Can Investors Detect Managers' Lack of Spontaneity? Adherence to Pre-determined Scripts during Earnings Conference Calls

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Abstract:
This paper examines whether market participants infer negative information about future unexpected firm performance when managers adhere to pre-determined scripts when responding to questions during earnings conference calls. I argue that managers respond to questions from prepared scripts to avoid the disclosure of bad news. Using a measure of the adherence to pre-determined language, I provide evidence that a lack of spontaneity is negatively associated with the market reaction to the call and with the abnormal returns in the subsequent quarter. I further find that analysts downgrade their forecasts following these calls. I also provide evidence that adherence to pre-determined language is negatively associated with future unexpected firm accounting performance, supporting investors' negative response to it. Finally, I find that bid-ask spreads increase and firms are less likely to guide future earnings when managers adhere to the pre-determined language of a script, suggesting that firms provide less information, not more, during these calls.

Keywords: Conference calls; spontaneity; scripting; textual analysis; firm performance

JEL Classification: G14, M40, M41

I. INTRODUCTION

Earnings conference calls are an important method that firms use to communicate information to market participants. Research suggests that conference calls provide value relevant information beyond the news contained in the earnings announcement and that much of their informativeness is attributable to their interactive nature, which allows for more extemporaneous disclosures that are targeted to the specific concerns of those participating in the calls (Tasker 1998; Frankel, Johnson, Skinner 1999; Bowen, Davis, and Matsumoto 2002; Bushee, Matsumoto, and Miller 2003; Matsumoto, Pronk, and Roelofsen 2011). However, managers relinquish a certain degree of control over their messaging with extemporaneous disclosures, which imposes certain risks on the firm and on the manager, such as those arising from the potential unintended disclosure of bad news. To avoid these risks, managers can take actions to circumvent the interactive nature of conference calls such as biasing their participant selection toward favorable analysts (Mayew 2008) or choosing not to answer certain questions (Hollander, Pronk, and Roelofsen 2010). However, unless managers simply omit the Q&A portion of the call or refuse to answer every difficult question, managers will inevitably be required to respond to questions touching on their negative private information, even when calling upon more favorable analysts. This paper examines the implications of a more covert approach to circumventing the interactivity of conference calls: adhering to the predetermined language of scripted responses to analysts' questions, (hereafter referred to as "scripting").

Circumventing the interactive nature of conference calls can be particularly beneficial to the firm and to the manager when the manager possesses negative private information about future firm performance. Research suggests that managers have incentives to avoid the disclosure of bad news, which, if revealed, can negatively impact the firm's stock price and can cause harm to the

manager's personal reputation and compensation package (Kothari, Shu, and Wysocki 2009; Roychowdhury and Sletten 2012; Sletten 2012; Rogers and Van Buskirk 2013). Bad news disclosure can also result in more significant settlements against firms involved in litigation (Cutler, Davis, and Peterson 2013). By adhering to pre-determined language when responding to anticipated questions, managers can reduce the likelihood that bad news is unintentionally revealed. I, therefore, hypothesize that managers are more likely to adhere to the predetermined language of a script when they possess negative private information about future firm performance. If investors see through the managers' lack of spontaneity, I expect a negative stock market reaction to these calls. If, on the other hand, investors do not detect the managers' lack of spontaneity, I expect a delayed market reaction that materializes when the bad news is eventually revealed.

Scripting also imposes two significant costs that might discourage managers from responding to questions based on predetermined responses. First, a necessary condition for scripting to be observed is the preparation of responses to anticipated questions in advance of the call. Preparation likely involves a significant time commitment by the investor relations team, the legal department, the auditor, and the management team.[1] Second, and more importantly, to the extent outsiders can discern the manager's lack of spontaneity, adhering to a script can harm the manager's reputation and credibility if investors interpret the lack of spontaneity as a signal of the manager's inability to think quickly and effectively lead the company (Kaplan, Klebanov, and Sorensen 2012). Whether the benefits of scripting outweigh the costs is an empirical question.

[1] Preparation costs are likely to be somewhat sticky from quarter to quarter if firms have procedures they follow in preparation for the earnings call. However, if a manager does not plan to rely on a script, the manager can instruct the investor relations staff to forgo preparing for anticipated questions, thus freeing up their time to focus on other important duties.

I develop a measure of managers' adherence to predetermined language when responding to analysts' questions by examining differences in the speaking style of the manager (CEO or CFO) during the Management Discussion (MD) and Q&A portions of the call. Research suggests that stylistic properties of speech naturally differ between written and spontaneous language (Rowley-Joliet and Carter-Thomas 2005). Thus, assuming the MD portion of the call is scripted, differences in style between the two portions of the call indicate a manager is responding to questions more spontaneously rather than reading from predetermined answers.[2]

Using a sample of 40,820 quarterly earnings conference call transcripts for 2,863 firms over the period from 2002 to 2011, I test the association between my measure and the market reaction to the conference call. Controlling for the news in the earnings announcement, I find that firms whose managers adhere to Q&A scripts have significantly lower size- and book-to-market-adjusted returns on the day of the conference call, suggesting that Q&A scripting signals negative information about the firm. I also find a negative association between scripting and the size- and book-to-market-adjusted returns over the 90 days following the conference call, suggesting that investors do not fully incorporate the negative implications of Q&A scripting at the time of the call. In additional analysis, I find that sell-side equity analysts make downward revisions to their earnings forecasts in the 30 days following calls with scripted Q&A, corroborating the market-return tests.

I next examine whether the stock market reaction to scripted Q&A is consistent with managers' information about future firm fundamentals. I find a negative association between scripting and future unexpected earnings (relative to analysts' expectations) in the two quarters

[2] I provide a test in Section III to verify the assumption that the MD portion of the call is scripted. Discussions with a former member of the investor relations team at Morgan Stanley also verify this assumption.

following the conference call, suggesting that investors' negative reaction to scripted Q&A is consistent with future firm fundamentals.

Finally, managers may adhere to a script to ensure that listeners receive all relevant information. Put differently, scripting may serve as a means of providing information rather than withholding it. I conduct two additional tests to determine which explanation is more likely. First, I find that Q&A scripting is associated with an increase in bid-ask spreads following the conference call. Second, I find that firms are less likely to issue earnings guidance on the day of the call when they adhere to a Q&A script. These results suggest that firms provide less not more information when they adhere to a script.

An alternative explanation to my findings is that firms can better anticipate questions when unexpected performance is poor relative to when it is strong. If so, the variation in scripting comes not because of managers' incentives but due to the asymmetric ability of the firm to anticipate and prepare for potential questions before bad news events. My focus on *unexpected* future firm performance (performance anticipated by the firm but unanticipated by outsiders) rather than *expected* firm performance (performance anticipated by both the firm and outsiders) provides some assurance that analysts likely cannot ask questions about future events for which they do not possess private information. If so, the ability of the firm to anticipate such questions is unlikely to vary across periods of poor and strong unexpected future performance. However, I cannot completely rule out this alternative explanation.

Subject to this caveat, this paper contributes to the literature that examines the linguistic features of firm disclosures to extract information about the firm.[3] Prior research provides evidence

[3] Examples include Li (2008) and Lehavy, Li, and Merkley (2011), who examine the readability of financial reports; Brown and Tucker (2011), who examine firms' year-over-year MD&A modifications; Li (2010), who examines forward-looking statements in MD&A disclosures; and Tetlock, Saar-Tsechansky, and Macskassy (2008), Loughran and McDonald (2011), Davis and Tama-Sweet (2012), Rogers, Van Buskirk, and Zechman (2011), Davis, Piger, and Sedor (2012), and Blau, DeLisle, and Price (2012), who examine disclosure tone in other settings.

that disclosure tone (Davis, Ge, Matsumoto, and Zhang 2012; Price, Doran, Peterson, and Bliss 2012), vocal cues in speech (Mayew and Venkatachalam 2012), and deceptive speech markers (Larcker and Zakolyukina 2012) are informative features of earnings calls. This study provides evidence that the adherence to predetermined scripts also signals information to market participants. It also contributes to the literature that examines whether conference calls provide material information. Prior research finds significant trading activity at the time of the call (Frankel et al. 1999; Bushee et al. 2003; Bushee, Matsumoto, and Miller 2004, Lansford, Lee, and Tucker 2009), improvements in analyst forecast accuracy following the call (Bowen et al. 2002), more timely incorporation of earnings news into prices for firms initiating conference calls (Kimbrough 2005), and a reduction in information asymmetry for firms holding regular quarterly calls (Brown, Hillegeist, and Lo 2004). I provide evidence that managers provide less information when they respond to questions from a prepared script.

II. BACKGROUND AND HYPOTHESIS DEVELOPMENT

Quarterly earnings conference calls have become an important form of voluntary disclosure. In 2002, approximately 45 percent of nonfinancial Compustat firms with analyst following held at least one earnings conference call during the year, and by 2011, the incidence had increased to 72 percent (see Figure 1).[4] Conference calls generally involve two parts: a Management Discussion (MD) portion in which managers discuss results for the quarter and a question and answer (Q&A) portion in which analysts and investors question management. The

[4] These percentages include all nonfinancial firms on Compustat regardless of whether they have unique Factiva identifiers. Restricting the focus to Compustat firms with analyst following and nonmissing Factiva identifiers, the percentages are higher, reaching 86 percent in 2011. Thus these statistics may understate the true number of firms holding conference calls since Factiva may not cover all firms on Compustat. In addition, these numbers are lower than those reported by a recent NIRI survey indicating that 97 percent of investor relations officers report that their companies hold quarterly earnings calls. These differences are likely due to the companies included in the NIRI survey, which include respondents from NIRI members representing 1,600 publicly held companies and all Fortune 500 firms. This group of firms thus likely represents a portion of the firms on Compustat that are particularly active in investor relations.

Q&A is a unique voluntary disclosure setting due to its interactive format. Other forms of voluntary disclosure are more one-sided (e.g., press releases). Inviting questions creates an opportunity for extemporaneous communication between the manager and those participating in the call, which can be informative for market participants. However, extemporaneity also allows for the possibility that managers reveal information they would have otherwise chosen to keep private (Hollander, et al. 2010).[5]

Prior research suggests that managers can circumvent the extemporaneous nature of conference calls by biasing their participant selection toward more favorable analysts (Mayew 2008) or by simply refusing to answer analysts' questions (Hollander, et al. 2010). Prior research provides evidence that investors respond negatively to these strategies. However, unless managers simply cut the Q&A session from the call, they will inevitably be required to respond to questions touching on their negative private information, even when calling upon more favorable analysts.[6] The focus of this paper is to examine the implications of a more covert approach to circumventing the extemporaneous nature of the Q&A portion of the call: adhering to predetermined responses to anticipated questions.

Managers are likely to adhere to predetermined responses when the benefits outweigh the costs. The costs of scripting include preparation costs and managers' reputational costs. Preparation costs include the staff needed to 1) survey analysts and identify likely questions, 2) prepare responses to the questions, 3) validate the responses with the legal department and the

[5] Matsumoto et al. (2011) corroborate this argument. They find greater information content for the Q&A portion of the conference call relative to both the formal MD portion and the accompanying press release, suggesting that "some disclosures would perhaps not have been made were it not for questioning by analysts."

[6] Analysts need not necessarily have advance knowledge of future unfavorable outcomes to ask questions touching on managers' negative private information. For example, analysts can ask broad questions relating to future sales projections, relationships with key customers, long-term strategy, the viability of an investment project, etc. Analysts ask these questions to obtain additional information from managers who likely possess private information about the anticipated outcomes.

auditor, and 4) familiarize managers with the script. Preparation requires the effort of the investor relations team, the legal department, the auditor, and the management team; these costs are unlikely to be trivial given the frequency of quarterly earnings calls. Managers' reputational costs include investors interpreting a lack of spontaneity as a signal that the manager cannot think quickly and effectively lead the company. For example, Kaplan et al. (2012) find that successful managers can quickly understand and absorb new information, structure and process quantitative and qualitative data, and see and communicate their company vision in an inspiring way (see Table 5 of Kaplan et al. 2012).

A key benefit of scripting is to provide more careful disclosure, circumventing the extemporaneous nature of the Q&A portion of the conference call. This benefit is likely greatest when the manager possesses negative private information about future firm performance. For example, research suggests that disclosure is costly prior to lawsuits. Cutler et al. (2013) provide evidence that firms with greater disclosure during the litigation class period are more likely to pay significant settlements, and Rogers and Van Buskirk (2009) find that firms reduce disclosure following class-action lawsuits. Managers who adhere to a Q&A script when they possess negative private information can avoid revealing it and thus prevent it from being used to build a case against their firms.

Prior research also suggests that managers have asymmetric incentives to withhold bad news from investors relative to good news to avoid any negative reputational and compensation implications (Kothari et al. 2009; Roychowdhury and Sletten 2012; Graham, Harvey, and Rajgopal 2005). For example, Kothari et al. (2009) find stronger market reactions to bad news disclosures than good news disclosures, suggesting that bad news builds up as it is withheld while good news is quickly disclosed. The delayed disclosure of bad news gives managers time to try to reverse its

effects or to wait for good news to offset the bad news. Managers might use a prepared script in either case to avoid additional negative disclosures.

If managers are more likely to respond to questions from a script when they possess bad news about future firm performance and if outsiders can discern scripted from unscripted responses, the stock price of the firm is likely to fall at the time of the conference call. To the extent the market cannot fully detect scripting, I expect a delayed market reaction that materializes as the negative information is released following the conference call date. A negative future market reaction is contingent upon investors not fully incorporating the scripting signal into the stock price at the time of the conference call.

III. RESEARCH DESIGN

Conference Call Q&A Scripting Measure

I develop a measure of Q&A scripting by examining differences in managerial speaking style between the Q&A and MD portions of the call. Research suggests that the style of written language differs fundamentally from spontaneous speech (Rowley-Joliet and Carter-Thomas 2005). The MD portion of the call is often referred to by managers as the "prepared remarks" and likely represents a written narrative intended to be read aloud. In contrast, the Q&A is more likely to be extemporaneous.[7] If the manager adheres to a script when responding to analysts' questions, the manager's speaking style during the Q&A is more likely to resemble the style of the MD

[7] For example, 85.7% of the firms in this study have at least one conference call in which they refer to their MD as the "prepared remarks" or "prepared comments." Thus common practice suggests that the MD remarks are written in advance. In contrast, I find only one conference call in which the manager acknowledges that he is responding to an analyst's question from a script. Thus managers appear willing to admit to having written MDs but are less willing to acknowledge they are responding to questions from a script.

portion. If, on the other hand, the manager speaks spontaneously, speaking style is likely to significantly differ between the two portions of the call.[8]

I measure the difference in speaking style across the two portions of the call by comparing the manager's use of function words during each portion. Function words are those with primarily grammatical functions and include articles (e.g., *a, an, the*), conjunctions (e.g., *and, or, so*), pronouns (e.g., *I, me, we*), prepositions (e.g., *of, on, in*), and auxiliary verbs (e.g., *is, do, can*).[9] Research in computational stylistics suggests that function words are the best stylistic discriminators between two sets of speech because they are unrelated to the topics discussed and they reflect minor or even unconscious preferences of the speaker (e.g, Mosteller and Wallace 1963; Burrows 1987; Koppel, Schler, and Argamon 2009; Stamatatos 2009; Mosteller 2010).[10] Thus function words are well suited for identifying stylistic properties of speech.[11]

For each conference call, I first identify the MD and Q&A portions of the call by searching for key words such as "question" and "Q&A" within two lines of other key words such as "take" or "open up."[12] I then identify the chief executive and chief financial officers using the titles provided during the call and obtain the portions of the call in which the executive is speaking. For most calls, the CEO is the spokesman. However, in some cases, the CFO handles the call. I

[8] An alternative possibility for differences in style between the MD and Q&A portions of the call is that the investor relations team writes the MD, but the manager spontaneously responds to questions. Consistent with this possibility, I find that the speaking style *across* managers (e.g., CEO, CFO, COO, etc.) during the MD portion is more similar when Q&As are identified as more scripted, suggesting that the style of the investor relations team is at least partially represented in the MD. In addition, removing observations in the lowest decile of across-manager style similarity in the MD (i.e., when the MD is presumably less likely to be scripted) does not alter the results presented in this paper.

[9] The list of function words used in this study is obtained from the Linguistic Inquiry and Word Count software available at http://www.liwc.net/.

[10] This is not to say that Q&A scripting is unrelated to the topics discussed. Rather, the identification of stylistic properties of speech using function words is unrelated to the topics discussed.

[11] Although the scripting measure examines the difference in the manager's use of function words during the MD and Q&A portions of the call, market participants are unlikely to identify subtle changes in the use of function words to identify scripting. Instead, Chawla and Krauss (1994) suggest that listeners can discern the difference between scripted and spontaneous speech by identifying how naturally the speech flows.

[12] To ensure I obtain the key words when the Q&A truly begins rather than a reference to it later in the call, I require the Q&A to start at least 10 percent into the call.

therefore use the "spokesman manager" to compute the scripting measure, where "spokesman manager" is defined as the CEO or CFO who speaks the most words during the call. Next, I create two vectors of the counts of the function words spoken by the manager in each portion of the call: v_{QA} and v_{MD}, respectively, where *QA* represents the Q&A portion and *MD* represents the MD portion. I then compute my measure of scripting as the cosine similarity between the two vectors using the following formula:

$$\boldsymbol{RAWSCRIPT = cos(\theta) = \frac{v_{QA} \cdot v_{MD}}{\|v_{QA}\| \|v_{MD}\|}} \qquad \textbf{(1)}$$

*wh*ere θ is the angle between v_{QA} and v_{MD}, (·) is the dot product operator, and $\|v_i\|$ is the length of vector v_i. (i is equal to *QA* and *MD*.) The cosine-similarity measure captures the uncentered correlation between two vectors and provides an estimate of the similarity in the use of function words by the manager during the MD and Q&A portions of the call.[13] Its values range between 0 and 1 where greater values indicate greater similarity.

Brown and Tucker (2011) show that the cosine-similarity score is a decreasing function of the length of the two compared documents. They reason that longer documents allow for a greater probability that a word is included in both documents, leading to mechanically greater similarity between them. I remove the effect of document length from the scripting measure by first estimating the relation between $RAWSCRIPT_{i,t}$ and the length of the MD and Q&A portions of the call, including squared and cubed terms. The residual of this regression represents a length-adjusted measure of scripting, which I call $SCRIPT_{i,t}$. For ease in economic interpretation in the multivariate analyses, I rank the $SCRIPT_{i,t}$ measure into deciles from 0 to 9 and divide by 9

[13] Brown and Tucker (2011) use the cosine-similarity measure to compare firms' MD&A disclosures over time. Their word count vectors include all unique words in the disclosure to compare content, whereas I use only the counts of function words to compare speaking style.

($RSCRIPT_{i,t}$).[14] I also require at least 200 words to be spoken by the manager in both the MD and Q&A portions of the call to reduce measurement error.

Validation Tests of the Scripting Measure

I verify the construct validity of the cosine-similarity measure in identifying the speaking style of the manager using a randomization test. I first compute the cosine similarity between the vector of function word counts spoken by manager *j* during the Q&A (MD) session for firm *i* in quarter *t* to the vector of the combined Q&A (MD) sessions given by manager *j* for firm *i* during all other quarters. I then compute the cosine similarity between the manager *j* Q&A (MD) function word count vector in quarter *t* to nine randomly selected combined vectors for managers of other firms across the sample period. I then rank the actual manager vector relative to the nine randomly selected manager vectors, where values of 1 (10) indicate the actual manager vector is the most (least) similar relative to the nine randomly selected manager vectors. Figure 2 presents the cumulative percentage of calls in each ranking. If the ranking were random, the percentage of calls in each ranking would be 10 percent. When comparing the Q&A (MD) session during the quarter to the Q&A (MD) sessions of other quarters, the results indicate that 79.8 (87.0) percent of the similarity scores are highest for the actual manager relative to the nine randomly selected managers, suggesting that the similarity score identifies the speaking style of the manager during the Q&A (MD) session.[15]

I then compute the cosine similarity between the MD-session vector for manager *j* of firm *i* in quarter *t* and 1) the Q&A-session vector for manager *j* of firm *i* in quarter *t* and 2) nine randomly selected Q&A-session vectors for managers of other firms. I then rank the similarity score for the

[14] The results remain qualitatively unchanged if I use the unranked cosine-similarity measure.
[15] These findings are important given the literature's focus on written language and my focus on spoken language. Function words appear to be well-suited for identifying stylistic patterns of both written and spoken language.

actual manager vector relative to the randomly selected manager vectors. Figure 2 plots the cumulative percentage of conference calls in each ranking (MD to Q&A line). I find that only 20.3 percent of the similarity scores are highest for the Q&A session of the actual manager compared to the nine randomly selected Q&A sessions of other managers, suggesting two important points. First, managers' styles differ significantly between the prepared remarks of the MD portion and the more spontaneous remarks in the Q&A. If not, the percentage of firms with rankings closer to 1 would have been closer to 100 percent. Second, the percentage of firms with a ranking of 1 is greater than what would be expected if the rankings were random (20 percent relative to 10 percent), suggesting that some managers adhere to Q&A scripts.

As a test of the internal validity of the scripting measure, I read several Q&A sessions in the top and bottom deciles of the scripting measure to identify patterns that indicate a scripted vs. a spontaneous answer. I find that, for calls in the bottom decile of the scripting measure (i.e., spontaneous Q&A), managers often begin sentences with the words "and," "so," and "but," which is consistent with spontaneous and fragmented speech. These managers are also more likely to pause in the middle of a sentence as signified by a "--" symbol in the transcript.[16] To test whether these patterns are consistent across the sample, I compute the abnormal percentage of fragmented sentences as the percentage of sentences that begin with "and," "so," or "but" during the Q&A less the percentage in the MD. I find that the abnormal percentage equals 18.7 (9.7) percent in the bottom (top) decile of the scripting measure (untabulated), suggesting that scripted responses entail fewer fragmented sentences. Similarly, I identify the abnormal number of pauses per sentence as the number of pauses per sentence in the Q&A session less the number of pauses per sentence in

[16] For example, Manny Medina, CEO of Terremark Worldwide Inc., in his first-quarter 2010 conference call, said, "We've signed some very significant opportunities and have really seen an acceleration of the -- of just customers not wanting to deal with the infrastructure end of the business." The "--" in the transcript signifies a pause and shift in Mr. Medina's sentence, indicating that Mr. Medina is unlikely to be reading from a script.

the MD session. I find that the abnormal pauses per sentence equals 0.091 (0.057) for calls in the bottom (top) decile of the scripting measure (untabulated), suggesting that scripted responses have fewer pauses per sentence.

Test of the Market Reaction to Scripted Q&A

I test whether scripted Q&A is negatively associated with the stock market reaction on the conference call date by estimating the following model similar to Mayew and Venkatachalam (2012):

$$\begin{aligned} CC\ CAR_{i,t} = {} & \delta_0 + \delta_1 RSCRIPT_{i,t} + \delta_2 UE\ EARN_{i,t} + \delta_3 ln(MVE_{i,t}) + \delta_4 RET\ VOL_{i,t} + \delta_5 \\ & BTM_{i,t} + \delta_6 MOM_{i,t} + \delta_7 GUIDANCE_{i,t} + \delta_8 GUID\ SURP_{i,t} + \delta_9 TONE_{i,t} + \\ & \delta_{10}\ NO\ RESPONSE_{i,t} + \delta_{11}\ ln(WC\ MD_{i,t}) + \delta_{12}\ ln(WC\ QA_{i,t}) + \delta_{13} \\ & ln(TENURE_{i,t}) + YEARQTR + MANAGER + \varepsilon_{i,t}. \end{aligned} \quad (2)$$

The dependent variable is the size- and book-to-market-adjusted cumulative abnormal stock return over the window [0,1] surrounding the earnings conference call date ($CC\ CAR_{i,t}$). The stock is matched to one of the 25 size-BTM Fama-French portfolios based on the market capitalization of the firm at the end of June and the book value of equity of the last fiscal year-end in the prior calendar year divided by the market value of equity at the end of December of the prior year.[17] The independent variable of interest is the $RSCRIPT_{i,t}$ measure defined above. I expect a negative association between $RSCRIPT_{i,t}$ and $CC\ CAR_{i,t}$ if investors interpret Q&A scripting as a negative signal of future firm performance.

I control for size, growth, and risk, which have been shown to be related to market returns (Collins and Kothari 1989). I use the natural logarithm of market value of equity ($ln(MVE_{i,t})$ as the proxy for size, book-to-market ($BTM_{i,t}$) as the proxy for growth, and return volatility ($RET\ VOL_{i,t}$)

[17] The breakpoints and 25 portfolio returns are obtained from Kenneth French's website at http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.

as the proxy for risk. $BTM_{i,t}$ is defined as the ratio of the book value of equity divided by the market value of equity at the end of the fiscal quarter. $RET\ VOL_{i,t}$ is defined as the standard deviation of monthly stock returns over the previous 12 months. In addition, I control for return momentum ($MOM_{i,t}$), defined as the cumulative abnormal return over the [-127, -2] window before the conference call date. I also include the current period earnings surprise ($UE\ EARN_{i,t}$) to control for the market reaction to current period earnings and expect a positive coefficient. $UE\ EARN_{i,t}$ equals earnings per share for firm *i* in quarter *t* less the median analyst forecast of earnings per share for quarter *t* computed using forecasts made prior to the earnings announcement date and scaled by price on the day prior to the earnings announcement.

I also include two controls for managers' provision of quantitative forward-looking information during their calls. The first equals 1 if the firm provides earnings guidance for the next quarter's EPS on the conference call date and 0 otherwise ($GUIDANCE_{i,t}$).[18] The second controls for the direction of the surprise in the earnings guidance by defining a variable equal to 1 if the guidance qualifies as a positive earnings surprise, equal to 0 if the guidance does not qualify as a surprise, and equal to -1 if the guidance qualifies as a negative surprise ($GUID\ SURP_{i,t}$). When the firm does not provide earnings guidance, $GUID\ SURP_{i,t}$ equals 0.

I next include several conference call variables associated with the market reaction to the call. $TONE_{i,t}$ is the number of positive words less the number of negative words in the call divided by the total number of words in the call, to control for managers' signaling of future performance with optimistic language. The positive and negative word dictionaries are obtained from Loughran and McDonald (2011). I expect a positive association between tone and the market reaction to the call if net optimistic language indicates positive information about future performance (Davis et

[18] I use guidance data from both First Call and IBES to reduce issues associated with the completeness of the datasets (Chuk et al. 2012).

al. 2012; Price et al. 2012). My next indicator variable equals 1 if a manager refuses to answer an analyst's question during the call and 0 otherwise (*NO RESPONSE*$_{i,t}$). I expect a negative association between *NO RESPONSE*$_{i,t}$ and the market reaction to the call if investors interpret withheld information negatively (Hollander et al. 2010). I identify managers' refusal to respond to questions by first reading a sample of conference call transcripts and searching for key phrases that managers use to decline to answer a question.[19] I then search for these key phrases in managers' answers to questions received during the Q&A sessions of all calls used in this study. I next include the natural logarithm of the number of words spoken by the manager during the MD (*ln*(*WC MD*$_{i,t}$)) and the Q&A (*ln*(*WC QA*$_{i,t}$)) to control for potential measurement error in the scripting measure if the procedure outlined above does not perfectly control for a mechanical relation between the scripting measure and the length of each portion.[20]

I include manager fixed effects to control for managers' disclosure styles (Bamber, et al. 2010; Davis, et al. 2012)[21] and year-quarter fixed effects to control for differences in Q&A scripting over time. The manager fixed effects only control for time-invariant characteristics of the manager. For this reason, I also control for the tenure of the manager as an executive of the firm, defined as the natural logarithm of the number of years since the executive obtained his or her current position with the firm (*ln*(*TENURE*$_{i,t}$)). I expect managers to be less likely to script their

[19] For example, managers might say "We prefer not to comment on…" or "We'd rather not discuss…" when refusing to answer an analyst's question.

[20] I do not include the affective state of the manager in the model due to data limitations. I merge the managerial affect data from Mayew and Venkatachalam (2012) with my data on Q&A scripting and find 1,513 overlapping observations. The correlations between *RSCRIPT*$_{i,t}$ and both positive and negative affect (PAFF and NAFF) are insignificant (see Mayew and Venkatachalam (2012) for definitions). Thus the exclusion of managerial affect from the model is unlikely to bias the coefficients on *RSCRIPT*$_{i,t}$.

[21] As an additional robustness test to control for managers' specific disclosure styles, I compute a measure of unexpected scripting in the current period by subtracting the average values of scripting for the manager using the conference calls over the previous year. The results are robust to using this measure. See Section VI for additional detail.

Q&A when they have more experience with the firm. Finally, I cluster the standard errors by firm due to likely serial correlation in the dependent and independent variables (Petersen 2009).

Test of the Relation between Q&A Scripting and Unexpected Future Earnings

I next examine whether the negative market reaction to scripted Q&A is consistent with future firm performance. I test the association between scripting and firms' future unexpected earnings by estimating the following model:

$$\begin{aligned} UE\ EARN_{i,t+1} = {} & \alpha_0 + \alpha_1 RSCRIPT_{i,t} + \alpha_2 UE\ EARN_{i,t} + \alpha_3 ln(MVE_{i,t}) + \alpha_4 DISPERSION_{i,t} \\ & + \alpha_5 RET\ VOL_{i,t} + \alpha_6 GUIDANCE_{i,t} + \alpha_7 GUID\ SURP_{i,t} + \alpha_8 TONE_{i,t} + \\ & \alpha_9 NO\ RESPONSE_{i,t} + \alpha_{10} ln(WC\ MD_{i,t}) + \alpha_{11} ln(WC\ QA_{i,t}) + \alpha_{12} \\ & ln(TENURE_{i,t}) + YEARQTR + MANAGER + \varepsilon_{i,t}. \end{aligned} \quad (3)$$

The dependent variable, $UE\ EARN_{i,t+1}$, equals earnings per share for firm i in quarter $t+1$ less the median analyst forecast of earnings per share for quarter $t+1$, computed using forecasts made before the earnings announcement date and scaled by price on the day before the earnings announcement. I also examine unexpected earnings for quarter $t+2$ ($UE\ EARN_{i,t+2}$), defined similarly, and for the cumulative unexpected earnings over quarters t+1 and t+2 ($UE\ EARN_{i,t+1,t+2}$). The independent variable of interest is the $RSCRIPT_{i,t}$ variable, which is the conference call Q&A scripting measure defined above. I expect a negative association between $UE\ EARN_{i,t+1}$ and $RSCRIPT_{i,t}$ if firms script Q&A responses before periods of poor unexpected performance.

I include several additional firm-specific variables to control for factors likely associated with scripting and unexpected future earnings. I first include the current value of $UE\ EARN_{i,t}$ to control for persistence in the earnings surprises. I also control for firm size ($ln(MVE_{i,t})$), the dispersion in analyst forecasts issued before the earnings announcement ($DISPERSION_{i,t}$), and return volatility ($RET\ VOL_{i,t}$). I include the two earnings guidance variables, $GUIDANCE_{i,t}$ and $GUID\ SURP_{i,t}$, to control for quantitative information provided by the firm about future

performance. I also include conference-call-specific variables, $TONE_{i,t}$, $NO\ RESPONSE_{i,t}$, $ln(WC\ MD_{i,t})$, and $ln(WC\ QA_{i,t})$, to control for alternative linguistic features of the conference call and for potential measurement error in the scripting measure.

Next, I include the tenure of the manager ($ln(TENURE_{i,t})$) and manager fixed effects to control for manager characteristics that can affect both future unexpected earnings and Q&A scripting. I also include year-quarter fixed effects to control for differences in Q&A scripting over time. Finally, I cluster the standard errors by firm due to likely serial correlation in the dependent and independent variables (Petersen 2009).

IV. SAMPLE SELECTION AND DATA

I obtain a sample of earnings conference calls by first matching all nonfinancial firms on Compustat with nonmissing total assets between 2002 and 2011 to their corresponding unique Factiva identifiers using the company name provided by Compustat.[22] For the 11,702 unique Compustat firms, I find Factiva identifiers for 5,099 firms. Using each firm's unique identifier, I then search Factiva's FD Wire for earnings conference calls made between 2002 and 2011 and find 53,165 total calls for 3,403 unique firms.[23] Requiring financial statement data from Compustat, CRSP, and IBES further reduces the sample by 173 calls, 1,836 calls, and 7,222 calls, respectively. I remove 3,114 calls in which the manager speaks less than 200 words in either the MD or Q&A portion of the call. The final sample consists of 40,820 earnings conference calls for 2,863 unique firms with sufficient data to estimate the main empirical analyses.

[22] In cases where the match is ambiguous, I check whether the city and state of the matched firm in Factiva matches the city and state of the firm in Compustat.

[23] Factiva contains different types of conference calls such as those discussing mergers and acquisitions. I focus only on earnings-related conference calls. I filter out non-earnings-related calls by requiring the term "earnings" to be in the title of the call. I also require the conference call be made within two days of the earnings announcement.

Table 1 presents the means of the variables used in the empirical analysis for the full sample and also for each quintile of the $SCRIPT_{i,t}$ measure. The table also reports the test statistic testing the difference between the fifth and first quintile. The mean of the scripting measure ($SCRIPT_{i,t}$) is −0.069 in the bottom quintile and 0.059 in the top quintile. The mean of the cumulative abnormal return at the conference call date ($CC\ CAR_{i,t}$) is 0.004 in the bottom quintile of the scripting measure and −0.002 in the top quintile, and the difference is statistically significant at the 1 percent level providing preliminary evidence that investors interpret scripting as a signal that mangers possess bad news about the future of the firm. I find no difference in the cumulative abnormal return in the 90 trading days following the conference call ($FUT\ CAR_{i,t}$) between the top and bottom quintiles, suggesting that the negative market reaction to scripted Q&A is quickly incorporated into the stock price at the time of the conference call. I also find analyst forecast revisions following the conference call for the next quarter's EPS ($FREV_{i,t+1}$) are significantly more negative in the top quintile of the scripting measure relative to the bottom quintile (−0.220 compared to −0.187), suggesting that analysts incorporate the negative scripting signal into their forecasts of future earnings.

Table 1 also reports significant differences in future unexpected earnings between the top and bottom quintiles of the scripting measure. The mean of $UE\ EARN_{i,t+1}$ ($UE\ EARN_{i,t+2}$) is −0.238 (−0.339) in the bottom quintile and −0.319 (−0.440) in the top quintile, and the difference is significant at the 1 (1) percent level. These results provide preliminary evidence that the negative market reaction to scripted Q&A is consistent with future unexpected firm performance.

I also report the means of the control variables used in the empirical analysis. The significant differences between the top and bottom quintiles for these variables underscore the importance of including them in the empirical analysis to control for alternative explanations. I specifically find that firms in the top quintile are larger with greater analyst forecast dispersion,

greater return volatility, more negative earnings guidance, and more negative disclosure tone. Firms with higher levels of Q&A scripting are also less likely to provide earnings guidance on the day of the conference call.

V. RESULTS

Results of the Market Reaction to Scripted Q&A

Column 1 of Table 2 presents the results of estimating the relation between Q&A scripting and the market reaction to the conference call (Equation 2). The coefficient on $RSCRIPT_{i,t}$ is −0.006 and significant at the 1 percent level. The coefficient estimate indicates that, relative to firms in the bottom decile, firms in the top decile of $RSCRIPT_{i,t}$ have 13.0 percent lower abnormal returns at the conference call date relative to the median of the magnitude of $CC\ CAR_{i,t}$ (−0.006/0.046 = -0.130). This result is consistent with investors interpreting scripted Q&A as a negative signal. The control variables indicate that larger and higher growth firms have lower conference call returns. I also find a negative relation between the conference call return and return momentum and a positive relation between the conference call return and return volatility. I further find that firms with more positive earnings guidance on the day of the call have higher abnormal returns on the day of the call but that the decision to guide future earnings is negatively associated with the abnormal return. In addition, firms with more positive conference call tone have higher abnormal returns consistent with prior research. I also find that firms with longer MDs and Q&As have lower abnormal returns.

I next examine whether scripting is associated with future abnormal returns to determine whether investors over- or underreact to managers' lack of spontaneity. Column 2 of Table 2 reports the results of Equation (2) replacing $CC\ CAR_{i,t}$ with $FUT\ CAR_{i,t}$, defined as the abnormal return for the 90 trading days following the conference call using the window [2, 92]. I find a

negative and significant (10 percent level) relation between $RSCRIPT_{i,t}$ and $FUT\ CAR_{i,t}$, suggesting that the reaction at the conference call date does not fully incorporate the negative information in the Q&A scripting signal. The coefficient estimate of −0.009 indicates that, relative to firms in the bottom decile of the scripting measure, firms in the top decile have 7.3 percent lower abnormal returns in the 90 days following the conference call date relative to the median of the magnitude of $FUT\ CAR_{i,t}$ (−0.009/0.124 = −0.073).

Next, I corroborate the results in Table 2 by examining revisions of analysts' EPS forecasts for quarter t+1 following the conference call. Specifically, I regress analyst forecast revisions, $FREV_{i,t+1}$, defined as the median analyst EPS forecast for quarter t+1 for all forecasts made within 30 days following the conference call less the median consensus forecast of quarter t+1 directly before the conference call divided by price and multiplied by 100 on the scripting measure and other control variables.[24] Table 3 presents the results and reports a negative coefficient on $RSCRIPT_{i,t}$ of −0.048, which is significant at the 1 percent level. The coefficient estimate suggests that moving from the bottom to the top decile of the $RSCRIPT_{i,t}$ measure is associated with a 32.7 percent decrease in $FREV_{i,t+1}$ relative to the median of the magnitude of $FREV_{i,t+1}$ (−0.048/0.147 = 0.327). This result is consistent with the abnormal returns tests and suggests that analysts revise downward their forecasts of future earnings following calls with scripted Q&A. Thus sophisticated financial-statement users (i.e., analysts) also view managers' lack of spontaneity as a negative signal. The control variables indicate that analysts revise their forecasts upward following large current-period earnings surprises and following calls with positive disclosure tone. Analysts also revise upward following positive earnings guidance and for larger firms with greater return volatility. Overall, I find evidence consistent with my expectations. The results suggest that

[24] I multiply by 100 to be able to observe the coefficient on the scripting variable without reporting several decimal places.

investors interpret scripted Q&A negatively and that analysts revise their forecasts downward following calls with scripted Q&A.

Results of the Relation between Q&A Scripting and Unexpected Future Earnings

Table 4 presents the results of estimating the relation between Q&A scripting and unexpected future earnings (Equation 3). In Columns 1 to 3, the dependent variables are *UE* $EARN_{i,t+1}$, *UE* $EARN_{i,t+2}$, and *UE* $EARN_{i,t+1,t+2}$, respectively. The coefficient on $RSCRIPT_{i,t}$ is equal to −0.082 in Column 1, −0.099 in Column 2, and −0.195 in Column 3 (significant at the 5, 5, and 1 percent levels, respectively), suggesting that the negative market reaction to scripted Q&A is consistent with negative future firm fundamentals. The coefficient estimates suggest that relative to firms in the bottom decile of the scripting measure, firms in the top decile have 29.8 percent lower *UE* $EARN_{i,t+1}$ relative to the median of the magnitude of *UE* $EARN_{i,t+1}$ (−0.082/0.275 = −0.298), 28.3 percent lower *UE* $EARN_{i,t+2}$ relative to the median of the magnitude of *UE* $EARN_{i,t+2}$ (−0.099/0.350 = −0.283), and 34.3 percent lower *UE* $EARN_{i,t+1,t+2}$ relative to the median of the magnitude of *UE* $EARN_{i,t+1,t+2}$ (−0.195/0.569 = −0.343).

The control variables indicate that firms with more positive current period unexpected earnings have more positive future unexpected earnings, consistent with persistence in unexpected earnings. Firms with low return volatility and high analyst forecast dispersion have higher future unexpected earnings. I also find that firms with positive earnings guidance and positive conference call tone have more positive future unexpected earnings.

VI. SENSITIVITY TESTS USING ABNORMAL LEVELS OF Q&A SCRIPTING

In the main empirical analysis, I use the level of scripting in the current period to test the association between scripting and the market reaction to the call and future unexpected earnings. However, some managers and firms are likely to have a policy of scripting, leading to stickiness

in the measure. Indeed, the serial correlation in $RSCRIPT_{i,t}$ is equal to 0.49 and is consistent with managers having distinctive disclosure styles (see Bamber et al. 2010; Davis et al. 2012). In the previous tests, I control for manager's propensity to script in each period by including manager fixed effects in the models. In this section, I examine whether the results are robust to using an alternative measure of scripting that removes the manager's normal level of adherence to a script. Specifically, I estimate the normal level of scripting ($NSCRIPT_{i,t}$) for the manager as the average value of $SCRIPT_{i,t}$ over the previous four quarters. I then define *ABN* $SCRIPT_{i,t}$ as the difference between $SCRIPT_{i,t}$ and $NSCRIPT_{i,t}$. Similar to the $RSCRIPT_{i,t}$ measure, I then rank the *ABN* $SCRIPT_{i,t}$ measure into deciles from 0 to 9 and divide by 9 and call the resulting variable *ABN* $RSCRIPT_{i,t}$. I then re-estimate Equations 2 and 3 replacing $RSCRIPT_{i,t}$ with *ABN* $RSCRIPT_{i,t}$. Because I remove the manager component of the scripting measure, I also replace the manager fixed effects in the models with industry fixed effects (two-digit SIC) to control for differences in scripting across industries.

Panel A of Table 5 presents the results of estimating the relation between *ABN* $RSCRIPT_{i,t}$ and the market reaction on the day of the conference call and in the 90 days following the call. In Column 1, when *CC* $CAR_{i,t}$ is the dependent variable, the coefficient on *ABN* $RSCRIPT_{i,t}$ equals −0.004 (significant at the 1 percent level), which is consistent with the result in Table 2, suggesting that the market reacts negatively when firms script their Q&A. In Column 2, when *FUT* $CAR_{i,t}$ is the dependent variable, the coefficient on *ABN* $RSCRIPT_{i,t}$ is equal to −0.006 (significant at the 10 percent level), which is also consistent with the results in Table 2.

Panel B of Table 5 presents the results for unexpected future earnings. The coefficient on *ABN* $RSCRIPT_{i,t}$ equals −0.054, −0.061, and −0.126 in Columns 1 to 3 when the dependent variables are *UE* $EARN_{i,t+1}$, *UE* $EARN_{i,t+2}$, and *UE* $EARN_{i,t+1,t+2}$, respectively (significant at the 5, 5, and 1 percent levels, respectively). These results are also consistent with those reported in Table

4, when $RSCRIPT_{i,t}$ is the independent variable of interest. Overall, the results are robust to using this alternative measure of Q&A scripting that removes the manager's normal level adherence to a script.

VII. ADDITIONAL ANALYSES

Do Firms Provide More or Less Information When They Script Their Q&A?

Managers may adhere to the language of a script to ensure that market participants receive all relevant information. If so, scripting serves as a means of divulging information rather than concealing it. The negative association between Q&A scripting and future stock returns documented in Table 2 suggests that managers systematically withhold negative information during calls with scripted Q&A. To provide further evidence on whether firms are divulging or concealing information, I conduct two additional analyses. First, if firms provide additional information during calls with scripted Q&A, I expect a reduction in information asymmetry following these calls. I measure the change in information asymmetry as the change in the average bid-ask spread (scaled by the midpoint between the bid and the ask prices) for the firm in the [-3,-1] window before the conference call date to the [+1,+3] window afterward ($\Delta SPREAD_{i,t}$). I then estimate the following model to test the relation between changes in information asymmetry following the call date and Q&A scripting:

$$\Delta SPREAD_{i,t} = \rho_0 + \rho_1 RSCRIPT_{i,t} + \Sigma \mu_n CONTROLS_{i,t} + MANAGER + YEARQTR + \varepsilon_{i,t}. \quad (4)$$

The independent variable of interest is the $RSCRIPT_{i,t}$ measure defined in Section III. I also report results using the alternative scripting measure $ABN\ RSCRIPT_{i,t}$ defined in Section VI. I expect a positive (negative) association between $RSCRIPT_{i,t}$ and $\Delta SPREAD_{i,t}$ if firms provide less (more) information to market participants when they adhere to scripted Q&A responses. I include several variables used in prior tests to control for alternative explanations. Table 6 presents the results and

reports a positive and significant (5 percent level) coefficient on $RSCRIPT_{i,t}$ in Column 1 equal to 0.015, suggesting an increase in information asymmetry for firms whose managers adhere to Q&A scripts. The coefficient estimate indicates that moving from the bottom to the top decile of $RSCRIPT_{i,t}$ increases $\Delta SPREAD_{i,t}$ by 29.4 percent relative to the median of the magnitude of $\Delta SPREAD_{i,t}$ (0.015/0.051 = 0.294). I also find a positive and significant (5 percent level) coefficient on *ABN* $RSCRIPT_{i,t}$ in Column 2 equal to 0.008. These results are consistent with managers providing less information, not more, when they adhere to Q&A scripts.

Second, if managers adhere to Q&A scripts to provide (withhold) information, scripting is likely associated with a greater (lower) propensity to provide earnings guidance, which is a more direct measure of managers' decisions to provide information. I test whether managers are more or less likely to provide earnings guidance when they adhere to a Q&A script by estimating the following model:

$$\boldsymbol{Pr(GUIDANCE_{i,t}) = \beta_0 + \beta_1 RSCRIPT_{i,t} + \Sigma \mu_n CONTROLS_{i,t} + \varepsilon_{i,t}.} \qquad \boldsymbol{(5)}$$

$GUIDANCE_{i,t}$ is an indicator variable equal to 1 if the firm provides earnings guidance for the next quarter's EPS on the conference call date and 0 otherwise. The independent variable of interest is the $RSCRIPT_{i,t}$ measure defined in Section III. I also report results using the alternative scripting measure *ABN* $RSCRIPT_{i,t}$ defined in Section VI. I expect a negative (positive) association between $RSCRIPT_{i,t}$ and $GUIDANCE_{i,t}$ if managers provide less (more) information about future earnings when they adhere to a Q&A script. I include several control variables shown in prior literature to be associated with the propensity to provide earnings guidance (see Rogers and Van Buskirk 2013).[25]

[25] For brevity, I do not discuss the control variables here. See the Appendix for variable definitions.

Table 7 reports the results of the logistic estimation of Equation 5. The negative and significant (1 percent level) coefficient on $RSCRIPT_{i,t}$ in Column 1 equal to −0.226 suggests that firms are less likely to provide guidance when their managers adhere to a script. The odds ratio suggests that firms in the top decile are 20.2 percent less likely to guide next quarter's EPS than firms in the bottom decile (odds ratio equals 0.798). In Column 2, however, I find an insignificant coefficient on the $ABN\ RSCRIPT_{i,t}$ measure, indicating that the negative association between Q&A scripting and the propensity to guide earnings is not robust to this alternative specification. The control variables indicate that larger firms with more positive current unexpected earnings and lower analyst forecast dispersion are more likely to guide earnings. I also find that firms that meet or beat analysts' expectations more often are more likely to provide guidance. Finally, firms are more likely to guide earnings when managers have longer tenure in their positions with the firm. Overall, these results suggest that firms provide less, not more, information when their managers adhere to a Q&A script. The negative market reaction to scripting is therefore more consistent with scripted Q&A signaling future firm performance rather than providing additional information.

Alternative Options for Withholding Information during Conference Calls

As discussed previously, prior research suggests that the firm has other ways of avoiding the unintended disclosure of adverse information during the Q&A portion of the call. Managers can refuse to call upon analysts who are more likely to ask difficult questions (Mayew 2008), though any question, regardless of the asker, can touch on the manager's negative private information. Hollander et al. (2010) suggest that managers can simply refuse to respond to these questions. In this section, I provide evidence on whether managers use these alternatives in conjunction with scripting or as substitutes for scripting.

First, I compute a measure of the favorability of analysts participating in the call similar to Mayew (2008). For each call in my study, I obtain a list of all analyst participants and match each

analyst to that analyst's unique identifier in the IBES stock recommendations file. I then compute a measure of abnormal conference-call participation by favorable analysts (i.e., analysts providing favorable stock recommendations) relative to unfavorable analysts as the number of favorable participating analysts divided by the number of favorable and unfavorable participating analysts less the number of favorable nonparticipating analysts divided by the number of favorable and unfavorable nonparticipating analysts.[26] The resulting measure, which I denote *% POS ANALYSTS*$_{i,t}$, provides an indication of the percentage of favorable analysts participating in the call relative to the overall percentage of favorable analysts following the firm.

The mean (median) [standard deviation] of *% POS ANALYSTS*$_{i,t}$ equals 0.108 (0.083) [0.362], suggesting that the percentage of favorable participating analysts is approximately 10.8 percent higher than the percentage of favorable nonparticipating analysts, consistent with Mayew (2008). The correlation between *RSCRIPT*$_{i,t}$ and *% POS ANALYSTS*$_{i,t}$ equals 0.008 and is not significant, suggesting that these two options are neither complements nor substitutes. Furthermore, including *% POS ANALYSTS*$_{i,t}$ in the regressions does not affect the coefficients on *RSCRIPT*$_{i,t}$ or *ABN RSCRIPT*$_{i,t}$ in any specification with one exception: the t-statistics on *RSCRIPT*$_{i,t}$ and *ABN RSCRIPT*$_{i,t}$ are reduced to −1.636 and −1.490, respectively, when *FUT CAR*$_{i,t}$ is the dependent variable.[27]

Second, in the main empirical analysis, I control for managers' nonresponsiveness using the *NO RESPONSE*$_{i,t}$ variable. The correlation between *RSCRIPT*$_{i,t}$ and *NO RESPONSE*$_{i,t}$ equals −0.002 and is not statistically significant, providing no evidence that these two options are used in

[26] An analyst is included if the analyst made an EPS forecast for the firm in the last 365 days according to the IBES EPS forecast detail file. The stock recommendation is the analyst's most recent recommendation for the firm before the call date. I code buys and strong buys as favorable recommendations and all other recommendations as unfavorable recommendations.

[27] These slightly reduced t-statistics are not a result of including *% POS ANALYSTS*$_{i,t}$ in the regressions; rather they are a result of a slight loss in power due to a smaller sample size for which the *% POS ANALYSTS*$_{i,t}$ variable is available (37,522 calls compared to 40,820 calls).

conjunction. However, my textual search identifies roughly 12.9 percent of calls containing explicit language identifying nonresponsiveness, while Hollander et al. (2010) document that 65.3 percent of their calls contain a nonresponsive answer.[28] Given the large number of conference calls in my study (40,820 calls) relative to Hollander et al.'s (2010) study (681 calls), I do not read each management-provided answer to manually identify nonresponsiveness as do Hollander et al. (2010).[29] Instead, I compute an additional measure of nonresponsiveness to control for the possibility that my measure of nonresponsiveness does not adequately control for the Hollander et al. (2010) finding. As an alternative to explicitly refusing to respond to an analyst's question, a manager can answer a question by simply restating information already provided in the MD portion of the call. Content repetition can be considered nonresponsive by an analyst who asks questions with the intent of receiving new information.

I therefore create a variable that identifies the similarity in content between the Q&A and MD portions of the call using a plagiarism algorithm that identifies matching phrases between the two sessions.[30] I define a content similarity measure (*CONTENT SIM*$_{i,t}$) equal to the number of words from matching Q&A phrases spoken by the manager divided by the total number of words spoken by the manager in the Q&A session. The mean (median) [standard deviation] of *CONTENT SIM*$_{i,t}$ equals 4.1 percent (3.4 percent) [2.8 percent] and ranges from 0 percent to 14.3 percent. The correlation between *CONTENT SIM*$_{i,t}$ and *RSCRIPT*$_{i,t}$ is positive (0.26) and significant at the 1

[28] For a more comparable sample comparison given Hollander et al.'s (2010) focus on S&P 1500 firms, I find that 14.4 percent of calls in the top-size decile of my sample have nonresponsive answers, which is still considerably lower than that documented by Hollander et al. (2010).

[29] The cost of manually collecting this information would be too high for my large sample size. Hollander et al. (2010) report an average of 41 questions per call, which means the total number of questions in my sample of conference calls is approximately 1.7 million.

[30] The following is a description of the matching algorithm. Ignoring punctuation and capitalization, I compare each rolling six-word phrase spoken by the manager in the Q&A portion to each 12-word phrase spoken by the manager in the MD portion. I mark the phrases as matching if 1) at least five of the six words in the Q&A phrase are in the 12-word MD phrase, 2) at least five of the six words in the Q&A phrase are in the same order as in the MD phrase, and 3) the words in the Q&A phrase are at most one-word apart in the MD phrase.

percent level, suggesting that content repetition and scripting are used in conjunction with each other. Including a decile ranked *CONTENT SIM*$_{i,t}$ measure scaled between 0 and 1 (*RCONTENT SIM*$_{i,t}$) in the multivariate analyses does not alter the sign or significance of the *RSCRIPT*$_{i,t}$ or *ABN RSCRIPT*$_{i,t}$ measures in any specification with one exception: the t-statistic on *ABN RSCRIPT*$_{i,t}$ is reduced to −1.607 when *FUT CAR*$_{i,t}$ is the dependent variable. In the *CC CAR*$_{i,t}$ regression, when *RSCRIPT*$_{i,t}$ (*ABN RSCRIPT*$_{i,t}$) is the main independent variable, the coefficient on *RCONTENT SIM*$_{i,t}$ equals −0.003 (−0.003) with a t-statistic equal to −1.529 (−2.011), consistent with the Hollander et al. (2010) finding that the market reacts negatively to managers' nonresponsiveness.

VIII. SUMMARY

This study examines whether market participants infer negative information about future firm performance when managers adhere to a script during the Q&A portion of the earnings conference call. By adhering to a script, managers can circumvent the extemporaneity of the Q&A and avoid the costs of unintentionally disclosing bad news. I find a negative current market reaction to Q&A scripting, suggesting that investors discern the lack of spontaneity and view it as a negative signal, thus calling into question the usefulness of this strategy as a means of delaying the disclosure of bad news to investors. However, I also find a negative reaction in the subsequent quarter, suggesting that investors do not fully incorporate the scripting signal into the stock price at the time of the call, providing some, albeit marginally significant evidence that a scripting strategy at least partially achieves managers' objectives.

Corroborating the market return tests, I provide evidence that analysts revise downward their forecasts of future earnings following calls with scripted Q&A. I then provide evidence that investors' reaction to managers' lack of spontaneity is consistent with negative future unexpected accounting performance in the next two quarters. Finally, I provide evidence that scripted Q&A is

less informative than spontaneous Q&A: bid-ask spreads increase following calls with scripted Q&A, and firms are less likely to provide guidance for next quarter's earnings. These results suggest that the negative market reaction to scripting is likely due to the signal it provides about future performance and not due to the greater levels of information provided in the call about the future performance. These results are of potential interest to market participants who rely on information provided during earnings conference calls.

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APPENDIX: VARIABLE DEFINITIONS

Variable	Definition
$ABN\ SCRIPT_{i,t}$	$SCRIPT_{i,t}$ less the mean value of $SCRIPT_{i,t}$ for the manager over the four quarters prior to quarter *t*.
$BTM_{i,t}$	The book value of equity divided by the market value of equity for firm *i* in quarter *t*.
$CC\ CAR_{i,t}$	The buy-and-hold return over the window [0,1] surrounding the earnings conference call date for firm *i* in quarter *t* less the size and book-to-market-matched portfolio over the same window. The stock is matched to one of the 25 size-BTM Fama-French portfolios based on the market capitalization of the firm at the end of June and the book value of equity of the last fiscal year-end in the prior calendar year divided by the market value of equity at the end of December of the prior year.
$DISPERSION_{i,t}$	The standard deviation of analyst forecasts of EPS for firm *i* in quarter *t* made before the conference call date.
$FREV_{i,t+1}$	The median analyst EPS forecast for quarter *t+1* for all forecasts made within 30 days following the conference call date less the median analyst EPS forecast of quarter *t+1* directly before the quarter *t* conference call divided by price on the day before the earnings announcement date of quarter *t* and multiplied by 100.
$FUT\ CAR_{i,t}$	The buy-and-hold return over the window [2,92] surrounding the earnings conference call date for firm *i* in quarter *t* less the size and book-to-market-matched portfolio over the same window. The stock is matched to one of the 25 size-BTM Fama-French portfolios based on the market capitalization of the firm at the end of June and the book value of equity of the last fiscal year-end in the prior calendar year divided by the market value of equity at the end of December of the prior year.
$GUID\ SURP_{i,t}$	The surprise in managers' guidance of next quarter's EPS on the day of the conference call equal to 1 if the guidance qualifies as a positive surprise, equal to 0 if the guidance does not qualify as a surprise, and equal to −1 if the guidance qualifies as a negative surprise according to First Call or IBES. If no guidance is given, the variable is set to 0.
$GUIDANCE_{i,t}$	An indicator variable equal to 1 if firm *i* provides earnings guidance for quarter *t+1* on the day of the conference call at time *t* and 0 otherwise.
$MEET\ OR\ BEAT_{i,t}$	The proportion of the previous four quarters as of time *t* in which firm *i* meets or beats analysts' consensus forecast estimates of EPS.
$MOM_{i,t}$	The buy-and-hold return over the window [-127, −2] before the earnings conference call date for firm *i* in quarter *t* less the size- and book-to-market-matched portfolio over the same window. The stock is matched to one of the 25 size-BTM Fama-French portfolios based on the market capitalization of the firm at the end of June and the book value of equity of the last fiscal year-end in the prior calendar year divided by the market value of equity at the end of December of the prior year.
$MVE_{i,t}$	Stock price multiplied by the number of common shares outstanding for firm *i* in quarter *t*.

$NO\ RESPONSE_{i,t}$	An indicator variable equal to 1 if firm *i* refuses to respond to an analyst's question during the Q&A session of the conference call in quarter *t* and equal to 0 otherwise.
$RAWSCRIPT_{i,t}$	Cosine-similarity score of vectors v_{QA} and v_{MD}, where v_{QA} (v_{MD}) is a vector of counts of function words (articles, conjunctions, pronouns, prepositions, and auxiliary verbs) for the spokesman manager during the Q&A (MD) session of firm *i*'s earnings conference call in quarter *t*, where the spokesman manager is defined as the CEO or CFO who speaks the greatest number of words during the conference call. The cosine-similarity score is calculated as the dot product of vectors v_{QA} and v_{MD} divided by the product of the magnitude of vectors v_{QA} and v_{MD}.
$RET\ VOL_{i,t}$	The standard deviation of monthly stock returns for the previous 12 months for firm *i* in quarter *t*.
$RSCRIPT_{i,t}$	The decile ranking (0 to 9) of $SCRIPT_{i,t}$ divided by 9.
$SCRIPT_{i,t}$	Residual of the regression of $RAWSCRIPT_{i,t}$ on the number of words spoken by the manager in the Q&A session, the number of words spoken by the manager in the MD session, the difference in the number of words spoken by the manager in the Q&A and MD sessions, and squared and cubed terms of the three preceding variables.
$\Delta SPREAD_{i,t}$	The change in the average bid-ask spread (scaled by the midpoint between the bid and the asking prices) for the firm in the [−3,−1] window prior to the conference call date to the [+1,+3] window following the conference call date.
$TENURE_{i,t}$	The number of years since the manager of firm *i* obtained his or her current position with the firm as of quarter *t*.
$TONE_{i,t}$	The number of positive words spoken during the conference call less the number of negative words spoken during the conference call divided by the total number of words spoken during the conference call for firm *i* in quarter *t*. The dictionary of positive and negative words is taken from Loughran and McDonald (2011).
$TREND_{i,t}$	A variable equal to 1 in the first quarter of 2002, equal to 2 in the second quarter of 2002, etc.
$UE\ EARN_{i,t}$	IBES actual earnings per share for firm *i* in quarter *t* less the median analyst forecast of earnings per share for quarter *t* computed using forecasts made before the earnings announcement date and scaled by price on the day before the earnings announcement.
$UE\ EARN_{i,t+1}$	IBES actual earnings per share for firm *i* in quarter *t+1* less the median analyst forecast of earnings per share for quarter *t+1* computed using forecasts made before the quarter *t* earnings announcement date and scaled by price on the day before the earnings announcement date of quarter *t*.
$UE\ EARN_{i,t+2}$	IBES actual earnings per share for firm *i* in quarter *t+2* less the median analyst forecast of earnings per share for quarter *t+2* computed using forecasts made before the quarter *t* earnings announcement date and scaled by price on the day before the earnings announcement date of quarter *t*.
$UE\ EARN_{i,t+1,t+2}$	The sum of $UE\ EARN_{i,t+1}$ and $UE\ EARN_{i,t+2}$.

$WC\ MD_{i,t}$	The number of words spoken by the spokesman manager during the MD session of the earnings conference call for firm *i* in quarter *t*, where the spokesman manager is defined as the CEO or CFO who speaks the greatest number of words during the conference call.
$WC\ QA_{i,t}$	The number of words spoken by the spokesman manager during the question-and-answer session of the earnings conference call for firm *i* in quarter *t*, where the spokesman manager is defined as the CEO or CFO who speaks the greatest number of words during the conference call.

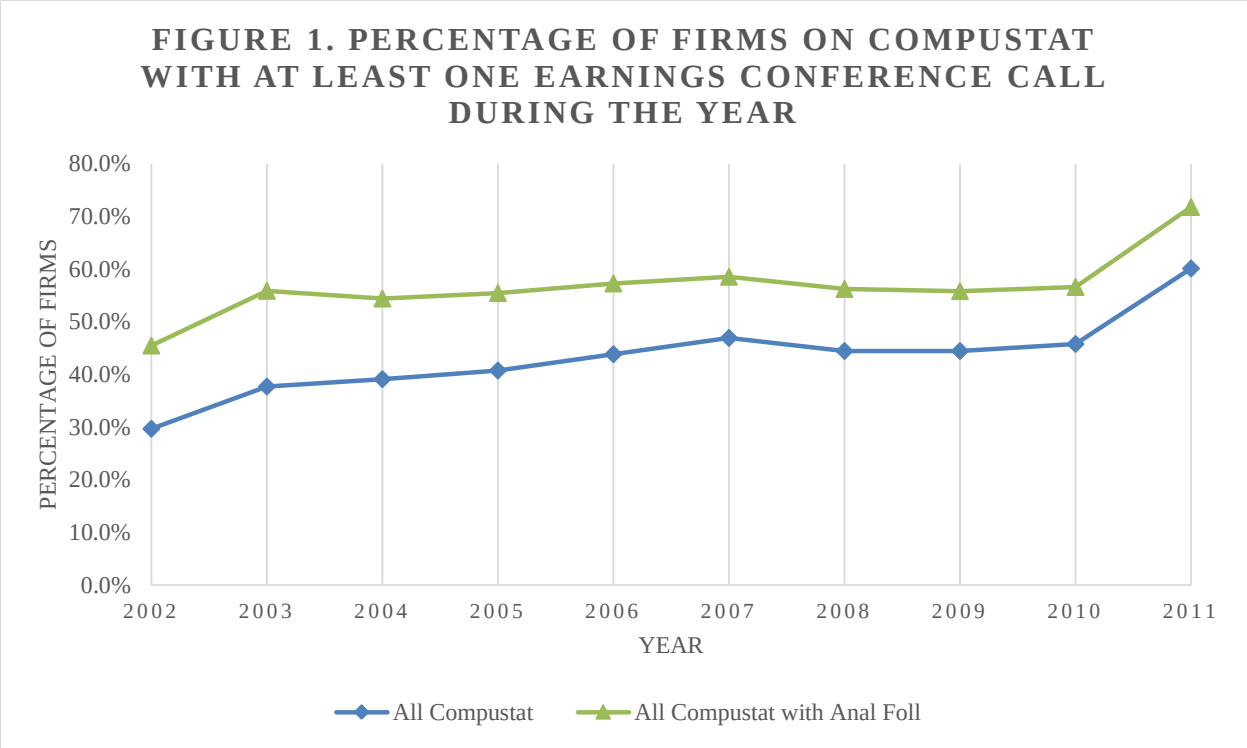

Figure 1. This figure presents the annual percentage of nonfinancial firms on Compustat with at least one earnings conference call during the year. The figure includes the percentage for all nonfinancial firms on Compustat and for nonfinancial firms on Compustat with analyst following.

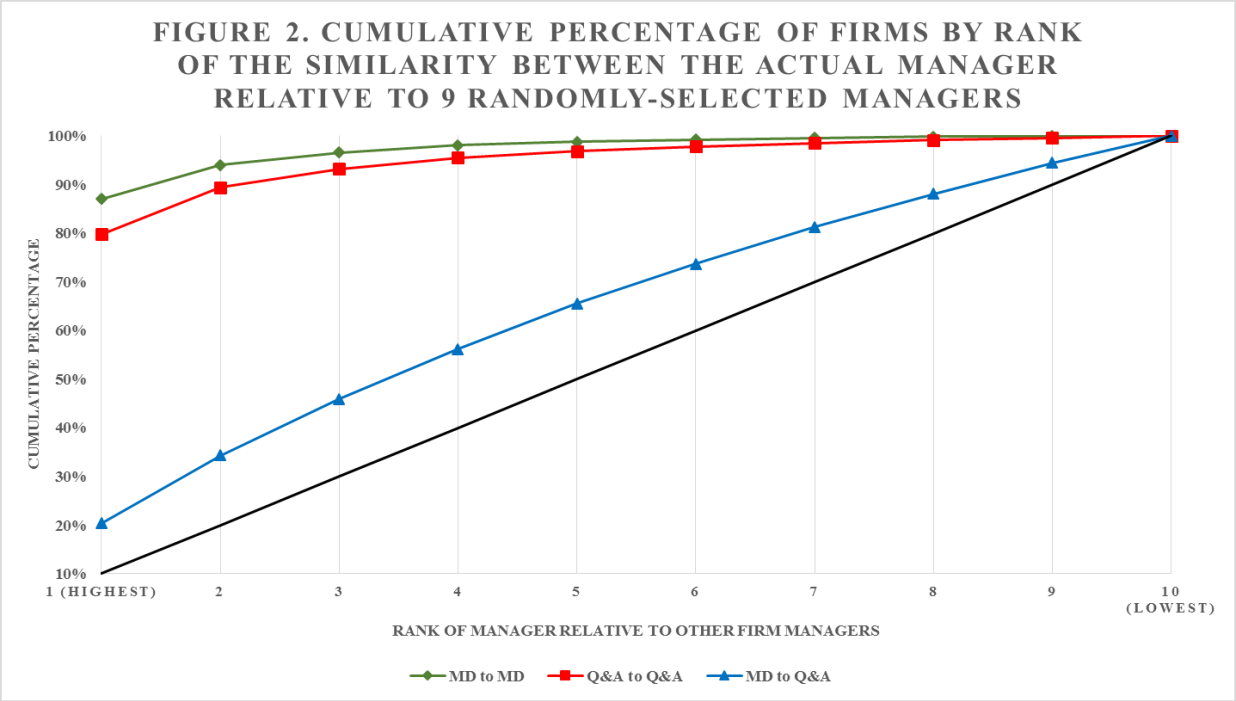

Figure 2. This figure presents the cumulative percentage of conference calls in ranks that compare the cosine similarity of the manager's conference call during a quarter to the manager's own combined conference calls in all other quarters during the sample period relative to the combined conference calls for all quarters of nine randomly selected managers. A ranking of 1 (10) indicates that the manager's own conference call sessions are most (least) similar relative to the conference call sessions of the nine randomly selected managers. The MD to MD line compares the MD session during the quarter to the MD sessions of the manager and to the randomly selected managers in all other quarters. The Q&A to Q&A line compares the Q&A session during the quarter to the Q&A sessions of the manager and to the randomly selected managers in all other quarters. The MD to Q&A line is slightly different. It compares the MD session of the manager during the quarter to the manager's own Q&A session during the quarter relative to nine randomly selected Q&A sessions of other managers. The bottom solid line represents the expected cumulative percentage of conference calls in each ranking if the rankings were random.

TABLE 1
DESCRIPTIVE STATISTICS

This table presents the means of variables used in the empirical analysis by quintile of $SCRIPT_{i,t}$. The sixth column presents the test statistic of the difference in means between the top and the bottom quintile. The penultimate column reports the means for the full sample and the final column reports the standard deviations for the full sample. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. All continuous variables are winsorized at the 1st and 99th percentiles. All variables are defined in the appendix.

	$SCRIPT_{i,t}$ Quintile						Full Sample	
Variable	**1**	**2**	**3**	**4**	**5**	**5 v. 1**	**Mean**	**Std. Dev.**
$SCRIPT_{i,t}$	-0.069	-0.021	0.003	0.025	0.059	328.08***	-0.001	0.046
$ABN\ SCRIPT_{i,t}$	-0.037	-0.010	0.001	0.012	0.029	101.68***	-0.002	0.041
Dependent Variables:								
$CC\ CAR_{i,t}$	0.004	0.003	0.000	0.001	-0.002	-4.38***	0.001	0.085
$FUT\ CAR_{i,t}$	0.009	0.010	0.008	0.011	0.011	0.35	0.010	0.232
$FREV_{i,t+1}$	-0.187	-0.182	-0.217	-0.242	-0.220	-2.67***	-0.210	0.773
$UE\ EARN_{i,t+1}$	-0.238	-0.227	-0.279	-0.339	-0.319	-2.87***	-0.280	1.799
$UE\ EARN_{i,t+2}$	-0.339	-0.370	-0.392	-0.433	-0.440	-3.18***	-0.395	1.977
$UE\ EARN_{i,t+1,t+2}$	-0.563	-0.588	-0.657	-0.757	-0.745	-3.50***	-0.662	3.286
$\Delta SPREAD_{i,t}$	-0.018	-0.010	-0.009	-0.008	-0.007	2.80***	-0.011	0.242
$GUIDANCE_{i,t}$	0.238	0.245	0.243	0.226	0.190	-7.45***	0.228	0.420
Control Variables:								
$UE\ EARN_{i,t}$	0.022	0.025	-0.009	-0.031	-0.046	-4.00***	-0.008	1.104
$MVE_{i,t}$	4,649.1	4,884.8	5,433.1	5,664.3	6,446.9	5.82***	5,415.6	19,091.4
$BTM_{i,t}$	0.500	0.492	0.490	0.501	0.492	-1.47	0.495	0.367
$MOM_{i,t}$	0.020	0.023	0.016	0.009	0.014	-1.58	0.016	0.276
$DISPERSION_{i,t}$	0.033	0.032	0.033	0.036	0.036	4.07***	0.034	0.045
$RET\ VOL_{i,t}$	0.122	0.125	0.126	0.127	0.129	5.87***	0.126	0.068
$GUID\ SURP_{i,t}$	0.006	0.000	-0.002	-0.005	-0.014	-4.37***	-0.003	0.304
$TONE_{i,t}$	0.004	0.005	0.005	0.004	0.004	-6.58***	0.004	0.005
$NO\ RESPONSE_{i,t}$	0.128	0.132	0.132	0.123	0.131	0.51	0.129	0.336
$WC\ MD_{i,t}$	1,482.4	1,574.0	1,580.7	1,554.0	1,438.4	-3.58***	1,525.9	785.2
$WC\ QA_{i,t}$	2,082.8	2,169.5	2,192.6	2,116.4	2,005.9	-3.94***	2,113.4	1,196.4
$TENURE_{i,t}$	6.386	6.199	6.239	6.162	6.497	1.21	6.296	5.817

TABLE 2
Q&A SCRIPTING AND CUMULATIVE ABNORMAL RETURNS

This table presents the OLS regression results of the relation between cumulative abnormal returns at and following the conference call date and scripting of the call. The dependent variables are the size- and book-to-market-adjusted buy-and-hold returns for the window [0,1] surrounding the conference call date (*CC CAR*$_{i,t}$) in Column 1 and for the window [2,92] following the conference call date (*FUT CAR*$_{i,t}$) in Column 2. The independent variable of interest is the *RSCRIPT*$_{i,t}$ measure for firm *i* in quarter *t*. Year-quarter and manager fixed effects are included as additional independent variables. The coefficients on the year-quarter and manager indicator variables are suppressed. Standard errors are clustered by firm. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in the appendix.

	[1]	[2]
	CC CAR$_{i,t}$	*FUT CAR*$_{i,t}$
INTERCEPT	0.195***	0.887***
	(10.461)	(14.980)
RSCRIPT$_{i,t}$	-0.006***	-0.009*
	(-3.069)	(-1.725)
UE EARN$_{i,t}$	0.017***	-0.005**
	(21.417)	(-2.367)
ln(MVE$_{i,t}$*)*	-0.020***	-0.138***
	(-11.819)	(-21.478)
RET VOL$_{i,t}$	0.037***	0.119**
	(2.692)	(2.496)
BTM$_{i,t}$	0.017***	0.046***
	(4.769)	(3.790)
MOM$_{i,t}$	-0.024***	-0.035***
	(-11.061)	(-5.221)
GUIDANCE$_{i,t}$	-0.004**	0.003
	(-2.291)	(0.661)
GUID SURP$_{i,t}$	0.040***	0.006
	(19.874)	(1.354)
TONE$_{i,t}$	4.382***	0.807**
	(28.984)	(2.042)
NO RESPONSE$_{i,t}$	0.001	0.004
	(1.052)	(0.954)
ln(WC MD$_{i,t}$*)*	-0.007***	-0.002
	(-5.393)	(-0.521)
ln(WC QA$_{i,t}$*)*	-0.004***	0.003
	(-3.161)	(0.867)
ln(TENURE$_{i,t}$*)*	0.001	0.005
	(0.457)	(1.133)
#OBS	40,820	40,820
Adjusted R^2	0.146	0.152

TABLE 3
ANALYST FORECAST REVISIONS FOLLOWING SCRIPTED Q&A

This table presents the OLS regression results of the relation between analyst forecast revisions following the conference call and conference call Q&A scripting. The dependent variable is the analyst consensus forecast of EPS for quarter *t+1* for all forecasts made within 30 days following the quarter *t* conference call less the consensus forecast of EPS for quarter *t+1* immediately before the conference call multiplied by 100 *($FREV_{i,t+1}$)*. The independent variable of interest is the $RSCRIPT_{i,t}$ measure for firm *i* in quarter *t*. Year-quarter and manager fixed effects are included as additional independent variables. The coefficients on the year-quarter and manager indicator variables are suppressed. Standard errors are clustered by firm. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in the appendix.

	$FREV_{i,t+1}$
INTERCEPT	-0.800***
	(-5.027)
$RSCRIPT_{i,t}$	-0.048***
	(-2.909)
$UE\ EARN_{i,t}$	0.212***
	(18.299)
$ln(MVE_{i,t})$	0.171***
	(10.166)
$DISPERSION_{i,t}$	-0.454**
	(-2.128)
$RET\ VOL_{i,t}$	0.592***
	(4.063)
$GUIDANCE_{i,t}$	-0.022
	(-1.387)
$GUID\ SURP_{i,t}$	0.300***
	(17.226)
$TONE_{i,t}$	24.330***
	(17.843)
$NO\ RESPONSE_{i,t}$	0.001
	(0.082)
$ln(WC\ MD_{i,t})$	-0.065***
	(-5.484)
$ln(WC\ QA_{i,t})$	-0.016
	(-1.609)
$ln(TENURE_{i,t})$	-0.014
	(-1.217)
#OBS	39,629
Adjusted R^2	0.356

TABLE 4
Q&A SCRIPTING AND FUTURE ACCOUNTING PERFORMANCE

This table presents the OLS regression results of the relation between conference call Q&A scripting and future accounting performance. The dependent variables are the unexpected earnings for firm *i* in quarter *t+1*, quarter *t+2*, and summed over quarters *t+1* and *t+2* in Columns 1 to 3, respectively ($UE\ EARN_{i,t+1,t+2}$). The independent variable of interest is the $RSCRIPT_{i,t}$ measure for firm *i* in quarter *t*. Year-quarter and manager fixed effects are included as additional independent variables. The coefficients on the year-quarter and manager indicator variables are suppressed. Standard errors are clustered by firm. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in the appendix.

	[1] $UE\ EARN_{i,t+1}$	[2] $UE\ EARN_{i,t+2}$	[3] $UE\ EARN_{i,t+1,t+2}$
INTERCEPT	-1.095***	-0.009	-0.996
	(-2.955)	(-0.019)	(-1.333)
$RSCRIPT_{i,t}$	-0.082**	-0.099**	-0.195***
	(-2.088)	(-2.367)	(-2.781)
$UE\ EARN_{i,t}$	0.352***	0.213***	0.561***
	(13.437)	(7.741)	(12.351)
$ln(MVE_{i,t})$	0.203***	0.044	0.244***
	(5.254)	(0.913)	(3.046)
$DISPERSION_{i,t}$	-2.771***	-3.334***	-5.851***
	(-4.185)	(-4.443)	(-4.514)
$RET\ VOL_{i,t}$	1.424***	1.342***	2.774***
	(4.542)	(3.328)	(4.229)
$GUIDANCE_{i,t}$	0.027	-0.031	-0.014
	(0.848)	(-0.827)	(-0.225)
$GUID\ SURP_{i,t}$	0.378***	0.259***	0.637***
	(13.208)	(8.925)	(12.511)
$TONE_{i,t}$	39.008***	37.255***	75.567***
	(12.527)	(10.165)	(12.427)
$NO\ RESPONSE_{i,t}$	-0.028	-0.006	-0.041
	(-1.032)	(-0.218)	(-0.857)
$ln(WC\ MD_{i,t})$	-0.043	-0.064*	-0.116**
	(-1.513)	(-1.939)	(-2.149)
$ln(WC\ QA_{i,t})$	-0.037	-0.036	-0.075*
	(-1.572)	(-1.388)	(-1.772)
$ln(TENURE_{i,t})$	-0.015	0.014	-0.009
	(-0.499)	(0.367)	(-0.141)
#OBS	40,820	39,747	39,747
Adjusted R^2	0.305	0.310	0.383

TABLE 5
ABNORMAL SCRIPTING

This table presents the OLS regression results of the relation between a measure of abnormal scripting and cumulative abnormal returns at and following the conference call date in Panel A and future firm accounting performance in Panel B. In Panel A, the dependent variables are the size- and book-to-market-adjusted buy-and-hold returns for the window [0,1] surrounding the conference call date (*CC CAR*$_{i,t}$) in Column 1 and for the window [2,92] following the conference call date (*FUT CAR*$_{i,t}$) in Column 2. In Panel B, the dependent variables are the unexpected earnings for firm *i* in quarter *t+1*, quarter *t+2* and summed over quarters *t+1* and *t+2* in Columns 1 to 3, respectively (*UE EARN*$_{i,t+1,t+2}$). The independent variable of interest is the *ABN RSCRIPT*$_{i,t}$ measure for firm *i* in quarter *t*. Year-quarter and industry (two-digit SIC code) fixed effects are included as additional independent variables. The coefficients on the year-quarter and industry indicator variables are suppressed. Standard errors are clustered by firm. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in the appendix.

Panel A: Abnormal returns at and following the conference call date.

	[1] *CC CAR*$_{i,t}$	[2] *FUT CAR*$_{i,t}$
INTERCEPT	0.032*	-0.062
	(1.799)	(-0.734)
ABN RSCRIPT$_{i,t}$	-0.004***	-0.006*
	(-2.836)	(-1.677)
UE EARN$_{i,t}$	0.017***	0.002
	(23.395)	(1.305)
ln(MVE$_{i,t}$*)*	-0.000	-0.002
	(-0.277)	(-1.474)
RET VOL$_{i,t}$	-0.005	0.134***
	(-0.513)	(3.830)
BTM$_{i,t}$	0.008***	0.017***
	(4.524)	(2.864)
MOM$_{i,t}$	-0.017***	-0.004
	(-8.252)	(-0.694)
GUIDANCE$_{i,t}$	-0.003***	0.004
	(-3.009)	(1.208)
GUID SURP$_{i,t}$	0.039***	0.013***
	(22.522)	(3.643)
TONE$_{i,t}$	2.765***	0.658**
	(26.245)	(2.373)
NO RESPONSE$_{i,t}$	0.001	0.002
	(0.426)	(0.457)
ln(WC MD$_{i,t}$*)*	-0.005***	-0.002
	(-6.445)	(-0.728)
ln(WC QA$_{i,t}$*)*	-0.001	0.000
	(-0.737)	(0.170)
ln(TENURE$_{i,t}$*)*	0.002***	0.002
	(3.309)	(1.184)
#OBS	35,674	35,674
Adjusted R^2	0.098	0.026

Panel B: Future unexpected earnings

	[1] $UE\ EARN_{i,t+1}$	[2] $UE\ EARN_{i,t+2}$	[3] $UE\ EARN_{i,t+1,t+2}$
INTERCEPT	-0.793*	-0.997	-1.752*
	(-1.864)	(-1.624)	(-1.706)
$ABN\ RSCRIPT_{i,t}$	-0.054**	-0.061**	-0.126***
	(-2.090)	(-1.965)	(-2.618)
$UE\ EARN_{i,t}$	0.520***	0.399***	0.910***
	(21.573)	(15.255)	(21.105)
$ln(MVE_{i,t})$	0.123***	0.148***	0.265***
	(14.366)	(13.049)	(14.139)
$DISPERSION_{i,t}$	-3.729***	-3.987***	-7.441***
	(-8.088)	(-7.019)	(-7.626)
$RET\ VOL_{i,t}$	-0.412*	-0.800***	-1.194**
	(-1.833)	(-2.604)	(-2.406)
$GUIDANCE_{i,t}$	-0.007	-0.012	-0.022
	(-0.358)	(-0.489)	(-0.526)
$GUID\ SURP_{i,t}$	0.394***	0.316***	0.716***
	(15.218)	(11.692)	(14.784)
$TONE_{i,t}$	24.507***	24.433***	47.869***
	(10.978)	(8.971)	(10.441)
$NO\ RESPONSE_{i,t}$	0.013	0.029	0.036
	(0.509)	(1.035)	(0.774)
$ln(WC\ MD_{i,t})$	-0.062***	-0.083***	-0.147***
	(-3.608)	(-3.911)	(-4.174)
$ln(WC\ QA_{i,t})$	-0.027*	-0.032	-0.057*
	(-1.760)	(-1.578)	(-1.790)
$ln(TENURE_{i,t})$	0.033**	0.059***	0.091***
	(2.535)	(3.649)	(3.419)
#OBS	35,674	34,737	34,737
Adjusted R^2	0.208	0.161	0.230

TABLE 6

CHANGE IN BID-ASK SPREADS FOLLOWING SCRIPTED Q&A

This table presents the OLS regression results of the relation between conference-call Q&A scripting and changes in the bid-ask spread following the call. The dependent variable is the change in the average bid-ask spread in the three-day windows before and after the conference call date for firm *i* in quarter *t* ($\Delta SPREAD_{i,t}$). The independent variables of interest are the $RSCRIPT_{i,t}$ and $ABN\ RSCRIPT_{i,t}$ measures for firm *i* in quarter *t*. Year-quarter fixed effects are included as additional independent variables. Manager fixed effects are included in Column 1, and industry (two-digit SIC code) fixed effects are included in Column 2. The coefficients on the year-quarter, manager, and industry indicator variables are suppressed. Standard errors are clustered by firm. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in the appendix.

	$\Delta SPREAD_{i,t}$	$\Delta SPREAD_{i,t}$
INTERCEPT	-0.046	0.111
	(-0.786)	(0.717)
$RSCRIPT_{i,t}$	0.015**	
	(2.443)	
$ABN\ RSCRIPT_{i,t}$		0.008**
		(2.055)
$UE\ EARN_{i,t}$	-0.010***	-0.008***
	(-4.079)	(-3.829)
$ln(MVE_{i,t})$	0.007	0.002
	(1.472)	(1.551)
$RET\ VOL_{i,t}$	-0.045	-0.002
	(-0.982)	(-0.049)
$BTM_{i,t}$	0.003	-0.000
	(0.290)	(-0.010)
$MOM_{i,t}$	0.003	0.000
	(0.530)	(0.084)
$GUIDANCE_{i,t}$	0.008	0.009***
	(1.318)	(3.090)
$GUID\ SURP_{i,t}$	0.005	0.005
	(1.133)	(1.290)
$TONE_{i,t}$	-0.220	0.097
	(-0.521)	(0.343)
$NO\ RESPONSE_{i,t}$	-0.004	0.001
	(-1.131)	(0.310)
$ln(WC\ MD_{i,t})$	0.002	0.000
	(0.397)	(0.149)
$ln(WC\ QA_{i,t})$	0.001	-0.002
	(0.231)	(-0.739)
$ln(TENURE_{i,t})$	-0.002	-0.001
	(-0.589)	(-0.695)
#OBS	40,820	35,674
Adjusted R^2	0.097	0.003

TABLE 7
Q&A SCRIPTING AND EARNINGS GUIDANCE

This table presents the logistic regression results of the relation between the probability of providing earnings guidance for the next quarter's EPS on the day of the conference call and conference call Q&A scripting. The dependent variable is an indicator variable equal to 1 if the firm provides earnings guidance for quarter *t+1* on the day of the conference call for quarter *t* ($GUIDANCE_{i,t}$). The independent variables of interest are the $RSCRIPT_{i,t}$ and $ABN\ RSCRIPT_{i,t}$ measures for firm *i* in quarter *t*. Standard errors are clustered by firm. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively. All variables are defined in the appendix.

	[1] $Pr(GUIDANCE_{i,t})$	[2] $Pr(GUIDANCE_{i,t})$
INTERCEPT	-2.844***	-2.734***
	(-5.121)	(-4.556)
$RSCRIPT_{i,t}$	-0.226***	
	(-2.781)	
$ABN\ RSCRIPT_{i,t}$		0.023
		(0.632)
$UE\ EARN_{i,t}$	0.043**	0.041*
	(1.973)	(1.740)
$ln(MVE_{i,t})$	0.138***	0.130***
	(4.472)	(3.952)
$DISPERSION_{i,t}$	-33.036***	-33.596***
	(-13.130)	(-12.154)
$RET\ VOL_{i,t}$	-0.611	-0.683
	(-1.359)	(-1.411)
$TONE_{i,t}$	4.763	4.646
	(0.772)	(0.717)
$NO\ RESPONSE_{i,t}$	-0.067	-0.071
	(-1.288)	(-1.270)
$ln(WC\ MD_{i,t})$	0.103*	0.086
	(1.806)	(1.400)
$ln(WC\ QA_{i,t})$	0.026	0.019
	(0.565)	(0.372)
$ln(TENURE_{i,t})$	0.096**	0.106**
	(2.433)	(2.441)
$MEET\ OR\ BEAT_{i,t}$	1.059***	1.099***
	(11.107)	(10.826)
$TREND_{i,t}$	-0.009***	-0.009***
	(-3.707)	(-3.416)
#OBS	40,820	35,674
Pseudo R^2	0.110	0.111