Do Insurers Listen to Earnings Conference Calls? Evidence from the Corporate Bond Market

Abstract

We find that insurance companies in aggregate sell more of BBB$^-$-rated bonds if the tone of issuers' earnings conference calls is more negative. The conference call tone significantly predicts future default risks, which is a central concern for insurance companies. By creating a novel default-related dictionary, we provide direct evidence that insurance companies react to default-related information in the conference call tone. The selling from insurance companies triggered by more negative conference calls (in the past) could alleviate fire sales when the BBB$^-$-rated bonds become fallen-angles. Insurance trading of bonds based on the issuers' conference calls would gradually spillover to bonds issued by private industry peers.

Keywords: Corporate bonds, insurance companies, earnings conference calls, linguistic tone, default risks

JEL Classifications: G14, G22, M40, D83

1. Introduction

How information affects investor trading behavior and asset prices is an important research question that sheds light on market efficiency. A growing literature has expanded the information set from structured to unstructured data, such as the texts, and analyzed impacts of textual information on the equity market (Brockman, Cicon, Li, and Price (2017), Engelberg and Parsons (2011), Huang, Tan, and Wermers (2020), and Tetlock, Saar-Tsechansky, and Macskassy (2008)). It is, however, less known whether investors in the corporate bond market react to the information embedded in texts.

In this paper, we investigate whether insurance companies, one of the major institutions in the corporate bond market, react to the linguistic tone of earnings conference calls. Different from the equity market, the corporate bond market is very illiquid due to the over-the-counter (OTC) feature (Bao, Pan, and Wang (2011)). As insurance companies are the largest institutional investors of corporate bonds, their trading patterns are essential to the stability of the bond market. Fire sales by insurance companies due to bond downgrades lead to non-negligible fragility and price pressure (Ellul, Jotikasthira, and Lundblad (2011), and Nanda, Wu, and Zhou (2019)). Our focus is on BBB^--rated bonds, which are investment-level bonds but only one notch away from being downgraded to high-yield and may trigger fire-sales by insurance companies. Besides, earnings conference calls are important channels through which managers discuss and disseminate the latest financial and other information to investors and analysts.[1] There is ample evidence that earnings conference calls contain information orthogonal to that conveyed in corporate filings and press releases.[2]

With a comprehensive sample of daily corporate bond transactions by insurance companies from January 2002 to December 2021, we find that insurance companies sell more of BBB^--rated bonds when the tone of issuers' conference calls is more negative. We further demonstrate that insurance companies respond to the linguistic tone of conference calls because of the default-

[1] Compared to the static nature of formal firm documents and filings, the information environment for conference calls is more spontaneous and dynamic (Frankel, Jennings, and Lee (2022)). The interactive nature of the conference calls can lead to additional pertinent information about the firm (Blau, Delisle, and Price (2015)), while the muted market response to 10-K reports suggests that much of the information in the 10-K is redundant to previously released information and is thus less informative to investors (Li and Ramesh (2009)).

[2] For example, Bagnoli and Watts (2005), and Chapman and Steenburgh (2011) find that the level of accounting conservatism and intent of earnings management are revealed in earnings conference calls. Matsumoto, Pronks, and Roelofsen (2011) also find that both the presentation and discussion segments in conference calls have incremental information content over the accompanying press release, and the discussion periods are relatively more informative than presentation periods.

related information. The observation is consistent with the regulatory capital constraints on insurance companies of holding limited risky bonds implemented by the National Association of Insurance Commissioners (NAIC).

We analyze insurance trading of BBB$^-$-rated bond based on the issuer's conference call tone by running bond-day panel regressions with a set of control variables, bond and day fixed effects. We measure the qualitative information of conference calls with the net negative tone, defined as the overall sentiment measure in Hassan, Hollander, Lent, and Tahoun (2019) multiplied by -1. We find that insurance companies sell BBB$^-$-rated bonds more if they are issued by firms with more negative conference calls. A one-standard-deviation increase in the net negative tone of the issuers' conference calls is associated with a decrease of 3-basis-points in insurance net buy (calculated as the difference between insurance daily aggregate buy and aggregate sell) of BBB$^-$-rated bonds in five days following the call, equivalent to 4% of its standard deviation. The impact of conference call tone on insurance trading cumulates and remains significant until 40 days after. The effect of net negative conference call tone on bond insurance trading is robust to bond and stock controls and cannot be absorbed by tone measures of mandate firm reports like 10-Q, 10-K, and general firm news.[3] We also verify that insurance trading based on conference call tone is not driven by their reactions to bond rating changes.

Insurance companies are expected to care about default risks due to the capital constraints imposed by NAIC. We show corroborating evidence that the tone of earnings conference calls reflects incremental information of default risks. Specifically, in the next one year, bonds issued by firms with more negative conference calls are more likely to be downgraded and on negative watch, and the issuers have a higher expected default frequency (EDF). We take a step further to understand the specific information in the tone to which insurance companies respond. We construct a default-topic word dictionary from documents including textbooks and annual reports from credit rating companies and by manually selecting default-related words based on the word frequency and topic relevance. For each conference call transcript, we calculate a default-related tone following the method in Hassan et al. (2019). By separating the overall net negative tone into a default-related component and a residual term, we provide direct evidence that insurers trade on the default-related component of conference calls while ignoring the residual information. A one-

[3] Consistent with the muted effects of mandatory reports on stock markets (Li and Ramesh (2009)), we find that insurance companies do not significantly respond to text-based information in 10-K and 10-Q files.

standard-deviation increase in the default-related component (0.67) is associated with a decrease of nearly 9-basis-points in insurance net buy in 40 days after the call.

Our findings also depend on the cross-sectional heterogeneity among bonds and insurers. First, insurers' response to the conference call tone is stronger for bonds with higher bond illiquidity while weaker for those of issuers followed by fewer analysts. In other words, for bonds with higher (lower) levels of information asymmetry, the additional information is more (less) valuable for outside investors including insurers. Second, the effects of the conference call tone on insurers' trading are more pronounced among insurers with lower portfolio ratings and a higher proportion of BBB^{-}-rated bonds in their portfolios, insurers with higher leverage and larger size, and the property and casualty (P&C) insurers.

Given that insurers tend to sell bonds issued by firms with more negative conference calls, it is worthwhile to investigate the real impacts on the underlying corporate bond market. We show that the conference call tone reduces market frictions by alleviating fire sales due to downgrades to non-investment level (so called fallen-angle downgrades). Specifically, insurers' selling based on more negative calls (in the past) could mitigate the downward price pressure when the BBB^{-}-rated bonds become fallen-angles. Additionally, the response of insurance companies to the conference call tone would slowly spillover to their trading of bonds issued by private industry peers.

Our paper makes several contributions to the literature. First, we show that earnings conference calls are utilized by insurance companies on their investment of corporate bonds. The existing literature stresses investors' attention to conference calls in the equity market. For example, conference calls are accompanied with unusually large trading volume (Frankel, Johnson, and Skinner (1999)). In addition, Huang and Wermers (2024) study how institutional investors trade on conference call sentiment to facilitate price discovery in the equity market. To the best of our knowledge, our paper is the first to study how insurance companies react to the linguistic tone of conference calls in the corporate bond market.

Second, we identify the specific information, i.e., the tone related to default risks, in earnings conference calls that is valuable to insurance companies. Donovan, Jennings, Koharki, and Lee (2021) document that the qualitative information contained in earnings conference calls can explain variations in firms' credit risk. We extend their findings and show that the linguistic tone related to default risks matters to insurance companies.

Last but not the least, we examine the broader impact of insurance trading based on the conference call tone on the underlying bond market. Earnings conference calls utilized by insurance companies could help reduce the fragility caused by fire sales to the underlying market (Ellul, Jotikasthira, and Lundblad (2011)) through the alleviation of downward price pressure by trading on the information in past calls. In addition, few studies examine the spillover impacts of public firms on their peer private firms. Shroff, Verdi, and Yost (2017) and Badertscher, Shroff, and White (2013) discover evidence of spillovers from public firms to private industry peers in the context of firms' debt financing and investment efficiency, respectively. We add to the literature by documenting the spillover of insurance trading based on public firms' conference calls to bonds issued by private industry peers.

A related paper by Huang, Wermers, and Xue (2024) focuses on the corporate bond mutual funds' trading around corporate news by social media and finds these institutions tend to buy on negative news and provide liquidity to the other market participants. Our paper differs from theirs in three ways. First, we concentrate on earnings conference calls which directly reflect managers' emotional sentiments and their interactions with investors and financial analysts. Second, we examine the reactions from insurance companies who differ from mutual funds in regulatory constraints. Finally, we identify the default-related information in earnings conference calls which matters to insurance companies.

The rest of the paper is structured as follows. Section 2 describes our data and sample. Section 3 examines the relationship between the earnings conference call tone and insurance trading of corporate bonds. Section 4 investigates the specific information contained in the earnings conferences that are valuable to bond insurers, and conducts cross-sectional tests to better understand the channel. Section 5 studies the market impact of insurance response to the conference call tone. Section 6 concludes.

2. Data, Variables Construction, and Summary Statistics

2.1. Data and Sample

Our study combines data from several sources, and assembles a comprehensive bond-day panel from January 2002 to December 2021. Our primary linguistic tone measure of earnings conference

calls is based on the sentiment measure in Hassan et al. (2019).[4] Specifically, they construct an overall sentiment measure by analyzing the entire conference call transcript, including a beginning presentation by management, and a followed question-and-answer (Q&A) session with call participants. Thus, an earnings call transcript contains both voluntary disclosure information and interactions between the senior management and market participants. Specifically, the sentiment measure is the frequency of mentions of positive words deducting the frequency of mentions of negative words based on Loughran and McDonald (LM, 2011) sentiment dictionary, divided by the length of the transcript.[5] The sentiment of the conference call for firm j on day t is as follows:

$$Sentiment_{j,t} = \frac{\sum_{b=1}^{B_{j,t}} S(b)}{B_{j,t}}, \tag{1}$$

where $S(b)$ is an indicator function that assigns a value of +1 (-1) if the word b is associated with positive (negative) sentiment, and zero otherwise. We define the net negative tone (Neg_net) as the sentiment measure multiplied by -1. The higher the value, the more negative tone of earnings conference call. Following Hassan et al. (2019), we cap the tone measure at the 1st and 99th percentiles and standardize it to one-unit standard deviation and zero mean in the full sample.

We obtain corporate bond transaction data from the Enhanced Trade Reporting and Compliance Engine (TRACE) database. We follow the procedures in Dick-Nielsen (2014) to minimize data reporting errors by removing all transactions marked as cancellations, corrections, or reversals, as well as their matched original trades. Agency transactions that may raise concerns of double counting are also deleted. For intraday data, bond transactions that (i) are labeled as when-issued, locked-in, or have special sales conditions, (ii) are with more than 2-day settlement, or (iii) have a trading dollar volume smaller than $10,000 are eliminated.

Daily corporate bond trading of insurance companies is from Mergent's Fixed Income Securities Database (FISD). It also contains both bond issue- and issuer-specific information, such as coupon rate, interest payment frequency, issue date, maturity date, issue size, and bond rating. We focus on fixed-rate bonds and exclude bonds that are puttable, convertible, or perpetual. We

[4] The data has been widely used in recent studies, such as Ho, Kagkadis, and Wang (2024) on the equity option market and Gad et al. (2022) on credit markets.

[5] We thank the authors for providing the overall sentiment data online: https://www.firmlevelrisk.com/download. The method of summing-up across positive and negative sentiment words rather than simply conditioning on their presence to allows multiple positive words to outweigh the use of one negative word, and vice versa.

also exclude mortgage-backed, asset-backed, agency-backed and equity-linked securities, Yankees, Canadians, structured notes, issues denominated in foreign currency, and issues offered globally. Furthermore, following the existing literature, we exclude newly-issued or about-to-mature bonds (i.e., with age or time-to-maturity of less than six months), as their trading patterns are likely to be driven by mechanical factors. We also obtain firm-level equity information from CRSP and COMPUSTAT databases. After matching the bond trading data with the conference call tone, there are 2,406 unique BBB$^-$-rated bonds issued by 424 public firms, and the final sample contains 7,118 earnings calls.

2.2. Summary Statistics

Table 1 presents summary statistics for variables in our sample. Panel A (B) is based on bond-day (firm-day) observations.

[Insert Table 1 about here]

Our sample consists of bonds with BBB$^-$-rating. The bonds on average have a time-to-maturity of nearly 9 years, a time-since-issuance of nearly 6 years, and a coupon rate of nearly 6 percent. The average bond issuing size is about $374 million. These characteristics are comparable to the whole bond universe.

The key independent variable, the net negative tone measure of earnings conference calls, is relatively evenly distributed. The issuers on average are large firms with a high stock institutional ownership (79%) and are followed by nearly 13 financial analysts. The standardized unexpected earnings (SUE), defined as the net income of the quarter minus that of four quarters ago divided by the standard deviation of quarterly net income over the past four years, is more volatile of than the public firm universe with a standard deviation of about 24%.

3. The Effects of Conference Call Tone on the Insurance Trading

We aim to understand whether bond insurance companies react to the ample information in earnings conference calls. Unlike mandatory disclosures, the conference calls allow managers to release information with different tones. For example, managers may inflate good news (or mitigate bad news) when they read the prepared script during the beginning of the presentation. The subsequent unscripted discussion component provides an important opportunity for

management and analysts to express their opinions about firm recent performance and future potential in a spontaneous way, and creates an additional layer of information. Indeed, previous literature has shown that conference calls contain more information than mandatory disclosures (Frankel, Johnson, and Skinner (1999), Brown, Hillegeist, and Lo (2004), and Price et al. (2012)).

The insurance industry has experienced a technology revolution over the past decade. Emerging capabilities such as telematics, artificial intelligence, big data, aerial imaging, and claims automation have become more prevalent as insurers have doubled down on using technology for optimization of both cost and processes.[6] Text mining has been an important tool for insurer investments and partnerships. Therefore, it is reasonable to hypothesize that insurance companies listen to conference calls, analyze the transcript, and respond accordingly.

3.1. Baseline Results

We investigate the relationship between bond insurance trading and the tone of firms' conference calls by running the following bond-day panel regression:

$$Netbuy_{i,[t,t+d]} = \alpha_1 + \beta_1 \times Neg_net_{j,t} + \delta_1 \times controls_{i,t-1} + \vartheta_i + \mu_t + \epsilon_{i,t}, \qquad (2)$$

where $Netbuy_{i,[t,t+d]}$ is the cumulative insurance net buy of bond i from conference day t to $t + d$, calculated as the difference between par value of buy and par value of sell by all insurance companies holding bond i scaled by its issuing size. $Neg_net_{j,t}$ is the net negative tone of issuer j's earnings conference call taking place on day t.

To address the concern that the tone measure may be potentially correlated with other non-observable bond-invariant or time-invariant characteristics, which might confound the relationship between insurance trading and net negative tone, we include bond and day fixed effects. Bond level controls include bond rating, time to maturity, and age. According to Nozawa, Qiu, and Xiong (2024), there is a significant post-earnings announcement drift (PEAD) in the corporate bond market. Therefore, to rule out the possibility that the tone of conference calls is another proxy for the degree of firm earnings surprise, we control for SUE in the same quarter as the conference call. Other firm level controls include the logarithm of firm size (Ln(stock size)), the logarithm of book-to-market ratio (Ln(BM)), the stock institutional ownership (IO), and the number of analysts

[6] Source: https://www.mckinsey.com/industries/financial-services/our-insights/insurance-blog/insurtechs-are-increasingly-ripe-for-insurer-investments-and-partnerships.

(Analyst) following that stock.[7] Standard errors are calculated using two-way clustering at the bond and quarter levels. The results are reported in Table 2.

[Insert Table 2 about here]

After controlling for bond and stock characteristics, the tone measure is significantly and negatively related to insurance net buy after issuers' earnings conference calls. In Column (2), in five days after the call, a one-standard-deviation increase in the net negative tone leads to a significant decrease of 3-basis-points (bps) in net buy from insurance companies, equivalent to 4% of its standard deviation (0.74%). This is a non-trivial magnitude given that the average insurance net buy in five days after a call is only negative 1-basis-point. The impact remains significant and cumulates, reaching 6-bps in 40 days after the call.[8] In comparison, the insignificant coefficients on SUE after five days suggest that insurance companies do not continuously respond to the quantitative information.[9]

To better understand the impact of conference call tone on insurance trading, we conduct the above tests for insurance buying and selling behaviors, separately. Results are shown in the Appendix Table A1. We find that the tone only significantly affects insurance cumulative selling after the calls while has no significant impact on the cumulative buying side (except on the conference call day).[10] A one-standard-deviation increase in the net negative tone leads to an increase of nearly 10-basis-points in cumulative selling from insurance companies in 40 days after the call, equivalent to 5% of its standard deviation (0.02%). Given that the average bond market capitalization is $374 million in our sample, 10-bps translates into a dollar impact of $374K selling by insurance companies.

Would the impact of conference call tone on insurance trading still hold at the issuer level? To answer this question, we perform panel regressions at the firm-day level in the Appendix Table A2. The dependent variable is the bond issuing size-weighted average or the sum of the insurance net buy across all BBB$^-$-rated bonds issued by the same firm in 40 days after the call. A one-

[7] Please refer to Appendix A for detailed definitions of all the variables.
[8] Besides, it is possible that insurers with bond investments concentrating on different industries vary in the sensitivity to the conference call tone. For example, insurers with the investment focusing on bonds from the technology industry may be more skilled at dealing with the unstructured information and conducting the textual analysis for conference calls. We further include industry fixed effects in the regressions, and the results remain unchanged.
[9] Using the measure of earnings surprise gives qualitatively unchanged results.
[10] Therefore, we interchangeably say that insurance "sell" more of bonds issued by firms with more negative calls.

standard-deviation increase in the net negative tone is associated with 12-bps (22-bps) decrease in the average (sum of) insurance net buy of the issuer, equivalent to 7% (4%) of its standard deviation. The magnitudes are close to those in tests at the bond level.

3.2. Confounding Factors

In this sub-section, we address a set of confounding factors other than the conference call tone which may cause insurance to trade.

Sentiment measures from 10-K and 10-Q reports

How about the tone measures of mandate reports and general news? To answer this question, we obtain the sentiment measures of 10-K and 10-Q reports from the "Readability and Sentiment" database from WRDS SEC Filings, which contains the number of Loughran-McDonald Financial-Negative and Financial-Positive words, and the number of Harvard General Inquirer Negative words, divided by the total number of words in the document (*LM_Neg/ LM_Pos/ GI_Neg*).[11] We include the sentiment measures in the quarter before the call as additionally controls. To make the regression coefficients comparable, we standardize all these sentiment variables in the full sample.

General firm news

For the sentiment measures of the general firm news, we utilize the ESS and CSS scores from the WRDS RavenPack database.[12] For each firm, we collect the average ESS and CSS scores across all related news (relevance score = 100, NOVELTY score =100) at the daily level, and then average the daily scores across the window same as the dependent variable. For instance, if we are looking at cumulative insurance net buy in 10 days after the call, we average the issuer's ESS and CSS scores across 10 days after the call. Finally, for the average ESS score lower (higher) than 50, the ESS_Neg dummy is equal to 1 (-1), and zero otherwise. The CSS_Neg dummy is constructed in a similar way.

[11] We match the measures from "Readability and Sentiment" database to our data with the help of CIK-CUSIP and CIK-GVKEY links.

[12] ESS is a granular score that represents the news sentiment for a given entity by measuring various proxies sampled from the news. CSS represents the news sentiment of a given story by combining various sentiment analysis techniques. They both range from 0-100. Values of 50 indicate neutral sentiment, while values above (below) 50 indicate positive (negative) sentiment.

Past bond downgrades and upgrades

Insurers are regulated by NAIC in holding a limited proportion of risky bonds in their portfolios, and hence their trading behavior can be stimulated by bond rating changes. Therefore, we further control for dummies indicating bond downgrades and upgrades.[13] Specifically, the Upgrade (Downgrade) dummy is equal to one if the bond is upgraded (downgraded) in one quarter before conference call.

[Insert Table 3 about here]

In Table 3, after controlling for the above confounding factors, the coefficients on the net negative tone remain significantly negative with magnitudes close to Table 2. That is to say, our finding that insurance companies sell bonds of firms with more negative conference calls is robust after controlling for the sentiment measures of formal firm reports and general firm news. This is consistent with the literature stressing earnings conference calls as the additional source of information (Borochin et al. (2018), Brown, Hillegeist, and Lo (2004), Frankel, Johnson, and Skinner (1999), Kimbrough (2005), and Price et al. (2012), among others). Besides, insurance companies' trading based on conference call tone is not a reproduction of response to rating changes.

4. Why do Insurance Companies Sell Bonds with More Negative Conference Calls?

Findings in Section 3 suggest that insurance companies respond significantly to the linguistic tone of earnings conference calls. In this section, we conduct a detailed investigation of the potential motivation for insurers to sell more of bonds issued by firms with more negative conference calls by examining the specific information contained in the linguistic tone.

4.1. Information in the Earnings Conference Call Tone

Insurance companies in general face two types of regulations that either impose large capital requirements on the holdings or prohibit large holdings of speculative-grade bonds prescribed by the National Association of Insurance Commissioners (NAIC). First, the capital requirements are

[13] Data on historical rating changes by major rating agencies are obtained from Mergent's FISD. Several rating agencies, including Standard & Poor's, Moody's, Fitch, and Duff & Phelps, provide credit ratings for each bond. Rating agencies differ with respect to the timing of the rating. We follow Ellul, Jotikasthira, and Lundblad (2011) to define the rating change event as the date of first downgrade or upgrade by a rating agency.

4.6% and 10% for the holdings of BB-rated and B-rated bonds, respectively. The same requirement is only 1.3% for BBB-rated bonds and 0.4% for bonds rated A or above. Second, the NAIC prescribes a hard cap of 20% for all non-investment grade bonds as a percent of the portfolio.

As we focus on BBB^{-}-rated bonds, which are only one notch away from being downgraded to non-investment level (NIG) bonds, insurers are expected to especially care about the default risks of these bonds, for being downgraded to NIG would cause them to be subject to higher capital requirements and take efforts to update portfolios to conform with NAIC regulations.[14] Therefore, in this section, we examine the relationship between the conference call tone and future default risks. Then, we directly separate the tone into a default-related component and a residual term to pin down the specific information valuable to insurance companies.

4.1.1. Predictability for Future Default Risks

There is sufficient evidence in the literature of investors gathering price (i.e., mean, the first moment) related information from the conference call tone. For instance, Price et al. (2012) demonstrate that the linguistic tone influences investor beliefs with a significantly positive relationship between optimistic call tones and stock returns. Guo, Ying, and Zeng (2023) document a positive relation between firm-specific investor sentiment measured by tone of earnings conference call transcripts and firm's value of cash.

However, there are fewer studies exploring the risk (i.e., variance, the second moment) related information contained in the linguistic tone. Borochin et al. (2018) find that measures of conference call tones are negatively related to investors' perceived price risk (i.e., value uncertainty) about firms generated from the equity options market. They demonstrate that the impact of conference call tones extends beyond the simple conveyance of expected value information to market participants to their perceptions of expected risk as well. With supervised machine learning methods, Donovan et al. (2021) develop a text-based estimate of the CDS spread from qualitative information disclosed in conference calls, and document that the measure captures incremental information about the firm's credit risk relative to prior credit risk measures. Although

[14] The literature has shown how insurance companies treat bonds with lower credit ratings. Ellul, Jotikasthira, and Lundblad (2011) find insurance companies more constrained by regulation are more likely to sell downgraded bonds. Becker and Ivashina (2015) state that generally, insurers invest in highly rated bonds, but they select into more risky bonds within regulatory requirements.

they analyse the qualitative information in earnings conference calls, both of them focus on the firm level.

With the expectation that insurers subject to NAIC regulatory constraints especially care about default risks for the BBB$^-$-rated bonds, we hypothesize that the information included in the tone is related to default risks. We use various proxies for future default risks, including bond downgrades, bond rating status changes, and firm expected default frequency (EDF), as the dependent variable and run baseline regressions. The downgrade dummy is equal to one if the bond is downgraded to NIG in one year following the call, and zero otherwise. In Columns (2) and (3), we use dummies indicating a bond rating status to be on negative watch, and change from not on watch to on negative watch in the next one year, respectively. The EDF is calculated for each firm at the monthly frequency, and then average across the next one year. The results are presented in Table 4.

[Insert Table 4 about here]

We show that bonds with more negative conference calls are more likely to be downgraded in the future. For a BBB$^-$-rated bond, a one-standard-deviation increase in the negative tone is associated with a 1.3% higher probability to be downgraded to non-investment level in the next one year. In addition, BBB$^-$-rated bonds of firms with more negative calls are more likely to experience the rating status of being "on negative watch", and changing from "not on watch" to "on negative watch" in one year following the call, suggesting higher future default risks of these bonds. In the last column of Table 4, we find that bonds issued by firms with more negative conference calls have higher EDF. A one-standard-deviation increase in the net negative tone is associated with an increase of nearly 39-bps in EDF. The economic magnitude is non-trivial compared to the average EDF of 1.72% in our sample.

In the previous studies, Donovan et al. (2021) use a text-based measure of the CDS spread based on conference calls to predict future events that reflect a firm's credit risk, including bankruptcy, interest rate spreads, and credit rating downgrades. We expand their analysis to the corporate bond market, and show that the net negative tone of earnings call is a significant predictor for future default risks and real default events, consistent with the hypothesis that insurers are sensitive to the default related information contained in the conference call tone.

4.1.2. Default-related Component and a Residual

To further demonstrate that insurers pay attention to the earnings conference call tone which serve as an additional information source of default risks, we separate the overall tone measure into two parts: information related to and orthogonal to default risks. If insurers care more about default risks, they should be more sensitive to the former one.

We first collect earnings conference call transcripts data from Capital IQ Transcripts, which provides historical conference call transcripts covering more than 8,000 public companies. The database records all transcripts' details divided by responses of chief executives to each question asked by analysts or investors. To identify whether a question is related to the default topic, we collect more than 100 default-related documents such as credit-related textbooks and annual reports from credit rating companies. Words frequently used in the default-related references are shown in Figure 1. The most commonly used word is "rating", followed by "credit", "service", and "information". Words of "debt", "downgrade", and "risk" also appear frequently.

[Insert Figure 1 about here]

We then count word frequencies and manually select the default-related words based on the word frequency and topic relevance. Finally, we create a default-topic words dictionary to identify default-related descriptions from the conference call transcript. A cloud of the most frequent words in the default-topic dictionary is provided in Figure 2, with the complete list of words provided in the Appendix Table A3. Words highlighted in red are those most frequently used and relevant, such as "downturn", "severity", "difficulty", "shortage", and "inflation".

[Insert Figure 2 about here]

After creating the default-topic words dictionary, motivated by Hassan et al. (2019), we divide each transcript to the sentence level and transfer the whole articles into a list of bigrams (i.e., all adjacent two-word combinations), with necessary adjustments such as excluding stop words, reducing a word to its word stem, and switching a word to its base root mode (i.e., lemmatization). We classify each bigram into a default-related group if the bigram has at least one word belonging to the default-topic words dictionary.[15]

[15] On average, the default-related bigrams count for 22% out of the total bigrams in the conference call transcripts.

For the group consisting of default-related bigrams, we calculate the corresponding net negative tone:

$$Net_neg_def_{j,t} = \frac{\sum_{b=1}^{B_{def,j,t}} S(b)}{B_{def,j,t}}, \tag{3}$$

where $B_{def,j,t}$ is the total number of bigrams in the default-related group of issuer j's earnings conference call on day t. $S(b)$ is an indicator function that assigns a value of +1 (-1) if the bigram b contains at least one word in the Loughran and McDonald negative (positive) dictionary, and zero otherwise. The default-related net negative tone is then standardized to one-unit standard deviation and zero mean in the full sample.

$$Net_neg_{j,t} = \gamma \times Net_neg_def_{j,t} + residual_{j,t}, \tag{4}$$

$$\begin{aligned} Netbuy_{i,[t,t+40]} = \alpha_2 + \beta_2 \times Default - related\ component_{j,t} + \rho_2 \times residual_{j,t} \\ + \delta_2 \times controls_{i,t-1} + \vartheta_i + \mu_t + \epsilon_{i,t}, \end{aligned} \tag{5}$$

We firstly regress the overall net negative tone on the default-related net negative tone at the issuer level. In this way, the original overall tone can be separated into two parts: the default-related component (the first term in Equation (4)) and the residual term (the second term in Equation (4)) which does not contain information about default risks. We then run bond-day panel regressions of cumulative insurance net buy in 40 days after the call on the two parts as in Equation (5). Result is shown in Column (1) of Table 5. In 40 days after the call, a one-standard-deviation increase in the default-related component (0.66) is accompanied with a decrease of 8-basis-points in insurance net buy. In comparison, the coefficient on the residual term is insignificant with a much smaller magnitude. These results suggest that it is the default-related information in the conference call tone that appeal to bond insurers.

[Insert Table 5 about here]

Sethuraman (2019) develop a credit risk dictionary, including words that are most commonly used by firms in providing credit risk-related information in the "Liquidity and Capital Resources" section of the MD&A, and that most commonly occur in the MD&A section of disclosures provided by firms that are tending toward a Chapter 11 or Chapter 7 bankruptcy filing. Nearly 22% of the words in Sethuraman (2019) are included in our default-related words dictionary, such as

“severity”, “difficulty”, “rating”, “deficit”, “leverage”, “volatility”, and “liquidity”. In addition, our word dictionary is obtained from a broader default-related source including credit-related textbooks and annual credit rating reports. Therefore, our dictionary contains a broad range of meaningful default-related words including “downturn”, “shortage”, “distress”, “risk”, “constraint”, “deterioration”, and etc.

As a robustness, using the alternative credit risk dictionary, for each conference call transcript, we recalculate the default-related tone and the two components (the default-related component and the residual term). We regress cumulative insurance net buy of each bond on the alternative measure in Column (2) of Table 5. The coefficient on the default-related component is still significantly negative, with a lower absolute magnitude than Column (1). In the last column, we combine the two dictionaries and replicate the above procedures, results are essentially unchanged.

4.2. Heterogeneities

In this section, we explore heterogeneities in the responses of bond insurance companies to the tone of earnings conference calls, from two perspectives: 1) levels of information asymmetry of bonds (issuers), and 2) portfolio compositions and types of insurance companies.

4.2.1. Heterogeneities at Issue and Issuer Levels

So far, our findings suggest that the tone of conference calls provides additional information about future default risks. If the bonds, or the issuers, have a higher degree of information asymmetry, the incremental information in the linguistic tone is supposed to be more valuable to insurance companies in making investment decisions. We consider two common attributes as information asymmetry measures: bond illiquidity and firm analyst coverage. The information asymmetry is supposed to be higher (lower) among bonds with higher illiquidity (bonds of firms followed by more analysts). In each quarter, we define a dummy variable (high) indicating bond illiquidity or issuer analyst coverage ranked in the highest quintile cross-sectionally.

In Table 6, we interact the net negative tone measure with the high dummy and include it in our baseline regressions. The impact of the tone on cumulative insurance net buy is significantly more negative for bonds with worse liquidity while more positive for those of firms followed by more analysts. For example, for a BBB^{-}-rated bond with illiquidity ranked in the highest quintile, a one-standard-deviation increase in the net negative tone leads to a significant decrease of nearly

16-basis-points (bps) in net buy from insurance companies in 40 days after the conference call, more than double of the corresponding magnitude in the full sample. Results imply that for BBB$^-$-rated bonds with higher degrees of information asymmetry, insurance companies more actively react to the conference call tone.

[Insert Table 6 about here]

4.2.2. Heterogeneities at the Insurer Level

We then explore whether insurers' responses to the conference call tone vary with respect to their portfolio compositions and financial conditions. Given that it is the default-related information in the tone that matters for bond insurance companies, we expect them to care more about the tone when 1) their portfolios have lower credit rating and higher proportions of in BBB$^-$-rated bonds, and 2) they have higher levels of leverage. We obtain quarterly insurance bond holdings from Thomson Reuters Lipper eMAXX, which is survivorship-bias free and contains quarter-end security-level corporate bond holdings of about 20,000 institutional investors, including insurance companies, mutual funds, pension funds, and so on. The eMAXX data on corporate bond holdings by insurance companies are nearly complete as they are based on insurance companies' regulatory disclosure to the NAIC.[16]

In each quarter for each bond in our sample, we sort the insurance companies with transaction records into equal halves based on certain characteristics. Specifically, the sorting variable is the holding par value-weighted average rating of all bonds in insurers' portfolios, and percentage of BBB$^-$-rated bonds of their portfolios in Panels A and B of Table 7, respectively. In Panels C and D, we additionally consider insurers' leverage, calculated as total liabilities over net assets, and total assets as the ranking variable. We then regress the aggregate net buy of insurers ranked in the top half (>P50) and bottom half (<P50) groups in 40 days following the call on the net negative tone, separately.

[Insert Table 7 about here]

[16] Thomson Reuters Lipper eMAXX is widely used in academic studies, such as Manconi, Rossi, and Yasuda (2012), and Cai et al. (2019), among others.

Panels A and B of Table 7 demonstrate that if insurers' portfolios have lower credit ratings and consist of more BBB$^-$-rated bonds, they react significantly to the tone of conference calls. If there is already a high proportion of BBB$^-$-rated bonds in insurers' portfolios, they are more likely to sell the BBB$^-$-rated bonds of firms with more negative conference calls, due to the higher probability of future defaults for these bonds. Panel C gives similar results by sorting on insurers' leverage which proxies for insurance financial condition. The higher the leverage, the more constrained insurers are, and the more selling of BBB$^-$-rated bonds issued by firms with more negative calls. Results in Panel D is consistent with that larger insurance companies are more likely to utilize the soft information in conference calls.

There are two main types of insurers: life and health (L&H) insurers, and property and casualty (P&C) insurers. They distinct substantially in their preferences for portfolio investments (Bretscher et al. (2024)). Life insurance companies, for instance, tilt portfolios to long-dated bonds. On the other hand, property and casualty insurers with more short-term liabilities like mutual funds have a preference for short maturity bonds. Koijen and Yogo (2023) show that P&C insurers have always taken less credit risks than life insurers, presumably because of the less predictable nature of their liabilities with tail risk. Therefore, we expect P&C to trade more frequently and respond to the default-related information more quickly than L&H insurers.

To test the effects of the conference call tone on insurance trading for different types of insurers, we run baseline regressions for L&H and P&C insurers, separately. Consistent with our expectation, the coefficient on the net negative tone measure is significantly negative for P&C insurers in Column (1) of Table 8. In comparison, although negative, the impact on L&H is insignificant with a much smaller absolute magnitude.

[Insert Table 8 about here]

To sum up, the above results provide heterogeneities of insurers' investment of corporate bonds in response to issuers' earnings conference call tone. We find the effect of the tone on insurance trading is more pronounced when there the bond has a higher level of information asymmetry, when insurance companies have a lower portfolio rating and more BBB$^-$-rated bonds in their portfolios, a higher level of leverage, and larger size.

5. Market Impacts

The previous results show that insurers are more likely to decrease their holdings of bonds issued by firms with more negative conference calls. In this section, we examine whether insurers' trading based on the earnings conference call tone more broadly impacts the underlying corporate bond market.

We investigate the market impacts from two perspectives: 1) Given that insurance companies indeed trade on the information in the conference call tone, for a BBB$^-$-rated bond of firms with more negative conference calls in the past, when it is downgraded to non-investment grade (NIG), we expect the downward price pressure on the bond to be smaller than those of firms with more positive calls in the past. 2) Evidence documents information spillover across firms in the same industry. Would the effect of earnings conference call tone on bond insurance trading spill over from public firms holding conference calls to bonds issued by private firms in the same industry who do not conduct calls?

5.1. Impact on Fire Sales under Regulatory Pressure

When bonds are downgraded from IG to NIG and become "fallen-angles", there would be fire sales by insurance companies facing regulatory constraints and significant price discounts from fundamental values (Ellul, Jotikasthira, and Lundblad (2011)). We expect the fire sale to be weaker for bonds of firms with more negative calls in the past. The reason is that insurance companies gradually incorporate information from the conference calls in the past, selling bonds of firms with more negative calls, and hence the fire sale pressure on these bonds would be lower when the fallen-angle downgrade really happens.

We obtain downgrades from BBB$^-$ rating to NIG from Mergent's FISD, and separate the downgrade events into two halves based on the average net negative tone of the bond issuer's conference calls in one year before the downgrade, skipping the most recent quarter.[17] Those with average tone above (below) the sample median are downgrades with more past negative (positive) calls. In Figure 3, we plot the cumulative of average monthly abnormal bond return from four-month before to four-month after the fallen-angle downgrade (0 is the downgrade month), for downgrades with (past) more negative and positive calls, separately.[18]

[17] Our previous finding show that insurance trading based on the conference call tone cumulates till 40 days after the call. Therefore, we skip the quarter before the downgrade to allow insurers to gradually incorporate information from the most recent call. Results remain essentially unchanged if we use the average tone in past one year or two years.
[18] We firstly calculate raw monthly bond returns following Gebhardt, Hvidkjaer, and Swaminathan (2005):

[Insert Figure 3 about here]

Before the fallen-angle downgrades, the cumulative abnormal returns are generally lower for bonds with past more negative calls. For example, in two-month before the downgrade, bonds of firms with past more negative (positive) calls on average have a cumulative return of -4.07% (-2.28%). In the downgrade month, bonds in the group of past more negative calls have a cumulative return of -9.19%, higher compared to -11.78% of the group with past more positive calls. One month later, the return reversal is much stronger for bonds of firms with past more positive calls, reversing back to -5.54%. These results suggest that the downward price pressure and subsequent return reversal are smaller for bonds issued by firms with more negative calls in the past. The pattern is consistent with the previous finding that insurers gradually sell bonds with more negative calls (before fallen-angle downgrades), and hence when the downgrades really happen, the downward price pressure and return reversal due to fire sales would be lower for these bonds.

To summarize, insurance companies could learn from and react to the earnings conference call tone. Their reaction to the tone could mitigate the downward price pressure driven by fire sales from future fallen-angle downgrades. In other words, the call tone reduces market frictions by alleviating the magnitude of fire sales and subsequent reversals.

5.2. Spillover Effect on Bonds of Private Industry Peers

Till now, we focus on insurers' trading of bonds issued by public firms, as these firms are required to provide the details of their financial performance and most of them opt to hold regular earnings conference calls to offer additional information.[19] In contrast, privately held companies are not

$$r_{i,t} = \frac{P_{i,t}+AI_{i,t}+C_{i,t}}{P_{i,t-1}+AI_{i,t-1}} - 1,$$

where $P_{i,t}$ is the month-end price of month t for the individual corporate bond i, $AI_{i,t}$ is the accrued interest and $C_{i,t}$ is the coupon payment, if any, from the end of month $t-1$ to the end of month t for corporate bond i. Bond i's excess return at month t is, $R_{i,t} = r_{i,t} - r_{f,t}$, where $r_{f,t}$ is the risk-free rate proxied by one-month Treasury bill rate. Then, the monthly abnormal bond return is then computed as the raw monthly return subtracted by the size-weighted average return of the pool of bonds that share similar time-to-maturity in that month.

[19] In addition, Brown, Call, Clement, and Sharp (2019) state that institutional investors who hold the vast majority of corporate debts and dominate trading in fixed income secondary markets typically have the option of meeting privately with managers or investor relations personnel (whether in person, on the phone, or via email exchanges). Moreover, De Franco, Shohfi, Xu, and Zhu (2022) state that the fixed income conference call is a unique form of voluntary disclosure deviating from the traditional multipurpose firm disclosures intended for all stakeholders and allow firms to address debt-specific investor questions as well. These calls give debt investors better access to firms' management, and to some extent substitute for the private meetings. Therefore, we also create the overall and default-related tones of the fixed income conference call transcripts and replicate the baseline regressions. However, we find no significant

required to disclose financial information and they do not hold conference calls as well. Thus, it is more challenging for bond market investors to access information of bonds issued by private firms. In this subsection, we attempt to study whether the information in conference calls of public firms is useful for insurers to make decisions for trading bonds issued by private firms.

Firms in the same industry are exposed to common shocks and the disclosure of public firms reveals industry information. For example, Badertscher, Shroff, and White (2013) document that public firm corporate disclosures enrich the industry's information environment and improve the average investment efficiency of private firms in the same industry. Thus, we expect that tone of public firms' conference calls convey information related to their private peers and affect the trading decisions of insurers holding bonds of private firms.

To test this hypothesis, we examine the relation between the conference call tone of public firms and the average insurance trading of BBB^{-}-rated bonds issued by private firms in the same industry. We use the Fama-French 5 industry classification to ensure the public firms in our sample could be matched to a sufficient number of private industry peers. The dependent variable is the bond issuing size-weighted average of insurance net buy across all BBB^{-}-rated private bonds in the same industry with the public firm conducting conference calls, in various windows after the call.[20] Bond rating, time-to-maturity, and age are averaged across bonds issued by the private industry peers and included as controls. We additionally control for industry and quarter fixed effects. Results are presented in Table 9.

[Insert Table 9 about here]

Consistent with the argument that disclosure by public firms contains industry-wide information, we find a spillover effect of conference call tone on insurance trading of bonds issued by private industry peers, significant at the 10% level. In 80 days after the call, a one-standard-deviation increase in the public firm's net negative tone leads to a decrease of 4-basis-points in insurance net buy of bonds issued by private peers, equivalent to 3% of its standard deviation (1.31%). It is non-trivial in economic significance given the average insurance net buy of the private bonds in 80 days following the call is about negative 17 bps. This sizeable economic

coefficients on the tone measures from fixed income conference calls. It is likely due to the limited number of available fixed income conference call transcripts matched to our sample.

[20] Results for equal-weighted average trading of private bonds are essentially the same, with lower absolute magnitudes.

magnitude suggests that insurers make use of the tone of public firms to trade bonds issued by private firms in the same industry, and consistent with the fact that investors have limited information access to private firms.

Our previous finding in the sample of public BBB$^-$-rated bonds is that insurance companies began to trade the bonds right after issuers' conference calls and their significant response cumulates for 40 days. In comparison, insurance trading of private BBB$^-$-rated bonds based on the peer public firm's conference call tone becomes significant after 80 days, and cumulates for about 110 days. This implies that it takes a much longer time for insurers to incorporate information from public firms' conference calls to adjust their positions of bonds issued by private industry peers.

6. Conclusion

Earnings conference calls provide important opportunities for management and analysts to express their opinions about a firm's recent performance and outlook. Prior research suggests that investors and sophisticated intermediaries in the stock market pay attention to the qualitative information contained in these calls. However, little is known about impacts of the qualitative information on the investment in the corporate bond market.

In this paper, we fill the gap by conducting a detailed investigation on how the linguistic tone of earnings conference call affects insurance trading of BBB$^-$-rated corporate bonds. We find that insurers sell more of bonds issued by firms with more negative conference calls. The impact is stronger for bonds with a higher level of information asymmetry for which information in conference calls are more valuable to insurers.

The BBB$^-$-rated bonds are more likely to be downgraded and have a rating status of being on negative watch, and higher expected default probabilities in the future. By creating a novel default-topic words dictionary and separating the overall conference call tone into a default-related component and a residual term, we show that the default-related information in the conference call tone is the information to which insurance companies react. Consistently, we show insurance companies whose portfolios have lower bond rating and higher proportion of BBB$^-$-rated bonds are more sensitive to the conference call tone for they especially care about default risks.

In addition, insurers' response to the linguistic tone of conference calls has significant impacts on the underlying bond market. Their reaction to the conference call tone could alleviate the downward price pressure driven by future fallen-angle downgrades. Besides, insurance selling

based on conference call tone would gradually spill over to the trading of bonds issued by private firms in the same industry.

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Appendix. Variable Definitions

Dependent Variables	
Insurance net buy	The difference between par value of buy and par value of sell by all insurance companies holding a bond scaled by its issuing size.
DG	A dummy variable equal to one if the bond is downgraded to non-investment-grade in one year following the conference call, and zero otherwise.
On negative watch	A dummy variable indicating a bond rating status marked as on negative watch in one year following the conference call, and zero otherwise.
Not on watch → on negative watch	A dummy variable indicating a bond rating status marked as changing from not on watch to negative watch in one year following the conference call, and zero otherwise.
Expected default frequency (EDF)	We use the procedure in Bharath and Shumway (2008), with the code provided from Tyler Shumway's website. The calculation follows the insights from the Merton (1974) distance to default model: $$\mathrm{EDF} = \mathrm{N}\left(-\frac{\ln\left(\frac{\mathrm{V}}{\mathrm{F}}\right)+\left(\mu-0.5\sigma_{\mathrm{V}}^{2}\right)\mathrm{T}}{\sigma_{\mathrm{V}}\sqrt{\mathrm{T}}}\right),$$ where $N(.)$ is the cumulative distribution function of the standard normal distribution, V is the total value of a firm, F is the face value of the firm's debt, μ is an estimate of the expected annual return of the firm's assets that is calculated using historical return of the firm's asset, and σ_V is the volatility of firm value. V and σ_V are solved numerically from the following two equations: $$\mathrm{E} = \mathrm{VN}(\mathrm{d}_1) - \mathrm{e}^{-\mathrm{rT}}\mathrm{FN}(\mathrm{d}_2), \sigma_{\mathrm{E}} = \left(\frac{\mathrm{V}}{\mathrm{E}}\right)\mathrm{N}(\mathrm{d}_1)\sigma_{\mathrm{V}},$$ where E is the market value of the firm's equity, σ_E is the volatility of the firm's equity, and d_1 and d_2 are parameters defined in the usual way.
Independent Variables	
Net negative tone of earnings conference calls (Neg_net)	Hassan et al. (2019) derive the sentiment measure in earnings conference call as the frequency of mentions of positive words, deducts the frequency of mentions of negative words, based on Loughran and McDonald (LM, 2011) sentiment dictionary, divided by the length of the transcript. The sentiment of the conference call for firm j in quarter t is as follows: $$Sentiment_{i,t} = \frac{\sum_{b=1}^{B_{i,t}} S(b)}{B_{i,t}},$$ where $S(b)$ is an indicator function that assigns a value of +1 (-1) if the word b is associated with positive (negative) sentiment, and zero otherwise. We define the net negative tone measure (Neg_net) as the sentiment measure multiplied by -1. The higher the value, the more negative tone of earnings conference call. The tone measure is winsorized at the 1st and 99th percentiles and standardized to one-unit standard deviation and zero mean in the full sample.

Default-related component	After creating the default-topic words dictionary, we divide each transcript to the sentence level and transfer the whole articles into a list of bigrams (i.e., all adjacent two-word combinations), with necessary adjustments such as excluding stop words, reducing a word to its word stem, and switching a word to its base root mode (i.e., lemmatization). We classify each bigram into a default-related group if the bigram has at least one word belonging to the default-topic words dictionary. For the group consisting of default-related bigrams, we calculate the corresponding net negative tone: $$Net_neg_def_{j,t} = \frac{\sum_{b=1}^{B_{def,j,t}} S(b)}{B_{def,j,t}},$$ where $B_{def,j,t}$ is the total number of bigrams in the default-related group of issuer j's earnings conference call on day t. $S(b)$ is an indicator function that assigns a value of +1 (-1) if the bigram b contains at least one word in the Loughran and McDonald negative (positive) dictionary, and zero otherwise. The default-related net negative tone is then standardized to one-unit standard deviation and zero mean in the full sample. We regress the overall net negative tone on the default-related net negative tone. In this way, the original overall tone can be separated into two parts: the default-related component and the residual term which does not contain information about default risks.
Rating	The average of credit ratings provided by S&P and Moody's when both are available, or the rating provided by one of the two rating agencies when only one rating is available. Numerical score of 1 refers to AAA rating by S&P and Aaa rating by Moody. Numerical score of 21 refers to C for both S&P and Moody. Investment-grade (low yield) bonds have ratings from 1 to 10. Non-investment-grade (high yield) bonds have ratings above 10. A larger number indicates higher credit risk or lower credit quality.
Maturity	Years to maturity.
Age	Years since issuance.
Coupon	Individual bond's coupon rate.
Ln(bond size)	Logarithm of the offering amount of individual bond.
Ln(stock size)	The natural logarithm of the market value of the firm's equity at the end of last year.
Ln(BM)	The natural logarithm of book equity for the fiscal year-end in a calendar year divided by market equity at the end of December of that year, as in Fama and French (1992).
Stock IVOL	The standard deviation of the regression residual of individual stock returns on the Fama and French (1993) three factors using daily data in the previous month, as in Ang et al. (2006). We then average monthly stock IVOL in a quarter to get quarterly IVOL measure.
Institutional ownership (IO)	The percentage of common stocks owned by institutions.
Analyst	The number of analysts following the firm in the previous quarter.
Standardized unexpected earnings (SUE)	SUE is defined as the net income of the quarter minus that four quarters ago, divided by the standard deviation of quarterly net income over past four years.

Figure 1. Frequent Words in Default-related References

This figure plots the cloud of the most frequently used words in the default-related references such as credit-related textbooks and annual reports from credit rating companies.

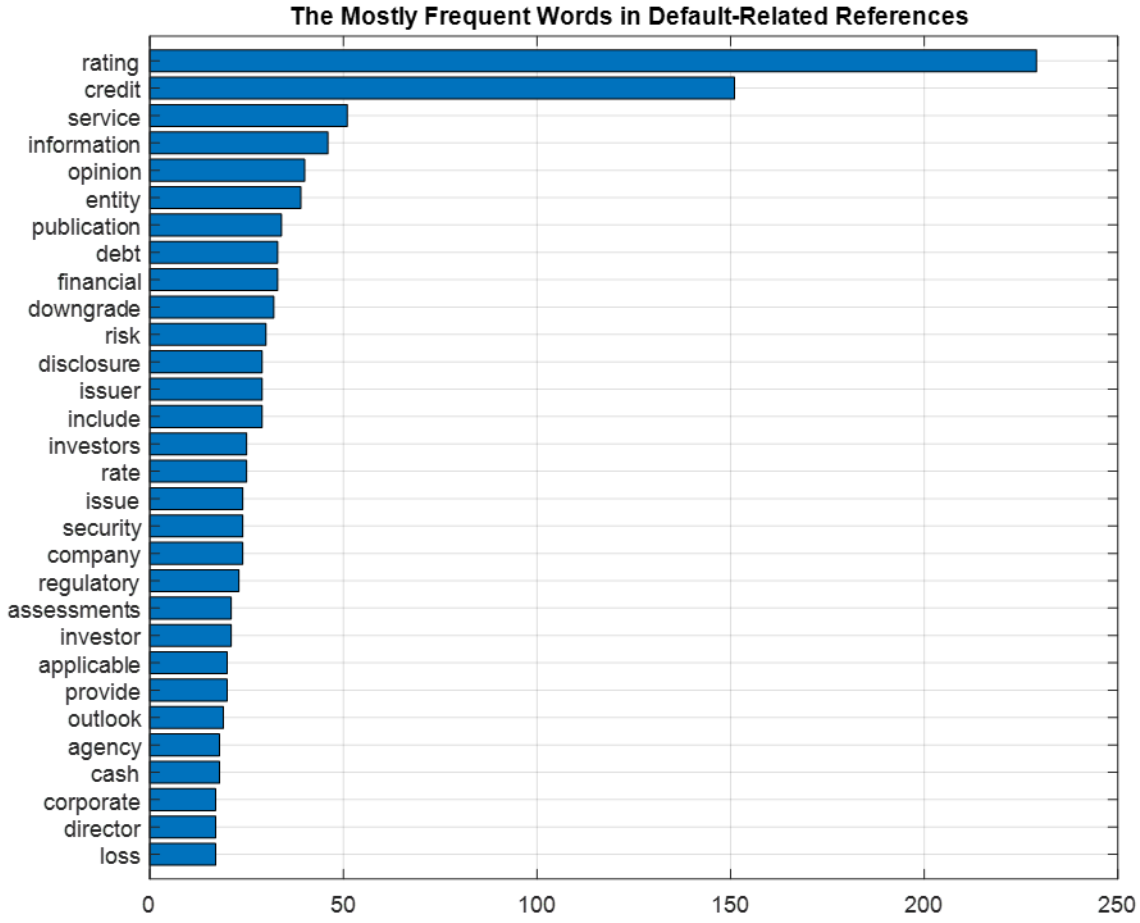

Figure 2. Word Cloud of the Default-related Dictionary

This figure plots the cloud of the most frequent words in the default-related dictionary. The complete list of words is provided in the Appendix Table A3. To construct the default-related and non-default-related tone measures, we create a default-topic words dictionary from more than 100 default related documents such as textbooks and annual reports from credit rating companies. We then manually select default-related words based on word frequency and topic relevance to defaults.

Word Cloud of Default-related Dictionary

Figure 3. Cumulative Average Abnormal Bond Returns Around IG to NIG Downgrades

This figure plots the cumulative of average monthly abnormal returns around BBB⁻-rating to non-investment-grade (NIG) downgrades, over the period from January 2002 to December 2021. We separate the downgrade events into two halves based on the average net negative tone of the bond issuer's conference calls in one year before the downgrade, skipping the most recent quarter. Those with average tone above (below) the sample median are downgrades with more past negative (positive) calls. The cumulative abnormal bond returns are shown from 4-month before to 4-month after the downgrade (0 is the downgrade month), for downgrades with (past) more negative and positive calls, separately. The monthly abnormal bond return is computed as the raw return subtracted by the size-weighted average return of the pool of bonds that share similar time to maturity in that month.

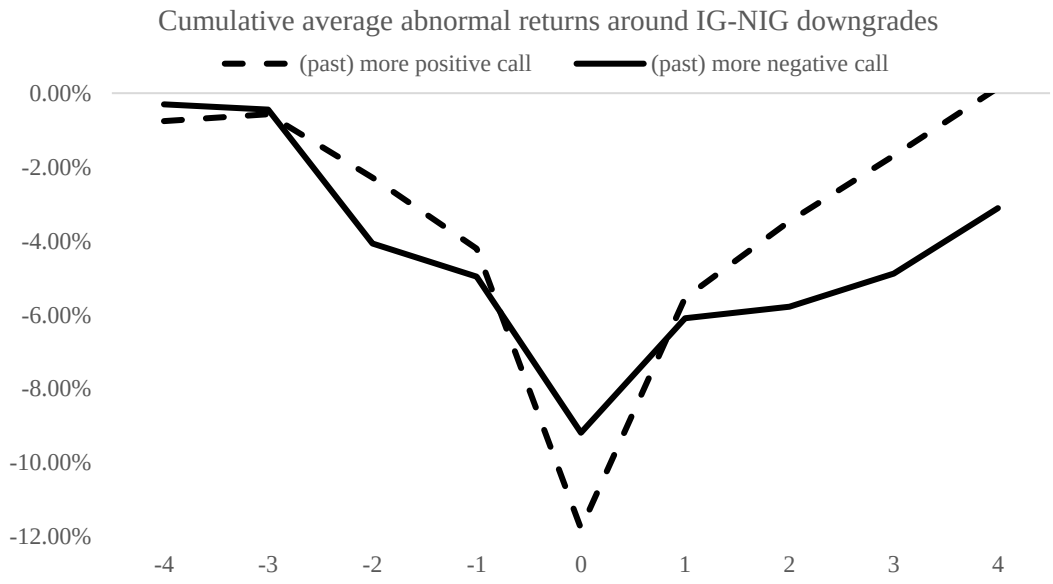

Table 1. Summary Statistics

This table provides descriptive statistics of the data used in our empirical analysis over the period from January 2002 to December 2021. The sample consists of BBB^{-}-rated bonds issued by public firms holding earnings conference calls. Panel A reports the number of bond-day observations (N), sample mean, standard deviation (Std), lower quartile (Q1), median, and upper quartile (Q3) for bond characteristics including bond time-to-maturity (Maturity) in years, time-since-issuance (Age) in years, coupon rate in percentage, and the logarithm of bond issue size (Ln(bond size)). Panel B reports corresponding summary statistics for firm-day variables. Hassan et al. (2019) derive the sentiment measure of earnings conference calls as the frequency of mentions of positive words, deducts the frequency of mentions of negative words, based on Loughran and McDonald (LM, 2011) sentiment dictionary, divided by the length of the transcript. We define the net negative tone of earnings conference call (Neg_net) as the sentiment measure multiplied by -1. The higher the value, the more negative tone of earnings conference call. Following Hassan et al. (2019), we cap the tone measure at the 1st and 99th percentiles and standardize it to one-unit standard deviation and zero mean in the full sample. Other firm characteristics include the logarithm of firm size (Ln(stock size)), logarithm of book-to-market ratio (Ln(BM)), stock institutional ownership (IO), number of analysts (Analyst), and unexpected earnings surprise (SUE) in percentage. The variable definitions are provided in the Appendix A. We focus on fixed-rate bonds and exclude bonds that are puttable, convertible or perpetual. We also exclude mortgage-backed, asset-backed, agency-backed or equity-linked securities, Yankees, Canadians, structured notes, or issues denominated in foreign currency. We delete observations with age or maturity of less than 6-month. All the variables are winsorized each quarter at the 0.5% level.

	N	Mean	Std	Q1	Median	Q3
Panel A: Bond-day variables						
Maturity (in years)	25,074	9.24	9.58	3.47	6.40	9.58
Age (in years)	25,074	5.78	5.44	2.12	4.07	7.30
Coupon (%)	25,074	5.65	1.81	4.30	5.60	7.00
Ln(bond size)	25,074	19.74	0.74	19.34	19.81	20.21
Panel B: Firm-day variables						
Neg_net	7,118	0.00	1.00	-0.67	-0.01	0.66
Ln(stock size)	7,099	8.64	1.10	7.85	8.57	9.37
Ln(BM)	6,936	-0.61	0.69	-0.97	-0.54	-0.15
IO	6,268	0.79	0.17	0.72	0.82	0.90
Analyst	7,118	12.62	7.32	7.00	12.00	17.00
SUE (%)	7,052	0.10	23.97	-0.38	0.13	0.60

Table 2. Effects of Conference Call Tone on Insurance Trading

This table reports bond-day panel regression results for the relation between the earnings conference call tone and the aggregate trading behavior of bond insurance companies in subsequent days following the call, over the period from January 2002 to December 2021. The sample consists of BBB$^-$-rated bonds issued by public firms holding earnings conference calls. The dependent variable is cumulative insurance net buy of bond i from conference day t to $t+d$, calculated as the difference between par value of buy and par value of sell by all insurance companies holding bond i scaled by its issuing size. The independent variables are the most recent available values before day t and defined in the Appendix A. We define the net negative tone of earnings conference call (Neg_net) as the sentiment measure (Hassan et al. (2019)) multiplied by -1. The higher the value, the more negative tone of earnings conference call. The tone measure is winsorized at the 1st and 99th percentiles and standardized to one-unit standard deviation and zero mean in the full sample. Controls include bond characteristics (bond rating, maturity, and age), and stock characteristics (unexpected earnings surprise (SUE), logarithm of firm size (Ln(stock size)), logarithm of book-to-market ratio (Ln(BM)), stock institutional ownership (IO), and number of analysts (Analyst)). All the variables are winsorized each quarter at the 0.5% level. All columns include day and bond fixed effects. Standard errors are clustered at the bond and quarter levels, with corresponding t-values in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Dependent variable: Insurance net buy					
Day window	0	[0, +5]	[0, +10]	[0, +20]	[0, +30]	[0, +40]
	(1)	(2)	(3)	(4)	(5)	(6)
Neg_net	-0.017***	-0.030***	-0.031*	-0.047**	-0.055*	-0.060*
	(-2.91)	(-2.66)	(-1.96)	(-2.14)	(-1.94)	(-1.87)
Rating	0.004	0.124**	0.146	0.349***	0.397***	0.342*
	(0.23)	(2.28)	(1.62)	(2.71)	(2.68)	(1.85)
Maturity	0.002	0.003	0.003	0.008**	0.010*	0.013*
	(1.06)	(1.21)	(1.28)	(2.01)	(1.84)	(1.92)
Age	0.008	-0.003	0.002	-0.048	-0.136	-0.157*
	(1.04)	(-0.12)	(0.09)	(-0.60)	(-1.64)	(-1.87)
SUE	0.021	0.195*	0.157	0.284	0.339	0.574
	(0.77)	(1.89)	(1.30)	(1.45)	(1.01)	(1.38)
Ln(stock size)	-0.009	-0.025	0.003	-0.004	0.001	0.018
	(-0.71)	(-0.86)	(0.09)	(-0.07)	(0.01)	(0.17)
Ln(BM)	-0.017*	-0.057*	-0.064	-0.068	-0.098	-0.105
	(-1.83)	(-1.84)	(-1.61)	(-1.12)	(-1.20)	(-1.09)
IO	-0.003	0.129*	0.166	0.353*	0.127	0.186
	(-0.12)	(1.71)	(1.50)	(1.94)	(0.48)	(0.53)
Analyst	-0.001	0.003	0.003	0.001	-0.008	-0.002
	(-0.81)	(1.19)	(0.83)	(0.22)	(-1.38)	(-0.25)
Day FE	Y	Y	Y	Y	Y	Y
Bond FE	Y	Y	Y	Y	Y	Y
Adj-R^2	0.037	0.052	0.080	0.090	0.104	0.113
# of obs	20,642	20,642	20,642	20,642	20,642	20,642

Table 3. Effects of Conference Call Tone on Insurance Trading: Confounding Factors

This table reports bond-day panel regression results for the relation between the earnings conference call tone and the aggregate trading behavior of bond insurance companies in subsequent days following the call, over the period from January 2002 to December 2021. The sample consists of BBB$^-$-rated bonds issued by public firms holding earnings conference calls. The dependent variable is cumulative insurance net buy of bond i from conference day t to $t+d$, calculated as the difference between par value of buy and par value of sell by all insurance companies holding bond i scaled by its issuing size. The independent variables are the most recent available values before day t and defined in the Appendix A. We additionally control for cofounding factors. The first type of confounding factor is sentiment measure of 10-K and 10-Q files in the quarter before the call, including the frequency of Financial-Negative words (LM_Neg), Financial-Positive (LM_Pos) words based on the sentiment dictionary in Loughran-McDonald (2011), and Harvard General Inquirer Negative words (GI_Neg). To make the regression coefficients comparable, we standardize all these sentiment variables in the full sample. The second type is the tone measure of average daily firm news in the same window as the dependent variable. For the average ESS lower (higher) than 50, the ESS_Neg dummy variable is equal to 1 (-1), and zero otherwise. The CSS_Neg dummy is defined similarly. The third type of confounding factor relates to past rating changes. The dummy of upgrade (downgrade) is equal to one if the bond experienced an upgrade (a downgrade) in one quarter before the call. We include all the bond and stock controls. All the variables are winsorized each quarter at the 0.5% level. Day and bond fixed effects are included. Standard errors are clustered at the bond and quarter levels, with corresponding t-values in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Dependent variable: Insurance net buy					
Day window	0	[0, +5]	[0, +10]	[0, +20]	[0, +30]	[0, +40]
	(1)	(2)	(3)	(4)	(5)	(6)
Neg_net	-0.014**	-0.038***	-0.034**	-0.045*	-0.064**	-0.064*
	(-2.27)	(-3.17)	(-2.14)	(-1.92)	(-2.13)	(-1.92)
LM_Neg	0.040	0.089	0.096	0.308	0.185	0.106
	(1.19)	(0.96)	(0.77)	(1.45)	(0.76)	(0.32)
LM_Pos	0.010*	0.009	0.018	0.008	-0.010	0.033
	(1.77)	(0.59)	(0.86)	(0.22)	(-0.23)	(0.62)
GI_Neg	-0.028	-0.076	-0.080	-0.302	-0.219	-0.146
	(-0.88)	(-0.83)	(-0.65)	(-1.47)	(-0.92)	(-0.44)
ESS_Neg	-0.008*	-0.003	-0.019	-0.013	-0.031	-0.016
	(-1.87)	(-0.44)	(-1.43)	(-0.62)	(-1.14)	(-0.48)
CSS_Neg	0.003	0.005	0.013	0.014	-0.006	-0.030
	(0.66)	(0.53)	(0.90)	(0.67)	(-0.31)	(-1.09)
Upgrade	0.050	0.242***	0.221**	0.361***	0.435***	0.526***
	(1.14)	(2.65)	(2.42)	(2.93)	(3.16)	(2.67)
Downgrade	-0.005	0.123**	0.017	-0.038	-0.066	-0.135
	(-0.58)	(2.07)	(0.26)	(-0.29)	(-0.38)	(-0.64)
Bond Controls	Y	Y	Y	Y	Y	Y
Stock Controls	Y	Y	Y	Y	Y	Y
Day FE	Y	Y	Y	Y	Y	Y
Bond FE	Y	Y	Y	Y	Y	Y
Adj-R^2	0.051	0.061	0.091	0.102	0.115	0.124
# of obs	17,297	17,297	17,297	17,297	17,297	17,297

Table 4. Predictability of conference call tone for future default risks

This table presents regressions for the relation between the earnings conference call tone and future default risks, over the period from January 2002 to December 2021. The sample consists of BBB^{-}-rated bonds issued by public firms holding earnings conference calls. The dependent variable in Column (1) is the downgrade dummy (DG) which is equal to one if the bond is downgraded to non-investment-grade in one year following the call, and zero otherwise. In Column (2) ((3)), the dependent variable is a dummy indicating a bond rating status marked as on negative watch (changing from not on watch to negative watch) in the next one year. The dependent variable in Column (4) is the issuer's average EDF in the next one year. The dependent variables are multiplied by 100. The independent variables are the most recent available values before the conference call day and defined in the Appendix A. We define the net negative tone of earnings conference call (Neg_net) as the sentiment measure (Hassan et al. (2019)) multiplied by -1. The higher the value, the more negative tone of earnings conference call. The tone measure is winsorized at the 1st and 99th percentiles and standardized to one-unit standard deviation and zero mean in the full sample. We include all the bond and stock controls. All the variables are winsorized each quarter at the 0.5% level. Day and bond fixed effects are included. Standard errors are clustered at the bond and quarter levels, with corresponding t-values in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variable	DG	On negative watch	Not on watch → on negative watch	Average EDF
	(1)	(2)	(3)	(4)
Neg_net	1.333**	0.657**	0.689**	0.387**
	(2.10)	(2.34)	(2.61)	(2.39)
Bond Controls	Y	Y	Y	Y
Stock Controls	Y	Y	Y	Y
Day FE	Y	Y	Y	Y
Bond FE	Y	Y	Y	Y
Adj-R^2	0.646	0.683	0.680	0.688
# of obs	20,642	20,642	20,642	20,642

Table 5. Effects of Default-related Component on Insurance Trading

This table reports bond-day panel regression results for the relation between the earnings conference call tone and the aggregate trading behavior of bond insurance companies in subsequent days following the call, over the period from January 2002 to December 2021. The sample consists of BBB$^-$-rated bonds issued by public firms holding earnings conference calls. The dependent variable is cumulative insurance net buy of bond i from conference day t to $t + 40$, calculated as the difference between par value of buy and par value of sell by all insurance companies holding bond i scaled by its issuing size. The independent variables are the most recent available values before day t and defined in the Appendix A. We first create a default-topic words dictionary from more than 100 default related documents such as textbooks and annual reports from credit rating companies, and manually select default related words based on the word frequency and topic relevance to defaults. We divide each transcript to the sentence level and transfer the whole articles into a list of bigrams (i.e., all adjacent two-word combinations), with necessary adjustments such as excluding stop words, reducing a word to its word stem, and switching a word to its base root mode (i.e., lemmatization). We classify each bigram in a conference transcript into the default-related group if the bigram has at least one word belonging to the default-topic words dictionary. For the group consisting of default-related bigrams, we calculate the corresponding net negative tone measure as the number of bigrams containing at least one word in Loughran and McDonald (LM) negative dictionary, deducting the number of bigrams containing at least one word in LM positive dictionary, divided by the total number of bigrams. We regress the overall net negative tone measure on the tone constructed from the default-related part (default-related tone), and separate the overall tone into two parts: the default-related component and the residual term. In Column (2), we use an alternative credit risk-related dictionary in Sethuraman (2019), and combine the two dictionaries in Column (3). We include all the bond and stock controls. Day and bond fixed effects are included. Standard errors are clustered at the bond and quarter levels, with corresponding t-values in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variable: Insurance net buy			
Dictionary	Our	Sethuraman	Combined
	(1)	(2)	(3)
Default-related component	-0.127**	-0.117**	-0.114**
	(-2.50)	(-2.11)	(-2.40)
Residual term	0.012	-0.001	0.017
	(0.25)	(-0.03)	(0.38)
Bond Controls	Y	Y	Y
Stock Controls	Y	Y	Y
Day FE	Y	Y	Y
Bond FE	Y	Y	Y
Adj-R^2	0.146	0.146	0.146
# of obs	14,641	14,641	14,641

Table 6. Effects of Conference Call Tone and Information Asymmetry on Insurance Trading

This table reports bond-day panel regression results for the relation between the earnings conference call tone and the aggregate trading behavior of bond insurance companies in subsequent days following the call, over the period from January 2002 to December 2021. The sample consists of BBB$^-$-rated bonds issued by public firms holding earnings conference calls. The dependent variable is cumulative insurance net buy of bond i from conference day t to $t+40$, calculated as the difference between par value of buy and par value of sell by all insurance companies holding bond i scaled by its issuing size. The independent variables are the most recent available values before day t and defined in the Appendix A. We define the net negative tone of earnings conference call (Neg_net) as the sentiment measure (Hassan et al. (2019)) multiplied by -1. The higher the value, the more negative tone of earnings conference call. The tone measure is winsorized at the 1st and 99th percentiles and standardized to one-unit standard deviation and zero mean in the full sample. In each quarter, we sort bonds into five quintiles based on bond illiquidity in Column (1), and firm analyst coverage in Column (2), respectively. The dummy variable high is equal to one for bonds or issuers ranked in the highest quintile. We include all the bond and stock controls. All the variables are winsorized each quarter at the 0.5% level. Day and bond fixed effects are included in the columns. Standard errors are clustered at the bond and quarter levels, with corresponding t-values in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variable: Insurance net buy		
Sorting variable	Bond illiquidity	Analyst coverage
	(1)	(2)
Neg_net	-0.055	-0.093***
	(-1.33)	(-2.73)
Neg_net×High	-0.102**	0.140**
	(-2.08)	(2.01)
High	-0.054	0.271**
	(-0.87)	(2.14)
Bond Controls	Y	Y
Stock Controls	Y	Y
Day FE	Y	Y
Bond FE	Y	Y
Adj-R^2	0.152	0.113
# of obs	15,732	20,642

Table 7. Effects of Conference Call Tone on Insurance Trading: Heterogeneous Insurers

This table reports bond-day panel regression results for the relation between the earnings conference call tone and the aggregate trading behavior of bond insurance companies in subsequent days following the call, over the period from January 2002 to December 2021. The sample consists of BBB$^-$-rated bonds issued by public firms holding earnings conference calls. The dependent variable is cumulative insurance net buy of bond i from conference day t to $t + 40$, calculated as the difference between par value of buy and par value of sell by all insurance companies holding bond i scaled by its issuing size. The independent variables are the most recent available values before day t and defined in the Appendix A. In each quarter for each bond in our sample, we sort the insurance companies with transaction records into equal halves based on certain characteristics. Specifically, the sorting variable is the holding par value-weighted average rating of all bonds in insurers' portfolios, and percentage of BBB$^-$-rated bonds of their portfolios in Panels A and B, respectively. In Panels C and D, we sort on insurers' leverage, calculated as total liabilities over net assets, and total assets. We define the net negative tone of earnings conference call (Neg_net) as the sentiment measure (Hassan et al. (2019)) multiplied by -1. The higher the value, the more negative tone of earnings conference call. The tone measure is winsorized at the 1st and 99th percentiles and standardized to one-unit standard deviation and zero mean in the full sample. We include bond and stock controls. Regressions are performed for insurers ranked in the top half group (>P50) and bottom half (<P50) group, separately. All the variables are winsorized each quarter at the 0.5% level. Day and bond fixed effects are included. Standard errors are clustered at the bond and quarter levels, with corresponding t-values in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variable: Insurance net buy		
	>P50	<P50
	(1)	(2)
Panel A: Sort on portfolio rating		
Neg_net	-0.046**	-0.007
	(-2.44)	(-0.52)
Panel B: Sort on proportion of BBB$^-$-rated bonds in portfolio		
Neg_net	-0.039*	-0.012
	(-1.96)	(-0.85)
Panel C: Sort on leverage		
Neg_net	-0.050**	-0.017
	(-2.08)	(-1.33)
Panel D: Sort on total assets		
Neg_net	-0.056**	-0.007
	(-2.10)	(-0.72)
Bond Controls	Y	Y
Stock Controls	Y	Y
Day FE	Y	Y
Bond FE	Y	Y

Table 8. Effects of Conference Call Tone on Insurance Trading: L&H and P&C

This table reports bond-day panel regression results for the relation between the earnings conference call tone and the aggregate trading behavior of bond insurance companies in subsequent days following the call, over the period from January 2002 to December 2021. The sample consists of BBB$^-$-rated bonds issued by public firms holding earnings conference calls. The dependent variable is cumulative insurance net buy of bond i from conference day t to $t + 40$, calculated as the difference between par value of buy and par value of sell by all insurance companies holding bond i scaled by its issuing size. The independent variables are the most recent available values before day t and defined in the Appendix A. We define the net negative tone of earnings conference call (Neg_net) as the sentiment measure (Hassan et al. (2019)) multiplied by -1. The higher the value, the more negative tone of earnings conference call. The tone measure is winsorized at the 1st and 99th percentiles and standardized to one-unit standard deviation and zero mean in the full sample. We include bond and stock controls. Regressions are performed for Property and Casualty insurers (P&C) and Life and Health insurers (L&H), separately. All the variables are winsorized each quarter at the 0.5% level. Day and bond fixed effects are included. Standard errors are clustered at the bond and quarter levels, with corresponding t-values in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variable: Insurance net buy		
Insurance type	P&C	L&H
	(1)	(2)
Neg_net	-0.034***	-0.019
	(-3.21)	(-0.68)
Bond Controls	Y	Y
Stock Controls	Y	Y
Day FE	Y	Y
Bond FE	Y	Y
Adj-R^2	0.058	0.105
# of obs	20,642	20,642

Table 9. Spillover Effects of Conference Call Tone on Insurance Trading of Bonds of Private Industry Peers

This table reports bond-month panel regression results for the relation between the conference call tone of public firms and the average insurance trading of BBB$^-$-rated bonds issued by private firms in the same industry, over the period from January 2002 to December 2021. The dependent variable is bond issuing size-weighted average of insurance net buy across all BBB$^-$-rated private bonds in the same industry with the public firm conducting conference calls, from conference day t to $t + d$. We use the Fama-French 5 industry classification. We define the net negative tone of earnings conference call (Neg_net) as the sentiment measure (Hassan et al. (2019)) multiplied by -1. The higher the value, the more negative tone of earnings conference call. The tone measure is winsorized at the 1st and 99th percentiles and standardized to one-unit standard deviation and zero mean in the full sample. We include bond and stock controls. We control for the average bond rating, time-to-maturity, and age are averaged across bonds issued by the private industry peers. Industry and quarter fixed effects are included. Standard errors are clustered at the bond and quarter levels, with corresponding t-values in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variable: Insurance net buy			
Day window	[0, +80]	[0, +100]	[0, +110]
	(1)	(2)	(3)
Neg_net	-0.043*	-0.049*	-0.059*
	(-1.91)	(-1.79)	(-1.85)
(Average) Bond Controls	Y	Y	Y
Industry FE	Y	Y	Y
Quarter FE	Y	Y	Y
Adj-R^2	0.256	0.267	0.266
# of obs	6,929	6,929	6,929

Table A1. Effects of Conference Call Tone on Insurance Buying and Selling

This table reports bond-day panel regression results for the relation between the earnings conference call tone and the aggregate buying and selling behaviors of bond insurance companies in subsequent days following the call, over the period from January 2002 to December 2021. The sample consists of BBB$^-$-rated bonds issued by public firms holding earnings conference calls. The dependent variable is cumulative insurance buying (selling) of bond i from conference day t to $t+d$, calculated as the par value of buy (sell) by all insurance companies holding bond i scaled by its issuing size, in Panel A (B). The independent variables are the most recent available values before day t and defined in the Appendix A. We define the net negative tone of earnings conference call (Neg_net) as the sentiment measure (Hassan et al. (2019)) multiplied by -1. The higher the value, the more negative tone of earnings conference call. The tone measure is winsorized at the 1st and 99th percentiles and standardized to one-unit standard deviation and zero mean in the full sample. We include all the bond and stock controls. All the variables are winsorized each quarter at the 0.5% level. All columns include day and bond fixed effects. Standard errors are clustered at the bond and quarter levels, with corresponding t-values in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Day window	0	[0, +5]	[0, +10]	[0, +20]	[0, +30]	[0, +40]
	(1)	(2)	(3)	(4)	(5)	(6)
			Panel A: Insurance buying			
Neg_net	-0.007**	0.006	0.008	0.017	0.021	0.030
	(-2.11)	(0.78)	(0.72)	(0.86)	(0.95)	(1.30)
Day FE	Y	Y	Y	Y	Y	Y
Bond FE	Y	Y	Y	Y	Y	Y
Adj-R^2	0.026	0.062	0.123	0.150	0.179	0.212
# of obs	20,642	20,642	20,642	20,642	20,642	20,642
			Panel B: Insurance selling			
Neg_net	0.010**	0.041***	0.043***	0.066***	0.080***	0.099***
	(2.49)	(2.95)	(2.65)	(3.10)	(2.98)	(2.84)
Day FE	Y	Y	Y	Y	Y	Y
Bond FE	Y	Y	Y	Y	Y	Y
Adj-R^2	0.076	0.081	0.092	0.123	0.150	0.169
# of obs	20,642	20,642	20,642	20,642	20,642	20,642

Table A2. The Effects of Conference Call Tone on Insurance Trading: Issuer Level

This table reports bond-day panel regression results for the relation between the earnings conference call tone and the aggregate trading behavior of bond insurance companies in subsequent days following the call at the issuer level, over the period from January 2002 to December 2021. The sample consists of BBB$^-$-rated bonds issued by public firms holding earnings conference calls. The dependent variable is the bond issuing size-weighted (sum of) cumulative insurance net buy across all BBB$^-$-rated bonds of the same firm from conference day t to $t + 40$ in Column (1) ((2)). The independent variables are the most recent available values before day t and defined in the Appendix A. We define the net negative tone of earnings conference call (Neg_net) as the sentiment measure (Hassan et al. (2019)) multiplied by -1. The higher the value, the more negative tone of earnings conference call. The tone measure is winsorized at the 1st and 99th percentiles and standardized to one-unit standard deviation and zero mean in the full sample. We control for the (average) bond and stock characteristics. All the variables are winsorized each quarter at the 0.5% level. Day and firm fixed effects are included. Standard errors are clustered at the firm and quarter levels, with corresponding t-values in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variable: Insurance net buy		
Aggregating method	Average	Sum
	(1)	(2)
Neg_net	-0.122***	-0.222*
	(-3.03)	(-1.66)
(Average) Bond controls	Y	Y
Stock controls	Y	Y
Day FE	Y	Y
Firm FE	Y	Y
Adj-R^2	0.107	0.092
# of obs	5,113	5,113

Table A3. Word List of the Default-related Dictionary

This table is the complete word list of the default-related dictionary. We create a default-topic words dictionary from more than 100 default related documents such as textbooks and annual reports from credit rating companies. We then manually select default-related words based on word frequency and topic relevance to defaults.

severity	difficulty	downturn	shortage	distress	deficit	risk
rating	drop	deterioration	uncertainty	pandemic	fluctuation	leverage
detriment	constraint	downgrade	credit	debt	bond	volatility
disruption	resilience	vulnerability	inability	safety	recession	barrel
decline	liquidity	liability	doubt	impairment	reliability	depreciation
loan	limit	fall	problem	slowdown	borrowing	delays
shock	decade	challenge	repayment	restructuring	cost	loss
crash	burden	recovery	cash	deployment	refinancing	reconciliation
resolution	competition	exposure	concerns	pressure	compression	reduction
hedges	expense	revenue	discount	break	cut	productivity
return	maintenance	strain	flexibility	inflation	mitigation	continuation
preliminary	profitability	insurance	grade	reserves	model	pipeline
outlook	sensitivity	intensity	quality	headwinds	utility	efficiency
capacity	yield	runs	expenditures	negotiation	valuation	landscape
regulation	infrastructure	strength	investment	reform	conditions	push
offering	charge	ratio	stop	litigation	completion	material
premium	prospects	earning	savings	spending	improvement	authorization
occupancy	obligations	demand	growth	utilization	concentration	transaction
resource	venture	trend	value	potential	renewal	expectation
cycle	operation	consolidation	rival	consideration	aggression	participation
discretion	force	environment	implementation	organization	outbreak	retail
expansion	segment	agreement	replacement	opportunity	storage	settlement
commitments	overview	legacy	compliance	application	metrics	schedule
requirement	capital	review	repurchase	bank	inventory	balance
maturity	change	proceed	contract	margin	solutions	capability
wholesale	persistency	incentives	opportunities	surprise	synergies	expertise
compensation	approach	focus	swing	system	dividend	status
variety	progress	availability	proposition	initiative	comment	excuse
intention	tax	evaluation	transition	retention	rate	