VOLATILITY	-0.42	-0.22	-0.46	-0.21	1.27**	-0.23
	(0.17)	(0.66)	(0.14)	(0.67)	(0.05)	(0.82)
#ANALYST	0.71	2.26***	0.57	2.24***	2.46	4.71*
	(0.50)	(0.01)	(0.58)	(0.01)	(0.50)	(0.09)
REPORT	-0.63	-3.05***	-0.64	-2.88***	0.57	-0.79
	(0.25)	(0.00)	(0.27)	(0.00)	(0.78)	(0.83)
DIVIDEND	-0.73	-0.04	-0.69	-0.03	1.75	1.21
	(0.22)	(0.94)	(0.26)	(0.95)	(0.35)	(0.56)
CAR(-60,-2)	-0.01	-0.01	-0.01	-0.01	0.06	-0.05
	(0.48)	(0.81)	(0.60)	(0.82)	(0.60)	(0.16)
Intercept	-0.42	-6.04*	-0.08	-6.07**	-1.05	-9.60
	(0.81)	(0.05)	(0.96)	(0.05)	(0.87)	(0.49)
Observations	920	920	920	920	95	133
R-squared	6.37%	8.60%	7.29%	8.57%	16.34%	21.16%

***p<0.01, **p<0.05, *p<0.1

Notes: This table provides results for cross-sectional regressions of cumulative abnormal returns regressed on manager and analyst tone measures and controls, by high and low institutional ownership (IO) terciles. CAR(0,1) is the 2-trading-day cumulative abnormal return, in percent, where day 0 is the conference call date, where the abnormal returns are estimated using size-adjusted returns calculated as $AR_{j,t} = R_{j,t} - R_{p,t}$, where the abnormal return for firm *j* on day *t* is the difference between the return for firm *j* on day *t* and the mean return on day *t* for all firms in the same size decile as firm *j*. The TONE variables are calculated as the ratio of (Positive – Negative) / (Positive + Negative), where each category reflects the proportion of words as defined by the Loughran and McDonald (2011) dictionary. The variable modifiers INTRO, MANAGER, and ANALYST indicate that the referenced tone measures are for introductory managerial statements, managerial answers, and analyst questions, respectively. I-INTRO and I-MANAGER indicate managerial idiosyncratic tone measures following Huang, Teoh, and Zhang (2014). The Δ prefix indicates the difference between in a given tone measure in quarter τ and the same measure in quarter τ-1. COUNT is the number of words, in thousands, for a given portion of a conference call where the variable modifiers are as described above. SURP is the earnings surprise, in percent, calculated as {[EPS(qtr) – EPS(qtr-4)]/Stock Price(end of qtr-4)*100}. SIZE is the log of firm market capitalization from the previous quarter. BM is the ratio of book-to-market equity as of the end of the previous quarter. ROA represents return on assets, in percent, calculated as net income divided by total assets multiplied by one hundred. LEVERAGE is expressed in percent as the ratio of total liabilities to total assets multiplied by one hundred. VOLATILITY is in percent and is calculated as the standard deviation of daily returns for the ninety trading-days ending ten days prior to the conference call multiplied by one hundred. #ANALYST is the log of 1 plus the number of analysts who participate in a given call. REPORT is an indicator variable set equal to one if an analyst issued a report during the 2-trading-day window (0,1), and zero otherwise. DIVIDEND is an indicator variable equal to one if the firm pays dividends and zero otherwise. CAR(-60,-2) is calculated in the same manner as CAR(0,1) only it is cumulated from trading-days -60 through -2. Standard errors are adjusted for heteroscedasticity following White (1980) and for clustering by firm and quarter following Petersen (2009). p-values are in parentheses.

Table 10. Cross-Sectional Regression Analysis of CARs on Institutional Ownership Interacted with Tone Measures and Controls

	CAR(0,1)	CAR(0,1)	CAR(0,1)
INTRO TONE	0.06		
	(0.98)		
MANAGER TONE	1.18		
	(0.52)		
I-INTRO TONE		11.40**	
		(0.01)	
I-MANAGER TONE		-0.84	
		(0.80)	
ΔINTRO TONE			2.33
			(0.70)
ΔMANAGER TONE			2.79
			(0.57)
ANALYST TONE	-0.45	-0.39	
	(0.80)	(0.82)	
ΔANALYST TONE			-2.09
			(0.61)
IO*INTRO TONE	-0.10		
	(0.98)		
IO*MANAGER TONE	-0.22		
	(0.93)		
IO*I-INTRO TONE		-10.76*	
		(0.06)	
IO*I-MANAGER TONE		2.23	
		(0.61)	
IO*ΔINTRO TONE			-0.81
			(0.91)
IO*ΔMANAGER TONE			-0.77
			(0.89)
IO*ANALYST TONE	6.02**	6.08**	
	(0.01)	(0.01)	
IO*ΔANALYST TONE			6.13
			(0.22)
IO*SURP	-0.36***	-0.36***	-0.01
	(0.00)	(0.00)	(0.95)
SURP	0.35***	0.36***	0.14
	(0.00)	(0.00)	(0.50)
IO	0.84	0.76	1.09
	(0.52)	(0.30)	(0.57)
CONTROLS	Yes	Yes	Yes
Intercept	-1.98	-1.61	-4.12
	(0.13)	(0.27)	(0.28)
Observations	2,760	2,760	355
R-squared	5.81%	6.16%	7.47%

***p<0.01, **p<0.05, *p<0.1

Notes: This table provides results for cross-sectional regressions of cumulative abnormal returns regressed on the manager and analyst tone measures interacted with institutional ownership (IO), and controls. CAR(0,1) is the 2-trading-day cumulative abnormal return, in percent, where day 0 is the conference call date, where the abnormal returns are estimated using size-adjusted returns calculated as $AR_{j,t} = R_{j,t} - R_{p,t}$, where the abnormal return for firm *j* on day *t* is the difference between the return for firm *j* on day *t* and the mean return on day *t* for all firms in the same size decile as firm *j*. The TONE variables are calculated as the ratio of (Positive –

Negative) / (Positive + Negative), where each category reflects the proportion of words as defined by the Loughran and McDonald (2011) dictionary. The variable modifiers INTRO, MANAGER, and ANALYST indicate that the referenced tone measures are for introductory managerial statements, managerial answers, and analyst questions, respectively. I-INTRO and I-MANAGER indicate managerial idiosyncratic tone measures following Huang, Teoh, and Zhang (2014). The Δ prefix indicates the difference between in a given tone measure in quarter τ and the same measure in quarter τ-1. SURP is the earnings surprise, in percent, calculated as {[EPS(qtr) – EPS(qtr-4)]/Stock Price(end of qtr-4)*100}. IO is the number of shares owned by institutional investors divided by the number of shares outstanding. CONTROLS indicate that the same set of control variables used in prior tables were used here. Standard errors are adjusted for heteroscedasticity following White (1980) and for clustering by firm and quarter following Petersen (2009). p-values are in parentheses.