ESG News and Corporate Bond Pricing*

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Abstract

We examine how different ESG news scores shape corporate bond pricing. Using granular measures from LSEG MarketPsych ESG Analytics, we document that ESG Controversies, which reflect negative news, significantly widen credit spreads. ESG Buzz, reflecting the volume of ESG media coverage regardless of tone, has a similarly widening effect, underscoring the role of market attention. These effects are especially pronounced for firms closer to default, where investors are more sensitive to both negative signals and heightened coverage. In contrast, improvements in ESG Overall scores, which track net positive developments, are associated with narrower spreads, though the impact is modest and fades quickly.

1 Introduction

Do corporate bond prices respond to environmental, social, and governance (ESG) news? Bond prices generally reflect concerns about solvency and liquidity, and ESG practices can influence these risk dimensions in complex and sometimes opposing directions. While the implementation of responsible ESG policies may entail short-term costs, such practices can enhance customer loyalty, increase revenues, and mitigate legal liabilities over the long term. Negative ESG news (i.e., ESG controversies) may indicate greater credit risk in the long term. Prior studies document that firm-specific ESG issues, such as hazardous waste emissions, can affect credit ratings or borrowing costs (Graham et al., 2001; Goss and Roberts, 2011; Chava, 2014; Hasan et al., 2017). However, the broader impact of ESG news on bond pricing remains underexplored.

To address this gap, we conduct a comprehensive, descriptive analysis of how bond markets respond to ESG news scores using the LSEG (Refinitiv) MarketPsych ESG Analytics dataset.[1] We examine the relevance of the individual Environmental, Social, and Governance pillars, the asymmetric effects of negative (controversies) versus positive ESG news, and the role of news volume (buzz) in shaping bond pricing. Bondholders have strong incentives to consider ESG issues because ESG metrics often capture realized risks that directly impact bond valuations. When companies face ESG risks, such as environmental liabilities, social controversies, or governance failures, these risks can translate into either (1) lower future expected cash flows or (2) increased discount rates, as investors demand greater compensation for elevated risk. Market frictions may also play a role: some investors may systematically avoid bonds issued by firms with poor ESG profiles, limiting demand and pushing spreads higher. These dynamics are aligned with the argument in Hong and Kacperczyk (2009). While our analysis does not aim to disentangle these specific mechanisms, our results are

[1]MarketPsych originally partnered with Refinitiv to create this dataset. LSEG purchased Refinitiv in 2021.

consistent with channels involving credit risks (i.e., discount rate effects).

There are several considerations that motivate our study. First, the integration of ESG data into bond market analysis has a substantially shorter history than its application in the stock market.[2] While the relationship between ESG performance and equity pricing has been widely studied and integrated into investment strategies (e.g., Pástor et al. (2021); Avramov et al. (2022)), the role of ESG factors in bond markets remains comparatively underexplored and subject to ongoing debate. The question of whether ESG information materially influences the cost of debt has received limited scholarly attention. Existing studies tend to rely on ESG ratings or sustainability data disclosed directly by firms (Atif and Ali, 2021; Li et al., 2022; Apergis et al., 2022), rather than on external signals or real-time market perceptions. As a result, our understanding of how ESG information is processed by bond investors and whether it affects bond pricing remains incomplete.

Second, we focus on a wide range of ESG news scores, which distinguishes our approach from much of the existing literature that relies on ESG ratings. ESG ratings are largely based on self-reported corporate disclosures, such as sustainability reports and press releases. These inputs are often backward-looking, selectively disclosed, and susceptible to bias or greenwashing (Berg et al., 2022). In contrast, ESG news scores provide a more timely external perception of a firm's ESG performance by capturing how stakeholders such as journalists, analysts, and the public react to real-world ESG events. Rather than relying on static disclosures, these news scores reflect realized ESG incidents and their reception in the marketplace, offering a dynamic complement to traditional ratings.[3]

[2]Portfolio managers have a long history of using ESG ratings in stock analysis. Eccles et al. (2020) describe the founding of two of the oldest ESG data providers: KLD, which was started in 1988, and Innovest, which was created in 1992. Initially, this data was primarily used in equity analysis.

[3]Even without the self-reporting bias, ESG news scores may provide a different perspective on corporate sustainability issues than ESG ratings. ESG ratings are arguably a proxy for the likelihood of corporate sustainability issues. In contrast, ESG news scores reflect more of a realization of that likelihood. This distinction has been brought up in equity markets - for example, Glossner (2021) argues that negative ESG incidents have a stronger effect on stock prices than the ratings themselves.

Third, the granularity of the LSEG MarketPsych ESG Analytics dataset allows us to conduct a more nuanced analysis than has not been possible in prior work. This is particularly important for bonds, since the price impact of corporate ESG events may be more complex in the fixed-income market than in the equity market. Bonds are particularly sensitive to bad news as debtholders have a non-linear payoff structure that is effectively a put option written on the firm's assets (Merton, 1974; Datta and Dhillon, 1993). Unlike shareholders, bond investors may not fully benefit from positive ESG developments. The dataset includes broad ESG news scores, including an ESG Overall score that reflects positive ESG news, as well as measures capturing specific realizations of downside risks like ESG controversies and investor attention measured by ESG buzz. Importantly, these metrics are available separately for each of the E, S, and G pillars, enabling us to assess the distinct contributions of environmental, social, and governance news to bond pricing. This granularity helps us uncover how different types of ESG information may be incorporated into bond prices and whether investors respond differently to various kinds of ESG-related events. Specifically, this granularity helps us identify the effects of different types of news, such as positive versus negative or environmental versus social versus governance news, as well as the impact of the volume of news, captured by buzz.

Our primary findings pertain to the relationship between various ESG news scores and corporate bond credit spreads. We find that bond markets respond asymmetrically to ESG news: negative events exhibit a stronger pricing response than positive ones. Specifically, ESG controversies are consistently associated with wider credit spreads, suggesting that investors perceive such events as signals of elevated credit or reputational risk. A one standard deviation increase in ESG controversies is associated with a 4 basis point rise in credit spreads. Moreover, portfolio-level analysis reveals that bonds in the highest quintile of ESG controversies outperform their lower-controversy counterparts by 1.12% over a one-year horizon, consistent with a positive risk premium associated with adverse ESG news. In contrast,

favorable ESG news, captured by ESG Overall, has a more muted effect and leads to only modest spread tightening.

ESG media attention, as measured by the Buzz score, also leads to wider spreads, consistent with findings in Gao et al. (2020). We find that a one standard deviation increase in ESG Buzz is associated with a 5 basis points widening in credit spreads. At portfolio level, bonds in the highest quintile of ESG Buzz outperform those in the lowest quintile by 0.66% over a one-year horizon. Overall, the evidence indicates that credit markets are more responsive to negative ESG developments than to positive signals. This asymmetry underscores the importance of effectively managing both underlying ESG risks and their external perception. Our findings are consistent with structural models of credit risk (e.g., Merton (1974)), which emphasize the role of downside risk in determining bond valuations.

If we focus on the ESG pillars, Governance seems to be consistently priced by bondholders across all three ESG news scores. Governance controversies, overall scores, and media buzz all show significant effects, indicating that bond investors closely monitor ESG news associated with governance risks. Environmental and Social pillars exhibit more nuanced patterns. Environmental controversies and overall scores both show significant pricing effects on spreads, but environmental media buzz generally does not. Social controversies and Social buzz tend to widen spreads, yet Social overall scores (capturing net positive news) remain insignificant. Examining different ESG pillars and categories of news separately is crucial, as it reveals distinct investor sensitivities and provides a more nuanced understanding of how various aspects of ESG information impact bond pricing.

The next set of novel findings of our study shows that the relationship between ESG news scores and bond spreads is strongly influenced by credit risk. Specifically, bonds issued by firms with higher default risk exhibit greater sensitivity to ESG news. Negative ESG signals widen spreads more sharply for these firms, as such news increase concerns over legal, reputational, or operational vulnerabilities that could impair recovery values in default.

For example, the impact of ESG controversies on spreads rises from 0.02 in the subsample of highly rated issues to 0.06 among low-rated issues. Conversely, positive ESG news is associated with narrower spreads, particularly for lower-rated firms where sustainability improvements may meaningfully enhance long-term solvency.

Similarly, we document that ESG news scores are significantly related with observable measures of credit risk. For example, higher ESG controversy scores are significantly associated with weaker credit ratings, higher default probabilities, and greater idiosyncratic volatility. Likewise, even tone-neutral ESG buzz is linked to increased firm-specific risk, largely through elevated perceived uncertainty. Finally, positive ESG news is associated with stronger credit profiles. These results underscore the importance of the credit risk channel in mediating how ESG information is priced and highlight the dual role of ESG news scores as both drivers and predictors of credit risk.[4]

Finally, we document the same notable asymmetric pattern in the relation between ESG news scores and bond returns. Bonds associated with high controversy scores tend to earn higher future returns, while those with positive ESG news, like strong ESG Overall scores, exhibit lower subsequent returns. Portfolio analyses reveal that these patterns are largely driven by exposures to standard risk factors. For example, the default risk factor decreases the overall abnormal performance of the ESG controversies and buzz portfolios, which means that at least partially, these ESG scores are related to default and overall market risk. Still, portfolios sorted by ESG Controversy and Buzz scores exhibit modest residual alphas, implying that ESG news offers incremental information beyond traditional risks. These findings support the idea that ESG disclosures help to price risk in credit markets and may help with return forecasting and trading strategies. Additionally, we document that the

[4]Additional tests confirm that liquidity risk might also play a role in mitigating the connection between ESG news and bond pricing. We show that ESG news scores (particularly ESG controversies and BUZZ) relate to two distinct dimensions of bond market liquidity: trading activity and transaction costs. See additional discussion in sections 4.3 and 5.3.

impact of ESG controversies and media buzz on credit spreads endures for up to one year, whereas the positive influence of the overall ESG score is short-lived and dissipates after one month. Overall, these results help clarify the nature of what the ESG Controversy measure captures: information that bond investors treat as a long-lasting signal of issuer risk.[5] We subject our analysis to an extensive set of robustness checks, all of which confirm the stability of our findings.

We contribute to the literature on several dimensions. First, we add to the bond pricing literature by providing comprehensive evidence on how different categories of ESG news scores influence corporate bond pricing. Utilizing the granular LSEG MarketPsych ESG Analytics dataset, we examine three distinct dimensions of ESG news flow: (1) ESG Controversies, which capture adverse events and negative sentiment; (2) Overall ESG Scores, reflecting favorable ESG-related developments and positive sentiment; and (3) ESG Buzz, which measures the news volume/intensity and proxies for investor attention. For each category, we examine both the aggregate effect and the separate contributions of the environmental, social, and governance pillars. This approach allows us to move beyond ESG ratings and firm disclosures, offering a nuanced view of how real-time, media-based ESG information is priced in the corporate bond market. While prior studies have linked specific ESG concerns, such as environmental liabilities (Chava, 2014) or corporate social responsibility (CSR) issues, to higher borrowing costs (Goss and Roberts, 2011), our study broadens this scope by separately analyzing the effects of positive and negative ESG news, disaggregating results across environmental, social, and governance categories, and introducing ESG media buzz as an additional pricing signal.

Second, we contribute to the ESG literature by investigating the central role of credit risk and liquidity in mediating the relationship between ESG news and bond pricing. Our

[5]The results are consistent with the interpretation that the market may be updating its belief about firms' underlying ESG quality in a Bayesian fashion. We thank an anonymous referee for pointing this out.

results extend this literature by demonstrating that ESG news scores are directly priced into corporate bond spreads and closely linked to firms' underlying credit fundamentals. This finding aligns with recent research indicating that ESG performance interacts with firm-level creditworthiness (Do, 2022; Boubaker et al., 2020), implying that ESG signals can help investors anticipate changes in credit risk.

The paper is organized as follows. Section 3 describes our data and sample construction along with the methodology employed in our analysis. Sections 4 and 5 present our main results and their implications, respectively. Section 6 concludes with a discussion of implications, limitations, and recommendations.

2 Literature Review and Hypotheses Development

Portfolio managers have a long-established practice of incorporating ESG information in equity analysis. In contrast, the integration of ESG data into bond market investment decisions is relatively recent and remains an evolving area of study.[6] The question of whether ESG information influences the cost of debt has received limited scholarly attention, and studies mainly focus on ESG ratings or data disclosed directly by the firms (Jiraporn et al., 2014; Menz, 2010).

2.1 ESG News and Bond Markets

Equity and bond holders both hold contingent claims on a firm's assets, and significant news stories that impact a company's financial or operational standing tend to be reflected in security prices. However, when it comes to ESG news, the connection with firm value can be

[6]Credit rating agencies (CRAs) serve a critical role in assessing the risk of bond issues, but have not traditionally incorporated ESG risk in their evaluation process. The first CRA to publish ESG ratings in conjunction with credit ratings (Fitch Ratings) did so only as recently as 2019, and the largest CRA (S&P Global) discontinued this practice in 2023, based on investor feedback that raised concerns about confusion in interpretation.

a double-edged sword. On the one hand, the risk mitigation view states that positive ESG practices might reduce firm risk via generating higher and/or less volatile cash flows. On the other hand, investments in ESG may be a waste of scarce resources, resulting in lower cash flows and higher firm risk (Goss and Roberts, 2011). Debt holders might be particularly concerned about how ESG news might affect credit or liquidity risk; however, the extent to which bond prices are influenced by a broad range of ESG issues remains an open question. Recent studies indicate that debt instruments do react to negative ESG news related to environmental concerns in particular. For instance, Chava (2014) and Painter (2020) document that environmental concerns increase interest rates on corporate loans and municipal bonds, respectively. Oikonomou et al. (2014) show that firms with stronger corporate social performance enjoy lower bond yield spreads and higher credit ratings, indicating that socially responsible behavior reduces perceived credit risk and borrowing costs.

It is also plausible that news across a broad range of ESG issues may not have a lasting or economically meaningful impact on bond pricing. While increasingly common in the equity valuation landscape, the use of ESG news scores remains contentious in the fixed-income market. Bond analysts arguably incorporate ESG data differently than equity analysts,[7] and one cannot extend overall ESG related equity results to the fixed income domain.

This study is the first to examine the impact of a broad set of ESG news scores in the corporate bond market. This setting is both underexplored and uniquely informative. The bond market is one of the largest asset classes and a critical source of corporate financing, yet its reaction to ESG news remains relatively understudied compared to equity markets.[8] Bonds are known to react asymmetrically, often more sharply to negative news, making

[7]For example, a director of ESG Integration at a global asset management firm states: "Each of our investment teams look at ESG information differently. Fixed income will look at long-term credit from a liability perspective while the fundamental equity team will look at it differently, real estate will assess LEED metrics, etc."(The SustainAbility Institute, 2023)

[8]The U.S. fixed income market is the largest in the world; corporate bonds, with a value of over $10 trillion, are the second biggest category of this market.

them a distinct lens through which to assess ESG effects. We leverage a comprehensive set of ESG news scores from MarketPsych's core file, supplemented by selected measures from the advanced file, to capture the nature of ESG news (positive vs. negative), variation across ESG pillars and categories, and the intensity of media coverage, or "buzz." This granular approach allows us to investigate how the content and volume of ESG information influence bond spreads, offering a more nuanced understanding of ESG's role in fixed income markets.

2.2 Hypothesis Development

Based on the brief literature review presented in the previous section, we can conclude that generally, bond investors react to news that capture information related to their future cash flows or expected discount rates. Furthermore, bond investors tend to disproportionately care about bad news, given their limited upside potential (Merton, 1974). Negative ESG news related to solvency or liquidity is particularly relevant. Building on this, we expect (1) bond spreads and returns to respond to ESG news relevant to bondholders, (2) a stronger reaction to negative relevant ESG news, and (3) amplified effects when firms face solvency risks. Our granular ESG data enables us to test these predictions and explore the distinct impacts of different ESG pillars and categories. We extend on each one of these core predictions below.

2.2.1 ESG News Scores and Credit Spreads

Our first hypothesis examines how different types of ESG news influence corporate bond pricing. We use three ESG news scores from MsrketPsych's core files: ESG Controversies, ESG Overall, and ESG Buzz. Each measure captures a distinct dimension of ESG news and can therefore influence investor views of credit risk in different ways.

ESG Controversies proxy for negative ESG events. This measure aggregates adverse media reports involving violations of environmental, social, or governance norms such as regulatory sanctions, labor disputes, or environmental incidents. Given bondholders' asym-

metric payoff structure and high sensitivity to downside risk, we expect ESG Controversies to be positively associated with credit spreads. That is, firms facing more ESG controversies likely incur higher borrowing costs, reflecting increased perceived credit risk through reputational, regulatory, or operational channels.

ESG Overall provides a summary assessment of a firm's exposure to ESG news. It captures favorable developments across E, S, and G pillars and reflects the firm's perceived sustainability performance and conduct. Higher values of ESG Overall suggest a stronger ESG profile and thus we consider this score as a proxy for positive ESG news.[9] Therefore, we expect ESG Overall scores to be associated with narrower spreads due to improved perceptions of long-term risk and resilience. However, given the asymmetric way in which bond investors process information, we expect that the spread-tightening effect of ESG Overall is modest.

ESG Buzz reflects the volume of ESG media coverage, regardless of sentiment. As a tone-neutral measure, its effect on credit spreads is theoretically ambiguous. While high media attention can reduce information asymmetry,[10] It can also be perceived as a signal of underlying problems, especially when coverage coincides with negative events. Consistent with bond investors' asymmetrically negative response patterns, we expect the second effect to dominate, leading to ESG Buzz being positively associated with credit spreads.[11]

In summary, our predictions reflect both the relevance of ESG news for credit spreads

[9]Technically, the ESG Overall variable is not just incorporating the positive events, but rather a net effect. However, it does have a positive tonality, and it is the closest proxy for a positive news variable provided by MarketPsych. In untabulated results, we built our own categories of positive news measured based on only positive events, and we confirm that it behaves very similarly to the ESG Overall proxy when it comes to bond pricing.

[10]Gao et al. (2020) find that increased traditional news media coverage is significantly associated with lower corporate bond yield spreads, indicating that broader media attention reduces firms' cost of debt. Also, Dang et al. (2019) shows that news media coverage serves a monitoring role and affects both the cost of debt and speed of leverage adjustment. Jia et al. (2023) extend this research internationally by showing that intense news exposure and positive media sentiment lower interest rates on corporate bank loans.

[11]It is important to note that MarketPsych incorporates Buzz in the construction of their ESG news score - see discussion in section 3.1.3.

and the asymmetric nature of bond market reactions to news in general: investors respond more strongly to negative signals (Controversies and Buzz) than to positive ones (Overall). We therefore formally test the following hypotheses:

H1a: *Higher ESG Controversies are associated with wider credit spreads.*

H1b: *Higher ESG Overall scores are associated with narrower credit spreads.*

H1c: *Higher ESG Buzz is associated with wider credit spreads.*

Finally, the granularity of our data enables us to examine these dynamics not only at the aggregate level but also across individual ESG pillars, providing a deeper understanding of which dimensions of ESG news drive bond market reactions. The Core and Advanced packages also offer scores related to the individual categories that contribute to each of the three above-mentioned pillars. These categories can provide interesting dynamics - for example, we expect categories that pertain to short-term and tangible issues to be particularly interesting to bondholders. Although we investigate these categories, we only refer to some of the results as untabulated for the sake of brevity. See discussion in Section 3 for additional details on granular categories.

2.2.2 The Role of Credit Risk

Credit risk is a central concern for bondholders (Giesecke et al., 2011), and ESG news, particularly negative ones, can influence perceptions of a firm's financial health. For bond issuers with elevated default risk, ESG controversies, intense ESG media buzz, or poor overall ESG performance may act as potent signals of reputational, regulatory, or operational vulnerabilities. These risks can heighten concerns about the firm's solvency, reduce the expected residual value of assets in distress scenarios, and shorten the distance to default, ultimately increasing the cost of debt.

Furthermore, ESG news scores themselves may capture expected increases in credit risk.

Empirical evidence supports this mechanism. Rizwan et al. (2017) find that firms engaged in corporate social responsibility (CSR) activities are less likely to default, while Stellner et al. (2015) show that strong CSR performance is associated with better credit ratings and narrower credit spreads. Li et al. (2022) document that lower ESG ratings increase default risk among Chinese-listed firms, and Apergis et al. (2022) report similar findings for U.S. companies. Collectively, this literature underscores that ESG performance is priced through the credit risk channel, particularly when firms are financially vulnerable.

We build on this foundation by proposing that the effect of ESG news on bond spreads is amplified when credit risk is high. For firms nearing distress, negative ESG developments are likely to cause more pronounced spread widening, reflecting investors' increased sensitivity to signals of further credit deterioration. These ESG risks can serve as catalysts for existing financial fragility.[12]

Conversely, positive ESG signals (reflected in high ESG Overall scores) may have a more significant impact when firms are at higher risk of default. In such cases, improvements in ESG performance can signal better governance, long-term risk mitigation, or stakeholder alignment, offering reassurance to investors and contributing to a modest tightening of spreads.

Our second hypothesis therefore, considers how the relationship between ESG news and bond spreads depends on issuer credit risk. Specifically, we posit that:

H2: *The relation between ESG news scores and bond spreads is stronger when the distance to default is short.*

Next, we discuss the data and methodology used to empirically investigate our hypotheses.

[12]The same argument can be made related to liquidity risk. Preliminary untabulated results support this channel as well. We discuss this further in Section 5.

3 Data and Methods

This section introduces our ESG news variables, describes the construction of our bond-level panel sample, outlines the empirical approach and explains the control variables used in the analysis.

3.1 ESG News Scores

We obtain daily ESG news scores from LSEG MarketPsych ESG Analytics Companies dataset, which covers over 20,000 firms globally across more than 120 countries. These scores are generated using natural language processing (NLP) of traditional media and social media sources, capturing sentiment (positive or negative), relevance, and urgency of ESG content.

MarketPsych provides two tiers of ESG scores: Core and Advanced. The Core scores are summary indicators derived from more granular components available in the Advanced feed. Our analysis focuses primarily on three Core-level measures: ESG Overall (which proxies for positive news), ESG Controversies (which captures negative ESG events), and ESG Buzz (which measures the volume and intensity of media attention).[13] These three signals allow us to separately assess the effects of positive ESG developments, negative ESG events, and the intensity of ESG media coverage. We also explore pillar-level scores (Environmental, Social, and Governance). In this study, we focus on the company-level Core scores, and, where appropriate, supplement them with category variables from the Advanced dataset. When doing so, we follow MarketPsych's aggregation methodology to ensure consistency across data sources. Although we examine these underlying categories to better understand

[13]The Core RMA package also provides a fourth type of score, ESGC or ESG Combined, which is designed to overlay the ESG Overall Score with the ESG Controversy score to provide a comprehensive evaluation of the company's sustainability impact and conduct over time. Since we are interested in separating positive and negative type scores, we do not include this variable in the main analysis. As expected, the results using this variable are ambiguous (and are available upon request).

the structure of the scores, our primary analysis includes only the aggregate scores and the three ESG pillars for the sake of brevity.[14] We elaborate on each of these variables below.

3.1.1 ESG Controversies

The ESG Controversy scores provided by MarketPsych are designed to capture the prevalence of negative themes, events, and sentiment in news and social media coverage (unlike overall ESG scores, controversy scores only reflect adverse content). The Controversy values thus represent an industry-relative, exponentially-decaying, percentile rank of the relevant scores for the asset over the past 365 days. These scores are thus designed to provide a single overview of the company's unsustainable impact and controversial conduct. The original ESG Controversy score ranges from 1 (indicating most controversies) to 100 (indicating fewest controversies). For easier interpretation, we invert this so that higher values correspond to more controversies. Granular controversy pillar and category scores are aggregated based on data in the Advanced package using MarketPsych's methodology to match the structure of the Core ESG Overall variable and its components.

To illustrate how ESG news are mapped into controversy scores, we present two examples in Appendix B: 1) the 2016 Wells Fargo account fraud scandal and 2) the 2015 ExxonMobil climate disclosure case. The dataset records granular categories (e.g., consumer harm, governance failures, environmental misconduct) that aggregate into broader ESG controversy scores. Table B.III reports average values before and after each event, with Panel A showing category-level indicators and Panel B presenting aggregate scores. For Wells Fargo, governance categories (GC1C and GC2C) more than doubled, while consumer harm (SC3C) also increased substantially. Similarly, ExxonMobil exhibits a rise in environmental controversy (EC1C) following the climate disclosure investigations. At the aggregate level, the ESG Controversy score rank declines in relative terms (lower values for controversy ranks

[14] Results incorporating the full set of underlying categories are available upon request, and detailed descriptions of each component are provided in Tables B.I and B.II of Appendix B.

represent an increase in controversies), with both firms showing lower overall rank scores in the post-event period. These examples demonstrate how the MarketPsych ESG Analytics dataset converts narrative news events into quantitative controversy measures.

3.1.2 ESG Overall

The ESG Overall score, sourced from MarketPsych's Core data package, provides a holistic measure of a company's ESG reputation based on news and social media content. Designed with positive tonality, this score ranges from 1 to 100, where higher values reflect more favorable coverage and sentiment regarding a firm's ESG performance. A score closer to 100 indicates strong, positive commentary, while a score near 1 signals a predominantly negative perception.

The overall score is constructed as a weighted composite of ten ESG categories, which are grouped into three primary pillars: Environmental, Social, and Governance. Each of these categories and pillars is percentile ranked relative to a firm's industry peers over the same time period, allowing for meaningful cross-firm comparisons within sectors. The environmental pillar captures references to a company‘s positive environmental impacts, such as sustainability initiatives or innovation. The social pillar reflects commentary on the firm's contributions to society, including workforce treatment, product responsibility, and community engagement. Finally, the governance pillar summarizes perceptions of the firm's governance quality, including board practices, CSR strategy, and shareholder relations.

All three pillars are scaled from 1 to 100 and feed into the final ESG Overall score. The most granular Core scores are the category-level scores, which serve as the foundation for building pillar and overall scores. This structure enables both high-level assessments and deeper insights into the specific ESG dimensions driving each company's score.

3.1.3 ESG Buzz

The ESG Buzz score, available in MarketPsych's Core package, serves as a proxy for the volume and intensity of ESG media coverage surrounding a company within a given time window. Unlike ESG Overall and Controversy scores, which are bounded between 1 and 100, the Buzz score starts at 0 (indicating no relevant ESG content) and has no upper limit—higher values reflect greater media attention. Because of this open-ended scale, the Buzz variable is naturally right-skewed, and we use the natural logarithm of Buzz (LN(BUZZ)) in our empirical analyses to normalize its distribution.

The Buzz score plays an important role in the ESG scoring process: both ESG Overall and ESG Controversy scores are normalized using the corresponding Buzz score to control for variation in media coverage across firms. The Buzz variable is not a simple count; it accounts for both the number and intensity of ESG references to a company, which may result in non-integer values.

The Core-level Buzz score captures ESG media activity over a 365-day period, offering a long-term view of company exposure. In addition, the Advanced package provides Buzz scores for each of the ten ESG categories. We aggregate these category-level scores into the three ESG pillars—Environmental, Social, and Governance—using MarketPsych's recommended methodology to maintain consistency in measurement.

3.2 Sample and Data Construction

We start with the daily values of ESG news scores provided in the MarketPsych's Core package (i.e. ESG Controversies, ESG Buzz, ESG Overall and its pillars/categories) and aggregate these at monthly level by taking the average daily value per month for each firm. In addition, we construct pillar level Controversies and Buzz scores based on the granular data from the Advanced package following the methodology described in the white paper

(discuss this more, maybe a footnote), and we aggregate these at monthly level to match the respective core package scores.

We then use company identifiers provided by RMA to merge our dataset of ESG controversies with CRSP and COMPUSTAT to obtain firm characteristics (specifically, we use the ticker and company name from RMA to match with CRSP and COMPUSTAT). Institutional ownership data are from the Thomson Reuters (TFN; formerly CDA/Spectrum) Institutional Holdings File, which is extracted from 13F filings by institutional investment managers to the SEC.

We obtain bond issue-level information by combining data from FINRA TRACE (Trade Reporting and Compliance Engine) and FISD (Fixed Income Securities Database). These datasets contain bond pricing information as well as bond issue characteristics. We use the procedures described in Asquith et al. (2013) and Dick-Nielsen (2009, 2014) to gather our sample from the WRDS Bond Database. Following Bhojraj and Sengupta (2003) and Chichernea et al. (2019), convertible bonds and bonds with less than one year until maturity are eliminated from the sample. In addition, we drop observations with extreme outliers (negative yields and yields higher than 100%) and merge our final bond dataset with the ESG controversies data using time and firm PERMNO identifiers.

Our final panel dataset includes 660,782 bond issue-month observations covering 15,286 issues of bonds by 1,214 unique firms from 2003 to 2021. Table I describes the number of bond issues, number of firms, ESG news scores and main bond/firm characteristics for every year covered.

[Insert Table I about here.]

The results in Table I reflect that the number of bond issues is fairly evenly distributed through the years. Our analysis considers on average 3,967 bond issues per year that corresponds to an average of 576 firms per year. The average yearly bond spread fluctuates

generally with macroeconomic conditions as expected (e.g., we observe a jump in credit spreads around the sub-prime mortgage crisis in 2008-2009); while the average ESG CON variable is fairly stable as it has been scaled to represent a percentile-rank score. While ESG CON presents a fairly stable distribution through the years of our sample, ESG Overall increases on average from o.61 in 2003 to 0.74 in 2021. ESG Buzz presents a significant jump after 2016 (and in particular in 2019), reflecting the increased attention investors gave to ESG related issues during that period.

Our primary variable of interest is corporate bond yield spreads (SPRD). Corporate credit spreads are estimated by taking a difference between the raw yield and the Treasury security with the closest maturity:

$$\text{SPRD}_{i,t} = \text{YLD}_{i,t}^{N} - r_t^T, \tag{1}$$

where $\text{YLD}_{i,t}$ is the raw yield of issue i at time t. N is the maturity of the corporate bond issue. T is the maturity of the matching Treasury bond. r_t^T is the Treasury bond yield at time t with the term to maturity closest to N.

Our analysis includes controls related to both bond issue and bond issuer (i.e. firm) characteristics. Previous literature typically explains bond spreads in terms of characteristics that proxy for default, maturity, size, and other issue characteristics (Bhojraj and Sengupta, 2003). We rely on arguments in Bhojraj and Sengupta (2003) and Huang and Petkevich (2016b) to explain the expected relationship between spreads and issuer characteristics. Larger, more profitable firms with more tangible assets are expected to have lower spreads because they are expected to have fewer liquidity/solvency problems. Also, movements in aggregate credit and term spreads tend to affect individual issue spreads in the same direction. Furthermore, Campbell and Taksler (2003) and Bao et al. (2011) present evidence that high idiosyncratic volatility and illiquidity are positively related to credit spreads.

Appendix A provides a detailed description of each variable used in this paper.

Next, we present the summary statistics computed over the entire period in Table II.

[Insert Table II about here.]

The main ESG Controversy (ESG CON) and ESG Overall (ESG OVRL) scores are fairly well behaved, which is to be expected given that they represent some version of percentile ranks. In contrast, the ESG Buzz (ESG BUZZ) variable is significantly skewed, reflecting the way this variable is constructed. The mean of corporate credit spreads over our sample period is 1.81% with a standard deviation of 1.81%. The average credit rating and market size of the bond issue are 7.97 (corresponds to a rating of approximately BBB) and $661 million. These values are similar to those reported in the literature (Bhojraj and Sengupta, 2003; Huang and Petkevich, 2016a). Furthermore, the equity market capitalization and institutional ownership averages indicate a sample comprised of relatively large firms with significant institutional ownership. In addition to the summary statistics presented above, it is interesting to look at the distribution of our key ESG variables. Since we are particularly interested in their connection with credit risk, we graph box plots for ESG Controversies, ESG Overall, and ESG Buzz conditional on the bonds' credit rating. The results are presented in Figure 1 below.

[Insert Figure 1 about here.]

Generally, non-investment grade issues seem to have less coverage (i.e. lower BUZZ), and lower positive ESG news (ESG OVRL) relative to their investment grade counterparts. Interestingly, ESG controversies present the least amount of difference between the two groups, although our hypotheses and our results support the fact that controversies matter the most for these types of bonds.

4 Main Results

We begin our analysis by examining the relationship between different types of ESG news and its components and corporate credit spreads. We then continue by investigating whether the strength or direction of this relationship varies with firms' credit risk. Finally, we explore what are the drivers of the connection between ESG news scores and bond spreads.

4.1 ESG News Scores and Credit Spreads

In this section, we test the effect of ESG news on corporate bond spreads using a baseline regression model that estimates next month's credit spreads as a function of these ESG News Scores and controls:

$$\text{SPRD}_{i,t+1} = \beta_0 + \beta_1 \text{ESG News Scores}_{i,t} + \mathbf{X}_{i,t}B^{'} + \epsilon_{i,t}, \tag{2}$$

where, β captures the effect of ESG News Scores as measured by ESG controversies (ESG CON), ESG overall (ESG OVRL), and volume/intensity of ESG news (ESG BUZZ). B represents the coefficients on a set of control variables. $\mathbf{X}$ is the matrix of controls that includes ratings (RATING), duration (DUR), bond issue bid-ask spread (BAS), size of the bond issue (SIZE BOND), bond return (BOND RET), aggregate credit spread (BAA SPREAD), term spread (TERM SPREAD), book-to-market ratio (BM), market capitalization (SIZE EQ), profitability ratio (ROA), tangibility (TNG), leverage (LEV), idiosyncratic volatility (IVOL), equity return (RET EQ), and institutional ownership (IO) (see Appendix A for a detailed explanation of each variable). All β and B coefficients are standardized (mean = 0, sigma = 1) to ensure comparability across variables and ease of interpretation. This baseline regression specification also uses issue and month fixed-effects to account for unobserved

heterogeneity across issues and time, and t-statistics are based on robust standard errors.[15]

4.1.1 ESG Controversies

We begin our analysis by examining the effect of ESG controversies (ESG CON) alongside their individual Environmental (E CON), Social (S CON), and Governance (G CON) components on corporate credit spreads. ESG CON is a rank-based measure (ranging from 1 to 100) that captures the volume and severity of negative ESG media coverage across various media outlets. Higher values of ESG CON indicate greater exposure to controversial or adverse ESG events reported in the news. Based on the above discussion, we expect ESG CON to be positively associated with credit spreads, as increased negative ESG publicity may raise concerns about a firm's reputation and, in turn, its overall creditworthiness. Table III presents the results of this analysis.

[Insert Table III about here.]

Model (1) examines the effect of the aggregate ESG controversies score (ESG CON) on corporate credit spreads. Consistent with our hypothesis, we find a positive and statistically significant relationship at the 1% level. Specifically, the coefficient on ESG CON is 0.04 with a t-statistic of 9.39, indicating that a one-standard-deviation increase in ESG controversies (such as a rise from 0.50 to 0.67) is associated with a 4 basis points increase in credit spreads.

Models (2) through (4) separate the aggregate ESG CON measure into its Environmental (E CON), Social (S CON), and Governance (G CON) components. Each component exhibits a positive and statistically significant association with credit spreads, with coefficients ranging from 0.02 to 0.04, all significant at the 1% level. These findings suggest that all three ESG dimensions contribute meaningfully to the pricing of ESG risk in a company's bonds.

[15] As a robustness check, we employ a battery of alternative model specifications and document qualitatively similar findings.

We conduct a more detailed analysis by examining ESG controversy categories within each pillar. Untabulated results show that Social controversies, particularly community, product, and workforce, are more consistently positively priced. These categories likely have more immediate financial consequences, such as operational disruptions, legal liabilities, or reputational costs, which bond investors perceive as potentially relevant to credit risk.

Taken together, the results indicate that higher levels of ESG controversies, both in aggregate and across individual pillars, are associated with wider credit spreads. This is consistent with the interpretation that bondholders demand higher risk premiums for issuers exposed to ESG controversy (Chava, 2014; Goss and Roberts, 2011), reflecting elevated perceptions of credit risk linked to reputational, regulatory, or operational vulnerabilities.

4.1.2 ESG Overall

Next, we examine a different dimension of ESG news that is not directly tied to controversies—namely, the overall ESG score (ESG OVRL). Specifically, we analyze the relationship between ESG OVRL and corporate credit spreads, along with the effects of its Environmental (E OVRL), Social (S OVRL), and Governance (G OVRL) components. Similar to ESG CON, the ESG OVRL measure is based on media coverage and constructed as a rank ranging from 1 to 100. However, while ESG CON captures adverse or negative news events, ESG OVRL reflects net favorable ESG developments as reported across various news sources. Higher values of ESG OVRL indicate greater exposure to positive ESG news. According to our expectations, a higher ESG OVRL score should be associated with narrower credit spreads. Such news may alleviate investor concerns around ESG risk and signal improved long-term sustainability prospects, thereby reducing required risk premiums. Table IV presents regression estimates evaluating the relationship between corporate credit spreads and ESG OVRL.

[Insert Table IV about here.]

Model (1) shows that ESG OVRL is significantly associated with tighter credit spreads. The coefficient estimate of –0.01, with a t-statistic of –2.78, implies that a one-standard-deviation increase in positive ESG news is associated with a 1 basis point reduction in spreads. While the magnitude may appear modest, it is economically meaningful at scale: even a 1 basis point reduction in spread can result in a notable effect for large corporate bond issues.

Models (2) through (4) decompose the ESG OVRL score into its pillar dimensions. The environmental (E OVRL) and governance (G OVRL) pillars are both statistically significant and associated with tighter spreads, suggesting that investors view improvements or positive developments in these areas as credit-enhancing. In contrast, the social component (S OVRL) is statistically insignificant, consistent with the idea that markets tend to view environmental and governance factors as more directly linked to firm fundamentals and long-term solvency.

We further examine the effects of ESG categories within each pillar. In the environmental dimension, innovation-related news exerts the strongest impact on bond spreads, reflecting the immediate market consequences of environmental innovations. All three governance categories (management practices, shareholder relations, and CSR strategy) are also negatively associated with spreads, consistent with the view that strong governance mitigates perceived credit risk. These patterns align with the results reported in Table IV.

To sum, we find that favorable ESG news, particularly in the environmental and governance domains, is associated with narrower credit spreads. However, the magnitude of this effect is smaller than that observed for ESG controversies, highlighting the asymmetric pricing of ESG information in the corporate bond market (Krüger, 2015). The asymmetric reaction of bondholders to ESG information is also consistent with the structural credit risk model of Merton (1974), in which bond values are highly sensitive to downside risk. Since bondholders are most vulnerable when a firm's asset value approaches the default threshold, negative ESG events such as regulatory fines or corruption issues increase perceived credit

risk and widen spreads. In contrast, favorable ESG developments may improve long-term firm value but have a limited marginal effect on default probabilities, resulting in a more muted bond market reaction.

In terms of practical interpretation, the findings imply that while firms may benefit marginally from positive ESG visibility, it is the avoidance of negative ESG incidents that matters more. For bond issuers, this underscores the importance of not only investing in ESG initiatives but also maintaining consistent performance to minimize reputational risk.

4.1.3 ESG Buzz

We next examine the effect of ESG media buzz (ESG BUZZ) and its Environmental (E BUZZ), Social (S BUZZ), and Governance (G BUZZ) components on corporate credit spreads. This represents a distinct dimension of ESG news, as the ESG BUZZ measure captures the volume of media attention rather than the type, tone, or sentiment of the coverage. Specifically, ESG BUZZ is a proxy for the level of ESG media chatter about the company in a given time window, and it is computed as the total number of relevant, importance-weighted, ESG references to a company reported across various media outlets. Importantly, multiple articles covering the same event or topic will each contribute to the BUZZ score, thereby reflecting the intensity of ESG media exposure rather than its uniqueness. Higher ESG BUZZ values indicate greater overall ESG visibility in the media. Unlike the previous measures, Buzz is not a rank, and therefore the distribution is highly right-skewed, which prompts us to use a log transformation in our tests. Table V presents the results of this analysis.

[Insert Table V about here.]

According to Model (1), the coefficient estimate on LN(ESG BUZZ) is positive and significant at the 1% level. Specifically, we observe the coefficient estimate of 0.05 with a t-

statistic of 4.05. This implies that a one-standard-deviation increase in the LN(ESG BUZZ) score is associated with a 5 basis points increase in corporate spreads, holding other factors constant. The positive coefficient suggests that elevated ESG media attention, regardless of tone, may be interpreted by bond investors as a signal of heightened scrutiny, increased reputational risk, or potential underlying ESG problems not yet fully captured by formal ESG scores.

Models (2) through (4) decompose the ESG BUZZ measure into its components. The results indicate that social (S BUZZ) and governance (G BUZZ) media intensity are both positively and significantly associated with wider credit spreads, while the environmental component (E BUZZ) is statistically insignificant. The governance buzz coefficient, in particular, is sizable with the coefficient estimate of 0.04 with a t-statistic of 5.04. This is consistent with bondholders reacting more strongly to governance-related media exposure, possibly due to its direct implications for managerial discipline, default risk, and creditor protections.

We further examine categories within each Buzz pillar. According to untabulated results, in the Environmental dimension, innovation-related news (E2) has the strongest effect on credit spreads, reflecting the immediate market impact of environmental developments. Across the Social and Governance dimensions, all subcategories are positive and significant, showing that media attention consistently amplifies perceived credit risk. These findings highlight that ESG Buzz broadly influences bond pricing regardless of tone.

Compared to the results based on ESG controversies (ESG CON) and favorable ESG news (ESG OVRL), the BUZZ results offer a distinct insight. While ESG CON had a strong and positive effect on spreads and ESG OVRL had a modest tightening effect, ESG BUZZ reflects a neutral-sentiment measure that still results in spread widening. This asymmetry reinforces the notion that increased ESG media visibility, even without a negative tone, is viewed by the market as a potential risk signal rather than a benefit. In other words, investors appear

to interpret high volumes of ESG attention as a "smoke but no fire" scenario, in which the possibility of negative developments leads to cautious repricing.

More broadly, the results support the interpretation that bond investors respond to ESG media signals, but do so asymmetrically. That is, while favorable ESG news (as captured by ESG OVRL) leads to modest tightening of spreads, negative ESG controversies and total ESG buzz produce stronger spread widening. This asymmetry is consistent with evidence from equity markets (e.g., Krüger (2015); Capelle-Blancard and Petit (2019)) and suggests that credit investors are more sensitive to downside ESG risk than to upside ESG potential. Such behavior may reflect investor loss aversion or a preference for avoiding reputational or event-driven default risk.

Taken together, these findings contribute to a growing body of evidence that credit markets price ESG information asymmetrically, with downside risk being the dominant channel, whether it is realized (controversies), anticipated (buzz), or partially offset by favorable news (OVRL). From a firm's perspective, this implies that active management of both ESG performance and media exposure is important in the debt market.

4.2 ESG News, Bond Pricing, and Credit Risk

In this section, we study the impact of ESG news scores on the cost of debt conditional on credit risk, as outlined in our second hypothesis. Specifically, we argue that bond issues closer to default are more sensitive to news about the ESG performance of the company. The idea is that when ESG concerns such as controversies (ESG CON), intense media coverage (ESG BUZZ), or generally poor ESG performance are reported, they may signal elevated legal, reputational, or operational risk. These risks can translate into lower recovery values in the event of bankruptcy, thereby increasing the perceived credit risk. Conversely, favorable ESG news (ESG OVRL) can potentially lead to narrower credit spreads, particularly for firms with weaker credit quality where sustainability-related improvements are viewed as

more impactful for long-term solvency.

To test this channel empirically, we create two subsamples of bond issues. One subsample is comprised of bonds with a relatively shorter distance to default (lower credit rating and higher probability of default), and another subsample includes bonds with relatively high distance to default (higher credit rating and lower probability of default). The two proxies used to estimate the chance of default follow Jostova et al. (2013) and Bharath and Shumway (2008) for the credit rating and probability of default, respectively. We then use our baseline regression in equation (2) to estimate the impact of ESG news scores on credit spreads for each subsample. Models (1) and (2) present results for the high default risk subsample, while models (3) and (4) present the same analysis for the low default risk group. Table VI presents the results of this analysis.

[Insert Table VI about here.]

Panel A presents the effect of ESG controversies within the two subsamples. Consistent with prior findings, ESG controversies (ESG CON) are strongly and positively associated with corporate credit spreads across all specifications. However, the effect is economically and statistically stronger for high default risk firms. For example, the standardized coefficients are 0.06 and 0.07 in the high-default-risk subsamples (Models (1) and (2), respectively) versus 0.01 and 0.02 in the low-risk subsamples (Models 3 and 4, respectively). Difference-in-coefficients tests confirm that the controversy premium is significantly larger for firms with higher credit risk, with t-statistics of 5.62 and 6.72. These findings reinforce the idea that negative ESG events are more penalized by bondholders when the firm's underlying credit risk is elevated. This is consistent with theoretical frameworks (e.g., Merton (1974)) and empirical literature suggesting that bondholders are more sensitive to downside ESG shocks that increase expected loss severity in distress scenarios (Krüger, 2015; Chava, 2014).

Panel B of Table VI investigates how favorable ESG information, captured by the ESG

Overall (ESG OVRL) score, influences corporate credit spreads across firms with differing levels of default risk. The results suggest that the market reaction to positive ESG exposure is also conditional on firms' underlying credit risk. For example, in the RATING-based split, Model (1) shows that for firms with lower credit ratings (i.e., higher default risk), ESG OVRL is negatively and significantly associated with spreads (coefficient = –0.02; t = –2.77). Model (3), which examines higher-rated firms, also shows a negative association (–0.01; t = –3.42), though the magnitude is smaller. However, the difference in coefficients between these two groups is not statistically significant, indicating that the differential impact of ESG overall news across rating categories is economically small. In contrast, the results are more pronounced in the probability of default split. Model (2) reveals a stronger negative relationship between ESG OVRL and credit spreads for firms with high predicted default risk; the coefficient is –0.03, with a t-statistic of –4.09. Model (4), focusing on the low-default-risk group, shows no significant effect, with a coefficient of –0.00 and a t-statistic of –0.52. The difference-in-coefficients test confirms that the estimated ESG OVRL effect is significantly stronger in the high-default-risk group (the difference is –0.03, with a t-statistic of –2.91).

Panel C of Table VI analyzes the role of ESG news volume (ESG BUZZ) conditional on credit risk. Results demonstrate that increased ESG BUZZ is associated with wider credit spreads, particularly for riskier firms. The coefficient on LN(ESG BUZZ) is 0.13 and 0.16 in the high-risk group (Models (1) and (2), respectively), compared to 0.03 and 0.07 in the low-risk group (Models 3 and 4, respectively). This effect is statistically significant and economically meaningful. Difference-in-coefficients tests again indicate a significantly stronger effect for high-default-risk firms - the differences are 0.09 and 0.10, with corresponding t-statistics of 3.25 and 2.76. Importantly, this finding suggests that ESG media visibility, regardless of tone or sentiment, may act as a risk signal for bondholders, potentially reflecting reputational exposure or increased litigation risk.

In summary, we find that negative ESG news, captured through controversy indicators and media buzz, significantly widens credit spreads, particularly for bonds issued by firms with elevated default risk. Conversely, positive ESG signals, as reflected in favorable overall ESG coverage, are associated with narrower credit spreads, with the effect concentrated among firms closer to distress. These results underscore the importance of the credit risk channel in shaping how bond markets incorporate ESG information and suggest that both the direction and salience of ESG signals are conditioned by a firm's underlying financial health.

4.3 ESG News Scores Channels

In the previous section, we show that default risk has a significant effect on the relation between ESG news scores and bond spreads. In particular, the relation between ESG news scores and bond spreads is stronger when default risk is high. We expect that ESG news scores contribute to default risk exposure, but so far, we have not directly tested these hypotheses. In this section, we directly test whether ESG news scores affect default risk directly. Specifically, we consider three proxies for default risk: (1)rating (Jostova et al., 2013); (2) the naive probability of default (Bharath and Shumway, 2008); and (3) idiosyncratic equity volatility (which has been shown to proxy for firm-level default risk, as it captures uncertainty about future cash flows and increases the probability of distress in structural credit risk models Campbell and Taksler (2003)). We use a regression model that estimates next month's proxy for default risk as a function of current ESG news scores and controls as follows:

$$\text{Default}_{i,t+1} = \beta_0 + \beta_1 \text{ESG News Scores}_{i,t} + \mathbf{X}_{i,t} B^{'} + \epsilon_{i,t}, \tag{3}$$

where β and B represent the coefficients and ϵ is the vector of errors. $\mathbf{X}$ is the matrix of controls such as book to market (BM), log of market capitalization (SIZE EQ), profitability ratio (ROA), tangibility (TNG), leverage (LEV), research and development (R&D), the age of the firm (AGE), the Hirschman Herfindahl index (HHI) for the firm's industry, equity return (RET EQ), idiosyncratic volatility (IVOL), and institutional ownership (IO). This regression specification uses issue and month fixed effects.

Table VII presents the results of our investigation of the relation between ESG variables and these three distinct measures of credit risk: credit rating (Models 1, 4, 7), default probability (Models 2, 5, 8), and idiosyncratic equity volatility (Models 3, 6, 9).

[Insert Table VII about here.]

We document that higher levels of ESG controversies (ESG CON) are significantly associated with increased credit risk across all specifications. Specifically, Models (1) through (3) show that ESG CON is associated with weaker credit ratings, higher default probabilities, and greater idiosyncratic volatility, with all coefficients statistically significant at the 1% level. These findings reinforce the idea that ESG controversies act as a proxy for hidden operational, reputational, or legal risks that bond investors price in when assessing creditworthiness. Notably, the link to IVOL also supports prior work suggesting that idiosyncratic volatility may act as a forward-looking indicator of credit risk.

In contrast, Models (4) through (6) of Table VII present evidence that the ESG Overall (ESG OVRL) score is significantly negatively associated with all three measures of credit risk. This suggests that positive ESG exposure is perceived by investors as reducing firm-specific credit risk. In particular, it's worth noting that the coefficient on ESG OVRL in the rating regression is –0.10 (Model 4), which is both statistically and economically significant. Similarly, the measure is associated with a decrease in default probability and idiosyncratic volatility, though the magnitudes are smaller. These results support the interpretation that

strong ESG profiles may mitigate downside risk, lower the likelihood of credit events, and strengthen investors' perception of long-term resilience.

Finally, Models (7) through (9) document that the ESG BUZZ measure is positively and significantly related to all credit risk proxies. The magnitude of the coefficients is largest for ESG BUZZ compared to ESG CON and ESG OVRL (models (1)-(3), and (4) -(6), respectively), suggesting that media visibility around ESG topics, even absent explicit positive or negative tone, correlates with firms' credit rating. While ESG Buzz does not necessarily imply negative news, its strong association with credit risk measures implies that investor perceptions of risk may rise simply due to increased scrutiny or salience of ESG topics. This complements findings in the emerging literature that elevated ESG attention can amplify risk perceptions and volatility (e.g., Albuquerque et al. (2020)).

Taken together, these results suggest that both negative ESG events and positive ESG exposure influence firm credit risk, albeit through distinct channels. Controversies exacerbate credit risk across all dimensions, whereas strong ESG performance mitigates it. Notably, ESG Buzz, which is tone-neutral, appears to amplify perceived risk primarily through elevated uncertainty or noise.

While we test and discuss the connection between ESG measures and credit risk, we do not formally attempt to distinguish or eliminate other channels through which these metrics can be related to bond spreads. While direct connections to cash flows may be difficult to point out, various other risks or market frictions can also play a role in our documented results. One such possibility is the notion of liquidity - for example, bonds with high controversies could be more actively traded, which in turn can affect their spreads. On the other hand, high media attention (Buzz) can raise uncertainty, leading dealers to widen spreads. We further discuss this avenue in Section 5.3 below.

5 Discussion of Results and Robustness Checks

In this section, we elaborate on various interpretations of the results and run a battery of robustness checks. Specifically, we examine the connection between ESG news scores and bond returns, both in terms of predictive portfolio sorts and factor-adjusted return analyses, as well as in terms of immediate reaction to changes in ESG news scores. Furthermore, we investigate how long-lived the effect of ESG issues is on bond spreads through horizon-based tests. Finally, we confirm that our inferences are robust across multiple empirical specifications, and we discuss the role of liquidity in mitigating the relation between ESG scores and bond pricing.

5.1 ESG News Scores and Bond Returns

We extend our analysis by examining the performance of corporate bond portfolios sorted on ESG news scores to assess their effect on bond returns. Table VIII presents the results of this analysis.

[Insert Table VIII about here.]

Bond issues are sorted into quintiles each month based on their firm-demeaned ESG Controversies (Panel A), ESG Overall (Panel B), and ESG Buzz (Panel C) scores. [16] The table reports bond forward-looking market-adjusted returns (MA BRET) measured over 1- to 12-month horizons, as well as quintile differences (High–Low) and associated t-statistics.

Panel A of Table VIII reveals a strong monotonic pattern across quintiles sorted on ESG Controversy scores. Bonds of firms in the lowest controversy quintile earn significantly negative returns in future months, while those in the highest quintile deliver progressively

[16] Following Avramov et al. (2022) and Bardos et al. (2025), we demean our ESG news scores at the firm level, calculating each month's deviation from the firm's historical average. This removes time-invariant characteristics and ensures that portfolio sorts reflect within-firm variation in ESG news exposure.

higher returns, reaching 0.85% at the 12-month horizon. The return spread between high and low ESG controversy portfolios is both statistically and economically significant (1.12% over 12 months with a t-statistic of 9.44). These findings are consistent with the view that ESG controversies serve as salient risk signals that are promptly priced in by credit markets.

In contrast, Panel B documents a negative return pattern associated with ESG Overall scores. Firms in the lowest quintile (i.e. those with weaker ESG profiles) consistently outperform their higher-ESG peers in subsequent months. The return spread between the lowest and highest ESG Overall quintiles reaches –0.85% at the 12-month horizon with a t-statistic of –6.45. This result suggests that a portfolio of high ESG Overall firms may command a lower premium that translates into lower forward returns, consistent with risk-adjusted pricing (Pástor et al., 2022).

Finally, Panel C shows that media coverage intensity (ESG Buzz) also predicts bond returns. Over a 12-month horizon, bonds in the high-Buzz portfolio earn an additional return premium of 0.66%, which is statistically significant with a t-statistic of 3.39. This suggests that increased ESG media attention may initially raise risk perception, consistent with earlier credit spread regressions.

Taken together, these results underscore the cross-sectional predictive power of ESG news for bond returns. Notably, the findings exhibit similar asymmetric patterns with the credit spread results: while negative ESG signals (e.g., controversies) are associated with high future performance, positive signals (e.g., high ESG Overall ratings) correspond to lower subsequent returns. This asymmetry reinforces the role of ESG information in shaping risk premia in corporate bond markets and highlights the distinction between ESG performance and investor expectations. These results also have important implications for ESG trading strategies, suggesting that bond investors can extract valuable forward-looking information from ESG news scores, both in terms of risk pricing and potential excess return opportunities.

Next, we continue our bond return investigation by assessing whether the performance

of the ESG-sorted portfolios can be explained by standard risk factors, and whether any abnormal returns (alphas) remain after controlling for these exposures. The results are reported in Table IX.

[Insert Table IX about here.]

This table reports time-series regressions of HML bond portfolios sorted on ESG Controversies, ESG Overall, and ESG Buzz, on a comprehensive set of risk factors. Models (1), (4), and (7) include only the corporate bond market excess return factor (CBMKTRF) to capture systematic bond market movements. Models (2), (5), and (8) incorporate additional bond-specific risk factors: the bond term spread (TERM) and default spread (DEF), which control for interest rate and credit risk, respectively. Models (3), (6), and (9) further augment the specification with equity market risk factors, such as market excess return (MKTRF), size (SMB), and value (HML), following the Fama and French (1993) framework. All portfolios are constructed using firm-demeaned ESG signals.

The HML portfolio sorted on ESG Controversy scores continues to deliver positive and statistically significant alphas, though these are somewhat lower than the raw return spreads observed earlier. This suggests that the pronounced raw return spread is at least partially explained by systematic risk exposures, particularly to the bond default factor (DEF), which exhibits a positive and highly significant loading. Specifically, Model (2) reports a DEF factor coefficient of 0.09, which is highly significant with a t-statistic of 5.33. The positive DEF loading implies that bonds from firms with high ESG controversies are associated with greater credit risk, consistent with the view that issuers with high ESG controversies are perceived as riskier and therefore require higher expected returns. The inclusion of equity market factors (MKTRF, SMB, HML) does not materially alter the alpha estimates or model explanatory power. The R-squared remains stable around 0.34-0.35, highlighting the dominant influence of bond-specific risks in explaining the cross-sectional variation in returns.

By contrast, the HML portfolio based on ESG Overall ratings shows small and statistically insignificant alphas across all models, indicating that the return spread between high- and low-rated firms is fully captured by common risk factors. Notably, the default spread (DEF) and most other factors are insignificant in this setting, suggesting that ESG Overall scores do not meaningfully proxy for default risk priced in bond markets. The low R-squared values (0.07–0.09) further underscore the limited explanatory power of standard factor models for this portfolio. These findings align with prior research (e.g., Pástor et al. (2022)) suggesting that ESG premiums linked to positive ESG performance largely vanish once systematic risk is accounted for.

For the HML portfolio sorted on ESG Buzz, the abnormal performance remains positive and statistically significant. Specifically, Model 7 presents an alpha estimate of 0.15 with a t-statistic of 2.87. This portfolio loads significantly on both the corporate bond excess return factor and the default factor. For example, Model 9 shows a default beta loading estimate (DEF) of 0.16 with a t-statistic of 4.90. These results suggest that firms with high ESG media visibility are more sensitive to aggregate bond market conditions and credit risk. After controlling for both bond and equity factors, the alpha declines to 0.11 and remains statistically significant but at a lower level, indicating that a substantial portion of the raw return spread associated with ESG Buzz is driven by priced systematic risks.

Overall, these regressions confirm that ESG bond return predictability is largely attributable to exposure to priced risk factors, particularly default risk and aggregate bond market returns. These results align with a growing literature emphasizing the risk-relevance of ESG disclosures and highlight the importance of conditioning ESG-based asset pricing tests on a comprehensive set of credit market risks (e.g., Avramov et al. (2022); Chava (2014)).

5.2 Reaction to ESG News Scores

Another way to look at the connection between ESG News Scores and returns is to investigate the reaction of bond prices to changes in ESG scores. To assess how credit markets respond to ESG news, we examine contemporaneous bond returns around changes in ESG news scores. This analysis captures the bond market's immediate reaction to shifts in ESG perceptions, such as rising controversy or improving ESG profiles, rather than relying on raw levels. Because ESG news is often disseminated in an unstructured and non-standardized manner across various sources, identifying the exact timing of announcements is difficult, which makes event studies hard to implement. Therefore, we use changes in monthly ESG news scores to proxy for new information entering the market. This approach allows us to systematically study how credit investors incorporate evolving ESG signals, while minimizing noise associated with daily announcement timing and enhancing comparability across firms and time.

Bonds are sorted monthly into quintiles based on changes in ESG news scores. This sorting captures unexpected updates in ESG performance. We examine changes in three dimensions of ESG signals: ESG Controversies (Panel A), ESG Overall (Panel B), and ESG Buzz (Panel C). Table X reports the relationship between changes in ESG news scores and contemporaneous market-adjusted bond returns (MA BRET) over horizons ranging from one to twelve months.

[Insert Table X about here.]

Panel A shows that bonds experiencing large increases in ESG controversies (top quintile) exhibit significant negative contemporaneous returns, while those with the largest declines in controversies (bottom quintile) deliver consistently positive returns. The high-minus-low (HML) return spread is economically meaningful and statistically significant across all horizons. For example, the 12-month return spread reaches –134 basis points with a t-

statistic of –11.38. These results suggest that increases in ESG controversies act as negative signals, potentially reflecting heightened legal, reputational, or operational risks. The speed and magnitude of the bond market's reaction underscore the importance of ESG downside news in pricing credit risk.

In contrast, Panel B, which focuses on changes in ESG Overall scores, reveals a weaker and more delayed pattern. While return spreads are statistically insignificant at shorter horizons, they become positive and significant over longer-term periods. This suggests that positive ESG news may be incorporated more slowly into bond prices. One interpretation is that investors treat improvements in ESG profiles as less urgent or credible than negative developments. This pattern is consistent with bond market asymmetry, where good news tends to elicit a weaker and more delayed pricing response than bad news, as documented by Defond and Zhang (2014).

Panel C examines changes in ESG Buzz, a measure of media intensity around ESG topics. Similar to Panel A, we observe that bonds with the largest increases in ESG buzz underperform dramatically, while those with the least change in buzz generate large positive returns. These patterns may reflect the media amplification of the ESG events, where heightened attention corresponds to increased perceived risk by bondholders. For example, the 12-month HML return spread is –188 basis points, with a t-statistic of –11.69, suggesting that public scrutiny around ESG topics has material consequences for credit pricing.

Overall, these findings indicate that bond markets react swiftly and asymmetrically to ESG news scores. Negative ESG news, whether measured by controversy scores or increased uncertainty coming from ESG media attention, is quickly priced in, widening credit spreads and depressing returns. In contrast, positive ESG news appears to be absorbed more gradually.

5.3 Other Robustness Checks

Next, we investigate whether the effect of negative ESG media coverage on spreads is short-lived or persistent. To answer this particular question, we repeat the benchmark tests from Model (4) in Table III, but we change the left-hand side variable to various horizon spreads. Specifically, we replicate our main benchmark models using credit spreads measured over short (1-month), medium (6-month), and long (12-month) horizons. Each regression controls for standard firm-level variables, issue and time fixed effects, and is estimated on large bond-level panels. Models (1), (4), and (7) replicate the 1-month horizon results from the main specification and are included for comparison. The results are presented in Table XI.

[Insert Table XI about here.]

Models (1) through (3) in Table XI indicate that higher ESG Controversy scores are consistently associated with wider future credit spreads across all horizons. The effect is strongest in the short term and diminishes gradually over time, though it remains statistically significant at the 12-month horizon. For example, the coefficient on ESG Controversies at the 1-month horizon is 0.04, with a t-statistic of 9.39, while the 1-year coefficient declines to 0.02, with a t-statistic of 3.08. This persistent widening suggests that controversy ESG news may be quickly incorporated into bond prices and continues to be persistent, potentially reflecting investors‘ perception of heightened risk.

By contrast, Models (4) through (6) show that positive ESG signals, as measured by the ESG Overall score, exhibit a weak and short-lived effect. The 1-month coefficient is marginally negative, but the relationship becomes statistically insignificant at the 6- and 12-month horizons. This asymmetry is consistent with the above results.

Finally, Models (7) through (9) document a robust positive association between ESG Buzz and future spreads at all horizons. The magnitude and significance of the coefficients suggest that increased ESG media attention is perceived by investors as a risk signal, independent of

tone. In particular, the BUZZ coefficient estimates ranging from 0.04 to 0.05 - all statistically significant at 1%-level. This finding is consistent with the notion that greater visibility may elevate perceived reputational or litigation risk.

Taken together, the results highlight the asymmetric and time-varying nature of the bond market's response to ESG information. While negative ESG signals and media attention have clear and persistent pricing implications, the impact of positive ESG developments appears more muted and transitory.

The question of what drives the connection between ESG news scores and bond prices also warrants further investigation. While we find very significant support for our main hypothesis related to credit risk (see discussion in Section 4.3), this channel may not be the only one involved. Market frictions or other types of risk can also be partially responsible for our results. Untabulated tests show that ESG news scores are related to at least two distinct dimensions of bond liquidity: trading activity (proxied by trading volume) and transaction costs (proxied by bid-ask spreads). Specifically, we show that ESG controversies and media buzz are associated with higher trading volume and wider bid-ask spreads, indicating increased trading activity but also elevated transaction costs. This dual pattern reflects the multidimensional nature of liquidity: heightened investor attention and disagreement may drive volume, while uncertainty and inventory risk prompt market makers to widen spreads.[17] In contrast, ESG Overall scores have no discernible effect on liquidity measures, underscoring the unique impact of negative or contentious ESG signals. These findings un-

[17]This combination of elevated volume and wider spreads may reflect liquidity under stress, where trading activity is not necessarily a sign of improved liquidity, but rather of imbalanced order flow, such as fire sales or widespread investor exits. In particular, negative ESG signals, such as controversies, may trigger institutional selling due to mandate constraints or reputational concerns (Hong and Kacperczyk, 2009). In such settings, market makers face increased inventory risk and potential adverse selection, leading them to widen bid-ask spreads despite increased trading activity. This interpretation aligns with recent evidence that ESG shocks, especially negative news, can lead to transitory liquidity deterioration. Thus, higher volume does not necessarily imply better liquidity; rather, in the presence of negative ESG events, it may signal price pressure or order imbalances, particularly from institutional exits or passive funds forced to rebalance ESG-sensitive portfolios (Pástor et al., 2021).

derscore the importance of distinguishing between positive ESG signals and ESG frictions or controversies when evaluating their impact on secondary bond market functioning.

We also conduct a comprehensive set of robustness checks to validate the reliability of our core findings. In addition to standard issue and time fixed effects, we include industry-by-year fixed effects to account for sector-specific shocks that vary over time. These interactive fixed effects are important when unobserved factors, such as industry-wide regulatory changes, macroeconomic shocks, or coordinated investor responses, influence all firms within an industry in a given year. For example, a sudden change in environmental regulation may impact ESG-sensitive industries like energy or utilities more than others, influencing both ESG disclosure and bond spreads simultaneously. Controlling for such effects helps us isolate the firm-level impact of ESG news more cleanly. We also estimate alternative specifications, including random effects models, to address potential issue-specific unobserved heterogeneity. Furthermore, we include additional controls such as analyst forecast dispersion, default probability, and cash-flow volatility, ensuring that our results are not driven by omitted variables or model-specific assumptions. The above tests show qualitatively similar results and collectively reinforce the robustness and consistency of our empirical findings.

6 Conclusion

The current study investigates the relevance of ESG news for corporate bond markets. We complement the existing literature by providing a comprehensive, descriptive analysis of how bond markets respond to ESG news scores using the LSEG MarketPsych ESG Analytics dataset. We specifically examine the relevance of the individual Environmental, Social, and Governance pillars, the asymmetric effects of negative (controversies) versus positive ESG news, and the role of news volume (buzz) in shaping bond pricing.

We find that credit markets respond more strongly to negative ESG news than to positive

news. ESG controversies are associated with wider credit spreads and higher future returns, suggesting that investors view them as indicators of elevated credit or reputational risk. A one standard deviation increase in ESG controversies leads to a 4 basis point rise in spreads, and bonds with high controversy scores outperform lower controversy bonds by 1.12% over the following year. Similarly, ESG media attention (Buzz) widens credit spreads by 5 basis points and is linked to a 0.66% return premium over the next 12 months. In contrast, positive ESG news, as measured by ESG Overall scores, results in only modest spread tightening and lower subsequent returns. These results indicate that markets place greater weight on downside ESG signals than on favorable developments.

The pricing effects of ESG news are stronger for firms with higher credit risk. For example, the spread response to ESG controversies increases from 0.02 among high-rated bonds to 0.06 among low-rated bonds. ESG controversies and media attention are also associated with weaker credit ratings, higher default risk, and greater idiosyncratic volatility. Among the ESG pillars, governance news is priced most consistently, while environmental and social effects vary depending on the news category. The effects of negative ESG news on spreads persist for up to one year, whereas the impact of positive news fades after one month. Overall, the results suggest that ESG news contains information relevant for credit risk and is reflected in both bond pricing and future returns.

This paper contributes to the ESG and bond pricing literature by providing systematic evidence on how different categories of ESG news—negative events (ESG Controversies), positive developments (ESG Overall Scores), and media attention (ESG Buzz)—affect corporate bond spreads. The main strength of our study is maximizing the utility of the MarketPsych ESG Analytics dataset, which enables the disaggregation of news by environmental, social, and governance dimensions. This approach helps us assess how real-time ESG information (as opposed to static ratings or firm disclosures) is incorporated into bond prices. We extend prior work by separately identifying the effects of positive and negative news and highlighting

the role of credit risk in mediating these effects.

Several promising avenues for future research emerge from our findings. The question of whether investors' sensitivity to ESG information is time-dependent could be investigated by looking at whether the pricing of ESG news varies across different market regimes. The role of media attention and information dissemination also warrants further investigation (i.e., how the intensity, credibility, or timing of ESG news coverage influences market reaction). Comparative analyses between the market impact of news-based ESG indicators and that of formal corporate ESG disclosures could also advance understanding of which sources provide more timely or reliable information for investors. Finally, research could explore how evolving regulatory frameworks and disclosure mandates affect the informativeness and pricing of ESG signals.

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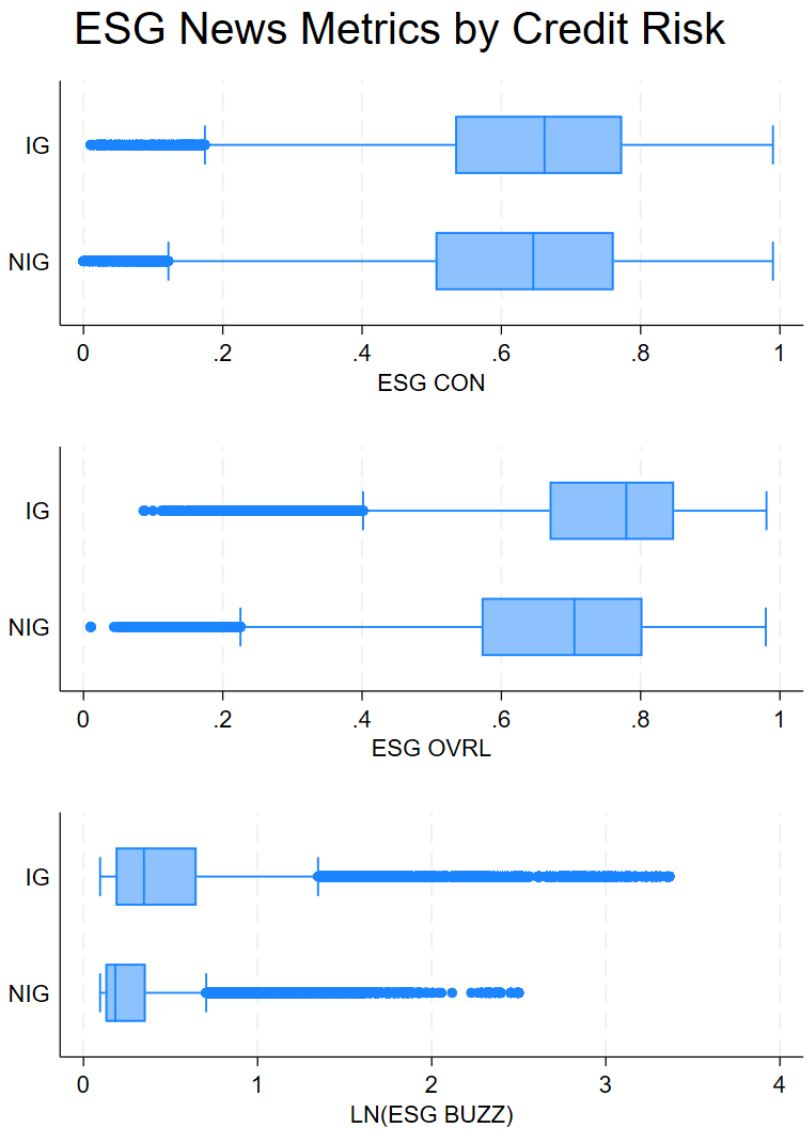

Figure 1: Distribution of the ESG News Scores. This figure shows box plots for the main ESG variables used in our study, conditional on the credit risk characteristics of a given bond issue. Specifically, we focus on whether bonds are investment grade (IG) or non-investment grade (NIG). The variables we plot are ESG Controversies (ESG CON), ESG Overall (ESG OVRL), and the natural log of ESG Buzz (LN(ESG BUZZ)). Please see Appendix A for a more detailed explanation of each variable.

Table I:
Sample Description.

This table shows the number of firms (FIRMS) and bond issues (ISSUES) included in each year in our sample. We also report annual means of key variables in our study. ESG CON is the measure of ESG controversy based on media coverage. ESG OVERALL represents an industry relative, category-weighted score designed to provide a single overview of the company's sustainability impact and conduct. ESG BUZZ is a proxy for the level of ESG media chatter about the company in a given time window. SPRD is the bond yield spread over the constant maturity treasury rate with the nearest maturity. RATING is the credit rating of the bond issue in the ordinal ranking of Avramov et al. (2007). MATURITY is the time to maturity. Please see Appendix A for a more detailed explanation of each variable. The sample period is from 2003 to 2021.

	ISSUES	FIRMS	ESG CON	ESG OVERALL	ESG BUZZ	SPRD	RATING	MATURITY
2003	3741	566	0.65	0.61	0.24	2.06	7.85	8.97
2004	3459	595	0.64	0.62	0.19	1.44	7.95	8.41
2005	3172	584	0.66	0.63	0.24	1.38	7.99	8.13
2006	3023	579	0.65	0.65	0.33	1.32	8.07	8.11
2007	2917	526	0.66	0.68	0.30	1.47	7.55	8.51
2008	2741	514	0.67	0.67	0.38	3.88	7.80	8.98
2009	3143	550	0.66	0.68	0.66	3.67	8.01	9.05
2010	3387	600	0.66	0.67	0.59	2.21	8.15	9.26
2011	3559	621	0.64	0.70	0.63	2.16	8.12	9.33
2012	4113	652	0.66	0.71	0.66	2.21	8.24	9.65
2013	4359	652	0.64	0.72	0.60	1.77	8.19	9.90
2014	4529	638	0.61	0.74	0.63	1.48	8.13	9.76
2015	4666	616	0.60	0.74	0.59	1.91	8.06	9.82
2016	4784	590	0.60	0.74	0.65	1.92	8.03	9.91
2017	4720	560	0.61	0.73	0.70	1.32	7.89	9.86
2018	4702	535	0.61	0.73	0.84	1.30	7.85	9.97
2019	4921	502	0.64	0.73	1.09	1.29	7.76	10.4
2020	5350	505	0.64	0.74	0.87	1.83	7.90	10.9
2021	5053	458	0.64	0.74	0.95	1.09	7.88	11.3

Table II:
Summary Statistics.

This table presents sample summary statistics. We report the mean, standard deviation, 10th, 25th, 50th, 75th, and 90th percentiles of each variable. ESG CON is the ESG controversies score. ESG OVRL represents the overall ESG score, providing a proxy for the company's sustainability impact. ESG BUZZ is a proxy for the level of ESG media chatter about the company. SPRD is the bond yield spread over the Constant Maturity Treasury rate with the nearest maturity. DUR represents bond duration. RATING is the credit rating of the bond issue in the ordinal ranking of Avramov et al. (2007). BAS is the scaled bond bid-ask spread. SIZE BOND is the dollar amount of the bond issue (in millions). RET BOND is the monthly bond return. BAA SPREAD is the difference between yields on Moody's Baa-rated bond issues and the 10-year Constant Maturity Treasury yield. TERM SPREAD is the difference between the 10-year and 1-year Constant Maturity Treasury yields. BM is the book-to-market ratio calculated using the book value from the most recent publicly available quarterly statement and the month-end market value. SIZE EQ is the month-end market capitalization of the firm's equity (in millions). ROA is the return on assets based on the most recent publicly available quarterly statement. TNG is a firm's tangibility measure. LEV is a firm's leverage, measured as the ratio of total debt to total assets. IVOL is the idiosyncratic volatility calculated as the residual from the Fama and French (1993) 3-factor model. RET EQ is the monthly stock return. IO is the total institutional ownership of a given firm. Please see Appendix A for a more detailed description of each variable. Our sample covers the period from January 2003 to August 2021.

	Mean	Sd	10%	25%	Median	75%	90%
ESG CON	0.64	0.17	0.39	0.52	0.65	0.77	0.85
ESG OVRL	0.71	0.16	0.48	0.61	0.74	0.83	0.88
ESG BUZZ	0.65	1.65	0.02	0.06	0.17	0.57	1.52
SPRD	1.81	1.81	0.44	0.74	1.24	2.18	3.82
DUR	6.52	4.59	1.60	3.01	5.30	8.66	13.95
RATING	7.97	3.07	5.00	6.00	8.00	9.00	12.00
BAS	0.59	0.86	0.09	0.19	0.38	0.72	1.29
SIZE BOND ($ mill)	661.01	667.39	169.00	299.95	500.00	750.00	1400.00
RET BOND (%)	0.50	3.37	-1.78	-0.38	0.33	1.36	2.98
BAA SPREAD (%)	2.53	0.69	1.82	2.06	2.40	2.89	3.23
TERM SPREAD (%)	1.48	0.99	0.11	0.64	1.54	2.31	2.86
BM	0.66	0.67	0.17	0.31	0.56	0.85	1.17
SIZE EQ ($ mill)	65478.49	117076.61	3566.22	10395.33	27411.41	71703.46	183042.21
ROA	0.11	0.07	0.02	0.07	0.10	0.15	0.20
TNG	0.32	0.28	0.01	0.07	0.24	0.58	0.73
LEV	0.71	0.15	0.52	0.61	0.71	0.84	0.91
IVOL (%)	1.19	0.98	0.54	0.69	0.95	1.36	2.02
RET EQ (%)	1.15	9.65	-8.09	-3.12	1.19	5.30	9.95
IO	0.71	0.17	0.53	0.63	0.73	0.83	0.90

Table III:
ESG Controversies and Corporate Bond Spreads.

This table presents regressions of next month's bond spreads (SPRD) on the ESG controversies score (ESG CON) and a set of controls (Model 1), as well as regressions of next month's bond spreads on each of its pillars - Environmental Controversies (E CON), Social Controversies (S CON), and Governance Controversies (G CON) - and a set of controls (Models 2, 3, and 4, respectively). All models include issue and month fixed effects, and we compute robust standard errors. In parentheses, we report t-statistics based on these errors. The sample period is from 2003 to 2021. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Detailed variable descriptions are presented in Appendix A.

	(1) SPRD	(2) SPRD	(3) SPRD	(4) SPRD
ESG CON	0.04***			
	(9.39)			
E CON		0.02***		
		(5.03)		
S CON			0.04***	
			(7.22)	
G CON				0.03***
				(7.65)
RATING	0.72***	0.67***	0.67***	0.67***
	(24.21)	(19.76)	(19.73)	(19.72)
DUR	0.56***	0.56***	0.56***	0.56***
	(21.41)	(20.40)	(20.41)	(20.45)
BAS	0.08***	0.08***	0.08***	0.08***
	(10.49)	(9.46)	(9.46)	(9.47)
SIZE BOND	0.05**	0.06***	0.06***	0.06***
	(2.57)	(3.12)	(3.09)	(3.11)
RET BOND	-0.05***	-0.05***	-0.05***	-0.05***
	(-17.61)	(-16.25)	(-16.26)	(-16.27)
BAA SPREAD	-2.17***	-2.12***	-2.14***	-2.14***
	(-15.12)	(-13.75)	(-13.89)	(-13.86)
TERM SPREAD	-1.55***	-1.52***	-1.53***	-1.53***
	(-21.26)	(-19.43)	(-19.57)	(-19.51)
BM	0.22***	0.25***	0.25***	0.25***
	(16.69)	(12.61)	(12.58)	(12.59)
SIZE EQ	0.03***	0.04***	0.04***	0.04***
	(4.82)	(6.43)	(6.60)	(6.44)
ROA	-0.22***	-0.18***	-0.17***	-0.18***
	(-21.28)	(-16.76)	(-16.38)	(-16.66)
TNG	0.32***	0.30***	0.31***	0.30***
	(8.84)	(8.13)	(8.17)	(7.98)
LEV	0.11***	0.13***	0.13***	0.12***
	(8.02)	(9.46)	(9.41)	(9.20)
IVOL	0.24***	0.27***	0.27***	0.27***
	(15.11)	(39.21)	(39.11)	(38.96)
RET EQ	-0.06***	-0.06***	-0.07***	-0.06***
	(-18.60)	(-23.59)	(-23.70)	(-23.65)
IO	-0.06***	-0.02*	-0.02*	-0.02*
	(-5.46)	(-1.66)	(-1.66)	(-1.68)
N	599512	508098	508098	508098
R2	0.55	0.53	0.53	0.53
Issue FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes

Table IV:
ESG Overall News and Corporate Bond Spreads.

This table presents regressions of next month's bond spreads (SPRD) on the ESG Overall Score (ESG OVRL) and a set of controls (Model 1), as well as regressions of next month's bond spreads on each of its pillars - Environmental Overall (E OVRL), Social Overall (S OVRL), and Governance Overall (G OVRL) - and a set of controls (Models 2, 3, and 4, respectively). All models include issue and month fixed effects, and we compute robust standard errors. In parentheses, we report t-statistics based on these errors. The sample period is from 2003 to 2021. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Detailed variable descriptions are presented in Appendix A.

	(1) SPRD	(2) SPRD	(3) SPRD	(4) SPRD
ESG OVRL	-0.01***			
	(-2.78)			
E OVRL		-0.02***		
		(-4.05)		
S OVRL			0.01	
			(1.48)	
G OVRL				-0.01***
				(-3.48)
RATING	0.72***	0.72***	0.72***	0.72***
	(24.13)	(24.58)	(24.29)	(24.22)
DUR	0.56***	0.57***	0.56***	0.56***
	(21.32)	(21.57)	(21.38)	(21.40)
BAS	0.08***	0.08***	0.08***	0.08***
	(10.52)	(10.31)	(10.50)	(10.47)
SIZE BOND	0.05***	0.05**	0.05**	0.05**
	(2.58)	(2.57)	(2.53)	(2.56)
RET BOND	-0.05***	-0.05***	-0.05***	-0.05***
	(-17.57)	(-16.94)	(-17.49)	(-17.42)
BAA SPREAD	-2.19***	-2.21***	-2.19***	-2.19***
	(-15.17)	(-15.32)	(-15.19)	(-15.12)
TERM SPREAD	-1.56***	-1.57***	-1.56***	-1.56***
	(-21.31)	(-21.44)	(-21.33)	(-21.25)
BM	0.22***	0.22***	0.22***	0.22***
	(16.67)	(16.39)	(16.59)	(16.61)
SIZE EQ	0.03***	0.03***	0.03***	0.03***
	(4.89)	(4.65)	(4.73)	(4.79)
ROA	-0.22***	-0.22***	-0.22***	-0.22***
	(-21.43)	(-21.44)	(-21.41)	(-21.57)
TNG	0.31***	0.32***	0.31***	0.31***
	(8.53)	(8.85)	(8.68)	(8.62)
LEV	0.11***	0.11***	0.11***	0.11***
	(8.07)	(7.90)	(8.17)	(7.78)
IVOL	0.24***	0.24***	0.24***	0.25***
	(15.15)	(14.81)	(15.12)	(15.00)
RET EQ	-0.06***	-0.06***	-0.06***	-0.06***
	(-18.55)	(-18.20)	(-18.53)	(-18.52)
IO	-0.06***	-0.06***	-0.06***	-0.06***
	(-5.41)	(-5.63)	(-5.46)	(-5.53)
N	599512	591974	598779	596488
R2	0.55	0.55	0.55	0.55
Issue	Yes	Yes	Yes	Yes
Month	Yes	Yes	Yes	Yes

Table V:
ESG News Buzz and Corporate Bond Spreads.

This table presents regressions of next month's bond spreads (SPRD) on the natural logarithm of ESG news BUZZ (LN(ESG BUZZ)) and a set of controls (Model 1), as well as regressions of next month's bond spreads on each of its pillars - Environmental BUZZ (LN(E BUZZ)), Social BUZZ (LN(S BUZZ)), and Governance BUZZ (LN(G BUZZ)) - and a set of controls (Models 2, 3, and 4, respectively). All models include issue and month fixed effects, and we compute robust standard errors. In parentheses, we report t-statistics based on these errors. The sample period is from 2003 to 2021. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Detailed variable descriptions are presented in Appendix A.

	(1) SPRD	(2) SPRD	(3) SPRD	(4) SPRD
LN(ESG BUZZ)	0.05***			
	(4.05)			
LN(E BUZZ)		0.01		
		(1.22)		
LN(S BUZZ)			0.03***	
			(3.06)	
LN(G BUZZ)				0.04***
				(5.04)
RATING	0.67***	0.67***	0.67***	0.67***
	(19.51)	(19.76)	(19.54)	(19.50)
DUR	0.56***	0.56***	0.56***	0.56***
	(20.38)	(20.31)	(20.37)	(20.48)
BAS	0.08***	0.08***	0.08***	0.08***
	(9.46)	(9.47)	(9.47)	(9.46)
SIZE BOND	0.05***	0.06***	0.05***	0.06***
	(2.98)	(3.10)	(3.02)	(3.11)
RET BOND	-0.05***	-0.05***	-0.05***	-0.05***
	(-16.31)	(-16.22)	(-16.28)	(-16.34)
BAA SPREAD	-2.14***	-2.14***	-2.13***	-2.15***
	(-13.86)	(-13.87)	(-13.85)	(-13.95)
TERM SPREAD	-1.53***	-1.53***	-1.53***	-1.54***
	(-19.56)	(-19.54)	(-19.54)	(-19.67)
BM	0.25***	0.25***	0.25***	0.25***
	(12.55)	(12.57)	(12.54)	(12.54)
SIZE EQ	0.03***	0.04***	0.03***	0.03***
	(5.63)	(5.58)	(5.69)	(5.32)
ROA	-0.18***	-0.18***	-0.18***	-0.18***
	(-16.70)	(-16.63)	(-16.68)	(-16.70)
TNG	0.31***	0.30***	0.31***	0.31***
	(8.22)	(8.13)	(8.19)	(8.15)
LEV	0.13***	0.13***	0.13***	0.13***
	(9.48)	(9.46)	(9.46)	(9.47)
IVOL	0.27***	0.27***	0.27***	0.27***
	(38.87)	(39.23)	(38.97)	(38.77)
RET EQ	-0.06***	-0.06***	-0.06***	-0.06***
	(-23.59)	(-23.54)	(-23.58)	(-23.64)
IO	-0.02	-0.02*	-0.02	-0.02
	(-1.64)	(-1.65)	(-1.63)	(-1.55)
N	508098	508098	508098	508098
R2	0.53	0.53	0.53	0.53
Issue FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes

Table VI:
ESG News Scores and Credit Risk.

This table presents regressions of next month's bond spreads (SPRD) on various ESG news scores and a set of controls (untabulated) within different credit risk environments. We present the standardized coefficients on our main variables of interest: ESG Controversies (Panel A), ESG Overall Score (Panel B), and the natural logarithm of ESG Buzz (Panel C). Each panel presents the standardized coefficients and t-values for our ESG scores, as well as tests of statistical significance of the difference between these coefficients in the two credit risk environments. We use two proxies for the credit risk environment: credit rating (RATING) and probability of default (P DEF). Models (1) and (2) present the effect of our main ESG news scores on future SPREAD in a high default-risk environment, which contains bond issues with a low credit rating and a high probability of default. Models (3) and (4) repeat this analysis using a low default risk subsample. All models include the same set of controls as presented in Tables IV - VI. In addition, all models include issue and month fixed effects, and we compute robust standard errors. In parentheses, we report *t*-statistics based on these errors. The sample period is from 2003 to 2021. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Detailed variable descriptions are presented in Appendix A.

	High Default Risk		Low Default Risk	
	(1) RATING LOW	(2) P DEF HIGH	(3) RATING HIGH	(4) P DEF LOW
Panel A: ESG Controversies.				
ESG CON	0.06***	0.07***	0.02***	0.01***
	(9.88)	(9.67)	(5.82)	(3.10)
N	324117	219855	275395	225078
R2	0.57	0.55	0.63	0.57
Cntrl	Yes	Yes	Yes	Yes
Issue FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Test for Difference in Standardized ESG CON Coefficients	(1) - (3)	(2) - (4)		
	0.04***	0.05***		
	(5.62)	(6.72)		
Panel B: ESG Overall.				
ESG OVRL	-0.02***	-0.03***	-0.01***	-0.00
	(-2.77)	(-4.09)	(-3.42)	(-0.52)
N	324117	219855	275395	225078
R2	0.57	0.55	0.63	0.57
Cntrl	Yes	Yes	Yes	Yes
Issue FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Test for Difference in Standardized ESG OVRL Coefficients	(1) - (3)	(2) - (4)		
	-0.01	-0.03***		
	(-0.93)	(-2.91)		
Panel C: ESG Buzz.				
LN(ESG BUZZ)	0.16***	0.13***	0.07***	0.03***
	(6.25)	(3.80)	(6.28)	(3.40)
N	267443	183410	240655	200362
R2	0.57	0.54	0.61	0.56
Cntrl	Yes	Yes	Yes	Yes
Issue FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Test for Difference in Standardized LN(ESG BUZZ) Coefficients	(1) - (3)	(2) - (4)		
	0.09***	0.10***		
	(3.25)	(2.76)		

Table VII:
Credit Risk Variables and ESG News Scores.

This table investigates the connection between various proxies for credit risk and our main ESG variables. The proxies for credit risk that we are considering are RATING, probability of default (P DEF), and idiosyncratic volatility (IVOL). Each one of these proxies is considered as a left-side variable in order to investigate its connection with our ESG news scores (and all left-hand side variables are one month ahead of the controls). Models (1) through (3) are looking at ESG Controversies (ESG CON) as the main variable of interest, along with additional controls. Models (4) through (6) are looking at ESG Overall (ESG OVRL) as the main variable of interest, along with additional controls. Finally, Models (7) through (9) consider ESG Buzz (LN(ESG BUZZ)) as the main variable of interest, along with additional controls. Coefficients are standardized for ease of comparison. All models include issue and month fixed effects, and we compute robust standard errors. In parentheses, we report t-statistics based on these errors. The sample period is from 2003 to 2021. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Variable descriptions are presented in Appendix A.

	ESG CON			ESG OVERALL			ESG BUZZ		
	(1) RATING	(2) P DEF	(3) IVOL	(4) RATING	(5) P DEF	(6) IVOL	(7) RATING	(8) P DEF	(9) IVOL
ESG CON	0.06***	0.00***	0.02***						
	(7.44)	(6.33)	(9.90)						
ESG OVRL				-0.10***	-0.00**	-0.01***			
				(-10.19)	(-2.42)	(-4.97)			
LN(ESG BUZZ)							0.16***	0.00***	0.07***
							(6.75)	(3.99)	(16.66)
BM	0.11***	0.03***	0.13***	0.11***	0.03***	0.13***	0.15***	0.04***	0.10***
	(9.68)	(7.41)	(13.17)	(9.80)	(7.42)	(13.19)	(7.77)	(9.23)	(9.41)
SIZE EQ	-0.46***	0.00**	-0.13***	-0.45***	0.00***	-0.13***	-0.29***	0.00***	-0.10***
	(-7.41)	(2.31)	(-10.23)	(-7.31)	(2.65)	(-10.06)	(-6.60)	(2.58)	(-12.76)
ROA	-0.18***	-0.01***	-0.09***	-0.18***	-0.01***	-0.09***	-0.20***	-0.01***	-0.07***
	(-11.49)	(-8.86)	(-7.53)	(-11.53)	(-8.94)	(-7.57)	(-12.14)	(-7.81)	(-11.27)
TNG	-0.18**	0.01***	0.16***	-0.21**	0.01**	0.15***	-0.56***	-0.00	0.14***
	(-2.11)	(2.80)	(11.12)	(-2.44)	(2.51)	(10.61)	(-6.60)	(-0.16)	(9.65)
LEV	0.61***	0.02***	0.11***	0.60***	0.02***	0.11***	0.53***	0.02***	0.07***
	(17.86)	(11.98)	(11.44)	(17.91)	(11.98)	(11.34)	(17.07)	(10.74)	(10.48)
R&D	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***
	(-3.15)	(-3.10)	(-6.00)	(-3.34)	(-3.14)	(-6.25)	(-3.28)	(-3.84)	(-5.42)
AGE	-0.23**	0.00	-0.10***	-0.22**	0.00	-0.09***	-0.06	-0.00**	-0.10***
	(-2.09)	(0.19)	(-6.93)	(-2.03)	(0.66)	(-6.69)	(-0.80)	(-2.38)	(-6.56)
HHI	0.27***	0.00	0.05***	0.26***	0.00	0.05***	0.26***	0.00	0.05***
	(7.31)	(1.17)	(5.94)	(7.26)	(1.00)	(5.96)	(7.52)	(0.89)	(5.77)
RET EQ	0.03***	0.00***	-0.10***	0.03***	0.00***	-0.10***	0.02***	0.00***	-0.08***
	(13.73)	(3.22)	(-33.38)	(13.75)	(3.25)	(-33.40)	(8.35)	(2.62)	(-26.89)
IVOL	0.07***	0.02***	0.27***	0.07***	0.02***	0.27***	0.08***	0.02***	0.26***
	(9.85)	(9.06)	(15.50)	(9.96)	(9.07)	(15.55)	(9.78)	(17.59)	(36.16)
IO	-0.02	-0.01***	-0.03***	-0.02	-0.01***	-0.03***	0.01	-0.01***	-0.00
	(-1.43)	(-5.08)	(-5.98)	(-1.38)	(-5.04)	(-5.90)	(0.45)	(-4.06)	(-1.38)
N	483868	356261	483868	483868	356261	483868	414371	310509	414371
R2	0.15	0.20	0.35	0.16	0.20	0.35	0.16	0.21	0.39
Issue FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table VIII:
ESG News Scores and Future Bond Returns.

This table presents future market-adjusted bond returns at various horizons for five equally weighted bond portfolios sorted based on demeaned levels of ESG Controversies (Panel A), demeaned levels of ESG Overall Score (Panel B), and demeaned levels of ESG Buzz (Panel C). We demean our various ESG news scores at the bond issue level. Bond returns are market-adjusted by subtracting the overall bond market return (computed based on our sample) for a given horizon. We consider market-adjusted bond returns for 1 month, 3 months, 6 months, 9 months, and 12 months ahead of our ESG news scores, respectively. For each horizon, we report the market-adjusted bond returns, as well as the returns of a hedge portfolio comprised of bonds with a high ESG news score minus bonds with a low ESG news score. Numbers in parentheses are t-statistics. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. The sample period is from 2003 to 2021. Detailed variable descriptions are presented in Appendix A.

	MA BRET 1M	MA BRET 3M	MA BRET 6M	MA BRET 9M	MA BRET 12M
Pavel A: ESG Controversies.					
Low	-0.02	-0.08**	-0.16***	-0.24***	-0.27***
2	-0.02	-0.05	-0.05	-0.16**	-0.25***
3	0.02	0.01	-0.02	-0.06	-0.07
4	0.03*	0.09***	0.21***	0.34***	0.48***
High	0.09***	0.25***	0.52***	0.74***	0.85***
High - Low	0.11***	0.33***	0.69***	0.99***	1.12***
T-stat	(3.70)	(5.36)	(7.92)	(8.74)	(9.44)
Pavel B: ESG Overall.					
Low	0.08***	0.22***	0.48***	0.73***	0.86***
2	0.04*	0.08**	0.23***	0.30***	0.38***
3	0.01	-0.01	-0.08	-0.19***	-0.26***
4	-0.02	-0.05	-0.15***	-0.18**	-0.27***
High	-0.01	-0.03	0.02	-0.05	0.01
High - Low	-0.09**	-0.25***	-0.46***	-0.78***	-0.85***
T-stat	(-2.32)	(-3.78)	(-4.94)	(-6.74)	(-6.45)
Pavel B: ESG Buzz.					
Low	-0.01	-0.03	-0.04	-0.11	-0.22*
2	-0.01	-0.01	-0.01	-0.04	-0.05
3	0.02	0.03	0.15**	0.26***	0.29***
4	0.03	0.06	0.07	0.02	0.03
High	0.08**	0.12**	0.23***	0.31***	0.44***
High - Low	0.09*	0.15	0.27**	0.43***	0.66***
T-stat	(1.74)	(1.57)	(2.13)	(2.84)	(3.39)

Table IX:
Factor Models.

This table presents time series regressions of a high-minus-low monthly hedge portfolio built on various ESG news scores (Models (1) and (2) refer to ESG Controversies; models (3) and (4) refer to ESG Overall; models (5) and (6) refer to ESG Buzz) on a set of risk factors from both bonds and equity markets. TERM represents the performance of the term premium. DEF is the standard default factor. MKTRF, SMB, and HML represent the Fama-French 3 factors from the equity markets. Definitions and construction details for each factor are presented in Appendix A. *t*-statistics in parentheses are based on heteroskedasticity and autocorrelation consistent standard errors with 3 lags, following Newey and West (1987). *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. The sample period is from 2003 to 2021.

	(1) HML ESG CON	(2) HML ESG CON	(3) HML ESG CON	(4) HML ESG	(5) HML ESG	(6) HML ESG	(7) HML ESG BUZZ	(8) HML ESG BUZZ	(9) HML ESG BUZZ
α	0.09***	0.07**	0.07**	-0.06	-0.05	-0.06	0.15***	0.12**	0.11**
	(2.91)	(2.26)	(2.24)	(-1.33)	(-1.18)	(-1.31)	(2.87)	(2.43)	(2.26)
CBMKTRF	0.07**	0.05*	0.05*	-0.09	-0.08	-0.10**	-0.17***	-0.20***	-0.21***
	(2.54)	(1.88)	(1.78)	(-1.61)	(-1.54)	(-2.02)	(-3.45)	(-4.18)	(-4.10)
TERM		0.01	0.01		-0.01	-0.01		-0.00	-0.00
		(0.84)	(0.80)		(-1.32)	(-1.31)		(-0.06)	(-0.37)
DEF		0.09***	0.09***		-0.00	-0.02		0.15***	0.16***
		(5.33)	(5.24)		(-0.07)	(-0.57)		(5.41)	(4.90)
MKTRF			-0.00			0.03*			0.01
			(-0.33)			(1.74)			(0.38)
SMB			-0.00			-0.01			-0.00
			(-0.05)			(-0.79)			(-0.22)
HML			-0.01			-0.01			-0.04***
			(-0.50)			(-0.38)			(-2.96)
N	224	224	224	224	224	224	224	224	224
R2	0.07	0.34	0.35	0.07	0.07	0.09	0.14	0.40	0.42

Table X:
ESG News Scores Changes and Contemporaneous Bond Returns.

This table presents contemporaneous market-adjusted bond returns for five equally weighted bond portfolios sorted based on changes in ESG Controversies (Panel A), changes in ESG Overall Scores (Panel B), and changes in ESG Buzz (Panel C). We consider changes in ESG news scores over 1 month, 3 months, 6 months, 9 months, and 12 months, in columns 1 through 5, respectively (the returns are compounded over the contemporaneous matching horizon, with overlapping intervals where applicable). For each horizon, we report the market-adjusted bond returns, as well as the returns of a hedge portfolio comprised of bonds with a high ESG news score minus bonds with a low ESG news score. Numbers in parentheses are t-statistics. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. The sample period is from 2003 to 2021. Detailed variable descriptions are presented in Appendix A.

	Δ 1M	Δ 3M	Δ 6M	Δ 9M	Δ 12M
Pavel A: ESG Controversies.					
Low	0.08***	0.19***	0.44***	0.70***	0.84***
2	0.05*	0.08	0.23***	0.37***	0.33***
3	0.04*	0.11***	0.20**	0.13	0.22*
4	0.03	-0.03	-0.11*	-0.18**	-0.18*
High	-0.09***	-0.14***	-0.28***	-0.43***	-0.50***
High - Low	-0.18***	-0.33***	-0.72***	-1.12***	-1.34***
T-stat	(-4.98)	(-5.73)	(-8.19)	(-11.17)	(-11.38)
Pavel B: ESG Overall.					
Low	-0.01	0.07	0.15*	-0.15	-0.06
2	0.04	-0.08**	-0.17**	0.07	-0.16
3	0.02	0.06	0.03	0.05	0.07
4	-0.01	0.09*	0.17***	0.21***	0.30***
High	0.06**	0.09***	0.31***	0.41***	0.54***
High - Low	0.07	0.03	0.16	0.56***	0.60***
T-stat	(1.61)	(0.40)	(1.48)	(3.73)	(3.38)
Pavel B: ESG Buzz.					
Low	0.07**	0.21***	0.46***	0.62***	0.85***
2	0.04**	0.18***	0.33***	0.42***	0.49***
3	0.04*	0.07*	0.17***	0.27***	0.30***
4	0.03	-0.02	-0.03	-0.08	-0.12
High	-0.08	-0.26***	-0.50***	-0.79***	-1.03***
High - Low	-0.15**	-0.47***	-0.96***	-1.41***	-1.88***
T-stat	(-2.60)	(-5.88)	(-9.46)	(-10.84)	(-11.69)

Table XI:
Persistence of ESG News Scores Effect on Spreads.

This table presents the regressions of future corporate bond spreads and various ESG news scores, and a set of controls for various horizons. We consider 1-month, 6-month, and 12-month horizons, respectively, and we look at our main ESG variables: ESG Controversies (Models (1) through (3)), ESG Overall (Models (4) through (6)), and ESG Buzz (Models (7) through (9)). All models include the same set of controls as presented in Tables IV - VI. In addition, all models include issue and month fixed effects, and we compute robust standard errors. In parentheses, we report *t*-statistics based on these errors. The sample period is from 2003 to 2021. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively. Detailed variable descriptions are presented in Appendix A.

	ESG CON			ESG OVRL			ESG BUZZ		
	(1) SPRD 1M	(2) SPRD 6M	(3) SPRD 1Y	(4) SPRD 1M	(5) SPRD 6M	(6) SPRD 1Y	(7) SPRD 1M	(8) SPRD 6M	(9) SPRD 1Y
ESG CON	0.04***	0.03***	0.02***						
	(9.39)	(5.75)	(3.08)						
ESG OVRL				-0.01***	-0.00	-0.00			
				(-2.78)	(-0.36)	(-0.54)			
LN(ESG BUZZ)							0.05***	0.04***	0.05***
							(4.05)	(3.76)	(3.62)
N	599512	523272	457960	599512	523272	457960	508098	445641	391255
R2	0.55	0.49	0.45	0.55	0.49	0.45	0.53	0.47	0.44
Cntrl	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Issue FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

A Appendix: Variable Definitions

Variable	Description
SPRD	Corporate bond yield to maturity less the yield of the nearest Constant Maturity Treasury from the FRED H.15 dataset. Measured in percentage points.
ESG CON	ESG Controversy Score coming from the Core Package provided by MarketPsych, which is designed as an aggregate of media reports about a company's practices in violation of principled environmental, social, and governance behaviors. The original ESG Controversy Score represents a percentile ranking that ranges from 1 (most controversies) to 100 (fewest controversies) in relation to the companies within the same industry, with data for that period. For ease of interpretation, we rescale this by taking (100 - Original ESG Controversy Score), so that a high value of ESG CON represents more controversies. ESG CON ranges from 1 to 100.
E CON	Aggregate of the environmental pillar controversy references coming from the Advanced Package provided by MarketPsych. We aggregate these references following the methodology described in the White paper, based on three categories: Emissions, Environmental, and Resource Use (see Appendix B).E CON ranges from 1 to 100.
S CON	Aggregate of the social pillar controversy references coming from the Advanced Package provided by MarketPsych. We aggregate these references following the methodology described in the White paper, based on four categories: Community, Human Rights, Product, and Workforce (Appendix B). S CON ranges from 1 to 100.
G CON	Aggregate of the governance pillar controversy references coming from the Advanced Package provided by RM-ESG. We aggregate these references following the methodology described in the White paper, based on three categories: CSR Strategy, Management, and Shareholder (see Appendix B). G CON ranges from 1 to 100.
ESG OVRL	ESG Overall Score coming from the Core Package provided by MarketPsych, which is designed to have a subjectively positive meaning. The score ranges from 1 to 100, wherein 1 is subjectively bad and 100 is subjectively good. The score is a weighted composite score calculated from the categories described in Appendix B.
E OVRL	Aggregate of references to a company's positive environmental impacts and support coming from the Core Package provided by MarketPsych. This pillar ranges from 1 to 100 and is built based on three categories: Emissions, Environmental, and Resource Use (see Appendix B)
S OVRL	Aggregate of references to a company's net social benefits coming from the Core Package provided by MarketPsych. This pillar ranges from 1 to 100 and is built based on four categories: Community, Human Rights, Product, and Workforce (see Appendix B).
G OVRL	Aggregate of references to quality and sustainability in corporate governance coming from the Core Package provided by MarketPsych.This pillar ranges from 1 to 100 and is built based on three categories: CSR Strategy, Management, and Shareholder (see Appendix B.)
ESG BUZZ	A proxy for the level of ESG news about the company in a given time window (computed as the total number of relevant, importance-weighted, ESG references to a company) coming from the Core Package provided by MarketPsych. This variable ranges from 0 to Infinity, and since it is highly skewed, we consider the natural logarithm of it for most of our tests.
E BUZZ	A proxy for the level of environmental news about the company coming from the Advanced Package provided by MarketPsych. We aggregate category chatter following the methodology described in the White paper, based on three categories: Emissions, Environmental, and Resource Use (see Appendix B). This variable ranges from 0 to Infinity, and since it is highly skewed, we consider the natural logarithm of it for most of our tests.
S BUZZ	A proxy for the level of social news about the company coming from the Advanced Package provided by MarketPsych. We aggregate category chatter following the methodology described in the White paper, based on four categories: Community, Human Rights, Product, and Workforce (see Appendix B). This variable ranges from 0 to Infinity, and since it is highly skewed, we consider the natural logarithm of it for most of our tests.
G BUZZ	A proxy for the level of governance news about the company coming from the Advanced Package provided by MarketPsych. We aggregate category chatter following the methodology described in the White paper, based on three categories: CSR Strategy, Management, and Shareholder (see Appendix B). This variable ranges from 0 to Infinity, and since it is highly skewed, we consider the natural logarithm of it for most of our tests.

Variable	Description
DUR	Duration of the remaining life of the bond.
LEV	Leverage measured as the total debt to total assets ratio coming from the financial ratio suite in WRDS (Debt_Assets).
BAS	Bid-ask spread of a bond issue, measured in percentage points. This measure is based on the end-of-month bond issue price or the last available price (Dick-Nielsen, 2009, 2014).
SIZE BOND	Amount of the bond issue remaining outstanding each month, measured in millions of dollars.
RET BOND	Monthly return of a bond issue, measured in percentage points. This measure is based on the end-of-month bond issue price or the last available price (Dick-Nielsen, 2009, 2014).
BAA SPREAD	Moody's seasoned Baa corporate bond yield minus the 10-year Constant Maturity Treasury yield, measured in percentage points.
TERM SPREAD	10-year Constant Maturity Treasury yield minus 1-year Constant Maturity Treasury yield, measured in percentage points.
BM	Book to market equity ratio. The market value is measured monthly, and the book value is from the most recent publicly available quarterly statement from COMPUSTAT.
SIZE EQ	Market capitalization at the month-end, measured in millions of dollars.
ROA	Return on assets ratio based on the most recent publicly available quarterly statement from COMPUSTAT.
TNG	Tangibility, defined as the ratio of net property, plant, and equipment to total assets in the most recent publicly available quarterly statement from COMPUSTAT.
IVOL	Idiosyncratic volatility in percentage points calculated from the residuals of the Fama and French (1993) three-factor model estimated using daily observations during month t.
RET EQ	Monthly stock return of the bond-issuing firm from CRSP, measured in percentage points.
IO	Total Institutional Ownership calculated as the number of shares held by institutional investors divided by the total number of shares outstanding for each firm.
AGE	Firm age measured as the number of months since the firm first appeared in CRSP.
HHI	Herfindahl-Hirschman Index is calculated as the sum of the squared market shares (sales over total industry sales) of firms in the industry, where industries are defined using two-digit level SIC codes.
RD	Research and Development measured as the ratio of Research and Development to Sales coming from the financial ratio suite in WRDS (RD_SALE)
RATING	Moody's bond letter rating converted to numerical equivalents, ranging from 1 to 21 (coming from Mergent FISD). We convert letter ratings to numeric values following (Avramov et al., 2007; Jostova et al., 2013), where higher numbers correspond to lower credit ratings.
P DEF	Naive measure of default risk computed following Bharath and Shumway (2008) using information from CRSP and COMPUSTAT.
F DISP	Analysts' forecast dispersion coming from IBES summary files.
CVOL	Cash flow volatility computed following Zhang (2006).
CBMKTRF	Difference between performance of the U.S. Corporate market (BofA US Total Corporate Index) minus risk-free rate (performance of 30-day Treasury yield from Fama-French Data Library) measured in percentage points.
TERM	Difference between the total return on long-term U.S. Treasury bonds (Bloomberg U.S. Treasury 20+ Year Total Return Index, ULT11TRUU) and short-term U.S. Treasury bonds (Bloomberg U.S. Treasury 1–3 Year Total Return Index, LT01TRUU).
DEF	Difference between performance of high yield corporate bond portfolio (BofA US High Yield Index Total Return Index) and AAA corporate bond portfolio from FRED (BofA AAA US Corporate Index).
MKTRF	Excess equity market returns coming from the Fama-French library.
SMB	Small-minus-Big size factor coming from the Fama-French library.
HML	High-minus-Low book-to-market factor coming from the Fama-French library.

B Appendix: MarketPsych ESG News Scores

B.1 Core and Advanced Datasets Descriptions

We summarize the ESG news scores available in MarketPsych's Core and Advanced company-level datafeeds. The Core dataset delivers high-level composite measures, including overall ESG, pillar, and category scores. The Advanced dataset offers a much more granular breakdown, containing detailed ESG performance measures variables that can be further grouped into environmental, social, and governance categories. Tables B.I and B.II report the available variables and their descriptions, highlighting the progression from broad composite indicators to fine-grained dimensions of ESG performance and controversies.

Table B.I:
ESG Scores Provided in the Company Level Core MarketPsych Datafeed.

For each company, the core Category, Pillar and ESG Scores rely on a complex weighting scheme described in Refinitiv MarketPsych (2023). Category scores are the most granular Core scores. Each Core score (except Buzz) is percentile-ranked from 1 to 100 in relation to the companies within the same industry, with data for that period. Please see the white paper for more details on the calculation of each Core score.

Scores	**Description**	**Range**
Buzz	Total number of relevant ESG references to a company	0 to Inf
ESG Overall	Weighted composite score calculated from Advanced RMA Scores	1 to 100
ESG Combined	Equals the ESG Score when the ESG Controversies Score is higher than the ESG Score. However, if the ESG Score is higher than the ESG Controversies Score, then a simple average of those two scores is used for the Combined Score.	1 to 100
ESG Controversies	An aggregate of media reports about a company's practices in violation of principled environmental, social, and governance behaviors.	1 to 100
Pillar Scores (for ESG Overall)		
Environmental Overall (E)	Aggregate of references to a company's positive environmental impacts and support	1 to 100
Social Overall (S)	Aggregate of references to a company's net social benefits	1 to 100
Governance Overall (G)	Aggregate of references to quality and sustainability in corporate governance	1 to 100
Categories Measures (for Overall Pillars)		
Emissions (E)	Measures a company's commitment and effectiveness towards reducing environmental emissions in the production and operational processes	1 to 100
Environmental Innovation (E)	Reflects a company's reduction of environmental impact and the creation of new market opportunities through new green technologies and design	1 to 100
Resource Use (E)	Reflects a company's energy efficiency and supply chain sustainability	1 to 100
Community (S)	Measures the company's commitment to being a good citizen, protecting public health, and respecting business ethics.	1 to 100
Human Rights (S)	Measures a company's effectiveness in terms of respecting fundamental human rights conventions.	1 to 100
Product (S)	Reflects a company's capacity to produce quality goods and services, integrating the customer's health and safety, integrity, and data privacy.	1 to 100
Workforce (S)	Measures a company's effectiveness in terms of providing job satisfaction, a healthy and safe workplace, maintaining diversity and equal opportunities, and development opportunities for its workforce.	1 to 100
CSR Strategy (G)	Reflects a company's practices to communicate that it integrates economic (financial), social, and environmental dimensions into its day-to-day decision-making processes.	1 to 100
Management (G)	Measures a company's commitment and effectiveness towards following best practice corporate governance principles.	1 to 100
Shareholders (G)	Measures a company's effectiveness towards equal treatment of shareholders and the use of anti-takeover devices.	1 to 100

Table B.II:
ESG Scores Provided in the Company Level Advanced MarketPsych Datafeed.

There are 36 specific Advanced ESG scores and 44 Controversy scores for the companies. These 80 Advanced ESG and ESG controversies scores are aggregated in 10 Buzz categories and 10 Controversies categories, which are also provided in the Advanced MarketPsych feed. Please see Refinitiv MarketPsych (2023) for a more detailed description of their methodology and variables.

Panel A: Controversy Related

Environmental	*Social*	*Governance*
AirborneEmissionsControversy	AdvertisementDeceptive	AccountingControversy
CarbonEmissionsControversy	Anger	AccountingRestatement
EnvironmentalControversy	AntiCompetitiveActs	ActivistInvestorActivity
IndustrialAccident	BenefitsControversy	CreditControversy
PollutionControversy	ChildLabor	EarningsDecline
SustainabilityControversy	ClassActionLawsuit	InsiderDealingControversy
	CorruptionControversy	ManagementControversy
	CrimeControversy	ProfitWarning
	CriticalCountriesControversy	ProxyFight
	DiversityControversy	SecuritiesControversy
	EthicsControversy	ShareholderRightsControversy
	HumanRightsControversy	TaxFraudControversy
	IPControversy	
	LaborDispute	
	LaborExploitation	
	Layoffs	
	LegalPenalty	
	Litigation	
	Lobbying	
	PrivacyControversy	
	ProductControversy	
	PublicHealthControversy	
	RegulatoryIssues	
	RnDControversy	
	WageControversy	
	WorkplaceSafetyControversy	

Panel B: ESG Overall Related

Environmental	*Social*	*Governance*
AirborneEmissionsImprovement	AccessAffordability	AccountingSentiment
CarbonEmissionsImprovement	Benefits	AntiTakeover Devices
ClimatePolicy	Charity	CSRActivities
EnergyEfficiencyEfforts	CustomerSatisfaction	ManagementDiversity
EnvironmentalInvestment	DiversityEfforts	ManagementSentiment
PollutionImprovement	HumanRightsEfforts	ManagementTrust
Recycling	Innovation	QualityMgmtSystems
RenewableEnergy	PrivacyEfforts	
RenewableEnergyPolicy	ProductSentiment	
SupplyChainSustainability	PublicHealthSupport	
SustainabilityImprovement	Trust	
SustainableInnovation	WageFairness	
SustainablePackaging	WorkLifeBalance	
	WorkplaceDevelopment	
	WorkplaceSafetyEfforts	
	WorkplaceSentiment	

Panel C: Buzz Related

Environmental	*Social*	*Governance*
EmissionBuzz	CommunityBuzz	CSR StrategyBuzz
EnvironmentalInnovationBuzz	Human RightsBuzz	ManagementBuzz
ResourceUseBuzz	ProductBuzz	ShareholdersBuzz
	WorkforceBuzz	

B.2 Translating ESG News into Quantitative ESG Scores

To illustrate the MarketPsych ESG Analytics translation process, we present two events in which ESG news were quantified into ESG Controversy scores the dataset. Specifically, we examine the Wells Fargo account fraud scandal in 2016 and the ExxonMobil climate disclosure controversy in 2015. For each event, we show how the news flow is captured by granular controversy indicators, as well as how it aggregates into higher-level measures. Table B.III illustrates how news events are translated into numerical ESG scores.

B.2.1 Wells Fargo Controversy

In September 2016, U.S. regulators disclosed that Wells Fargo employees had opened millions of unauthorized customer accounts to meet aggressive sales targets. The scandal was widely understood as a governance failure. It was rooted in misaligned incentives, weak oversight, and board inaction, while also manifesting as a social controversy, harming consumers through fraudulent fees and accounts. The MarketPsych ESG Analytics dataset captures this news in two dimensions: consumer harm (via the Social/Product Responsibility category, SC3C) and governance failures (via Management and Shareholder Controversies, GC1C and GC2C).

B.2.2 ExxonMobil Controversy

Another example is related to ExxonMobil Climate Change Investigations. In late 2015, ExxonMobil came under scrutiny after investigative reports alleged that the company had long known about the risks of climate change while downplaying them in public communications. These reports were quickly followed by regulatory actions, including a subpoena from the New York Attorney General in November 2015 and further demands from the Massachusetts Attorney General in 2016.

Table B.III:
Examples: ESG News Controversies.

This table reports the average values of selected controversy measures from the MarketPsych dataset around two major events: (i) the Wells Fargo account scandal (before: May–Aug 2016; after: Sep–Dec 2016), and (ii) the ExxonMobil emissions scandal (before: Jun–Sep 2015; after: Oct 2015–Jan 2016). Panel A presents granular controversy categories from Advanced MarketPsych Datafeed, Panel B shows aggregate measures from Core MarketPsych Datafeed. The original ESG Controversy score is constructed such that higher controversy results in lower values. The last column reports the percentage change for every measure (Δ%).

	Company	Before	After	Δ %
Panel A: Granular categories				
SC3C	Wells Fargo	0.056	0.081	45%
GC1C	Wells Fargo	0.101	0.244	141%
GC2C	Wells Fargo	0.459	0.801	75%
EC1C	ExxonMobil	0.151	0.190	26%
Panel B: Aggregate scores				
ESG Controversies rank	Wells Fargo	27.7	10.0	-64%
ESG Controversies rank	ExxonMobil	26.2	21.4	-18.3%