

The democratization of earnings calls*

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Abstract

A recent technological advancement, Say Technologies, makes it easier for companies to discern retail investors' information needs. We present evidence that this technology underpins the adoption of a more inclusive policy for interactions with retail investors during earnings calls. Specifically, Say Tech companies on average answer 4.9 retail investor questions and 3.2 fewer analyst questions per call, which suggests that increased interactions with retail investors occur at the expense of reduced interactions with equity analysts. In addition, the likelihood of answering a retail question is increasing in the number of retail shareholders upvoting the question but not in question tone, consistent with managers prioritizing questions based on their representativeness rather than their favorableness. Finally, managers' answers to retail investor questions convey more detailed and complex information but they also display more positive tone than managers' answers to analyst questions, lending support to the call casting hypothesis.

Keywords: FinTech; conference calls; information acquisition; access to management; equity analysts; retail investors.

JEL Classifications: M41; G11; G14.

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1 Introduction

According to an influential survey by [Graham, Harvey, and Rajgopal \(2005\)](#), managers perceive institutional investors and equity analysts as the two most important groups in terms of setting company stock price and shaping voluntary disclosure policies, with retail investors a very distant third. Consequently, voluntary disclosure policies have traditionally prioritized the information needs of equity analysts and institutional investors over those of retail investors. A case in point is the prevalence of management interactions with equity analysts and institutional investors, occurring at a multitude of venues: e.g., the Q&A of earnings calls, investor conferences, analyst/investor days, non-deal road shows. Since these interactions exclude retail investors and produce unequal information benefits to market participants, researchers have questioned their congruency with the SEC's professed goal that all investors have equal access to information ([Solomon and Soltes, 2015](#)).

In this study, we investigate whether these interactions have become more inclusive, motivated by recent market trends, whose likely effects are to incentivize managers to interact with retail investors, and a recent technological innovation, likely to lower the cost of such interactions. In the past decade, individual investors' stock market participation has sharply increased, and with retail investor volume exceeding in some years 20% of all stock market activity ([Eaton, Green, Roseman, and Wu, 2022](#)), retail investors have become a force to reckon with in capital markets. In addition, as the costs of acquiring, processing, and sharing information have plummeted, retail investor sophistication has increased dramatically over the years. Recent studies consistently find that aggregate retail trades ([Boehmer, Jones, Zhang, and Zhang, 2021](#); [Farrell, Green, Jame, and Markov, 2022](#)) and investment research produced outside the Wall Street information ecosystem (e.g., [Chen, De, Hu, and Hwang, 2014](#); [Drake, Guest, and Twedt, 2014](#)) convey new information to capital markets. The likely effects of increased retail investor stock participation and sophistication are to shrink the perception gap that separates retail investors from institutional investors and equity analysts

and encourage managers to give more attention to retail investors' information needs.

Interactions with retail investors are more difficult to conduct than interactions with institutional investors because retail investors are more numerous, heterogeneous, less organized, and more difficult to identify than institutional investors. A recent technological innovation, Say Technologies (hereafter, Say Tech), simplifies the process of soliciting questions from retail investors, verifying their ownership, and identifying questions of interest to large swaths of retail investors through a process of "upvoting." So far, 49 companies with a combined market cap of nearly \$1.5 trillion (3.24% of the U.S. stock markets' capitalization as of March 31st, 2022) have used the Say Tech online platform. We use the adoption of Say Tech as a laboratory to examine how retail investors' increased prominence shapes corporate disclosure and management interactions with investors, in particular.

The adoption of Say Tech offers several advantages in examining these issues. First, we can disentangle retail investor-driven changes in disclosure from stakeholder-driven changes in disclosure arguably better than prior research, which focuses on Facebook and Twitter (e.g., [Blankespoor, Miller, and White, 2014](#); [Jung, Naughton, Tahoun, and Wang, 2018](#)), whose user base includes both retail investors and stakeholders. Second, most companies use the Say Tech platform to solicit retail investor questions in the pre-earnings announcement period and answer retail questions immediately after earnings are announced, which is when investor demand for access to management peaks. Examining how management interacts with analysts and retail investors in a short period after earnings announcements, when both groups exert significant demand for information, can, therefore, yield valuable insights about the relative importance of these groups as disclosure audiences.

In general, Say Tech companies can choose one of three policies for interactions: (1) answer retail investor questions only in the forum, with no change in the number of analyst questions answered in the earnings call, (2) answer retail questions in the earnings call, with no change in the number of analyst questions answered, or (3) answer retail questions and fewer analyst questions in the earnings call. We believe that the third policy represents the

biggest and most consequential step toward democratizing access to management.

Earnings call disclosures are more widely disseminated and scrutinized than forum disclosures, and they play a key role in the process by which financial results are disclosed and assimilated in capital markets (see section 2 in [Miller and Skinner 2015](#) for a survey of the earnings call literature). Furthermore, while the Q&A section of the earnings call is, on average, more informative than the presentation section ([Matsumoto, Pronk, and Roelofsen, 2011](#)), analysts allowed to ask a question issue more accurate earnings forecasts than other analysts, consistent with unequal access to management creating information inequality among analysts ([Mayew, 2008](#); [Cohen, Lou, and Malloy, 2020](#)). Hence, answering retail questions not only in the forum but also in the earnings call signifies a stronger commitment to retail investors' needs; and answering fewer analyst questions indicates that the increased attention to retail investors in corporate disclosure is at the expense of equity analysts.

We first investigate what determines a firm's decision to solicit retail investor questions through Say Tech. Consistent with these firms having a larger and more active retail shareholder base, we find that they have lower percentage of institutional ownership, and higher retail trading. In addition, we find robust evidence that these firms have greater Seeking Alpha coverage but no evidence that they have greater media coverage or cluster in consumer-facing industries. Our explanation is that Seeking Alpha coverage reflects the informational demands of sophisticated retail investors, which companies seek to target, whereas media coverage and membership in a consumer-facing industry reflect the informational demands of all stakeholders. Finally, companies with less favorable equity analyst coverage are more likely to use Say Tech, presumably because managers see Say Tech as an additional tool that they can use to influence their information environments.

We proceed to examine the choice to answer a retail investor question. The fact that the average firm answers only 1.1% of all forum questions amplifies concerns that managers choose to answer questions that cast them in favorable light. However, we find no evidence that questions that are answered have more favorable tone than questions that managers

leave unanswered. Importantly, the choice to answer a particular question is primarily driven by the extent to which the question interests retail shareholders, expressed through a process of upvoting. Specifically, a ten percent increase in the number of users who upvoted a question is associated with a 27 basis point increase in the probability of the question being answered. We view this marginal effect to be economically large because the unconditional probability of managers answering a question in our data equals 1.1%.

Companies open the online forum for questions approximately 8 days before earnings are announced and close the forum before earnings are announced. In a model that includes Firm \times Relative Day Fixed effects to account for within-quarter variation in trading, we find that days over which the forum is open are associated with elevated retail trading.¹ We find that on days with an active Say Tech forum, the number of trades by retail investors is 35.6% higher relative to the average number of trades for the same firm during the same days in other quarters without an active Say Tech forum.

To address our primary question of whether companies use a new technology, Say Tech, to broaden access to management during regular earnings calls, we investigate whether the solicitation of retail questions prior to an earnings call is followed by systematic changes in the composition of the questions answered during the earnings call: i.e., increased incidence of retail questions being answered and decreased incidence of analyst questions being answered. Both predictions are borne out in the data. The collection of retail questions through the online platform in a given quarter increases the probability of answering retail questions during the earnings call from 0 to 94 percent and the number of answered retail questions from zero to nearly five. Importantly, answering retail questions appears to come at the expense of answering analyst questions. The collection of retail questions in a given quarter is followed by three fewer analyst questions being answered, resulting in 180 fewer words being spoken by analysts. On the other hand, we find no evidence that the tone of the

¹Relative day represents the number of days relative to the earnings announcement. For example, the day before the earnings announcement is coded as -1, the day of the earnings announcement as 0 and so forth.

analyst questions answered becomes more favorable, predicted by [Cohen et al.'s \(2020\)](#) call casting hypothesis.

It is possible that a firm's choice to collect retail questions through Say Tech and answer retail questions during earnings calls is purely coincidental with the firm's choice to answer fewer analyst questions. To rule out this alternative explanation, we conduct a difference-in-differences analysis. Using the propensity score matching method, we identify a control sample of firms with similar propensity of using Say Tech; and find that firms that solicit retail questions through Say Tech answer four fewer analyst questions relative to matched control firms.

Finally, we conduct a comparative textual analysis of questions by retail investors and analysts, and managers' answers to these questions. We find that retail investor questions are shorter in length than analyst questions, perhaps because they are written rather than spoken and asked without knowledge of the earnings release. Analyst questions often discuss reported results and compliment management, increasing their length. In addition, we find that retail investor questions contain more financial words ([Matsumoto et al., 2011](#)) and more forward-looking sentences ([Muslu, Radhakrishnan, Subramanyam, and Lim, 2015](#)), but fewer numbers and fewer risk-related sentences ([Kravet and Muslu, 2013](#)). These results, collectively, suggest that retail investors are no less sophisticated than analysts in their information search activities. Finally, consistent with retail investors being less worried about antagonizing management than equity analysts, retail investor questions display more negative tone than analyst questions.

A different pattern emerges from our analysis of management answers. Management answers to retail questions are longer than management answers to analyst questions. They include more numbers and risk-related sentences, and exhibit a more favorable tone. Finally, management answers to retail questions are distinguished by higher complexity and greater level of scriptedness. We conclude that knowing questions beforehand helps management prepare answers that are more detailed and arguably more informative on multiple

dimensions, and that portray the company in a more favorable light.

We contribute to a large body of research that examines how companies interact with investors in several ways. First and foremost, we present novel evidence that these interactions are more inclusive of retail investors than previously thought. Specifically, we show that companies, whose retail shareholders are more numerous and sophisticated, take advantage of a recent technological innovation, Say Tech, to attend to retail investors' information needs, and that the increased attention to retail investors contributes to reduced attention to equity analysts. These findings not only update our knowledge of how companies interact with different groups of market participants, but they also illustrate in an economically important setting – management interactions with investors during earnings calls – how changes in technology can drive changes in disclosure policies (Miller and Skinner, 2015).

Our study of how technological change democratizes access to management during earnings calls naturally extends earlier studies of how technological change democratizes access to information disclosed during earnings calls (Bushee, Matsumoto, and Miller, 2003). Our findings, which demonstrate that the composition of a company's investor influences a company's choice to solicit and answer retail questions by retail investors, parallel the findings of (Bushee et al., 2003) that show that the composition of a company's investor base influences a company's choice to freely broadcast the call.

An important insight in prior literature is that managers cast earnings calls by calling on equity analysts more likely to ask soft-ball questions (Mayew, 2008; Mayew, Sharp, and Venkatachalam, 2013; Cohen et al., 2020). By providing managers with a large pool of retail investor questions, sometimes several thousand questions (e.g., Tesla received 6,328 questions for its 2022:Q1 earnings call), Say Tech intensifies these concerns. Our findings, admittedly mixed, represent an important first step toward addressing these concerns.

Our study differs from a recent study of exchange-mandated investor-interactive forums in China by Lee and Zhong (2022). We examine a series of voluntary disclosure choices that either do not arise or are difficult to address in Lee and Zhong's (2022) setting: the choice

to solicit retail investor questions (e.g., participate in the forum), the choice to answer these questions, and the broader choice to devote more attention to retail investors at the expense of institutional investors.

2 Research design

Our research design centers on two complementary groups of analyses that produce insights regarding companies' use of Say Tech. In the first set of analyses, we take a high-level view and try to understand what motivates managers to participate in Say Tech and how this choice appears to affect the way that they conduct their earnings calls. To perform these analyses, we study aggregated measures of participation and conference call engagement based on firm-year, firm-quarter, and daily market data. In the second set of analyses, we take advantage of the richness of the available textual data from earnings calls and the question and answers in the Say Tech platform. Here, we estimate empirical models designed to explain within-forum and within-call variation in questions, and managers' responses.

2.1 Decision to solicit and answer questions from Say Tech

Say Tech maintains an online platform that provides companies with tools to solicit questions from stakeholders and rank them based on peer votes (i.e., "upvote"). Participation in Say Tech is voluntary and to date 49 companies participated in the platform. The participating companies are economically meaningful in size and collectively represent 3.24% of the total market capitalization of the U.S. stock markets (as of 3/31/2022). Further, the decision to adopt Say Tech as a tool to solicit questions from retail investors appears to be persistent. Within our sample, 86.1% of the firms that used Say Tech in quarter t continue to use it, four quarters later, in quarter $t + 4$.

The first set of analyses in our paper aim to identify and examine factors that are associated with managers' decision to participate in Say Tech. These analyses help us better

understand the economic factors and incentives that motivate managers to voluntarily use Say Tech to solicit questions from retail investors. In order to provide empirical evidence, we identify firms that participated in Say Tech and regress this indicator variable on a set of ownership, coverage, firm, and security characteristics. The ownership characteristics consist of the institutional ownership level and the breadth of ownership (i.e., number of shareholders), coverage characteristics include analyst following, sell recommendation percentage, and Seeking Alpha and media coverage. The firm characteristics are comprised of firm size, book-to-market, profitability, and an indicator variable for consumer-facing industries. Finally, the security characteristics are composed of turnover, retail turnover percentage, penny stock indicator, return volatility, and past returns.²

Our second set of analyses study what type of Say Tech questions managers choose to answer. In this analysis, we switch to a question level unit of observation and regress an indicator variable that equals one for Say Tech questions that managers answered on “upvote” statistics (i.e., number of users, number of shares represented) and question characteristics (e.g., tone, complexity). We estimate this regression with forum fixed effects, which uniquely identify each forum event. This strategy alleviates the possibility of confounding factors (e.g., firm performance) influencing our results.

2.2 Retail trading activity during the question solicitation period

Say Tech provides retail investors with access to important information about the companies that they invest in and facilitates communication with corporate managers. This can help retail investors make more informed investment decisions. However, whether Say Tech meaningfully affects retail investors’ investment decisions and spurs more retail trading is an open question. We tackle this question by turning to an analysis of daily retail trading activity. Specifically, we follow the methodology developed in [Boehmer et al. \(2021\)](#) and use intraday data (TAQ) to identify transactions with prices just above a round penny as

²Table 1 provides detailed definitions of these variables.

initiated by retail buyers and those with prices just below a round penny as initiated by retail sellers.³ Then, for each company that participated in Say Tech, we compile data on daily retail trading activity starting eight quarters before their first participation in Say Tech.⁴ Finally, we regress measures of daily retail trading activity on a set of indicator variables that aim to control for confounding events (e.g., 10-K, guidance).

Importantly, since prior research shows that trading activity exhibits predictable patterns conditional on timing relative to earnings announcements (Chae, 2005), we include Firm \times Relative Day (EA) fixed effects. The inclusion of these fixed effects ensure that any variation in retail trading activity due to the respective day’s relative timing to earnings announcements are accounted for. Finally, we include an indicator variable that equals one on days when there is an active Say Tech forum (i.e., shareholders can post questions) and zero otherwise. Companies typically open the Say Tech forum 8-9 business days before an earnings announcement and close it before their earnings calls.

2.3 Earnings call dynamics after Say Tech adoption

How do managers that solicit questions from Say Tech change the way they conduct their earnings calls? Managers who choose to participate in Say Tech have the option of using the platform independent of earnings calls. Specifically, managers can solicit questions from investors using Say Tech and later answer them on the platform without altering the way that they conduct their earnings calls. An alternative approach, however, is to solicit questions from Say Tech and answer some of those questions during earnings calls and post answers on Say Tech. This strategy has the added advantage of disseminating managers’ answers to a broader audience.

Our first set of tests aim to shed light on how managers incorporate Say Tech into their overall disclosure policies by identifying what proportion of companies that participate in Say

³Consistent with Boehmer et al. (2021), we limit data from TAQ to observations with exchange code values equal to “D.”

⁴We extend our sample period to eight quarters before the first Say Tech participation to compile data that can serve as a benchmark for the post-Say Tech period.

Tech answer Say Tech questions during their earnings calls. In our first model, we regress an indicator variable that equals one for companies that read Say Tech questions and answered them during their earnings calls on an indicator variable for Say Tech participation and firm fixed effects. In the second model, we replace the dependent variable with the number of questions from Say Tech that managers read and answered to produce evidence regarding how many questions managers answer from Say Tech.

We then build on our initial analyses by studying how Say Tech participation is associated with the number of external participants (e.g., analysts) during calls, the number of questions that they ask, and the length and tone of their questions. These analyses involve regressing four separate dependent variables on the Say Tech participation indicator variable, analyst following, firm size, and firm fixed effects.

In order to rule out the possibility that an unknown, omitted, factor may be simultaneously driving managers' decision to participate in Say Tech and their decision to answer fewer retail questions, we repeat our analysis using a difference-in-differences estimation approach. In this approach, we use propensity score matching to identify up to three matching firms for each firm that participated in Say Tech (using the nearest neighbor method). We use the same set of factors in the determinants analysis to estimate firms' propensities to participate in Say Tech. We then code our *Post* indicator variable for matching firms as equal to one for the calendar quarters during which the Say Tech firm uses the Say Tech forum to solicit questions. For the remaining quarters, we set *Post* equal to zero. Finally, we regress our four dependent variables (e.g., *participant count*, *question count*) on the *Post*, *Treated* \times *Post*, *IBES coverage* (analyst following), *Firm size*, firm and year-quarter fixed effects. *Treated*, in this model, equals one for firms that participate in Say Tech at one point during our sample period and zero for matching firms that we identify based on PSM.

2.4 Comparative analysis of analyst and Say Tech questions

Our last set of tests hone in on the dialogue level and examine within-call variation in the quantity and quality of retail investors' questions and managers' answers. Specifically, in our first set of tests, we regress measures of the supply of questions (i.e., number of sentences and words) on an indicator variable, *Retail question*, that equals one for questions that were read from Say Tech and zero for all other questions (e.g., analysts). Similarly, we regress measures of question quality (i.e., the number of financial words and numbers, the intensity of forward-looking and risk-related information, question tone, complexity, subjectivity, and number of question marks) on the *Retail question* indicator variable. In both sets of models, we include call fixed effects to account for firm- and time- specific characteristics that prevailed at the time of the earnings calls. As a result, this strategy allows us to compare Say Tech questions to other questions that were asked during the same earnings call.

In the second set of tests, we repeat the same estimation strategy. However, instead of studying retail investors' questions, we analyze managers' answers to those questions. In addition to the quality measures that we use in the question analysis, we study the scriptedness of managers' responses, measured using the cosine similarity between managers' presentation and answers to questions based on stop words (Lee, 2016). We again include call fixed effects in our models, resulting in an estimation where we compare managers' responses to Say Tech questions with managers' responses to questions asked by other earnings call participants (e.g., analysts) during the same call.

3 Data

Say Tech, through its website (www.saytechnologies.com), provides an online platform for public companies to communicate with their stakeholders. Say Tech's stated goal is to enhance how managers communicate with their stakeholders with the broader objective of improving transparency and strengthening corporations' relationship with their investors.

Figure 1 illustrates the number of new firms that began to participate in Say Tech during our sample period. As is evident from the figure, the number of new entrants to Say Tech has been steadily increasing as companies exert greater effort to engage with their retail investor base.

One of the key features of Say Tech is that it allows companies to set up Q&A forums designed to solicit and answer questions from investors. This service provides companies with the opportunity to create and maintain a Q&A forum without investing in developing and advertising their own online Q&A forums. In addition, Say Tech, by serving as a central location for Q&A forums by different companies, simplifies the process that retail investors have to follow to seek and acquire information from managers.

Another important feature of Say Tech is that it automatically ranks questions based on the number of users who upvoted each question in a manner that is similar to Reddit (www.reddit.com). Different from Reddit, however, Say Tech retrieves ownership data directly from the brokerage accounts of users.⁵ Say Tech then calculates a second upvote metric that equals the number of shares owned by users who upvoted. This calculation scheme results in an ownership weighted upvote metric. The two upvote metrics provide direct measures of investor information demand, thereby presenting a unique opportunity to expand our understanding of how managers respond to investors' demand.

Companies have discretion over when they initiate the Say Tech Q&A forum and how long they keep it open for. Most companies open their Q&A forums one to two weeks before their earnings calls and close it before the earnings call begins. This strategy allows companies to solicit questions from stakeholders and address the ones that they would like to answer during earnings calls.⁶

⁵Say Tech only collects ownership data from users who give it permission to access their brokerage accounts. Say Tech, to ensure data quality, prohibits users from manually entering their ownership data.

⁶Appendix A provides three examples where companies incorporate Say Tech questions into their earnings calls. During Tesla's 2019:Q4 earnings call, the Senior Director for IR starts the Q&A section of the earnings call by asking Elon Musk one of the questions that were posted on Say Tech and continues to ask additional questions from the forum. Similarly, Robinhood, during its 2021:Q2 earnings call, explains the company's decision to participate in Say Tech and the large number of questions that they received on the forum. The Head of IR & Capital Markets, then begins the Q&A segment with a question from Say Tech about

Say Tech, from its inception until October 31st, 2022 (our sample cutoff), facilitated 167 number of forums. For each forum, we collect information on its type (e.g., earnings call, investor day) and its opening and closing dates. Among the 167 forums, 131 were in preparation for earnings calls, 23 were for Webinars, eight were for shareholder meetings, and the remaining five forums were for investor days and product launches. We limit our sample to U.S. public firms that used the forum in preparation for earnings calls.⁷ We then obtain the questions that were asked, upvote statistics, and managers’ responses to questions, if any.

Finally, we merge our sample with data from the CRSP, Compustat, IBES, Raven Pack, Refinitiv Eikon, and TAQ databases. We additionally compile data from Seeking Alpha to measure social media coverage and merge it with our sample. The process of merging our Say Tech sample with the financial databases and imposing data requirements results in a final sample of 110 forums initiated by 29 distinct firms during the period between January 1st, 2019 and October 31st, 2022. The average firm in our Say Tech sample has a market capitalization of \$77.2 billion and a following of 7.9 analysts.

4 Empirical results

4.1 Decision to solicit and answer questions from Say Tech

Which types of companies are more likely to participate in Say Tech? In this section we study ownership, coverage, firm, and security characteristics that explain variation in companies’ decision to participate in Say Tech and report our estimation results in Table 3.

In Table 3, Model 1, we find that the coefficient on *Institutional ownership* is estimated

dividends, to which the CFO provides a response. The Q&A is then followed with additional questions from Say Tech. Finally, U.S. Steel Corp, during its 2022:Q1 describes its decision to participate in Say Tech as motivated by their desire “to ensure [they] create new ways to engage with stockholders” and answers one of the questions posted on the forum about buybacks.

⁷We impose this data restriction because our research question concerns the relation between Say Tech and earnings calls.

to be -0.007 (p -value < 0.05), suggesting that companies with lower institutional ownership are more likely to participate in Say Tech. To help compare the economic magnitudes of the independent variables, the second column in each model in Table 3 reports standardized coefficients. Based on standardized coefficients, the institutional ownership variable ranks as the third largest among the ownership and coverage characteristics in our model. Specifically, a one standard deviation increase in institutional ownership is associated with a 4.34% of a standard deviation decrease in the likelihood of a firm participating in Say Tech. Further, we find that the coefficient on *Sell recom. percentage* is estimated to be 0.026 (p -value < 0.05), implying that companies with less favorable analyst following are more likely to use Say Tech. This variable ranks as the second largest in magnitude based on standardized coefficients. A one standard deviation increase in *Sell recom. percentage* is associated with a 4.64% of a standard deviation increase in the likelihood of a firm participating in Say Tech. Finally, the coefficient on *Seeking Alpha (SA) coverage* is estimated to be 0.005 (p -value < 0.01), indicating that companies with greater social media coverage are more likely to participate in Say Tech. The standardized coefficient for *SA coverage* is the largest in Model 1 and suggests that a standard deviation increase in *SA coverage* is associated with a 8.59% of a standard deviation increase in the probability of a firm participating in Say Tech. Evaluated differently, a 10% increase in *SA coverage* is associated with a 5 basis point increase in the probability of Say Tech participation. This represents an economically large relation given that the unconditional mean of Say Tech participation within our sample equals 0.26%.

In Model 2, we include several firm characteristics and find that larger and less profitable companies are more likely to participate in Say Tech. The coefficient on firm size equals 0.001 (p -value < 0.1) and ranks as the second largest based on standardized coefficients. The coefficient on profitability is -0.003 (p -value < 0.1) and ranks sixth based on standardized coefficients among the variables estimated to be statistically significant.

In Model 3, we additionally include security characteristics. The estimation results document a positive relation between Say Tech participation and retail trading, as evidenced

by the coefficient on *Retail turnover percentage*, which equals 0.014 (p -value < 0.05). The relation between retail turnover percentage and the likelihood of Say Tech participation is economically meaningful; a one standard deviation increase in *Retail turnover percentage* is associated with a 3.11% of a standard deviation increase in the likelihood of Say Tech participation. Further, the coefficient on return volatility equals 0.102 (p -value < 0.1), indicating that companies with greater return volatility are more inclined to participate in Say Tech. Here, the standardized coefficient implies that a one standard deviation increase in return volatility is associated with a 4.78% of a standard deviation increase in the probability of Say Tech participation. This relation is presumably driven by managers' motivation to alleviate volatility in their shares by disclosing more information. Among the variables that we study in Table 3, we find that the coefficients with the largest economic magnitudes, in decreasing order, are firm size, Seeking Alpha coverage, return volatility, sell recommendation percentage, institutional ownership, and retail turnover percentage.

What type of questions are managers more likely to answer? In order to shed light on this question, we switch to a forum-level analysis and study which questions are answered among all questions posted on the Say Tech platform. Table 4 reports the estimation results of this analysis. The results in Model 1 are based on estimations with forum fixed effects and without any control variables. The intercept in this model reveals that on average 1.1% of all posted questions are answered within the Say Tech forum.

In Models 2 and 3, we include the number of users who upvoted and the shares represented by upvotes, respectively. These two variables are highly correlated. We, therefore, do not include these variables in the same model. The estimation results suggest a positive relation between upvotes and the likelihood of receiving an answer from managers. Specifically, in Model 2, the coefficient on *Number of users who upvoted* equals 0.027 (p -value < 0.01) and in Model 3 the coefficient on *Shares represented by upvotes* equals 0.006 (p -value < 0.01). These two coefficient estimates imply that a 10% increase in the number of users who upvoted and shares represented by upvotes, respectively, correspond to 27 and 6 basis point

increases in the probability of the question being answered. In Model 4, we include five question characteristics and find that questions with more litigious words are less likely to be answered by managers. Other question characteristics (e.g., question length and tone), however, do not appear to be associated with the likelihood of a question being answered.

4.2 Retail trading activity during the question solicitation period

Next, we study whether the presence of an active forum on Say Tech spurs more trading among retail investors. Table 5 presents the estimation results of the retail trading model. The dependent variable in the first model equals the natural logarithm of the number of retail trades. The estimation results, accounting for firm and time specific patterns in retail trade activity (using Firm \times Relative Day (EA) FE), report that the estimated coefficient on *Active Say Tech forum* equals 0.356 (p -value < 0.05) and indicates an economically meaningful increase in retail trading during days when the Say Tech platform is open to investors who would like to post questions.

In the following two models, we regress the natural logarithm of the number of buys and sells on the same set of independent variables and fixed effects. We find that the number of trades identified as buys and sells both exhibit an increase during days when the Say Tech platform is active. This finding is supported by the coefficient estimates on the *Active Say Tech forum* variable, which equal 0.254 (p -value < 0.1) and 0.249 (p -value < 0.1) for the “Buys” and “Sells” models, respectively.

In the final three models of Table 5 we study retail turnover. Using retail turnover rather than the number of trades yields evidence concerning the size of the retail trades. However, we find that none of the coefficients on the *Active Say Tech forum* are statistically distinguishable from zero. These results suggest that while Say Tech spurs greater number of retail investors to trade, the collective effect of their trades is not detectable in a model that investigate retail turnover, which is a measure based on trade size (rather than the number of trades).

4.3 Earnings call dynamics after Say Tech adoption

How do companies incorporate Say Tech into their overall disclosure strategy? Table 6 sheds light on this question by studying how companies change their earnings call policies when they participate in Say Tech. In the first model, we study managers' decision to read and answer question from the Say Tech platform during their earnings calls. Say Tech provides the technology for managers to answer questions directly within the forum. Answering Say Tech questions during earnings calls, therefore, is a choice that managers make. When we regress managers' decision to discuss Say Tech questions during earnings calls on *Say Tech participation* and firm fixed effects, we find that the coefficient on *Say Tech participation* equals 0.934 (p -value < 0.01), implying that the probability of discussing questions from Say Tech during earnings calls is 93.4% higher during quarters when companies participate in Say Tech. These results suggests that an overwhelming proportion of companies that participate in Say Tech, read and answer questions from the online platform during their earnings calls.

In Table 6 Model 2, we study the number of questions that managers answer from the Say Tech platform during their earnings calls. Here, the coefficient on *Say Tech participation* equals 4.885 (p -value < 0.01), indicating that managers, on average, answer nearly five questions from the Say Tech platform during their earnings calls. As sensitivity analysis, we repeat this estimation using Poisson regression without firm fixed effects. We, similarly, find a positive relation between *Say Tech participation* and the number of Say Tech questions discussed.

Next, we investigate how participation in Say Tech appears to affect analysts' participation in earnings calls. One possibility is that managers who choose to answer Say Tech questions during their earnings calls lengthen the duration of their earnings calls. In that case, we would expect to find no discernible effect of Say Tech on analysts' participation during earnings calls. An alternative scenario is that managers, having spent time answering

Say Tech questions, take fewer questions from analysts to economize on the amount of time that they invest in conducting the earnings call.

Estimation results reported in Table 7 provide empirical evidence that is helpful to discern what disclosure strategy managers follow. In the first model reported in this table, we regress the number of external participants who participated during the earnings call on the *Say Tech participation* indicator variable, analyst following, firm size, and firm fixed effects. The coefficient on *Say Tech participation* equals -1.05 (p -value < 0.05), suggesting that managers, on average, take questions from one fewer analyst when they participate in the Say Tech platform.

Table 7 Models 2 and 3 study the number of questions and the length of questions that analysts ask during earnings calls. The coefficient on *Say Tech participation* in Models 2 and 3, respectively, equal -3.228 (p -value < 0.05) and -180.075 (p -value < 0.05). These parameter estimates indicate that companies that participate in Say Tech begin to take approximately three fewer questions from analysts, thereby resulting in 180 fewer words spoken by analysts to pose questions during earnings calls. These results are consistent with managers leaving some analyst questions unanswered during the call in an effort to prioritize retail investors' questions and answer them. Finally, in Model 4 we find no discernible change in the tone of analysts' questions after firms begin to participate in Say Tech. The lack of a change in question tone suggests that analysts do not react to Say Tech participation by asking easier questions to encourage managers to allow them to ask questions or alternatively asking their most pressing questions, which may be more negative. Overall, our results refute the hypothesis that managers use Say Tech to avoid difficult questions from analysts.

It is possible that the findings in Table 7 are driven by macroeconomic or market conditions during the period when companies began to adopt the use of Say Tech in their disclosure framework. In order to rule out this alternative explanation, we identify up to three control firms for each Say Tech firm (using propensity score matching) and repeat our analysis using a difference-in-differences estimation approach. Table 8 presents the results of this analysis

and reports results that corroborate our inferences from Table 7. Specifically, we find that the coefficient on $Treated \times Post$ equals -1.582 (p -value < 0.05) in Model 1, implying that Say Tech firms experience a reduction in the number of analysts asking questions that is nearly two fewer than control firms that did not participate in Say Tech. Similarly, the coefficients on $Treated \times Post$ in Models 2 and 3, respectively, equal -4.063 (p -value < 0.1) and -223.22 (p -value < 0.1). The two coefficients indicate that Say Tech firms experience four fewer analyst questions that are collectively 223 words shorter in length after they begin participating in Say Tech relative to control firms, which continue to not participate in Say Tech. Finally, the coefficient on $Treated \times Post$ in Model 4, similar to Model 4 in Table 7, is statistically indistinguishable from zero, yielding no indication of managers prioritizing analysts who are more favorably disposed.

4.4 Comparative analysis of analyst and Say Tech questions

We next study how the linguistic features of retail investors' questions (from Say Tech) compare with analysts' questions. Table 9 Panels A and B, respectively, present the estimation results of the analyses that investigate measures of quantity and quality. In Panel A, Model 1, we find that the coefficient on $Retail\ question$ equals -1.053 (p -value < 0.01) when the dependent variable is the number of sentences in the question. This estimate indicates that questions read from Say Tech are on average one sentence shorter than analysts' questions. Further, in Model 2, we find that the coefficient on $Retail\ question$ equals -25.183 (p -value < 0.01), indicating that questions from Say Tech, on average, are 25 words shorter. The shorter length of Say Tech questions is consistent with written communication typically being more concise than verbal communication. Retail investors who seek to acquire information from managers through Say Tech, presumably write and edit their questions to ensure that they are clear and succinct. In contrast, analysts, when asking questions, generally start by making polite remarks and then move on to ask their questions. Further, analysts often provide context to their questions before they ask them and thereby may be using more words to

communicate their questions.

In Panel B of Table 9, we study how measures of question quality (e.g., financial words, complexity) differ between retail investors' and analysts' questions. In Models 1 and 2, we find that the coefficients on *Retail question*, respectively, equal 0.316 (p -value < 0.01) and -0.467 (p -value < 0.01) when the dependent variables are the number of financial words and numbers. These results suggest that retail investors' questions are more closely related to financial reporting issues and contain fewer numbers relative to analysts' questions. We, additionally, find that retail investors' questions demand more forward-looking information, as evidenced by the coefficient on *Retail question* in Model 3, which equals 0.074 (p -value < 0.01). In contrast, in Model 4, the coefficient on *Retail question* equals -0.065 (p -value < 0.01), suggesting that retail investors seek less risk-related information from managers than analysts do. Further, when the dependent variable equals question tone in Model 5, we find that the coefficient on *Retail question* equals -0.365 (p -value < 0.01), implying that retail investors' questions are significantly more negative in tone. We attribute this difference to retail investors following a more direct approach in Say Tech to ask questions while analysts exert effort to frame their questions in a more positive light.

In the following two models of Table 9 Panel B, we study question complexity and subjectivity. We find that the coefficient on *Retail question* is estimated to be statistically indistinguishable from zero in the Complexity model and -0.081 (p -value < 0.01) in the Subjectivity model. These estimates reveal that retail investors' questions are equally sophisticated as that of analysts and are significantly more objective. These inferences support the conclusion that retail investors are able to formulate questions that are comparable to analysts in terms of rigor and are more objective, possibly due to the lack of pleasantries. In the final model of Table 9 Panel B, we study the number of question marks contained in dialogues as a measure of information acquisition effort. Based on this analysis we document no difference among questions from Say Tech and analysts in terms of the extent of the information demand that they exert on managers.

We next study how managers' answers to questions from retail investors compare with those from analysts. Here, we follow an approach that is similar to our analysis of questions and study measures of quantity and quality. In Panel A, we find that managers' responses to retail investor questions are lengthier. Specifically, the coefficients on *Retail question* equal 1.263 (p -value < 0.01), and 26.621 (p -value < 0.01), respectively, when the dependent variables are the number of sentences and words. These estimates imply that managers' responses are, on average, 1.27 sentences longer and contain 26.6 more words. In Panel B, Models 1-4, we find that the coefficients on *Retail question* equal 0.425 (p -value < 0.05), 0.333 (p -value < 0.05), 0.033 (p -value < 0.01), and 0.015 (p -value < 0.05) when the dependent variables are number of financial words, number of numbers, intensity of forward-looking and risk-related information, respectively. These coefficient estimates, collectively, support the interpretation that managers responses to retail investor questions are more informative than their responses to analysts' questions. Specifically, we find that managers' responses contain significantly more financial words and numbers and have a higher intensity of forward-looking and risk-related information.

In Model 5, we find that managers' responses to retail investor questions are more positive in tone than their answers to analysts' questions. This finding is puzzling given that retail investors' questions are more negative in tone than analysts' questions (Table 9, Panel A). It is possible that managers having had more time to prepare for retail investors' questions are able to communicate their responses in a more positive manner. Conversely, when speaking with analysts during earnings calls, managers are typically unaware of the questions ahead of time and often provide a spontaneous response, thereby limiting their ability to explain their thoughts in a more positive light.

Managers responses to Say Tech questions, consistent with conveying more financial, quantitative, forward-looking, and risk-related information are also more complex. This finding is supported by the coefficient on *Retail question* in Model 6, equalling 1.312 (p -value < 0.01). Further, in Model 7, we find that the coefficient on *Retail question* is not

statistically distinguishable from zero, implying that managers’ responses to questions from retail investors and analysts are not distinguishable in terms of subjectivity. Finally, consistent with managers having more time to prepare for Say Tech questions, we find that their responses are more scripted. The coefficient on *Retail question*, in Model 8, is estimated to be 0.08 (p -value < 0.01), implying a higher level of scriptedness for managers’ answers to Say Tech questions relative to their responses to analysts’ questions. This finding supports the explanation that managers develop their answers to retail investor questions from Say Tech ahead of time. Although the earnings calls are generally organized in an interactive manner where questions from Say Tech are read by one company representative and answered by another representative in a spontaneous manner, our evidence suggests that managers in fact do prepare to answer these questions in advance.

In conclusion, our empirical results support the view that retail investors ask thoughtful and carefully developed questions that are effective in eliciting information from managers during earnings calls. Say Tech’s upvoting feature, which “crowd-ranks” questions, is likely an important contributing factor to the effectiveness of the retail questions answered during calls. Finally, an additional important implication of these findings is that they refute the view that managers are systematically choosing “soft ball” questions from the pool of retail questions available on Say Tech.

5 Conclusions

Historically, management interactions with market participants at earnings calls, investor calls, and other venues have excluded retail investors, raising questions about the congruence of these interactions with the SEC’s goal that all investors have equal access to information (Solomon and Soltes, 2015). We suggest that a confluence of factors — increased retail investor stock market participation, increased retail investor sophistication, and increased ease of discerning retail investor information demands — leads to the adoption of more

inclusive policies. We present evidence that companies with a larger and more sophisticated retail shareholder base solicit retail investor questions through a recently created online platform, Say Tech, and answer select retail questions during regular earnings calls at the expense of answering equity analyst questions. We find mixed evidence of managers taking advantage of the large pool of retail questions to manage their information environment. The tone of retail questions answered by management during the call is not more favorable than the tone of unanswered questions but the tone of management answers to retail questions is more favorable than the tone of management answers to analyst questions. Our findings contribute to the literature by advancing our knowledge of how companies interact with different groups of market participants.

Our study is not without limitations. First, we acknowledge that the sample of companies that change their policies for interactions with investors is perhaps too small to produce evidence indicative of a general disclosure trend. It remains to be seen whether the documented change in disclosure policies will spread to other companies.

Second, we do not examine the consequences of the documented change in policy. We rely on prior evidence that asking questions during earnings calls helps analysts issue more accurate forecasts ([Mayew, 2008](#); [Cohen et al., 2020](#)) to suggest that the consequences of a policy that substitutes analyst questions with retail questions are to enhance retail investor decision making and impede analyst decision making.

Finally, we acknowledge the possibility of firms increasing their interactions with analysts at other venues, in which case the public display of attention to retail investors masks a continued policy of giving preference to the needs of analysts and institutional investors over retail investors.

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Appendix A Excerpts from Earnings Call Transcripts

2019:Q4 Tesla Inc. Earnings Call, January 29th, 2020.

Questions and Answers

Martin Viecha, Tesla, Inc. - Senior Director for IR

Thank you. We are going to take the first questions from retail investors compiled by Say Technologies.

So the first retail investor question is, “since solar is required for all new home constructions in California, do you have any substantial orders for Solarglass Roofs from any of the large California homebuilders that you can share? What’s the 2020 target for the number of Solarglass Roof installations in California?”

Elon R. Musk, Tesla, Inc. - Founder, CEO & Director

Well, I think we do – we are seeing, mostly from a small base, exponential growth in demand and output for solar – for the Solarglass Roof. So it’s difficult to predict what the demand will be this year, except that the demand is very strong. And we are working also not just through Tesla Solar Roof but also through new homebuilders and through just the roofing industry in general, whether it’s in North America, on the order of 4 million new roofs per year. So we see a lot of interest.

And so it’s just a question of refining the installation process, getting lots of crews trained to do the installation. But over time, I would expect a significant percentage of new roofs to be something to use Solarglass in one form or another. It’s really going to be a choice of do you want a roof that is alive with power or dead without. And I think people will want a live roof that generates power and looks good and lasts a long time, and it’s the future we want.

So it will be a significant product, but because it is a new and quite revolutionary product and there’s a lot of challenges to overcome, but they will be overcome, and this will be a major product line of Tesla. And the Buffalo factory is doing great. So, yes.

Martin Viecha, Tesla, Inc. - Senior Director for IR

Thank you. And the second question from retail shareholders is, “will you release the Tesla ride-hailing network app before full autonomy and change the terms of Tesla Insurance to allow owners to be drivers on the network? If so, when will this happen? Might want to target California airports first. Also a good place to add Superchargers.”

Elon R. Musk, Tesla, Inc. - Founder, CEO & Director

Sorry, it sounds like more question than one.

Martin Viecha, Tesla, Inc. - Senior Director for IR

Yes, it's a bit of a bundle. Yes.

Elon R. Musk, Tesla, Inc. - Founder, CEO & Director

Well, I think it's – it probably will make sense to have the – to enable car sharing in advance of the kind of sort of driving robotaxi fleet because the car sharing can be done before Full Self-Driving is approved by regulators. So it's probably something that we would enable before the full sort of robotaxi fleet is enabled. And it sounds like there were some other questions bundled in there.

Martin Viecha, Tesla, Inc. - Senior Director for IR

Superchargers at airports.

Elon R. Musk, Tesla, Inc. - Founder, CEO & Director

Sure. Yes. Yes, probably, we'll have Superchargers in airports. We'll have Superchargers wherever we see that there is a need for Superchargers.

Zachary Kirkhorn, Tesla, Inc. - CFO

And then on the insurance part of the question, it is our intent to allow people to put their cars into ride-sharing or the FSD network using Tesla Insurance. That's not currently the case, but by the time that this is available, it's our intent to get that ready.

Questions and Answers

Irvin Sha, Robinhood Markets, Inc. - Head of IR & Capital Markets

So last week, we announced that we'll be using Say Technologies to enable all Robinhood shareholders to submit questions for our management team. As of yesterday, we had received over 1,300 questions from our shareholders. We'll start today's Q&A by answering the top questions by number of votes, although we'll pass over any questions that are already being addressed. After that, we'll turn to live questions from the analyst community.

First, will Hood pay out a dividend in the future?

Jason Warnick, Robinhood Markets, Inc. - CFO

I'll take that, Irv. Thanks for the question. At this point, we think the best use of our capital is deploying it in the business. We're very much in the growth stage. And so for now, we have no plans to issue any dividends.

Irvin Sha, Robinhood Markets, Inc. - Head of IR & Capital Markets

Great. Number two, is Robinhood getting a crypto wallet?

Vladimir Tenev, Robinhood Markets, Inc. - Co-Founder, President, CEO & Chairman of the Board

I'll be happy to field that question. And I know that there's been a ton of enthusiasm from the crypto community and the Dogecoin community, in particular, on getting access to wallets. And it's something that our teams are working on.

So let me tell you a little bit about sort of why this is difficult and challenging. So this year, clearly, Robinhood has had explosive growth in crypto during Q1 and Q2, and we've had to grow out the team. We made a lot of progress growing out the team and really hiring great talent on to crypto and scaling our systems to make sure that we can handle the increased load. And we're very proud of the work that the team has done.

Of course, offering crypto wallets and the ability to deposit and withdraw cryptocurrencies is tricky to do at scale. We want to make sure it's done correctly and properly, and we want to make sure that everything from a security and operations standpoint is as bullet-proof as possible because our top value is safety first, and we hold ourselves to a very high standard for that.

So I think as with all these things, we'll want to make sure it's right. But we have made a lot of progress in the crypto team and the platform, and we're excited to roll this out for our customers. And we definitely hear you, and it's a key priority for our teams at Robinhood as well.

Questions and Answers

Kevin Lewis, United States Steel Corporation - VP of IR and Corporate FP&A

Okay. Thank you, Dave. The global pandemic had a profound impact on how we engage with our key stakeholders over the last 2 years. At U.S. Steel, we've embraced distributed work to get closer to our customers and increase the productivity, satisfaction and retention of our employees. We've never been better connected as an organization, more deeply involved with our customers or more focused on finding new pools of talent to join our organization.

It is in that spirit, and to ensure we create new ways to engage with stockholders, that we have partnered with Say Technologies to directly receive questions from our investors for today's call. Using the Say Technologies platform, investors were able to submit and upvote questions over the past week.

We have seen strong support and engagement on the platform, and received over 50 pre-submitted questions. For this morning's call, we have selected 2 top questions to kick off our Q&A session. So Dave, Christie and Rich, I will get us started with our first question.

We received several investor questions about dividends and stock buybacks, including from Scott A., Jayesh P., Luis L. and Steven S. So Dave, can you get us started by sharing your thoughts on how we're thinking about our quarterly dividend, and any additional comments on stock buybacks?

David Boyd Burritt, United States Steel Corporation - President, CEO & Director

Sure, Kevin. And thanks, that's a great question. But let me just make one quick comment before we jump in.

I really appreciate the strong level of engagement we saw with this new Q&A platform, so I applaud you for looking for new ways to engage with stockholders. I think it's a really interesting tool, and we'll just see how it goes and get feedback from others as we move forward. So far, so good, and really good questions over the past week.

Now let's get back to the question on capital allocation. This is a really important topic, one we spend a lot of time thinking about. Investors trust us with their capital, and we want to reward everyone who has put their confidence in U.S. Steel. Obviously, the choices we make about dividends and buybacks are so important to long-term value creation.

You recall on the dividend, we planned – we reinstated the dividend of \$0.05, and we plan to maintain the \$0.05 per share quarterly dividend. But to be clear, this is something we will continue to evaluate, and it could be a future opportunity. This is the power of our Best for All strategy, and we continue to do this well. So with our stockholders and future increases to the dividends are something we will continue to consider.

What I think is most exciting is our progress on our stock buyback. Right now, we know the stock price is too low, and buybacks are the best way to return capital to stockholders. And good timing, I just received here an update that we completed our first \$300 million authorization and are beginning our \$500 million authorization now.

So as I mentioned in my remarks, we expect the pace of our buybacks to materially

increase in the second quarter. So Christie, do you have anything else you want to add to that?

David Boyd Burritt, United States Steel Corporation - President, CEO & Director

Well, thanks Dave. I think you gave a really good summary. But I would add a couple of points about how we got to where we are. In the last year, all of you have heard is how focused we've been on strengthening our balance sheet, and I think what we've done in the last year has truly been remarkable. As you know, we paid off more than \$3 billion dollars of debt.

We now have an industry-leading net debt to leverage ratio and it's at 0.2x leverage, net leverage, so we're very pleased with that. We also pushed out our debt maturities. We have 80% that are 2029 or later. We also have record cash and liquidity, and that gives us a lot of confidence as we execute these strategic investments.

I think your sentence that you said several times today, it really summarizes it. When we do well, our stockholders do well. I think that kind of says it.

Kevin Lewis, United States Steel Corporation - VP of IR and Corporate FP&A

Great. All right. Thank you Dave and thank you Christie. The second and final question from Say Technologies that we'll address here this morning is related to U.S. Steel's ability to benefit from the Biden administration's infrastructure bill. This was a question submitted both from Elizabeth and Mina.

So Dave, do you want to get us started with our opportunity — the opportunity provided by the infrastructure bill?

David Boyd Burritt, United States Steel Corporation - President, CEO & Director

Yes, Kevin. I think that's another really good question, and I'm not at all surprised it finds its way to the top of the list. I think what the question highlights is how critical U.S. steel is to our country. Quite literally, steel is the backbone of America. Our infrastructure, our supply chains and the products we all use daily to keep our families safe and make progress possible.

In many ways, we believe it's our patriotic duty to support our country, whether it's through infrastructure and climate change or against international bad actors. So, we strongly support bipartisan action to invest in American infrastructure. We support the need to develop partnerships and advance policy that is responsive to climate change and supports the transition of our steelmaking footprint towards a more sustainable future, to help deliver on our 2030 and 2050 sustainability goals.

We certainly support the administration's continued enforcement of trade policy against those countries not playing on a level playing field and damaging our essential industry. We're pretty passionate about this. And I guess I could spend a lot more time on this, but maybe I'll just pause here.

Figure 1. Say Tech Entry over time

This figure plots the number of new companies that began to participate in the Say Tech platform by calendar quarter.

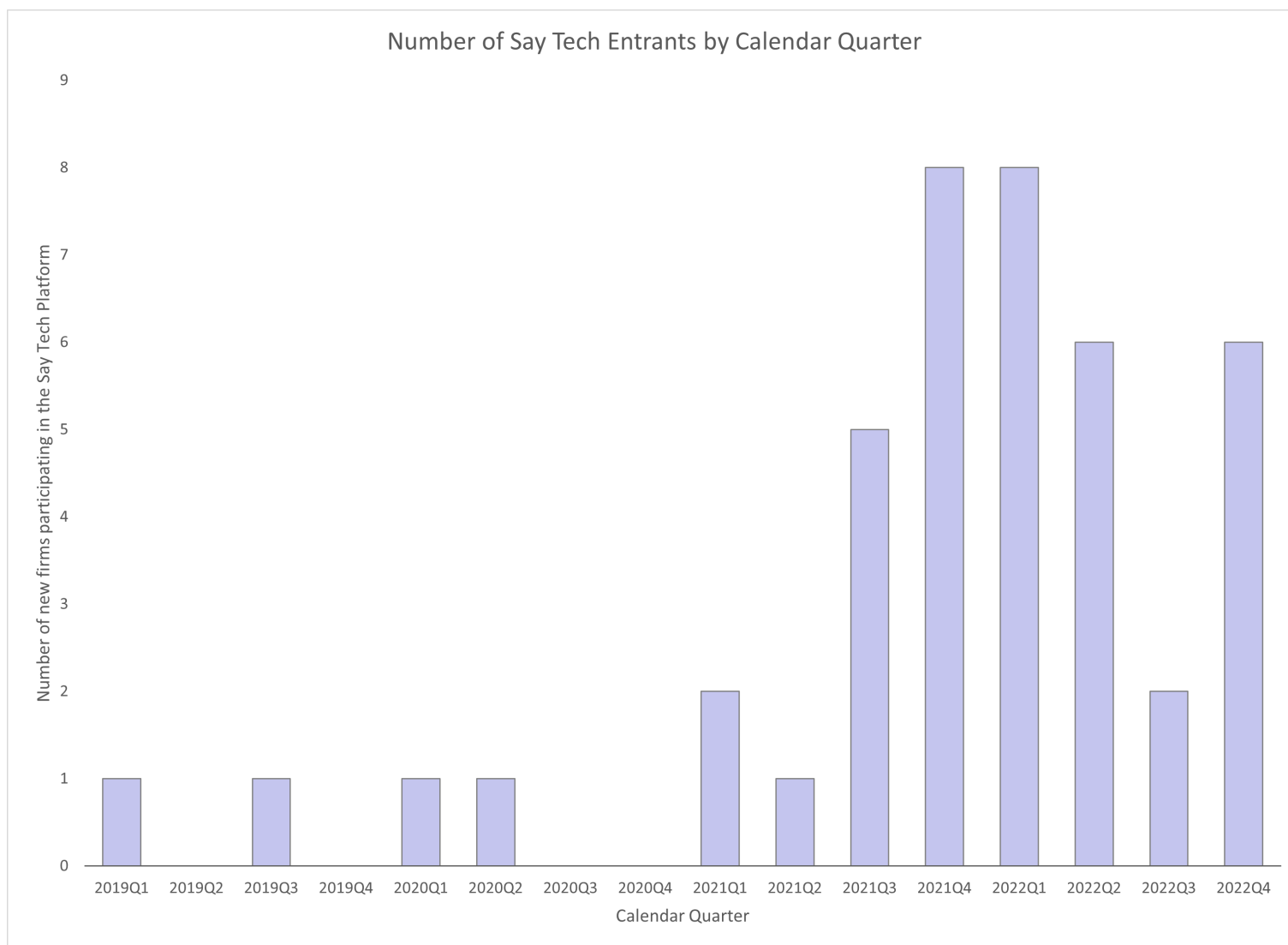


Table 1
Variable definitions

Variable	Definition
Say Tech Platform:	
<i>Say Tech participation</i>	An indicator variable that equals one for earnings calls during which the company solicited questions from investors through the Say Tech platform. For the determinants analysis, which relies on annual data, we use an alternative definition. Firm-years with at least one active Say Tech forum during the period from $t + 4$ to $t + 15$, where t represents the month of the fiscal-year-end-date, are identified as firm-years with Say Tech participation. [Say Tech and Compustat]
<i># of users who upvoted</i>	The number of Say Tech users who voted in support of a question by “upvoting” it. [Say Tech]
<i>Shares represented by upvotes</i>	The number of shares owned by Say Tech users who “upvoted” a question. <i>Note:</i> Say Tech uses an API connection with brokerage firms to collect data on its users’ ownership position in various companies. [Say Tech]
<i>Question length</i>	The number of words contained in the question posted on the Say Tech platform. [Say Tech]
<i>Question tone</i>	The number of positive words minus negative words (based on Loughran and McDonald, 2011) contained in the Say Tech question scaled by the sum of the positive and negative words. [Say Tech]
<i># of litigious words</i>	The number of litigious words (based on Loughran and McDonald, 2011) contained in the Say Tech question. [Say Tech]
<i># of financial words</i>	The number of financial-oriented words contained in the Say Tech question. Financial words are identified based on the dictionary provided in Matsumoto et al. (2011) . [Say Tech]
<i># of forward-looking words</i>	The number of forward-looking words contained in the Say Tech question. [Say Tech]
<i>Question complexity</i>	The Gunning Fog index value calculated based on the Say Tech question. [Say Tech]
Earnings call characteristics:	
Call-level	
<i>Participant count</i>	The number of external participants who asked at least one question during the earnings call. [Refinitiv Eikon]
<i>Question count</i>	The number of uninterrupted speech segments that external participants spoke during the earnings call. [Refinitiv Eikon]
<i>Question length</i>	The number of words spoken by external participants during the earnings call. [Refinitiv Eikon]
<i>Question tone</i>	The number of positive words minus negative words (based on Loughran and McDonald, 2011) spoken by external participants during the earnings call scaled by the sum of the positive and negative words. [Refinitiv Eikon]

Variable	Definition
Dialogue-level	
<i>Retail question</i>	An indicator variable that equals one for speech segments where managers read or responded to questions the Say Tech platform. [Say Tech and Refinitiv Eikon]
<i>Sentence count</i>	The number of sentences spoken during the dialogue (uninterrupted speech segment). [Refinitiv Eikon]
<i>Word count</i>	The number of words spoken. [Refinitiv Eikon]
<i>Number count</i>	The number of numbers spoken. [Refinitiv Eikon]
<i>Question mark count</i>	The number of question marks contained in the dialogue. [Refinitiv Eikon]
<i>Tone</i>	The number of positive words minus negative words spoken (based on Loughran and McDonald, 2011) during the dialogue scaled by the sum of the positive and negative words. [Refinitiv Eikon]
<i>Financial</i>	The number of financial-oriented words spoken during the dialogue. Financial words are identified based on the dictionary provided in Matsumoto et al. (2011) . [Refinitiv Eikon]
<i>Forward-looking</i>	The fraction of sentences that are identified as forward-looking based on the approach developed in Muslu et al. (2015) . [Refinitiv Eikon]
<i>Risk-related</i>	The fraction of sentences that are identified as containing risk-related information based on the approach developed in Kravet and Muslu (2013) . [Refinitiv Eikon]
<i>Subjectivity</i>	The subjectivity of the spoken dialogue, measured using the spacy-textblob package. [Refinitiv Eikon]
<i>Scriptedness</i>	The cosine-similarity of the manager’s response to the question and the manager’s speech during the presentation section of the call. [Refinitiv Eikon]
<i>Complexity</i>	The Gunning Fog index value calculated based on the dialogue. [Refinitiv Eikon]
Firm characteristics:	
<i>Book-to-market</i>	Book-to-market ratio calculated following the definition in Daniel and Titman (1997) . [Compustat]
<i>Breadth of ownership</i>	The natural logarithm of the number of shareholders who own shares in the company. [Compustat]
<i>Consumer facing</i>	An indicator variable that equals one for companies in industries that serve consumers. Fama and French (1997) 49 Industries numbered 2-10, 13, 23, 32, 35, 42, 43, and 45. [Compustat]
<i>IBES Coverage</i>	The natural logarithm of the number of analysts who issued an earnings forecast during the most recent fiscal year. [IBES]
<i>Inst. ownership</i>	The percentage of shares held by institutional investors. [Thomson Financial]
<i>Media coverage</i>	The natural logarithm of the number of news articles published in the media during the most recent fiscal year. Only full articles and news flashes with a relevance score above 75 are included. [RavenPack]
<i>Profitability</i>	Earnings before interest, tax and depreciation scaled by total assets. [Compustat]

Variable	Definition
<i>SA coverage</i>	The natural logarithm of the number of distinct contributors who published an analysis article in the Seeking Alpha website during the most recent fiscal year. [Seeking Alpha]
<i>Size</i>	The natural logarithm of the market capitalization of the company. Market capitalization is measured as the number of shares outstanding times price at the end of the fiscal year. [Compustat]
Security characteristics:	
<i>Penny Stock</i>	An indicator variable that equals for companies that have shares with prices less than \$1 as of the most recent fiscal year end date. [Compustat]
<i>Retail turnover %</i>	Total number of shares traded by retail investors during the fiscal year scaled by the shares outstanding at the end of the fiscal year. Retail trades and buyer initiated trades are identified following the methodology developed by Boehmer et al. (2021) . [TAQ and Compustat]
<i>Return</i>	Total compounded monthly returns for the fiscal year. [Compustat and CRSP]
<i>Turnover</i>	Total number of shares traded during the fiscal year scaled by the number of shares outstanding. [Compustat and CRSP]
<i>Volatility</i>	Standard deviation of daily returns during the fiscal year. [Compustat and CRSP]
Confounding events:	
<i>10-K or Q</i>	An indicator variable that equals one on days when the company filed a 10-K or 10-Q and zero otherwise. [SEC Edgar]
<i>8-K</i>	An indicator variable that equals one on days when the company filed a 8-K and zero otherwise. [SEC Edgar]
<i>Guidance</i>	An indicator variable that equals one on days when the company issued a management forecast and zero otherwise. [IBES]
<i>Forecast</i>	An indicator variable that equals one on days when one or more analysts issued a new forecast (e.g., earnings, sales, cash-flow) and zero otherwise. [IBES]
<i>Recommendation</i>	An indicator variable that equals one on days when one or more analysts issued a new recommendation and zero otherwise. [IBES]

Table 2

Descriptive statistics

This table reports the descriptive statistics for the sample used to estimate the determinants analysis. The sample constitutes the full CRSP-Compustat universe combined with data from I/B/E/S, Raven Pack, Seeking Alpha, and TAQ. Each row reports summary statistics (e.g., mean, median) for the variables used in the determinants analysis. All continuous variables, with the exception of those with natural logarithm transformations, are winsorized at the bottom and top one percent. Table 1 provides detailed variable definitions.

	Mean	Median	Std. Dev.	1st Quartile	3rd Quartile
Say Tech participation	0.003	0.000	0.051	0.000	0.000
Institutional ownership	0.612	0.697	0.317	0.346	0.878
Breadth of ownership	0.742	0.160	1.217	0.032	0.915
IBES coverage	1.577	1.609	0.985	0.693	2.303
Sell recom. percentage	0.032	0.000	0.093	0.000	0.000
SA coverage	0.971	0.693	0.892	0.000	1.609
Media coverage	3.808	4.007	1.431	3.401	4.564
Turnover	3.241	1.764	5.746	0.970	3.091
Retail turnover percentage	0.387	0.353	0.119	0.301	0.454
Size	6.732	6.741	2.221	5.148	8.238
Book-to-Market	0.524	0.417	0.575	0.180	0.766
Profitability	-0.040	0.050	0.322	-0.044	0.120
Consumer facing	0.445	0.000	0.497	0.000	1.000
Penny Stock	0.040	0.000	0.195	0.000	0.000
Volatility	0.036	0.030	0.024	0.019	0.045
Return	0.133	0.041	0.661	-0.226	0.340

Table 3

Determinants analysis

This table reports the estimation results of the determinants model, which aims to identify characteristics that contribute to managers' decision to participate in the Say Tech platform. The dependent variable, Say Tech Participation, equals one for firm-years that correspond to at least one participation in the Say Tech platform during the months $t + 4$ to $t + 15$, where t represents the month of the fiscal-year-end date. The first column for each model (labeled β/t) reports the coefficient and t -statistics in parentheses and the second column reports standardized coefficients (labeled Std. β). The standardized coefficients represent the percentage of standard deviation change in the dependent variable that is associated with a one-standard-deviation change in the x variable. The standard errors are clustered by firm and all estimations are performed with fiscal year fixed effects. All continuous variables (except for logged variables) are winsorized at the bottom and top percentile by fiscal year. The symbols, *, **, *** denote statistical significance at ten-, five-, and one-percent levels, respectively.

Dependent variable =	Say Tech Participation					
	(1)		(2)		(3)	
	β / t	Std. β	β / t	Std. β	β / t	Std. β
<i>Ownership characteristics:</i>						
Institutional ownership	-0.007** (-2.15)	-4.34	-0.009** (-2.32)	-5.31	-0.006* (-1.87)	-3.68
Breadth of ownership	-0.001 (-1.54)	-2.41	-0.001* (-1.75)	-3.26	-0.001* (-1.68)	-3.19
<i>Coverage characteristics:</i>						
IBES coverage	-0.000 (-0.54)	-0.88	-0.002 (-1.22)	-2.92	-0.002 (-1.55)	-3.94
Sell recom. percentage	0.026** (2.13)	4.64	0.026** (2.15)	4.72	0.025** (2.03)	4.51
SA coverage	0.005*** (2.99)	8.59	0.004*** (3.07)	7.68	0.003** (2.57)	5.49
Media coverage	0.000 (0.17)	0.41	-0.000 (-0.04)	-0.08	-0.000 (-0.18)	-0.41
<i>Firm characteristics:</i>						
Size			0.001* (1.89)	5.42	0.003*** (2.78)	11.08
Book-to-Market			0.000 (0.53)	0.41	0.001 (1.61)	1.36
Profitability			-0.003** (-2.15)	-1.86	-0.000 (-0.20)	-0.19
Consumer facing			-0.001 (-1.19)	-1.29	-0.001 (-0.66)	-0.74
<i>Security characteristics:</i>						
Turnover					0.000	3.64

Continued on the next page

Dependent variable =	Say Tech Participation					
	(1)		(2)		(3)	
	β / t	Std. β	β / t	Std. β	β / t	Std. β
Retail turnover percentage					(1.63) 0.013*	3.11
Penny Stock					(1.85) -0.000	-0.06
Volatility					(-0.05) 0.102*	4.78
Return					(1.93) 0.001	0.69
Intercept	0.002	-0.00	-0.002	-0.00	(0.39) -0.020**	-0.00
Year FE	(0.90) Yes		(-0.45) Yes		(-2.42) Yes	
Observations	17,488		17,488		17,488	
Adjusted R-Square	0.010		0.011		0.015	
Within R-Square	0.009		0.009		0.014	

Table 4

Determinants of which questions are answered

This table presents the estimation results of the empirical model that studies managers' decision to answer questions within the Say Tech platform. The dependent variable represents an indicator variable that equals one for Say Tech questions that managers answer and zero otherwise. The unit of observation in this analysis is at the firm-forum-question level (i.e., each question represents a separate observation). Table 1 provides detailed definitions of the variables employed in the estimation. The standard errors are clustered by firm and all estimations are performed with forum fixed effects. All continuous variables are winsorized at the bottom and top percentile by fiscal year. The symbols, *, **, *** denote statistical significance at ten-, five-, and one-percent levels, respectively.

Dependent variable =	Question answered			
	(1)	(2)	(3)	(4)
<i>Forum data:</i>				
Number of users who upvoted		0.027*** (11.14)		0.027*** (11.14)
Shares represented by upvotes			0.006*** (10.30)	
<i>Question characteristics:</i>				
Question length				0.001 (1.31)
Question tone				0.000 (0.38)
Number of litigious words				-0.004** (-2.00)
Number of financial words				0.001 (0.93)
Number of forward-looking words				-0.001 (-1.31)
Question complexity				-0.000 (-0.22)
Intercept	0.011*** (5.09e+16)	-0.027*** (-7.88)	-0.003** (-2.22)	-0.030*** (-7.09)
Forum FE	Yes	Yes	Yes	Yes
Observations	60,744	60,744	60,744	60,744
Adjusted R-Square	0.157	0.232	0.190	0.232
Within R-Square	0.000	0.090	0.040	0.090

Table 5

Active Say Tech forum and retail trading

This table presents the estimation results of the model investigating the relation between retail trading activity and Say Tech forum status (i.e., active/inactive). The dependent variables in the first three models equal the natural logarithm of the number of retail trades, buys, and sells, respectively. In the second set of models, the dependent variables equal turnover calculated based on retail buys, sells, and buys & sells, respectively. We employ [Boehmer et al.'s \(2021\)](#) methodology to identify retail trades. The unit of observation in all estimations is at the firm-day level (i.e., each observation represents one trading day). The independent variables represent a set of indicator variables that equal one when there is a Say Tech forum that is active and when particular events such as an SEC filing, or guidance issuance took place during the day and zero otherwise. The standard errors are clustered by firm and all estimations are performed with Firm \times Relative Day (EA) fixed effects. The symbols, *, **, *** denote statistical significance at ten-, five-, and one-percent levels, respectively.

Dependent variable =	Natural log of the number of retail:			Retail turnover based on:		
	Trades	Buys	Sells	Buys	Sells	Buys & Sells
Active Say Tech forum	0.356** (2.45)	0.254* (1.86)	0.249* (1.80)	-0.000 (-0.87)	-0.000 (-0.81)	-0.002 (-1.00)
10-K or Q	0.041 (0.58)	0.033 (0.42)	0.090 (1.07)	-0.001 (-0.68)	-0.001 (-0.80)	-0.002 (-0.65)
8-K	0.188*** (4.40)	0.230*** (4.70)	0.194*** (4.61)	0.002** (2.66)	0.002*** (2.78)	0.010*** (3.07)
Guidance	-0.008 (-0.06)	-0.004 (-0.03)	-0.035 (-0.28)	0.000 (0.37)	0.000 (0.24)	0.001 (0.13)
Forecast	0.001 (0.01)	0.020 (0.13)	-0.036 (-0.22)	-0.000 (-0.23)	-0.000 (-0.32)	-0.001 (-0.29)
Recommendation	0.245*** (3.47)	0.260*** (3.21)	0.286*** (3.42)	0.001** (2.39)	0.001** (2.39)	0.007** (2.48)
Intercept	8.751*** (197.72)	6.775*** (151.49)	6.601*** (141.36)	0.004*** (38.69)	0.004*** (36.25)	0.021*** (37.33)
Firm \times Relative Day (EA) FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14,027	14,027	14,027	14,027	14,027	14,027
Adjusted R-Square	0.785	0.821	0.813	0.324	0.324	0.330
Within R-Square	0.008	0.006	0.006	0.003	0.003	0.004

Table 6

Say Tech participation and conference calls

This table reports the estimation results of the empirical model studying the change in managers' earnings call policies after they begin to participate in Say Tech. The dependent variable, in Model 1, is an indicator variable that equals one when the company reads and answers at least one question from the Say Tech platform during the earnings call. The dependent variable, in Model 2, equals the number of questions read and answered from the Say Tech platform during the earnings call. Estimations, in both panels, are performed using firm fixed effects and t -statistics based on standard errors clustered by firm are reported in parentheses. The symbols, *, **, *** denote statistical significance at ten-, five-, and one-percent levels, respectively.

Dependent variable =	Disc. based on Say Tech	# of questions from Say Tech
Say Tech participation	0.934*** (24.28)	4.885*** (5.70)
Intercept	-0.012 (-0.65)	-0.103 (-0.26)
Firm FE	Yes	Yes
Observations	237	237
Adjusted R-Square	0.875	0.677
Within R-Square	0.820	0.491

Table 7

Analysts' participation during earnings calls

This table presents the estimation results of the model that analyzes the relation between Say Tech participation and analysts' engagement in earnings calls. The dependent variables in Models 1-4, respectively, equal the number of analysts who asked questions, the total number of questions that they asked as a group, the aggregated length of their questions, and the overall tone of their questions. The independent variables consist of an indicator variable that equals one for firms that opened a forum on Say Tech before the earnings announcement (*Say Tech participation*), the natural logarithm of the number of analysts issuing earnings forecasts (*IBES coverage*), and the firm's market capitalization (*Size*). The standard errors are clustered by firm and all estimations are performed with firm fixed effects. All continuous variables are winsorized at the bottom and top percentile by fiscal year. The symbols, *, **, *** denote statistical significance at ten-, five-, and one-percent levels, respectively.

Panel A: Sample breakdown

	Call count
No Say Tech	127
Say Tech	110
Total	237

Panel B: Descriptive statistics

	Mean	Median	Std. Dev.	1st Quartile	3rd Quartile
Participant count	5.173	5.000	3.035	3.000	7.000
Question count	12.257	12.000	7.267	8.000	16.000
Question length	804.565	805.000	444.103	546.000	1070.000
Question tone	0.444	0.458	0.217	0.344	0.576
Say Tech participation	0.464	0.000	0.500	0.000	1.000
IBES coverage	1.945	2.079	0.849	1.386	2.398
Size	8.052	8.124	2.540	6.241	9.160

Panel C: Estimation results

Dependent variable =	Participant count	Question count	Question length	Question tone
Say Tech participation	-1.050** (-2.61)	-3.228** (-2.56)	-180.075** (-2.37)	-0.019 (-0.57)
IBES coverage	2.033*** (2.98)	6.336** (2.18)	308.971* (1.80)	0.042 (0.75)
Size	-0.582 (-1.56)	-1.594 (-1.49)	-89.095 (-1.40)	0.029 (0.90)
Intercept	6.386** (2.05)	14.201 (1.32)	1002.951 (1.69)	0.137 (0.52)
Firm FE	Yes	Yes	Yes	Yes
Observations	237	237	237	237
Adjusted R-Square	0.665	0.341	0.462	0.300
Within R-Square	0.155	0.135	0.118	0.004

Table 8

Analysts' participation during earnings calls - Difference-in-Differences approach

This table presents the results of the difference-in-differences model that analyzes the relation between analysts' participation during earnings calls and firms' decision to use Say Tech. The dependent variables in Models 1-4, respectively, equal the number of analysts who asked questions, the total number of questions that they asked as a group, the aggregated length of their questions, and the overall tone of their questions. *Treated* equals one for firms that used Say Tech at one point during the sample period and zero otherwise. Each treated firm is matched with up to three control firms based on PSM using the nearest neighbor method. *Post* equals one for the treated and control firms during the calendar quarter in which the treated firm used Say Tech and zero otherwise. The standard errors are clustered by firm and all estimations are performed with firm and year-quarter fixed effects. All continuous variables are winsorized at the bottom and top percentile by fiscal year. The symbols, *, **, *** denote statistical significance at ten-, five-, and one-percent levels, respectively.

Panel A: Sample breakdown

	Call count
No Say Tech	644
Say Tech	110
Total	754

Panel B: Descriptive statistics

	Mean	Median	Std. Dev.	1st Quartile	3rd Quartile
Participant count	6.178	5.500	4.308	3.000	9.000
Question count	14.151	13.000	9.134	8.000	20.000
Question length	954.950	936.500	565.713	568.000	1346.000
Question tone	0.446	0.460	0.223	0.333	0.583
Say Tech participation	0.146	0.000	0.353	0.000	0.000
IBES coverage	2.106	2.197	1.031	1.386	2.890
Size	8.525	8.392	2.942	6.024	10.939

Panel C: Estimation results

Dependent variable =	Participant count	Question count	Question length	Question tone
Post	0.411 (1.29)	0.757 (0.95)	30.224 (0.68)	-0.007 (-0.31)
Treated × Post	-1.582** (-2.19)	-4.063* (-1.97)	-223.220* (-1.83)	0.006 (0.16)
Control variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes
Observations	754	754	754	754
Adjusted R-Square	0.837	0.683	0.699	0.399
Within R-Square	0.096	0.060	0.069	0.006

Table 9

Textual analysis of questions asked during earnings calls

This table presents the results of the textual analysis of managers' answers to questions during earnings calls. In Panel A, the dependent variables equal the number of sentences and words that managers spoke to answer questions. In Panel B, the dependent variables equal the number of financial words (based on [Matsumoto et al., 2011](#)) and numbers analysts used to ask questions, the proportion of sentences that contain forward-looking ([Muslu et al., 2015](#)) and risk-related information ([Kravet and Muslu, 2013](#)), question tone, complexity, and subjectivity (using `spacytextblob`), and the number of question marks. *Retail question* equals one for Say Tech questions and zero otherwise. The standard errors are clustered by firm and all estimations are performed with earnings call fixed effects. All continuous variables are winsorized at the bottom and top percentile by fiscal year. The symbols, *, **, *** denote statistical significance at ten-, five-, and one-percent levels, respectively.

Panel A: Measures of quantity

Dependent variable =	Sentence count	Word count
Retail question	-1.053*** (-7.29)	-25.183*** (-8.61)
Intercept	3.799*** (208.30)	64.573*** (174.91)
Call FE	Yes	Yes
Observations	3,674	3,674
Adjusted R-Square	0.124	0.150
Within R-Square	0.017	0.032

Panel B: Measures of quality

Dep. variable =	Financial	Numeric	Forward-looking	Risk-related	Tone	Complexity	Subjectivity	Question marks
Retail question	0.316*** (2.60)	-0.467*** (-6.74)	0.074*** (6.08)	-0.065*** (-3.58)	-0.365*** (-6.43)	-0.275 (-0.90)	-0.081*** (-5.62)	-0.066 (-0.97)
Intercept	1.334*** (86.90)	0.889*** (101.53)	0.057*** (36.83)	0.197*** (85.99)	-0.026*** (-3.68)	9.818*** (253.28)	0.428*** (235.90)	1.538*** (180.25)
Call FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,674	3,674	3,674	3,674	3,674	3,674	3,674	3,674
Adjusted R-Square	0.057	0.081	0.057	0.013	0.059	0.023	0.034	0.046
Within R-Square	0.002	0.008	0.015	0.005	0.021	0.000	0.012	-0.000

Table 10

Textual analysis of managers' answers during earnings calls

This table presents the results of the textual analysis of managers' answers to questions during earnings calls. In Panel A, the dependent variables equal the number of sentences and words that managers spoke to answer questions. In Panel B, the dependent variables equal the number of financial words (based on [Matsumoto et al., 2011](#)) and numbers managers used to answer questions, the proportion of sentences that contain forward-looking ([Muslu et al., 2015](#)) and risk-related information ([Kravet and Muslu, 2013](#)), answer tone, complexity, and subjectivity (using `spacytextblob`), and [Lee's \(2016\)](#) measure of scriptedness. *Retail question* equals one for Say Tech questions and zero otherwise. The standard errors are clustered by firm and all estimations are performed with earnings call fixed effects. All continuous variables are winsorized at the bottom and top percentile by fiscal year. The symbols, *, **, *** denote statistical significance at ten-, five-, and one-percent levels, respectively.

Panel A: Measures of quantity

Dependent variable =	Sentence count	Word count
Retail question	1.263*** (3.25)	26.621*** (3.67)
Intercept	6.757*** (159.42)	122.246*** (154.54)
Call FE	Yes	Yes
Observations	6,238	6,238
Adjusted R-Square	0.153	0.162
Within R-Square	0.003	0.004

Panel B: Measures of quality

Dep. variable =	Financial	Numeric	Forward-looking	Risk-related	Tone	Complexity	Subjectivity	Scriptedness
Retail question	0.425** (2.52)	0.333** (2.59)	0.033*** (3.13)	0.015** (2.01)	0.159*** (5.19)	1.312*** (5.61)	0.018 (1.57)	0.080*** (8.16)
Intercept	1.729*** (93.93)	1.562*** (111.24)	0.095*** (82.19)	0.097*** (119.51)	0.206*** (61.77)	9.423*** (369.49)	0.410*** (324.15)	0.652*** (611.26)
Call FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,238	6,238	6,238	6,238	6,238	6,238	6,238	4,952
Adjusted R-Square	0.091	0.108	0.036	0.031	0.060	0.101	0.033	0.133
Within R-Square	0.002	0.001	0.003	0.000	0.004	0.008	0.000	0.014