DO FINANCIAL ANALYSTS DANCE TO MANAGEMENT'S TONE?

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ABSTRACT

We analyze transcripts of conference calls with financial analysts to assess the tone of managements' message and analysts' questions during those calls. We hypothesize (and find) that management and analyst tones are positively correlated and that analysts' forecast revisions are positively associated with the tone of management. We hypothesize (and find) that the direction of analysts' forecast revisions and the market's response are positively associated with the direction of managements' tone when the tone of management and analysts is the same (*congruent*). For firms where management tone and analyst tone are dissimilar (*dissonant*), we hypothesize (and find) that market price volatility is higher than for firms with *congruent* outcomes.

INTRODUCTION

Earnings management has a long and varied history as a topic of investigation in the accounting literature. Out of that literature has emerged convincing evidence that earnings management does occur in certain settings (e.g., prior to an initial public offering or a seasoned equity offering), presumably to achieve desired outcomes in the numbers reported in the firms' financial statements. Despite the flexibility in US generally accepted accounting principles (GAAP), there are limits to earnings management and the consequences of violating GAAP can be severe, especially from the perspective of stock markets. US GAAP limit how much the reported numbers can be stretched, but place *no* restrictions or guidelines on the context (i.e., positive or negative) in which the same numerical information is communicated to the markets.

Recently, researchers have started focusing on the tone of the language used in earnings releases and question if there is an intentional manipulation of the tone in the messages conveyed in corporate communications. Intentional manipulation of the tone of corporate communications, termed *tone management* [8], is of interest to researchers and market participants alike for a variety of reasons. Recent evidence seems to suggest that the tone of the communication can mislead users, such as investors, creditors, analysts and other capital market participants, with respect to the true information contained therein. This raises serious concerns because reliance on misleading information potentially leads to the mispricing of corporate securities and other inefficiencies in the markets. Indeed, the potential impact of tone management is no less serious than that of earnings management if capital market participants are influenced to draw incorrect inferences based on the manipulated message.

While content analysis of written business communications has a relatively long history in the research literature,[1] investigations of tone and tone management are much more recent but are already yielding some useful insights. For example, in a recently published paper, Feldman *et al*. [6] examine whether tone changes in the MD&A section of Forms 10-Q and 10-K relative to prior SEC filings have incremental information content. The authors report that management's tone change adds significantly to portfolio returns over a short window and that the results are due, in part, to the tone change signal enhancing the ability to predict the next quarter's earnings surprise. In an even more recent study, Huang *et al.* [8] investigate whether managers use tone management in earnings press releases strategically (i.e., to inform or misinform investors) and whether the market discounts for this behavior. The authors find that managers use tone in press releases to complement quantitative earnings management and that tone manipulation appears to mislead investors.

Financial analysts play a critical role in capital markets by serving as information intermediaries between a firm's management and the broader investment community. Because they are experts in analyzing financial information, predicting earnings and making stock buy/sell recommendations, the question arises whether analysts are influenced by tone management, and if so, what the impact of that influence is on their behavior. Prior studies have examined the impact of information disclosures on analysts' behavior, and we now turn to a brief overview of that literature.

Empirical studies document that financial analysts revise and update their forecasts in response to quarterly earnings releases [1], management forecasts [10], other analysts' forecasts [16] and changes in stock prices [3]. These studies collectively suggest that financial analysts consider all clues in their information environment and incorporate that information into their forecasts in a timely fashion. If the tone used in corporate communications is intended to convey additional information, we would expect that information to be reflected in the tone of analysts' questions, their revised forecasts and their outlook on the firm.

In this study, we investigate the impact of tone management on financial analysts' behavior by analyzing the text of conference calls and the text of question and answer sessions between firms' managers (i.e.,CFOs and CEOs) and analysts. This approach provides us with a potentially rich context in which we can analyze the tone of the firm's management, the tone of the analysts' questions (and answers to those questions) and changes in the tone of either party during the call. Furthermore, this approach provides us with a quasi-experimental setting since we can examine the impact of the conference call interactions on each analyst's before and after earnings forecasts for each firm. This should allow us to determine whether analysts can be misled by management's manipulation of the message conveyed during the call or whether analysts see through managers' attempts to provide an incongruent spin on the message they are trying to convey. Finally, we can analyze the market's response to any analyst earnings forecast revisions conditional on the tone of the conference call participants.

RESEARCH HYPOTHESES

There is considerable evidence in the empirical literature that seems to suggest that financial analysts are reluctant to go against the wishes of the management and that the analysts may even *strategically*

[1] See Jones and Shoemaker [11], Cole and Jones [5] and Li [12] for reviews of studies that have examined various textual accounting disclosures such as Management Discussion and Analysis, financial statements, earnings releases and conference call transcripts.

bias their forecasts to curry favor with management and to establish and maintain investment banking relationships with clients. For example, Francis and Philbrick [7] suggest that Value Line analysts issue overly-optimistic earnings forecasts in an effort to gain access to management's private information. Lin and McNichols [13] and Michaely and Womack [15] show that affiliated analysts (analysts whose employers provide underwriting services to their clients) issue more optimistically-biased stock recommendations than unaffiliated analysts. In a recent study, Jackson [9] suggests that analysts also issue overly optimistic forecasts to increase the trading volume and therefore, commissions, for their brokerage houses. Because analysts engage in the type of behavior described above, we would expect these analysts to take clues from management in both the tone of their questions and the revisions in the forecasts that they issue subsequent to the conference calls. We would, therefore, expect a positive association between an analyst's tone and management's tone during the conference calls. We state our first set of hypotheses (in alternate form) as follows:

HYPOTHESIS 1: *Financial analysts' tone will be positively associated with managements' tone during conference calls.*

HYPOTHESIS 2: *Financial analysts' subsequent forecast revisions will be positively associated with managements' tone during conference calls.*

In our subsequent analysis, we split our sample into firms with positive and negative management tone during the conference calls. We construct a measure of average analyst tone for each firm. We examine separately the firms for which there is congruence (dissonance) in the management and analyst tones during the conference call. We expect the congruent (dissonant) outcomes to be associated with reduced (increased) levels of information asymmetry resulting in conforming (non-conforming) forecast revisions and lower (higher) stock return volatility in the short-term.

	ANALYST TONE	
MANAGEMENT TONE	**POSTIVE**	**NEGATIVE**
POSITIVE	CONGRUENT	DISSONANT
NEGATIVE	DISSONANT	CONGRUENT

HYPOTHESIS 3: *The direction of analysts' forecasts will be positively (negatively) associated with management tone during conference calls for congruent (dissonant) outcomes.*

HYPOTHESIS 4: *The market response to conference call announcements will be positively associated with the management tone during conference calls for congruent outcomes.*

HYPOTHESIS 5: *Market response volatility will be higher for conference call announcements with dissonant outcomes.*

DATA

We obtained full transcripts of earnings conference calls from the CQ FD Disclosure database provided by Factiva. At times, when the CQ FD Disclosure database provided only an event brief for a conference call, we deleted those calls. Only the conference calls with full transcripts are included in

our sample. We obtained historical financial data from Industrial COMPUSTAT, stock return data from CRSP and analysts' earnings forecast data from I/B/E/S. We started our sample period from 2002 because the CQ FD Disclosure database only provides transcripts for earnings conference calls since 2001. We matched conference call scripts with the CRSP/ COMPUSTAT merged database by company name and announcement date. We eliminated observations without adequate accounting and financial-market variables or whose stock prices were below $1. For each sample year, all financial variables except returns were winsorized at the 1% level.

Tone Measurement in Conference Call Scripts

Loughran and McDonald [14] argue that word classifications developed for other disciplines are not appropriate for business research. Based on the analysis of 41,842 firm-year 10-Ks from 1994-2007, they find that many words classified as negative in the Harvard Psychological Dictionary (IV-4) are not necessarily negative in financial reports. For example, words like tax, liability or foreign are classified as negative in the *Harvard Psychological Dictionary*, but have little negative connotation in financial reports. The same situation arises for some words employed in the Diction software, which is a language processing algorithm. Consequently, we use the six new categories of financial words developed by Loughran and McDonald [14] as follows: negative, positive, uncertain, litigious and strong and weak modal words. Although their word lists were created from 10-Ks, we expect the word categories can also be applied to other financial disclosures. In the current study, we focus on positive and negative words. Word-based measures are the frequency of the words relative to a conference call script's total words.

CONTRIBUTIONS

Extant literature points to pervasive evidence that firms manage their earnings to meet or beat market earnings expectations. These market expectations are, to a large extent, based on analysts' forecasts of earnings. Brown [2] documented that firms not only manage their earnings, but also manage the analysts' earnings forecasts to meet or beat their consensus expectations at the time of earnings announcements. Brown [2] established the crucial role of financial analysts in the management of market expectations. We link this finding to the emerging literature on tone management that has shown that the firms manipulate the tone of the corporate communications at the time of earnings announcements. Huang et al. [8] have shown that markets seem to be influenced by the abnormal tone in corporate communications. However, it is not clear if financial analysts are influenced by this tone management. This study provides an answer to this interesting question and one that has not been addressed in the prior literature.

The findings are of considerable interest to market participants and academics alike. If financial analysts do not see through the tone management and, consequently, their forecasts are affected by the tone, then it provides additional evidence on the lack of credibility associated with analyst communications. Alternatively, if financial analysts are unaffected by the abnormal tone, then the abnormal market response is not rational and provides arbitrage opportunities.

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