Accounting Qualitative Information in Conference Calls and Future Earnings

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ABSTRACT
In this paper, I predict that managers will frequently use accounting terms in voluntary disclosures when they possess positive private information. This disclosure strategy cannot be easily replicated by managers with negative private signals because information conveyed via accounting terms could be *ex post* verified and therefore carries reputation and litigation cost. I use a computer program to analyze the earnings call transcripts for managers' use of common accounting terms. I find that abnormal mentions of accounting terms are associated with higher future earnings, while controlling for the underlying quantitative accounting variables.

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1.   Introduction

In this study, I conduct a fundamental analysis of qualitative information extracted from earnings conference call transcripts. Drawing inference from prior theoretical and empirical works (Verrecchia, 1983; Dye, 1985; Rogers et al., 2011), I hypothesize that managers with positive private information will signal it to the public by frequently discussing accounting performance metrics (e.g., sales, gross margin, cash flows, etc.) in earnings conference calls. In other words, I expect that, incremental to the predictive ability of the accounting variables, managers' emphasis on these variables is informative. To measure the qualitative construct of disclosure intensity, I adopt a simple and intuitive approach that is in the spirit of the "find-all" or "highlight-all" function in modern word processors and web browsers. Specifically, I use a Perl program to count the occurrences of terms associated with common accounting metrics in the earnings call transcripts. I examine whether abnormally frequent accounting terms in earnings calls predict high future earnings.

Recent accounting studies examine linguistic characteristics of corporate disclosure language. While a handful of studies have examined the important issue of disclosure readability (Li 2008; Miller 2010; Lehavy, Li, and Merkley 2011) and tone (Li 2010a; Loughran and McDonald 2011; Davis, Piger, and Sedor 2012; Huang, Toeh, and Zhang 2014; Mayew, Sethuraman, and Venkatachalam 2015), relatively few have focused on detailed content of disclosures (Li 2006; Kravet and Muslu 2013, Merkly 2011; Li, Lundholm, and Minnis 2013). We seem to know less of what managers actually say (or omit) in disclosures than how they say it. In this study, I examine the managers' discussion of accounting performance metrics in earnings conference calls. I study earnings calls because of its open format, which allows managers more freedom in presenting information. Despite the name of such communication, earnings calls may or may not revolve around a discussion of earnings or other financial variables. Managers often discuss a variety of non-financial topics such as company background, product innovation, customer satisfaction, supplier relation, collaboration or competition, and marketing campaign, etc. in voluntary disclosures (Cole & Jones, 2005). In fact, the attention or focus given to earnings and other accounting metrics seems to be highly variable. While many calls are packed with accounting terms such as 'operating income', 'cost of goods sold', 'gross margin', 'S&AG', etc., a nontrivial portion of calls contains far fewer such keywords. For instance, the mention of operating income ranges from less than once every ten thousand words (25th percentile) to more than four hundred seventy times per ten thousand words (75th percentile) in my sample. In this study, I predict that this interesting difference in disclosure practices is because some managers observe positive private information while others do not.

Prior voluntary disclosure theories (Verrecchia, 1983; Dye, 1985) suggest that firms with sufficiently positive private news will disclose such information, while the ones with less favorable news will suppress it. In this study, I investigate a specific mechanism for managers to credibly disclose positive private news—by focusing on discussing accounting metrics. The logic is straightforward: optimistic predictions made in accounting terms, both explicit (e.g., sales will increase by 20%) and implicit ones (e.g., sales growth rate is 20% for the past five years), can be checked against the firm's future financial statements. Hence, opportunistic behaviors could be detected *ex post* and may carry reputation or litigation penalties.

The adverse reputational effect for overpromising future accounting performance is easily seen. Managers failing to meet expectations could be perceived as incompetent, which

hurts future career opportunities. In addition, money managers may choose to not follow the stocks of firms whose manager has a reputation of withholding information (Skinner, 1994). Undue managerial optimism could also lead to litigation. Although the Safe Harbor provision of the 1995 Private Securities Litigation Reform Act grants protection for voluntary disclosures, the provision does not completely shield firms from legal liability. In particular, the provision requires the disclosing manager to act in good faith. In practice, managerial incentives are unobservable. Oftentimes, innocuous disclosures could seem suspicious when "judged with the benefit of hindsight" (Rogers & Van Buskirk, 2009). For instance, Rogers et al. (2011) finds that class-action plaintiff attorneys target abnormally optimistic tone in earnings announcements for lawsuits, presumably because managers' claim of good faith is less plausible in the presence of overly optimistic language. Similarly, investors may perceive managers who overpromise on accounting performance to be opportunistic. This problem affects managers with positive information to a lesser degree, because they expect good future firm performance to meet the promised high expectation. Managers with negative signals, however, may incur significant expected costs for disclosing overly optimistic accounting predictions. Realizing this, managers with positive news could signal their information by putting even more emphasis on firms' accounting performance. In short, I expect the frequency of accounting-related discussion in earnings calls to be positively associated with future firm performance.[1] In particular, I predict when future earnings is high, managers use more accounting terms in earnings calls.

To empirically test this prediction, I construct a summary variable capturing managers' abnormal use of accounting terms from a large sample of earnings call transcripts.[2] Because the measure is constructed from textual data, I refer to it as the *word-score*. A higher word-score indicates more frequent use of accounting terms in earnings calls and a lower word-score indicates the opposite. I find that, as expected, the word-score positively predicts firms' earnings summing over future three years. I obtain this result while controlling for current quarters' accounting performance, suggesting that managers' emphasis on accounting variables carries information beyond what are captured by the underlying accounting numbers. In addition, I control for the earnings calls' linguistic characteristics such as tone and readability, suggesting that the word-score I constructed is not a simple proxy for these linguistic features.

This study makes several important contributions to the literature. First, the study extends the literature examining corporate disclosure text. The focus of the study, however, is considerably different from previous research on linguistic characteristics. In specific, I provide arguments for why the use of accounting terms is particularly informative, comparing to non-accounting language in earnings calls. I demonstrate that the constructed word-score capturing managers' use of accounting terms is incrementally informative over the linguistic variables. I believe that future research examining specialized language in disclosures, such as the accounting terms, will prove to be very fruitful.

Secondly, this study adds to the empirical research on managers' discretionary

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[1] I select earnings calls out of all voluntary disclosure channels because prior research finds earnings calls have an open format and therefore is a suitable context to study discretionary-disclosure behavior (Hollander, et al., 2010). In addition, Rogers et al. (2011) find that earnings call is the second most cited form of disclosure by the plaintiff's attorneys in class-action lawsuits.

[2] The measure takes into accounting the *normal* frequency of accounting words and terms in historical earnings calls by managers across firms of the same industry as well as analysts' mentions of accounting words and terms in the current earnings calls.

disclosure behavior. Voluntary disclosure theories (Verrecchia, 1983; Dye, 1985) predict that managers have an incentive to selectively disclose positive information and withhold negative news. This study extends this line of research by focusing on a specific mechanism that managers could use to credibly signal positive information in earnings calls. The results documented in this study are consistent with managers strategically using accounting terms in earnings calls.

Thirdly, this study extends the research of earnings calls as a specific voluntary disclosure channel. I find that managers' use of accounting words in earnings calls and especially in the presentation sessions is informative of future firm performance. This finding is consistent with the idea that managers strategically scripting the prepared remarks of presentations to signal private information.

The rest of the study is organized into five chapters. Section 2 discusses prior literature and develops hypotheses. Section 3 describes research design and sample selection process. Section 4 reports my main empirical findings. Section 5 presents additional analysis results. Section 6 concludes the study.

2.   Literature Review and Hypothesis Development
2.1   Voluntary disclosure and firm performance

Classic disclosure theories suggest that managers will be forced to fully disclose their private information because nondisclosure will raise suspicion and prompt investors to discount stock prices. The prices will continue to fall until the withheld information is eventually released (Grossman, 1981; Milgrom, 1981). Discretionary disclosure theories argue, however, that partial disclosure is expected in the presence of disclosure-related costs (Verrecchia, 1983; Dye, 1985). In general, these studies suggest that firms with sufficiently favorable news will disclose such information, while firms with less favorable news will suppress it. Empirical research finds some support for the *partial disclosure hypothesis*. For example, Lang and Lundholm (1993) find that managers are more forthcoming when the performance of the firm is high. Schrand and Walther (2000) find that managers strategically disclose the lowest prior period earnings benchmark against which current earnings is to be evaluated. Li (2008) finds that firms with more persistent positive earnings issue more readable annual reports. Hollander et al. (2010) document that managers regularly turn down analyst questions in earnings conference calls, and the stock markets interpret this as negative news.

On the other hand, managers' concerns over litigation and reputation may also affect disclosure decisions. Early studies argue that litigation concerns trigger timely release of negative news but find mixed evidence supporting the hypothesis (Skinner, 1994; Francis et al., 1994; Skinner, 1997). More recently, studies show that litigation has a deterrent effect on voluntary disclosures. For instance, Rogers and Van Buskirk (2009) find that firms reduce the frequency of earnings conference calls and provide more qualitative earnings forecasts after being subject to class-action lawsuits. Rogers et al. (2011) analyze the relation between the tone of disclosures and litigation, in which they find that class-action plaintiffs quote optimistic statements in lawsuits and that sued firms include more optimistic language in earnings announcements than do nonsued firms.

2.2 Measuring disclosure with textual analysis technologies

Recent literature utilizes computer-based technologies to study information

contained in the textual data from media reports, corporate disclosures, investor message boards, etc.[3] The majority of these studies in the accounting research area examines the linguistic characteristics (i.e., readability and tone) of corporate disclosures. Li (2008), a pioneering paper in this area, finds that the annual reports of firms with lower earnings are harder to read and that firms with more readable annual reports have more persistent positive earnings. Miller (2010) finds that firms with less readable annual reports are traded less by small investors around the 10-K filing date. Lehavy et al. (2011) report higher demand of analyst reports for firms with less readable 10-Ks.

There is also a large body of studies examining the *tone* or *sentiment* of corporate disclosures. For instance, Li (2010a) uses a Naïve Bayesian machine learning algorithm to study forward-looking statements (FLS) in the Manager's Discussion and Analysis section (MD&A) of 10-K and 10-Q filings. The author finds that the average tone in FLS is positively associated with future earnings. Loughran and McDonald (2011) develop sentimental word lists and find that their lists outperform those from psychology studies in financial contexts. Davis et al. (2012) find that optimistic tone in earnings press releases is positively associated with future return on assets, and the stock market responds to the textual tone in earnings press releases. Huang et al. (2014) find, however, that abnormal optimistic tone suggests poor future performance. Mayew et al. (2015) document that the tone of the MD&A section of a firm's 10-K filings has incremental explanatory power in predicting the firm's going-concern problem.

A third stream of the literature investigates the content of disclosures. Some studies in this category use the length or size of disclosure (Peterson, 2008; You & Zhang, 2009, Miller, 2010) to proxy for reporting complexity (Li, 2010b) and thus overlap with the readability literature. Another popular approach is to compare word choices between current and past disclosures to discover *new* information contained in the current report. For example, Brown and Tucker (2011) study the year-over-year change in firms' Management Discussion and Analysis (MD&A) sections of their 10-K reports and find that modifications are more closely associated with changes in liquidity and capital resource than with changes in operations. They show that the stock markets react more to 10-Ks when MD&A is modified to a larger degree. Perhaps most related to this project, a few studies examine the usage of *specialized language* in disclosures. Li (2006) measures risk disclosures by counting the frequency of risk- and uncertainty-related words ("risk," "risks," "risky," "uncertain," "uncertainty," and "uncertainties") in 10-K filings. He finds that an increase in risk disclosures is associated with lower future earnings and a negative market response to 10-Ks. Kravet and Muslu (2013) document that an increase in risk disclosures is associated with high stock volatilities and trading volumes. Merkley (2011) studies firms' disclosure on research and development (R&D) activities in 10-Ks and finds that R&D disclosures are negatively associated with firms' current earnings performance. Li et al. (2013) develop a firm-level measure of competition based on the frequency of competition-related keywords in the 10-K report. Muslu et al. (2015) find that firms use more forward-looking words ("will," "future," "next fiscal," "anticipate," "expect," etc.) in MD&As when stock prices have low informational efficiency.

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[3] The textual analysis can be broadly defined as using a computer-based program to parse patterns in text. The technologies are often labeled by alternative names such as computational linguistics, natural language processing, information retrieval, content analysis, or stylometrics in different disciplines (Loughran & McDonald, 2015).

This study has several important distinctions from prior textual analysis literature. First, this study falls into the category of research that examines the specialized language of disclosures, therefore investigating a dimension of qualitative information different from linguistic characteristics. Secondly, although there are a few studies examining operation-related language (Li, 2010a; Merkley, 2011; Muslu et al., 2015), they usually either focus on one aspect of the operation (e.g., competition, risk, R&D, etc.) or do not examine operation-related keywords or terms in their main analysis. I investigate the words and terms associated with 10 accounting metrics; hence, the spectrum of analysis is broader than that of studies focusing on a single operation aspect. Additionally, my analysis examines exclusively accounting words, among all operation-related keywords or terms (e.g., "demand," "product," "employee," "risk," "competition," etc.). This narrow focus is well motivated by both disclosure theories and prior empirical findings. In particular, I predict that frequent use of accounting terms reveals private managerial information. The next section discusses the hypothesis development in more detail.

2.3 Accounting words in earnings calls and relation to future earnings

My first research question is whether managers' use of accounting terms could predict firm's future earnings. As discussed above, the discretionary disclosure theories (Verrecchia, 1983; Dye, 1985) suggest that only managers with positive private signals will voluntarily disclose. In this study, I examine a specific mechanism that managers could use to credibly signal their private information: I predict that managers with positive news will provide extensive optimistic discussion of key accounting metrics. This is because (a) there is little incentive to provide pessimistic discussions when the manager observes positive private signals and (b) truthfully disclosure of positive news likely incurs low litigation and reputation costs. On the other hand, I do not expect managers with negative news to emphasize accounting metrics during earnings calls. While some managers may choose to preempt bad news, it is unclear why it is necessary to put extra emphasis on such information. Simply disclosing the news may be enough to reduce the risk of litigation. In addition, investors are quite sensitive to negative information. Emphasizing bad news may lead to an overreaction, which would be quite an undesirable outcome for distressed firms.[4] Therefore, I do not expect managers with negative signals to extensively discuss accounting metrics in a pessimistic manner. It is also not likely managers with negative news will provide extensive optimistic discussion regarding accounting metrics, because such statements are likely proven wrong in following periods. Undue optimism may invite litigation (Rogers et al. 2011). In addition, managers worrying about human capital should refrain from appearing opportunistic or, even worse, incompetent. Moreover, managers with negative news may simply lack the ability to disclose convincing and detailed positive accounting signals. To sum up, I expect only managers with positive private signals to extensively discuss accounting metrics in earnings calls. In other words, the frequency of accounting-related discussion could be used to unmask managerial private information. If managerial signals are good indicators of future firm performance, I expect usage of accounting terms to be associated with future earnings. Below, I formally state my hypothesis.

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[4] Skinner (1994) predicts that bad news information will be preempted smoothly to avoid sudden price drop and potential litigation. By the same token, I expect pessimistic discussion of accounting news to be gradually released rather than being clustered in one earnings call.

Hypothesis: **The abnormal frequency of managers' use of accounting terms in earnings conference calls is positively correlated with firms' future earnings.**

There are a few caveats to the above arguments. First, I assume that managers with negative news may preempt but would not emphasize such information.[5] If managers systematically disclose bad news with extra emphasis, the relation predicted may be weakened or even reversed. Secondly, I do not distinguish between forward-looking or historic accounting information. I assume that all discussion of historic accounting metrics in a voluntary disclosure context potentially serves a forecasting role (e.g., sales has grown at 20% for the past five years). If this simplified assumption does not hold, I should be less likely to document statistically significant results. A third caveat is that managers' predictions regarding accounting metrics are often qualitative in nature (e.g., sales will increase). To the extent that qualitative predictions set easy-to-reach targets for future periods, they are less costly to make. I do not make distinction between usage of accounting terms in qualitative context versus that in quantitative context in my main analysis.[6] I argue, however, that even qualitative statements may carry high costs. This is because predicting the future is difficult, and firms do miss qualitative targets in reality. For instance, Burgstahler and Dichev (1997) find that firms manage earnings to avoid accounting losses, suggesting that a nontrivial portion of firms miss the target of booking a net profit (before manipulation).[7] Rogers et al. (2011) observe that the legal consequence for missing qualitative targets is fairly uncertain with rulings both in favor of and against the disclosing firm. Therefore, in the main analysis, I adopt a simplified assumption that all accounting terms have the same implication, which would bias against finding statistically significant results. In the end, whether frequent discussion of accounting metrics predicts high future firm performance is an empirical question, to which this study is dedicated.

3.   Research Design and Sample Selection Process
3.1 Measuring managers' discussion of accounting metrics

I measure the frequency of managers' discussion of accounting metrics in two stages. In the first stage, I separately calculate the abnormal frequency of each accounting metric studied in this paper. In the second stage, the abnormal counts are summarized into a single variable, word-score (*WSCORE*). The first stage is depicted in Figure 1. The full process is described below in detail.

As a first step of the first stage, I identify ten commonly examined accounting metrics from prior literature (Ou & Penman, 1989a, b; Lev & Thiagarajan, 1993; Abarbanell & Bushee, 1997, 1998; Piotroski, 2000): (1) operating income (*EARN*), (2) revenues and sales (*SALES*), (3) margin ratios (*MARGN*), (4) inventories and cost of goods sold (*COGS*), (5)

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[5] One potential reason why the manager may offer extensive pessimistic discussion of accounting metrics is to temporarily deflate stock price before equity awards (Aboody & Kasznik, 2000).

[6] In additional analysis, I do find extensive use of accounting terms in quantitative context is better predictor of high future earnings compared with extensive use in qualitative context.

[7] While firms may meet qualitative targets with manipulation, an easier and less costly solution is to simply avoid setting such target or to at least put less emphasis on it.

Figure 1. Measuring the Extent of Manager's Discussion Regarding the Accounting Metric X in the Conference Call (CC) Transcript
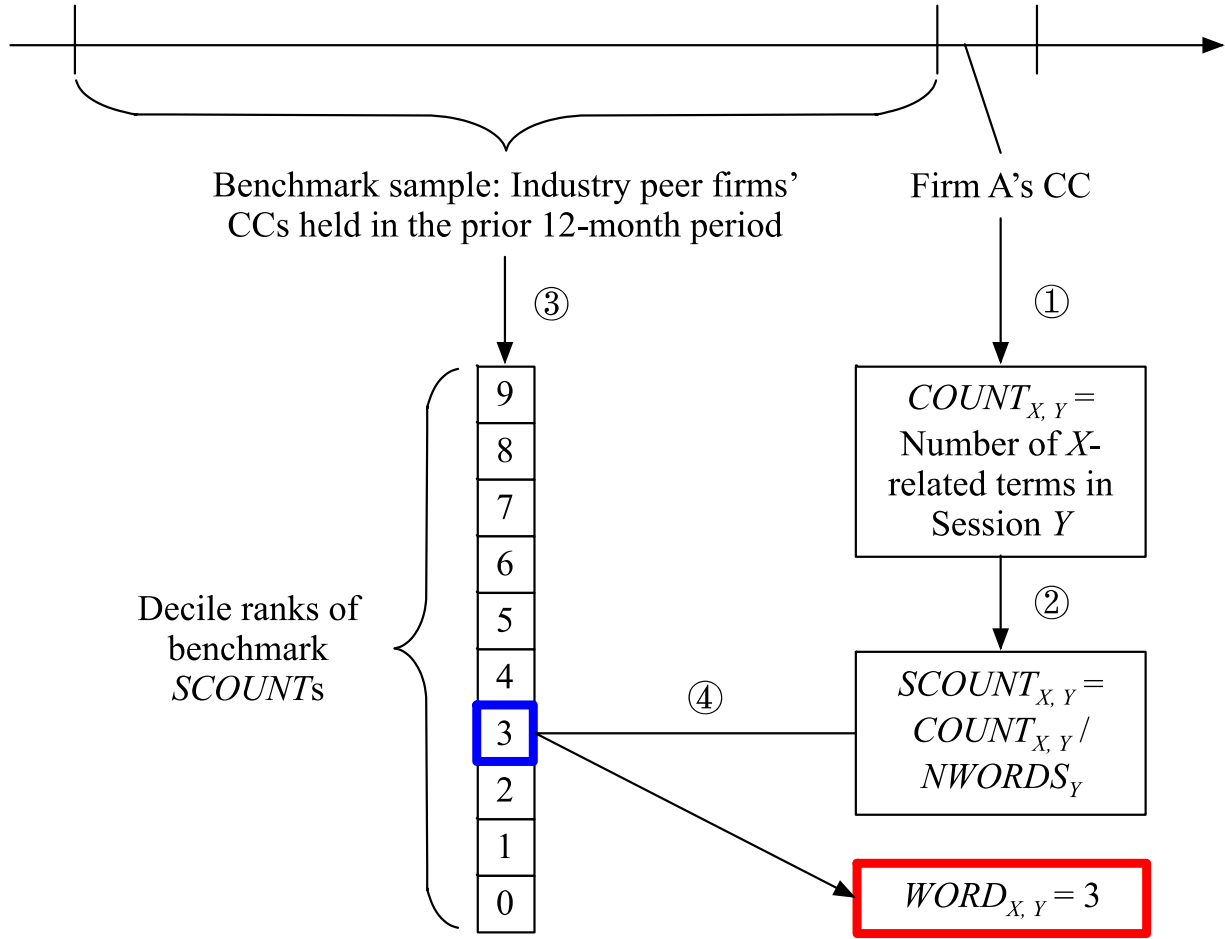
Note: This figure provides an example of how I measure manager's discussion of the accounting metric X and derive the respective word signal ($WORD_{X, Y}$) from an earnings conference call (CC) transcript of a given firm (Firm A). X is either *EARN*, *SALES*, *MARGN*, *INVN*, *RECV*, *SG&A*, *TAX*, *CASH*, *DEBT*, or *CAPEX*. Y is either the presentation session (*PRES*), the Q&A session (*Q&A*), or both sessions (*ALL*) of the conference call.

Specifically, I follow the four steps outlined below (also marked in the figure by circled numbers):

1) First, I count X-related word and terms in managers' speech in session Y. I subtract from the number the word count in analysts' speech in the session to derive the net count ($COUNT_{X, Y}$).

2) $COUNT_{X, Y}$ is scaled by the total number of words in session Y ($NWORDS_Y$) to derive the scaled count ($SCOUNT_{X, Y}$).

3) I identify industry peer firms' conference calls held in the prior 12-month period as a benchmark sample. I calculate the scaled counts of X-related terms in the benchmark sample using the same method (benchmark $SCOUNT$s).

4) I assign $SCOUNT_{X, Y}$ to a decile rank based on the decile cutoffs in the benchmark $SCOUNT$s.

The *WORD*$_{X, Y}$ signal is the decile rank number (0…9) so assigned.

selling, general, and administrative expenses (*SG&A*), (6) receivables (*RECV*), (7) tax expense and tax rate (*TAX*), (8) cash flows (*CASH*), (9) debt and liquidity (*DEBT*), and (10) capital expenditures (*CAPEX*).[8] For each metric, I compile a list of associated accounting words and terms. I then count the occurrence of these words and terms in the entire earnings call (or the presentation/Q&A session). For example, to measure the extent of discussion related to debt and liquidity, I count the terms "debt[s]," "leverage[s]," "liquidity," "liquidities," "interest exp," "interest expense[s]," "interest cost[s]," "interest coverage[s]," "coverage ratio[s]," "times of interest[s]," etc.[9] Only the keywords mentioned by managers are counted. In addition, to control for the mentions as a response to analysts' question, I further subtract analysts' mentions of the same terms from managers' word counts. Next, the raw count is scaled by the total number of words in the entire call (or the appropriate session).[10] Finally, I transform the scaled count into *within-industry* decile-ranks, where the decile cutoffs are set by the benchmark sample of industry earnings calls held in the previous 12 months.[11] These steps produce ten variables measuring managers' abnormal mentions of the ten accounting metrics selected, respectively. I refer to these variables as the word signals (*WORD*$_X$s).[12] The full list of selected accounting metrics and the associated keywords and terms are provided in Appendix A.

In the second stage, I summarize the collective information in all ten signal variables into a single variable, the word-score (*WSCORE*).[13] Without assuming any specific function form, the word-score is simply the sum of all word signals transformed into the within-month decile ranks.[14]

$$WSCORE = \delta(WORD_{EARN} + WORD_{SALES} + WORD_{MARGN} \\ + WORD_{INVN} + WORD_{RECV} + WORD_{SG\&A} \\ + WORD_{TAX} + WORD_{CASH} + WORD_{DEBT} \\ + WORD_{CAPEX})$$

where δ is the within-month decile rank transformation operator.

I recognize that this "bag of words" or "dictionary" approach introduces the researcher's subjective bias into the study.[15] However, this method has the advantage of being extremely simple, parsimonious, and replicable. Loughran and McDonald (2015) point

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[8] I provide some examples of use of accounting metrics in earnings calls in Appendix B.

[9] The square parentheses indicate that both the term with and without the letters inside the parentheses are searched. For example, "debt[s]" means that both "debt" and "debts" are searched in the transcripts.

[10] In additional analysis, I test a specification without scaling.

[11] I require a minimum of five observations in the benchmark sample, otherwise the word signal is not assessed for the firm-quarter.

[12] *X* is one of the following: *EARN*, *SALES*, *MARGN*, *INVN*, *RECV*, *SG&A*, *TAX*, *CASH*, *DEBT*, *CAPEX*.

[13] In the main analysis, I use three basic variations of *WSCORE* based on the entire earnings call, the presentation session of the call, or the Q&A session of the call, respectively.

[14] The *within-month* decile rank transformation means that the decile rank cutoffs are separately set in the subsamples of earnings calls held in the same calendar month.

[15] In the case of the current study, it is really a "bag of terms" method. Focusing on terms rather than simple words increases the accuracy of the program. For example, "interest expense" is much more precise than the word "interest," which also appears in sentences such as "he developed an interest in art."

out that one drawback for more advanced techniques is that many such approaches appear to be a "black box" process, and the empirical results so obtained are difficult to replicate. In contrast, the dictionary approach is transparent and consistent. Intuitively, this approach mirrors the "highlight all" or "find all" function available in most modern web browsers and word processors. If investors use these software features to navigate through lengthy disclosures, this approach has the advantage of being consistent with their information discovery process. Operationally, given the same list of search terms, different researchers could consistently extract equivalent information from the saved disclosures.[16] In addition, in this study, I focus exclusively on accounting terms, which are relatively well-defined concepts. For example, there is perhaps little ambiguity over the meaning of the term "interest expense" or "cost of goods sold." This reduces measurement errors associated with the dictionary approach in my context. Lastly, measurement errors increase the noise in word signals and bias against finding statistically significant results.

3.2 Sample selection process

Table 1 presents the sample selection process. I start by downloading all articles dated between January 1, 2007, and December 31, 2011 from the transcript center of the *SeekingAlpha.com* website.[17] I use a Perl program to parse the downloaded file and delete articles that either do not represent an earnings call transcript or cannot be reliably parsed. The detailed process is provided in Appendix D. After the deletion, I am left with an initial sample of 33,756 observations.

Table 1: Sample Selection Process

	Number of Observations
Transcripts of conference calls dated between January 1st, 2007 to December 31st, 2011 downloaded from SeekingAlpha.com	33,756
Merge with Compustat Quarterly to add financial variables	(3,169)
Delete utility (SIC code 40-49) and financial (SIC code 60-69) industries firms	(8,137)
Delete observations do not have a minimum number of required Compustat, I/B/E/S, and CRSP items	(6,274)
Final sample	16,176
Unique firms	2,068

Note: This table presents the sample selection process. Some analysis requires additional variables and leads

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[16] The exact word or term counts may be slightly different because of minor coding differences (for example, how the raw HTML files are converted, how sentences are broken up, etc.), but the information obtained using the dictionary approach should be fundamentally the same.

[17] The newest transcripts I initially obtained are from September 19, 2014, when the data is collected. But since my research design requires three-year-ahead earnings and stock return data, earnings calls held on and after January 1, 2012, are not used in the analysis. In addition, I use earnings calls from the previous 12 months as benchmark to assess the extent of discussion in the current period's earnings calls, so although I also obtain transcripts of 2006 calls, these observations are not included in the final sample.

to a further drop in sample size.

I then merge Compustat quarterly financials into the dataset. Because of imperfect mapping, I lose 3,169 observations in this process. I exclude 8,137 observations of firms in the financial and utilities industries (SIC two-digit code ranges of 60–69 and 40–49, respectively) because operations are fundamentally different for these firms. I acquire analyst forecast data from I/B/E/S and stock returns from the CRSP dataset. Fama-French risk factors are obtained from Kenneth French's website. I require each observation to meet the minimum Compustat, I/B/E/S, and CRSP item requirement in my analysis, which leads to a sample size reduction of 6,274 observations. Some analysis in the study has additional data requirements and leads to further loss of observations. Finally, I acquire the Loughran and McDonald word lists (Loughran & McDonald, 2011) from the authors' website. I use the word lists to assess the tone of my earnings call transcript. This step does not eliminate any observations from the study. My final sample includes 16,176 unique earnings calls, representing a total of 2,068 unique firms.[18]

4.   Empirical analysis
4.1   Descriptive statistics

Table 2 presents the descriptive statistics for variables used in this study. Panel A reports the counts of words and terms associated with accounting metrics, words with positive and negative tones, and competition- and risk-related words in the earnings call transcripts. Keywords associated with accounting metrics are provided in Appendix A. The positive, negative, risk, and competition words are defined as in Loughran & McDonald (2011) and are obtained from the authors' website. The word counts are scaled by the total number of words (in thousands). On average, the earnings call transcripts in my sample are composed of approximately 8,000 words, including both the presentation and Q&A sessions. In later analysis, I also count accounting metrics keywords separately from managers' presentation and the Q&A session. While previous studies find Q&A session to be informative, the hypothesis for this study may best fit the presentation session. This is because managers' presentations are typically scripted prior to the earnings call with careful selection of words; whereas managers' response to analysts' questions is spontaneous and may be less suitable as a signaling device. On the other hand, even in Q&A sessions, anecdotal reading of the earnings call transcripts in my sample seems to suggest that managers often circle back to prepared talking points, which may amplify the signals carried in scripted presentations. Ultimately, whether the presentation and/or Q&A sessions are used to signal future earnings news is an empirical question. Therefore, I include test variables based on both the presentation and Q&A sessions in my regression analysis.

Among the accounting metrics, sales and margins are most frequently discussed, with at least one mention each per one thousand words. The least discussed metric is receivables, which are mentioned 0.13 time per thousand words. There are roughly 17 (14) words with a positive (negative) tone per one thousand words in the transcript. Risk and competition words are mentioned 0.63 and 0.37 time per thousand words. Finally, the average future earnings summing over next three years are about 27% of the current market value of the firm.

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[18] I require 36-month buy-and-hold return data in some tests, which leads to additional reduction in the sample size.

Table 2: Summary Statistics

	(1) N	(2) Mean	(3) Std. Dev.	(4) 25th Percentile	(5) Median	(6) 75th Percentile
Panel A: Textual characteristics of the conference calls:						
$SCOUNT_{EARN, ALL}$	16,176	0.33	0.50	0.00	0.13	0.47
$SCOUNT_{SALES, ALL}$	16,176	4.10	4.32	2.14	3.74	5.54
$SCOUNT_{MARGN, ALL}$	16,176	1.06	1.14	0.27	0.87	1.59
$SCOUNT_{INVN, ALL}$	16,176	0.55	0.79	0.00	0.26	0.78
$SCOUNT_{RECV, ALL}$	16,176	0.13	0.26	0.00	0.00	0.17
$SCOUNT_{SG\&A, ALL}$	16,176	0.19	0.33	0.00	0.00	0.29
$SCOUNT_{TAX, ALL}$	16,176	0.59	0.68	0.12	0.42	0.83
$SCOUNT_{CASH, ALL}$	16,176	0.39	0.49	0.00	0.26	0.59
$SCOUNT_{DEBT, ALL}$	16,176	0.73	2.11	0.20	0.51	1.02
$SCOUNT_{CAPEX, ALL}$	16,176	0.22	0.32	0.00	0.14	0.34
$SCOUNT_{POSTONE}$	16,176	17.09	4.43	13.95	16.67	19.80
$SCOUNT_{NEGTONE}$	16,176	13.86	3.48	11.42	13.44	15.82
$SCOUNT_{COMPETE}$	16,176	0.63	0.63	0.17	0.47	0.90
$SCOUNT_{RISK}$	16,176	0.37	0.36	0.14	0.29	0.49
NWORDS	16,176	7.59	2.22	6.01	7.69	9.07
Panel B: Other variables:						
FUTEARN	16,176	0.27	0.47	0.11	0.27	0.42
EARN	16,176	0.01	0.05	0.01	0.02	0.03
SALES	16,176	0.38	0.58	0.09	0.19	0.41
MARGN	16,094	0.29	1.21	0.24	0.40	0.59
INVN	15,831	0.18	0.38	0.01	0.06	0.18
RECV	16,008	0.19	0.41	0.04	0.09	0.21
SG&A	15,460	0.08	0.11	0.02	0.05	0.09
TAX	16,163	0.23	0.35	0.09	0.30	0.37
CASH	15,916	0.03	0.07	0.01	0.02	0.04
DEBT	15,556	0.21	0.20	0.02	0.17	0.31
CAPEX	15,898	0.02	0.03	0.00	0.01	0.02
UE	16,154	-0.00	0.03	-0.00	0.00	0.00
ABCAPEX	15,898	0.01	0.03	-0.00	-0.00	0.01
SIZE	16,176	7.33	1.79	6.00	7.35	8.54
MTB	16,176	3.00	4.11	1.31	2.16	3.63
#ANALYST	16,176	10.28	7.10	5.00	9.00	15.00

Note: This table summarizes the descriptive statistics of the variables used in the study. All continuous variables are Winsorized at the 1 and 99 percentile.

4.2 The effect of word-scores on future earnings

To evaluate word-scores' effects on future earnings, I estimate equations 1 and 2 below. The dependent variable, $FUTEARN = \sum_{n=1}^{12} EARN_{t+n}$, is the three-year-ahead aggregated earnings (quarters $t+1$ to $t+12$) of the firm. Though I predict extensive use of accounting terms suggest future benefits, it is hard to pinpoint the accounting period where such benefits will realize. Many discussions in earnings call tend to have long-term effect on the firm. For example, a new contract could positively affect sales and cash flows for the next few years. An upgrade to a new inventory system may result in upfront costs but savings in the long run.[19] Therefore, I focus on the long-term firm performance and use aggregated earnings as the dependent variable. The test variable $WSCORE_{ALL}$ is the word-score derived

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[19] Additional examples of earnings call discussion are provided in Appendix B.

from the transcript of the entire earnings call and $WSCORE_{PRES}$ ($WSCORE_{Q\&A}$) is derived from only the presentation (Q&A) session's transcript. The prediction of Hypothesis 1 is that $\beta_{11} > 0$ and $\beta_{21}, \beta_{22} > 0$.

$$FUTEARN = \beta_{10} + \beta_{11}WSCORE_{ALL} + \gamma(EARN_t$$
$$+ Accounting\ numbers + Additional\ controls) \qquad (1)$$
$$+ e$$

$$FUTEARN = \beta_{20} + \beta_{21}WSCORE_{PRES} + \beta_{22}WSCORE_{Q\&A}$$
$$+ \gamma(EARN_t + Accounting\ numbers \qquad (2)$$
$$+ Additional\ controls) + e$$

Where γ is a vector of coefficients for control variables.

I control for current quarter's accounting performance, including operating income (*EARN*), sales (*SALES*), gross margin (*MARGN*), inventories level (*INVN*), SG&A expense (*SG&A*), receivables (*RECV*), effective tax rate (*TAX*), cash flows from operation (*CASH*), total-debt-to-assets ratio (*DEBT*), and capital-expenditure-to-market-cap ratio (*CAPEX*). I also include a loss indicator (*LOSS*) in the regression. Additional controls include the natural logarithm of the total assets (*SIZE*), market-to-book value of equity (*MTB*), the number of analysts following the firm (*#ANALYST*), and litigious operating environment (*LITIGIOUS*). I control for the complexity of the earnings call by including the total number of words in the transcript (*NWORDS*). I control for indicators of high proportion of negative tone (*NEGTONE*), positive tone (*POSTONE*), risk-related words (*RISK*), and competition-related words (*COMPETE*) in the transcript. The definitions of all variables can be found in Appendix D. Each regression also includes the fixed effects of the calendar year, fiscal quarter, and two-digit SIC industry classification. Standard errors are clustered at the firm level.

Table 3 represents the result of regressing future earnings on the word-scores (equations 1 and 2). In column 1, I find that abnormal mentions of accounting terms in earnings call is informative of firms' future earnings as the coefficient on $WSCORE_{ALL}$ is positive and significant. In column 2, I test the effect of alternative word-score specifications, $WSCORE_{PRES}$ and $WSCORE_{Q\&A}$. I find that coefficients for both $WSCORE_{PRES}$ and $WSCORE_{Q\&A}$ are positive and significant, suggesting that managers' use of accounting terms in both the presentation and Q&A sessions is informative of firms' future earnings.

In summary, I document evidence supporting Hypothesis 1. I show that managers' use of accounting terms in earnings calls is positively associated with firm's future earnings. The results are obtained after controlling for the tone (*POSTONE* and *NEGTONE*) and complexity (*NWORDS*) of language in the earnings calls. This suggests that the effect of accounting words is another dimension of qualitative information besides linguistic characteristics.

Table 3: The Effect of *WSCORE*s on Future Earnings

Word-scores:	Pred. Sign	Dependent Variable: Earnings Aggregated over +1 to +12 Quarters	
		(1)	(2)
WSCORE$_{ALL}$	+	0.08**	
		(2.21)	
WSCORE$_{PRES}$	+		0.10***
			(2.81)
WSCORE$_{Q\&A}$	+		0.05*
			(1.91)
Accounting controls:			
EARN$_t$		0.29***	0.29***
		(7.53)	(7.52)
SALE$_t$		0.16***	0.16***
		(2.93)	(2.93)
MARGN$_t$		-0.23***	-0.22***
		(-2.90)	(-2.85)
INVN$_t$		-0.03	-0.03
		(-0.39)	(-0.44)
RECV$_t$		0.34***	0.34***
		(6.09)	(6.12)
SG&A$_t$		-0.03	-0.03
		(-0.68)	(-0.66)
TAX$_t$		0.02*	0.01*
		(1.87)	(1.80)
CASH$_t$		0.06***	0.06***
		(2.87)	(2.88)
DEBT$_t$		0.16***	0.16***
		(6.81)	(6.76)
CAPEX$_t$		-0.00	-0.00
		(-0.05)	(-0.03)
Additional controls:			
SIZE		0.05***	0.05***
		(2.72)	(2.76)
MTB		0.02*	0.02*
		(1.87)	(1.94)
#ANALYST		0.01	0.01
		(0.89)	(0.83)
NWORDS		-0.04**	-0.04***
		(-2.49)	(-2.90)
LOSS		-0.23***	-0.23***
		(-5.72)	(-5.61)
LITIGIOUS		-0.01	-0.01
		(-0.24)	(-0.14)
NEGTONE		0.02	0.01
		(0.95)	(0.87)
POSTONE		0.03*	0.03*
		(1.71)	(1.74)
COMPETE		0.00	0.00
		(0.06)	(0.08)
RISK		-0.06***	-0.05**

	(-2.68)	(-2.52)
Constant	-0.49**	-0.52**
	(-2.40)	(-2.55)
Year Effects	Yes	Yes
Fiscal Quarter Effects	Yes	Yes
Industry Effects	Yes	Yes
Adjusted R^2	0.400	0.400
Observations	14,143	14,143

Note: The table reports results of regressing three-year-ahead aggregated future earnings on word-scores (*WSCORE*s). $WSCORE_{ALL}$ is the within-month decile rank of word signals based on managers' speech in both the presentation and Q&A sessions ($WORD_{X, ALL}$s). $WSCORE_{PRES}$ and $WSCORE_{Q\&A}$ are the within-month decile rank of word signals based on managers' speech in only the presentation ($WORD_{X, PRES}$s) and Q&A session ($WORD_{X, Q\&A}$s), respectively. All regressions include the additional controls of *SIZE*, *MTB*, *#ANALYST*, *NWORDS*, *LOSS*, *LITIGIOUS*, *NEGTONE*, *POSTONE*, *COMPETE*, and *RISK*. All variables are defined in Appendix D. All continuous variables are Winsorized at the 1 and 99 percentile. The future earnings and all continuous control variables are standardized. The t-statistics are reported in the parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively (two-tailed).

5.   Additional analysis
5.1 The effects of individual word signals on future earnings

In the main analysis, I focus on testing the association of word-scores with future earnings. In this section, I examine the association between individual word-signal variables ($WORD_X$) and future earnings. I note that word-score is likely a better indicator of managerial private information because it considers managers' discussion in multiple accounting categories while each word signal variable only capture discussion of a single aspect.

I estimate equations 8 and 9, which include one word signal at a time. I predict that the word signals are positively associated with future earnings, i.e., $\beta_{81} > 0$ and $\beta_{91}, \beta_{92} > 0$.

$$FUTEARN = \beta_{80} + \beta_{81}WORD_{X,ALL} + \gamma(EARN_t + Accounting\ numbers + Additional\ controls) \quad (8) + e$$

$$FUTEARN = \beta_{90} + \beta_{91}WORD_{X,PRES} + \beta_{92}WORD_{X,Q\&A} + \gamma(EARN_t + Accounting\ numbers + Additional\ controls) \quad (9) + e$$

Where γ is a vector of coefficients for control variables.

The test variable, $WORD_{X, Y}$, is the word signal of accounting metric *X* based on the *Y* session of earnings call. Specifically, the test variables are: (1) word signal of the operating income ($WORD_{EARN, Y}$), (2) word signal of sales and revenue ($WORD_{SALES, Y}$), (3) word signal of margin ratios ($WORD_{MARGN, Y}$), (4) word signal of inventories and COGS ($WORD_{INVN, Y}$), (5) word signal of SG&A ($WORD_{SG\&A, Y}$), (6) word signal of accounts receivables ($WORD_{RECV, Y}$), (7) word signal of tax expense and benefit ($WORD_{TAX, Y}$), (8) word signal of cash flows ($WORD_{CASH, Y}$), (9) word signal of debt and capital resources ($WORD_{DEBT, Y}$), and (10) word signal of capital expenditures ($WORD_{CAPEX, Y}$). *Y* is either *ALL* (entire call), *PRES*

(presentation session), or *Q&A* (Q&A session).

In each regression, I include current quarter's accounting variables (*EARN*, *SALES*, *MARGN*, *INVN*, *SG&A*, *RECV*, *TAX*, *CASH*, *DEBT*, or *CAPEX*). Additional controls include *SIZE*, *MTB*, *#ANALYST*, *LOSS*, *LITIGIOUS*, *NWORDS*, *NEGTONE*, *POSTONE*, *RISK*, and *COMPETE*. Each regression also includes the fixed effects of the calendar year, fiscal quarter, and two-digit SIC industry classification. I cluster standard errors at the firm level.

I estimate equations 8 and 9 and report the results in Table 4. To help the interpretation of results, the dependent variable and all continuous control variables are standardized, and the word signals are scaled by 1/9 to fall between 0 and 1. As predicted, in Panel A, I find that 9 out of 10 word signals based on the managers' speech in the entire call are positively associated with future earnings and 5 of the coefficients are significant at conventional level or above. In Panel B, I find that the abnormal mentions of accounting terms in the presentation sessions are mostly informative. On the other hand, in the Q&As, only managers' discussion related to operating income and tax seem to predict future earnings. This is not entirely surprising as the managers have more control over the presentations than the Q&As. In addition, as I net managers' word counts with analysts' word counts of the same category in Q&As, which is a simplified and assumed function form, the word-score of Q&As could contain more measurement error than that that of presentations, which is not modified for analysts' speech.

5.2 Alternative word-score specifications

In the main analysis, I derive word-scores from the accounting word counts scaled by the total number of words in the transcript of the entire call (or the relevant session). In this session, I re-conduct the future earnings and returns regression analysis with word-scores based on unscaled accounting word counts. The results are reported in Table 5. As can be seen, all coefficients are similar to those reported before. Thus, it seems that word-scores based on raw and scaled counts both perform well in capturing managerial private information. One should choose a specification that most suits the research question at hand.

Table 4: The Effect of *WORD* Signals on Future Earnings

Panel A: The effect of WORD signals constructed from the full conference call transcript

Word signal:	Pred. Sign	Dependent Variable: Earnings Aggregated over +1 to +12 Quarters									
		(1) EARN	(2) SALES	(3) MARGN	(4) INVN	(5) RECV	(6) SG&A	(7) TAX	(8) CASH	(9) DEBT	(10) CAPEX
$WORD_{X, ALL}$	+	0.06	0.07**	-0.01	0.06**	0.05*	0.01	0.08***	0.02	0.02	0.07***
		(1.53)	(1.98)	(-0.20)	(2.05)	(1.90)	(0.18)	(2.69)	(0.75)	(0.62)	(2.62)
$EARN_t$		0.27***	0.27***	0.27***	0.27***	0.27***	0.27***	0.28***	0.27***	0.27***	0.27***
		(8.85)	(8.87)	(8.87)	(8.87)	(8.87)	(8.86)	(8.94)	(8.87)	(8.86)	(8.85)
Constant		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Accounting Control		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fiscal Quarter Effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2		0.422	0.423	0.422	0.422	0.422	0.422	0.423	0.422	0.422	0.423
Observations		14,823	14,823	14,823	14,823	14,823	14,823	14,823	14,823	14,823	14,823

Panel B: The effect of WORD signals separately constructed from the managers' speech in the presentation and Q&A session

Word signal:	Pred. Sign	(1) EARN	(2) SALES	(3) MARGN	(4) INVN	(5) RECV	(6) SG&A	(7) TAX	(8) CASH	(9) DEBT	(10) CAPEX
$WORD_{X, PRES}$	+	0.06	0.10***	0.01	0.07**	0.05*	0.02	0.07**	0.04	0.07**	0.09***
		(1.59)	(2.72)	(0.29)	(2.47)	(1.72)	(0.56)	(2.22)	(1.36)	(2.26)	(3.05)
$WORD_{X, Q\&A}$	+	0.05**	0.03	-0.00	0.03	0.00	-0.00	0.05***	0.00	0.00	-0.00
		(2.42)	(1.40)	(-0.22)	(1.29)	(0.15)	(-0.12)	(2.80)	(0.15)	(0.05)	(-0.13)
$EARN_t$		0.27***	0.27***	0.27***	0.27***	0.27***	0.27***	0.27***	0.27***	0.27***	0.27***
		(8.68)	(8.69)	(8.68)	(8.70)	(8.69)	(8.69)	(8.76)	(8.70)	(8.66)	(8.64)
Constant		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Accounting Control		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fiscal Quarter Effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2		0.423	0.423	0.422	0.423	0.422	0.422	0.423	0.422	0.422	0.423

Observations	14,557	14,557	14,557	14,557	14,557	14,557	14,557	14,557	14,557	14,557

Note: The table presents results of regressing three-year-ahead aggregated future earnings on word signals ($WORD$s). Panel A reports results with the word signals based on managers' speech in the entire conference call ($WORD_{X, ALL}$). Each column represents one separate regression with a separate $WORD_{X, ALL}$ signal, where X is either 1) $EARN$, 2) $SALES$, 3) $MARGN$, 4) $INVN$, 5) $RECV$, 6) $SG\&A$, 7) TAX, 8) $CASH$, 9) $DEBT$, or 9) $CAPEX$. Each regression controls for the full set of current quarter's accounting metrics: $EARN$, $SALES$, $MARGN$, $INVN$, $RECV$, $SG\&A$, TAX, $CASH$, $DEBT$, and $CAPEX$. The regression also controls for $SIZE$, MTB, $\#ANALYST$, $NWORDS$, $LOSS$, $NEGTONE$, $POSTONE$, $COMPETE$, and $RISK$. All variables are defined in Appendix D.

Panel B reports results with word signals based on managers' speech in the presentations ($WORD_{X, PRES}$) and the Q&As ($WORD_{X, Q\&A}$). All control variables are the same.

All continuous variables are Winsorized at the 1 and 99 percentile. The future earnings and current earnings are standardized to aid interpretation. The t-statistics are reported in the parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively (two-tailed).

Table 5: The Effect of Alternative *WSCORE*s based on Raw Word Counts

Word-scores:	Pred. Sign	Dependent Variable: Earnings Aggregated over +1 to +12 Quarters	
		(1)	(2)
WSCORE$_{ALL}$	+	0.10***	
		(2.58)	
WSCORE$_{PRES}$	+		0.09**
			(2.34)
WSCORE$_{Q\&A}$	+		0.06**
			(2.05)
Constant		Yes	Yes
Accounting Controls		Yes	Yes
Additional Controls		Yes	Yes
Year Effects		Yes	Yes
Fiscal Quarter Effects		Yes	Yes
Industry Effects		Yes	Yes
Adjusted R^2		0.400	0.400
Observations		14,143	14,143

Note: Table11 presents results of regressing three-year-ahead aggregated future earnings on alternative *WSCORE* variables based on the raw word counts. Each regression controls for the full set of current quarter's accounting metrics: *EARN*, *SALES*, *MARGN*, *INVN*, *RECV*, *SG&A*, *TAX*, *CASH*, *DEBT*, and *CAPEX*. The regression also controls for *SIZE*, *MTB*, *#ANALYST*, *NWORDS*, *LOSS*, *NEGTONE*, *POSTONE*, *COMPETE*, and *RISK*.

All continuous variables are Winsorized at the 1 and 99 percentile. All continuous control variables are standardized. All variables are defined in Appendix D. The t-statistics are reported in the parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively (two-tailed).

6.   Conclusion

In this study, I conduct a fundamental analysis based on the usage of accounting words in earnings calls. I predict that the abnormally frequent occurrence of accounting words suggests managers' positive private information. I find that word-score variables that capture the abnormal occurrences of accounting words in earnings calls are positively associated with firms' future earnings, while controlling for news in the accounting metrics, firm characteristics, and linguistic characteristics of the earnings call transcripts.

This study contributes to research on qualitative information, as I show that the use of accounting terms is informative of future firm value incremental to the effect of accounting variables. This study also contributes to empirical research on managers' discretionary-disclosure behavior. The evidence is consistent with that managers strategically set voluntary disclosure intensity when discussing accounting metrics. The findings documented in this study should be of interest to investors, as I show that use of accounting terms reveals managerial private information and has implications in the capital markets.

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Appendix A: Selected Accounting Metrics and Associated Search Terms

Accounting Metric	Search Terms
1) Operating income	"op[erating|eration|.] earning[s]", "op[erating|eration|.] income[s]", "op[erating|eration|.] profit[s]", "op[erating|eration|.] loss[es]", "earning[s] [from|in|of] op[erating|eration|.]", "income[s] [from|in|of] op[erating|eration|.]", "profit[s] [from|in|of] op[erating|eration|.]", "loss[es] [from|in|of] op[erating|eration|.]", "opinc"
2) Sales and revenue	"sale[s]", "revenue[s]"
3) Margin ratios	"margin[s]"
4) Inventories and cost of goods sold	"inventor[y|ies]", "c[.]o[.]g[.]", "c[.]o[.]g[.]s[.]", "cost[s] of good[s]", "cost[s] of sale[s]", "cost[s] of service[s]"
5) Accounts receivables	"receivable[s]"
6) Selling, general, and administrative expenses (SG&A)	"s[.]g[.]a[.]", "s[.]g[.]&a[.]", "s[.]a[.]g[.]","s[.]a[.]&g[.]", "selling[,] and admin[strative|stration]", "selling[,] and general", "sale[,] and admin[strative|stration]", "sale[,] and general", "general[,] and admin[strative|stration]", "admin[strative|stration][,] and general"
7) Tax expense and benefit	"tax[es]"
8) Cash flows	"cash flow[s]"
9) Debt and leverage	"debt[s]", "liabilit[y|ies]", "leverage[s]", "liquidit[y|ies]", "interest[s] coverage[s]", "coverage ratio[s]", "time[s] of interest[s]", "interest[s] expense[s]", "interest[s] cost[s]", "interest[s] exp[.]", "interest[s] rate[s]"
10) Capital expenditures (CapEx)	"cap[ital] expense[s]", "cap[ital] investment", "capex"

Note: The table presents the search terms associated with each accounting metric studied. The content inside "[]" is optional. "|" indicates the OR relation, i.e., either the part before or after the "|" is matched. The search program considers only the whole words (i.e., searching for "abc" in the word "abcd" will result in no match) and is insensitive to capitalization. Multiple spaces (including the "tab key" character or other complex whitespace characters) between two words are treated as one, so "abc def" is considered the same as "abc def". In addition, the program removes double-counting when one phrase is matched by multiple search terms (e.g., searching for "a and b" and "b and c" in the phrase "a and b and c" will result in only one, instead of two matches).

Appendix B: Examples of Conference Call Discussions of Accounting Metrics

Through the reading of earnings call transcripts in my sample, I find that a discussion about accounting metrics often involve explanations for the increase or decrease of the numbers in the current quarter, whether the change will persist or reverse, when the reversal will happen, when certain events (e.g., new products, contracts, investments, etc.) will take effect and "show up" in the metrics, the interaction or relation among different metrics, external factors affecting the metrics, and background information.

The discussion often touches on strategic issues such as drivers for future growth, preferred capital structure, stock repurchase plans, etc. For instance, in Manhattan Associates Inc.'s 2010 Quarter 3 conference call, the CEO discuss the impact of a new license contract. While the CEO declines to provide details of the deal, he suggests several times that the new contract will bring "very positive economic benefits" in revenues starting in fiscal year 2011. For another example, see Bacterin's 2012 Quarter 2 conference call, in which the CEO repeatedly expresses that the maturing of sales forces through training and reducing turnovers is one factor that will boost future revenues. The CEO provides both qualitative and quantitative revenue forecasts for multiple product lines of the company. In Rite Aid Corporation's 2010 Quarter 1 earnings call, the CEO repeatedly discusses an inventory-reduction initiative of the firm and its effect on future performance. The CEO addresses potential concerns regarding the negative impact of the plan (e.g., less favorable credit terms from vendors) and stresses the importance of holding the "successful" inventories—the ones that eventually generate sales. The CEO predicts an additional $180 million reductions in inventories for the rest of the year.

In addition, I notice that managers do not necessarily try to avoid discussing negative news. Instead, they often attribute negative news to one-time events or the normal fluctuation of the business. For example, Cadence Design Systems' CEO addresses how an unexpected early collection of credit sales in the prior quarter has negatively impacted cash flows in the current quarter (2014 Quarter 1 earnings call). The manager highlights the growth of cash flows in the past (from $26 million in 2009 to $368 million in 2013) and provides a cash flow forecast of $335-365 million for the full year of 2014. In Williams Sonoma's 2010 Quarter 1 earnings conference call, the CEO attributes an increase in inventories to a West Coast ports slowdown related to a labor dispute.

In summary, I observe that managers often offer detailed and meaningful discussion on a variety of issues affecting the firms' accounting performance and provide forecasts on future values.

Appendix C: Parsing the Conference Call Transcripts

I first download all articles dated between January 1, 2007 and December 31, 2011 from the transcript center of the *SeekingAlpha.com* website. SeekingAlpha.com is a free and reliable source of conference call transcripts. The company has partnered with MSN Money, CNBC, MarketWatch, and NASDAQ.

I examine the file to ensure that it indeed contains an earnings conference call transcript, because the transcript center also offers earnings call's audio webcasts and transcripts of non-earnings call events. I remove any non-earnings call articles from the sample by applying a two-step rule. First, I require the title of the article to explicitly include the keywords "earnings call transcript" or "earnings conference call transcript" but not "webcast." Second, I require each article to include three sections: a participants list, a presentation session, and a question-and-answer session. Any articles that do not pass either of the requirements are removed. I manually inspect randomly selected articles after the classification to ensure accuracy. I find that the two-step rule works well. After merging the sample with Compustat items, I check the conference call dates extracted from the transcripts with Compustat's earnings report date (RDQ) variables to further ensure correct identification.

I download each earnings call transcript in raw HTML format. I identify the main body of the transcripts and remove non-essential contents such as users' comments, images, and links to other articles, etc. I then filter off any HTML markups using Perl's HTML::Parser package and reduce the files to plain text. I further remove the titles of the transcripts, the dates and times of the calls, the participants lists, disclaimers and copyright policies, the names and titles of the active speakers, and any section separators such as "Question-and-Answer Session." During the above process, I record the ticker symbols and dates of the calls, i.e., identifier variables for merging datasets. I also obtain the names and titles of participants. Based on the titles and affiliations, I classify participants into three groups: managers, analysts, or other (e.g., call operator, unspecified person, etc.). I divide each transcript into the presentation and the Q&A session. I then search each session for speech of an identified manager or analyst. Speech of other participants is not used in the analysis. I delete all calls where I cannot reliably parse out the company's ticker symbol, the earnings call date, and at least one management participant.

Appendix D: Variable Definitions

Variable	Definition
Main variables:	
SCOUNT$_{X, Y}$	Occurrence of terms related to the accounting metric *X* per-thousand-word in the earnings call transcript. *X* is either *EARN*, *SALES*, *MARGN*, *INVN*, *RECV*, *SG&A*, *TAX*, *CASH*, *DEBT*, or *CAPEX*. *Y* indicates the session of the conference call: *ALL* marks managers' speech in the entire conference call; *PRES* and *Q&A* mark managers' speech in the presentation and Q&A session, respectively.
WORD$_{X, Y}$	The decile rank (0, 1, …, 9) of *SCOUNT$_X$*, where the decile cutoffs are set in the benchmark sample of industry peer firms' conference calls held in the prior 12-month period. *X* is either *EARN*, *SALES*, *MARGN*, *INVN*, *RECV*, *SG&A*, *TAX*, *CASH*, *DEBT*, or *CAPEX*. Y is either *ALL*, *PRES*, or *Q&A*.
WSCORE$_{ALL}$	Word-score (decile rank of the sum of *WORD* signals) based on managers' speech in both sessions of the conference call.
WSCORE$_{PRES}$	Word-score (decile rank of the sum of *WORD* signals) based on managers' speech in the presentation session of the conference call.
WSCORE$_{Q&A}$	Word-score (decile rank of the sum of *WORD* signals) based on managers' speech in the Q&A session of the conference call.
FUTEARN	The aggregated earnings over the +1 to +12 quarters, scaled by the market valuation of the firm at the end of quarter 0 (conference call quarter).
BUYHOLD	The 36-month Fama-French four-factor adjusted buy-and-hold returns over the +1 to +36 months, where 0 is the month in which the conference call is held.
Controls:	
EARN	Current quarter's operating income, scaled by the market valuation at the end of the quarter.
SALES	Current quarter's sales, scaled by the market valuation at the end of the quarter.
MARGN	Current quarter's gross margin ratio.
INVN	Current quarter's inventories, scaled by the market valuation at the end of the quarter.
RECV	Current quarter's accounts receivables, scaled by the market valuation at the end of the quarter.
SG&A	Current quarter's SG&A expenses, scaled by the market valuation at the end of the quarter.
TAX	Current quarter's tax rate.
CASH	Current quarter's operating cash flows, scaled by the market valuation at the end of the quarter.
DEBT	Total-debts-to-assets ratio.
CAPEX	Firm's CapEx-to-market-valuation ratio.
UE	Unexpected earnings calculated as the difference between I/B/E/S actual EPS from

	operations and analysts' consensus (mean) forecast, scaled by market valuation per diluted share at the end of the quarter.
ABCAPEX	Abnormal capital expenditures calculated as the difference between the firm's CapEx-to-market-valuation ratio and the industry median.
SIZE	The natural logarithm of the firm's total assets.
MTB	Market to book value of equity (prccq × cshoq / seqq).
#ANALYST	Number of analysts following the firm.
LOSS	An indicator equals 1 if the firm has an operating loss in the quarter.
LITIGIOUS	An indicator equals 1 if the firm is operating in an litigious environment (SIC code: 2833-2836, 8731-8734, 3570-3577, 7370-7374, 3600-3674, or 5200-5961).
NWORDS	Total number of words in the conference call transcript (in thousands).
NEGTONE	An indicator equals 1 if the proportion of negative tone words in the conference call is higher than the sample median, and 0 otherwise.
POSTONE	An indicator equals 1 if the proportion of positive tone words in the conference call is higher than the sample median, and 0 otherwise.
COMPETE	An indicator equals 1 if the proportion of competition-related words ("compete[s]," "competitive," "competition[s]," "competitor[s]") in the conference call is higher than the sample median, and 0 otherwise.
RISK	An indicator equals 1 if the proportion of risk-related words ("risk[s]," "risky," "risking") in the conference call is higher than the sample median, and 0 otherwise.