

VOLUNTARY DISCLOSURE WITH UNCERTAINTY ABOUT INVESTORS' RESPONSE:  
EVIDENCE FROM M&A CONFERENCE CALLS

by

Youngki Jang



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by

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DISSERTATION

Presented to the Faculty of  
The University of Texas at Dallas  
in Partial Fulfillment  
of the Requirements  
for the Degree of

DOCTOR OF PHILOSOPHY IN  
MANAGEMENT SCIENCE

THE UNIVERSITY OF TEXAS AT DALLAS

August 2018

## ACKNOWLEDGMENTS

I am grateful to my dissertation committee for their guidance and support: William Cready (Co-chair), Suresh Radhakrishnan (Co-chair), Daniel Cohen, Rebecca Files, and Nir Yehuda. Each of the members provided me extensive personal and professional guidance and taught me a great deal about both scientific research and life in general. I also thank workshop participants at The University of Texas at Dallas for helpful comments. I would also like to thank my loving and supportive wife, Eunyoung Kim, and my three wonderful boys, Sihyeon, Dohyeon, and Jaehyeon.

August 2018

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The University of Texas at Dallas, 2018

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I examine voluntary disclosure with uncertainty about investors' response using conference calls around merger announcements. I find that deal announcement returns are either extremely positive or extremely negative for mergers with conference calls compared with such returns for mergers with no conference calls – a U-shaped relationship between returns and conference calls. This finding is consistent with voluntary disclosure theory, which suggests that managers disclose significant news when they are uncertain about investors' response. The results are stronger when uncertainty about investors' response is more pronounced: (a) when managers hold conference calls before they see investors' response, (b) when acquirers' stock return volatility prior to mergers is higher, (c) when acquirers have less agency concerns, and (d) when acquirers have more transient institutional ownership. Collectively, I show that uncertainty about investors' response is a factor that should be considered when examining the consequence of voluntary disclosure.

## TABLE OF CONTENTS

ACKNOWLEDGMENTS .....	iv
ABSTRACT.....	v
LIST OF TABLES.....	vii
CHAPTER 1 INTRODUCTION .....	1
CHAPTER 2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT.....	8
2.1 Voluntary Disclosure Theory.....	8
2.2 Research Setting – M&A Conference Call.....	9
2.3 Hypothesis Development.....	10
CHAPTER 3 SAMPLE SELECTION AND DESCRIPTIVE STATISTICS.....	14
CHAPTER 4 RESEARCH DESIGN.....	21
CHAPTER 5 EMPIRICAL RESULTS.....	23
5.1 Main Results .....	23
5.2 Textual Analyses.....	24
5.3 Cross-Sectional Tests.....	29
5.4 Variation in Uncertainty about Investors’ Response .....	33
5.5 Propensity Score Matching.....	35
5.6 Quantile Regression with RETPR .....	39
5.7 Intraday Returns Analysis.....	40
CHAPTER 6 CONCLUSION.....	48
APPENDIX A QUANTILE REGRESSION.....	50
APPENDIX B LIST OF FUTURE ORIENTED WORDS.....	52
REFERENCES.....	53
BIOGRAPHICAL SKETCH .....	58
CURRICULUM VITAE	

## LIST OF TABLES

Table 1. Sample Selection Procedures .....	15
Table 2. Descriptive Statistics.....	17
Table 3. The Incidence of Conference Calls and Deal Announcement Returns .....	25
Table 4. Textual Analyses.....	27
Table 5. Conference Calls before Managers See Investors' Response.....	31
Table 6. Stock Return Volatility .....	32
Table 7. Agency Concerns .....	36
Table 8. Institutional Ownership.....	37
Table 9. Propensity Score Matching.....	41
Table 10. Quantile Regression with RETPR .....	44
Table 11. Intraday Returns Analyses .....	47

# **CHAPTER 1**

## **INTRODUCTION**

Managers face uncertainty about investors' response because they do not know how investors will react to the disclosure. Voluntary disclosure theory suggests that this type of uncertainty prevents full disclosure (see Beyer et al. 2010). Specifically, Dutta and Trueman (2002, hereafter DT) analytically show that uncertainty about investors' response causes managers to disclose information that has extremely positive or extremely negative value implication. In this paper, I suggest that uncertainty about investors' response is a factor that should be considered when examining voluntary disclosure by documenting the empirical pattern that is consistent with the DT model.

I use the merger and acquisition (M&A) setting to empirically examine DT's theoretical implication. M&A conference calls provide a good setting to examine voluntary disclosure with uncertainty about investors' response for two reasons. First, managers are likely to be uncertain about investors' response because M&As can be interpreted by the investors as "good" if they believe that the M&A adds synergy value, or "bad" if the investors believe that the M&A helps cover up potentially unsuccessful ventures undertaken by the acquirer (e.g., Moeller et al. 2005). Also, M&A is an important investment decision, and thus, managers do not observe market expectations before merger announcements. Second, despite uncertainty about investors' response, managers make voluntary disclosure decisions by pre-committing to holding



conference calls at the time they issue press releases about the M&A, that is, before they see investors' response.<sup>1</sup>

In the DT model, managers disclose significant news regardless of its valuation implication when managers expect investors are likely to react to the disclosure favorably. As a result, the DT model implies that managers voluntarily disclose information that can be interpreted either extremely good or extremely bad. Since the nature of uncertainty about investors' response is nebulous, I use realized investors' response to examine the implication of DT model. Specifically, I predict that deal announcement returns for mergers with conference calls are either extremely positive or extremely negative compared to such returns for mergers without conference calls. In effect, I expect to observe the following empirical pattern: conference calls are associated with either extremely good news or extremely bad news. The empirical pattern implies that the M&A setting is consistent with DT's prediction: realized investors' response in both positive and negative directions confirms the role of uncertainty about investors' response.

In order to test the prediction, I examine the association between the incidence of conference calls and deal announcement returns using 2,780 completed M&As from 2006 to 2015. I find that, in the top (bottom) decile of announcement returns, in which the average abnormal announcement returns are 20.7% (-11.4%) for three days around merger announcements, 65.8% (73.7%) of acquirers hold conference calls. In contrast, in the middle decile of announcement returns, in which the average abnormal returns are 0.6%, only 38.1% of acquirers hold conference calls. Overall, the univariate analyses confirm the prediction that the

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<sup>1</sup> Managers announce M&A through press releases, in which they indicate whether to hold conference calls.

incidence of conference calls is higher when deal announcement returns are either extremely positive or extremely negative.

For the multivariate analyses, I use the quantile regression procedure (Koenker and Bassett 1978; Koenker and Hallock 2001) to examine the association at the different level of deal announcement returns.<sup>2</sup> After controlling for other factors, the deal announcement returns for mergers with conference calls are 3.2% higher (2.0% lower) than those for mergers without conference calls at the top (bottom) decile of deal announcement returns. Also, I examine the content of conference call transcripts using textual analyses. I find that deal announcement returns are either more extremely positive or more extremely negative as the number of total words and forward-looking words in conference call transcripts are greater.<sup>3</sup> These findings are consistent with the prediction, suggesting that voluntary disclosure is associated with uncertainty about investors' response.

Having shown that the empirical pattern in the M&A setting is consistent with DT's prediction, I examine whether the relation between the incidence of conference calls and deal announcement returns is stronger when uncertainty about investors' response is more pronounced. First, I use the timing of conference calls to capture uncertainty about investors' response. Although managers pre-commit, they can decide when to hold conference calls. If acquirers issue press releases and hold conference calls at the same day during the stock market is closed, they do not see investors' response when they hold conference calls. Therefore, uncertainty about investors' response is more pronounced for these acquirers, and thus, they

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<sup>2</sup> Appendix A explains quantile regression procedure in detail.

<sup>3</sup> For the textual analyses, I limit my sample to firms having conference calls, for which I analyze the conference call transcripts. This reduces the number of sample from 2,780 to 1,309.

better represent the setting in the DT model. As such, I predict and find that the results are stronger for acquirers who hold conference calls before they see investors' response.

Second, I use stock return volatility prior to mergers as a direct measure of uncertainty about investors' response. Stock return volatility is associated with uncertainty about investors' response because it increases the possibility of extreme price response to new information. Therefore, I predict and find that the relation is stronger for acquirers whose stock returns prior to mergers are more volatile. Overall, these tests support the notion that uncertainty about investors' response is associated with extreme returns for deals with conference calls.

Next, I conduct another set of cross-sectional tests on the relation between the incidence of conference calls and deal announcement returns to explore how uncertainty about investors' response varies with firm characteristics and the composition of investors.<sup>4</sup> Although uncertainty about investors' response arises from the news, i.e., merger announcements, it is also likely to be associated with the characteristics of both managers and investors. The firm characteristic I study is the severity of agency conflicts. Firms with more severe conflicts have been shown to be opaque (e.g., Hope and Thomas 2008). I find that the relation is stronger for acquirers with less agency problems, suggesting that uncertainty about investors' response is more pronounced when firms are more transparent to outsiders. For the composition of investors, I find that the relation is stronger for acquirers which are owned by more transient institutional investors. The finding suggests that uncertainty about investors' response is more pronounced when investors have short-term investment horizon.

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<sup>4</sup> The DT model does not provide guidance where uncertainty about investors' response is originated from.

I conduct several additional tests. First, the results hold for the propensity score matched sample, suggesting that the results are not attributed to different characteristics of deals with and without conference calls. Second, for acquirers whose returns around press releases can be separated from returns for conference call windows, I find that returns around press releases are either extremely positive or extremely negative for deals with conference calls, suggesting that the results are not entirely attributed to the information content in conference calls.

Finally, I examine intraday returns around press releases and for conference call windows using the Trade and Quote database (TAQ).<sup>5</sup> Press releases and conference calls cannot be separated in the DT setting because the model does not have various disclosure channels. However, these intraday returns enable me to empirically examine investors' response to each disclosure. Using intraday returns, I do not find evidence that managers consistently place a positive spin on merger announcements during conference calls. Specifically, average returns for conference call windows are not significantly different from zero. Instead, I find that the returns around press releases and conference call windows are positively correlated, consistent with the notion that conference calls supplement information provided by merger announcements.

This study makes the following contributions to the literature. First, to my knowledge, this study is the first to provide empirical evidence on the association between voluntary disclosure and uncertainty about investors' response, a phenomenon that has been investigated primarily in the theoretical literature (e.g., Nagar 1999; Dutta and Trueman 2002; Suijs 2007). The evidence is consistent with the DT model that managers voluntarily disclose information

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<sup>5</sup> To be included in the sample for intraday returns analyses, acquirers should have enough information to calculate returns for the conference calls window. I exclude acquirers holding press releases and conference calls concurrently to discriminate returns around each time window. The number of sample is 551 after these criteria are met.

that can be interpreted as either extremely good or extremely bad news. Therefore, the study contributes to the literature on the disclosure decision conditional on the nature of the news – that is, good news or bad news (e.g., Verrecchia 1983; Jung and Kwon 1988; Skinner 1994; Skinner 1997; Kothari et al. 2009). In addition, uncertainty about investors’ response provides a new explanation to prior literature that suggests managers disclose both good and bad news to reduce information asymmetry (e.g., Ajinkya and Gift 1984; McNichols 1989; Lang and Lundholm 1996; Healy and Palepu 2001; Verrecchia 2001; Hutton et al. 2003; Baginski et al. 2004; Billings et al. 2015). Specifically, in the M&A setting, managers would not have engaged in investment decisions that generate significant negative market reaction, let alone conference calls, if uncertainty about investors’ response is not present.

Second, this study contributes to the conference call literature, which in general, focuses on quarterly earnings calls. (e.g., Tasker 1998; Frankel et al. 1999; Bowen et al. 2002; Kimbrough 2005; Matsumoto et al. 2011; Larcker and Zakolyukina 2012; Mayew et al. 2013; Li et al. 2014; Allee and Deangelis 2015). While prior literature suggests that conference calls provide useful information, Frankel et al. (1999) find that the absolute value of earnings announcement return is similar for the conference call firms and the non-conference call firms. In contrast, I provide evidence consistent with the higher absolute value of merger announcement returns for firms that hold conference calls. The difference can be attributed to the specific feature of M&A setting – uncertainty about investors’ response – and thus, highlights the importance of contexts in conference call research.

Lastly, this study contributes to the literature on disclosure around M&A activities. Prior literature on disclosure around mergers has focused on the acquirers’ incentive to disclose

information on the benefits of the deal (Erickson and Wang 1999; Louis 2004; Ahern and Sosyura 2014). In a similar vein, Kimbrough and Louis (2011) find that conference calls, after controlling for endogeneity, are positively associated with announcement returns – this implies that conference calls are associated with only good news. I extend the literature by showing that the incidence of conference calls is associated with stronger negative market reaction as well as with a positive one. The results suggest that uncertainty about investors’ response is associated with the acquirers’ incentive to disclose information during mergers.

The remainder of the paper is organized as follows. I review related literature and develop the hypothesis in Chapter 2. Chapter 3 provides sample selection procedures and descriptive statistics, and Chapter 4 describes the research design. Chapter 5 presents the empirical results. Chapter 6 concludes.

## CHAPTER 2

### LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

#### 2.1 Voluntary Disclosure Theory

The voluntary disclosure theory identifies conditions that preclude full disclosure: (1) disclosures are costly; (2) investors are uncertain about whether firms have private information; (3) investors' response to disclosure is uncertain; (4) managers' objective is not in line with that of shareholders; (5) firms cannot credibly disclose their private information; and (6) firms can commit ex-ante to a specific disclosure policy.<sup>6</sup>

I focus on the third condition – investors' response to disclosure is uncertain. Prior analytical literature provides contradicting predictions on disclosure behavior under this condition. Nagar (1999) introduces the setting in which the manager and the investors have different information sets, and investors reassess managerial talent when disclosure is made. In this setting, the managers cannot predict how investors evaluate their talent with the new signal. This uncertainty adds to the cost of disclosure, and as a result, managers suppress disclosure unless they have sufficiently good news. In contrast, Suijs (2007) show that the manager discloses moderately good and moderately bad news but withhold extremely good and bad information. In his model, the benefits of disclosure are not large enough to induce managers to disclose if the firm is doing extremely well.

Dutta and Trueman (2002, hereafter DT) analyze a setting in which the manager can credibly disclose facts, but not their valuation implications. DT provide order backlog

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<sup>6</sup> Refer to Beyer et al. (2010) for a review of the literature.

information as an example for their setting. A manager faces uncertainty over the impact of order backlog information on the firm value because a higher order backlog could be interpreted by investors either favorably if it signals strong demand for the firm's product, or unfavorably if it reflects problems with operations. In this setting, managers choose to disclose (withhold) large (small) order backlogs, i.e. more (less) significant news, to maximize the firm value when investors are likely to favorably interpret significant news. However, given uncertainty about investors' response, it would appear that managers disclose extreme good news or extreme bad news.<sup>7</sup>

## **2.2 Research Setting – M&A Conference Call**

I use managers' decision of holding conference calls around merger announcements as a setting to examine whether voluntary disclosure with uncertainty about investors' response is consistent with DT's theoretical prediction. M&A conference calls are voluntary disclosure in that acquiring firms typically announce their merger decisions through press releases, wherein managers indicate whether to hold conference calls.

Prior literature suggests that a conference call is one of important communication channels because it allows managers to communicate with investors and analysts in an interactive manner. Empirical evidence shows that conference calls provide additional information (Frankel et al. 1999; Matsumoto et al. 2011), and thus, firms use conference calls when their information environment is relatively poor (Tasker 1998). As a consequence,

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<sup>7</sup> As a result, the expected firm value would increase with disclosure because investors are more likely to interpret value implication of the information as positive. The firm value after disclosure would be, however, either extremely high or extremely low as the uncertainty is realized.



conference calls help the market become more efficient from an information perspective (Bowen et al. 2002; Kimbrough 2005).<sup>8</sup>

While prior research has focused on conference calls around quarterly earnings announcements, conference calls around merger announcement have received a limited attention. One of the exceptions is Kimbrough and Louis (2011). They find that acquirers are more likely to hold conference calls when the mergers are financed with stock and when the transactions are large. They also find that the incidence of conference calls is positively associated with deal announcement returns after controlling for self-selection, suggesting that managers convey favorable private information to the market through conference calls.<sup>9</sup>

### **2.3 Hypothesis Development**

I take a different approach from Kimbrough and Louis (2011) because I focus on uncertainty about investors' response in DT. In the DT model, managers are uncertain about investors' response because investors can interpret disclosure either positively or negatively.

M&A conference calls provide a good setting to examine voluntary disclosure with uncertainty about investors' response for two reasons. First, managers are likely to be uncertain about investors' response because M&As can be interpreted by the investors as “good” if they believe that the M&A adds synergy value, or “bad” if the investors believe that the M&A helps

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<sup>8</sup> The interactive nature of conference calls makes it possible to infer private information that managers and analysts have, although they are not intended to reveal it. For example, Lareker and Zakolyukina (2012) find that deceptive linguistic features of managers in quarterly earnings calls are associated with financial misreporting. Li et al. (2014) find that CEOs speak less in settings when they are likely to be relatively less knowledgeable. Mayew et al. (2013) show that analysts who participate in conference calls have more accurate and timelier earnings forecasts, suggesting that they have superior private information.

<sup>9</sup> Kimbrough and Louis (2011) rely on the Heckman (1979) model to control for self-selection. However, it is not appropriate to control for self-selection to examine how voluntary disclosure is associated with uncertainty about investors' response. To rule out the possibility that other confounding factors drive the results, I conduct propensity score matching as a robustness test in Section V.

cover up potentially unsuccessful ventures undertaken by the acquirer.<sup>10</sup> Also, M&A is a material investment decision, and thus, information asymmetry between managers and investors around merger announcements is likely to be high.<sup>11</sup> Nevertheless, managers do not observe market expectations before merger announcements. In other information events, such as earnings announcement or management forecast, publicly observable analysts' forecasts can be used as a proxy for ex ante market expectation.<sup>12</sup> Second, managers make a voluntary disclosure decision by pre-committing to holding conference calls at the time they issue press releases about the M&A, that is, before they see investors' response.<sup>13</sup> These features of merger conference calls allow me to examine voluntary disclosure with uncertainty about investors' response.

DT show that managers disclose significant news that investors are likely to favorably respond to.<sup>14</sup> As a result, DT model implies that managers voluntarily disclose information that can be interpreted either extremely good or extremely bad due to uncertainty about investors' response. Since uncertainty about investors' response is not directly observable, I use realized

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<sup>10</sup> This is similar to the interpretation of order backlog example in DT.

<sup>11</sup> Although managers do not know investors' response ex ante, managers can extract the investors' information from the price reaction to merger announcement ex post (e.g., Dye and Sridhar 2002; Luo 2005; Kau et al. 2008).

<sup>12</sup> Although managers can observe analysts' valuation for the target, this is not enough to determine the market expectation because one needs to consider the synergy generated through M&A.

<sup>13</sup> It is impossible to empirically examine a binary voluntary disclosure choice in DT model because without disclosure, one cannot observe whether managers have private information. In the M&A setting, however, managers disclose mergers with press releases, and thus, I can use the incidence of conference calls as a variation in disclosure quantity, instead of the binary choice, to test the implication of DT model.

<sup>14</sup> Since the driving force of DT model is uncertainty about investors' response to disclosure, managers should be uncertain about investors' response to conference calls to apply DT model to the decision to hold M&A conference calls if managers sequentially determine whether to hold conference calls after announcing mergers. However, in the M&A setting, managers commit to holding conference calls in their press releases, and thus, the choice of holding conference calls is connected to uncertainty about investors' response to press releases (i.e., merger announcements). In turn, managers are uncertain about investors' response to conference calls when they decide whether to hold conference calls. In this sense, DT provide a good framework to examine the decision of holding M&A conference calls with uncertainty about investors' response, although there is no one-to-one correspondence between the analytical model and the empirical setting.

investors' response to examine the implication of DT model. Specifically, I predict that deal announcement returns for mergers with conference calls are either extremely positive or extremely negative compared to such returns for mergers without conference calls. In effect, I expect to observe the following empirical pattern: conference calls are associated with either extremely good news or extremely bad news. The empirical pattern implies that the M&A setting is consistent with DT's prediction: specifically, realized investors' response in both positive and negative directions confirms the role of uncertainty about investors' response. In sum, the hypothesis for the relation between the incidence of conference calls and deal announcement returns is stated as follows:

***Hypothesis: M&A announcement returns for deals with conference calls are either extremely positive or extremely negative compared to such announcement returns for deals without conference calls.***

Alternative hypotheses also arise from disclosure theory depending on the nature of uncertainty about investors' response. If managers are likely to know how investors interpret the news, managers would withhold information that has negative value implication (Nagar 1999; Kothari et al. 2009). Therefore, I would expect a positive association between conference calls and market reactions if there is no uncertainty about investors' response. Also, although managers are uncertain about investors' response, managers are likely to withhold extreme good and bad news when they worry about unfavorable market reactions (Dutta and Trueman 2002; Suijs 2007). Under this condition, I would not find extreme positive or extreme negative returns

for the deals with conference calls.<sup>15</sup> Consistent with this prediction, Frankel et al. (1999) do not find evidence that earnings releases with conference calls have greater absolute returns around the announcement windows than earnings releases without conference calls. Although these alternative hypotheses are plausible, as previously stated, I establish the hypothesis based on the specific feature of M&A setting that uncertainty about investors' response is high when managers make the disclosure decision.

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<sup>15</sup> Based on his model, Suijs (2007) expects the firms that provide less disclosure during their M&A activity to be the better mergers. The idea is that firms engage in more voluntary disclosure to hype the firms' stock and obtain a lower cost of equity capital when they have moderately bad news; the idea is similar to that of Lang and Lundholm (2000) regarding seasoned equity offering.

## CHAPTER 3

### SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

The sample consists of completed deals on Security Data Company's (SDC) database of domestic mergers and acquisitions that were announced between 2006 and 2015. A deal is included in the sample if it meets the following criteria: (1) the acquirer is a publicly traded U.S. company; (2) the deal value, the method of payment, and the merger announcement date are contained in the SDC database; (3) the acquirer has necessary data on the CRSP / Compustat merged database to compute market capitalization and book-to-market ratio; (4) the deal value exceeds \$10 million and is at least 10% of the acquirer's market value; (5) the merger announcement press release could be located in Factiva; (6) the earnings announcement date is not located within the period calculating merger announcement returns. I impose a minimum deal value and ratio requirement to focus on economically important mergers, and exclude deals with a concurrent earnings announcement to avoid any confounding effects of other information events. The selection process, which I summarize in Table 1, results in a sample of 2,780 transactions.

I report descriptive statistics for the full sample and for the conference call and non-conference call subsamples in Table 2 Panel A. Merger-related conference calls occur for about 52% of the sample transactions.<sup>16</sup>

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<sup>16</sup> Kimbrough and Louis (2011) report that 62% of their sample transactions hold conference calls, which is higher than the incidence in my sample. This discrepancy is mainly due to the difference in sample selection procedures. Specifically, I exclude merger-related conference calls if there is a concurrent earnings announcement to avoid confounding effects. If I include the conference call sample with earnings announcements, then the proportion of conference calls would have been around 60%, which is closer to that of Kimbrough and Louis (2011).

Table 1. Sample Selection Procedures

This table summarizes the sample selection process. This study covers completed deals on Security Data Company's (SDC) database of domestic mergers and acquisitions that were announced from 2006 to 2015. A transaction is included in the sample if it satisfies the following criteria: (1) the acquirer is a publicly traded U.S. company; (2) the transaction value, the method of payment, and the merger announcement date are contained in SDC; (3) the acquirer has necessary data on the CRSP / Compustat merged database to compute market capitalization and book-to-market ratio; (4) the transaction value exceeds \$10 million and at least 10% of the acquirer's market value; (5) the merger announcement press release could be located in Factiva; (6) the earnings announcement date is not located within the period calculating merger announcement returns to avoid any confounding effects.

Sample Selection Procedures	Number of Deals
Total Merger or Acquisition transactions listed on the SDC database from 2006 and 2015	23,131
Acquirers without required variables on the CRSP / Compustat merged database	(12,756)
Transactions with a deal ratio of less than 10% or with a deal value smaller than \$10 million.	(6,863)
Duplicate transactions and press releases not found in Factiva	(170)
Concurrent earnings announcements excluded	(562)
Final sample	2,780

Deal announcement returns are not significantly different across subsamples. The mean (median) deal announcement returns for the conference call firms is 2.3% (1.5%), similar to the numbers of 2.1% (1.0%) for the nonconference call firms. However, conference call and non-conference call transactions show significant differences in deal characteristics. Consistent with prior research (e.g., Tasker 1998; Frankel et al. 1999; Kimbrough and Louis 2011), the relative deal size, as a percentage of acquirer's market value, is larger for mergers involving conference calls. Specifically, the mean of relative deal size for deals with conference calls is 53.7%, while

the mean for deals without conference calls is 40.7%. On average, acquirers that hold conference calls finance 26.3% of their payment with stock, but those who do not hold conference calls use stock only 15.2%, indicating that the incidence of conference calls increases with the amount of the acquirer's stock used to finance the transactions. Further, acquirers that hold conference calls are substantially larger, have smaller book-to-market ratios, are more heavily represented in high-technology industries, and have greater analyst following and institutional ownership than firms that do not hold calls.

Table 2 Panel B documents correlations. Again, I do not find a significant association between the incidence of conference calls and deal announcement returns. In contrast, the correlations between conference calls and the other deal characteristics are consistent with the significant differences between the conference call and non-conference call subsamples highlighted in Panel A.

In Panel C, I present the mean values of deal characteristics by subgroups that are divided based on the size of deal announcement returns. The results show the univariate relation between the incidence of conference calls and deal announcement returns. Specifically, in the top (bottom) decile of announcement returns, in which the average abnormal announcement returns are 20.7% (-11.4%) for three days around merger announcements, 65.8% (73.7%) of acquirers hold conference calls. In contrast, for the group in the middle of deal announcement returns distribution, in which the average abnormal returns are 0.6%, only 38.1% of acquirers hold conference calls. Overall, the univariate analyses confirm the prediction that the incidence of conference calls is higher when deal announcement returns are either extremely positive or extremely negative.

In addition to the likelihood of holding conference calls, the relative deal value is higher in both the top and the bottom deciles of deal announcement returns. Specifically, the average deal ratio for the top and bottom deciles of deal announcement returns is 67.3% and 83.6% of the acquirer's pre-announcement market value, respectively; but for the group in the middle of deal announcement returns distribution, the average deal ratio is only 36.1%. These statistics are consistent with the notion that managers provide more disclosure when the M&A is larger in size.<sup>17</sup> I control for confounding factors, including the relative deal size, to isolate the association between the incidence of conference calls and deal announcement returns.

## Table 2. Descriptive Statistics

### Variable Definitions:

CAR = the cumulative market-adjusted return over the three-day period spanning day 0 to day +2, where day 0 is the merger announcement date.

CCALL = 1 for bidders that hold merger-related conference calls on the day of or the day after the merger announcement, and 0 for other bidders;

MKTCAP = market value of equity at the beginning of the fiscal year in which the merger is announced (expressed in billions);

PCTSTOCK = value of stock consideration as a proportion of total consideration;

DEALRATIO = ratio of total transaction value to the bidder's pre-announcement market value as of the beginning of the fiscal year;

BM = ratio of the bidder's book value of equity to its market value of equity as of the beginning of the fiscal year in which the merger is announced;

INDR = 1 when the bidder and target have the same two-digit SIC code, and 0 otherwise;

PRIV = 1 when the target firm is a private company;

FOREIGN = 1 when the target firm is a foreign company, and 0 otherwise;

REGULATED = 1 for firms with two-digit SIC codes of 48 or 49, and 0 otherwise;

HITECH = 1 for firms with two-digit SIC codes equal to 28, 35, 36, 73, and 87, and 0 otherwise;

FINANCIAL = 1 for firms with two-digit SIC codes in the 60 – 69 range, and 0 otherwise;

ANALYSTS = number of analysts issuing earnings forecasts for the fiscal quarter in which the merger is announced; and

IOR = percentage of the acquirer's stock held by institutional investors as of the beginning of the quarter in which the merger is announced.

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<sup>17</sup> It is also consistent with DT model because uncertainty about investors' response could be higher when the deal size is larger.



Panel A. Descriptive Statistics

The p-values are two-tailed. The tests of mean differences are based on the t-statistic, assuming unequal variances, and the tests for median differences are based on the Wilcoxon rank sums statistic.

Variable	Full Sample (N = 2,780)		CCALL = 1 (N = 1,458)		CCALL = 0 (N = 1,322)		p-value for mean difference	p-value for median difference
	Mean	Median	Mean	Median	Mean	Median		
<b>CAR</b>	0.023	0.012	0.023	0.015	0.021	0.010	0.538	0.157
<b>MKTCAP</b>	3.029	0.685	4.616	1.069	1.280	0.401	<0.001	<0.001
<b>PCTSTOCK</b>	0.210	0.000	0.263	0.000	0.152	0.000	<0.001	<0.001
<b>DEALRATIO</b>	0.475	0.263	0.537	0.342	0.407	0.209	<0.001	<0.001
<b>BM</b>	0.601	0.535	0.542	0.486	0.665	0.593	<0.001	<0.001
<b>INDR</b>	0.597	1.000	0.675	1.000	0.511	1.000	<0.001	<0.001
<b>PRIV</b>	0.394	0.000	0.323	0.000	0.472	0.000	<0.001	<0.001
<b>FOREIGN</b>	0.126	0.000	0.151	0.000	0.098	0.000	<0.001	<0.001
<b>ANALYSTS</b>	10.83	8.00	13.81	11.00	7.54	5.50	<0.001	<0.001
<b>IOR</b>	0.596	0.648	0.659	0.709	0.526	0.545	<0.001	<0.001
<b>REGULATED</b>	0.065	0.000	0.071	0.000	0.059	0.000	0.214	0.214
<b>HITECH</b>	0.298	0.000	0.373	0.000	0.216	0.000	<0.001	<0.001
<b>FINANCIAL</b>	0.260	0.000	0.171	0.000	0.358	0.000	<0.001	<0.001

Panel B. Correlation Matrix

Spearman (Pearson) correlation coefficients are presented above (below) the diagonal. The coefficients in bold are statistically significant at 10% level in two-tailed tests. See Panel A for variable definitions.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) CAR		0.269	<b>-0.082</b>	<b>-0.102</b>	<b>0.080</b>	<b>-0.052</b>	<b>0.040</b>	<b>0.063</b>	0.018	<b>-0.071</b>	0.004	-0.008	0.004	<b>-0.131</b>
(2) CCALL	0.012		<b>0.304</b>	<b>0.193</b>	<b>0.230</b>	<b>-0.167</b>	<b>0.167</b>	<b>-0.152</b>	<b>0.080</b>	<b>0.362</b>	<b>0.213</b>	0.024	<b>0.172</b>	<b>-0.212</b>
(3) MKTCAP	<b>-0.068</b>	<b>0.131</b>		<b>-0.055</b>	<b>-0.194</b>	<b>-0.284</b>	<b>0.045</b>	<b>-0.319</b>	<b>0.061</b>	<b>0.735</b>	<b>0.527</b>	<b>0.080</b>	-0.028	<b>-0.095</b>
(4) PCTSTOCK	<b>-0.084</b>	<b>0.162</b>	<b>0.076</b>		<b>0.267</b>	-0.025	<b>0.170</b>	<b>-0.081</b>	-0.018	0.020	<b>-0.204</b>	0.019	0.013	<b>0.136</b>
(5) DEALRATIO	<b>0.159</b>	<b>0.114</b>	<b>-0.058</b>	<b>0.190</b>		<b>0.092</b>	<b>0.064</b>	<b>-0.141</b>	<b>-0.038</b>	<b>-0.143</b>	<b>-0.197</b>	<b>0.082</b>	<b>-0.039</b>	0.000
(6) BM	-0.001	<b>-0.166</b>	<b>-0.097</b>	-0.007	<b>0.114</b>		<b>-0.046</b>	-0.015	<b>-0.053</b>	<b>-0.176</b>	<b>-0.063</b>	<b>-0.045</b>	<b>-0.192</b>	<b>0.272</b>
(7) INDR	<b>0.047</b>	<b>0.167</b>	0.005	<b>0.166</b>	0.024	-0.020		<b>-0.075</b>	0.008	<b>0.168</b>	0.008	0.012	<b>0.083</b>	<b>-0.172</b>
(8) PRIV	<b>0.050</b>	<b>-0.152</b>	<b>-0.128</b>	<b>-0.125</b>	<b>-0.096</b>	-0.017	<b>-0.075</b>		-0.010	<b>-0.233</b>	<b>-0.108</b>	<b>-0.087</b>	<b>0.109</b>	-0.021
(9) FOREIGN	0.004	<b>0.080</b>	0.000	-0.019	<b>-0.040</b>	<b>-0.048</b>	0.008	<b>-0.010</b>		<b>0.062</b>	<b>0.069</b>	<b>-0.034</b>	<b>0.133</b>	<b>-0.148</b>
(10) ANALYSTS	<b>-0.087</b>	<b>0.316</b>	<b>0.388</b>	<b>0.034</b>	<b>-0.123</b>	<b>-0.148</b>	<b>0.163</b>	<b>-0.219</b>	<b>0.056</b>		<b>0.482</b>	<b>0.078</b>	<b>0.103</b>	<b>-0.228</b>
(11) IOR	<b>-0.042</b>	<b>0.225</b>	<b>0.055</b>	<b>-0.202</b>	<b>-0.205</b>	<b>-0.069</b>	0.005	<b>-0.112</b>	<b>0.068</b>	<b>0.398</b>		<b>-0.088</b>	<b>0.082</b>	<b>-0.126</b>
(12) REGULATED	0.001	0.024	<b>0.053</b>	0.001	<b>0.073</b>	<b>-0.033</b>	<b>0.012</b>	<b>-0.087</b>	<b>-0.034</b>	<b>0.080</b>	<b>-0.083</b>		<b>-0.172</b>	<b>-0.156</b>
(13) HITECH	-0.007	<b>0.172</b>	-0.013	-0.010	<b>-0.039</b>	<b>-0.162</b>	<b>0.083</b>	<b>0.109</b>	<b>0.133</b>	<b>0.104</b>	<b>0.080</b>	<b>-0.172</b>		<b>-0.386</b>
(14) FINANCIAL	<b>-0.094</b>	<b>-0.212</b>	-0.023	<b>0.181</b>	0.006	<b>0.215</b>	<b>-0.172</b>	-0.021	<b>-0.148</b>	<b>-0.213</b>	<b>-0.122</b>	<b>-0.156</b>	<b>-0.386</b>	

Panel C. Mean Value of Variables by CAR Decile

	Lowest CAR	2	3	4	5	6	7	8	9	Highest CAR
CAR	-0.114	-0.042	-0.021	-0.007	0.006	0.018	0.033	0.054	0.087	0.207
CCALL	0.737	0.576	0.442	0.381	0.381	0.392	0.435	0.554	0.687	0.658
MKTCAP	5.849	4.774	2.698	3.558	2.573	1.989	3.416	2.480	1.661	1.297
PCTSTOCK	0.391	0.246	0.260	0.196	0.129	0.140	0.155	0.165	0.181	0.239
DEALRATIO	0.673	0.453	0.412	0.361	0.361	0.329	0.340	0.422	0.561	0.836
BM	0.611	0.605	0.625	0.608	0.599	0.613	0.587	0.621	0.561	0.578
INDR	0.626	0.601	0.622	0.543	0.504	0.514	0.586	0.629	0.665	0.680
PRIV	0.263	0.327	0.424	0.381	0.460	0.464	0.403	0.410	0.432	0.374
FOREIGN	0.129	0.126	0.108	0.090	0.112	0.140	0.140	0.173	0.129	0.108
ANALYSTS	13.30	12.13	11.70	9.56	10.26	10.18	10.67	10.92	10.04	9.54
IOR	0.581	0.602	0.598	0.593	0.577	0.610	0.601	0.645	0.609	0.541
REGULATED	0.058	0.076	0.076	0.065	0.065	0.076	0.036	0.086	0.040	0.076
HITECH	0.385	0.320	0.248	0.248	0.259	0.237	0.277	0.345	0.320	0.342
FINANCIAL	0.198	0.302	0.374	0.374	0.342	0.331	0.270	0.183	0.112	0.115

## CHAPTER 4

### RESEARCH DESIGN

I use the quantile regression procedure to compare the distribution of deal announcement returns for mergers with and without conference calls.<sup>18</sup> Economics and finance literature have applied quantile regressions to estimate the heterogeneous relation across the distribution of the dependent variable. In recent accounting literature, Armstrong et al. (2015) use quantile regressions to examine the link between corporate governance and corporate tax avoidance. They find a positive relation between board independence and financial sophistication for low levels of tax avoidance but a negative relation for high levels of tax avoidance, suggesting the heterogeneous effect of corporate governance on tax avoidance depending on the level of tax avoidance.

I estimate the following model using a series of quantile regressions to test the hypothesis:

$$\begin{aligned} CAR_i = & \beta_0 + \beta_1 CCALL_i + \beta_2 PCTSTOCK_i + \beta_3 DEALRATIO_i + \beta_4 INDR_i + \beta_5 PRIV_i \\ & + \beta_6 PCTSTOCK_i \times PRIV_i + \beta_7 FOREIGN_i + \beta_8 LOGSIZE_i + \beta_9 BM_i \\ & + \beta_{10} LOGANALYST_i + \beta_{11} IOR_i + \beta_{12} REGULATED_i + \beta_{13} HITECH_i \\ & + \beta_{14} FINANCIAL_i + \text{Yearly Fixed Effects} + \varepsilon_i , \end{aligned} \tag{1}$$

where CAR is the cumulative market-adjusted return over the three-day period spanning day 0 to day +2, where day 0 is the merger announcement date;<sup>19</sup> CCALL is one for acquirers who hold

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<sup>18</sup> Appendix A explains quantile regression procedure in detail.

<sup>19</sup> Andrade et al. (2001) argue that deal announcement returns are the most statistically reliable measure of value creation.

merger-related conference calls on the day of or the day after the merger announcement and zero for other acquirers. The variable of interest is  $\beta_1$ , which is expected to be positively significant when CAR is extremely high, and negatively significant when CAR is extremely low.

Given the significance difference between the conference call firms and the non-conference call firms, it is important to control for factors that are associated with conference calls and deal announcement returns. I control for various firm and deal characteristics: PCTSTOCK is the value of stock consideration as a proportion of total consideration; DEALRATIO is the ratio of total transaction value to the acquirer's pre-announcement market value at the beginning of the fiscal year; LOGSIZE is the log of the market value of equity at the beginning of the fiscal year in which the merger is announced; BM is the ratio of the acquirer's book value of equity to its market value of equity at the beginning of the fiscal year in which the merger is announced; INDR is one when the acquirer and target have the same two-digit SIC code and zero otherwise; PRIV is one when the target firm is a private company and zero otherwise; FOREIGN is one when the target firm is a foreign company and zero otherwise; LOGANALYST is the log of the number of analysts issuing earnings forecast for the fiscal quarter in which the merger is announced; IOR is the percentage of the acquirer's stock held by institutional investors at the beginning of the quarter in which the merger is announced; REGULATED is one for firms with two-digit SIC codes of 48 or 49 and zero otherwise; HITECH is one for firms with two-digit SIC codes equal to 28, 35, 36, 73, and 87 and zero otherwise; FINANCIAL is one for firms with two-digit SIC codes in the 60 – 69 range and zero otherwise.

## CHAPTER 5

### EMPIRICAL RESULTS

#### 5.1 Main Results

Table 3 presents the relation between the incidence of conference calls (CCALL) and deal announcement returns (CAR) in the multivariate analyses after controlling other factors. The OLS estimates in Table 3 provide no evidence of a statistical relation between CCALL and CAR with the OLS coefficient 0.005 (t-stat of 1.21). In contrast, the estimates of quantile regressions show that the relation between CCALL and CAR differs across their respective distributions. Specifically, the coefficient at the top decile of CAR is 0.032 (t-stat of 4.29), and the coefficient at the bottom decile is -0.020 (t-stat of -4.22), illustrating that the relation between CCALL and CAR is positive in the right tail but negative in the left tail of CAR distribution. The result is consistent with the prediction that deal announcement returns are either extremely positive or extremely negative when managers hold a conference call around merger announcements, suggesting that voluntary disclosure is associated with uncertainty about investors' response.

The coefficients on control variables are, in general, consistent with prior literature both in OLS estimates and in quantile regression estimates. For example, the acquirer's size (LOGSIZE) is negatively associated with CAR, consistent with the argument that large acquirers are more susceptible to value-destroying acquisitions (e.g., Moeller et al. 2005). The proportion of stock financing (PCTSTOCK) enters with a negative sign, consistent with the lower returns of acquisitions financed with the acquirer's stock (e.g., Rau and Vermaelen 1998). Interestingly, the relative deal size (DEALRATIO) is positively associated with CAR in the right tail of CAR but

negative in the left tail of CAR, which is consistent with the coefficients on CCALL in the quantile regression procedure. As examined in the univariate statistics, it is consistent with the notion that managers provide more disclosure for the larger deals that, in turn, experience either extreme positive or extreme negative announcement returns. More importantly, the relation between CCALL and CAR holds even after controlling for DEALRATIO, suggesting that voluntary disclosure is associated with uncertainty about investors' response after controlling for ex ante materiality of the deal.

## **5.2 Textual Analyses**

Next, I use the alternative measures of voluntary disclosure from textual analyses. The content of conference call transcripts can capture voluntary disclosure of significant news with uncertainty about investors' response in the DT model. Therefore, I examine whether deal announcement returns are either significantly positive or significantly negative as word counts of total words / forward-looking words in conference call transcripts are greater, which represents voluntary disclosure of significant news. The sample for textual analyses is 1,309 deals whose conference call transcripts can be located from Factiva; there were 1,458 deals with conference calls in the whole sample. I use a word list from Matsumoto et al. (2011) to define forward-looking words.<sup>20</sup>

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<sup>20</sup> Matsumoto et al. (2011) develop an expanded word list of forward-looking words from LIWC (Linguistic Inquiry and Word Count). Appendix B presents the list of forward-looking words used in the analysis.

Table 3. The Incidence of Conference Calls and Deal Announcement Returns

The table presents the primary results regarding the relation between the incidence of conference calls and deal announcement returns. The column (1) presents the OLS estimates, and the columns (2) to (10) presents the results based on quantile regressions from 10<sup>th</sup> percentiles to 90<sup>th</sup> percentiles, as indicated. CAR is the cumulative market-adjusted return over the three-day period spanning day 0 to day +2, where day 0 is the merger announcement date. LOGSIZE is the log of the market value of equity at the beginning of the fiscal year in which the merger is announced. LOGANALYST is the log of the number of analysts issuing earnings forecast for the fiscal quarter in which the merger is announced. T-values are reported in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% level, respectively. Standard errors are clustered by acquirer level (Petersen 2009). See Table 2 Panel A for definitions of the other variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DEP=CAR	OLS	Quantile Regression								
		10 <sup>th</sup>	20 <sup>th</sup>	30 <sup>th</sup>	40 <sup>th</sup>	50 <sup>th</sup>	60 <sup>th</sup>	70 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>
CCALL	<b>0.005</b> <b>(1.21)</b>	<b>-0.020***</b> <b>(-4.22)</b>	<b>-0.008**</b> <b>(-2.25)</b>	<b>-0.001</b> <b>(-0.36)</b>	<b>0.004</b> <b>(1.53)</b>	<b>0.005*</b> <b>(1.77)</b>	<b>0.009***</b> <b>(2.82)</b>	<b>0.014***</b> <b>(3.88)</b>	<b>0.020***</b> <b>(5.08)</b>	<b>0.032***</b> <b>(4.29)</b>
PCTSTOCK	-0.042*** (5.68)	-0.041*** (-4.33)	-0.037*** (-6.16)	-0.032*** (-5.38)	-0.032*** (-6.60)	-0.034*** (-6.50)	-0.032*** (-5.52)	-0.029*** (-4.06)	-0.021** (-2.45)	-0.022* (-1.70)
DEALRATIO	0.025*** (3.51)	-0.025*** (-2.85)	-0.010** (-2.42)	-0.003 (-0.93)	0.002 (0.54)	0.011* (1.94)	0.019*** (5.53)	0.035*** (4.52)	0.053*** (6.99)	0.099*** (3.99)
INDR	0.010** (2.83)	0.011** (2.07)	0.005* (1.80)	0.002 (0.60)	0.002 (0.81)	0.005* (1.80)	0.007** (2.56)	0.008*** (2.76)	0.010*** (2.70)	0.011* (1.86)
PRIV	-0.003 (-0.85)	0.004 (0.81)	0.004 (1.34)	0.000 (0.01)	-0.004 (-1.54)	-0.006** (-2.06)	-0.008*** (-2.65)	-0.004 (-1.12)	-0.007 (-1.47)	-0.005 (-0.70)
PCTSTOCK	0.046*** (3.32)	0.025 (1.29)	0.035*** (3.20)	0.032*** (3.28)	0.048*** (5.41)	0.059*** (6.15)	0.058*** (6.37)	0.041*** (3.83)	0.041*** (3.20)	0.046* (1.83)
X PRIV										
FOREIGN	0.002 (0.39)	0.007 (1.34)	0.000 (0.07)	0.002 (0.32)	0.001 (0.28)	0.006 (1.20)	0.000 (0.06)	0.001 (0.18)	-0.004 (-0.76)	0.006 (0.54)
LOGSIZE	-0.007*** (-4.10)	0.000 (0.04)	-0.001 (-0.89)	-0.001 (-0.93)	-0.003** (-2.43)	-0.004*** (-2.92)	-0.004*** (-2.96)	-0.006*** (-4.16)	-0.008*** (-4.33)	-0.013*** (-4.17)



BM	-0.009 (-1.17)	-0.006 (-0.83)	-0.010** (-2.05)	-0.005 (-0.92)	-0.007* (-1.68)	-0.008* (-1.76)	-0.009** (-2.09)	-0.011** (-2.05)	-0.016*** (-2.81)	-0.031*** (-3.07)
LNANALYST	-0.001 (-0.39)	-0.004 (-1.27)	-0.003 (-1.27)	-0.004* (-1.80)	-0.004* (-1.86)	-0.002 (-1.00)	-0.003 (-1.18)	-0.002 (-0.62)	-0.005* (-1.72)	0.001 (0.25)
IOR	0.012* (1.94)	0.003 (0.32)	0.014** (2.36)	0.012* (1.95)	0.012** (2.57)	0.013** (2.49)	0.010* (1.72)	0.012** (1.99)	0.020*** (2.68)	0.019 (1.53)
REGULATED	-0.008 (-1.14)	0.009 (1.03)	0.001 (0.32)	-0.006 (-0.88)	-0.007 (-1.24)	-0.009 (-1.54)	-0.015*** (-2.60)	-0.018*** (-2.71)	-0.016** (-2.00)	-0.014 (-0.73)
HITECH	-0.013** (-2.99)	-0.009 (-1.42)	-0.012*** (-3.01)	-0.012*** (-2.95)	-0.012*** (-3.49)	-0.011*** (-2.83)	-0.008** (-2.00)	-0.008* (-1.78)	-0.006 (-1.23)	-0.012 (-1.60)
FINANCIAL	-0.019*** (-3.89)	0.009 (1.34)	-0.000 (-0.11)	-0.007* (-1.92)	-0.014*** (-4.63)	-0.019*** (-6.07)	-0.022*** (-6.02)	-0.025*** (-6.30)	-0.030*** (-6.50)	-0.030*** (-3.92)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(Pseudo) R <sup>2</sup>	0.070	0.000	0.008	0.026	0.050	0.067	0.068	0.065	0.055	0.042
No. of obs	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780

Table 4. Textual Analyses

Panel A. The Number of Words in Conference Calls

The table presents the relation between the number of words in conference call transcripts and deal announcement returns. The column (1) presents the OLS estimates, and the columns (2) to (10) present the results based on quantile regressions from the 10<sup>th</sup> percentiles to 90<sup>th</sup> percentiles, as indicated. CAR is the cumulative market-adjusted return over the three-day period spanning day 0 to day +2, where day 0 is the merger announcement date. WORD is the word count in the conference call transcripts. T-values are reported in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% level, respectively. Standard errors are clustered by acquirer level (Petersen 2009). See Table 2 Panel A for definitions of the other variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DEP=CAR	OLS	Quantile Regression								
		10 <sup>th</sup>	20 <sup>th</sup>	30 <sup>th</sup>	40 <sup>th</sup>	50 <sup>th</sup>	60 <sup>th</sup>	70 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>
<b>WORD</b>	<b>-0.001</b> <b>(-1.08)</b>	<b>-0.003</b> <b>(-1.39)</b>	<b>-0.003**</b> <b>(-2.21)</b>	<b>-0.002**</b> <b>(-2.39)</b>	<b>-0.003**</b> <b>(-2.13)</b>	<b>-0.002*</b> <b>(-1.78)</b>	<b>-0.001</b> <b>(-0.64)</b>	<b>0.001</b> <b>(0.66)</b>	<b>0.002*</b> <b>(1.65)</b>	<b>0.004**</b> <b>(2.12)</b>
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(Pseudo) R <sup>2</sup>	0.090	0.027	0.049	0.060	0.078	0.079	0.073	0.067	0.054	0.031
No. of obs	1,309	1,309	1,309	1,309	1,309	1,309	1,309	1,309	1,309	1,309

Panel B. Future-oriented Words

The table presents the relation between the number of forward-looking words in conference call transcripts and deal announcement returns. The column (1) presents the OLS estimates, and the columns (2) to (10) present the results based on quantile regressions from the 10<sup>th</sup> percentiles to 90<sup>th</sup> percentiles, as indicated. CAR is the cumulative market-adjusted return over the three-day period spanning day 0 to day +2, where day 0 is the merger announcement date. FWL\_WORD is the number of forward-looking words in the conference call transcripts. The list of forward-looking words is available in Appendix B. T-values are reported in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% level, respectively. Standard errors are clustered by acquirer level (Petersen 2009). See Table 2 Panel A for definitions of the other variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DEP=CAR	OLS	Quantile Regression								
		10 <sup>th</sup>	20 <sup>th</sup>	30 <sup>th</sup>	40 <sup>th</sup>	50 <sup>th</sup>	60 <sup>th</sup>	70 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>
<b>FWL_WORD</b>	<b>-0.037</b>	<b>-0.187***</b>	<b>-0.098**</b>	<b>-0.080*</b>	<b>-0.079</b>	<b>-0.057</b>	<b>-0.017</b>	<b>0.036</b>	<b>0.068*</b>	<b>0.128*</b>
	<b>(-0.97)</b>	<b>(-3.43)</b>	<b>(-2.32)</b>	<b>(-1.85)</b>	<b>(-1.63)</b>	<b>(-1.18)</b>	<b>(-0.37)</b>	<b>(0.82)</b>	<b>(1.65)</b>	<b>(1.77)</b>
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(Pseudo) R <sup>2</sup>	0.093	0.033	0.052	0.063	0.080	0.085	0.078	0.073	0.057	0.029
No. of obs	1,309	1,309	1,309	1,309	1,309	1,309	1,309	1,309	1,309	1,309

Table 4 Panel A presents the results of quantile regressions for the association between the number of words in conference calls (WORD) and deal announcement returns (CAR). The coefficient on WORD at the 90th percentile is positively significant (0.004 with t-stat 2.12), while that at the 20th percentile is negatively significant (-0.003 with t-stat -2.21). Panel B shows the association between the number of forward-looking words (FWL\_WORD) and deal announcement returns. The coefficient on FWL\_WORD at the top decile is positively significant (0.128 with t-stat 1.77), while the coefficient on FWL\_WORD at the bottom decile is negatively significant (-0.187 with t-stat -3.43). Overall, the results are consistent with the prediction, suggesting that uncertainty about investors' response is associated with voluntary disclosure.

### **5.3 Cross-Sectional Tests**

Having shown that the empirical pattern in the M&A setting is consistent with DT's prediction, I conduct a set of cross-sectional tests to enhance confidence on the relation between uncertainty about investors' response and voluntary disclosure. Specifically, I examine whether the relation between the incidence of conference calls and deal announcement returns is stronger when uncertainty about investors' response is more pronounced. First, I use the timing of conference calls to capture uncertainty about investors' response. In the sample, 93% of the acquirers (2,593 out of 2,780 acquirers) announce their merger through a press release during the time when the stock market is closed, and 55% of those acquirers (1,413 out of 2,593 acquirers) hold a conference call. Of those who hold conference calls, 57% (805 out of 1,413 acquirers) issue press releases and hold conference calls at the same date while the stock market is closed. These conference calls that held concurrent with press releases are well suited for the DT model because managers disclose information with the uncertainty before they see investors'

response.<sup>21</sup> Therefore, I expect that the relation would be stronger for those acquirers who issue press releases and hold conference calls at the same date while the stock market is closed.

Table 5 presents the results of the quantile regression with the interaction effects between the incidence of conference calls and indicator variables representing whether managers hold conference calls concurrently with press releases while the stock market is closed (OVERLAP). I find that extreme positive and negative returns with conference calls are stronger when managers hold conference calls before they see investors' response. Specifically, at the bottom decile of deal announcement returns, the coefficient on OVERLAP is significantly negative (-0.022 with t-stat of -2.95), while the coefficient at the top decile is significantly positive (0.025 with t-stat of 2.53).

Second, I use stock return volatility as a direct measure of uncertainty about investors' response. Stock return volatility is associated with uncertainty about investors' response because it increases the possibility of extreme price response to new information. Therefore, I expect the relation to be stronger for acquirers whose stock returns prior to mergers are more volatile. Stock return volatility is measured as the standard deviation of acquirers' monthly stock returns for 12 months before the merger announcement. I define acquirers that have higher stock return volatility than the median value of the sample as the group with more volatile stock returns.

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<sup>21</sup> It does not necessarily mean that conference calls held after managers see investors' response are not suited for the DT setting. Since managers pre-commit to holding conference calls in their press releases, the voluntary disclosure decision is made with uncertainty about investors' response. Therefore, the implication of DT model is applicable to either case.

Table 5. Conference Calls before Managers See Investors' Response

The table presents whether the relation is more pronounced when managers hold a conference call before they see investors' response to the merger announcement. The column (1) to (9) presents the results based on quantile regressions from the 10<sup>th</sup> percentiles to 90<sup>th</sup> percentiles, respectively. OVERLAP is 1 if the acquirer holds a conference call concurrently with press release while when stock market is closed, 0 otherwise. T-values are reported in parentheses. \*\*\*, \*\*, and \* represent statistical significance at 1%, 5%, and 10% level, respectively. Standard errors are clustered by acquirer level (Petersen 2009). See Table 2 Panel A for definitions of the other variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
DEP=CAR	Quantile Regression								
	10 <sup>th</sup>	20 <sup>th</sup>	30 <sup>th</sup>	40 <sup>th</sup>	50 <sup>th</sup>	60 <sup>th</sup>	70 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>
CCALL	-0.010*	-0.002	0.004	0.004	0.004	0.007*	0.011**	0.013***	0.018***
	(-1.83)	(-0.38)	(1.19)	(1.41)	(1.12)	(1.90)	(2.44)	(2.98)	(2.72)
<b>OVERLAP</b>	<b>-0.022***</b>	<b>-0.012**</b>	<b>-0.011***</b>	<b>-0.001</b>	<b>0.004</b>	<b>0.005</b>	<b>0.009</b>	<b>0.017***</b>	<b>0.025**</b>
	<b>(-2.95)</b>	<b>(-2.45)</b>	<b>(-2.69)</b>	<b>(-0.25)</b>	<b>(0.97)</b>	<b>(1.19)</b>	<b>(1.58)</b>	<b>(2.64)</b>	<b>(2.53)</b>
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(Pseudo) R <sup>2</sup>	0.000	0.007	0.021	0.050	0.066	0.069	0.065	0.055	0.041
No. of obs	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780

Table 6. Stock Return Volatility

The table presents whether the relation is more pronounced when acquirers' stock returns before mergers are more volatile. The column (1) to (9) presents the results based on quantile regressions from the 10<sup>th</sup> percentiles to 90<sup>th</sup> percentiles, respectively. HIGHVOL is 1 if the acquirer's stock return volatility is higher than the median value of the sample, 0 otherwise. T-values are reported in parentheses. \*\*\*, \*\*, and \* represent statistical significance at 1%, 5%, and 10% level, respectively. Standard errors are clustered by acquirer level (Petersen 2009). See Table 2 Panel A for definitions of the other variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
DEP=CAR	Quantile Regression								
	10 <sup>th</sup>	20 <sup>th</sup>	30 <sup>th</sup>	40 <sup>th</sup>	50 <sup>th</sup>	60 <sup>th</sup>	70 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>
CCALL	-0.012*** (-2.63)	-0.005 (-1.33)	0.001 (0.22)	0.005 (1.51)	0.004 (1.06)	0.008** (2.09)	0.010** (2.41)	0.015*** (3.03)	0.020*** (3.91)
<b>CCALL x HIGHVOL</b>	<b>-0.022*** (-2.69)</b>	<b>-0.008 (-1.20)</b>	<b>-0.005 (-0.80)</b>	<b>-0.000 (-0.09)</b>	<b>0.006 (1.09)</b>	<b>0.008 (1.39)</b>	<b>0.011* (1.79)</b>	<b>0.012 (1.48)</b>	<b>0.029** (2.34)</b>
HIGHVOL	-0.005 (-1.04)	0.000 (0.03)	0.006* (1.74)	0.008** (2.56)	0.009*** (2.70)	0.010*** (2.86)	0.014*** (3.57)	0.014*** (2.69)	0.025*** (3.68)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(Pseudo) R <sup>2</sup>	0.001	0.006	0.028	0.053	0.070	0.073	0.066	0.061	0.049
No. of obs	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780

Table 6 presents the results of the quantile regression with the interaction effects between the incidence of conference calls and indicator variables representing higher stock return volatility of acquirers (HIGHVOL). I find that extreme positive and negative returns with conference calls are stronger for acquirers with more volatile stock returns. Specifically, at the bottom decile of deal announcement returns, the coefficient on the interaction between CCALL and HIGHVOL is significantly negative (-0.022 with t-stat of -2.69), while the coefficient at the top decile is significantly positive (0.029 with t-stat of 2.34). Overall, these cross-sectional tests support the notion that uncertainty about investors' response is associated with extreme positive and extreme negative deal announcement returns for deals with conference calls.

#### **5.4 Variation in Uncertainty about Investors' Response**

Next, I conduct another set of cross-sectional tests to explore how uncertainty about investors' response varies with firm characteristics and the composition of investors. The DT model does not provide guidance where uncertainty about investors' response is originated from. Although uncertainty about investors' response arises from the news, i.e., merger announcements, it is also likely to be associated with the characteristics of both managers and investors. Specifically, I expect the relation is stronger when uncertainty about investors' response is more pronounced.

First, I examine whether the relation varies with the level of agency problems firms face. The level of agency concerns is likely to represent the firm's information opaqueness (e.g., Hope and Thomas 2008). On one hand, uncertainty about investors' response can be less pronounced with more agency concerns because information opaqueness prevents investors from having enough firm-specific information to react to the disclosure in the opposite direction from



managers' expectation. On the other hand, uncertainty about investors' response can be more pronounced if investors discount disclosure from firms with agency problems. Therefore, the test provides evidence on how uncertainty about investors' response varies with firms' information transparency.

I use the level of discretionary accruals (Dechow et al. 1995; Francis et al. 2005)<sup>22</sup> and the index of anti-takeover provisions (Bebchuk et al. 2009)<sup>23</sup> to measure the agency concerns firms face. I define observations in the lowest quartile of discretionary accruals and anti-takeover index as the group with a low level of agency concerns.

Table 7 presents the results of the quantile regression with the interaction effects between the incidence of conference calls and indicator variables representing a low level of agency concerns (LOWACC / LOWE). For brevity, I report only quantile regression estimates at the 10<sup>th</sup>, 20<sup>th</sup>, 80<sup>th</sup>, and 90<sup>th</sup> percentile of CAR distribution. I find significantly negative coefficients on the interactions between CCALL and LOWACC / LOWE at the bottom decile of CAR. Specifically, the coefficient on interaction between CCALL and LOWACC is -0.022 (t-stat of -1.90), and the coefficient on interaction between CCALL and LOWE is -0.029 (t-stat of -2.33) at the bottom decile of CAR. These results suggest that uncertainty about investors' response is more pronounced when they have less agency concerns, that is, firms are more transparent to outsiders.

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<sup>22</sup> I calculate discretionary accruals based on the modified-Jones model (Dechow et al. 1995), and then I match each firm-year based on industry membership and by decile of current return on assets. Performance-adjusted discretionary accruals is computed as the difference between each observation's discretionary accrual measure and the median discretionary accrual measure for its industry and return on assets decile (Francis et al. 2005; Kothari et al. 2005).

<sup>23</sup> I use the BCF Entrenchment Index (E-Index) from Bebchuk et al. (2009). This index is based on six provisions: staggered boards, limits to shareholder bylaw amendments, limits to shareholder charter amendments, supermajority requirements for mergers, poison pills, and the golden parachute. A higher level of the BCF Entrenchment Index indicates higher agency concerns.

Second, I examine whether the relation varies with the composition of investors using the fraction of (transient) institutional ownership (Bushee 1998). I use the median value of (transient) institutional ownership as a cutoff to examine to divide the sample based on the composition of investors.

Table 8 presents the results of the quantile regression with the interaction effects between the incidence of conference calls and indicator variables representing higher institutional ownership / higher transient institutional ownership (HIGHIOR / HIGHATRA). For brevity, I report only quantile regression estimates at the 10<sup>th</sup>, 20<sup>th</sup>, 80<sup>th</sup>, and 90<sup>th</sup> percentile of CAR distribution. I do not find evidence that the relation varies with overall institutional ownership. However, the coefficient on interaction between CCALL and HIGHTRA is -0.015 (t-stat of -2.01) at the bottom decile of CAR. The results suggest that uncertainty about investors' response is more pronounced when investors have short-term investment horizon. Overall, these tests show how uncertainty about investors' response is associated with firm characteristics and the composition of investors.

## **5.5 Propensity Score Matching**

I then match deals with and without conference calls based on deal characteristics using propensity score matching (PSM) procedure (Rosenbaum and Rubin 1983). I employ PSM to control for differences in covariates between samples with and without conference calls as described in descriptive statistics in Table 2 (Shipman et al. 2017).<sup>24</sup>

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<sup>24</sup> Matching methods are effective in overcoming concerns with structural issues in the underlying data, particularly limited overlap and nonlinear relations between variables, that may compromise the validity of multivariate linear regression (Shipman et al. 2017).

Table 7. Agency Concerns

The table presents how agency concerns moderate the association between the incidence of conference calls and deal announcement returns. The Columns (1) to (4) present the results for discretionary accruals, and columns (5) to (8) present the results for corporate governance index, based on quantile regressions for the 10<sup>th</sup>, 20<sup>th</sup>, 80<sup>th</sup>, and 90<sup>th</sup> percentiles, respectively. LOWACC is 1 if the firm is in the lowest quartile in the amount of performance matched modified-Jones discretionary accruals, defined as Dechow et al. (1995) and Francis et al. (2005), and 0 otherwise. LOWE is 1 if EINDEX (the number of firm’s antitakeover provision) from Bebchuk et al. (2009) is smaller than 4 and 0 otherwise. T-values are reported in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% level, respectively. Standard errors are clustered by acquirer level (Petersen 2009). See Table 2 Panel A for definitions of the other variables.

DEP=CAR	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Quantile	10 <sup>th</sup>	20 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>	10 <sup>th</sup>	20 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>
CCALL	-0.025*** (-4.04)	-0.011*** (-2.56)	0.024*** (4.85)	0.034*** (4.38)	-0.034*** (-3.41)	-0.015* (1.85)	0.022** (2.49)	0.035*** (3.30)
<b>CCALL x LOWACC</b>	<b>-0.022*</b> <b>(-1.90)</b>	<b>-0.010</b> <b>(-1.03)</b>	<b>0.004</b> <b>(0.39)</b>	<b>0.019</b> <b>(1.29)</b>				
LOWACC	0.008 (1.15)	0.006 (0.79)	-0.006 (-0.73)	-0.014 (-1.12)				
<b>CCALL x LOWE</b>					<b>-0.029**</b> <b>(-2.33)</b>	<b>-0.018*</b> <b>(-1.75)</b>	<b>-0.003</b> <b>(-0.27)</b>	<b>-0.001</b> <b>(-0.07)</b>
LOWE					0.015* (1.82)	0.014** (2.12)	0.000 (0.06)	0.006 (0.70)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(Pseudo) R <sup>2</sup>	0.000	0.021	0.052	0.043	0.011	0.026	0.047	0.032
No. of obs	2,056	2,056	2,056	2,056	967	967	967	967

Table 8. Institutional Ownership

The table presents how the level of institutional ownership moderates the association between the incidence of conference calls and deal announcement returns. The columns (1) to (4) presents the results for institutional ownership, and columns (5) to (8) presents the results for transient institutional ownership, based on quantile regressions for the 10<sup>th</sup>, 20<sup>th</sup>, 80<sup>th</sup>, and 90<sup>th</sup> percentiles, as indicated. HIGHIOR is 1 if the firm’s institutional ownership is higher than the median value, and 0 otherwise. HIGHTRA is 1 if the firm’s transient institutional ownership is higher than the median value, and 0 otherwise. T-values are reported in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% level, respectively. Standard errors are clustered by acquirer level (Petersen 2009). See Table 2 Panel A for definitions of the other variables.

DEP=CAR	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Quantile	10 <sup>th</sup>	20 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>	10 <sup>th</sup>	20 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>
CCALL	-0.018*** (-3.23)	-0.009* (-1.90)	0.020** (2.55)	0.027*** (2.83)	-0.011** (-2.14)	-0.007** (-1.54)	0.015** (2.56)	0.023*** (2.92)
<b>CCALL x HIGHIOR</b>	<b>-0.003</b> <b>(-0.34)</b>	<b>0.002</b> <b>(0.38)</b>	<b>0.003</b> <b>(0.39)</b>	<b>0.007</b> <b>(0.48)</b>				
HIGHIOR	-0.004 (-0.95)	0.003 (0.85)	0.009* (1.88)	0.004 (0.60)				
<b>CCALL x HIGHTRA</b>					<b>-0.015**</b> <b>(-2.01)</b>	<b>-0.002</b> <b>(-0.27)</b>	<b>0.009</b> <b>(1.16)</b>	<b>0.015</b> <b>(1.41)</b>
HIGHTRA					0.003 (0.81)	0.003 (0.87)	0.005 (0.91)	0.006 (0.92)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(Pseudo) R <sup>2</sup>	0.000	0.009	0.055	0.042	0.000	0.008	0.055	0.042
No. of obs	2,780	2,780	2,780	2,780	2,780	2,780	2,780	2,780

I use a logit model to estimate the probability of holding the conference call. Given that matching models do not require exclusion restrictions, the general rule is to include a comprehensive list of attributes when estimating the propensity score (Lawrence et al. 2011). I estimate the propensity score from the model as follows:

$$\begin{aligned}
 CCALL_i = & \beta_0 + \beta_1 PCTSTOCK_i + \beta_2 DEALRATIO_i + \beta_3 INDR_i + \beta_4 PRIV_i \\
 & + \beta_5 FOREIGN_i + \beta_6 LOGSIZE_i + \beta_7 BM_i + \beta_8 LOGANALYST_i + \beta_9 IOR_i \\
 & + \beta_{10} REGULATED_i + \beta_{11} HITECH_i + \beta_{12} FINANCIAL_i \\
 & + \textit{Yearly Fixed Effects} + \varepsilon_i ,
 \end{aligned} \tag{2}$$

I then match, without replacement, deals with conference call to deals without conference call that has the closest predicted value from Equation (2) within a maximum distance of 10%. The research design reduces the number of matched samples to 1,588.<sup>25</sup>

Table 9 Panel A presents descriptive statistics of the matched sample. The mean values of all control variables are not significantly different at the 10% level, suggesting that the propensity score model forms a balanced sample of conference call and non-conference call.

Table 9 Panel B presents the results of OLS and quantile regressions from the propensity score matched sample. The results are similar to those from the full sample. OLS estimates provide no evidence of a statistical relation between CCALL and CAR with the coefficient of 0.03 (t-stat 0.64). In contrast, in quantile regressions estimates, the coefficient at the top decile of

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<sup>25</sup> The results are similar when I apply more restricted matching procedures.

deal announcement returns is 0.032 (t-stat of 4.29), and the coefficient at the bottom decile is -0.020 (t-stat of -4.22). The results confirm the nonlinear relation between the incidence of conference calls and deal announcement returns.

More importantly, the results from propensity score matching address concerns raised from Kimbrough and Louis (2011). They suggest that managers hold conference calls because they worry about negative investors' response, and thus, convey favorable private information to the market through conference calls. Accordingly, they find that the incidence of conference calls is positively associated with deal announcement returns after controlling for self-selection using the Heckman (1979) procedure.

It is not appropriate, however, to control for the self-selection to examine how voluntary disclosure is associated with uncertainty about investors' response. Nevertheless, given the evidence in Kimbrough and Louis (2011), one can expect that the non-linear relation between conference calls and announcement returns would be diminished once self-selection is controlled. Propensity score matching mitigates this concern. The results show that uncertainty about investors' response is not controlled by known determinants of holding conference calls.

## **5.6 Quantile Regression with RETPR**

One of alternative explanations to extreme announcement returns for deals with conference calls is that conference calls increase ex post return variability by providing more information. In order to rule out this alternative explanation, I replace the dependent variable in the quantile regression with returns around press releases (RETTPR).<sup>26</sup> For this additional test, I

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<sup>26</sup> Refer to intraday returns analyses section for the calculation of RETTPR.

exclude acquirers holding conference calls concurrently with press releases so that RETPR does not include investors' response to the content of conference calls. Therefore, the results cannot be attributed to the information content of conference calls.<sup>27</sup>

Table 10 presents the results of OLS and quantile regressions using RETPR as the dependent variable. While OLS estimates provide no evidence of a statistical relation between CCALL and RETPR with the coefficient of 0.03 (t-stat 1.06), in the quantile regressions estimates, the coefficient at the top decile of deal announcement returns is 0.021 (t-stat of 4.18), and the coefficient at the bottom decile is -0.006 (t-stat of -1.79). The results are consistent with those with three-day deal announcement returns, suggesting that extreme announcement returns are not entirely driven by the information content of conference calls.

## **5.7 Intraday Returns Analysis**

Finally, I examine intraday returns around merger press releases and for conference call windows to triangulate the evidence from three-day deal announcement returns. Although press releases and conference calls cannot be separated in the DT setting, these intraday returns enable me to examine investors' response to each disclosure channel, while three-day deal announcement returns include investors' response to press releases and to conference calls altogether. As such, average returns around conference call windows are expected to be positive if managers place a positive spin on merger announcements during conference calls (Kimbrough and Louis 2011).

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<sup>27</sup> Note that the concurrent conference calls are proper to test the prediction of Dutta and Trueman (2002) because managers provide information before they see investors' response. Therefore, excluding these deals weakens the results as shown in Table 5. Nevertheless, I exclude these deals because the purpose of this test is to rule out the specific alternative explanation about the information content of conference calls.

Table 9. Propensity Score Matching

Panel A. Descriptive Statistics

The p-values are two-tailed. The tests of mean differences are based on the t-statistic, assuming unequal variances, and the tests for median differences are based on the Wilcoxon rank sums statistic.

Variable	Full Sample (N = 1,588)		CCALL = 1 (N = 794)		CCALL = 0 (N = 794)		p-value for mean difference	p-value for median difference
	Mean	Median	Mean	Median	Mean	Median		
<b>CAR</b>	0.022	0.013	0.024	0.014	0.020	0.011	0.398	0.174
<b>MKTCAP</b>	2.037	0.661	2.226	0.600	1.847	0.712	0.152	0.420
<b>PCTSTOCK</b>	0.182	0.000	0.184	0.000	0.180	0.000	0.815	0.126
<b>DEALRATIO</b>	0.432	0.232	0.434	0.288	0.430	0.191	0.874	<0.001
<b>BM</b>	0.588	0.524	0.590	0.529	0.586	0.519	0.809	0.564
<b>INDR</b>	0.588	1.000	0.595	1.000	0.579	1.000	0.508	0.508
<b>PRIV</b>	0.419	0.000	0.417	0.000	0.422	0.000	0.839	0.839
<b>FOREIGN</b>	0.134	0.000	0.142	0.000	0.126	0.000	0.339	0.339
<b>ANALYSTS</b>	9.99	8.00	9.81	8.00	10.17	8.00	0.936	0.796
<b>IOR</b>	0.600	0.634	0.598	0.613	0.602	0.658	0.796	0.464
<b>REGULATED</b>	0.068	0.000	0.006	0.000	0.072	0.000	0.550	0.550
<b>HITECH</b>	0.298	0.000	0.300	0.000	0.296	0.000	0.869	0.869
<b>FINANCIAL</b>	0.237	0.000	0.236	0.000	0.238	0.000	0.906	0.906



Panel B. Quantile Regression with Propensity Score Matched Sample

The table presents the relation between the incidence of conference calls and deal announcement returns with propensity score matched sample. The column (1) presents the OLS estimates, and the columns (2) to (10) presents the results based on quantile regressions from the 10<sup>th</sup> percentiles to 90<sup>th</sup> percentiles, as indicated. CAR is the cumulative market-adjusted return over the three-day period spanning day 0 to day +2, where day 0 is the merger announcement date. LOGSIZE is the log of the market value of equity at the beginning of the fiscal year in which the merger is announced. LOGANALYST is the log of the number of analysts issuing earnings forecast for the fiscal quarter in which the merger is announced. T-values are reported in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% level, respectively. Standard errors are clustered by acquirer level (Petersen 2009). See Table 2 Panel A for definitions of the other variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DEP=CAR	OLS	Quantile Regression								
		10 <sup>th</sup>	20 <sup>th</sup>	30 <sup>th</sup>	40 <sup>th</sup>	50 <sup>th</sup>	60 <sup>th</sup>	70 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>
CCALL	<b>0.003</b> <b>(0.64)</b>	<b>-0.024***</b> <b>(-4.15)</b>	<b>-0.010**</b> <b>(-2.57)</b>	<b>-0.004</b> <b>(-1.30)</b>	<b>0.002</b> <b>(0.62)</b>	<b>0.003</b> <b>(0.97)</b>	<b>0.008**</b> <b>(2.19)</b>	<b>0.015***</b> <b>(3.50)</b>	<b>0.020***</b> <b>(3.68)</b>	<b>0.034***</b> <b>(3.76)</b>
PCTSTOCK	-0.043*** (3.81)	-0.040*** (-3.61)	-0.037*** (-3.92)	-0.026*** (-3.76)	-0.032*** (-5.30)	-0.032*** (-4.76)	-0.033*** (-4.21)	-0.029*** (-3.47)	-0.031** (-2.47)	-0.026* (-1.85)
DEALRATIO	0.023** (2.14)	-0.029 (-1.19)	-0.010** (-2.00)	-0.004 (-1.16)	0.000 (0.05)	0.005 (0.82)	0.019*** (2.68)	0.035*** (3.12)	0.053*** (3.34)	0.068*** (4.53)
INDR	0.010** (2.14)	0.010* (1.72)	0.008** (1.98)	0.001 (0.29)	0.001 (0.33)	0.003 (0.83)	0.002 (0.61)	0.005 (1.37)	0.007 (1.56)	0.006 (0.86)
PRIV	-0.006 (-1.23)	-0.002 (-0.34)	-0.002 (-0.34)	-0.001 (-0.31)	-0.003 (-0.70)	-0.005 (-1.25)	-0.006 (-1.52)	-0.001 (-0.30)	-0.004 (-0.64)	-0.005 (-0.54)
PCTSTOCK	0.052*** (2.72)	0.037 (1.10)	0.037*** (2.98)	0.022** (2.05)	0.038*** (2.65)	0.046*** (3.76)	0.050*** (4.43)	0.034*** (2.90)	0.036 (1.54)	0.040 (1.46)
X PRIV	0.002 (0.40)	0.010* (1.72)	-0.000 (-0.02)	0.002 (0.30)	-0.001 (-0.12)	0.004 (0.74)	0.000 (0.05)	-0.002 (-0.40)	-0.007 (-0.94)	0.007 (0.63)
FOREIGN	0.002 (0.40)	0.010* (1.72)	-0.000 (-0.02)	0.002 (0.30)	-0.001 (-0.12)	0.004 (0.74)	0.000 (0.05)	-0.002 (-0.40)	-0.007 (-0.94)	0.007 (0.63)
LOGSIZE	-0.007***	0.000	-0.002	-0.002	-0.002	-0.003	-0.004**	-0.005**	-0.006**	-0.012***

	(-2.91)	(0.00)	(-0.73)	(-0.79)	(-1.23)	(-1.27)	(-2.25)	(-2.50)	(-2.00)	(-3.22)
BM	0.004	-0.000	-0.006	-0.001	-0.003	-0.005	-0.012*	-0.010	-0.011	-0.017
	(0.29)	(-0.03)	(-0.75)	(-0.16)	(-0.53)	(-0.67)	(-1.89)	(-1.47)	(-1.00)	(-1.29)
LNANALYST	0.003	-0.004	-0.003	-0.002	-0.002	-0.002	0.001	0.000	-0.004	0.003
	(0.79)	(-1.14)	(-0.97)	(-0.89)	(-0.63)	(-0.57)	(0.26)	(0.12)	(-1.09)	(0.46)
IOR	0.001	-0.000	0.003	-0.001	0.001	0.002	-0.003	0.001	0.002	-0.007
	(0.12)	(-0.01)	(0.30)	(-0.12)	(0.20)	(0.35)	(-0.35)	(0.17)	(0.15)	(-0.49)
REGULATED	-0.017**	-0.006	-0.003	-0.013*	-0.011*	-0.013**	-0.019**	-0.024***	-0.021**	-0.024*
	(-2.05)	(-0.50)	(-0.49)	(-1.95)	(-1.68)	(-2.09)	(-2.48)	(-3.57)	(-2.10)	(-1.68)
HITECH	-0.014**	-0.012**	-0.012***	-0.010**	-0.010**	-0.012**	-0.011**	-0.006	-0.009	-0.017**
	(-2.45)	(-2.03)	(-2.80)	(-2.24)	(-2.29)	(-2.58)	(-2.17)	(-1.00)	(-1.36)	(-2.18)
FINANCIAL	-0.017**	0.004	0.002	-0.003	-0.010**	-0.015***	-0.019***	-0.023***	-0.030***	-0.029**
	(-2.46)	(0.58)	(0.34)	(-0.65)	(-2.42)	(-3.38)	(-4.01)	(-4.25)	(-4.53)	(-2.48)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(Pseudo) R <sup>2</sup>	0.051	0.000	0.009	0.019	0.035	0.048	0.055	0.052	0.045	0.039
No. of obs	1,588	1,588	1,588	1,588	1,588	1,588	1,588	1,588	1,588	1,588

Table 10. Quantile Regression with RETPR

The table presents the results of regressions with RETPR as the dependent variable after excluding acquirers holding conference calls concurrent with press releases. The column (1) presents the OLS estimates, and the columns (2) to (10) present the results based on quantile regressions from the 10<sup>th</sup> percentiles to 90<sup>th</sup> percentiles, as indicated. RETPR is returns around press releases, measured between minutes 0 to 30 from press release time. T-values are reported in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% level, respectively. Standard errors are clustered by acquirer level (Petersen 2009). See Table 2 Panel A for definitions of the other variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DEP=RETTPR	OLS	Quantile Regression								
		10 <sup>th</sup>	20 <sup>th</sup>	30 <sup>th</sup>	40 <sup>th</sup>	50 <sup>th</sup>	60 <sup>th</sup>	70 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>
<b>CCALL</b>	<b>0.003</b>	<b>-0.006*</b>	<b>-0.004**</b>	<b>-0.000</b>	<b>0.001</b>	<b>0.003*</b>	<b>0.004**</b>	<b>0.007***</b>	<b>0.012***</b>	<b>0.021***</b>
	<b>(1.06)</b>	<b>(-1.79)</b>	<b>(-2.00)</b>	<b>(-0.26)</b>	<b>(1.02)</b>	<b>(1.85)</b>	<b>(2.08)</b>	<b>(3.56)</b>	<b>(3.12)</b>	<b>(4.18)</b>
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(Pseudo) R <sup>2</sup>	0.068	0.002	0.012	0.020	0.033	0.044	0.055	0.045	0.045	0.042
No. of obs	1,885	1,885	1,885	1,885	1,885	1,885	1,885	1,885	1,885	1,885

In addition, I examine the relation between returns around press releases and returns for conference call windows to explore whether there is any systematic relation between information in the press release and in the conference call. I expect a positive association between returns around press releases and returns for conference call windows if managers complement information regarding merger announcements during the conference call. In contrast, if managers want to mitigate extreme investors' response using conference calls, two returns would be negatively associated. Frankel et al. (1999) conduct similar analysis with earnings conference calls but do not find any systematic relation between information in the press release and in the conference call.

I calculate intraday returns using the Trade and Quote (TAQ) trading data.<sup>28</sup> As for returns around press releases, I use returns during the period from the press release time stamp to 30 minutes afterward. If mergers are announced while the stock market is closed, I include overnight returns. I calculate returns for conference call windows using the price at the start and end time, which estimated by the duration. Since data on the duration of each conference call is not available, I use the number of words spoken during the conference call to estimate the duration. Following Matsumoto et al. (2011), I assign 160 words to one minute during the presentation, and 157 words to one minute during the discussion.<sup>29</sup> In addition, I exclude acquirers who overlap the periods for returns around press releases and returns for conference call windows to avoid any confounding effects. These requirements reduce the number of sample for the analyses to 551.

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<sup>28</sup> The results are similar when I use TAQ quote data.

<sup>29</sup> All results are qualitatively similar when I use the different length for conference call windows, such as 90 minutes or 120 minutes.

Table 11 presents the results. Panel A shows descriptive statistics of returns around press releases (RETPR) and returns for conference call windows (RETCC). In general, the mean absolute value of RETPR (3.4%) is larger than that of RETCC (0.9%), suggesting that press releases include more new information than conference calls because firms announce their mergers through press releases and then hold conference calls. The evidence mitigates the concern that extreme announcement returns for deals with conference calls can be attributed to the information content in conference calls instead of uncertainty about investors' response. More importantly, average returns for conference call windows are not significantly different from zero, consistent with Frankel et al. (1999). Therefore, the results do not support the notion that managers place a positive spin on merger announcements during conference calls.

Panel B shows the correlation between RETPR and RETCC. I find RETPR and RETCC are positively correlated, consistent with conference calls complement information provided by merger announcements.<sup>30</sup> The positive correlation is pronounced when initial market reactions around press releases are positive. Although these results imply that conference calls strengthen market reactions, the evidence should be interpreted with caution because I cannot control for serial correlation in intraday returns.

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<sup>30</sup> The results corroborate with Kimbrough's (2005) findings which show that the initiation of earnings conference calls reduces analysts and market under-reactions to earnings news.

Table 11. Intraday Returns Analyses

The table presents the correlation between returns around press releases and conference call window. RETPR is returns around press releases, measured between minutes 0 to 30 from press release time. RETCC is returns around conference call window, measured between conference call starting time and conference call ending time. I estimate the time spent on a conference call by dividing the number of words in the presentation and discussions by 160 and 157, and add it to the starting time to calculate conference call ending time following Matsumoto et al. (2011). T-values are reported in parentheses. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% level, respectively. Standard errors are clustered by acquirer level (Petersen 2009).

Panel A. Descriptive Statistics

	Num	Mean	STD	Q1	Median	Q3
RETPR	551	0.013	0.053	-0.011	0.006	0.031
RETCC	551	0.002	0.013	-0.004	0.001	0.007

Panel B. Correlation between RETPR and RETCC

DEP=RETCC	(1) Whole Sample	(2) RETPR $\geq$ 0 (Good News)	(3) RETPR < 0 (Bad News)
<b>RETPR</b>	<b>0.034**</b> (2.42)	<b>0.041**</b> (2.18)	<b>0.017</b> (0.46)
R <sup>2</sup>	0.019	0.020	0.002
No. of obs	551	341	210

## CHAPTER 6

### CONCLUSION

I empirically examine voluntary disclosure with uncertainty about investors' response using conference calls around merger announcements. Using quantile regressions, I find that deal announcement returns are either extremely positive or extremely negative for mergers with conference calls compared with such returns for mergers with no conference calls. This finding is consistent with the implication from Dutta and Trueman (2002), who theoretically show that managers disclose significant news when they are uncertain about investors' response. The results are stronger when uncertainty about investors' response is more pronounced: (a) when managers hold conference calls before they see investors' response, and (b) when acquirers' stock return volatility is higher. In addition, I provide evidence that uncertainty about investors' response is more pronounced for acquirers with less agency problems and more transient institutional ownership. Overall, these results support the relation between voluntary disclosure and uncertainty about investors' response.

This study is the first to provide empirical evidence on the association between voluntary disclosure and uncertainty about investors' response, a phenomenon that has to date been investigated primarily in the theoretical literature (e.g., Nagar 1999; Dutta and Trueman 2002; Suijs 2007). The evidence is consistent with DT model that managers voluntarily disclose information that can be interpreted as either extremely good news or extremely bad news. Therefore, the study contributes to the literature on the disclosure decision conditional on the nature of the news – that is, good news or bad news (e.g., Verrecchia 1983; Jung and Kwon 1988; Skinner 1994; Skinner 1997; Kothari et al. 2009). In addition, uncertainty about investors'

response extends prior research that suggests managers disclose both good and bad news to reduce information asymmetry (e.g., Ajinkya and Gift 1984; McNichols 1989; Lang and Lundholm 1996; Healy and Palepu 2001; Verrecchia 2001; Billings et al. 2015). Moreover, the study contributes to the literature on conference call (e.g., Tasker 1998; Frankel et al. 1999; Bowen et al. 2002; Kimbrough 2005; Matsumoto et al. 2011; Larcker and Zakolyukina 2012; Mayew et al. 2013; Li et al. 2014; Allee and Deangelis 2015) and disclosure around M&A activities (Erickson and Wang 1999; Louis 2004; Kimbrough and Louis 2011; Ahern and Sosyura 2014).

Although the empirical results are consistent with the theoretical insight relating voluntary disclosures and uncertainty about investors' response, the evidence is also consistent with alternative explanations. For example, the results are consistent with the information content of conference calls, which in turn, increase ex post return variability. Also, managers might not have uncertainty about investors' response but disclose both good and bad news. I discuss each of the alternative explanations and, wherever possible, supplement the discussion with empirical tests. Nevertheless, I cannot completely rule out alternative explanations because uncertainty about investors' response is not directly observable in an empirical sense. Given this limitation, future research could refine the evidence on uncertainty about investors' response to disentangle its effects from competing explanations.



## **APPENDIX A**

### **QUANTILE REGRESSION**

I use quantile regression procedures to estimate the conditional distribution of deal announcement returns. The traditional linear regression model, such as ordinary least squares (OLS), focuses on the conditional mean of the dependent variable. Although the conditional mean is one of the important characteristics of the distribution, at the same time, it does not provide any information about the location or shape of the distribution. As an extension, Koenker and Bassett (1978) introduced the quantile regression model, which specifies changes in the conditional quantile. Since any quantile can be used, quantile regressions have been used to get information about points in the distribution of the dependent variable other than the conditional mean.

The essential features of quantile regression are well illustrated in the literature on income inequality. Since income inequality is the second moment of income distribution, researchers attempt to estimate the wage distribution, which is hard to summarize using the conditional mean only. For example, income inequality can increase symmetrically – income in upper quartiles increases and income in lower quartiles decreases. Alternatively, inequality can grow asymmetrically – income at upper quartiles increases while income at the lower quartiles is unchanging. Quantile regression could reveal such changes in the entire income distribution by estimating different conditional percentiles.

Quantile regression is different from the approach segmenting the response variable into subsets according to its unconditional distribution and then performing least squares fitting on these subsets. This form of truncation on the dependent variable fails to generate a consistent

estimator for the reasons laid out in Heckman (1979) on sample selection (Koenker and Hallock 2001). In contrast, quantile regression uses every observation to characterize the entire distribution of the dependent variable conditional on independent variables. In addition, common econometrics techniques work well with quantile regression: confounding factors can be controlled by including covariates; interaction terms work the same as with regular regression; one can use an instrumental variables approach to estimate causal effects on quantiles.

Because of these advantages, quantile regressions have been extensively used in economics and finance literature to assess the effect of school quality on student performance (Eide and Showalter 1998); the effects of 401(K) participation on wealth (Chernozhukov and Hansen 2004); the determinants of house prices (Zietz et al. 2008); the determinants of gender wage differences (García et al. 2001); and the effect of education on women's labor market value (Buchinsky 2001) and have also been used to evaluate value-at-risk models (Gaglianone et al. 2011). In recent accounting literature, Armstrong et al. (2015) use quantile regressions to examine the link between corporate governance and corporate tax avoidance. For more detailed discussion, refer to Koenker and Hallock (2001), Angrist and Pischke (2009), and Koenker (2017).

## APPENDIX B

### LIST OF FUTURE ORIENTED WORDS

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be	she'll	expect	plans	look forward
he'll	they'll	expects	believe	go forward
I'll	tomorrow	intend	believes	looking ahead
it'll	we'll	intends	projects	would
may	will	anticipate	project	should
might	won't	anticipates	looking forward	could
shall	you'll	plan	going forward	

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Youngki Jang was born in South Korea. He received a Bachelor's Degree in Business Administration from Seoul National University in 2004. Upon graduation, he started his professional career at Samil PriceWaterhouseCoopers, and then, he also worked for the Republic of Korea Army and Samjong KPMG Advisory from 2004 to 2011. After seven years of professional experience, he went back to Seoul National University, and earned a Master of Science Degree in Accounting in 2013. In August 2013, he joined the PhD program in Management Science with a concentration in Accounting at The University of Texas at Dallas.

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