

Mergers under the Microscope:

Analyzing Conference Call Transcripts[†]

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Abstract: Many M&A deal announcements are accompanied with a conference call to discuss deal details and address market participants' demand for information. We find that calls are associated with positive market reactions and a higher likelihood of deal completion. Using a topic modelling approach, we uncover 20 highly interpretable topics from the call transcripts. Market reactions are more (less) positive when the call communicates more “hard” (“soft”) information, revealing different disclosure strategies depending on deal quality. Governance-related issues, although not significantly correlated with stock returns, are prominently discussed and related to the latent motivation for holding calls.

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I. Introduction

When announcing a merger agreement, the merging parties have a choice: do they hold a conference call or not? This choice, and what topics to include in the presentation part of the call, reflects a complex tradeoff facing management. There are multiple audiences for the information presented in the call: analysts, target and bidder shareholders, rivals, and regulators. The information these audiences demand varies by the nature of the deal, and the cost/benefit tradeoff of revealing it varies across deals as well. In this study, we examine the decision to hold calls and their content, and in doing so provide novel insight into what information is used by market participants to assess merger transactions and how managers balance the costs and benefits of disclosure.

We focus on the pre-scheduled conference calls that are held on the day of, or the day following, a deal announcement. Instead of being responsive to market reactions to the announcement, managers make the decision to hold calls ex ante based on their private information of deal quality and their anticipation of what type of information the market needs to assess the deal, which in turn affect both the market reaction to the deal and its completion likelihood. Holding M&A calls has the risk of disclosing information that could become the basis for future litigation¹, or could be used by rivals, or attract the attention of regulators. On the other hand, conference calls provide a platform to communicate with investors regarding deal fundamentals

¹ According to the Review of 2018 M&A litigation done by Cornerstone Research, 82% of M&A deals valued over \$100 million were litigated. <https://www.cornerstone.com/Publications/Reports/Shareholder-Litigation-Involving-Acquisitions-of-Public-Companies-Review-of-2018-M-and-A-Litigation-pdf> Rogers and Buskirk (2009) find that shareholder litigation decreases firms' provision of disclosures for which they may later be held accountable.

and address their concerns. Effective communication can reduce information asymmetry and bolster shareholder support for the deal. Such a tradeoff implies that managers are more likely to hold calls when the deal quality is higher, since the expected benefits of disclosure outweigh the potential costs of being challenged by call participants.

Having decided to hold a call, the call content will be influenced by the information demanded by market participants to assess the deal. However, managers should be expected to strategically choose the nature of information to disclose depending on deal quality. Disclosing verifiable (or “hard”) information, e.g., financial forecasts, enables managers to convincingly convey information supporting the deal value to the market, although it raises the risk of reputation damage or even lawsuits if the ex-post realization does not match with the disclosure. This suggests that hard information is more likely to be released when deal quality is high.² On the other hand, when deal value is low or synergy is highly uncertain, managers may find it infeasible or too risky to disclose hard information. However, holding a call in such a case could still improve the prospects of the deal going through as a variety of investor concerns can be addressed through communication on qualitative or “soft” information. Overall, we expect a positive (negative) association of deal quality and the relative volume of hard (soft) information in equilibrium.

We find strong evidence supporting these predictions. First, the deals accompanied by calls within two days of the announcements are associated with a significantly higher abnormal stock

² Hutton, Miller, and Skinner (2003) make a similar argument in a different context. They argue that managers tend to provide verifiable forward-looking supplementary information to support their forecasts that convey good news. On the other hand, since managers have little incentive to falsely generate or exaggerate bad news, their forecasts containing bad news are less likely to be scrutinized even without verification.

return of the acquirer. The association holds for the cumulative abnormal returns over a three-day window around the announcement date, as well as for a window after the announcement date. For the latter, we further control for the initial market reaction to the deal announcement to separate out the additional market reaction to the calls. On the other hand, when we instrument the decision to hold calls with the acquirer's past tendency to hold M&A conference calls, we no longer find significant associations, suggesting that there is no superior return when calls are held for reasons that are unlikely to be related to managers' belief about deal quality. Overall, the evidence suggests that investors react primarily to the information content of calls, rather than the mere fact that a call has taken place.

To delve deeper into call content, we utilize recent innovations in machine learning techniques. Using a variant of probabilistic topic modelling developed by Roberts, Steward, and Airoidi (2016), we uncover the issues discussed in each paragraph of 5,565 M&A call transcripts. Probabilistic topic modelling identifies the thematic groups ("topics" hereafter) through the association of words. We infer the meaning of each topic from the high-frequency words within topics and apply labels to reflect their economic content.

We find that a central issue in the M&A calls is financial forecasts, such as a deal's impact on earnings per share, cost and revenue projections, and the assumptions used for these forecasts. These financial topics, along with issues like operation, production, and contractual arrangements (e.g., breakup and termination fees, compensation contracts/ severance pay, other third-party contracts), are ex post verifiable to outside investors, since they are either statements of facts or

projections that can be easily compared with realized outcomes. We refer to such topics as involving hard information.³ Second, there are several topics that are more difficult for the outsiders to assess, such as strategic complementarities between merging companies, team and labor arrangements, culture congruence, prospective customers, and issues relating to technology. These topics are mainly discussed to justify deal motivations or to describe the sources of deal value and are labelled as soft information.⁴ Last, the calls also involve two special issues – ownership and control (e.g., minority shareholders, voting rights, and bylaws) and deal process (e.g., the process through which the target/acquirer was found, the timeframe of deal negotiation and completion, and regulatory issues). These “special issue” topics are closely related to the governance concerns but not directly to deal values.

To examine call content, we measure the extent to which the number of words in each call is devoted to discussing the above three types of topics. As argued, we expect the deals with higher quality to be associated with a lengthier disclosure of hard information but shorter discussion of soft information. We find supporting evidence: the acquirer’s three-day abnormal returns around deal announcement are more positive when discussion of hard information is lengthier, and less positive when there is lengthier discussion of soft information.⁵ When we break down the hard-

³ Our definition of “hard information” is broader than “quantitative information” or “financial information,” highlighting the notion of “verifiability.” This differentiates us from the extensive literature that focuses on the numeric feature of hard information (see Liberti and Petersen (2019) for a survey), as well as the literature comparing financial and non-financial disclosures (e.g., Amir and Lev (1996), see Healy and Palepu (2001) for a review). As described in detail later, our findings are *not* predominately driven by quantitative or financial information.

⁴ Our definition of “soft” vs. “hard” information is in line with Hutton, Miller, and Skinner (2003), who draw the distinction between “verifiable forward-looking statements” and “soft talk disclosures” in the context of earnings forecasts.

⁵ The findings are likely to be driven by two subtly different, but non-exclusive, effects. First, both the information structure and stock returns are jointly determined by deal quality that is privately observed by managers. Second,

information topics into the financial and other verifiable components, we find that both have significant and positive association with stock returns. The effects are generally stronger for the presentation segment of conference calls, where the content is mostly under managers' control. The weaker result in the Q&A segment suggests that call participants might have raised questions to acquire information on the dimensions that were less emphasized by managers during the presentation.

Last, we study the audience's heterogeneous demand for information by comparing the deals involving public and private target firms. When the target is a public company, the target shareholders are part of the intended audience, since their approval is critical for deal completion.⁶ On the other hand, the shareholders of a private target usually have already agreed on the deal by the time of announcement. Thus, the intended audience of private deals mainly involves the acquirer shareholders, while that of public deals includes shareholders on both the acquirer and target sides, the interests of whom are not perfectly aligned, and can even be conflicted when it comes to the issue of splitting the merger surplus. This implies that the two types of deals should be associated with different demand for information.

One implication of this argument is that calls are aimed to achieve different purposes for the two types of deals. While the main purpose of holding calls for private deals is to reduce

given the same deal quality, there is an optimal composition of soft and hard information, deviation from which leads to a lower stock return. Since we do not observe deal quality or an exogenous shock to the information structure, we cannot distinguish the two effects.

⁶ Target shareholders can disprove an acquisition through either voting or filing a class action against the board. As found by Krishnan et al. (2012), deals associated with target shareholders' lawsuits have a significantly lower completion likelihood.

information asymmetry and showcase the deal, calls for public deals have the broader goal of gaining support from the investors. We find supportive evidence that the positive association of acquirer's stock returns and the decision to hold a call is concentrated in the subsample of private deals, while the effect is absent for the public deals.⁷ On the other hand, holding calls benefits the public deals by improving the completion likelihood. We find that calls improve the completion likelihood for public deals by 12.8 percentage points, which is 15 percent of the unconditional completion likelihood for such deals (86.2%). As expected, the completion likelihood for private deals improves less – by 3.8 percentage points, which is only 4 percent of the unconditional completion likelihood of 92.4%. These results suggest that persuading target shareholders to approve the deal is an important motivation of calls for the public deals.

The different demand for information should also lead to different call content for the two types of deals. Acquiring and restructuring a public firm is subject to more scrutiny by investors, lawyers, and regulators than it is for deals with private firms. Thus, for public deals, there is a higher demand for information regarding the deal motivation and process. We find supporting evidence that there is a lengthier discussion of governance issues (i.e., ownership and control and deal process) in the calls for public deals than for private deals. Moreover, facing two groups of shareholders with diverging interests, calls for public deals may spend more time on less concrete topics involving soft information that focus on the common benefits rather than on topics that at

⁷ The latter implies that communication may have been tilted toward the topics that target shareholders are most interested in, which might not be perceived as good news by the acquirer shareholders.

least implicitly articulate each party's gain or loss. Consistently, we find that the discussion of business complementarities is significantly longer for public than for private deals.

Our last piece of analysis links the motivation of holding calls and the demand for specific types of information. In Heckman regressions of topic length, we find that the Inverse Mill's Ratio of holding calls is positively associated with the length of governance issues in the Q&A segment, and this result is concentrated in the subsample of public deals. This suggests that manager's latent motivation to hold calls is related to the need to fulfil investors' information demand on such issues, when the target firm is publicly listed.

Our paper contributes to the literature about information disclosure at M&A announcements. Previous papers establish that investors can assess an announced merger deal using information about synergy values forecasted by managers (Bernile and Bauguess (2011) and Dutordori, Roosenboom, and Vasconcelos (2014)), the projected pro forma earnings for the combined company (Amel-Zadeh and Meek (2019)), the deal's value drivers as described in the press releases (Filip, Lobo, Paugam, and Stolowy (2021)), and the risk and uncertainty discussions in the S-4 filings with the SEC (Guo, Liu, Shu, and Yan (2021)). We complement the literature by summarizing the information disclosed in M&A conference calls as a voluntary but interactive channel, the content of which reflects market participants' information demand and the strategic considerations of management.

Our paper also relates to a strand of studies on M&A conference calls which mainly focuses on the determinants of holding M&A calls and the favorable market reactions to calls (see,

Kimbrough and Louis (2011), Fraunhofer, Kim, and Schiereck (2019), and Siougle, Spyrou, and Tsekrekos (2014)).⁸ Call content has not been extensively studied in prior research. Kimbrough and Louis (2011) analyze a small sample of calls and point out that calls contain a greater volume of forward-looking information than the press releases. More recently, in contemporaneous work, Hu, Shohfi, and Wang (2021) conduct textual analysis and find that market reactions are related to the call tones, the percent of numbers mentioned, and whether the call contains more financially or strategically related keywords. Our paper differentiates from the extant literature by conducting a comprehensive analysis of call content using the topic modelling approach. Instead of relying on a pre-defined dictionary, the topic modelling approach enables us to depict a full picture of what issues are considered to be relevant by the management and call participants. The decomposition of call content reveals the demand for information on different dimensions, based on which we further show that fulfilling investors' demand for governance-related information is part of the unobservable determinant of holding calls.

More broadly, our paper speaks to the literature on voluntary disclosures through conference calls. Most of this work studies earnings conference calls (e.g., Kimbrough (2005), Matsumoto, Pronk, and Roelofsen (2011), Mayew and Venkatachalam (2012), Allee, Matthew, and Deangelis (2015), Brochet, Kolev, and Lerman (2016), Huang, Lehavy, Zang, and Zheng (2017), Chen, Nagar, and Schoenfeld (2018)), and Jung, Wong, Zhang (2018)) and finds that the information

⁸ Kimbrough and Louis (2011) find that calls are more likely to take place for stock deals and large deals, and establish that calls convey favorable information to the market. Fraunhofer, Kim, and Schiereck (2019) extend the study to an international setting, confirming the determinants and favorable market reaction, and proceed to investigate heterogeneity across countries. Siougle, Spyrou, and Tsekrekos (2014) look only in the U.K. and conclude that calls reduce information asymmetry in the stock and option markets and improve analyst forecast accuracy.

released through narrative communication improves the firm's information environment. While the main purpose of earnings calls is for the management to provide information to the analysts, M&A conference calls encompass a more complex group of participants, including not only analysts but also shareholders of both sides. Our study indicates significant heterogeneity in the narratives of communication as a consequence of addressing a diverse audience. Consistent with information disclosure in calls that reduce information asymmetry and uncertainty about deal completion, we find that if the deal announcement is accompanied by a call, (i) the acquirer's bid-ask spread is lower after the call, and (ii) the merger arbitrage spread is also lower.

Last, our paper adds to a growing literature that applies topic modelling in finance research (e.g., Hansen, McMahon, and Prat (2018), Fedyk and Hodson (2019), Lowry, Michaely and Volkova (2020), Li, Liu, Mai, and Zhang (forthcoming), and Bybee, Kelly, Su (2021)). Topic models are helpful in analyzing unstructured textual data, the theme of which is not known priori. Our paper adds to the literature by applying topic model in the M&A context and by making a technical contribution – we demonstrate the power of structured topic model (Roberts, Steward, and Airoldi (2016)), which allows topic content to vary across groups identified from the meta data. This feature enables topics to incorporate industry-varying terminologies, which significantly improves the interpretability of our model output.

II. Data and Sample

We obtain the transcripts of M&A conference calls from StreetEvents, a data vendor that collects conference call transcripts. The sample spans the period from 2003 to 2016. We match the call

transcripts with M&A deals in SDC using a fuzzy matching process based on the titles of the calls. We further manually validate the matching by cross-checking the call transcripts and the deal synopses. There are 5,565 unique calls that can be matched with a merger deal in SDC. Among the matched calls, 87% are scheduled on the same day of the deal announcement or the following day. Such calls are mostly prescheduled and announced at the press release announcing the deal (Kimbrough and Louis (2011)). We refer to them as “scheduled calls” hereafter, while the calls held two days after the deal announcement or later are classified as “unscheduled calls.” We have dropped the calls held later than 90 days after deal announcement, since such calls are likely to be mismatched with the deal. In our sample, 91% of calls are hosted by the acquirers, while the other 9% are held by the target firms.⁹ An overview of the matched calls is presented in Panel A of Table 1. We estimate the *topic model* using these 5,565 matched calls, details of which are discussed in the next section.

After obtaining the outputs from *topic modelling*, we further restrict our focus on the deals that are made by a US public acquirer. This is because a majority of our sample comprises acquirer-initiated calls, and we need information on stock prices and other financial variables of the acquirer to understand the motives behind holding calls and how call content and deal outcomes are related to acquirer characteristics. We also require that (1) the acquirer holds less than 50% of target company shares before the deal, (2) the acquirer seeks to own 100% of shares after the deal, (3) transaction value is higher than 1 million US dollars, (4) the acquirer can be matched with a stock

⁹ Although most calls are hosted by the acquirer, it is common for the managers of the target firm to attend a conference call hosted by the acquirer firm, and vice versa.

in CRSP, and (5) the deal is *not* done between a financial acquirer and nonfinancial target. From SDC we obtain 14,332 M&A deals that satisfy these requirements and are announced between 2004 and 2016.¹⁰ There are 2,559 (17.86%) deals among these that can be matched with M&A conference calls.¹¹ As shown in Panel B of Table 1, 2,273 (89%) of the 2,559 deals are associated only with scheduled calls, while the remaining 286 (11%) are associated with unscheduled calls. We find that 2,438 (95%) of the 2,559 deals are associated only with calls hosted by the acquirer, and the other 121 (5%) deals are associated with calls hosted by the target. In our regressions, we will analyze only the first scheduled call hosted by the acquirer, which accounts for over 84% of all the matched calls in this sample.

In Panel C of Table 1, we provide an overview of the sample regarding the proportion of deals associated with calls. We split the sample according to public/private status and the location of the target. The probability of holding calls is as high as 44.2% for deals between two US public firms. We find that the likelihood of holding calls is significantly higher for public deals than for private deals. However, since private deals account for 85% of our sample, we end up with 1,611 private target deals associated with calls in contrast to 948 public target deals associated with calls. Among the public deals, deals involving US targets are more likely to hold calls than those involving foreign targets.

¹⁰ We first obtain 16,781 deals announced between 2003 and 2016. In our regression analysis, the acquirer's history on call decisions is an important variable. Thus, we have dropped the deals in 2003 from our analysis and only use them to construct the variable of acquirer's call history.

¹¹ Compared with the initial sample for topic modelling, 3,006 calls are excluded from the sample for regressions. Among them, 2,438 calls are associated with private or non-U.S. acquirers. Screeners (1)-(5) filter out only 568 calls.

III. Topic Modelling

To retrieve the contents of M&A calls and analyze call transcripts into interpretable thematic groups, we apply a *probabilistic topic modelling* approach, which is a type of unsupervised machine learning, does not rely on predetermined keywords to search for specific topics, but rather uncovers thematic structures and discriminates topics based on how words are distributed in the documents. This feature enables us to objectively depict a full picture of what issues are discussed by the management and investors in these M&A calls.

Topic models infer the latent thematic structure from a set of documents, and estimate a probabilistic distribution over words for each identified topic (referred to as “word vector of the topic” or “topic content” hereafter) and a probabilistic distribution over topics for each document (referred to as “topic distribution” or “topic prevalence” hereafter). It is up to the researcher to interpret and assign labels for the identified topics, usually based on the words that are distinctive across topics.

We adopt a recent variant of *structural topic model* (STM) developed by Roberts, Stewart, and Airoldi (2016), which is in the same spirit as the *latent Dirichlet Allocation* or LDA (Blei, Ng, and Jordan (2003)) but accommodates more flexibility in the data generating process. Specifically, STM allows both the *topic contents* and *topic prevalence* to be a function of certain covariates obtained from metadata, which in our application are the industries that the acquirers belong to. This approach is analogous to assuming industry fixed effects in the data-generating process, which emulates the fact that some issues in the context of M&A could be expressed by industry-

varying terminologies. For example, production and operation, as an important issue for post-merger integration, is likely to be described by terms like “capacity,” “facility,” and “utilization” in the manufacturing industry, but by other terms like “business,” “retail,” and “shipment” in the transportation industry. Although a plain version of the *topic model*, such as LDA, would potentially classify such terminologies into multiple topics, STM could cluster them as one topic that is associated with multiple word vectors for each covariate. The output of STM includes the probabilistic distributions over words for each pair of topic and covariate, and the word vector for each topic can be aggregated across covariates. Such a feature of STM could significantly improve the interpretability of model outputs.

For our estimation, we define a document, the basic unit of the *topic model*, as one paragraph in the presentation or one pair of question and answers in the Q&A segment. The former usually captures one speech made by the management, and the latter captures the combination of a question raised by the analysts and the corresponding answers given by managers. In our matched transcripts, there are 23,633 paragraphs of presentation and 163,394 Q&A pairs.

Before estimation, we pre-process the raw text data following a standard procedure in Natural Language Processing. Specifically, we first drop the stop words and punctuation marks and then lemmatize the words to the basic forms. Further, we count the number of documents in which each unique term appears, and exclude the terms that have appeared in too few documents, since such terms are likely to be names, trademarks, or other jargon that are unhelpful with theme discovery in *topic models*. In determining the dropping threshold, we balance the computational

efficiency and preservation of information. In Online Appendix Figure OA1, we plot the number of dropped documents, unique terms, and the number of words corresponding to different thresholds. We eventually choose to set the threshold at 50 and drop the terms that have appeared in fewer than 50 documents, which excludes 70,660 terms and 262 documents from our sample. In the end, there are 7,916 unique words and 186,765 documents (23,543 paragraphs from presentation and 163,222 from Q&A) as the inputs for model estimation.

The estimation of a *topic model* could be regarded as a process of dimension reduction. The original data is essentially a document-word matrix. In our sample, this matrix is of 186,765 by 7916 dimensions. The output of the *topic model* involves a document-topic matrix. Thus, *topic modelling* reduces the dimensionality for each document from the number of unique terms to the number of topics.

The number of topics is an important choice for *topic models*, since it determines the dimensionality of the latent space. As pointed out by Hansen et al. (2018), choosing the appropriate number of topics remains an unresolved issue in unsupervised learning. Chang, Gerrish, Wang, Boyd-Graber, and Blei (2009) suggest that there is a typical trade-off between the interpretability of model outcomes and statistical goodness-of-fit. While interpretability usually favors a low number of topics, statistical fitness in general favors a high number. Since the main purpose of our application is to generate interpretable topics, instead of making out-of-sample predictions, we choose the number of topics based on the most meaningful topic clustering. We try from 15 to 25 topics, and eventually find that 20 topics perform the best in terms of interpretability. As pointed

out by Blei (2012), interpretability should be a legitimate reason for choosing the number of topics that is different from what performs best in terms of fitness.¹²

1. Model Output

We estimate the *structural topic model* under the assumption of 20 latent topics, allowing *topic content* and *topic prevalence* to vary across 10 industries measured by the acquirer's one-digit SIC code.¹³ From the model, we obtain two sets of outputs: the word vectors for each identified topic and the topic distribution for each document. The model produces 10 word vectors (one for each industry) for each of the 20 topics. As shown by Roberts et al. (2016), the word-vector for topic t and industry c , denoted as $\beta_{c,t}$, could be represented as a function of three components, κ_t for a base topic t that is shared across all the topics, κ_c for an industry c that is shared across all the industries, and $\kappa_{c,t}$ that captures the interaction between the topic and industry.

To understand the meaning of each topic, we first focus on the base topic contents, κ_t . We are particularly interested in the terms that are important in distinguishing the topics, as well as the terms that are the most frequently used in each topic. Following Roberts et al. (2016), we construct the FREX index that measures the relative distinctiveness of words for each topic, the Kappa index

¹² In the Political Science literature, it is common practice to prioritize interpretability when choosing the number of topics. For instance, Kim (2018) chooses the number of topics that leads to the most meaningful topic clustering; Justin (2016) chooses a relatively small number of topics, which gives the highest external validity and semantically coherent output.

¹³ We consider 10 industries classified as follow. Agriculture, Forestry and Fishing with SIC from 0100-0999; Mining with SIC from 1000-1499; Construction with SIC from 1500-1799; Manufacturing with SIC from 2000-3999; Transportation, Communications, Electric, Gas and Sanitary service with SIC from 4000-4999; Wholesale Trade with SIC from 5000-5199; Retail Trade with SIC from 5200-5999; Finance, Insurance and Real Estate with SIC from 6000-6799; Services with SIC from 7000-8999, and Public Administration with SIC from 9100-9729. We choose 10 industries for model estimation, since it can capture the general dispersions in industry terminologies and at the same time preserve a large enough set of documents in each industry to maintain statistical power.

that captures the popularity of words in each topic (benchmarked to its popularity in all the documents), and the word probability that counts the total frequency of a word’s occurrence in each topic. In Online Appendix Table OA1, we report the words with high values on the three measures for each topic. We then infer the meaning of each topic based on these distinctive terms and assign labels to them. In Appendix B, we also report representative documents for each topic, i.e., the documents with relatively high weights on the topic.

Second, we assess how the estimated word vectors (*topic contents*) vary across covariates, which is determined by κ_c and $\kappa_{c,t}$. Intuitively, issues involving terminologies, such as production and technology, are likely to present dispersed *topic contents* across industries, while the universal issues, such as disclaimer and general comments, are unlikely to show cross-industry variations in their word vectors. Taking the topic of *production and operation* as an example, we plot the word clouds for each industry as shown in Online Appendix Figure OA2. The size of each term is approximately proportional to its estimated probability. As observed, the model outcome presents a great deal of cross-industry variation in the phrases used to describe *production and operation*. Moreover, to understand the degree to which the contents of each topic vary across industries, we construct a cosine similarity score. Specifically, we first aggregate a base word vector for each topic t from the industry word vector, $\beta_{c,t}$, by taking the weighted average (using the number of documents in each industry as the weights), denoted as β_t . We then calculate the cosine similarity between β_t and $\beta_{c,t}$ and take an average for each topic, $\cos_t = \frac{1}{10} \sum_{c=1}^{10} \cos(\beta_t, \beta_{c,t})$. A higher \cos_t indicates a lower dispersion in the contents of the

topic t across industries. We report this measure in Appendix Table OA1, and find that there are low vocabulary dispersions for the universal topics like *opening remarks*, *disclaimer*, and *general comments*, but high dispersions for the topics involving industry terminologies, such as *production and operation*, *customer*, and *technology*. These findings confirm that our topic model performs well in capturing the cross-industry variations in topic contents.

Next, we discuss the economic context of the topics. As shown in Table 2, topics are classified into several groups according to the nature of their information content. The first group of topics involves “hard information” that is relatively easy for outsiders to verify, including the financial issues, i.e., *financial projection outcomes*, *financial projection assumptions*,¹⁴ *deal financing*, and *growth*, the deal’s operational impacts, i.e., *global location* and *production & operation*, and the *contract* related issues (e.g., breakup and termination fees, compensation contracts/severance pay, and other third-party contracts). These topics are either statements of fact or forecasts that could be easily compared with the ex-post realizations. The second group of topics involves “soft information” that is more difficult to verify, including *business complementarities*, *customer*,¹⁵ *technology*, and *team labor and culture*. These topics are discussed mainly to describe

¹⁴ Since the model learns topics from the concurrence of words, and the outcomes (e.g., EPS forecasts) and assumptions (e.g., profit margins assumed for the forecasts) of financial projections are likely to involve a different set of words, the algorithm has clustered these as two different topics.

¹⁵ Our reading of excerpts from transcripts suggest that discussions of *customers* involve discussions of potential revenue synergies, for which managers are reluctant to provide a specific forecast. On the other hand, the discussion of *production and operation* could involve cost synergies, for which a quantitative forecast is more likely provided. For example, in the conference call following the announcement of Disney’s Acquisition of 21st century Fox Assets in 2017, Disney CFO Christine McCarthy gave a specific estimate of “roughly \$2.0 billion of cost synergies by 2021”, but did not do so for revenue synergies, stating instead that “an acceleration in our revenue and operating income growth trajectory that we expect will create meaningful value for our shareholders”. In answer to an analyst’s question, CEO Bob Iger replied: “On the revenue front, we’re not getting specific about that. There are all kinds of opportunities to grow revenue.”

the source of synergies or the motivation of the deal. Third, there are two topics regarding the legal and governance aspects of deals, namely *ownership and control* (e.g., minority shareholder issues, voting rights, bylaws) and *deal process* (e.g., the process through which the target/acquirer was found, the timeframe of deal negotiation and completion, regulatory issues). These topics are related to the protection of shareholders but not directly related to deal values. We refer to the topics as “special issues.”

2. Empirical Measures

We obtain the weights on each topic for every *document*: $\{w_d^t\}_{t \in \{1,2,\dots,20\}}$. w_d^t could be regarded as the likelihood that document d is focused on the topic t , or the proportion of words in the document d that are devoted to the topic t .¹⁶ The three most important topics of each document have a total weight of 77% on average, suggesting that our topic model has decent statistical fitness.

We construct the “topic weights” for each call, i , and segment, j , as the weighted average w_d^t as follows.

$$\bar{w}_{i,j}^t = \left(\sum_{d \in D_{i,j}} w_d^t \cdot n_d \right) / \left(\sum_{d \in D_{i,j}} n_d \right)$$

where $D_{i,j}$ denotes the set of documents in call i and segment j and n_d denotes the number of words in document d .

¹⁶ In the last column of Appendix Table OA1, we report the cross-industry variation in topic weights. As expected, topic weights vary more across industries for topics like *technology*, *customer*, and *team labor and culture* than for the topics like *business complementarities*, *deal financing*, and *disclaimer*. The latter group of topics are likely to be equally important for any industry. This again suggests our model output captures cross-industry variation nicely.

In Table 2, we report the mean and standard deviations of these topic weights in the whole call, as well as in the presentation and Q&A segments of the calls.¹⁷ We find that the topics involving soft information take up 45%, and hard information 45.5% of the whole call. While soft information topics account for a higher weight in the Q&A than the presentation segment, the hard information and special issues are relatively more popular in the Q&A than the presentation segment. The different topic distributions in the two segments implies that call participants demand information that is not emphasized by the managers in the presentation segment.

In addition to topic weights, we further construct a measure of “topic length” to capture the volume of information. Topic length is calculated by multiplying the “topic weight” by the number of words in the corresponding call and segment. A natural logarithm transformation is further taken to underweight the impact of skewness.

$$\bar{l}_{i,j}^t = \ln\left(\sum_{d \in D_{i,j}} w_d^t \cdot n_d\right)$$

We will use the topic length as the main independent variable of our regressions.

IV. Empirical Results

We first examine the associations between the acquirer’s market reactions and both the decision to hold an M&A conference call and the call content. We then analyze the heterogeneous motivations and effects of holding calls for deals involving public and private targets.

1. The Strategic Decision to Hold Calls

¹⁷ Table 2 exclude the topics that are not economically interesting, i.e., the opening remarks, conjunctions, disclaimers, general comments, etc. The topic weights reported in Table 2 are rescaled by the total weights of all the economically interesting topics of each call-segment.

As M&A calls are not mandatory, we expect managers to decide to hold calls after balancing the costs and benefits of disclosure. When deal quality is low, holding a conference call would expose managers to the risk of being challenged by call participants. On the other hand, when deal quality is high, the potential cost is likely to be outweighed by the benefit of alleviating information asymmetry and gaining shareholder support. This suggests that managers are more likely to hold calls if their private information indicates a higher deal quality, and thus that the market should react more positively to the deals with calls.

We investigate such strategic disclosure behavior by regressing the acquirer's abnormal stock returns around deal announcements on a dummy indicator of scheduled calls hosted by the acquirer. As shown in column (1) of Table 3, after controlling for an extensive list of deal and firm characteristics that could affect market reactions, we find a strong positive association between the acquirer's three-day CAR around deal announcement (i.e., CAR [-1, +1]) and the decision to hold a call.¹⁸ This suggests the following two possibilities: managers tend to hold calls for deals with higher quality, or calls enable managers to convey positive information to the market regardless of the cost/benefit tradeoffs underlying their call decisions.

To examine the latter possibility, we estimate a two-stage least squared (2SLS) regression with the call dummy instrumented by the acquirer's past M&A call history, which is captured by a pair of variables: 1) the fraction of the acquirer's past M&A deals associated with conference

¹⁸ We exclude the deals announced within five days of the acquirer's earnings announcement date to make sure market reactions are not contaminated by the earnings news. Our results are robust to keeping these deals and controlling for an indicator of them in the regression. We also find similar results for CAR [-1, +5] and CAR [-5, +5] (untabulated).

calls, and 2) a dummy indicator that the acquirer has no past track record of M&A deals.¹⁹ As shown in column (2) of Table 3, the acquirer's past call probability positively predicts the likelihood of holding calls for the current deal, since managers may have a persistent attitude on whether communication through conference calls is efficient for disclosing deal-related information. Another (non-mutually exclusive) explanation is that once a firm has a history of holding M&A calls, deviating from this "norm" can be taken as a negative signal about the current deal, so that the management is locked into a fixed strategy of always holding a call. Unlike the other deal and firm characteristics above, the acquirer's call history is less correlated with the quality of the current deal, which works in favor of its inclusion as an instrumental variable. Although we cannot directly test the exclusion restriction, the *non-results* for our instrumented call tendency are consistent with the idea that the instrument is not directly correlated with the outcome variables of interest. We also examine whether the acquirer's past call tendency picks up other persistent factors that correlate with outsiders' beliefs about current deal quality. We examine the association between the outcomes of past deals and past call history. As reported in Appendix Table OA2, neither the average completion rate nor market reaction to the acquirer's past deals is significantly correlated with the fraction of past deals associated with M&A calls. This alleviates the concern that past call tendency may indicate a history of either questionable or good deals, which in turn might reflect the acquirer's ability (or lack thereof) of making value-increasing acquisitions.

¹⁹ The second variable is included to keep such acquirers in the sample. In our sample, there are only 27% acquirers that have done no prior deal since 2003, as our sample includes the acquisitions of private targets.

In column (3) of Table 3, we report the second stage of the 2SLS regression, which shows that the acquirer's CAR [-1, +1] is not significantly affected by the instrumented decision to hold calls. This suggests that when calls are held for reasons relatively exogenous to deal quality, market reactions could be either good or bad depending on the content of information disclosed. In other words, the positive association of returns and calls found in column (1) of Table 3 is explained primarily by managers' strategic decisions to hold calls.

We next investigate whether the conference calls release additional information to the market that is not contained in the deal announcements. In column (4) of Table 3, we regress the acquirer's return in a window that excludes the announcement date, i.e., CAR [+1, +5], on the indicator of conference calls, controlling the initial market reaction to deal announcement, i.e., CAR [-1, 0]. We find that the call dummy has a positive and significant coefficient, suggesting that these calls are likely to release new information in addition to the press releases. In column (5), we further exclude the deals with calls held before market closure of the deal announcement date from our sample, and find robust results. Overall, the evidence supports the view that market participants react to the information released through the conference calls, and anticipating this, managers are more likely to hold calls for deals with higher quality.

To provide further evidence that calls contain new information, we compare the topic distribution of M&A conference calls and the corresponding press releases of deal announcements, the texts of which are extracted from Exhibit 99 of the acquirer's 8-K filings filed around deal announcements dates. Using the topic outputs estimated based on the M&A call transcripts, we

predict the topic weights for each of the press release documents. Appendix Figure OA3 plots the average topic distributions for the press releases and M&A calls. The two distributions are not aligned with each other, suggesting that conference calls contain different content from the press releases. As shown in Panel A of Figure OA3, the conference calls contain more discussions of hard information, while the press releases cover more soft information topics. This is consistent with the argument that compared with press releases with length constraints, conference calls are more suitable for discussing quantitative issues requiring detailed articulation.

Before moving onto the next section, we establish additional evidence that holding calls is associated with reduced information asymmetry. In Appendix Table OA3, we regress the change in the acquirer's bid-ask spread on day +2, benchmarked to day -1, on the indicator of holding conference calls.²⁰ We control for the acquirer's pre-deal bid-ask spread level, as well as the change in spread driven by the deal announcement (the change in bid-ask spread from day -1 to 0). We find that deals associated with conference calls experience a significantly larger reduction of the acquirer's bid-ask spread, consistent with alleviated information asymmetry and decreased trading costs.

In Appendix Table OA4, we investigate the merger arbitrage spread,²¹ a time-varying measure of the market's perception about deal completion uncertainty. We test whether the spread

²⁰ Our measure of the bid-ask spread is the dollar-weighted average of intraday effective spread following Holden and Jacobsen (2014). Data is obtained from WRDS Intraday Indicator data for the period from 2006 to 2016.

²¹ Following Mitchell and Pulvino (2001), we measure the merger arbitrage spread as the percentage difference between the offer price per share and target's stock price. For stock deals, the offer price is the product of the exchange ratio and the acquirer's stock prices at the end of each day after deal announcement. The merger arbitrage spread is only available for the deals involving public targets.

tightens following the call by comparing the deals with calls held on trading day +1 and the deals without calls. Controlling for the initial market perception upon deal announcement, i.e., the merger arbitrage spread by the end of the announcement date, we find that the arbitrage spread decreases on the next day to a significantly larger extent for the deals with M&A calls (held from market closure of day 0 to market closure of the next day) than the deals without calls.²² This suggests that the information communicated through calls reduces uncertainty regarding deal completion.

2. Call Content and Market Reactions

We next hypothesize that the nature of disclosure could also be affected by the manager's private information regarding deal quality. Relative to soft information, hard information is more concrete and convincing to the market, since the ex-post outcomes can be compared with the managers' disclosure. When releasing verifiable information, the managers' reputation is at stake and they are also held legally accountable. Thus, hard information is less likely to be disclosed if the manager is not confident enough about the deal quality. Wary that not holding a call would be interpreted negatively, and/or having determined a need to pitch the deal to increase the chance of it going through, management chooses to hold the call. Strategically choosing to not spend time on hard information, the call time will necessarily skew toward soft information. Even if analysts ask questions about hard information, short answers such as, "We're not going to get specific on

²² The merger arbitrage spread is not well-defined before deal announcement. Thus, we measure the change in arbitrage spread benchmarked to the end of deal announcement date. We find robust results for the change in merger arbitrage spread on event day +2 relative to announcement date.

that.” (see footnote 14) will reveal a soft information preference. Therefore, conditional on holding calls, we expect that extensive discussion of hard (soft) information is positively (negatively) associated with market reaction.

In Table 4, we test this prediction by regressing the acquirer’s abnormal stock returns around deal announcements on variables of call content in a Heckman model framework. In the first stage, the choice of holding calls is regressed on the deal and firm characteristics, as well as the acquirer’s past call tendency. In the second stage, market reaction is regressed on the log of discussion length of each topic category, controlling for the deal and firm characteristics, as well as IMR from the first-stage equation that captures the latent benefit of holding the call.

Panel A of Table 4 reports the results using the acquirer’s CAR [-1, +1] as the dependent variable. In column (1), we find strong evidence supporting the prediction – acquirer’s CAR [-1, +1] is negatively correlated with the length of soft information and positively correlated with hard information in the presentation segment, conditional on holding calls. There is no significant correlation between market reaction and discussion of special issues. IMR has a positive coefficient, indicating that a positive market reaction is correlated with the latent benefit of holding calls. In column (2), we find similar but weaker results for the topic lengths in the Q&A segment, which are not fully under managers’ control.

In Columns (3) and (4) of Panel A, we further split the topics within each category. Within the hard information category, we find positive associations for not only the financial topics, i.e., *deal financing*, *financial projection outcomes*, *financial projection assumptions*, and *growth*, but

also the other verifiable topics, i.e., *location, production and operation, and contract*. The latter finding highlights that verifiable information has a broader scope than quantitative financial information. Within the soft information category, we find negative associations for both *business complementarities*, which arguably is the least tangible information, and the topics of *technology, customer, and team, labor and culture*.

In Panel B of Table 4, we conduct a similar analysis using the acquirer's CAR [+1, +5], controlling for the initial market reaction to deal announcement, CAR [-1, 0]. The inclusion of CAR [-1, 0] allows us to control for the potential reverse causality that the length of a topic is in response to the initial market reaction to the deal announcement. The results are in general robust to the alternative specification.

Before moving on, we examine whether the results in Table 4 might be driven by the persistent tone of topics. We first show in Appendix Figure OA4 that topics of soft information are associated with more positive tones than the topics of hard information or special issues. This suggests that the negative association between the importance of soft information and market reaction cannot be explained by the tone of soft information topics. Moreover, as reported in Appendix Table OA5, the results of Table 4 remain even after adding tone variables (i.e., the fraction of positive and negative words in the presentation or Q&A segments) to the regressions of market reactions. Our results suggest that while the overall tone of the call has some effect on the market reaction, the market pays attention to call content.

3. Public vs. Private Targets

After establishing managements' strategic disclosure decision related to deal quality, we study how disclosure responds to the demand for information. To better understand whether and how conference calls fulfill market participants' information demand, we investigate the heterogeneous implications of M&A calls across the deals involving public and private targets.

First, we hypothesize that the two types of deals are associated with different sets of intended audiences, who may demand different types of information. For publicly listed targets, it is critical to obtain support from the target shareholders, who can object to a deal either by filing class action lawsuits or casting votes against the deal. On the other hand, the shareholders of private target firms usually have already agreed on the deal by the time of announcement. Thus, the intended audience of private deals mainly involves the acquirer shareholders, while public deals have investors on both the acquirer and target sides as the audiences. The interests of two groups of investors are not perfectly aligned, and can even be conflicted when it comes to the issue of splitting the merger surplus.

This implies that the goal of the M&A call will be different for public versus private deals. While the main purpose of calls for private deals is to reduce information asymmetry and showcase the deal to the acquirer investors, calls for public deals have the broader goal of gaining support from the investors on both sides, which is important for deal completion. Since the same piece of information might have different, and even the opposite, value implications for the two groups of investors, we expect holding calls to be less significantly associated with the acquirer's CAR for the public deals than private deals. We find strong evidence in Table 5 that the positive association

between acquirer CAR and call decision is concentrated in the subsample of private deals. For public deals, however, the association is insignificant, which suggests that managers tend to discuss the issues that are more relevant for the target shareholders but might not be well perceived by the acquirer shareholders.²³

We further find that holding calls significantly improves the likelihood of deal completion, and this effect is much stronger for public deals than private deals. As shown in Table 6, holding calls increases deal completion probability in both OLS and 2SLS regressions. Moreover, for public deals, holding calls improves the deal completion odds by 12.8 percentage points, which is 15 percent of the unconditional completion probability of 86.2%. For private deals, however, calls improve the already high completion odds much less – by 3.8 percentage points, which is only 4 percent of the unconditional completion chance of 92.4%. Taken together, although holding calls for public deals does not increase the acquirer’s market reactions, it significantly reduces the chance for the deal to be rejected.

We also expect calls for public and private deals to focus on different sets of topics. Target investors are more likely to have doubts about the motivation of the deal and demand information on governance issues when the target firm is publicly listed. Mergers between public firms could also attract greater attention from regulators and lawyers than the acquisitions of private firms.

²³ In the 2SLS regression using the public deals (column 2), holding calls even has a negative impact on the acquirer’s CAR [-1, +1]. This is possibly because the information communicated during these calls to bring target shareholders on board and increase the likelihood of deal completion may have been perceived as indication of unfavorable deal terms for acquirer shareholders. Consistent with this conjecture, we find that the target’s CAR from 42 trading days before deal announcements till deal completion (a usual measure of the perceived premium) is significantly higher for the deals with calls in a 2SLS regression (untabulated).

Thus, we expect the calls for public deals to be associated with a lengthier discussion of the special issues (i.e., *ownership and control* and *deal process*). We find strong supporting evidence in Heckman regressions that control for the decision to hold calls. As shown in Table 7, the indicator of public deals is positively associated with the length of special issues, but insignificantly correlated with the lengths of soft or hard information.

Moreover, since public deals involve diverse audiences with potentially conflicting interests, we expect that managers might spend more time on abstract topics that could highlight the common interests rather than detailed information that would imply gains or losses of each party. Within the category of soft information, arguably the topic of *business complementarities* is more abstract than the other ones (i.e., *technology, customer, and team, labor, and culture*). In Panel B of Table 7, we separately examine the discussion of *business complementarities* and find it to be significantly lengthier in public than private deals.

In Table 7, we also note that the IMR has a positive coefficient in the regression of the Q&A length of special issues. This suggests that answering call participants' questions regarding the governance issues is related to the managers' latent motivation of holding calls, which is not explained by the deal and firm characteristics that we have controlled for in the first stage of Heckman regression. Moreover, as argued, the demand for governance-related information should be higher for the public than for private deals. Consistently, we find in Appendix Table OA6 that the positive coefficient on the IMR is concentrated in the subsample of public deals. Taken together, the evidence indicates that investors' concerns regarding ownership, control, and deal process in

the public deals are best addressed through the Q&A segment of M&A conference calls where the discussion is interactive.

Last, we examine the relation between call content and the deal completion likelihood. In Table 8, we find that deals are less likely to be completed when the special issues are more extensively discussed during the calls. This is consistent with the argument that deals with bigger governance concerns are associated with a lower completion probability in equilibrium, although holding calls to address these concerns has a positive impact on completion.²⁴ Table 8 also shows that completion likelihood is positively correlated with the discussion length of value-relevant issues, no matter soft or hard information.

V. Conclusion

Mergers and acquisitions are often a black box for empirical researchers. Apart from standard information provided by the established data sources on the merging entities and the financial terms of a deal, very little is known about the issues that matter most to the managers proposing the deal and the shareholders evaluating the deal. In this paper, we provide a granular description of the relevant issues from the participants' perspective, by analyzing a large set of textual data from M&A conference call transcripts. We present evidence establishing how topic distributions are associated with the deal and firm characteristics, and how market reactions and deal completion are related to both the decision to hold M&A calls and their content.

²⁴ We find that deals without calls have even lower completion likelihood than those with extensive discussion of special issues during conference calls (untabulated).

In general, our evidence suggests that holding conference calls is an efficient channel for the management to discuss deal-specific issues with the market participants. The calls not only transmit value-relevant information to the market but also address governance concerns. Managers' decision to hold calls, as well as their communication strategy, is chosen to balance the costs in terms of increasing legal and reputation risks, and releasing information to rivals and regulators, with the benefits from alleviating information asymmetry and gaining shareholder support.

Reference

- Allee, K. D., & DeAngelis, M. D. (2015). The structure of voluntary disclosure narratives: Evidence from tone dispersion. *Journal of Accounting Research*, 53(2), 241-274.
- Amel-Zadeh, A., & Meeks, G. (2019). Bidder earnings forecasts in mergers and acquisitions. *Journal of Corporate Finance*, 58, 373-392.
- Amir, E., & Lev, B. (1996). Value-relevance of nonfinancial information: The wireless communications industry. *Journal of accounting and economics*, 22(1-3), 3-30.
- Bernile, G., & Bauguess, S. W. (2011). Do merger-related operating synergies exist? Available at SSRN 642322.
- Brochet, F., Kolev, K., & Lerman, A. (2018). Information transfer and conference calls. *Review of Accounting Studies*, 23(3), 907-957.
- Bybee, L., Kelly, B. T., Manela, A., & Xiu, D. (2021). *Business News and Business Cycles* (No. w29344). National Bureau of Economic Research.
- Chen, J. V., Nagar, V., & Schoenfeld, J. (2018). Manager-analyst conversations in earnings conference calls. *Review of Accounting Studies*, 23(4), 1315-1354.
- Dutordoir, M., Roosenboom, P., & Vasconcelos, M. (2014). Synergy disclosures in mergers and acquisitions. *International Review of Financial Analysis*, 31, 88-100.
- Fedyk, A., & Hodson, J. (2019). Trading on talent: Human capital and firm performance. Available at SSRN 3017559.
- Filip, A., Lobo, G. J., Paugam, L., & Stolowy, H. (2021). Disclosures about key value drivers in M&A announcement press releases: An exploratory study. Available at SSRN 3787426.
- Fraunhoffer, R., Kim, H. Y., & Schiereck, D. (2018). Value creation in M&A transactions, conference calls, and shareholder protection. *International Journal of Financial Studies*, 6(1), 5.
- Guo, F., Liu, T., Shu, T., & Yan, X. (2020). Risks in Mergers and Acquisitions. Available at SSRN 3746734.
- Hansen, S., McMahon, M., & Prat, A. (2018). Transparency and deliberation within the FOMC: a computational linguistics approach. *The Quarterly Journal of Economics*, 133(2), 801-870.
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of accounting and economics*, 31(1-3), 405-440.

- Holden, C. W., & Jacobsen, S. (2014). Liquidity measurement problems in fast, competitive markets: Expensive and cheap solutions. *The Journal of Finance*, 69(4), 1747-1785.
- Hu, W., Shohfi, T., & Wang, R. (2021). What's really in a deal? Evidence from textual analysis of M&A conference calls. *Review of Financial Economics*, 39(4), 500-521.
- Huang, A. H., Lehavy, R., Zang, A. Y., & Zheng, R. (2018). Analyst information discovery and interpretation roles: A topic modeling approach. *Management Science*, 64(6), 2833-2855.
- Hutton, A. P., Miller, G. S., & Skinner, D. J. (2003). The role of supplementary statements with management earnings forecasts. *Journal of Accounting Research*, 41(5), 867-890.
- Jung, Michael J., MH Franco Wong, and X. Frank Zhang. (2018) Buy-side analysts and earnings conference calls. *Journal of Accounting Research* 56(5), 913-952.
- Kimbrough, Michael D. (2005) The effect of conference calls on analyst and market underreaction to earnings announcements. *The Accounting Review* 80(1), 189-219.
- Kimbrough, M. D., & Louis, H. (2011). Voluntary disclosure to influence investor reactions to merger announcements: An examination of conference calls. *The Accounting Review*, 86(2), 637-667.
- Krishnan, C. N. V., Masulis, R. W., Thomas, R. S., & Thompson, R. B. (2012). Shareholder litigation in mergers and acquisitions. *Journal of Corporate Finance*, 18(5), 1248-1268.
- Li, K., Liu, X., Mai, F., & Zhang, T. (2020). The role of corporate culture in bad times: Evidence from the COVID-19 pandemic. *Journal of Financial and Quantitative Analysis*, 1-68.
- Liberti, J. M., & Petersen, M. A. (2019). Information: Hard and soft. *Review of Corporate Finance Studies*, 8(1), 1-41.
- Lowry, M., Michaely, R., & Volkova, E. (2020). Information Revealed through the Regulatory Process: Interactions between the SEC and Companies ahead of Their IPO. *The Review of Financial Studies*, 33(12), 5510-5554.
- Matsumoto, D., Pronk, M., & Roelofsen, E. (2011). What makes conference calls useful? The information content of managers' presentations and analysts' discussion sessions. *The Accounting Review*, 86(4), 1383-1414.
- Mayew, W. J., & Venkatachalam, M. (2012). The power of voice: Managerial affective states and future firm performance. *The Journal of Finance*, 67(1), 1-43.

- Mitchell, M., & Pulvino, T. (2001). Characteristics of risk and return in risk arbitrage. *The Journal of Finance*, 56(6), 2135-2175.
- Roberts, M. E., Stewart, B. M., & Airoidi, E. M. (2016). A model of text for experimentation in the social sciences. *Journal of the American Statistical Association*, 111(515), 988-1003.
- Rogers, J. L., & Van Buskirk, A. (2009). Shareholder litigation and changes in disclosure behavior. *Journal of Accounting and Economics*, 47(1-2), 136-156.
- Spyrou, S., Tsekrekos, A., & Siougle, G. (2011). Informed trading around merger and acquisition announcements: Evidence from the UK equity and options markets. *Journal of Futures Markets*, 31(8), 703-726.

Table 1: Summary statistics of the M&A conference calls matched with deals

Panel A shows the number of M&A conference calls that could be matched with the merger deals in SDC. Panel B shows the number of deals with US public acquirers. These deals are classified into several groups according to whether an M&A call is associated, as well as the nature of these calls. Panel C shows the number and proportion of deals (with US public acquirers) associated with M&A calls in the subsamples.

Panel A: M&A conference calls matched with deals

Call Date Relative to Deal Announcement Date	Call Hosted By		Total	
	Acquirer	Target		
0	3336	340	3676	[66.06%]
1	1076	86	1162	[20.88%]
[+2, +5]	313	23	336	[6.04%]
>=6	361	30	391	[7.03%]
Total	5086	479	5565	[100.00%]
	(91.39%)	(8.61%)	(100.00%)	

Panel B: Summary of calls for the deals made by US public acquirers

Call Type	Caller Type				
	Acquirer	Target	Both Side	No Call	Total
Scheduled	2161	76	36	0	2273
	(15.08%)	(0.53%)	(0.25%)	(0.00%)	(15.86%)
Unscheduled	246	6	2	0	254
	(1.72%)	(0.04%)	(0.01%)	(0.00%)	(1.77%)
Multiple (Scheduled & Unscheduled)	31	0	1	0	32
	(0.22%)	(0.00%)	(0.01%)	(0.00%)	(0.22%)
No Call	0	0	0	11773	11773
	(0.00%)	(0.00%)	(0.00%)	(82.14%)	(82.14%)
Total	2438	82	39	11773	14332
	(17.01%)	(0.57%)	(0.27%)	(82.14%)	(100%)

Panel C: Probability of holding calls for different types of deals made by US public acquirers

Target Type	Foreign Target			US Target		
	No Call	Call	Total	No Call	Call	Total
Private Target	1957	317	2274	8547	1294	9841
	(86.06%)	(13.94%)		(86.85%)	(13.15%)	
Public Target	211	110	321	1058	838	1896
	(65.73%)	(34.27%)		(55.80%)	(44.20%)	
Total	2168	427	2595	9605	2132	11737
	(83.55%)	(16.45%)		(81.84%)	(18.16%)	

Table 2: Summary of topic and topic weights

This table reports the distinctive and frequent terms for each topic that are selected from the words with high FREX, Kappa, and estimated word probability within topics (see Appendix OA1 for a more extensive list). We exclude the economically uninteresting topics, i.e., topic number 3, 6, 9, 10, 15, 18, and 20 in Appendix Table OA1. The right six columns report the mean and standard deviations of each topic's weights within the (presentation/Q&A/Overall) segments of each M&A call, rescaled by the total weights of all the economically interesting topics of each call-segment.

Topic Label	High Probability/Distinctive Words	Presentation		Q&A		Overall	
		Mean	Std	Mean	Std	Mean	Std
Financial Projection Outcomes	approximately, pro, million, forma, earnings	0.190	0.140	0.056	0.032	0.105	0.071
Financial Projection Assumptions	margin, accretion, higher, gross, lower	0.029	0.031	0.159	0.068	0.113	0.061
Growth	quarter, year, half, growth, digit	0.043	0.043	0.125	0.052	0.093	0.046
Deal Financing	debt, loan, financing, bank, balance	0.068	0.107	0.062	0.061	0.067	0.081
Global Location	Europe, China, country, European, Asia	0.033	0.051	0.034	0.032	0.033	0.035
Production & Operation	manufacturing, west, capacity, plant, factory	0.027	0.048	0.028	0.035	0.027	0.037
Contract	fee, arrangement, break, breakup, contract	0.021	0.033	0.020	0.020	0.018	0.020
Sum Hard Information		0.411	0.199	0.483	0.123	0.455	0.139
Business Complementarities	leading, unparalleled, leadership, business, complementary	0.277	0.193	0.081	0.064	0.159	0.115
Technology	digital, content, cable, video, mobile	0.099	0.150	0.089	0.108	0.096	0.122
Customer	business, market, product, customer, opportunity	0.062	0.083	0.114	0.082	0.098	0.080
Team, Labor, & Culture	team, impressed, layoff, cultural, recruit	0.075	0.121	0.109	0.107	0.098	0.109
Sum Soft Information		0.513	0.231	0.393	0.133	0.450	0.151
Ownership & Control	stake, minority, scheme, course, offer	0.026	0.045	0.031	0.023	0.024	0.020
Deal Process	diligence, bid, process, vote, discussion	0.050	0.063	0.093	0.058	0.070	0.049
Sum Special Issues		0.076	0.095	0.124	0.067	0.095	0.059

Table 3: Acquirer stock return and the decision to hold calls

The table reports the regression results of market reactions CAR [-1, +1] and CAR [+1, +5] on the dummy indicators of holding scheduled calls by the acquirer, controlling for deal and acquirer characteristics. The sample for column (1) to (4) contains all the deals made by US public acquirers from 2004 to 2016 excluding the ones between a financial acquirer and a nonfinancial target and the ones announced within five days of the acquirer's earnings announcement dates. The sample of Column (5) further excludes the deals with calls scheduled on the same day of deal announcement during or before the trading hours. Columns (1), (4), (5) show the OLS regression results, while columns (2) and (3) show the first and second stage of 2SLS regression results, where the indicator of holding a scheduled call is instrumented by the acquirer's call history – the past probability of holding calls and the indicator of no track record of past deals. All the regressions include deal announcement year fixed effects and the acquirer's and target's (one-digit SIC) industry fixed effects. The first stage F-statistics is reported at the bottom for 2SLS regressions. T-statistics are reported using robust standard errors clustered on the acquirer's industry. *, **, and *** indicate statistical significance at 10%, 5%, and 1% level, respectively.

	CAR [-1, +1]			CAR [+1, +5]	
	OLS	2SLS		OLS	
	(1)	1st stage (2)	2nd stage (3)	Full (4)	Subsample (5)
Call [Scheduled, Acquirer]	0.007*** (3.83)		0.001 (0.33)	0.005*** (4.38)	
Call [Trading Day=1]					0.004* (2.01)
Prob. M&A Call		1.196*** (40.50)			
No Past Deal Record		0.068*** (6.92)			
Acquirer CAR [-1, 0]				1.112*** (110.19)	1.067*** (111.32)
Tar Public	-0.014*** (-7.64)	0.128*** (10.18)	-0.014*** (-7.01)	-0.009*** (-5.76)	-0.007*** (-4.93)
Tar US	0.001 (1.09)	0.021** (2.57)	0.001 (0.78)	-0.000 (-0.46)	-0.002*** (-3.48)
Stock%	-0.009** (-2.79)	0.094*** (5.63)	-0.008*** (-2.73)	-0.005** (-2.36)	-0.006** (-2.36)
Same SIC2	0.004*** (4.30)	0.015** (2.14)	0.004*** (3.84)	0.004*** (4.33)	0.003** (3.15)
Deal Value/Acq ME	0.012** (2.84)	0.236*** (13.58)	0.014*** (3.99)	0.005 (1.78)	0.009*** (3.32)
Num. Past Deals Acq	-0.000 (-1.00)	-0.002*** (-3.57)	-0.000 (-1.44)	-0.000 (-1.80)	-0.000* (-2.08)
ln(AT) Acq	-0.002** (-2.87)	-0.001 (-0.27)	-0.002*** (-3.46)	-0.002*** (-4.83)	-0.002*** (-4.54)
Book Lev. Acq	0.001 (0.15)	-0.051*** (-2.62)	0.000 (0.10)	0.002 (0.37)	-0.000 (-0.02)
MTB Acq	0.000 (0.05)	-0.001 (-1.11)	-0.000 (-0.00)	-0.000* (-2.21)	-0.000** (-2.99)
ROA Acq	-0.009*** (-3.39)	0.131*** (4.56)	-0.008 (-1.26)	-0.007 (-1.08)	-0.006 (-0.94)
RD Acq	-0.071*** (-4.09)	0.352*** (5.23)	-0.068*** (-5.56)	-0.058*** (-4.31)	-0.058*** (-4.23)

D(Ind Board)Acq	-0.002 (-1.54)	0.015** (2.14)	-0.001 (-1.40)	-0.001 (-1.22)	-0.001 (-1.03)
Inst.Own% Acq	-0.003* (-2.14)	0.076*** (6.21)	-0.003 (-1.17)	-0.001 (-0.56)	-0.001 (-0.67)
ln(1+N.Analyst) Acq	0.000 (0.16)	0.037*** (5.53)	0.000 (0.39)	0.001* (2.05)	0.001 (1.37)
Industry FE & Year FE	YES	YES	YES	YES	YES
Observations	10328	10328	10328	10322	9132
Adjusted R-squared	0.039		0.025	0.584	0.562
F-statistics		826.8			

Table 4: Acquirer CAR and the content of calls (Heckman regression)

This table reports the second-stage results from Heckman regressions of market reactions CAR [-1, +1] and CAR [+1, +5] on the log length of topic groups in either the presentation or Q&A segments of the M&A calls. The sample for Panel A contains deals made by public US acquirers from 2004 to 2016 but excludes the deals between a financial acquirer and a nonfinancial target and the deals announced within five days of the acquirer's earnings announcement dates. The sample for Panel B further excludes the deals with calls scheduled on the same day of deal announcement during or before the trading hours. The category of other soft information includes *technology*, *customer*, and *team, labor & culture*. The category of financial information includes *deal financing*, *financial projection outcomes*, *financial projection assumptions*, and *growth*. The category of other hard information includes *global location*, *contract*, and *production & operation*. The category of special issues includes *ownership & control* and *deal process*. All the regressions control for the deal and firm characteristics as in Table 3, deal announcement year fixed effects, acquirer's and target's (one-digit SIC) industry fixed effects, and the Inverse Mills Ratio (IMR) from the first-stage selection equation (shown in the column (2) of Table 3). Panel B further controls for the acquirer's pre-call CAR [-1, 0]. T-statistics are reported using robust standard errors. *, **, and *** indicate statistical significance at 10%, 5%, and 1% level, respectively.

Panel A: Three-day CAR around deal announcement days

Topic length of	Acquirer CAR [-1, +1]			
	PRE (1)	Q&A (2)	PRE (3)	Q&A (4)
Soft Information	-0.006*** (-3.51)	-0.005 (-1.63)		
Business Complementarities			-0.005*** (-3.01)	-0.007*** (-2.66)
Other Soft Information			-0.003* (-1.70)	-0.003 (-0.88)
Hard Information	0.007*** (3.57)	0.006 (1.47)		
Financial Information			0.005*** (2.90)	0.002 (0.53)
Other Hard Information			0.006*** (2.80)	0.009*** (2.80)
Special Issues	-0.001 (-0.46)	0.000 (0.11)	-0.002 (-0.78)	-0.001 (-0.21)
IMR	0.004* (1.74)	0.004* (1.65)	0.004* (1.71)	0.004 (1.58)
Deal and Firm Characteristics	YES	YES	YES	YES
Industry FE and Year FE	YES	YES	YES	YES
Observations	10624	10625	10624	10625
Pseudo R-squared	0.113	0.109	0.117	0.114

Panel B: Acquirer CAR after the deal announcement days

Topic length of	Acquirer CAR [+1, +5]			
	PRE	Q&A	PRE	Q&A
Soft Information	-0.007** (-2.42)	-0.011** (-2.13)		
Business Complementarities			-0.009*** (-3.09)	-0.007* (-1.75)
Other Soft Information			-0.001 (-0.47)	-0.007 (-1.26)
Hard Information	0.005 (1.54)	0.011* (1.72)		
Financial Information			0.004 (1.46)	0.007 (1.20)
Other Hard Information			0.007** (2.02)	0.007 (1.40)
Special Issues	0.005 (1.21)	0.004 (0.84)	0.003 (0.67)	0.003 (0.66)
Acquirer CAR [-1, 0]	0.945*** (18.04)	0.940*** (17.96)	0.945*** (18.12)	0.940*** (17.99)
IMR	0.003 (1.08)	0.003 (0.98)	0.003 (1.10)	0.003 (0.99)
Deal & Firm Characteristics	YES	YES	YES	YES
Industry FE & Year FE	YES	YES	YES	YES
Observations	9132	9132	9132	9132
Pseudo R-squared	0.395	0.397	0.402	0.400

Table 5: Heterogeneous effects of holding calls on the acquirer's CAR

This table reports the regression results of market reactions regressed on the acquirer's scheduled M&A calls in the subsamples of private- and public-target deals separately. Columns (1), (3), and (4) report the results from the OLS regressions. Column (2) reports the second stage results from a 2SLS regression specification. The sample for Columns (1) to (3) contains all the deals made by US public acquirers from 2004 to 2016 excluding the ones between a financial acquirer and a nonfinancial target and the ones announced within five days of the acquirer's earnings announcement dates. The sample for Column (4) further excludes the deals with calls held on the same day of the deal announcement date during and before trading hours. The control variables include the same set of independent variables as in Table 3, and the announcement year fixed effects as well as acquirer's and target's (one-digit SIC) industry. Column (4) further controls for the acquirer's pre-call CAR [-1, 0]. T-statistics are reported using robust standard errors clustered on acquirer industry. *, **, and *** indicate statistical significance at 10%, 5%, and 1% level, respectively.

	CAR [-1, +1]		CAR [+1, +5]	
	<i>OLS</i> (1)	<i>2SLS</i> (2)	<i>OLS</i> (3)	<i>OLS</i> (4)
Private Targets				
Call [Scheduled, Acquirer]	0.009*** (3.82)	0.003 (0.66)	0.007*** (7.91)	
Call [Trading Day=1]				0.005** (2.75)
Public Targets				
Call [Scheduled, Acquirer]	-0.002 (-0.49)	-0.014* (-1.79)	-0.001 (-0.29)	
Call [Trading Day=1]				-0.002 (-0.45)
Acquirer CAR [-1,0]	NO	NO	YES	YES
Deal & Firm Characteristics	YES	YES	YES	YES
Industry FE & Year FE	YES	YES	YES	YES

Table 6: Heterogeneous effects of holding calls on deal completion likelihood

This table reports the regression results of deal completion dummy indicator regressed on the acquirer's scheduled M&A calls in the full sample, subsamples of private- and public-target deals separately. Columns (1), (3), and (5) report the results from the OLS regression while Columns (2), (4), and (6) report the second stage results from 2SLS regression. The sample contains all the deals made by US public acquirers from 2004 to 2016 excluding the ones between a financial acquirer and a nonfinancial target and the ones announced within five days of the acquirer's earnings announcement dates. The control variables include the same set of independent variables as in Table 3 column (1), and the announcement year fixed effects as well as acquirer's and target's (one-digit SIC) industry. T-statistics are reported using robust standard errors clustered on acquirer industry. *, **, and *** indicate statistical significance at 10%, 5%, and 1% level, respectively.

<i>Sample:</i>	Completion					
	<i>full sample</i>		<i>private targets</i>		<i>public targets</i>	
	<i>OLS</i>	<i>2SLS</i>	<i>OLS</i>	<i>2SLS</i>	<i>OLS</i>	<i>2SLS</i>
	(1)	(2)	(3)	(4)	(5)	(6)
Call [Scheduled, Acquirer]	0.062*** (7.13)	0.068*** (4.93)	0.037*** (7.82)	0.038*** (2.96)	0.119*** (4.52)	0.128*** (3.34)
Firm & Year Characteristics	YES	YES	YES	YES	YES	YES
Industry FE & Year FE	YES	YES	YES	YES	YES	YES
Observations	10725	10725	8991	8991	1734	1734
Adjusted R-squared	0.037	0.020	0.021	0.003	0.107	0.064

Table 7: Heterogeneity in call contents

This table reports the second-stage results from Heckman regressions of the length of different topic groups on a dummy of the public targets. The sample contains all the deals made by US public acquirers from 2004 to 2016 excluding the ones between a financial acquirer and a nonfinancial target. Panel A reports the length of topics in the category of soft information, hard information, and special issues (as shown in Table 2) from presentation and Q&A segments respectively. Panel B reports the length of *business complementarities* and the other soft-information topics (including *technology*, *customer*, and *team, labor & culture*) from presentation and Q&A segments respectively. The control variables include the same set of independent variables as in Table 3 column (1), an indicator of the deals announced within five days of the acquirer’s earnings announcement dates, and the announcement year fixed effects as well as acquirer’s and target’s (one-digit SIC) industry. The regression also includes the Inverse Mills Ratio (IMR) from the first-stage selection equation shown in column (2) of Table 3. T-statistics are reported using robust standard errors. *, **, and *** indicate statistical significance at 10%, 5%, and 1% level, respectively.

Panel A: The length of three types of topics

	PRE			Q&A		
	Soft	Hard	Special	Soft	Hard	Special
Public Target	0.080 (0.72)	0.116 (1.20)	0.217*** (3.43)	0.022 (0.67)	0.016 (0.53)	0.312*** (8.82)
IMR	0.042 (0.61)	-0.023 (-0.38)	0.014 (0.36)	0.030 (1.34)	0.011 (0.52)	0.050** (2.06)
Deal & Firm Characteristics	YES	YES	YES	YES	YES	YES
Industry FE & Year FE	YES	YES	YES	YES	YES	YES
Observations	12041	12041	12041	12041	12041	12041
Pseudo R-squared	0.0990	0.110	0.170	0.202	0.181	0.259

Panel B: Break-down of the soft-information topics

	PRE		Q&A	
	Business Complementarities	Other Soft	Business Complementarities	Other Soft
Tar Public	0.255** (2.35)	-0.110 (-1.07)	0.183*** (4.11)	-0.018 (-0.53)
IMR	0.029 (0.43)	0.063 (0.99)	0.021 (0.68)	0.033 (1.41)
Deal & Firm Characteristics	YES	YES	YES	YES
Industry FE & Year FE	YES	YES	YES	YES
Observations	12041	12041	12041	12041
Pseudo R-squared	0.123	0.0920	0.218	0.178

Table 8: Deal completion likelihood and the content of calls (Heckman regression)

This table reports the second-stage results from Heckman regressions of deal completion dummy indicator on the length of topic groups in either the presentation or Q&A segments of the M&A calls. The sample contains deals made by public US acquirers from 2004 to 2016 but excludes the deals between a financial acquirer and a nonfinancial target and the deals announced within five days of the acquirer's earnings announcement dates. The category of other soft information includes *technology*, *customer*, and *team, labor & culture*. The category of financial information includes *deal financing*, *financial projection outcomes*, *financial projection assumptions*, and *growth*. The category of other hard information includes *global location*, *contract*, and *production & operation*. The category of special issues includes *ownership & control* and *deal process*. All the regressions control for the deal and firm characteristics as in Table 3, deal announcement year fixed effects, acquirer's and target's (one-digit SIC) industry fixed effects, and the Inverse Mills Ratio (IMR) from the first-stage selection equation (shown in the column (2) of Table 3). T-statistics are reported using robust standard errors. *, **, and *** indicate statistical significance at 10%, 5%, and 1% level, respectively.

Topic Length of	Completion			
	PRE	Q&A	PRE	Q&A
Soft Information	0.009*	0.021**		
	(1.78)	(2.01)		
Business Complementarities			0.009	-0.003
			(1.57)	(-0.43)
Other Soft Information			0.001	0.025**
			(0.20)	(2.32)
Hard Information	0.004	0.026**		
	(0.57)	(2.08)		
Financial Information			0.002	0.022*
			(0.29)	(1.89)
Other Hard Information			0.004	0.004
			(0.58)	(0.41)
Special Issues	-0.019***	-0.041***	-0.020***	-0.041***
	(-2.82)	(-4.00)	(-2.80)	(-3.97)
IMR	0.000	-0.000	-0.000	-0.000
	(0.00)	(-0.04)	(-0.00)	(-0.06)
Deal & Firm Characteristics	YES	YES	YES	YES
Industry FE & Year FE	YES	YES	YES	YES
Observations	10725	10725	10725	10725
Pseudo R-squared	0.0532	0.0571	0.0541	0.0582

Appendix A: Variables Definition

Variable	Definition
Key Variables	
Call [Scheduled, Acquirer]	A dummy indicator that equals one for the deals associated with an M&A call that is hosted by the acquirer on the day or the next day of deal announcement dates, and zero otherwise.
Call [Trading Day = 1]	A dummy indicator that equals one for the deals associated with an M&A call that is hosted by the acquirer on the event (trading) day 1. Trading day 0 is defined as the deal announcement day by the time of market closure, while trading day +1 is from the market closing time of deal announcement day to the market closure of the next day.
Topic Weight	The estimated topic probability aggregated on the level of (either the presentation or Q&A) segment of M&A calls. Construction details are in section III.2.
Topic Length	The natural logarithm of one plus the product between document length (measured by the number of words) and topic weights, aggregated on the level of (either the presentation or Q&A) segment of M&A calls. Construction details are in section III.2.
Deal Outcome Variables	
Completion	A dummy indicator that equals one for the completed deals and zero for the uncompleted deals.
CAR [-n, +m]	The cumulative abnormal returns based on the market model in the window from n days before to m days after the deal announcement dates. It refers to the acquirer's CAR. (In untabulated tables, we check the robustness of the CAR measure by estimating the abnormal returns after controlling for the Fama-French 4 factors. Our results are robust.)
Deal Characteristic Variables	
Prob. M&A Call	The proportion of the acquirer's past deals associated with scheduled M&A calls (hosted by the acquirer) since 2003.
No Past Deal Record	A dummy indicator that equals one if the acquirer has no past deal track records since 2003, and zero otherwise.
Tar Public	A dummy indicator that equals one for deals with a public target firm, and zero for deals with private target firm.
Tar US	A dummy indicator that equals one for deals with the target firm incorporated in the U.S., and zero otherwise.
Stock%	The fraction of the deal payment made in stock.
Same SIC2	A dummy indicator that equals one for deals with the acquirer and target in the same 2-digit SIC group, and zero otherwise.
Firm Characteristic Variables	
DealValue/AcqMktCap	Deal value divided by the acquirer market capitalization.
ln(AT)	The natural logarithm of the firm's total assets.
Book Lev	The ratio of the book value of total debt and total assets.
MTB	Market capitalization divided by the book value of equity.

ROA	Income before extraordinary items divided by the lagged total assets.
RD	R&D expenditure divided by the lagged total assets.
D(IndBoard)	A dummy indicator that equals one if the acquirer's percent of independent directors in the board is above the sample median, and zero otherwise.
Inst.Own%	The percentage of stocks owned by institutional investors.
$\ln(1+N.Analyst)$	The natural logarithm of one plus the number of analysts following the firm in the month before the deal announcement.
Num. Past Deals Acq	The number of deals done by the acquirer since 2003.
Other Variables	
Effective Spread [n]	The dollar-weighted average of intraday effective spread constructed following Holden and Jacobsen (2014) on the event day n (with deal announcement as the event).
Ch Eff. Spread [n, m]	The change in bid-ask spread (measured with dollar-weighted average of intraday effective spread) from event day n to m.
Merger Arbitrage Spread [n]	The percentage difference between the offer price per share and target's stock price constructed following Mitchell and Pulvino (2001) on the event day n (with deal announcement as the event). For stock deals, the offer price is calculated as the product of exchange ratio and acquirer's stock prices at the end of each day after deal announcement.

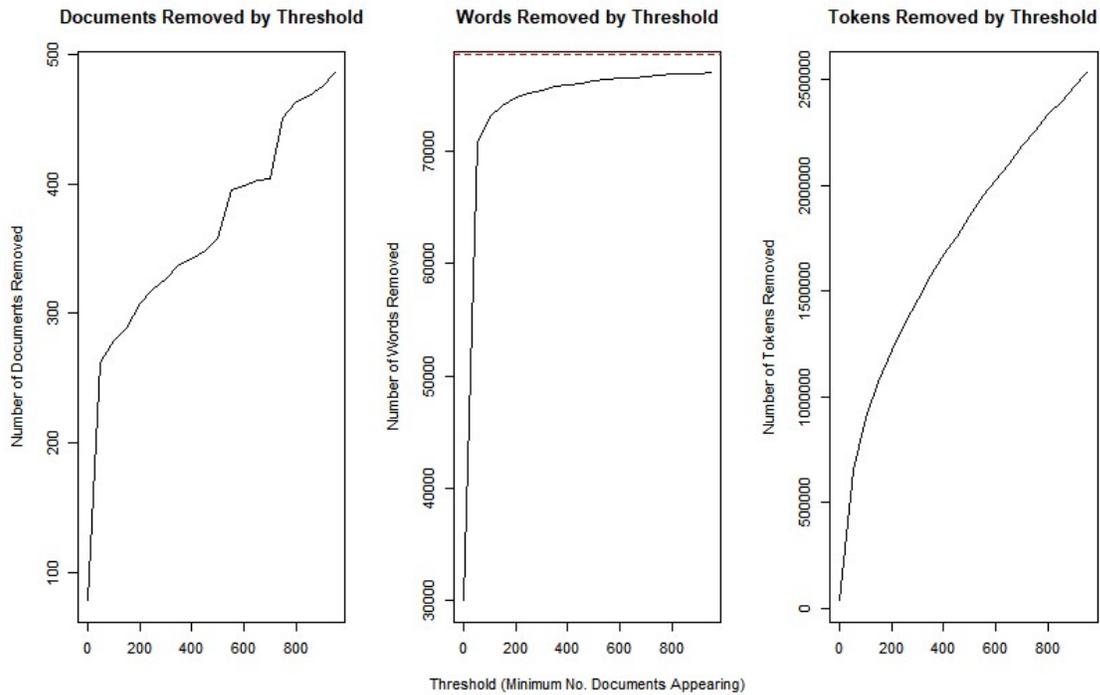
Online Appendix for

**Mergers under the Microscope:
Analyzing Conference Call Transcripts**

Online Appendix A: Supporting Evidence

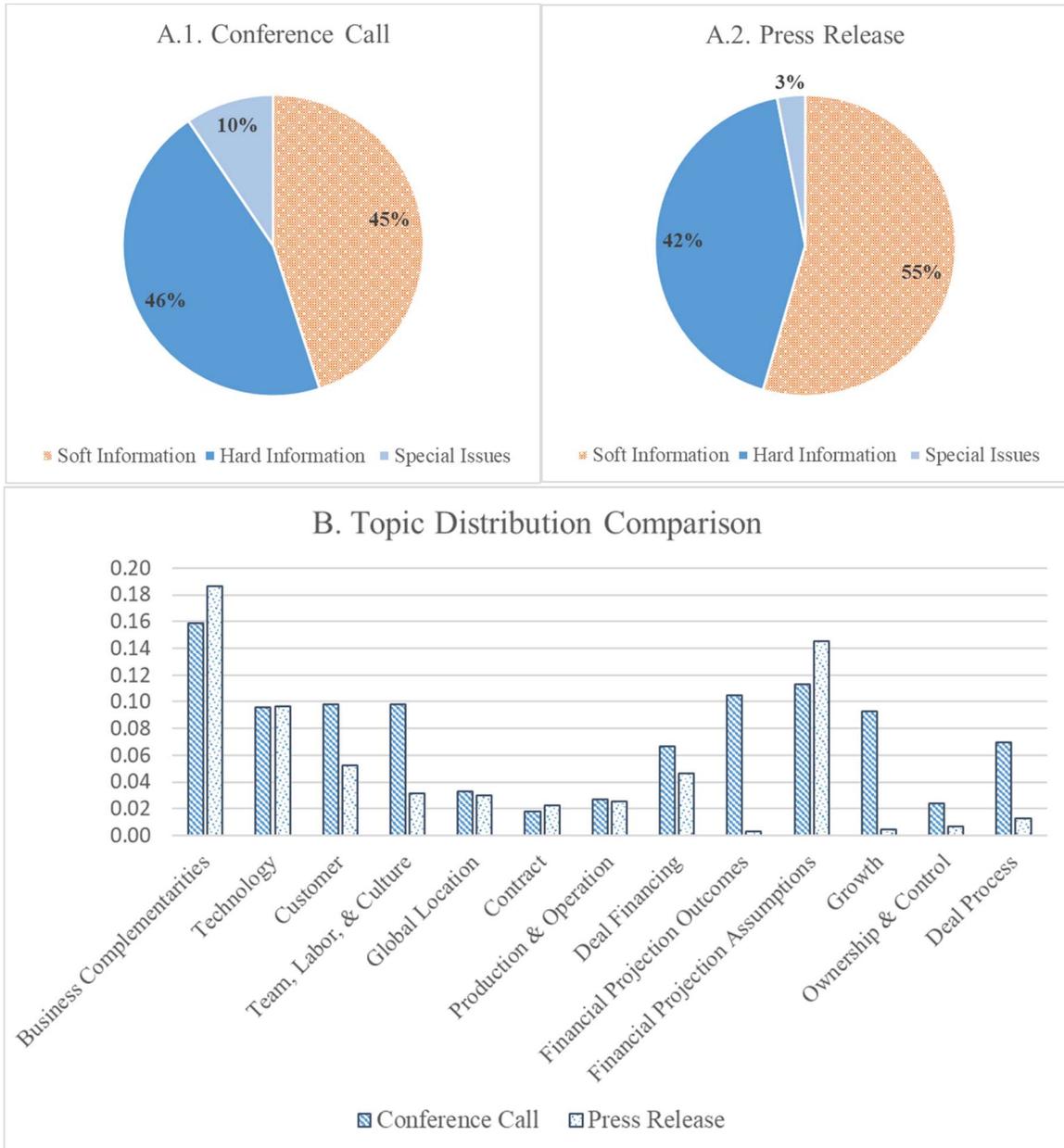
Appendix Figure OA1: Number of documents, terms, and words removed in pre-processing

This figure shows the influence of the last step of our pre-processing of raw data, which excludes the terms that appear in less than N documents. The three sub-figures below show the number of documents, the number of unique terms, and the number of words that would be removed by setting the threshold N at different levels. We eventually choose N=50, which balances computational efficiency and the number of documents preserved.



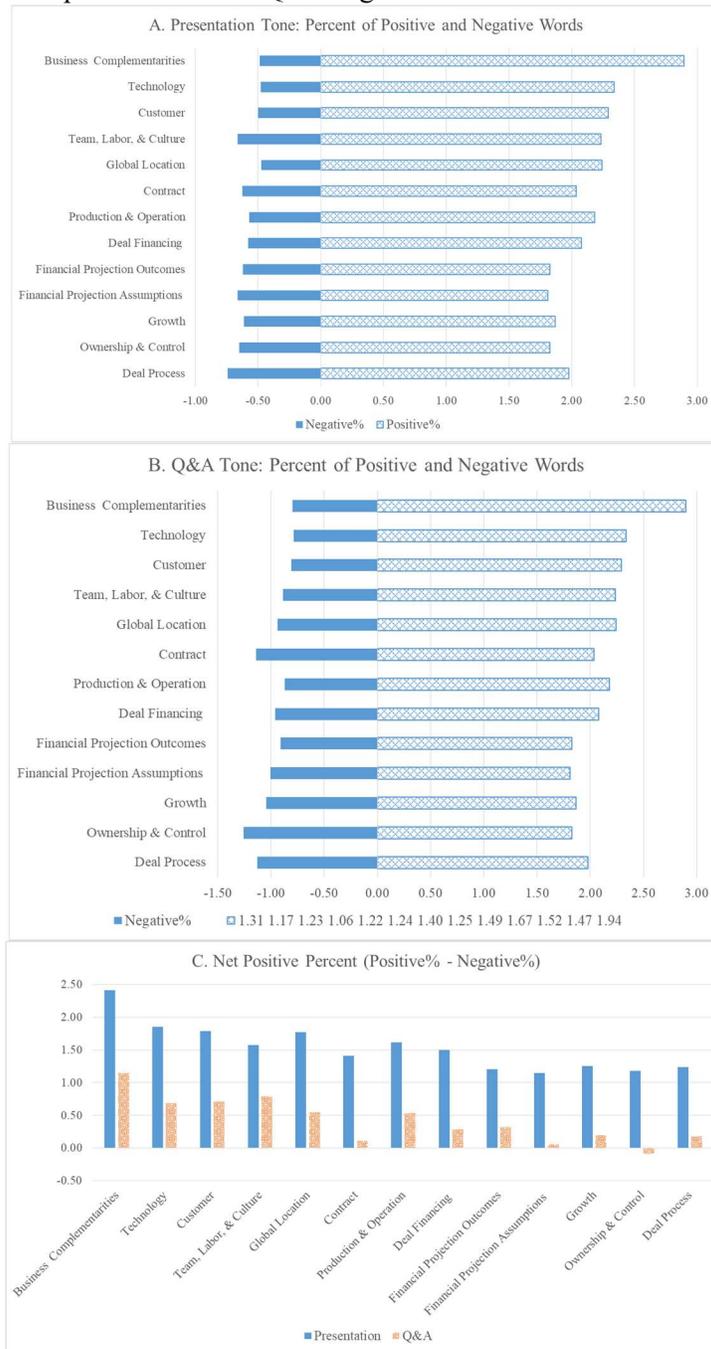
Appendix Figure OA3: Topic distribution of conference call and press releases

Panel A plots the proportions of three types of topics in conference calls and press releases of the deal announcements. Panel B plots the distribution of each topic in conference calls and press releases.



Appendix Figure OA4: Topic tones

We first count the proportion of positive and negative words in each document, i.e., a presentation paragraph or a Q&A pair. Then we calculate the weighted average proportion of positive and negative words in the two segments, using the product of topic weight and paragraph length (measured by the total number of words) as the weight. This generates the measures of average tones for each topic in the three groups as plotted in Panel A and B below. Panel C reports the gap between the percent of positive words and negative words for each topic in the presentation and Q&A segment.



Appendix Table OA1: The distinctive and frequent terms of each topic

This table reports the distinctive and frequent terms in each topic. The first (second/ third) row reports the terms with high values of FREX index (Kappa index/ estimated word probability) for each topic. The labels are manually assigned based on these terms. The last two columns report the measures on how much cross-industry variation there is in the topic vocabularies (*topic content*) and in the topic distributions (*topic prevalence*). The former is measured using the average cosine similarity between the word vector of each topic-industry and that of the corresponding topic. The smaller value indicates a greater cross-industry variation in topic content. The latter is measured by the standard deviation of average topic weights on industry levels for each topic. The larger number indicates a greater cross-industry variation in topic prevalence.

Terms that are frequent within a topic or exclusive to the topic						Label	Term Similarity	Weight std. dev.
1	leading unparalleled company	innovation unmatched business	complementary talented growth	expertise excellence market	combination headquartered opportunity	Business Complementarities	0.927	0.003
2	europe latin market	china hong europe	country kong country	european netherlands america	asia european china	Global Location	0.900	0.004
3	correct speaker thank	yes correct yes	thank housekeeping right	sorry clarification multiple	speaker thank correct	Conjunction of Q&A	0.999	0.003
4	manufacturing shipping capacity	west labeling manufacturing	capacity white development	plant tonnage facility	factory compliant product	Production & Operation	0.565	0.007
5	quarter flattish year	year seasonality growth	half quarter revenue	guidance loaded last	digit decline business	Growth	0.933	0.007
6	think smarter people	going learn kind	really figuring pretty	thing love big	lot candidly work	General Comments	0.978	0.014
7	stake shareholding question	minority stake share	scheme minority course	course supervisory offer	therefore egm price	Ownership & Control	0.929	0.007
8	digital laptop technology	content streaming service	cable telephony system	video smartphone network	mobile video platform	Technology	0.754	0.011
9	okay luck okay	thank congrat question	appreciate okay much	congratulation hop thank	helpful alright great	Closing of Q&A	0.995	0.004

10	good morning good	morning good morning	news afternoon everyone	afternoon evening afternoon	shape gentleman quick	Opening of Q&A	0.995	0.002
11	margin math cost	accretion envelope margin	higher accretion synergy	gross ballpark number	lower teen term	Financial Projection Assumptions	0.880	0.004
12	debt paydown cash	loan revolving debt	financing issuance capital	bank receivable bank	balance loan balance	Deal Financing	0.823	0.004
13	diligence fiduciary deal	bid unsolicit transaction	process ftc process	vote auction shareholder	discussion approach time	Deal Process	0.968	0.008
14	fee breakup agreement	arrangement fee contract	break renegotiate fee	breakup contractual break	contract termination asset	Contract	0.767	0.005
15	hey ross guy	ron hey hey	pat ron partner	ross ryan mike	phil curt joe	Names	0.620	0.002
16	reinsurance repair business	category retrofit market	selling harvest product	concentration heat customer	servicing industrial opportunity	Customer	0.743	0.012
17	patient team opportunity	clinical impressed acquisition	cancer layoff team	therapy cultural continue	disease recruit development	Team, Labor, & Culture	0.740	0.017
18	statement instruction call	conference undertake statement	instruction sir today	sec recorded conference	welcome session forward	Disclaimer	0.995	0.004
19	approximate revolving million	pro repurchase share	million payable cost	forma diluted revenue	closing annualized earning	Financial Projection Outcomes	0.967	0.006
20	acquisition concentrate acquisition	basically nickel one	relationship cobalt term	part copper part	regard scarcity relationship	Miscellaneous	0.718	0.003

Appendix Table OA2: Outcomes and call tendencies of acquirers' past deals

This table reports the OLS regression results of the average completion rate and market reactions to the announcement for an acquirer's past deals. The independent variables are the acquirer's past probability of holding calls and the number of deals done in the past. The sample includes the deals done by an acquirer with a past track record of making acquisitions back to 2003. All the regressions include deal announcement year and acquirer (one-digit SIC) industry fixed effects. T-statistics are reported using robust standard errors. *, **, and *** indicate statistical significance at 10%, 5%, and 1% level, respectively.

	Past Complete Rate (1)	Past CAR [-1,+1] (2)	Past CAR [-5,+5] (3)	Past CAR [42,C] (4)
Prob. M&A Call	-0.0069 (-0.50)	0.0028 (0.79)	-0.000096 (-0.02)	0.0043 (0.27)
Num. Past Deals Acq	0.00045 (0.45)	-0.00013* (-2.25)	-0.00024*** (-3.77)	-0.00054 (-1.80)
Constant	0.92*** (190.30)	0.0074*** (27.98)	0.0088*** (29.20)	-0.0021 (-1.57)
Year & Industry	YES	YES	YES	YES
Observations	9633	9633	9633	9633
Adjusted R-squared	0.016	0.009	0.008	0.007

Appendix Table OA3: Change in the acquirer's bid-ask spread

The table reports the regression results of change in acquirer's bid-ask spread on the dummy indicators of holding scheduled calls by the acquirer, controlling for deal and acquirer characteristics. Bid-ask spread is measured with the dollar-weighted average of intraday effective spread, and the change in the spread is benchmarked to the trading day before deal announcement. The sample except for column (1) to (4) contains all the deals made by US public acquirers from 2004 to 2016 excluding the ones between a financial acquirer and a nonfinancial target and the ones announced within five days of the acquirer's earnings announcement dates. The sample of Column (5) further excludes the deals with calls scheduled on the same day of deal announcement during or before the trading hours. Columns (1), (4), (5) show the OLS regression results, while columns (2) and (3) show the first and second stage of 2SLS regression results, where the indicator of holding a scheduled call is instrumented by the acquirer's call history – the past probability of holding calls and the indicator of no track record of past deals. All the regressions include the same set of control variables as Table 3 and deal announcement year fixed effects and the acquirer's and target's (one-digit SIC) industry fixed effects. The first stage F-statistics is reported at the bottom for 2SLS regressions. T-statistics are reported using robust standard errors clustered on acquirer industry. *, **, and *** indicate statistical significance at 10%, 5%, and 1% level, respectively.

	Ch. Effective Spread [-1, +2]			Ch. Eff. Spread [0, +2]	
	<i>OLS</i>	<i>2SLS</i>		<i>OLS</i>	
	(1)	<i>1st stage</i> (2)	<i>2nd stage</i> (3)	<i>Full</i> (4)	<i>Subsample</i> (5)
Call [Scheduled, Acquirer]	-0.032** (-2.30)		-0.042* (-1.73)	-0.033* (-2.17)	
Call [Trading Day=1]					-0.037** (-3.17)
Prob. M&A Call		1.199*** (36.74)			
No Past Deal Record		0.084*** (6.34)			
Ch. Eff. Spread [-1, 0]	0.453*** (4.43)	-0.002 (-0.26)	0.453*** (4.20)	-0.546*** (-5.18)	-0.518*** (-4.02)
Eff. Spread [-1]	-37.286*** (-16.01)	-1.468** (-2.01)	-37.304*** (-3.68)	-37.619*** (-15.70)	-36.220*** (-8.88)
Acquirer CAR [-1, 0]				-0.396 (-0.71)	-0.528 (-0.82)
Firm & Deal Characteristics	YES	YES	YES	YES	YES
Industry FE & Year FE	YES	YES	YES	YES	YES
Observations	7135	7135	7135	6874	5929
Adjusted R-squared	0.182		0.178	0.055	0.044
F-statistics		679.4			

Appendix Table OA4: Change in the acquirer's merger arbitrage spread

This table reports the OLS regression results of change in merger arbitrage spread on the indicators of conference calls scheduled from market closure of the deal announcement day to the market closure of the next day. Merger arbitrage spread is measured by the percentage difference between offer price per share and the target's stock price, and the change in arbitrage spread is benchmarked to the end of the deal announcement date. The sample includes the deals between two US public firms that are paid in either cash or stock, but excludes 1) the deals with M&A calls held on the same day of deal announcement before or during the trading hours, 2) the deals between a financial acquirer and a nonfinancial target, 3) the deals announced within five days of the acquirer's earnings announcement dates, and 4) the deals without available information on offer price per share or the exchange ratio in SDC. All the regressions control for deal announcement year fixed effects, acquirer's and target's (one-digit SIC) industry fixed effects. T-statistics are reported using robust standard errors. *, **, and *** indicate statistical significance at 10%, 5%, and 1% level, respectively.

	Ch.MAS [0, +1]	Ch.MAS [0, +2]	Ch.MAS [0, +1]	Ch.MAS [0, +2]
	(1)	(2)	(3)	(4)
Call [Trading Day=1]	-0.164*** (-9.39)	-0.164*** (-8.98)	-0.039** (-2.83)	-0.039** (-2.61)
MAS [0]			-0.873*** (-78.11)	-0.872*** (-74.65)
Stock%	0.007 (0.25)	0.011 (0.47)	-0.001 (-0.08)	0.003 (0.29)
Same SIC2	-0.001 (-0.05)	-0.006 (-0.30)	0.006 (1.08)	0.001 (0.13)
DealVal/AcqME	0.065*** (5.29)	0.065*** (7.38)	-0.009 (-0.61)	-0.009 (-0.70)
Num. Past Deals Acq	0.002* (2.17)	0.002* (2.35)	0.000 (0.20)	0.000 (0.57)
ln(AT)Acq	0.010 (1.80)	0.010 (1.83)	-0.007*** (-4.34)	-0.007** (-2.64)
Book Lev.Acq	-0.107** (-2.50)	-0.091* (-2.14)	-0.013 (-0.63)	0.003 (0.18)
MTB Acq	-0.004 (-1.34)	-0.004 (-1.75)	-0.001 (-0.56)	-0.001 (-1.35)
ROA Acq	-0.073 (-0.80)	-0.067 (-0.73)	-0.044 (-0.46)	-0.037 (-0.32)
RD Acq	0.158 (1.38)	0.198 (1.71)	-0.153** (-3.68)	-0.113** (-2.61)
Book Lev.Tar	-0.012 (-0.18)	-0.005 (-0.09)	0.042 (1.10)	0.048 (1.38)
MTB Tar	0.005** (2.80)	0.005** (2.71)	-0.002 (-1.29)	-0.002 (-1.41)

ROA Tar	0.116 (1.74)	0.109 (1.63)	-0.045 (-1.42)	-0.051 (-1.63)
RD Tar	-0.338* (-1.95)	-0.342 (-1.92)	-0.017 (-0.40)	-0.022 (-0.58)
Constant	-0.153** (-3.21)	-0.160*** (-3.93)	0.097*** (34.15)	0.089*** (9.93)
Industry FE & Year FE	YES	YES	YES	YES
Observations	465	465	465	465
Adjusted R-squared	0.115	0.117	0.853	0.855

Appendix Table OA5: Acquirer CAR and the content of calls (control for tone)

This table reports the second-stage results from Heckman regressions of market reactions CAR [-1, +1] and CAR [+1, +5] on the log length of topic groups in either the presentation or Q&A segments of the M&A calls, controlling for the percentage of positive and negative words in the segment. The sample for Panel A contains deals made by public US acquirers from 2004 to 2016 but excludes the deals between a financial acquirer and a nonfinancial target and the deals announced within five days of the acquirer's earnings announcement dates. The sample for Panel B further excludes the deals with calls held before the market closure of the deal announcement date. The category of other soft information includes *technology*, *customer*, and *team, labor & culture*. The category of financial information includes *deal financing*, *financial projection outcomes*, *financial projection assumptions*, and *growth*. The category of other hard information includes *global location*, *contract*, and *production & operation*. The category of special issues includes *ownership & control* and *deal process*. All the regressions control for the deal and firm characteristics as in Table 3, deal announcement year fixed effects, acquirer's and target's (one-digit SIC) industry fixed effects, and the Inverse Mills Ratio (IMR) from the first-stage selection equation (shown in the column (2) of Table 3). Panel B further controls for the acquirer's pre-call CAR [-1, 0]. T-statistics are reported using robust standard errors. *, **, and *** indicate statistical significance at 10%, 5%, and 1% level, respectively.

Panel A: Acquirer's three-day CAR around announcements

Topic length of	Acquirer CAR [-1 +1]			
	PRE	Q&A	PRE	Q&A
Soft Information	-0.005** (-2.56)	-0.007* (-1.89)		
Business Complementarities			-0.005** (-2.41)	-0.008*** (-3.29)
Other Soft Information			-0.003* (-1.70)	-0.003 (-0.91)
Hard Information	0.007*** (3.29)	0.007* (1.78)		
Financial Information			0.005*** (2.78)	0.003 (0.88)
Other Hard Information			0.006*** (2.76)	0.010*** (3.06)
Special Issues	-0.001 (-0.55)	0.001 (0.23)	-0.002 (-0.78)	0.000 (0.03)
Positive%	-0.002 (-0.87)	0.008* (1.91)	-0.001 (-0.32)	0.011*** (2.64)
Negative%	-0.001 (-0.19)	0.003 (0.44)	-0.001 (-0.24)	0.002 (0.35)
IMR	0.004* (1.75)	0.005* (1.75)	0.004* (1.71)	0.005* (1.72)
Deal and Firm Characteristics	YES	YES	YES	YES
Industry FE and Year FE	YES	YES	YES	YES
Observations	10624	10625	10624	10625
Pseudo R-squared	0.113	0.111	0.117	0.117

Panel B: Acquirer's CAR after the announcement date

Topic length of	Acquirer CAR [+1, +5]			
	PRE	Q&A	PRE	Q&A
Soft Information	-0.007** (-2.19)	-0.015*** (-2.64)		
Business Complementarities			-0.010*** (-2.89)	-0.010** (-2.27)
Other Soft Information			-0.002 (-0.83)	-0.009 (-1.55)
Hard Information	0.005 (1.45)	0.012* (1.85)		
Financial Information			0.004 (1.44)	0.008 (1.35)
Other Hard Information			0.007** (2.04)	0.008 (1.53)
Special Issues	0.005 (1.35)	0.007 (1.39)	0.004 (0.96)	0.007 (1.27)
Positive%	-0.004 (-0.94)	0.007 (1.11)	-0.000 (-0.10)	0.010 (1.50)
Negative%	-0.020*** (-3.33)	-0.018** (-1.99)	-0.020*** (-3.34)	-0.019** (-2.01)
Acquirer CAR [-1, 0]	0.949*** (18.27)	0.940*** (18.03)	0.949*** (18.34)	0.941*** (18.08)
IMR	0.003 (1.12)	0.004 (1.25)	0.004 (1.17)	0.004 (1.30)
Deal & Firm Characteristics	YES	YES	YES	YES
Industry FE & Year FE	YES	YES	YES	YES
Observations	9132	9132	9132	9132
Pseudo R-squared	0.405	0.402	0.412	0.405

Appendix Table OA6: Heterogeneous latent motivation of holding calls

This table reports the second-stage results from Heckman regressions of the log length of different topic groups on the Inverse Mills Ratio (IMR) from the first-stage selection equation in the subsample of private and public target deals separately. The sample contains all the deals made by US public acquirers from 2004 to 2016 excluding the ones between a financial acquirer. The dependent variables are the length of topics in the categories of soft information, hard information, and special issues topics (as shown in Table 2) from presentation and Q&A segments respectively. The control variables include the same set of independent variables as in Table 3 column (1) excluding the public deal indicator, an indicator of the deals announced within five days of the acquirer's earnings announcement dates, and the announcement year fixed effects as well as acquirer's and target's (one-digit SIC) industry. T-statistics are reported using robust standard errors. *, **, and *** indicate statistical significance at 10%, 5%, and 1% level, respectively.

	PRE			Q&A		
	Soft	Hard	Special	Soft	Hard	Special
Private Targets						
IMR	0.028 (0.33)	-0.043 (-0.60)	0.011 (0.26)	0.028 (1.21)	0.018 (0.84)	0.029 (1.11)
Public Targets						
IMR	0.169 (1.28)	0.111 (0.95)	0.070 (0.82)	0.046 (0.83)	-0.043 (-0.89)	0.108* (1.94)
Deal & Firm Characteristics	YES	YES	YES	YES	YES	YES
Industry FE & Year FE	YES	YES	YES	YES	YES	YES

Online Appendix B: Document examples for each topic

We provide representative documents with high weights on each topic. The words with the highest probabilities within each topic have been highlighted.

Topic 1 Business Complementarities

I'm also pleased with how the **complementary strengths** of our companies and technology platforms and **services** will **enable rapid strategic** expansion into molecular diagnostics and environmental detection markets, throughout **robust global** commercial and **services** channel

In **summary**, I **believe** this acquisition is the right move for Caliper and its **unique** opportunity for its **customers** and **employees**. We have a **shared vision** for **successfully** innovating life **science discovery** to **improve** the **health** and safety of people and the environment, and I am personally **excited** to become part of this **unique** opportunity, and to help Rob take PerkinElmer to the next level.

Topic 2 Global

-Hi, me again. I wonder if you could tell us more about the **geographies** you think are most interesting with the Foster Wheeler deal. You mention **Latin America** and growth **regions** in general. What spots in **particular** do you **see** where Amec isn't as **strong** as you like and Foster Wheeler fills the gap for you?

-Well, if I can go through the **world**, first I start from the **West** towards the **East**. If I go with the Americas, so they have a good **position** in **Mexico** and **also** in Colombia, which we do not have. If I move to **Europe**, they have in **Finland** and **Italy**, which we do not have. If I move to the **Middle East**, they have a good **position** in Saudi, which we do not have a very **strong position**, as you know, there. Now **also moving east**, so they have a high-value **engineering center** in **India**. They have a lot of people in Thailand. They have **also** enhancing our **position** in **China**.

Topic 3 Conjunction of Q&A

Right, right, yes, I **understand** that. So, I'm **saying** but like (**multiple speakers**) --
After that adjustment, there hasn't been much of a change. That's **right**.

Topic 4 Production and Operation

[Example 1]

-Dr Chao, just wondering in terms of the **manufacturing facility** that you have, and they have, there's no way of **rationalizing** theirs. Is there any way to **site transfer** or--in essence is Andrx as we see it standalone with their **manufacturing** always going to be standalone **separate** from your **sites**?

-Andrx has a specialized sustained release technology development program as well as state of art of **manufacturing facility** with sustained release **product** and **using** their technology. We **intend** to **continue** operating the **facility**, strengthen it as **product** pipeline begin to grow in **sustaining** these **product** [INAUDIBLE]. Watson **currently** has a programming **rationalize** Puerto Rico **facility**, **moving** the **products** to [Camo], **New York** and [Corna], **California**. This **addition facility** will be third **facility**, will be the **center** of actions of a sustained release **product manufacturing**. We **intend** to **keep** it.

[Example 2]

-What is the breakdown?

-I don't know the exact breakdown, because it depends on the point in time you look at, because **America West** is still taking **delivery** of **new aircraft** but I can give you some flavor for where it's **coming** out. The **largest reduction** in the East-West **entities**, Airways will be--the Airways **route system** will be **reduced** by about half from where it was last **summer** by the time we finish in total **flying** from the **East Coast** to the **West Coast**. That's one of the **unique** synergies because of our **hubs** in the **West** (**indiscernible**) that **reduction**. **America West** will get out of the transcon markets, JFK-L.A., Boston-L.A., entirely as part of this, another area of **reduction**. So those are the **largest** areas of **reduction**. The balance of the **reduction** is to sort of spread **ratably** across our **systems** with **reduced** frequencies and markets across the **system**.

Topic 5 Growth

-Can you **give** us a sense of what this company has been growing, its **revenue growth** and its **EBITDA growth**, over the **last couple years**?

-We can **give** you **revenue growth**. It's been **mid**-single-digits, **mid** to **high** single-digits. It's **probably high** single-digits.

Topic 6 General Comments

-And then is there any progress there? What's the **opportunity**?

-There's **lots** of progress there and there's still a **lot** of **opportunities**. I **think** they were smart to do that. I **think going** out and **getting people** that **understand** the technology and the **direction**. That **want** to be part of it, invest in it. I **think** that's a good model. So, I **think** what they've **done** in the **past** we would continue to do and **look** for other **people** that would **make** investments. And if it's viable you're **going** to **get** more **people** that **want** to invest.

Topic 7 Ownership & Control

[Example 1]

-But they do have interest bearing liabilities of several tens of billions?

-I'll leave it up to your imagination.

And your last question about 20% TOB in relation to TTML. Minority shareholders--there's a scheme to protect the minority shareholders in the listed companies in India. Now TTML's shares, as you point out, TTSL owns 38% of TTML shares currently. And also, Tata Group companies also own shares. So more than 60% of the TTML shares are in the hands of Tata Group, meaning that they have management control.

But we have invested in TTML--TTSL, rather, and we have significant influence. So, therefore, I think we can exercise control over TTML which is part of Tata Group. So we have a group of shareholders that control TTML and DoCoMo is going to be part of that investor group going forward.

So the scheme to protect TTML minority shareholders, that structure base is going to change, and that is why, based on the local regulations, there has to be an open offer, and the minimum block is 20%. So, therefore, we have to make an open offer to acquire up to 20% as the minimum obligation under the local securities regulations. Now, together with Tata Group, we will be making a joint open offer.

Now the distribution between the burden, it is not yet determined between the two groups, but we're talking about JPY20b at the aggregate--as the aggregate amount required.

[Example 2]

-This is Luis Amusatogui from [Signus] Asset Management. I have a question -- two questions in fact. First one, in relation to the flexibility of the conditionality of your Offer, both in terms of the voting rights and the majority of shares, would you be considering -- increasing the level of flexibility of that and maybe accepting the Offer, even if there's no removal of the Bylaws? Or is there a scenario where you would say, there is no way, we will definitely say no? Now is there any scenario that can completely rule out at this point?

The second one was in relation to the alternative of disposals or potential share issues. Would you consider relisting Endesa shares? You feel more comfortable with a listed Endesa or an unlisted Endesa? Could you elaborate a bit on that point?

-First, there is potentially the chance to remove those conditions but we are not intending to do so. We are clearly targeting for removal of the voting rights limitations and we are also targeting for a majority in the Company to be able to determine, together with the Endesa management, its future. And, therefore, no plan to change that.

Second one was -- Delisting of Endesa, there are no plans to do so.

Topic 8 Technology

[Example 1]

Thanks, James . I see tremendous energies for the Postano and Storycode platforms. Postano has been doing some really exciting work in the social visualization space . Brands love it, and once they see it they want

it for events, CMO dash boards, and social hubs for websites and increasingly for mobile apps and experiences.

Storycode has developed its sophisticated architecture that not only ingests the streams of content from different sources, it also optimizes that content for consumption on mobile devices. This includes filtering out unnecessary information, leveraging meta key words for dynamic organization and resizing media to perform well for mobile devices. We believe that bringing these platforms together allows us to create totally new engagement experiences for brands in their communities.

At Storycode we started working with brands this year like Mindjet . They love our mobile app platform where they can take streams of content they are publishing on blogs and social networks and combine them together into native mobile apps for iPhone, iPad and Android. Brands as publishers has been a big theme for us and, as they publish content across the web and across social networks and blogs, we can help them take that content and create new fan engagement experiences. With TigerLogic's technology, we can now lead with visual expressions of story telling to drive even greater fan engagement.

With that I will turn the time back over to James.

[Example 2]

We're not exiting. We address this market in ways which best leverage our strengths.

We do this in 2 ways. First, IBM provides the back-end hardware, software, and services infrastructure required to interface to the proliferation of devices. Second, we address this market at the component level. We're seeing a convergence of devices in home which we believe will be at the component level. And our power architecture is the key player in this space.

As you know, we're providing processors to all of the leading game machine manufacturers. And we continue to expand on our success in this area. Our announcements last week on the Cell Processor and Power.org, an open-standard community around chips and systems which use power architecture technology, are 2 good examples of proliferation of the power architecture.

Topic 9 Closing of Q&A

-Okay. That's great. Thanks for all of your time.

-Okay. Thanks, Chris.

-Thank you all for dialing in on such short notice. We appreciate your support and I'm around all day, so give me a call if you have any follow-up questions. Take care and have a nice holiday. Bye-bye.

Topic 10 Opening of Q&A

-Good morning, everyone, and congratulations on the transaction.

-Good morning, Chuck.

Topic 11 Financial Projection Assumptions

[Example 1]

-Okay, and longer-term, then, the **margin profile**--is this a 20% **operating margin type** business, **longer term**?

-Well, I **think** the business has **got a pretty** attractive **margin profile** broadly, and **certainly** as you **look at** the **gross margins** of Intervoice in the 50% to 55% **range**, those are **pretty** attractive **numbers**. I **think** the long-term **margin profile depends** on how much you can **scale** the business. And with that **kind of gross margin**, **obviously** the **better** we do on the **scale side**, the more we can **drive gross margins**.

[Example 2]

-I got you. I **guess** if I just had a **look** at the 10 **million in revenue**, 72 **percent gross margins**, SG & amp; A and R & amp; D **operating expenses** of 60 **percent**, I **mean**, that **kind of gets** you to **like a breakeven** 1 or 2 **cents kind of EPS number accretion**. Just on the **operating expense side**, is that a **fair assumption to assume** that they're doing **around 6 million in expenses**? **Operating expenses**?

-I do not have those **numbers in front** of me, Kevin, but I can tell you that they are **breakeven** now and they have been **breakeven**. For us, again, we will **guide** if it is **going** to be **accretive** at all in the second half of this year. We have guided that it is **going** to be very nicely additive in 2005.

Topic 12 Deal Financing

[Example 1]

-You said that the \$1.4 **billion in secured loans** that is going to **fund** the **cash portion** of the **acquisition**, and then you're going to **refinance** a **portion** of both companies' **debt**?

-We are going to **refinance** all of Quintana's **debt**, except for the **new** buildings, and we're going to partially **refinance** our own **loan obligations**.

[Example 2]

-Yes, hi. Just a couple of clarifications surrounding **capital structure**. You're talking about a **new unsecured credit facility** and also **issuing** some **notes**. Are you then **refinancing** both **credit facilities** at both **Allied risk** and **Republic**? And secondly, I know you did mention that there won't be any **secured debt** following the **transaction**, just by way of clarification, does that mean that all the **existing Allied senior notes** which have the BFI assets as **collateral** will no longer have those assets as **collateral** following the completion of the **transaction**.

-This is Ed Lang, first comment on the **bank facilities**, **Republic** will **put into place** a **new senior unsecured bank facility** that will meet the working **capital** and letter of **credit needs** for the merged company. So **essentially** the two **existing bank facilities** will go away. And second is with the termination of **Allied's**

secured bank facility, plus the investment grade rating, all of the debt outstanding will be unsecured and treated equally including the BFI notes that are outstanding.

Topic 13 Deal Process

[Example 1]

-Did you consider a strategic buyer, a competitor, rather than going private?

-I'll respond to that question. As part of this process, the Board of Directors formed a special committee of the disinterested members or the independent shareholders. Through that process, they reviewed a lot of different strategic alternatives for the Company. As a result of that process, it was determined by the Strategic Committee of the Board and the full Board, which unanimously approved this agreement, that this represented the best transaction for RAE stockholders.

[Example 2]

-Just in terms of the process of this combination, could you give us a little bit more information as to how that came about? Who engaged who? Did Sound management go through a strategic review process or engage any other potential suitors?

-Well, we announced in May that we were seeking strategic alternatives. We engaged FirstEnergy to act as our agent. FirstEnergy went through a process where we had beta rooms open for four to five weeks, and interested parties were invited to bid. So it was a very open bidding process.

[Example 3]

-I just wanted to follow up. You are expecting this deal to close within a short period time, within 90 days. I just wanted to make sure that you're not foreseeing any kind of issues between now and then. Is there anything that we should be aware of between now and the close, within 90 days, that could prevent the deal from closing?

-Now, there is the customary closing conditions. At this point, we don't see anything that will prevent closing.

Topic 14 Contract

[Example 1]

-Good morning. What has--does Dow Chemical have a right of first refusal as far as its joint venture with NOVA? Or does INEOS have a similar contractual arrangement? How do the various joint ventures of NOVA go forward under this offer?

-They really don't change. The contractual relationships between the new ownership and those companies remain exactly the same because, again, NOVA is an ongoing company they've acquired in all of its

agreements. If we had a **specific agreement** that would **change** on a basis to **change of control**, it would have an impact.

[Example 2]

-Can you **disclose** like what the **termination fee** and what the **breakup fee** is?

-The **termination fee** is a **customary 3%**, the **breakup fee** is a **customary 3 %**.

Topic 15 Names²⁵

-Hi, **guys**.

-Hey, **Jay**.

-Hey, **Jay**.

Topic 16 Customer

[Example 1]

-Sure. I was just asking a question about the **channel** growth for Diedrich. Is it **mostly** in **grocery stores**? Are you going with **mass channels** or other **channels**?

-So Diedrich's **primary business** now is in the **retail** non-grocery, which would be some of the department in **stores** and **mass** merchandisers that also carry the **Keurig brewers**. That's a significant **portion**. They also **sell** a **large portion** online and a **large segment** of their **business** is through office **coffee distributors**. They have almost no **business** in **grocery stores**, very **small**.

[Example 2]

-Good afternoon, gentlemen. I was wondering if you could give us a little information about the **customer base** that you acquired through Thermal Solutions. How **complementary** is it to your **existing businesses**, and will it help your multi-service, multi-location strategy any?

-Absolutely. I think, in terms of the **customer types**, it's very, very **similar**, with a few exceptions around the fringes. So their basic--the basic **customer market** for heat-treating **business** is the same, refining petrochemical power **plants**. Our **customers** are very interested in extending and broadening our basket of **services**, so there will be a natural complement there. And while we have **many** common **customers**, there are also **many** instances where they have very strong relationships with **customers** where we're less strong and vice **versa**, and we see all of those as **opportunities** to cross-sell and extend our reach both directions.

Topic 17 Team, Labor, & Culture

²⁵ This topic picks up person names that repeatedly appear in conference call conversations and does not have an economically meaningful theme. We have dropped it in our regression analysis. This topic only accounts for very small proportion (1.1% on average) of the conference calls.

-Are their radiologists, are they compensated better than NightHawk radiologists? Or is there going to be an issue in retaining some of these doctors?

-I don't anticipate any issues in retaining the doctors. No, I think, again, both are compensated well, and as a radiologist, it's my job, responsibility, et cetera, to make sure things are fair and work well for the radiologists. The radiologists are the foundation of what we do, it's their reports that are critical and as such, it's important that we recruit highly competent people, and with both the Radlinx doctors, the TDS doctors and our other doctors whom are all now NightHawk doctors it's incumbent upon us to make them compensated fairly and well.

Topic 18 Disclaimer

Now I would like to draw your attention to our Safe Harbor statement. Information in today's presentation contains certain statements and predictions that constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act. In particular any statements, projections, or estimates that include or reference the words believes, anticipates, plans, intends, expects, will, or any similar expressions while within the safe harbor for forward-looking statements contained in the Reform Act.

Actual results or outcomes may differ materially from those indicated or suggested by any such forward-looking statements. More information on potential risks and uncertainties is available in the Company's recent filings with the Securities and Exchange Commission including Cincinnati Bell's annual Form 10-K report, quarterly Form 10-Q reports, and Form 8-K reports.

This presentation also contains certain non-GAAP financial measures. Reconciliations of these non-GAAP measures to the most directly comparable GAAP measures are included in our presentation.

The forward-looking statements made on this conference call represent the Company's estimate as of May 13, 2010. The Company anticipates that subsequent events and developments will cause its estimates to change.

With that I am pleased to introduce Cincinnati Bell's President and Chief Executive Officer, Jack Cassidy.

Topic 19 Financial Projection Outcomes

As a result of the acquisition, Sonus expects incremental revenue of approximately \$15 million to \$20 million in the second half of fiscal 2012, with the amount recognized dependent on the timing of the completion of the acquisition. Achievement of \$15 million in revenue is expected to have a dilutive impact on GAAP EPS of approximately \$0.03 per share in the second half of 2012, and a dilutive impact on non-GAAP EPS of approximately \$0.01 per share in the same period.

Achievement of \$20 million in revenue is expected to have a dilutive impact on GAAP EPS of \$0.02 per share in the second half of 2012, and a breakeven to slightly accretive impact on non-GAAP EPS in the same period. Non-GAAP EPS excludes certain expenses, including, but not limited to acquisition-related costs, stock-based compensation, and amortization of intangible assets. As Patti mentioned, Sonus is

currently in a quiet **period**, and we will not be providing a **financial** update to our 2012 **outlook**, nor will we comment on **NET's financial outlook** at this time. Now, I will **turn** the call back over to Ray.

Topic 20 Miscellaneous²⁶

[Example 1]

-Cazenove. A **couple** of questions. Just on the ownership, are there any **put** or call options in **terms** of being **able to change** ownership down the road?

And **secondly**, in **terms** of the **use** of cash, you **talk** about **investing** it in the broadband **business**. Can you just **expand** a bit more about that? You **mentioned** our next generation network, I think that is **still** very much core network as opposed to pushing out broadly the access **element** at all?

-Again, there is no **put** and call. A 50/50 venture again as partners looking into the long-term, but there's no short-term **relationship** for either party. So that's very much aligned on a 50-50 arrangement and to the long-term **future**.

I think in **terms** of it is a process in **terms** of the telco **business**, I think what we're **saying** today is we continued our guidance that we gave only **two** or three weeks **ago** in **terms** of the capital **investment**, and we are putting it into our telco **business** for the year ahead.

As you will all recall, we **obviously said** we are **investing** more in our telco **asset** and building up the reliability and the robustness of that. Nothing has changed as a result of today's announcement. We will **continue** that **investment program** as **already** estimated for the year ahead. And that is really all we're **saying** in **terms** of our **future investment** in that.

[Example 2]

-But now I am confused, because you are **saying** that Rick was selling to the **OEMs**, and you are **saying** you are selling to the **dealers**. So in your **new** go to market sales model, are you deemphasizing selling to **OEMs**? Or how do you balance? Is there a **change** there? Are you **going** to be **able** to sell more of the traditional Dealertrack, legacy Dealertrack to the **OEMs**?

-No. So **look**, **perhaps** I am confusing you a bit. It wasn't singular. Neither of us were singular, that we only sold to an **OEM** or only sold to a **dealer**. Where I would **say** there was **particular** strength was in the **OEM relationships**. I **mean**, Dealer.com has much broader **OEM relationships** in the digital **marketing arena**.

In, **obviously**, the transaction financing **arena**, we have **terrific OEM relationships**, so they very much complement each other. There is no question, they had a sales force, they called on **dealers**. They called on **dealers** with a more singular solution than the broader solution that we go to market with. So it is not that

²⁶ This topic picks up the miscellaneous issue and does not present a coherent theme, as could be seen from the two examples shown here. We have dropped it in our regression analysis. This topic only accounts for very small proportion (1.3% on average) of the conference calls.

we didn't see each other on the dealer side. It is just--I am trying to downplay it, because you are suggesting that was really a battle head-to-head. That was not very often the case.