The Informativeness of Forward-Looking News in Earnings Announcements

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Abstract

An emerging literature in accounting and finance has shown that, incremental to quantitative accounting information, qualitative or narrative information in financial disclosure can also provide new information to the market. One limitation of these studies is that they largely focus on the overall tone of financial disclosure, leaving unanswered questions about the importance of its underlying components. This study seeks to further our understanding of narrative disclosure news by investigating whether its temporal components (i.e., forward-looking vs. non-forward-looking) differentially relate to its information content. We find evidence of a significant wedge between the way the market incorporates forward- versus non-forward-looking news, with the market response to forward-looking news being roughly 75 percent smaller than the response to non-forward-looking news. In examining several possible explanations for the wedge, we find little evidence that the wedge can be explained by information processing costs related to the textual characteristics of disclosure. However, the information wedge is explained in part by both analysts' expectations of future fundamentals and realizations of those fundamentals. Further, when considering the context in which firms' make disclosures, we find that the information gap between forward and non-forward-looking news is larger for firms with poor performance, in financial distress, or in highly competitive industries. Additional tests reveal that managers' appear to strategically alter their relative use of forward and non-forward-looking news when so incentivized. Our findings contribute to the recent accounting and finance literature on disclosure that shows the importance of examining the characteristics of qualitative disclosure to better understand how managers communicate with the marketplace and how market participants process and interpret such communication. Our paper provides a natural extension of a nascent literature which has yet to "open up the black box," as it were, of qualitative news by examining its temporal dimension.

1. Introduction

Accounting research has traditionally measured the information content, or news, in earnings disclosures based on quantitative accounting information such as earnings surprises and changes in earnings. More recently, an emerging literature in accounting and finance has shown that qualitative or narrative information in financial disclosure can also provide new information to the market. These studies quantify narrative information using measures of linguistic tone based upon the frequency of positive and negative words. They find that the tone of narrative information relates positively to future firm fundamentals and stock returns, even after controlling for other available information.[1] One limitation of these studies is that they largely focus on the *overall* tone of financial disclosure, leaving unanswered questions about the importance of its underlying components. This study seeks to further our understanding of narrative disclosure news by investigating whether the temporal dimension of disclosure tone (i.e., forward-looking vs. non-forward-looking components) differentially relates to its information content.

While investors and regulators have frequently called for significantly more disclosure pertaining to future outlooks or trends, it is not clear whether the news conveyed by forward-looking disclosure is necessarily more informative than non-forward-looking disclosure. In fact, there are several reasons why the informativeness of news could depend on whether it is forward-looking or not. On the one hand, forward-looking news could be most relevant for investors and analysts because of their focus on future performance in assessing firm value.[2] For

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[1] See, for example, Tetlock (2007), Tetlock et al. (2008), Henry (2008), Li (2010), Davis et al. (2011), Demers and Vega (2011), and Loughran and McDonald (2011).

[2] As done in prior literature, we employ net tone as a summary proxy for the qualitative information embedded within narrative disclosure. We isolate all forward-looking statements contained in the narrative disclosure and extract the tone of that portion of the disclosure. The *change* in the net tone of forward-looking narrative disclosure constitutes our measure of *forward-looking news*. Further details can be found in Section 3.

example, Li (2010) examines the tone of forward-looking statements made in the MD&A section of SEC filings under the assumption that such statements will be more relevant for future firm fundamentals. On the other hand, forward-looking news may be less credible than non-forward-looking news because it involves management's projection of an uncertain future and is less verifiable at the time of its disclosure. While the qualitative nature of both forward- and non-forward-looking news likely limits the extent of their verifiability, investors can more easily corroborate non-forward-looking news with quantitative data concerning past financial performance. Thus, in this study, we specifically examine differences between the informativeness of forward and non-forward-looking news. In doing so, we are able to develop a better understanding of the characteristics of firms that choose to use such disclosure and the consequences of its use.

To conduct our tests, we employ a base sample of 46,082 earnings press releases furnished to the SEC via form 8-K from 2004 to 2010. Prior to examining forward and non-forward-looking news, we first measure news as the quarterly change in net optimism using all of the statements contained in a press release based on the approaches used in prior studies. Consistent with prior literature, we find that the change in overall disclosure tone is positively related to market responses. Building on this literature, we next examine the underlying temporal components of the news in narrative disclosure as the changes in the tone of the forward-looking and non-forward-looking, respectively. We find evidence of a significant wedge between the way the market incorporates forward- versus non-forward-looking news. In terms of economic magnitude, the market response to forward-looking news is 75 percent smaller than the response to non-forward-looking news. This implies that non-forward-looking news is substantially more informative than forward-looking news, on average. In terms of explanatory

power, non-forward-looking news constitutes 21.8% of the total variation explained by the regression, whereas forward-looking news constitutes only 1.2%. The amount of variation explained by non-forward-looking news is perhaps surprising, given that earnings surprise explains 58.9% and management earnings forecast surprise 14.2%.

In light of the wedge between the information content of forward and non-forward-looking news, we pursue three separate avenues for analysis in an attempt to provide potential explanations for the wedge. First, we consider the textual characteristics of forward and non-forward-looking news to provide initial descriptive evidence on whether our findings are related to differences in other linguistic attributes of narrative disclosures, such as readability and precision, which could be indicative of differences in disclosure processing costs. Consistent with possible information processing concerns as an alternate explanation for the wedge, we find in univariate, within-firm tests that the statements underlying forward-looking news are less readable and less precise than those of non-forward-looking news, on average. However, in multivariate tests, we are unable to attribute the differences in information content to processing costs.

Second, we examine whether our findings can be explained by differences in how forward and non-forward-looking news relate to future fundamentals. If forward and non-forward-looking news relate to either expectations of future fundamentals or the realizations of those fundamentals differently, then market participants should weight them differently. On the one hand, some market participants may believe that forward-looking news is more closely related to the future cash flows of the firm. On the other hand, managers could have incentives to bias the tone of forward-looking information more than non-forward-looking information.

Such incentives could weaken the connection between forward-looking news and future fundamentals, resulting in a different market reaction to forward and non-forward-looking news. Consistent with this line of reasoning, we find that forward-looking news is less correlated with changes in both analysts' expectations of future fundamentals and realizations of one-quarter-ahead earnings as compared with non-forward-looking news. In terms of coefficient magnitudes, the analyst (realized earnings) response to changes in forward-looking tone is 50 (75) percent smaller than the response to changes in non-forward-looking tone, which again implies that non-forward-looking news is substantially more informative than non-forward-looking news on average. In terms of explanatory power, non-forward-looking news constitutes 0.7% (8.9%) of total explained variation for analyst revisions (realized earnings) whereas forward-looking news constitutes 0.2% (0.5%).

Lastly, we examine whether our results vary based on the context of firms' disclosures to assess whether our findings are a function of managers' disclosure incentives. Similar to the expectations of Rogers and Stocken (2005) with respect to management earnings forecasts, we suggest that managers likely have incentives to bias the direction of their sentiment about future prospects, and absent sufficient costs to discipline such behavior (e.g., sufficient litigation risk), investors and analysts will respond less fervently to this news. Consistent with this view, we find that the information gap between forward and non-forward-looking news is larger for firms with poor performance, in financial distress, or in highly competitive industries. Additional tests reveal that these results are consistent with not only with investors considering firms' disclosure incentives when determining the relative credibility of forward and non-forward-looking news, but also with managers' strategic use of forward and non-forward-looking news insofar as managers appear to use relatively more of the former when incentivized to do so.

Our findings contribute to the recent accounting and finance literature on disclosure that shows the importance of examining the characteristics of qualitative disclosure to better understand how managers communicate with the marketplace and how market participants process and interpret such communication. If understanding how qualitative disclosures influence market participants is important, furthering our knowledge of which qualitative disclosure attributes drive the behavior of market participants is important. Because the *ex ante* relevance and credibility of disclosure news likely differ depending on the temporal orientation of that news, examining the determinants and consequences of forward and non-forward-looking news offers an opportunity to better understand when qualitative disclosures matter more (or less).

Our findings also contribute to the on-going debate about the informativeness of qualitative disclosure (e.g., Davis et al. (2011) and Demers and Vega (2011)) and recent papers that examine forward-looking narrative disclosure (e.g., Li (2010), Muslu et al. (2012), Bozanic et al. (2013)). Our paper provides a natural extension of a nascent literature which has yet to "open up the black box," as it were, of qualitative news by examining its temporal dimension. Our results have implications for future studies that consider both quantitative and qualitative disclosure news. In particular, as there are many forms of quantitative news, future researchers may wish to examine several qualitative news proxies to better understand which components are more informative to investors, analysts, and regulators.

2. Prior Literature and Hypothesis Development

Capital market participants evaluate a variety of different types of public information when making investment decisions. Some information, such as the financial statements, is more quantitative in nature and is readily available in large commercial databases (e.g., Compustat). This type of information has received significant attention in accounting research with a particular emphasis on the information content of accounting earnings. A large body of research spanning several decades examines the market's response to earnings news based on how measures of unexpected earnings relate to stock price reactions around earnings announcements (see Kothari (2001) for a review of this literature). While the findings of these studies are helpful in increasing our understanding of how markets incorporate quantitative earnings information, they do not address questions about the information content of less quantitative information, such as narrative disclosure.

Although narrative disclosure can contain numeric data, it primarily communicates qualitative information through a description of a firm's activities, presumably in order to provide the context in which to facilitate a more comprehensive evaluation of a firm's financial performance. A rapidly growing literature in accounting and finance captures the information content of narrative disclosure using measures of linguistic tone (Feldman et al. (2010), Li (2010), Davis et al. (2011), Demers and Vega (2011), and Loughran and McDonald (2011)). In general, the tone of a document is measured based on the relative frequency of positive and negative words scaled by total word count. These studies find that measures of the tone of narrative disclosures in earnings announcements relate positively to future firm fundamentals and to contemporaneous stock returns, suggesting that this information is useful to market participants.

While these studies generally consider the overall tone of a firm's narrative disclosures, we currently know very little about the different aspects of information aggregated into this measure. There are a variety of conceivable ways to classify narrative information within a disclosure and it is possible that the information content of disclosure tone varies along these dimensions. For example, some studies classify narrative disclosures based on the types of business activities that they address. Sun (2010) considers firms disclosures relating to changes in inventory and Merkley (2013) examines R&D-related disclosures. These studies suggest that different types of narrative disclosures provide different information to market participants.

Temporal Elements of Disclosure Tone

Another approach is to classify narrative disclosure based on its temporal nature, such as whether it relates to the activities occurring in the future. For example, Hutton et al. (2003) and Merkley et al. (2013) find that verifiable forward-looking information relates to stock prices and analyst forecast revisions. In fact, there has been considerable emphasis in recent years on the disclosure of forward-looking information. Earnings guidance has become increasing popular and regulators and investors have called for greater forward-looking disclosure in firms' reports under the argument that this information is more relevant than non-forward-looking information for security prices. Based on these arguments, Li (2010) shows that the tone of forward-looking statements in the MD&A section of the 10-K relates to firms future earnings performance, but does not consider the role of non-forward-looking news because it is assumed to be less relevant.

In addition to relevance, forward-looking news could differ from non-forward-looking news along a number of other dimensions. On the one hand, forward-looking news is likely to be more uncertain because it relates to outcomes that have not yet occurred and relies on assumptions that can be difficult to evaluate *ex ante*. While forward-looking news might be

more relevant in theory, this uncertainty could make such disclosures less useful in practice if they offer vague and imprecise information about the future. On the other hand, non-forward-looking news is likely to be relatively more reliable because it relates to past events which are more easily verified and can be linked to prior financial results that have been scrutinized by external auditors. These characteristics can in turn mitigate managerial bias created from financial reporting incentives such as providing overly optimistic disclosures.

In either case, it important to recognize that forward-looking and non-forward-looking news will be useful as long as these disclosures provide new information to market participants. As such, the extent of differences in their respective information content is a matter of actual disclosure practice and remains an empirical question. Thus, we first consider whether there is any difference between the informativeness of the news in forward-looking and non-forward-looking narrative disclosures. More formally, we make the following hypothesis (stated in the null form):

H$_1$: **The relation between changes in narrative tone and stock returns is the same for both forward-looking and non-forward-looking narrative disclosures.**

Regardless of which type of narrative tone receives greater weight, on average, it is important to understand why and when forward and non-forward-looking disclosures communicate different information to the market. We therefore first consider differences in disclosure characteristics and the relation between tone and future fundamentals to examine why the market could consider forward- and non-forward-looking tone differently. We then consider the role of managerial incentives by examining whether different disclosure contexts relate to how the market considers and how managers use forward-looking and non-forward-looking tone.

Disclosure Characteristics

Theory and prior empirical research suggest that the characteristics of narrative disclosure can affect how market participants use disclosure information in their investment decisions. Prior studies suggest that information that is more costly to extract from financial reports is less completely incorporated in market prices (Ball (1992), Bloomfield (2002), Hirshleifer and Teoh (2003)) and that even professional analysts sometimes fail to fully incorporate complex information into their forecasts (Hirst and Hopkins (1998), Lehavy et al. (2011)). Narrative information in general could be more difficult to extract and process because the text must be read, understood, and ultimately translated into a quantitative metric such as future earnings or sales, frequently in combination with other data. Thus, differences in the market's response to forward- and non-forwarding-looking news could be directly related to differences in the characteristics of these disclosures.

While there is little research that specifically considers whether or how the characteristics of forward- and non-forward-looking news differ, prior studies identify a variety of disclosure characteristics related to the use of narrative information in general. These characteristics include readability, precision, and the sign of the news. Li (2008) suggests that less readable information is more difficult to interpret and provides evidence consistent with managers obfuscating bad news in their reports by making them less readable. Demers and Vega (2011) find that the tone of firms that provide more precise information, in terms of numerical intensity, is more highly related to stock price movements around earnings announcements. In addition, investors could weight positive tone differently from negative tone, which could also account for differences in how the market incorporates different types of narrative information (Kahneman and Tverksy (1979)).

Ex ante there are a variety of reasons that forward- and non-forward-looking disclosures could differ based on these dimensions. Forward-looking information is inherently more uncertain and, as such, it could be less readable and less precise. It could also be the case that it is more negative in general because of litigation concerns regarding the disclosure of forward-looking information (Rogers et al. (2011)). However, non-forward-looking information could be less readable and less precise, on average, because there is likely to be more of it in general and it could contain technical or legalese language. Thus, we examine whether differences exist between forward-looking and non-forward-looking disclosure characteristics.

> **H$_2$:** **Forward-looking and non-forward-looking narrative disclosures are similar in terms of readability, precision, and the direction of the news.**

Disclosure Tone and Future Fundamentals

Another reason that the market could weight future and non-future news differently is that there could be differences in the way they relate to future fundamentals. As explained previously, some market participants may believe that future-oriented information is more closely related to the future cash flows of the firm. However, this need not be the case if managers have incentives to bias the tone of forward-looking information more than non-forward-looking information. For example, litigation risk could motivate managers to be overly pessimistic in their forward-looking information, while capital market pressure to keep a positive message could motivate the opposite effect. Such incentives could weaken the connection between forward-looking news and future fundamentals, resulting in a different a market reaction to forward-looking and non-forward-looking news. Thus, we consider the following hypothesis:

H₃: **The relation between changes in narrative tone and changes in future fundamentals is the same for both forward-looking and non-forward-looking narrative disclosures.**

Disclosure Context

In addition to the characteristics of the narrative disclosures themselves, it is likely that the context of these disclosures also affects the market's assessment of their information content. Rogers and Stocken (2005) suggest that managerial incentives affect the market response to management earnings forecasts, which are by definition forward-looking. While forward-looking narrative disclosures in general differ from management earnings forecasts, it is likely that similar issues arise in terms of how managers' incentives influence the market's response to narrative information about the future. In particular, we consider whether these incentives relate to differences in the market's interpretation of forward-looking and non-forward-looking news as well as differences in managers' use of these disclosures.

Financial Distress

Managers of firms facing financial distress have significant incentives to improve the market's view of their firm either through improved performance or perception. Forward-looking news can provide encouragement to customers, suppliers, and investors about the future of the firm and thus managers have incentives to be overly optimistic in these disclosures (Rogers and Stocken, 2005). As non-forward-looking news is likely to be strongly related to current performance, it is less likely that managers of distressed firms would be able to use it to sway market participants as effectively. If the market takes into account these incentives, investors would likely place less weight on forward-looking news relative to non-forward-looking news.

Litigation Environment

Litigation risk provides incentives for managers to be less positive in the tone of their disclosures because shareholder lawsuits can later allege that investors were misled by this optimistic language if future performance is lower than expected (Francis et al. 1994; Rogers et al. 2011). As such, firms with higher litigation risk are more likely to bias the tone of their disclosures downward, attenuating the relation between tone and future performance. Given that forward-looking news is relatively more uncertain and has greater potential for error than non-forward-looking news, this downward bias is likely to be stronger for forward-looking news resulting in the market placing comparatively less weight on it.

Competitive Environment

Firms in more concentrated industries face lower competitive pressure and are more profitable (Tirole 1993). Thus, these firms have higher incentives to offer more pessimistic views of the future to ward off new entrants. Given this downward bias, the tone of forward-looking information for these firms is likely to be less correlated with future performance. However, a similar bias could also be present in non-forward-looking information. If the bias is more significant for forward-looking information then the market should place less weight on this type of news relative to non-forward-looking news. Based on these contextual issues, we make the following hypotheses:

> **H_{4A}:** **Managerial incentives do not relate to differences in how the market interprets forward-looking and non-forward-looking tone.**
>
> **H_{4B}:** **Managerial incentives do not relate to differences in how managers use forward-looking and non-forward-looking tone.**

3. Data and Methodology

Sample Selection

To investigate whether the market perceives the tone of forward-looking and non-forward-looking information differently, we analyze the narrative content of earnings press releases. In contrast to other disclosure channels, such as annual reports, earnings press releases provide a more timely disclosure medium, and so are less likely to contain stale financial information and are more likely to be related to stock market returns. We derive our sample of earnings press releases from the Securities and Exchange Commission's (SEC) EDGAR database. Initially, we retrieve all Form 8-K filings for the years 2004 - 2010. Our sample period commences with 2004 because it is the first full year in which firms were required to file all announcements regarding quarterly financial information with the SEC. From this sample, we identify filings specifically related to earnings press releases, that is, Item 2.02 - Results of Operations and Financial Condition.

Because our analysis requires linking information obtained from earnings press releases with other variables, once we obtain the subset of 8-K filings representing quarterly earnings press releases, we match the CIK codes provided on Form 8-K with GVKEY identifiers in the Compustat database. Once matches between EDGAR filings and Compustat GVKEYs are obtained, we further require that sample observations have a PERMNO in the CRSP database. After this matching process, we arrive at a sample of 46,082 observations. Table 1 provides more specific information regarding our sample selection.

Variable Descriptions

Next, we partition the earnings press releases into forward-looking and non-forward-looking information following Bozanic et al. (2013), who identify forward-looking statements

based on whether a sentence contains at least one forward-looking term. Following Wasley and Wu (2006) and Li (2010), examples of forward-looking words include: "predict", "forecast", or "estimate." Sentences that do not contain such terms are considered non-forward-looking statements.

We then capture the net optimistic tone conveyed in firms' earnings press releases as well as the tone of forward- and non-forward-looking statements separately using the Henry dictionaries (Henry, 2006; Henry and Leone, 2009). In contrast to other dictionaries created for use in political discourse (e.g., Diction), these dictionaries were created specifically for measuring tone in the financial domain. We count the frequency of positive and negative words in a given passage and scale the difference by total word count to create our tone measures (TONE, FL_TONE, and nFL_TONE). Because we wish to capture the news conveyed by tone, we attempt to remove the expected level of tone from our measure of the disclosed level of tone. We use the prior quarter's level of tone as the expected value for the current quarter. Thus, to measure news, we employ the change in net tone (ΔTONE, ΔFL_TONE, and ΔnFL_TONE), calculated as the current quarter level less that of the previous quarter, to capture the news, or new information, contained within the narrative disclosure. ΔFL_TONE and ΔnFL_TONE therefore serve as our proxies of interest for forward- and non-forward-looking news, respectively.

To examine differences in the information content of the narrative disclosure in firms' earnings announcement press releases (H1), we use the short-window market reaction, CAR, calculated as the 3-day cumulative abnormal return centered on the earnings press release date. The benchmark return used to compute the abnormal return for a given firm is the corresponding

value-weighted return from CRSP on the same trading day. The abnormal return equals the actual return less the value-weighted market return.

To examine differences in the disclosure characteristics of forward and non-forward-looking news (H2), we consider proxies for disclosure readability and precision. We measure readability using the Fog Index (FOG), which is computed as .4*[(words/sentences)+100*(three or more syllable words/words)] and is expressed in the number of years of education required to understand a passage of text. Note that a higher Fog Index indicates the disclosure is less readable. In addition, we measure the numerical intensity (NUMERICAL) of a disclosure as the count of non-date numbers contained within the text.

In our tests of future fundamentals (H3), analyst revisions (REV) are defined as the change in the mean analyst forecast of firms' quarter-ahead earnings around the announcement of the current quarter's earnings, deflated by beginning of period stock price. The pre-announcement consensus estimate incorporates analyst forecasts made during the 45-day window before the earnings announcement (-45,-1) and the post-announcement consensus estimate incorporates analyst forecasts made during the 30 day window after the earnings announcement (+1,+30).[3] *ΔEarnings* are the quarter over quarter change in net income divided by beginning total assets.

Lastly, for our context tests (H4), we proxy for financial distress using two measures: an indicator for quarter-over-quarter declines in earnings (DECEARN) and an indicator for above sample median bankruptcy probability (DISTRESS) estimated using the model implemented by Hillegeist et al. (2004). We proxy for firms' litigation risk with an indicator for above sample

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[3] The use of a 30-day window post-earnings announcement to measure analyst forecast revisions is consistent with prior studies of analyst behavior surrounding earnings announcements, such as Barron et al. (2002).

median estimated litigation risk (HLITRISK) using the model suggested by Kim and Skinner (2012). We proxy for within-industry competition with an indicator for above sample median 2-digit SIC Herfindahl index (LCOMP).

We also control for other fundamentals that prior research has documented as important for explaining the market response to earnings announcements. We control for both the presence of a bundled management earnings forecast (CIG) and the news in bundled management earnings forecasts (CIGSURP), which is defined as the management earnings per share forecast (point estimate or midpoint of range) for quarter t+1 minus the mean analyst forecast using the most recent forecast made by analysts in the 45 days prior to the earnings announcement scaled by the closing stock price on trading day -2 relative to the earnings announcement. We control for firm size (SIZE), which we proxy for using the natural logarithm of market capitalization at the end of the fiscal quarter. Finally, we control for the market-to-book ratio (MTB), defined as price at the end of the quarter multiplied by shares outstanding divided by the book value of stockholders' equity at the end of the fiscal quarter.

Descriptive Statistics

Table 2 provides descriptive statistics for the all of the variables used in the main analysis of the paper. Sample firms are reasonably large with an average market capitalization of slightly less than $4 billion and an average of 6 equity analysts following them. Changes in earnings from quarter to quarter and announcement period cumulative abnormal stock returns have means close to zero, while analysts revise their forecasts of quarter t+1 earnings downward by an average of $0.15 per share for a $50 stock. Changes in both measures of tone (ΔFL_TONE and

ΔnFL_TONE) appear to have means close to zero. Both tone measures exhibit some variation with interquartile ranges of 1.0 and 1.2 percent of total category words respectively.

Table 3 provides Pearson and Spearman correlations of our main variables of interest. Consistent with prior studies that examine overall disclosure tone, we document a positive and statistically significant correlation between both ΔFL_TONE and ΔnFL_TONE, components of overall tone,and our three outcome variables (ΔEARN, REV, and CAR). In addition, we document a positive and statistically significant correlation with earnings news (EASURP), consistent with the prior literature that examines market responses to earnings announcements.

4. Empirical Results

4.1 Market Reaction to Forward and Non-Forward-Looking Tone

Our empirical analysis considers whether the market reacts differently to changes in the tone in forward- and non-forward-looking information in firms' earnings announcements. We begin by replicating the work of prior studies by estimating the follow regression model:

$$CAR_{it} = \alpha_0 + \alpha_1 \Delta TONE_{it} + \alpha_2 EASURP_{it} + \alpha_3 CIG_{it} + \alpha_4 CIGSURP_{it} +$$

$$\alpha_5 SIZE_{it} + \alpha_6 MTB_{it} + \varepsilon_{it} \tag{1}$$

Column 1 of Table 4 presents the results the estimation using OLS regression with t-statistics in parentheses based on standard errors that are clustered by both firm and year-quarter. Consistent with prior work, the coefficient on ΔTONE is positive and statistically significant ($p < 0.01$), suggesting that overall tone of earnings announcement disclosures contains information content incremental to quantitative earnings news.

We next partition the overall tone into its forward- and non-forward-looking news components and replace ΔTONE with ΔFL_TONE and ΔnFL_TONE to form the following regression model:

$$CAR_{it} = \beta_0 + \beta_1 \Delta FL\_TONE_{it} + \beta_2 \Delta nFL\_TONE_{it} + \beta_3 EASURP_{it} + \beta_4 CIG_{it} +$$

$$\beta_5 CIGSURP_{it} + \beta_6 SIZE_{it} + \beta_7 MTB_{it} + \varepsilon_{it} \tag{2}$$

Column 2 of Table 4 presents the results of our estimation of the augmented model. The coefficients on ΔFL_TONE and ΔnFL_TONE are both positive and statistically significant ($p < 0.01$), suggesting that both forward-looking and non-forward-looking disclosures provide information to market participants. However, inconsistent with null hypothesis (H1), we also find that coefficient on ΔnFL_TONE is almost four times larger than that of ΔFL_TONE. The difference is statistically significant ($p < 0.01$) based on an F-test of the two coefficients.

This evidence suggests that the market interprets forward- and non-forward-looking news differently and suggests that non-forward-looking news is more relevant to market participants. In terms of economic magnitude, the market response to forward-looking news is 75 percent smaller than the response to non-forward-looking news, implying that non-forward-looking news is substantially more informative than non-forward-looking news on average. Based on untabulated partial R^2s from the estimation of equation (2), non-forward-looking news constitutes 21.8% of the total variation explained by the regression whereas forward-looking news constitutes 1.2%. The amount of variation explained by non-forward-looking news is surprising, considering that earnings surprise explains 58.9% and guidance surprise 14.2%.

4.2   Potential Explanations for the Information Wedge

4.2.1 Differences in Disclosure Characteristics

One reason that the market might perceive forward- and non-forward-looking information differently is because of differences in the underlying disclosure characteristics. Thus, we next examine whether forward- and non-forward-looking information differs with respect to readability, precision, and the direction of news. Panel A of Table 5 provides the results of t-tests that examine whether firm-level differences in these attributes are statistically significant. As these differences are computed at the firm-disclosure level, firm characteristics are differenced out in the analysis. Using these tests, we find that the statements underlying forward-looking news are less readable and less precise than those underlying non-forward-looking news, consistent with possible information processing concerns as an alternate explanation for the wedge (H3). In addition, we find that forward-looking news is less positive than non-forward-looking news, which is consistent with a possible downward bias for forward-looking news. As such, we next test whether these variables relate to the differences in information content.

Panel B of Table 5, provides evidence on whether the information wedge can be explained by cross-sectional variation in the relative processing costs of forward- and non-forward-looking statements. To conduct these tests, we interact our disclosure news proxies with indicator variables based on two disclosure attribute measures. We define HDIFF_FOG (HDIFF_IMPREC) as one if the difference between the readability (precision) of future and non-future disclosure meased as FUT_FOG (NONFUT_NUMERICAL) minus NONFUT_FOG (FUT_NUMERICAL) is greater than the sample median value, and zero otherwise. We interact HDIFF_FOG and HDIFF_IMPREC with ΔFL_TONE and ΔnFL_TONE in an augmented

version of equation (2). *F*-tests of the difference between the coefficient on HDIFF_FOG*ΔnFL_TONE and HDIFF_FOG*ΔFL_TONE and the difference between the coefficient on HDIFF_IMPREC*ΔnFL_TONE and HDIFF_IMPREC*ΔFL_TONE are not statistically significant. Thus, we are unable to explain the information wedge using cross-sectional variation in relative processing costs, despite the within-firm evidence of greater processing costs for forward-looking information relative to non-forward looking information.

4.2.2 Relation to Future Fundamentals

As the results tabulated in Table 4 can reflect expectations of both future cash flow and discount rates, we further examine the differences in forward- and non-forward-looking news based on their relation to changes in analyst forecast revisions around the earnings announcement and future earnings realizations in Table 6. We use a regression model analogous to equation (2) with analyst forecast revisions (REV) and changes in future realized earnings ($\Delta EARN_{t+k}$ (k=1,4)) as dependent variables. When $\Delta EARN_{t+k}$ is the dependent variable, we include $EARN_t$ and $EARN_{t-1}$ as control variables rather than EASURP since we are modeling changes in future earnings rather than short-window market responses to earnings announcements.

Similar to the results in Table 4, we find that the overall tone of the earnings announcement is positively related to both future changes in earnings and analyst forecast revisions. However, we further find that changes in non-forward-looking news are *more* relevant for changes in future earnings than forward-looking news. In particular, we find that changes in non-forward-looking news are more positively associated with changes in analyst earnings forecast revisions and future earnings than forward-looking news. *F*-tests of $\beta_2 - \beta_1$ are

statistically significant below the 0.01 level for both analyst earnings forecast revisions and future changes in earnings.

In terms of coefficient magnitudes, the analyst (realized earnings) response to forward-looking news is approximately 50 (75) percent smaller than non-forward-looking news, which again implies that non-forward-looking news is substantially more informative than forward-looking news on average. Once again, we compare the explanatory power of key variables using untabulated partial R^2s from the estimation of the analyst forecast revision and changes in future earnings versions of equation (2). In terms of explanatory power, non-forward-looking news constitutes 0.7% (8.9%) of total explained variation for analyst revisions (realized earnings) whereas forward-looking news constitutes 0.2% (0.5%). This evidence suggests that our results are likely to be driven by more than just differences in the way that tone relates to the market's understanding of firms' discount rates and likely include differences in future profits as well.

4.2.3 Differences in Disclosure Context

Another reason for differences in the how the market incorporates forward- versus non-forward-looking information is that disclosure reflects different firm incentives in different disclosure contexts. Following Rogers and Stocken (2005), we hypothesize that performance, financial distress, litigation risk, and industry concentration affect the differential market response to forward-looking and non-forward-looking tone as well as its use by managers. To test whether the market response to forward- and non-forward-looking information differs because of disclosure incentives, we interact ΔFL_TONE and ΔnFL_TONE with our proxies for performance, financial distress, litigation risk, and industry concentration and re-estimate this augmented version of equation (2).

Table 7 presents the results of this estimation. We find that the difference between the market's reaction to forward and non-forward information is larger when firms experience poor performance, are distressed, or operate in industries with higher concentration of market shares. Thus, in disclosure contexts where firms have incentives to potentially bias their forward-looking qualitative disclosures to a greater extent than their non-forward-looking qualitative disclosures, the stock market responds relatively less intensely to a given amount of news in forward-looking tone compared to that non-forward-looking tone.

To understand whether the context-dependent stock responses to forward- and non-forward-looking tone documented in Table 7 are consistent with managers' use of tone in difference disclosure contexts, we examine whether performance, financial distress, litigation risk, and industry concentration explain changes in forward- and non-forward-looking tone incremental to variables previously shown to explain forward-looking statements (Li, 2010). Table 8 presents the results of estimating the incremental effect of disclosure context for explaining changes in forward- and non-forward-looking tone.

For each of our four context measures, firms provide relatively more optimistic forward-looking qualitative disclosures (compared to non-forward-looking) in the face of greater financial distress, litigation risk, and industry concentration consistent with the diminished stock market responses to forward-looking tone in Table 7. As firms provide relatively more upwardly biased forward-looking tone in the presence of financial distress, litigation risk, and industry concentration, the market de-biases the forward-looking tone by responding relatively less on the margin compared to the same amount of non-forwarding looking tone.

5. Summary and Conclusion

An emerging literature in accounting and finance has shown that, incremental to quantitative accounting information, qualitative or narrative information in financial disclosure can also provide new information to the market. One limitation of these studies is that they largely focus on the *overall* tone of financial disclosure, leaving unanswered questions about the importance of its underlying components. This study seeks to further our understanding of narrative disclosure news by investigating whether the temporal dimension of disclosure tone (i.e., forward-looking vs. non-forward-looking components) differentially relates to its information content.

While investors and regulators have frequently called for significantly more disclosure pertaining to future outlooks or trends, it is not clear whether the news conveyed by forward-looking disclosure is necessarily more informative than non-forward-looking disclosure. On the one hand, forward-looking news may be most relevant for investors and analysts because of their focus on future performance in assessing firm value. On the other hand, forward-looking news may be less credible than non-forward-looking disclosure tone because it involves management's projection of an uncertain future and is less verifiable at the time of its disclosure. In this study, we specifically examine differences between the informativeness of forward and non-forward-looking news. In doing so, we are able to develop a better understanding of the characteristics of firms that choose to use such disclosure and the consequences of its use.

Consistent with prior literature, we find that overall disclosure tone is positively related to market responses. Building on this literature, when we examine the underlying temporal components of the news in narrative disclosure, we find evidence of a significant wedge between the way the market incorporates forward- versus non-forward-looking news. In terms of

economic magnitude, the market response to forward-looking news is 75 percent smaller than the response to non-forward-looking news. In light of the wedge between the information content of forward and non-forward-looking news, we attempt to provide potential explanations for the wedge.

First, we consider the textual characteristics of forward and non-forward-looking news to provide initial descriptive evidence on whether our findings are related to differences in other linguistic attributes of narrative disclosures, such as readability and precision, which could be indicative of differences in disclosure processing costs. Consistent with possible information processing concerns as an alternate explanation for the wedge, we find in univariate, within-firm tests that the statements underlying forward-looking news are less readable and less precise than those of non-forward-looking news, on average. However, in multivariate tests, we are unable to attribute the differences in information content to processing costs.

Second, we examine whether our findings can be explained by differences in how forward and non-forward-looking news relate to future fundamentals. We find that the information wedge is explained in part by both analysts' expectations of future fundamentals and realizations of one-quarter-ahead earnings. In terms of coefficient magnitudes, the analyst (realized earnings) response to forward-looking news is 50 (75) percent smaller than the response to non-forward-looking news, which again implies that non-forward-looking news is substantially more informative than non-forward-looking news on average.

Lastly, we examine whether our results vary based on the context of firms' disclosures to assess whether our findings are a function of managers' disclosure incentives. We find that the information gap between forward and non-forward-looking news is larger for firms with poor

performance, in financial distress, or in highly competitive industries. Additional tests reveal that these results are consistent with not only investors considering firms' disclosure incentives when determining the relative credibility of forward and non-forward-looking news, but also with managers' strategic use of forward and non-forward-looking news insofar as managers appear to use relatively more of the former when incentivized to do so.

Our findings contribute to the recent accounting and finance literature on disclosure that shows the importance of examining the characteristics of qualitative disclosure to better understand how managers communicate with the marketplace and how market participants process and interpret such communication. If understanding how qualitative disclosures influence market participants is important, furthering our knowledge of which qualitative disclosure attributes drive the behavior of market participants is important. Our paper provides a natural extension of a nascent literature which has yet to "open up the black box," as it were, of qualitative news by examining its temporal dimension. Our results have implications for future studies that consider both quantitative and qualitative disclosure news. In particular, as there are many forms of quantitative news, future researchers may wish to examine several qualitative news proxies to better understand which components are more informative to investors, analysts, and regulators.

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CAR	=	Cumulative market-adjusted stock returns over the three trading days surrounding a firm's earnings announcement
EARN	=	Quarterly income before extraordinary items scaled by beginning of quarter total assets
REV	=	Mean analyst forecast revision of quarter $t+1$ earnings per share estimated using forecasts made or revised during the 45 days prior to the release of the quarter t earnings press release and forecasts revised during the 30 days following the release of the quarter t earnings press release, scaled by the closing stock price on trading day -2 relative to the quarter t earnings press release
EASURP	=	Actual earnings per share minus the mean analyst forecast using the most recent forecast made by analysts in the 45 days prior to the earnings announcement scaled by the closing stock price on trading day -2 relative to the earnings announcement
TONE	=	Number of positive words in the earnings press release minus the number of negative words in the earnings press release divided by total earnings press release words using Henry and Leone (2009) word list
FL_TONE	=	Number of positive words in forward-looking portions of the earnings press release minus the number of negative words in forward-looking portions of the earnings press release divided by total forward-looking earnings press release words using Henry and Leone (2009) word list
nFL_TONE	=	Number of positive words in non-forward-looking portions of the earnings press release minus the number of negative words in non-forward-looking portions of the earnings press release divided by total non-forward-looking earnings press release words using Henry and Leone (2009) word list
CIG	=	Indicator for the presence of a management earnings forecast bundled with an earnings announcement
CIGSURP	=	Management earnings per share forecast (point estimate or midpoint of range) for quarter $t+1$ minus the mean analyst forecast using the most recent forecast made by analysts in the 45 days prior to the earnings announcement scaled by the closing stock price on trading day -2 relative to the earnings announcement
SIZE	=	Natural logarithm of market capitalization at the end of the fiscal quarter
MTB	=	Price at the end of the quarter multiplied by shares outstanding divided by the book value of stockholders' equity at the end of the fiscal quarter
AMOUNT	=	Number of words in a partition of an earnings press release
FOG	=	Fog index for a partition of an earnings press release
NUMERICAL	=	Number of numerical terms in a partition of an earnings press release
DECEARN	=	Indicator for quarter-over-quarter declines in earnings
DISTRESS	=	Indicator for above sample median Hillegeist et al. (2004) bankruptcy probability
HLITRISK	=	Indicator for above sample median Kim and Skinner (2012) litigation risk
LCOMP	=	Indicator for above sample median 2-digit SIC Herfindahl index

Table 1 – Sample construction

Description of Selection Criterion	Observations Lost	Remaining Observations
All Form 8-K Earnings Press Releases from 2004 - 2010		111,631
Remove the following firm-quarters:		
Missing CRSP PERMNO or		
I/B/E/S TICKER Identifiers	(50,150)	61,481
Missing control variables	(15,399)	46,082
Base sample for analysis		**46,082**

Table 2 – Descriptive statistics

Variables	Mean	Std. Dev.	Q1	Median	Q3
CAR	-0.000	0.088	-0.043	-0.000	0.046
REV	-0.003	0.016	-0.002	-0.000	0.001
$\Delta EARN_{t+1}$	0.000	0.064	-0.007	-0.000	0.007
ΔFL_TONE	-0.000	0.009	-0.005	0.000	0.005
ΔnFL_TONE	-0.000	0.010	-0.006	-0.000	0.006
EASURP	-0.002	0.023	-0.001	0.001	0.003
CIG	0.102	0.303	0.000	0.000	0.000
CIGSURP	-0.000	0.003	0.000	0.000	0.000
SIZE	3,976	9,728	316	908	2,820
MTB	1.56	1.28	0.77	1.19	1.92

Table 2 presents descriptive statistics for the main variables of interest. All continuous variables are winsorized at the 1st and 99th percentile values. Please see Appendix A for variable definitions.

Table 3 – Pairwise correlations

Variables	CAR	REV	$\Delta EARN_{t+1}$	ΔFL_TONE	ΔnFL_TONE	EASURP	CIG	CIGSURP	SIZE	MTB
CAR		0.313***	0.143***	0.030***	0.107***	0.331***	0.015***	0.106***	0.027***	-0.004
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.416)
REV	0.177***		0.225***	0.031***	0.105***	0.355***	0.024***	0.175***	0.120***	0.113***
	(0.000)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$\Delta EARN_{t+1}$	0.094***	0.079***		0.024***	0.106***	0.135***	0.011**	0.067***	0.011**	0.021***
	(0.000)	(0.000)		(0.000)	(0.000)	(0.000)	(0.030)	(0.000)	(0.025)	(0.000)
ΔFL_TONE	0.029***	0.018***	0.020***		0.013**	0.018***	0.007	0.003	-0.002	0.007
	(0.000)	(0.000)	(0.000)		(0.010)	(0.000)	(0.137)	(0.510)	(0.636)	(0.162)
ΔnFL_TONE	0.110***	0.052***	0.049***	0.032***		0.103***	0.004	0.015***	0.016***	0.014***
	(0.000)	(0.000)	(0.000)	(0.000)		(0.000)	(0.408)	(0.002)	(0.001)	(0.005)
EASURP	0.173***	0.356***	0.043***	0.001	0.042***		0.070***	0.035***	0.030***	0.013***
	(0.000)	(0.000)	(0.000)	(0.814)	(0.000)		(0.000)	(0.000)	(0.000)	(0.006)
CIG	0.015***	0.031***	0.003	0.010**	0.002	0.047***		-0.183***	0.133***	0.141***
	(0.003)	(0.000)	(0.524)	(0.035)	(0.740)	(0.000)		(0.000)	(0.000)	(0.000)
CIGSURP	0.082***	0.088***	0.046***	0.009*	0.015***	-0.002	-0.071***		-0.017***	-0.002
	(0.000)	(0.000)	(0.000)	(0.058)	(0.003)	(0.667)	(0.000)		(0.001)	(0.747)
SIZE	0.017***	0.139***	-0.024***	-0.000	0.014***	0.120***	0.128***	0.026***		0.167***
	(0.001)	(0.000)	(0.000)	(0.985)	(0.004)	(0.000)	(0.000)	(0.000)		(0.000)
MTB	-0.015***	0.089***	0.025***	0.006	0.010**	0.074***	0.098***	0.023***	0.131***	
	(0.002)	(0.000)	(0.000)	(0.191)	(0.039)	(0.000)	(0.000)	(0.000)	(0.000)	

Table 3 presents pairwise correlations for variables of interest. Pearson (Spearman) correlations are shown below (above) the diagonal. Two-sided *p*-values are shown below each correlation coefficient. *, **, *** denote two-sided statistical significance at the 0.10, 0.05, and 0.01 levels respectively. Please see Appendix A for variable definitions.

Table 4 – Stock market response to forward-looking and non-forward-looking tone

Variables	(1) CAR	(2) CAR
ΔTONE	1.2794***	
	(14.24)	
ΔFL_TONE		0.2242***
		(4.52)
ΔnFL_TONE		0.8449***
		(15.60)
EASURP	0.6312***	0.6307***
	(13.20)	(13.16)
CIG	0.0046**	0.0050***
	(2.55)	(2.74)
CIGSURP	2.5291***	2.5374***
	(6.81)	(6.79)
SIZE	-0.0003	-0.0003
	(-0.55)	(-0.60)
MTB	-0.0021***	-0.0021***
	(-3.13)	(-3.11)
Constant	0.0069	0.0063
	(0.71)	(0.66)
F-Test: ΔnFL_TONE−ΔFL_TONE=0		0.6208***
		(105.13)
Quarter Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Observations	45,744	45,744
Adjusted R^2	0.048	0.047

Table 4 presents the ordinary least squares estimation results for models of the stock market responses to forward-looking tone (ΔFL_TONE) and non-forward-looking tone (ΔnFL_TONE) around earnings announcements. Both models include quarter and year fixed effects and use standard errors clustered by both firm and year-quarter to mitigate the impact of time-series and cross-sectional correlation in the regression error term (Gow et al., 2010; Petersen, 2009). *T*-statistics are shown below estimated coefficients. An *F*-test of the difference between the coefficients on ΔFL_TONE and ΔnFL_TONE is presented below the main regression results. *, **, and *** denote two-sided statistical significance at the 0.10, 0.05, and 0.01 levels respectively. Please see Appendix A for variable definitions.

Table 5 – The influence of disclosure attributes on the market response to forward-looking and non-forward-looking tone

Panel A – Differences in disclosure attributes

Variables	Forward-Looking	Non-Forward-Looking	Difference
AMOUNT	734	1,211	-477***
TONE	0.005	0.018	-0.013***
FOG	20.32	15.43	4.88***
NUMERICAL	0.023	0.078	-0.055***

Table 5 presents analysis of the impact of disclosure attributes on the stock market response to forward-looking and non-forward-looking tone. Panel A presents univariate within-firm comparisons of differences in the disclosure attributes of forward-looking and non-forward-looking components of earnings press releases. Panel B presents ordinary least squares estimation results for a model of the stock market response to forward-looking tone (ΔFL_TONE) and non-forward-looking tone (ΔnFL_TONE) around earnings announcements with cross-sectional interactions for relatively greater processing costs in forward-looking statements. HDIFF_IMPREC is a binary variable equal to one if the difference between forward-looking NUMERICAL terms and non-forward-looking NUMERICAL terms is below the sample median and zero otherwise. HDIFF_FOG is a binary variable equal to one if the difference between forward-looking FOG and non-forward-looking FOG is above the sample median and zero otherwise. Regression results include quarter and year fixed effects and use standard errors clustered by both firm and year-quarter to mitigate the impact of time-series and cross-sectional correlation in the regression error term (Gow et al., 2010; Petersen, 2009). *T*-statistics are shown below estimated coefficients. *F*-tests of the difference between the coefficients on the cross-sectional interaction terms are presented below the main regression results. *, **, and *** denote two-sided statistical significance at the 0.10, 0.05, and 0.01 levels respectively. Please see Appendix A for variable definitions.

Panel B – Differential stock market response to tone

VARIABLES	(1) CAR	(2) CAR
ΔFL_TONE	0.2792***	0.2619***
	(3.82)	(4.68)
ΔnFL_TONE	0.8360***	0.8476***
	(13.19)	(11.70)
HDIFF_IMPREC	0.0032***	
	(3.98)	
HDIFF_IMPREC*ΔFL_TONE	-0.1107	
	(-1.21)	
HDIFF_IMPREC*ΔnFL_TONE	0.0175	
	(0.27)	
HDIFF_FOG		0.0016
		(1.39)
HDIFF_FOG*ΔFL_TONE		-0.0822
		(-1.12)
HDIFF_FOG*ΔnFL_TONE		-0.0063
		(-0.08)
EASURP	0.6308***	0.6310***
	(13.21)	(13.16)
CIG	0.0051***	0.0051***
	(2.84)	(2.81)
CIGSURP	2.5357***	2.5376***
	(6.77)	(6.79)
SIZE	-0.0003	-0.0002
	(-0.62)	(-0.53)
MTB	-0.0021***	-0.0021***
	(-3.02)	(-3.09)
Constant	0.0153**	0.0155**
	(2.04)	(2.06)
F-Tests:		
HDIFF_IMPREC*ΔnFL_TONE−HDIFF_IMPREC*ΔFL_TONE=0	0.1283	
	(1.11)	
HDIFF_FOG*ΔnFL_TONE−HDIFF_FOG*ΔFL_TONE=0		0.0759
		(0.43)
Quarter Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Observations	45,744	45,744
Adjusted R^2	0.047	0.047

Table 6 – The differential relation between future fundamentals and the temporal orientation of tone

Panel A – Expectations of future fundamentals

Variables	(1) REV	(2) REV
ΔTONE	0.0745***	
	(7.42)	
ΔFL_TONE		0.0235***
		(3.68)
ΔnFL_TONE		0.0482***
		(6.62)
EASURP	0.2483***	0.2483***
	(16.67)	(16.68)
CIG	0.0003*	0.0003*
	(1.67)	(1.76)
CIGSURP	0.4649***	0.4651***
	(4.23)	(4.22)
SIZE	0.0010***	0.0010***
	(9.47)	(9.47)
MTB	0.0006***	0.0006***
	(5.02)	(5.02)
Constant	-0.0092***	-0.0092***
	(-9.75)	(-9.81)
F-Tests:		
ΔnFL_TONE−ΔFL_TONE=0		0.0247***
		(8.19)
Quarter Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Observations	42,348	42,348
Adjusted R^2	0.150	0.150

Table 6 presents ordinary least squares estimation results for models of the relation between future fundamentals and forward-looking and non-forward-looking tone. Panel A presents results for expectations of future fundamentals (REV) while Panel B presents results for actual future fundamentals (ΔEARN). Panel A results include quarter and year fixed effects. Panel B results include quarter, industry (2-digit SIC), and year fixed effects. Results in both panels reflect standard errors clustered by both firm and year-quarter to mitigate the impact of time-series and cross-sectional correlation in the regression error term (Gow et al., 2010; Petersen, 2009). *T*-statistics are shown below estimated coefficients. *F*-tests of the difference between the coefficients on ΔnFL_TONE and ΔFL_TONE are presented below the main regression results. *, **, and *** denote two-sided statistical significance at the 0.10, 0.05, and 0.01 levels respectively. Please see Appendix A for variable definitions.

Panel B – Future fundamentals

Variables	(1) $\Delta EARN_{t+1}$	(2) $\Delta EARN_{t+1}$	(3) $\Delta EARN_{t+4}$
$\Delta TONE$	0.3162***		
	(6.67)		
ΔFL_TONE		0.0512**	0.0253
		(2.07)	(1.22)
ΔnFL_TONE		0.2100***	0.1957***
		(6.63)	(5.41)
$EARN_t$	0.0018	0.0016	-0.0716**
	(0.06)	(0.05)	(-2.40)
$EARN_{t-1}$	-0.1066***	-0.1067***	-0.0817**
	(-2.97)	(-2.97)	(-2.28)
CIG	0.0028***	0.0029***	0.0029**
	(2.69)	(2.77)	(2.21)
CIGSURP	0.8178***	0.8201***	0.5322**
	(3.34)	(3.33)	(2.23)
SIZE	-0.0002	-0.0002	-0.0001
	(-0.68)	(-0.71)	(-0.40)
MTB	0.0013	0.0013	0.0009
	(1.03)	(1.03)	(0.76)
Constant	-0.0078	-0.0079	-0.0050
	(-1.22)	(-1.23)	(-0.65)
F-Tests:			
$\Delta nFL\_TONE - \Delta FL\_TONE = 0$		0.1588***	0.1705***
		(30.10)	(21.02)
Li (2010) Controls	Yes	Yes	Yes
Quarter Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Observations	46,082	46,082	44,030
Adjusted R^2	0.031	0.030	0.041

Table 7 – The impact of disclosure incentives on the stock market response to forward- and non-forward-looking tone

Variables	(1) CAR	(2) CAR	(3) CAR	(4) CAR
ΔFL_TONE	0.1677***	0.1983***	0.2910***	0.1578**
	(3.25)	(2.85)	(3.59)	(2.34)
ΔnFL_TONE	0.5639***	0.7012***	0.9072***	0.6148***
	(8.40)	(14.16)	(14.11)	(10.60)
DECEARN	-0.0251***			
	(-19.10)			
DECEARN*ΔFL_TONE	0.0923			
	(1.31)			
DECEARN*ΔnFL_TONE	0.2962***			
	(3.94)			
DISTRESS		-0.0025**		
		(-2.03)		
DISTRESS*ΔFL_TONE		0.0536		
		(0.64)		
DISTRESS*ΔnFL_TONE		0.2986***		
		(3.64)		
HLITRISK			-0.0125***	
			(-5.04)	
HLITRISK*ΔFL_TONE			0.0501	
			(0.67)	
HLITRISK*ΔnFL_TONE			0.1111	
			(1.04)	
LCOMP				-0.0001
				(-0.09)
LCOMP*ΔFL_TONE				0.1274
				(1.33)
LCOMP*ΔnFL_TONE				0.4107***
				(4.17)
EASURP	0.5423***	0.6218***	0.5924***	0.6295***
	(11.32)	(13.45)	(9.79)	(13.08)
CIG	0.0047**	0.0050***	0.0061***	0.0050***
	(2.53)	(2.67)	(2.93)	(2.72)
CIGSURP	2.4227***	2.4904***	2.2648***	2.5472***
	(6.62)	(6.66)	(5.75)	(6.65)
SIZE	-0.0004	-0.0006	0.0017**	-0.0003
	(-0.79)	(-1.34)	(2.50)	(-0.60)
MTB	-0.0022***	-0.0023***	-0.0024***	-0.0021***
	(-3.27)	(-3.34)	(-3.33)	(-3.04)
Constant	0.0294***	0.0206***	0.0124**	0.0165**
	(4.31)	(2.67)	(2.55)	(2.28)

F-Tests:				
DECEARN*ΔnFL_TONE− DECEARN*ΔFL_TONE=0	0.2039** (5.70)			
DISTRESS*ΔnFL_TONE− DISTRESS*ΔFL_TONE=0		0.2450** (6.00)		
HLITRISK*ΔnFL_TONE− HLITRISK*ΔFL_TONE=0			0.0609 (0.21)	
LCOMP*ΔnFL_TONE− LCOMP*ΔFL_TONE=0				0.2833** (3.88)
Quarter Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	45,744	44,044	31,960	45,672
Adjusted R^2	0.066	0.047	0.045	0.047

Table 7 presents ordinary least squares estimation results for a model of the stock market response to forward- and non-forward looking tone with cross-sectional interactions of disclosure incentives motivated by Rogers and Stocken (2005) with forward- and non-forward-looking tone. The proxies for disclosure incentives include: declining performance as measured by quarter-over-quarter declines in earnings (DECEARN), financial distress as measured by a binary variable for above sample median Hillegeist et al. (2004) bankruptcy probability (DISTRESS), high litigation risk as measured by a binary variable for above sample median Kim and Skinner (2012) litigation risk (HLITRISK), and low industry competition as measured by a binary variable for above sample median 2-digit SIC Herfindahl index (LCOMP). Regression results include quarter and year fixed effects and use standard errors clustered by both firm and year-quarter to mitigate the impact of time-series and cross-sectional correlation in the regression error term (Gow et al., 2010; Petersen, 2009). *T*-statistics are shown below estimated coefficients. *F*-tests of the difference between the coefficients on the cross-sectional interaction terms are presented below the main regression results. *, **, and *** denote two-sided statistical significance at the 0.10, 0.05, and 0.01 levels respectively. Please see Appendix A for variable definitions.

Table 8 – Managers' use of forward- and non-forward-looking tone

Variables	ΔFL_TONE	ΔnFL_TONE	Difference
DECEARN	-0.0003***	-0.0025***	0.0021***
	(-2.75)	(-13.32)	(11.02)
DISTRESS	0.0001	-0.0004*	0.0005**
	(0.80)	(-1.93)	(2.55)
HLITRISK	-0.0001	-0.0005***	0.0004***
	(-1.40)	(-3.65)	(2.77)
LCOMP	-0.0001	-0.0002***	0.0002*
	(-0.57)	(-3.49)	(1.70)
Controls	Yes	Yes	
Li (2010) Controls	Yes	Yes	
Quarter Fixed Effects	Yes	Yes	
Industry Fixed Effects	Yes	Yes	
Year Fixed Effects	Yes	Yes	
Observations	31,182	31,182	
Adjusted R^2	0.006	0.030	

Table 8 presents ordinary least squares estimation results for an augmented version of the model estimated in Table 6. In addition to the variables used in Table 6, Table 8 includes the disclosure incentive variables used in Table 7. The proxies for disclosure incentives include: declining performance as measured by quarter-over-quarter declines in earnings (DECEARN), financial distress as measured by a binary variable for above sample median Hillegeist et al. (2004) bankruptcy probability (DISTRESS), high litigation risk as measured by a binary variable for above sample median Kim and Skinner (2012) litigation risk (HLITRISK), and low industry competition as measured by a binary variable for above sample median 2-digit SIC Herfindahl index (LCOMP). Regression results include quarter, industry (2-digit SIC), and year fixed effects and use standard errors clustered by both firm and year-quarter to mitigate the impact of time-series and cross-sectional correlation in the regression error term (Gow et al., 2010; Petersen, 2009). *T*-statistics are shown below estimated coefficients. *, **, and *** denote two-sided statistical significance at the 0.10, 0.05, and 0.01 levels respectively. Please see Appendix A for variable definitions.