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A SHARED INTEREST:
DO BONDS STRENGTHEN EQUITY MONITORING?

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ABSTRACT

Institutional investors conduct more governance research and are less likely to follow proxy advisor vote recommendations when a company's bonds comprise a larger share of their assets. These findings are driven by bond holdings, shareholder proposals, and companies where fixed-income managers are more likely to be attentive and share an interest with equity investors in improving governance. The findings do not concentrate on companies or shareholder proposals where creditor-shareholder conflicts are likely. Overall, the findings suggest that corporate bond holdings influence how actively institutions monitor their equity positions and contribute to institutions' overall incentive to be engaged stewards.

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"[I]t can be challenging for investors to consider how to adopt their stewardship practices to include fixed income… Yet in many areas of corporate governance, there can be a significant alignment of interest that supports engagement on behalf of all financial stakeholders, both creditors and shareholders."
— George S. Dallas, Policy Director at International Corporate Governance Network

1. Introduction

The increasing size of institutional investors, who now hold around 70% of public US firms' outstanding equity, raises questions about whether they are effective stewards for equity investors. For example, the three largest mutual fund families in total net assets (Vanguard, Fidelity, and BlackRock) hold equity positions in around 5,000 US companies, casting doubt on their ability to monitor every company in their massive portfolios. Because these institutions can be influential (e.g., Appel et al., 2016; Gormley et al., 2023), it is essential to understand when they will be attentive owners and engaged stewards. However, the factors that affect institutional investors' stewardship activities are poorly understood, including whether institutional investors prioritize overall portfolio returns or the returns for individual holdings (e.g., Matvos & Ostrovsky, 2008; Harford et al., 2011). This paper analyzes whether institutions' *corporate bond* holdings affect how actively they monitor their *equity* positions.

Institutions offer various mutual fund and exchange-traded fund (ETF) options to investors (e.g., equity-only, bond-only, and mixed-asset), and corporate bond holdings often comprise a significant component of institutional investors' holdings. For example, at the end of 2020, one-fourth of US mutual funds and ETFs held corporate bonds, with more than half of those funds holding both equity and bonds. Moreover, 36.2% of institutions casting votes on contentious shareholder proposals between 2008 and 2020 also held a bond position in the underlying firm. That bond position accounted for, on average, 28.9% of the institution's exposure to the firm.

Despite corporate bonds' economic importance for institutional investors, the study of factors motivating institutional investors' stewardship activities often ignores their bond positions. For example, proposed measures of institutional investors' incentive to be engaged stewards tend

to focus solely on institutions' equity holdings (e.g., Fich et al., 2015; Lewellen & Lewellen, 2021). And when considered, the potential importance of institutions' bond positions is often limited to their ability to create conflicts of interest (e.g., Keswani et al., 2021).

However, there are several reasons why bond holdings might affect how actively institutions vote and monitor their equity positions more generally and in ways that do not necessarily conflict with shareholders' interests. First, there are many situations where being an engaged steward can be value-enhancing for both holdings. Hence, institutions with a bond position will have a greater monitoring motive, all else equal, because engagements that improve a firm's fundamental value will improve the value of both its bonds and equity. Second, bond owners have strong motives to encourage active voting by their equity counterparts. Bond holdings tend to be more sensitive to long-term viability risks and are less liquid and harder to exit, thus increasing the importance of direct engagement.[1] Third, many fixed-income managers extensively research companies and their default risk. If this research is shared internally within the fund family and complementary to the research conducted by equity funds, it could affect which equity positions the institution pays more attention to when voting shares.[2]

On the other hand, there are also reasons why corporate bond holdings might not affect or even be detrimental to institutions' stewardship activities. Institutions' fiduciary duty to represent equity investors' interests when voting the stocks could limit the extent to which institutions allow managers with a bond holding (and, hence, a potentially conflicting interest) to influence their stewardship decisions. Bond holdings could even weaken equity stewardship if fixed-income managers push their institutions to promote creditors' interests over that of shareholders.

[1] Consistent with this, the lead governance director at a prominent institutional investor described managers with bond positions as more "paranoid and pessimistic" than equity-only managers. Thus, bond managers' presence within the fund family resulted in added pressure for his governance division to monitor firms closely.

[2] This information spillover could occur in a variety of ways. For example, many large institutions centralize voting decisions in governance divisions that aggregate fund managers' views and information before casting votes. Interviews confirm that individuals in these governance divisions consult bond- and equity-fund managers before voting. Moreover, in institutions where individual fund managers make voting decisions, equity managers might seek the input of managers with bond positions before voting. Analyzing investment decisions within fund families, Auh & Bai (2020) find evidence consistent with cross-asset information spillovers.

To assess the potential importance of bond holdings for investors' monitoring activities, we analyze whether the size of an institution's bond position predicts greater investor attention, which can indicate active monitoring. We start by constructing a proposal-by-institution-level dataset of how institutions voted on every proposal from January 2008 to June 2020 and pair this data with institutions' aggregated holdings at the time of the vote. We then regress a proposal-level, vote-based measure of investor attention onto the share of the fund family's total net assets (TNA) held in that company's bonds. Following Iliev and Lowry (2015) and Gilje et al. (2020), we proxy for an institution's attention using votes that go against the recommendation of the proxy advisory firm Institutional Shareholder Services (ISS). This investor attention proxy is theoretically motivated (Malenko et al., 2022), and the underlying premise is that all else equal, attentive investors are less likely to rubber-stamp ISS recommendations. Past empirical work also confirms that voting against ISS is more likely to occur among institutional investors with greater net benefits from being attentive and engaged (Iliev & Lowry, 2015).

To mitigate concerns about portfolio weights' endogeneity, we partial out potential confounding factors that might drive differences in attention at the investor or proposal level. Specifically, we include proposal-level fixed effects in each estimation. The proposal-level fixed effects control for any proposal-level characteristics that could affect institutions' likelihood of following ISS, including the proposal's type and content. The proposal fixed effects also control for any firm characteristics (e.g., profitability, size, and takeover vulnerability) at the time of the vote that might matter for how institutions vote. We also include institution-by-month fixed effects to control for each institution's overall tendency to follow ISS and the possibility that this might vary over time. In other words, we only use variation in how an institution voted across proposals each month as a function of how extensive its bond position was in each company.

Using this within-proposal and within-institution-by-month variation in votes, we find a positive association between an institution's bond position size and the likelihood it does not

follow the ISS recommendation when voting its shares. The positive association is robust to controlling for the overall importance of the institution's equity position in that company, which also positively predicts voting against ISS (e.g., Fich et al., 2015; Iliev & Lowry, 2015; Gilje et al., 2020). Moreover, the association between bond holdings and voting is economically important and similar in magnitude to that observed for equity holdings. A one standard deviation increase in a bond's share of total net assets predicts a 0.62 percentage point increase in the likelihood that the institution votes against the ISS recommendation.

We next construct an alternative proxy for investor attention, whether a fund family accesses a company's proxy filings via EDGAR in the days before a shareholder meeting. Following Iliev et al. (2021), we construct this governance research measure by matching the IP addresses accessing each filing on EDGAR to individual fund families. To proxy for investor attention, we create an indicator that flags whether the institution downloaded a company's filings from 30 days before the proxy statement release and continuing through the shareholder meeting date. Iliev et al. (2021) show that such downloads predict more informed voting and are more likely to occur among institutions where the value of being attentive is greater.

Providing further evidence that bond holdings might influence a fund family's attention level, the size of an institution's bond holdings positively predicts whether the institution views a company's proxy filings before voting. The association is robust to controlling for the size of the institution's equity position, meeting-level fixed effects, and institution-by-month fixed effects. The meeting-level fixed effects control for any firm characteristics at the meeting time that might affect how much research institutions conduct, and the continued inclusion of institution-by-month fixed effects controls for each institution's overall tendency to access EDGAR filings that month. In other words, our estimates show that, within the given month, an institution is more likely to download filings before voting at companies where they hold a larger bond position. Estimates are also similar in magnitude to what we observe when using our vote-based attention proxy. A one

standard deviation increase in a bond's share of total net assets is associated with a 0.26 percentage point increase in the likelihood of accessing the company's proxy filing.

We next analyze whether the observed patterns concentrate on proposals and companies where fixed-income managers are more likely to be attentive. For example, because a more robust governance structure can lower a firm's default risk through reduced agency problems and increased monitoring (e.g., Bhojraj & Sengupta, 2003), bond investors might be more likely to focus on governance-related proposals (e.g., proposals about directors, executive pay, and voting) than socially responsible investing (SRI) proposals (e.g., proposals about political contributions and gender-based pay gaps). Fixed-income managers might also be more likely to focus on firms with lower ESG scores, particularly those with lower governance scores. Improving governance at such firms might enhance investors' ability to push firms to address performance issues that undercut firm (and hence, bond) value, including poor risk management and low productivity.

We find evidence consistent with bondholders' being potentially more focused on governance-related issues. Governance proposals drive the association between bond holdings and institutional voting. Moreover, our main finding concentrates on firms with low governance scores. Splitting the sample into votes at firms with an above- or below-median ESG score, we find that the size of the bond position only predicts votes for firms with low ESG scores.

The observed association between bond holdings and voting also varies across funds in ways consistent with the influence of bond holdings on institutional investors' attention. The positive association between portfolio weights and investor attention concentrates on bonds held in actively managed funds, where monitoring is more likely to occur (e.g., Brav et al., 2020; Iliev et al., 2021). We also find that bonds held in mixed-asset funds are more likely to predict institutional investors' voting patterns. This finding is consistent with the argument that fixed-income managers' engagement is more significant when they can leverage an equity position to exert influence (Russell Investments, 2020). However, institutions' equity-only funds are also less

likely to follow ISS recommendations when the institution has bond holdings in that same company, suggesting that bond holdings also contribute to institutions' overall engagement.

Significantly, shareholder-creditor conflicts arising from institutions' dual holdings do not drive our findings. The association between institutions' bond holdings and voting patterns remains largely unchanged when excluding firms in financial distress, where a wedge in the interests of shareholders and creditors is more likely to occur. Nor do we find evidence that the association varies in magnitude with measures of firms' expected default risk, and the association concentrates on institutions' investment grade bond holdings, where default risk is low. Our findings also hold for a subset of shareholder proposals where creditor-shareholder conflicts are unlikely to be relevant. Shareholder-creditor conflicts also do not explain our findings regarding institutions' governance research, as measured using EDGAR viewings. Overall, the evidence suggests that bond holdings affect institutional investors' activities more systematically than previously known. This potential influence likely reflects the alignment of interests that can occur among all financial stakeholders for many types of investor engagement.

These findings have important implications for corporate governance and the monitoring of companies. Institutional investors are not fully attentive (e.g., Ben-Rephael et al., 2017; Fang et al., 2014; Lu et al., 2016; Schmidt, 2019), particularly when it comes to their smaller equity positions (Fich et al., 2015; Iliev & Lowry, 2015; Iliev et al., 2021). This lack of attention affects managers' incentives and destroys shareholder value (e.g., Kempf et al., 2017; Liu et al., 2020; Gilje et al., 2020). Given its importance, a better understanding of what drives investor attention is needed. Our findings show that corporate bond holdings predict greater investor attention. This finding suggests that institutional investors consider their overall economic exposure when deciding where to allocate attention and that institutions prioritize total portfolio returns rather than individual stock returns. The finding also suggests that the popularity of mixed-asset funds and institutions' tendency to hold bond positions in companies can enhance investor stewardship.

Our findings also contribute to the nascent literature that quantifies institutions' incentive to be engaged monitors. Existing estimates of institutions' motive to be attentive consider the relative importance of the equity position in the institution's overall equity portfolio (Fich et al., 2015) and how improvements in the equity position's value will increase fund fees and flows (Lewellen & Lewellen, 2021). However, these existing measures ignore how increased attention and active monitoring can also improve the value of institutions' bond holdings, providing many institutions an additional motive to be engaged owners. Our findings suggest that institutions' *combined* debt and equity holdings should be accounted for when quantifying or proxying for institutions' overall incentive to be engaged stewards. Our findings also suggest that the type of funds that hold the position, mixed-asset versus bond-only and actively managed versus indexed, also likely matters for institutional investors' stewardship activities.

Finally, our results contribute to the ongoing discussion regarding creditor governance and the conflicting interests of institutions holding dual debt and equity positions. Debt and equity owners can have different views regarding the value implications of dividends, equity issuances, takeover defenses, and acquisitions, which could influence how an institution that holds debt and equity votes on specific proposals. Consistent with this possibility, evidence suggests that institutions holding both debt and equity in a firm vote differently on proposed mergers (Bodnaruk & Rossi, 2016) and are more likely to cast creditor-friendly votes, especially when the firm is in financial distress (Keswani et al., 2021). Instead, we analyze the importance of debt holdings for an institution's overall likelihood of being an engaged monitor, which can positively influence the value of both debt and equity positions. We find evidence that these dual holdings influence institutions' stewardship more generally and in ways that do not necessarily forgo equity investors' interests, thus providing an essential complement to the existing work on creditor governance.[3]

[3] In this regard, our findings also differ from papers using the dual debt and equity holdings of banking institutions and investors to study the effects of shareholder-creditor conflicts on investment, executive compensation, risk-shifting, loan spreads, debt covenant use, financial distress resolution, tax avoidance, and corporate social responsibility performance (e.g., Chava et al., 2019; Chen et al., 2023; Chu, 2018; Chu et al., 2020; Francis et al., 2022; Jiang et al., 2010; Lee, 2021; Lopatta et al., 2022; Tang et al., 2022; Yang, 2021).

Our findings also provide additional evidence of an indirect mechanism by which creditor governance can operate that differs from the typical focus on debt covenants and bankruptcy.

We organize the paper as follows. Section 2 describes our data. Section 3 presents our empirical specification, and Section 4 reports our main findings. Section 5 analyzes heterogeneity in our main finding across firms, proposals, and funds, and Section 6 examines alternative explanations for our findings. Section 7 concludes.

2. Data and Summary Statistics

To assess the association between an institution's bond holdings and its level of attention to individual companies, we combine various datasets, including mutual funds' holdings, mutual fund voting records, and SEC log files of institutions' EDGAR downloads.

2.1. Mutual fund holdings data

To calculate how significant each company's equity or bonds are in a fund family's overall portfolio, we use the CRSP Mutual Funds Database. The SEC requires mutual funds and exchange-traded funds (ETFs) to disclose their holdings quarterly during their fiscal year using Forms N-CSR and N-Q. Many funds, however, voluntarily report holdings on other dates as well.[4] We restrict our analysis to holdings starting in 2008 because the CRSP database contains inaccurate information before that year (Schwarz & Potter, 2016).[5]

To analyze how holdings correlate with subsequent institution-level measures of attention, we aggregate security holdings to the institution (i.e., fund family) level for each month. To

[4] Because most funds' fiscal year align with the calendar year, mandated disclosures typically occur on the last days of March, June, September, and December each year. On other dates, some funds also make additional voluntary disclosures to significant databases, like CRSP, Morningstar, and Thomson Reuters. However, most of these voluntary disclosures also occur at the end of March, June, September, and December (Gormley et al., 2022). Institutions already having to disclose their aggregated holdings to the SEC on Form 13F on these same dates likely drives these additional disclosures (Schwarz & Potter, 2016).

[5] In 2008, CRSP migrated to using Lipper data instead of Morningstar data, which has resulted in an increase in its coverage of SEC-mandated disclosures (Schwarz & Potter, 2016). We use the CRSP mutual fund holdings rather than the other commonly used dataset for such holdings, Thomson Mutual Fund Holdings (Thomson), as it is easier to merge with our voting outcomes, resulting in a smaller loss of observations. Moreover, Schwarz & Potter (2016) document that the CRSP Mutual Fund Database has better coverage than Thomson after 2007.

construct this monthly measure, we aggregate all the most recent fund reports of a particular institution going back three months. Because funds are required to report quarterly, this 3-month window will capture each fund's holdings within the larger fund family.

To aggregate holdings to the institution level, we manually match funds to fund families using their fund name while accounting for subsidiaries within each institution. For example, Allianz purchased both Nicholas-Applegate Capital Management and Pacific Investment Management Company (PIMCO) in 2000, and in 2008, it invested $2.5 billion in Hartford Financial Services Group. Because our sample begins in 2008, we assign all funds with names containing "Allianz," "Nicholas-Applegate," "PIMCO," and "Hartford" to the Allianz fund family. When aggregating to the institution level, we exclude positions with a negative value. Our subsequent findings are similar if we instead keep these negative positions or use their absolute value when aggregating. Finally, we use WRDS's CUSIP-PERMCO link table to assign a PERMCO to each security in our sample, where each PERMCO identifies a unique firm.

Because the CRSP database does not directly flag whether reported securities are a bond, we classify securities as a bond using two methods. First, we classify securities that report a value in the "Date of Bond Maturity" field as bonds. Because this field is missing for some bonds, we also flag a security as a bond if the security's name includes a "%", ".", "-", "/", or any number. These symbols and numbers appear in a security name for bonds to indicate a maturity date and yield rate. For example: "RAYTHEON CO., 7.20%, 8-15-2027" has a blank maturity date in CRSP but refers to Raytheon's 7.2% domestic bond expiring in 2027. We classify all other securities as "equity," and a manual review of the resulting security classifications confirms that this approach accurately flags bond and equity securities. Because every security in our sample must have a CUSIP-PERMCO link, funds' cash holdings are not included in our subsequent analysis.

Bond holdings comprise a sizable component of institutions' portfolios. In June 2020, mutual fund families held about $1.35 trillion in corporate bonds, accounting for 10% of their total

net assets. Figure 1 provides a breakdown of bond holdings across fund families. Of this $1.35 trillion, Vanguard held $357 billion, while BlackRock held $161 billion.

There is also considerable variation in the importance of corporate bond holdings across fund families. Table 1, which provides a breakdown between equity and corporate bonds for some of the most prominent mutual fund families, shows this variation. For example, after excluding government bond holdings, 16.8% of Prudential's $218 billion in assets is held in corporate bonds, compared to just 3.5% of T Rowe Price's $474 billion in assets. There is also variation in bond holdings among The Big Three indexers. For example, BlackRock holds 13.2% of its assets in corporate bonds, while corporate bonds only account for 4.0% of State Street's assets.

Fund-level summary statistics also show the importance of bonds for mutual fund families. Most fund families offer a range of funds, including equity-only, bond-only, and mixed-asset, which hold both debt and equity securities. Table 2, columns 1-3 provides a yearly breakdown of such funds. While bond-only funds account for 6% of funds in 2008, they have grown in popularity, accounting for 12% of funds by 2020. Mixed-asset funds are also relatively common, accounting for 9–21% of mutual funds and ETFs per year between 2008 and 2020. Moreover, corporate bond holdings are an important component of mixed-asset funds. In 2020, mixed-asset funds held 50% of their assets in corporate bonds (column 4). On average, about 56–66% of a fund family's corporate bond holdings each year are held in mixed-asset funds (column 5).

2.2. Mutual fund voting data

We use the ISS Voting Analytics dataset to analyze how institutions' votes vary as a function of their bond holdings. The database includes fund voting records obtained from the mandated N-PX forms that institutions file with the SEC every year. While the voting records are available from July 2003 to June 2020, we start our sample in 2008 to match the time for which we have fund holdings data and to match when the coverage of Voting Analytics is better. Before 2007, ISS only collected voting records of the top 100 fund families, but after 2007, it collected

the top 300 (Brav et al., 2021). The ISS data also includes a description of each proposal and the ISS recommendation on how investors should vote.

For our analysis, we follow Iliev and Lowry (2015) and Gilje et al. (2020) and focus on shareholder-sponsored proposals. During our sample, there were 11,523 proposals sponsored by shareholders, and of these, 5,944 (or 51.6%) were contentious, as defined by when ISS and management gave conflicting vote recommendations. We exclude non-contentious proposals because they are typically not well-thought-out (Gantchev & Giannetti, 2019) and because investors do not appear to focus on them (Iliev et al., 2021). A similar logic applies to excluding management proposals, which are primarily perfunctory and less revealing about investor attention (Iliev & Lowry, 2015; Gilje et al., 2020). However, in subsequent analysis, we also provide evidence on how institutions' bond holdings correlate with their votes on management proposals that are less likely to be perfunctory.

We aggregate the fund-level votes to the institution (i.e., fund family) level using the same approach to aggregate mutual fund holdings and then merge the voting data with the holdings data. When merging in the holdings data for each proposal-by-institution observation, we use the aggregated holdings across all the most recent fund reports of the institution in the three months before the proposal vote. After this merger, we have 373 unique institutions in our sample, and, on average, 55 institutions and their funds cast votes for each proposal. In total, our sample includes 327,266 proposal-by-institution observations across 13 years.

We follow Iliev & Lowry (2015) and proxy for investor attention using an indicator for whether an institution's votes on a proposal fail to follow the ISS recommendations. Iliev & Lowry (2015) and Malenko & Malenko (2019) posit that if fund families devote more resources towards becoming informed, they will be less likely to follow proxy advisory firm recommendations indiscriminately. Malenko et al. (2021) also show that voting against ISS is the equilibrium outcome for more attentive investors when ISS uses its vote recommendations to create

controversy. Consistent with this possibility, Iliev & Lowry (2015) observe a greater likelihood of disagreeing with ISS for mutual funds where the net benefits of being attentive are greater. Moreover, Iliev et al. (2021) find that this voting behavior positively correlates with an institutional investor becoming informed before a vote.[6]

To create a proposal-by-institution voting measure of investor attention, we calculate the share of an institution's funds that do not follow the ISS recommendation, *Against ISS*. We start by following Gilje et al. (2020) and code fund-by-proposal vote decisions of "Against," "Abstain," and "Withhold" as "Against," and "For" as "For." We then compare how each fund voted to the ISS recommendation of either "For" or "Against" and flag those where the fund did not follow the ISS recommendation. We then calculate *Against ISS* as the share of an institution's funds that did not follow the ISS recommendation for that proposal. For 83.5% of our proposal-by-institution observations, *Against ISS* equals either zero or one, as most funds within a fund family vote in the same direction on individual proposals.[7]

For the contentious shareholder proposals we analyze, there is considerable variation across institutions on whether they follow ISS. Table 3 provides summary statistics for our final proposal-by-institution sample. For an average proposal, 47.8% of institutions cast at least one vote that does not agree with ISS, and 40.4% of funds cast a vote that does not agree with ISS. While not tabulated, we find that the average likelihood of voting against ISS is considerably lower for management proposals (7.8%) and non-contentious shareholder proposals (10.5%), consistent with these excluded proposals being routine and less likely to require investors' attention.

[6] Because voting against ISS typically means voting for management, one might worry that this proxy instead captures investors rubber-stamping management recommendations (i.e., investors doing less monitoring). However, as noted above, the existing theory and empirical findings do not support this interpretation of the proxy. Moreover, our second proxy for investor attention (see Section 2.3) is not subject to this concern.

[7] Within-family vote disagreements can reflect cases where either the institution does not centralize its vote decisions or it outsources the management of some funds to a subadvisor. For some institutions, subadvisors are allowed to vote independently, while for others, they are not. For example, in 2019, Vanguard announced its intention to begin allowing its subadvisors (which account for about 9% of its assets under management) to make their own vote decisions. See https://www.cnbc.com/2019/04/25/vanguard-to-give-up-some-of-its-voting-power-to-external-fund-managers.html. The existence of subadvised funds that can vote independently will only work against us finding an association between a fund family's bond holdings and their voting.

The summary statistics provided in Table 3 further highlight the potential importance of institutions' bond holdings. In 36.2% of observations, the voting institution held a non-zero bond position in the company. On average, these bond holdings accounted for about 0.039% of the institution's total net assets and 28.9% of their overall exposure to the firm.

2.3. Mutual funds' accessing of company filings on EDGAR

As an additional proxy of investor attention, we use whether an institution accessed the company's proxy filings before a shareholder meeting, which previous papers use as a measure for corporate governance research (e.g., see Bauguess et al., 2018; Loughran & McDonald, 2017; Iliev et al., 2021). We use the publicly available EDGAR log files to measure whether an institution accessed a company's proxy filings. The SEC's Division of Economic and Risk Analysis (DERA) assembles information on internet search traffic for EDGAR filings through SEC.gov, covering February 14, 2003, through June 30, 2017. The log file contains the first three octets of the IP address accessing each filing and a time stamp on when the file was accessed. To assign these IPs to institutional investors, we use a linking table purchased from Digital Elements, an IP geolocational technology provider, containing names of the organizations registering each IP address as of December 31, 2016. We then follow the approach recommended by Iliev et al. (2021) to match these organization names to specific institutional investors. See Appendix A for details.

To create our second proxy for investor attention, we use an indicator for whether the institution accessed a prior or current proxy filing of the company in the days before the company's shareholder meeting. Iliev et al. (2021) show that such downloads predict more informed voting by the institution and that such downloads are more likely to occur among institutions where the value of being attentive is greater. We use accession numbers provided by the SEC to identify proxy filings, and our window includes the 30 days before the current proxy statement date and continues through the shareholder meeting date. Typically, proxy statements are released 45 days before the shareholder meeting, resulting in an average window of 75 days.

During our sample period, January 2008 to June 2017, we obtain log files for 41,996 shareholder meetings and can identify 141 unique institutions. After limiting our sample to institutions with non-zero equity holdings on the meeting date, our final sample includes 1.22 million institution-by-meeting observations. On average, 8.5% of institutions with a non-zero equity position access a proxy filing before the shareholder meeting. The low percentage of institutions accessing proxy filings via EDGAR likely reflects some institutions' use of other sources, like Bloomberg, Factset, and ISS, to access regulatory filings. For that reason, our later estimation strategy will only use within-institution variation in the accessing of filings via EDGAR. Institutions that do not use EDGAR and institutions we are unable to match to a block of IP addresses will not contribute to our subsequent point estimates.

3. Estimation Strategy

To analyze the association between an institution's level of attention and the importance of a particular bond position in an institution's overall portfolio, we start by estimating

$$Against\ ISS_{ijkm} = \beta(\frac{Bond\ holdings}{TNA})_{ikm} + \gamma(\frac{Equity\ holdings}{TNA})_{ikm} + \alpha_j + \delta_{im} + \varepsilon_{ijkm}, \quad (1)$$

where *Against ISS* is the share of institution *i*'s funds that voted against the ISS recommendation on proposal *j* for firm *k* in month *m*, *Bond holdings/TNA* and *Equity holdings/TNA* are the proportion of institution *i*'s total net assets (TNA) held in firm *k*'s bonds and equity as of month *m*, and α_j and δ_{im} are proposal and institution-by-month fixed effects, respectively. To ensure outliers do not unduly influence our findings, we winsorize *Bond holdings/TNA* and *Equity holdings/TNA* at the one percent level. Furthermore, to ease the estimates' interpretation, we scale both variables (and subsequent explanatory variables) by their sample standard deviation. Thus, each variable's coefficient reflects the change in the outcome for a one standard deviation increase in that variable. Because the estimation errors, ε, might exhibit serial correlation and be correlated within institutions, we cluster the standard errors at the institution level.

Our main identification concern is that of omitted variables. Suppose *Bond holdings/TNA* correlates with proposal-, firm-, or institution-level characteristics that affect an institution's likelihood of actively voting its shares (i.e., not blindly following the ISS recommendation). In that case, our estimate of interest, β, could reflect these omitted variables rather than an effect of bond holdings on investor attention. For example, if institutions tend to hold larger bond positions in better-run companies and such companies are also those where institutions are more likely to vote against ISS recommendations, a positive correlation between *Bond holdings/TNA* and *Against ISS* could exist even if bond holdings do not affect institutions' attention.

However, including proposal and institution-by-month fixed effects allows us to control for a number of these potential omitted factors. The proposal-level fixed effects control for any proposal-level characteristics that could affect institutions' likelihood of following ISS, including the proposal's type and content. The proposal fixed effects also control for any firm characteristics (e.g., profitability, size, and takeover vulnerability) at the time of the vote that might matter for how institutions vote on a particular proposal. The institution-by-month fixed effects control for any differences in an institution's overall tendency to be "pro-management" (e.g., Brav et al., 2021; Kedia et al., 2020), while allowing for this tendency to change over time. Hence, our coefficient of interest, β, is identified using variation in how votes for a given proposal vary as a function of each institution's bond holdings in each month. Institutions with no within-month variation in their tendency to follow ISS (e.g., institutions that always follow ISS or institutions that always vote for management) will not contribute to our estimates.

These fixed effects do not control for other factors that might exhibit cross-sectional variation across an institution's holdings at a particular point in time, affect the likelihood of an institution voting against ISS, *and* correlate with *Bond holdings/TNA*. One possible such factor is how significant that firm's equity is in the institution's overall portfolio, which affects institutions' attention (e.g., Fich et al., 2015; Iliev & Lowry, 2015) and could correlate with *Bond*

holdings/TNA. For this reason, we also include the proportion of an institution *i*'s TNA held in firm *k*'s equity as of month *m*, *Equity holdings/TNA*, as an additional control.[8]

4. Baseline Results

This section analyzes the association between bond holdings and institutions' voting using the specification in eq. (1). We also test our findings' robustness to using an alternative proxy for investor attention—whether an institution accesses the company's proxy filings via EDGAR.

4.1. Voting against ISS

To assess how bond holdings might influence institutions' level of attention, we start by estimating a version of eq. (1) that excludes the *Equity holdings/TNA* control. This estimation determines the baseline association between an institution's bond holdings in a company and the share of an institution's funds that vote against ISS for a company's proposals after controlling for proposal and institution-by-month fixed effects. Table 4, column 1 reports the findings.

We find that institutions where a firm's bonds represent a larger proportion of their portfolio are more likely to vote against the ISS recommendation. Specifically, a one standard deviation increase in the share of an institution's portfolio held in a firm's bonds (0.034%) is associated with a 0.651 percentage point increase in the likelihood of voting against ISS (Table 4, column 1). This estimate corresponds to a 1.41% increase relative to the sample standard deviation.

Like prior work analyzing how investors' attention varies with their equity holdings, the association between bond holdings and institutions' votes against ISS is concave. To illustrate this, we follow Gilje et al. (2020) and plot the point estimates from a regression of *Against ISS* onto dummy variables for each quintile of *Bond holdings/TNA*, proposal fixed effects, and institution-by-month fixed effects. Figure 2 reports the findings using a linear extrapolation between point

[8] While previous papers tend to measure the importance of an equity position relative to the overall equity portfolio, we scale an institution's equity holdings by its TNA to ensure that we are scaling bond and equity holdings in the same way and to make the coefficients on the two regressors more comparable. However, our subsequent findings are robust to instead scaling *Equity holdings* using the total value of an institution's equity portfolio.

estimates. The observed concavity indicates that an increase in attention for a given increase in bond holdings diminishes as the portfolio weight increases.

The positive association between bond holdings and voting is robust to controlling for the proportion of institutions' portfolios held in the firm's equity (Table 4, column 2). Consistent with the prior literature, we find a positive association between the importance of a stock in an institution's portfolio and the likelihood of that institution disagreeing with ISS (e.g., Iliev & Lowry, 2015; Gilje et al., 2020). A one standard deviation increase in *Equity holdings/TNA* (0.48%) predicts a 1.66 percentage point increase in the likelihood of voting against ISS. However, the coefficient on *Bond holdings/TNA* remains mostly unchanged and is still statistically significant at the one percent level. In other words, after controlling for proposal and firm characteristics at the time of the vote (as done by including the proposal fixed effects), an institution's overall tendency to disagree with ISS (as done by including institution-by-month fixed effects), *and* the institution's equity position size, institutions are more likely to vote against ISS when that firm's bonds represent a larger proportion of the institution's portfolio.

The association between bond holdings and voting is also economically significant and similar in magnitude to that of equity holdings for comparable changes in institutions' financial exposure to the firm. Controlling for *Equity holdings/TNA*, a 0.1 percentage point increase in a bond's share of TNA is associated with a 1.8 percentage point increase in the share of an institution's funds voting against ISS. Institutions are 0.4 percentage points more likely to vote against ISS for a comparable shift in their financial exposure via equity.[9]

[9] One should not interpret the larger magnitude for shifts in bond holdings as evidence that investors pay more attention to bond positions. The larger magnitude instead reflects differences in the average size of each position type and the concavity of the association between position sizes and voting against ISS. Bond positions tend to be smaller, with the average equity position being 10 times larger than the average bond position (see Table 3). Because the association between position sizes and voting is concave [e.g., see Figure 2 and Figure 6 of Gilje et al. (2020)], the increase in voting against ISS that occurs for larger holdings is diminishing as the portfolio weight increases. This combination of concavity and smaller positions for bonds will tend to make the relative importance of bond positions appear larger when linearity is assumed. However, if we instead employ an estimation that accounts for this concavity [e.g., by instead using *(Bond holdings/TNA)^0.5* and *(Equity holdings/TNA)^0.5* as the explanatory variables] we are unable to reject the null hypothesis that the coefficients on the two type of holdings are of the same magnitude.

4.2. An institution's EDGAR viewings of company filings

Because voting against ISS need not always indicate an attentive investor, we also assess the association between bond holdings and an alternative proxy for investor attention—whether an institution accesses the company's proxy filings via EDGAR. Because we measure this proxy at the meeting- rather than proposal-level, we estimate

$$Non-zero\ EDGAR\ views_{iklm} = \beta(\frac{Bond\ holdings}{TNA})_{ikm} + \gamma(\frac{Equity\ holdings}{TNA})_{ikm} + \alpha_l + \delta_{im} + \varepsilon_{iklm}, \quad (2)$$

where *Non-zero EDGAR views* is an indicator equal to one if institution *i* accessed a proxy filing of firm *k* before shareholder meeting *l* held in month *m* (see Section 2.3 and the Appendix for more details on how we construct this variable), and α_l and δ_{im} are meeting and institution-by-month fixed effects, respectively. The meeting fixed effects control for any firm characteristics (e.g., profitability, size, and takeover vulnerability) at the time of the meeting that might matter for how likely institutions are to access a firm's SEC filings. The institution-by-month fixed effects control for any differences in an institution's overall tendency to access EDGAR filings, while allowing for this tendency to change over time. Hence, our coefficient of interest, β, is identified using variation in EDGAR viewings vary as a function of each institution's bond holdings in each month. Institutions with no within-month variation in their downloading of filings will not contribute to our estimates. We continue to cluster the standard errors at the fund family level.

Table 5 provides summary statistics for our meeting-by-institution-level sample. The sample includes all institutions with a non-zero equity position in the company in the month of the meeting. In 10.1% of our meeting-by-institution observations, an institution also holds a bond position in the company. That bond position accounts for, on average, 0.015% of the institution's overall portfolio and 29.9% of the fund family's overall position in that company.[10]

[10] A combination of factors drives the lower proportion of observations with non-zero bond holdings in our meeting-by-institution sample (10.1%) relative to our proposal-by-institution sample (36.2%). First, the meeting-by-institution sample covers all meetings, not just those with contentious shareholder proposals. In a proposal-by-institution sample that includes all proposals, the proportion of observations with non-zero bond holdings drops from 36.2% to 16.6%. This drop is because ISS is more likely to recommend voting against managers for larger companies, which are more likely to have publicly traded bonds. Second, the institutions to which we can match IP addresses are less likely to hold bonds relative to the institutions in the proposal-by-institution sample.

Bond holdings also positively predict whether an institution will view a company's proxy filing in the days before the meeting. Table 6 reports our estimates. When excluding the control for *Equity holdings/TNA*, a one standard deviation increase in the share of an institution's overall portfolio held in a particular firm's bonds is associated with a 0.286 percentage point increase in the likelihood of accessing the proxy filing (column 1). The point estimate remains mostly unchanged when including *Equity holdings/TNA* as a control (column 2). Moreover, like Iliev et al. (2021), we find a positive association between institutions' equity holdings and accessing a firm's SEC filings, consistent with institutions conducting more governance research on stocks that account for a larger proportion of their portfolio.

For comparable changes in institutions' financial exposure to the firm, the association between bond holdings and the proxy for investor attention is again similar in magnitude to that of equity holdings. Controlling for *Equity holdings/TNA*, a 0.1 percentage point increase in a bond's share of TNA is associated with a 3.5 percentage point increase in accessing the proxy filing. For equity, the comparable increase is 0.6 percentage points.[11]

A drawback of using EDGAR views as our outcome variable is that it does not allow us to focus on the shareholder proposals that are more likely to require investor attention. The sample in columns 1-2 of Table 6 includes many meetings with only routine proposals. To mitigate this weakness, we assess whether the observed association varies when a meeting includes a contentious shareholder proposal. Table 6, columns 3-4, conducts this test.

Meetings that include a contentious shareholder proposal drive the association between bond holdings and EDGAR views. When restricting the sample to meetings with a contentious shareholder proposal (which accounts for about 11% of all observations), we find a large and positive coefficient on *Bond holdings/TNA* (column 3; $p < 0.05$). When using meetings without a

[11] The seemingly larger magnitude for bonds again reflects differences in the average size of each position type and the concavity of the association between position sizes and the outcome variable. If we instead employ an estimation that accounts for this concavity [e.g., by instead using *(Bond holdings/TNA)^0.5* and *(Equity holdings/TNA)^0.5* as the explanatory variables], we do not reject the null hypothesis that the two type of holdings are equally important.

contentious shareholder proposal, the point estimate is almost 50% smaller and no longer statistically significant (column 4). The lack of a statistically significant association between bond holdings and EDGAR views for meetings without a contentious shareholder proposal is consistent with such meetings including only routine proposals that require less attention.

5. The Importance of ESG and Heterogeneity Across Funds and Institutions

Overall, the above findings are consistent with bond holdings influencing institutions' level of attention. Larger equity and bond positions both predict an increased likelihood of observing behaviors indicating greater investor attention: voting against ISS and downloading SEC filings. These findings suggest that while only equity investors vote, an institution's holding of bonds might increase its attention to individual companies. This increased attention might occur for a variety of reasons. For example, because credit rating agencies increasingly factor in a company's activities on ESG issues, bond managers might encourage more active voting and greater attention by their equity counterparts. Moreover, bond managers might possess additional information that influences an institution's decision on how to vote their shares.

We next assess whether the observed importance of bond holdings differs across firms and proposals based on their connection to ESG-related matters. We also assess whether bond holdings' importance varies based on the type of fund holding the bond (bond-only versus mixed-asset and actively managed versus indexed) and whether an institution's bond holdings can explain voting patterns of its equity-only funds. For this analysis, we focus exclusively on our first proxy for attention, disagreeing with ISS, because it allows us to limit our sample to contentious shareholder proposals, where we observe more meaningful variation in attention, and because the ISS-based measure of attention covers a significantly larger sample of years and institutions, especially for institutions that tend to hold both an equity and bond position.

5.1. Heterogeneity by ESG score

We first examine whether the association between bond holdings and institutions' votes

differs with firms' ESG scores. Fixed-income managers tend to focus on capital preservation, and low ESG scores for a firm can reflect greater downside risk (Nofsinger & Varma, 2014; Pastor & Vorsatz, 2020).[12] Moreover, a weaker governance structure can raise a firm's default risk through increased agency problems (e.g., Bhojraj & Sengupta, 2003). Hence, bondholders might be more attentive to companies that perform poorly in ESG metrics, particularly those related to governance. Improving governance at such firms might enhance investors' ability to push for performance improvements that increase firm value and reduce downside risk. To test this possibility, we repeat our voting analysis for firms with above- and below-median ESG scores, as obtained from Sustain Analytics. Because the ESG data is unavailable for some observations, we first repeat our baseline analysis on the subsample of observations with non-missing ESG scores. In this sample, which is about 70% of our original sample, we continue to find that institutions' bond holdings positively predict their likelihood of voting against ISS (Table 7, column 1).

Consistent with a potential bond investor focus on firms with low governance scores, we find that votes occurring at companies with below-median ESG scores drive the association between institutions' bond holdings and voting. Columns 2-3 of Table 7 show this finding. In contrast, equity holdings correlate with voting for both high- and low-ESG firms, indicating that the importance of equity holdings for investor attention does not vary with firms' ESG scores.[13]

For the same reasons, bond investors might also be more incentivized to focus their attention on governance proposals. To assess this possibility, we next analyze whether our findings differ by proposal type. ISS classifies shareholder proposals into two mutually exclusive

[12] Consistent with this view, S&P began incorporating firms' ESG scores into their determination of risk ratings in January 2020, while Moody's began doing so in June 2022. See https://www.spglobal.com/ratings/en/research/articles/200120-enel-esg-and-credit-ratings-11311565 and https://www.esgtoday.com/moodys-integrates-esg-into-credit-analysis-for-pharma-medical-devices-us-states-cities/ for more details.

[13] Among the three components of ESG (environmental, social, and governance), firms with low governance and environmental scores drive the association between bond holdings and voting. Appendix Table A1, which separately looks at each ESG component, shows this finding. Bond holdings positively predict voting against ISS for firms with below-median governance scores but not for above-median firms. The same is true for environmental scores. We find no difference in the predictive power of bond holdings when sorting on social-issue scores.

categories: Governance and SRI. Governance proposals focus on issues like director elections, voting, executive pay, and calling special meetings. SRI proposals instead focus on other issues, including political contributions, race-based pay gaps, and human rights.

Consistent with bond investors' potential focus on governance issues, we find that governance- rather than SRI-related shareholder proposals drive the association between bond holdings and voting. In column 4, we repeat our baseline analysis on the subsample of observations with non-missing, ISS-defined proposal types. In this sample, which is about 80% of our original sample, we continue to find a positive association between institutions' bond holdings and voting. However, when splitting the sample into ISS's two proposal classifications, governance and SRI, we see that much of the positive association is coming from governance-related proposals (column 5) instead of the SRI proposals (column 6). The association between equity ownership and voting is statistically significant and of similar magnitude for both proposal types. Combined, these findings suggest that bond investors are relatively less interested in environmental- and social-related proposals despite their potential ability to increase firms' ESG scores. This finding also suggests that bond investors might be more skeptical of the value of such proposals.[14]

5.2. Heterogeneity by type of fund

Next, we assess whether the positive association between how important a firm's bonds are in an institution's overall portfolio and that institution's voting behavior depends on which type of funds hold those bonds. As Table 2 shows, an institution might have a bond position because of holdings in bond-only funds and because of holdings in mixed-asset funds.

One possibility is that the internal composition of funds and the location of bond positions do not matter for an institution's overall stewardship activities. This irrelevance might occur if the institution centralizes proxy voting decisions in a way that treats individual fund managers and

[14] While the baseline estimation excludes management proposals, there is also suggestive evidence that bond holdings predict institutions' votes on less-perfunctory management proposals. Restricting our sample to contentious management proposals related to say-on-pay, governance, or mergers and acquisitions, we find that increased bond holdings also predict a higher likelihood of voting against ISS on such proposals (see Appendix Table A2).

fund types equally. For example, if all the institution's fund managers, including bond-only managers, are consulted equally when deciding which votes and companies to allocate more attention to, the type of funds that maintain the institution's bond positions might not matter. The type of fund might also not matter if the centralized process allocates attention and governance resources based solely on the institution's overall economic exposures to individual companies.

On the other hand, the type of fund that holds the bonds might matter for several reasons. First, there could be differences in the relative influence of different manager types within the institution. For example, if only funds with an equity position have a "seat at the table" when making institution-level vote decisions, bond positions in bond-only funds might matter less for an institution's stewardship activities. This might also occur if institutions are more likely to survey or consider the opinions of funds with equity positions when deciding stewardship activities. Second, even if all fund managers are consulted equally, managers of bond-only and mixed-asset funds might pay differing amounts of attention to shareholder proposals.[15] Mixed-asset fund manager teams might also pay more attention if voting is not centralized within the institution and individual fund managers must decide how to vote their equity positions. If true, bond positions in bond-only funds might matter less for how attentive the institution is when voting.

To test for heterogeneity across fund types, we repeat our estimation of eq. (1) after replacing *Bond holdings/TNA* with two measures of how important a company's bonds are in the institution's portfolio. The first, *Bond holdings [in bond-only funds]/TNA*, measures the proportion of an institution's overall TNA held in the company's bonds using bond-only funds. The second, *Bond holdings [in mixed-asset funds]/TNA*, reflects the share of an institution's TNA held in the company's bonds, using only mixed-asset funds. By construction, the sum of these two bond measures equals the original *Bond holdings/TNA* for each observation.

[15] Consistent with this possibility, a 2019 Annual ESG Manager Survey by Russell Investments finds that 89% of fund managers with both equity and bond offerings discuss ESG topics when they interface with firms they are invested in, while only 71% of fund managers with bond-only offerings do so. For more details, see https://russellinvestments.com/uk/blog/engagement-in-fixed-income.

We find that bond positions held in mixed-asset funds tend to be more predictive of institutions' voting decisions, suggesting that institutions' internal composition of funds and holdings matters. Table 8 shows this finding. A one standard deviation increase in *Bond holdings [in mixed-asset funds]/TNA* (0.13%) predicts a 0.516 percentage point increase in the likelihood of the institution voting against ISS ($p < 0.05$). We find less evidence that holdings in bond-only funds predict institutional investors' voting patterns. The coefficient on *Bond holdings [in bond-only funds]/TNA* is 33% smaller and not statistically significant at the ten percent level.

Beyond highlighting the complexity of factors that likely contribute to institutions' stewardship activities, the observed heterogeneity bolsters the idea that bond holdings influence institutional investors' attention. A survey of fixed-income practitioners suggests that their engagement is greater when they can leverage an equity counterpart's ownership to exert influence (Russell Investments, 2020). Our finding that bonds held in mixed-asset funds drive the association between bond holdings and institutional investors' voting patterns is consistent with that argument.

The importance of bond holdings for institutions' voting might also depend on the type of mixed-asset fund—indexed or actively managed—that holds the bonds. Suppose institutions are more attentive to their actively managed holdings. In that case, bonds held in indexed mixed-asset funds (e.g., target-date funds that include both bond and equity holdings) could matter less for institutions' attention than bonds held in actively managed, mixed-asset funds.

To assess this possibility, we further subdivide institutions' mixed-asset holdings into bonds held in index funds and bonds held in actively managed funds. To assign a mixed-asset fund as either indexed or actively managed, we follow Appel et al. (2016, 2019) and classify a fund as "index" if either CRSP classifies the fund as indexed or if the fund name contains words that would indicate an index fund. All other funds are classified as actively managed. About 85% of the mixed-asset funds in our sample are actively managed.

Consistent with actively managed funds being more attentive to shareholder proposals (or institutions tending to give more weight to the views of their non-index fund managers), we find

that the positive association between bond holdings and the likelihood of voting against ISS is limited to actively managed mixed-asset funds (Table 8, column 2). The size of bond holdings held in actively managed, mixed-asset funds is positively associated with the likelihood of disagreeing with ISS ($p < 0.01$). The amount of bonds held in mixed-asset index funds exhibits no association with whether an institution is likely to vote against ISS.

Combined, the heterogeneity across fund types suggests that a combination of factors contribute to institutional investors' attention and stewardship activities. Not only does an institution's total economic exposure across asset classes seem to matter, but how the views of individual fund managers are represented internally in stewardship choices also seems to matter.

5.3. Equity-only funds and spillovers

Because many institutions centralize their voting decisions after consulting with individual fund managers, institutions' bond holdings might also influence the voting of their equity-only funds. Moreover, even in institutions where individual fund managers make voting decisions, equity managers might seek the input of managers with bond positions before voting. To assess this possible spillover, we repeat our baseline estimation after constructing each institution's *Against ISS* measure using only votes cast by that institution's equity-only funds. Appendix Table A3 shows these findings. Consistent with a spillover-effect, institutions' equity-only funds are also more likely to vote against ISS when the institution has a larger bond holding.

6. Robustness to Alternative Explanations

We next assess whether alternative mechanisms might drive the association between bond holdings and investor attention. First, we assess whether creditor-shareholder conflicts can explain our findings. Second, we assess the potential importance of reverse causality.

6.1. Creditor-shareholder conflicts

Keswani et al. (2021) find that institutions with dual debt and equity holdings are more

likely to cast votes favorable to creditors, mainly when a firm is in financial distress. Because ISS recommendations reflect equity holders' interests, debt-holding institutions' conflicting interests provide an alternative explanation for why such institutions are less likely to follow ISS recommendations. If creditor-shareholder conflicts explain our findings, then the importance of bond holdings for voting should concentrate on firms in financial distress.

However, firms in financial distress do not drive our findings. Table 9, where we repeat our earlier estimations but exclude firms that Keswani et al. (2021) define as distressed, shows this robustness.[16] Because the data needed to calculate financial distress is unavailable for some observations, we first repeat our baseline analysis on the subsample of observations with non-missing distress data. In this sample, which is about 90% of our original sample, we continue to find a positive association between institutions' bond holdings and the likelihood that institutions vote against ISS (Table 9, column 1), especially for bond holdings in mixed-asset funds (column 3). Dropping firms that Keswani et al. (2021) define as being distressed has minimal impact on the estimates (columns 2 and 4). Moreover, we find no evidence that the importance of institutions' bond holdings varies with firms' expected default frequency (EDF), as measured using the approach of Bharath & Shumway (2008). Table 10 reports these estimates. The coefficient on the interaction between *Bond holdings/TNA* and the issuing firm's EDF is positive but not statistically significant (Table 10, column 1).

In further support that creditor-shareholder conflicts do not drive our findings, we also find no evidence that institutions' junk bond holdings drive the association between bond holdings and voting against ISS. Larger holdings in a firm's investment-grade bonds (where default risk is less) positively predict voting against ISS, while larger holdings in junk bonds (where default risk is greater) do not (Table 10, column 2). The findings also show that a possible correlation between ESG scores and default risk does not drive our earlier ESG finding (see Table 7).

[16] Specifically, we exclude observations where the Bharath & Shumway (2008) distance to default measure for the firm indicates the firm's default probability is at least 75% in the year concerned.

Our findings also hold for a subset of shareholder proposals where creditor-shareholder conflicts are unlikely to be relevant. Table 11 reports these estimates. Keswani et al. (2021) find evidence that the influence of creditor-shareholder conflicts on institutional voting is present for proposals with clear implications for creditors but not for proposals related to director elections, where the implications for creditors are typically less clear. However, we find that a larger bond position predicts an increased likelihood of casting votes against ISS for both proposals related to director elections (Table 11, columns 1-2) and all other proposals (columns 3-4). These findings suggest that bond holdings are affecting institutions' votes more generally.

Creditor-shareholder conflicts also cannot easily explain our findings for EDGAR viewings. While creditor-shareholder conflicts might induce a shift in voting, especially for firms in financial distress, it is unclear why it would explain the amount of governance research conducted by an institution. Consistent with this, our earlier findings for EDGAR viewings are nearly unchanged when excluding firms in financial distress (Appendix Table A4).

Overall, the evidence suggests that our findings are not merely the result of creditor-shareholder conflicts and that institutions are more engaged monitors of their equity positions when they also hold a debt position. This finding provides an essential complement to the existing work on creditor governance and creditor-shareholder conflicts. While such conflicts and creditor influence might lead to votes that fail to maximize shareholder value when companies are distressed, creditor governance can positively influence the value of both a firm's debt *and* equity positions at other times. As noted by Dallas (2019), there can be a significant alignment of interest between creditors and shareholders in many areas of corporate governance. For example, better risk management, a common goal of fixed-income managers, can reduce default risk and increase bond values while simultaneously improving equity value. Our findings suggest this alignment of interest is economically important and contributing to institutional investors' stewardship.

6.2. Reverse causality

Another possible concern with our findings is reverse causality, which could occur if knowledge of how an institution will vote influences its level of bond holdings. For example, suppose institutions planning to vote against ISS tend to think their vote will enhance the value of a firm's overall assets (increasing both equity and debt values). In that case, those institutions might seek to increase both their equity and bond holdings prior to the vote. If true, institutions' votes could influence their holdings of equity and bonds rather than vice versa.

However, reverse causality cannot easily explain our findings. First, our findings regarding institutions voting against ISS are nearly unchanged when we instead use holdings that are lagged by six months (see Appendix Table A5). Because investors typically do not know shareholder proposals and ISS recommendations that many months in advance of a meeting, it seems unlikely that such an estimation could suffer from simultaneity bias. Second, it is unclear how our findings regarding EDGAR viewings would also be subject to concerns regarding reverse causality.

7. Conclusion

Investors influence governance through a combination of voice (managerial engagement and voting; e.g., Shleifer & Vishny, 1986; Admati et al., 1994) and exit (selling one's position; e.g., Admati & Pfleiderer, 2009; Edmans, 2009; Edmans et al., 2019). Lacking the ability to participate in shareholder votes, bond investors are typically not thought to play an important governance role, and commonly used measures of institutional investors' incentive to be engaged stewards focus solely on their equity positions (e.g., Fich et al., 2015; Lewellen & Lewellen, 2021). However, bond investors have many reasons to be concerned about firms' governance structures, which can influence bond values (via increased firm value), credit ratings, and the likelihood of repayment. Moreover, bonds represent a large proportion of institutional investors' portfolios, and institutional investors' stewardship activities are often centralized, providing their bond managers a potential way to influence how actively the institution monitors and votes its equity positions.

We find evidence that institutions' bond holdings predict their stewardship activities. Institutions are more likely to vote against ISS, an indication of greater attention, and more likely to access a company's SEC filings before a shareholder meeting, an indication of governance research, when they have a larger equity position in that company, *and* importantly, when they have a larger bond position. Comparing the importance of equity and bond holdings, an increase in the size of an institution's bond position predicts a similar increase in active voting and governance research to what we observe for increases in an institution's equity position.

Our findings highlight how the determinants of institutional investor attention are more complicated than typically assumed. Intuitively, institutions' combined equity and bond holdings appear to play a factor in where institutions allocate their limited attention and resources, suggesting that measures of investors' incentive to be engaged stewards should account for institutions' total economic exposure to a firm rather than just their exposure via equity. Our findings also suggest that which type of funds hold these investments matters, as does the internal process by which institutions carry out their stewardship activities. For example, bond positions are more correlated with institutional voting when they are part of an actively managed, mixed-asset fund. And consistent with some institutions' decision to centralize vote decisions, we find that institutions' bond holdings are also associated with how actively their equity-only funds vote.

Overall, our findings suggest that institutions' bond holdings increase their incentives to be engaged monitors, providing an important counterpoint to recent concerns about how institutions' dual ownership might affect equity investors. While dual ownership of a company's bonds and equity could increase the potential for voting decisions that benefit debt holders at the expense of equity investors (e.g., Bodnaruk & Rossi, 2016; Keswani et al., 2021), an overall increase in active monitoring and engagement could improve value for both investors. How these dual holdings and their increasing frequency among firms' largest institutional investors ultimately affect firms' governance structures is an important topic for future research.

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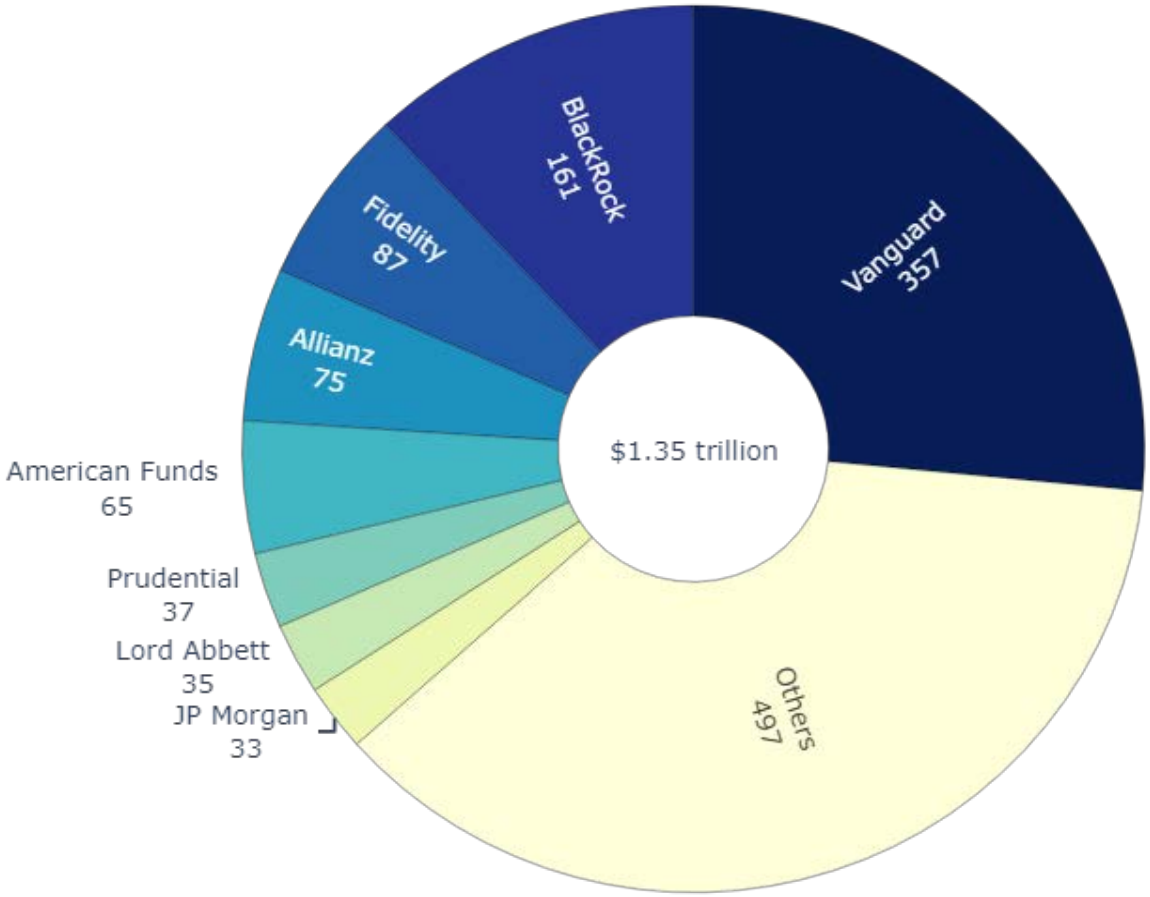

Fig. 1. Corporate Bond Holdings by Fund Family, as of June 2020

This figure plots the corporate bond holdings of the top eight fund families on June 2020. The number next to the fund family indicates corporate bond holdings in USD billion. Total corporate bond holding by mutual fund institutions is annotated in the center.

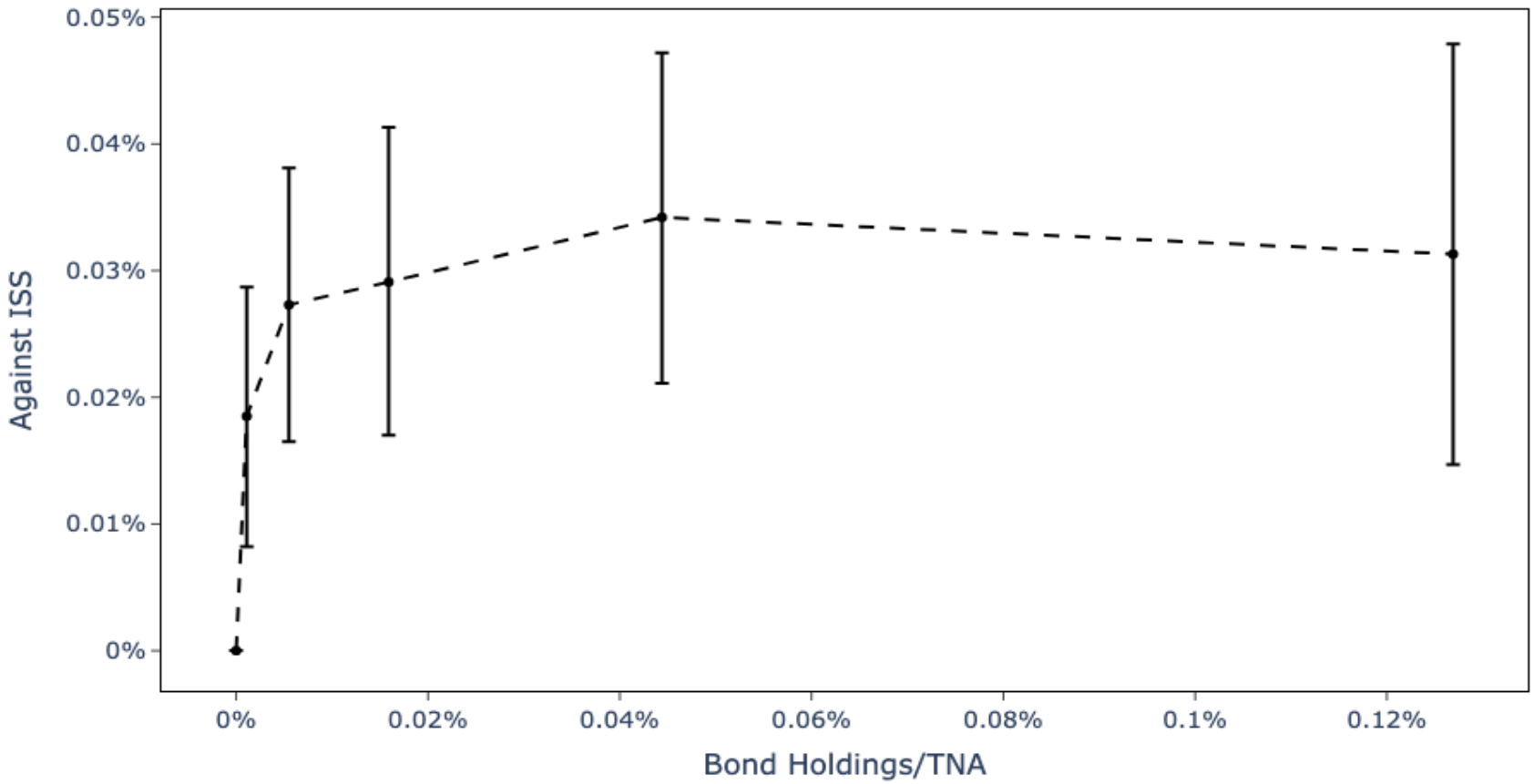

Fig. 2. Non-Parametric Estimation of Voting Against ISS and Bond Holdings

This figure plots the point estimates from the proposal-by-institution-level regression of the share of an institution's funds voting against the ISS recommendation for a given proposal, *Against ISS*, onto indicators for *Bond holdings/TNA*. The indicators are represented by five dummy variables, each assigned a value of 1 if the *Bond holdings/TNA* falls within the specific quintile range. The regression includes proposal and institution-by-month fixed effects, and a linear extrapolation is applied between point estimates to construct the figure, where *Against ISS* is centered at zero for *Bond holdings/TNA* = 0. The vertical lines indicate 95% confidence intervals.

Table 1

Corporate Bond & Equity Holdings, June 2020

This table tabulates institutions' total net assets (in $ billions) as of June 2020 and the breakdown of these assets between corporate bonds and equity for all mutual fund families, the six largest non-index fund families, and The Big Three index fund families. We calculate holdings using the CRSP Mutual Fund data and exclude institutions' government bond holdings from total net assets.

	Total net assets (TNA) in $ billions	Equity % of TNA	Bond % of TNA
All mutual fund families	13,404	90.0%	10.0%
Six largest, non-index fund families			
Fidelity	1,334	93.5%	6.5%
American Funds	1,170	94.5%	5.5%
T Rowe Price	474	96.5%	3.5%
Invesco	370	93.8%	6.2%
Prudential	218	83.2%	16.8%
JP Morgan Chase	213	84.3%	15.7%
The Big Three index fund families			
Vanguard	3,592	90.1%	9.9%
BlackRock	1,223	86.8%	13.2%
State Street	575	96.0%	4.0%

Table 2

Mutual Fund Holdings by Year & Fund Classification

This table provides a breakdown of mutual fund holdings and fund classifications by year from 2008 to 2020. Columns 1-3 tabulate the percent of funds with equity, bond, and mixed holdings at the end of each calendar year. Column 4 tabulates the average percent of total net assets (TNA) held in bonds for funds with both bond and equity positions. Column 5 tabulates the average percent of a mutual fund family's corporate bond TNA that is held in mixed-asset funds.

	% of funds with			Avg. % of mixed-asset fund TNA held in bonds	Avg. % of overall bond TNA held in mixed-asset funds
Year	Only equity (1)	Only bonds (2)	Mixed assets (3)	(4)	(5)
2008	85%	6%	9%	39%	57%
2009	80%	8%	12%	35%	60%
2010	73%	9%	18%	32%	66%
2011	68%	11%	22%	31%	65%
2012	68%	11%	21%	31%	65%
2013	68%	11%	21%	31%	64%
2014	68%	11%	21%	32%	64%
2015	68%	12%	20%	33%	64%
2016	69%	12%	19%	34%	63%
2017	73%	12%	15%	41%	62%
2018	75%	12%	13%	47%	59%
2019	75%	13%	12%	48%	57%
2020	75%	12%	13%	50%	56%
Average	72%	11%	17%	36%	62%

Table 3

Summary Statistics for Proposal-by-Institution Sample

This table presents summary statistics for our proposal-by-institution-level outcome and explanatory variables. To match our later estimations, the sample is limited to contentious shareholder proposals (i.e., proposals where ISS recommended voting against management) that were voted on between January 2008 and June 2020. *Against ISS* is the share of institution *i*'s funds that voted against the ISS recommendation on proposal *j* for firm *k* in month *m*, *Bond holdings/TNA* is the share of institution *i*'s total net assets (TNA) that is held in firm *k*'s bonds as of month *m,* and *Equity holdings/TNA* is the share of the institution's TNA that is held in firm *k*'s stock. *Bond holdings/(Bond holdings + Equity holdings)* is the share of an institution's total holdings in the firm that are held in bonds.

	Mean	Median	SD	% of observations with non-zero value	Mean if non-zero	Number
Against ISS	0.40349	0	0.46025	47.8%	0.84440	327,266
Bond holdings / TNA	0.00014	0	0.00034	36.2%	0.00039	327,266
Equity holdings / TNA	0.00284	0.00074	0.00480	100%	0.00284	327,266
Bond holdings / (Bond holdings + Equity holdings)	0.10459	0	0.23887	36.2%	0.28881	327,266

Table 4

Voting Against ISS

This table presents coefficients from a proposal-by-institution-level estimation that regresses the share of an institution's funds voting against the ISS recommendation for a given proposal onto measures of how important that proposal's company's bonds are in the overall portfolio of the institution. Specifically, we estimate the following:

$$Against\ ISS_{ijkm} = \beta(\frac{Bond\ holdings}{TNA})_{ikm} + \theta(\frac{Equity\ holdings}{TNA})_{ikm} + \alpha_j + \delta_{im} + \varepsilon_{ijkm},$$

where *Against ISS* is the share of institution *i*'s funds voting against the ISS recommendation on proposal *j* for firm *k* in month *m*, *Bond holdings/TNA* is the share of institution *i*'s total net assets (TNA) that is held in firm *k*'s bonds as of month *m* scaled by its sample standard deviation, *Equity holdings/TNA* is the share of institution *i*'s TNA that is held in firm *k*'s equity scaled by its sample standard deviation, and α_j and δ_{im} are proposal and institution-by-month fixed effects (FE), respectively. The sample is limited to contentious shareholder proposals (i.e., proposals where ISS recommended voting against management) that were voted on between 2008 and 2020. *t*-statistics are reported in parentheses; standard errors are clustered by fund family; and ***, **, and * reflect statistical significance at the 1, 5, and 10% confidence intervals, respectively.

	Dependent variable = *Against ISS*	
	(1)	(2)
Bond holdings / TNA	0.00651***	0.00623***
	(2.84)	(2.75)
Equity holdings / TNA		0.0166***
		(4.68)
Institution-by-month FE	X	X
Proposal FE	X	X
N	324,346	324,346
R2	0.562	0.562

Table 5

Summary Statistics for Meeting-by-Institution Sample

This table presents summary statistics for our meeting-by-institution-level outcome and explanatory variables. The sample is limited to meetings that occurred from January 2008 to June 2017 and the mutual fund families that had a non-zero equity position in the company in the month of that meeting. *Non-zero EDGAR views* is an indicator equal to one if institution *i* viewed a proxy filing for firm *k* prior to meeting *l* held by that firm in month *m*, *Bond holdings/TNA* and *Equity holdings/TNA* are the proportion of institution *i*'s total net assets (TNA) that is held in firm *k*'s bonds and equity as of month *m*. *Bond holdings / (Bond holdings + Equity holdings)* is the share of the institution's total holdings in the firm that are held in bonds.

	Mean	Median	SD	% of observations with non-zero value	Mean if non-zero	Number
Non-zero EDGAR views	0.08468	0	0.27840	8.5%	1.00000	1,218,671
Bond holdings / TNA	0.00002	0	0.00008	10.1%	0.00015	1,218,671
Equity holdings / TNA	0.00058	0.00007	0.00155	100.0%	0.00058	1,218,671
Bond holdings / (Bond holdings + Equity holdings)	0.03008	0	0.13591	10%	0.29890	1,218,671

Table 6

Governance Research Before Shareholder Meetings

This table presents coefficients from a meeting-by-institution-level estimation that regresses an indicator for whether the fund family conducted research on the company before a shareholder vote onto measures of how important that company's bonds and equity are in the overall portfolio of the fund family. Specifically, we estimate the following:

$$Non-zero\ EDGAR\ views_{iklm} = \beta(\frac{Bond\ holdings}{TNA})_{ikm} + \theta(\frac{Equity\ holdings}{TNA})_{ikm} + \gamma_l + \delta_{im} + \varepsilon_{iklm},$$

where *Non-zero EDGAR views* is an indicator equal to one if institution *i* viewed a proxy filing for firm *k* prior to meeting *l* held by that firm in month *m*, *Bond holdings/TNA* and *Equity holdings/TNA* are the proportion of institution *i*'s total net assets (TNA) that is held in firm *k*'s bonds and equity as of month *m* scaled by their sample standard deviation, and γ_l and δ_{im} are meeting and institution-by-month fixed effects (FE), respectively. We follow Iliev, Kalodimos, and Lowry (2021) in identifying whether a fund family accessed a firm's proxy filings via EGDAR; details are provided in the appendix. In columns 1-2, the sample includes all meetings that were held between January 2008 and June 2017 where the institution held some equity in the company prior to the meeting. Column 3 further restricts the sample to meetings with at least one contentious shareholder proposal, while column 4 restricts the sample to meetings with no contentious shareholder proposal. *t*-statistics are reported in parentheses; standard errors are clustered by institution; and *** and ** reflect statistical significance at the 1 and 5% confidence intervals, respectively.

	Dependent variable = *Non-zero EDGAR views*			
	All Meetings		Meetings with contentious shareholder proposal	Meetings with no contentious shareholder proposals
	(1)	(2)	(3)	(4)
Bond holdings / TNA	0.00286**	0.00262**	0.00251**	0.00132
	(2.20)	(2.04)	(2.21)	(1.35)
Equity holdings / TNA		0.0090***	0.0101***	0.0076***
		(4.20)	(4.85)	(3.36)
Institution-by-month FE	X	X	X	X
Meeting FE	X	X	X	X
N	1,216,289	1,216,289	131,681	1,083,065
R2	0.336	0.337	0.433	0.333

Table 7

Heterogeneity by ESG score

This table presents coefficients from a proposal-by-institution-level estimation that regresses the share of an institution's funds voting against the ISS recommendation for a given proposal onto measures of how important that company's bonds are in the overall portfolio of the institution. In column 1, the estimation is the same as in Table 4, except that the sample is limited to firms with non-missing ESG scores, as obtained from Sustain Analytics. Column 2 then restricts the sample to firms that have an above median ESG score, and column 3 restricts the sample to firms that have below median ESG scores. In column 4, the estimation is the same as in Table 4, except that the sample is limited to proposals with a non-missing ISS classification. Column 5 then restricts the sample to proposals classified by ISS as governance-related proposals, while column 6 restricts the sample to proposals classified by ISS as socially responsible investment (SRI) proposals. *t*-statistics are reported in parentheses; standard errors are clustered by fund family; and ***, **, and * reflect statistical significance at the 1, 5, and 10% confidence intervals, respectively.

	Dependent variable = *Against ISS*					
	All firms with non-missing ESG Score	High ESG score firms	Low ESG score firms	All proposals with non-missing ISS classification	Governance proposals	SRI proposals
	(1)	(2)	(3)	(4)	(5)	(6)
Bond holdings / TNA	0.00437**	0.00247	0.00747***	0.00515***	0.00713***	0.00345
	(2.12)	(1.22)	(2.87)	(2.66)	(3.07)	(1.61)
Equity holdings / TNA	0.0155***	0.0139***	0.0188***	0.0153***	0.0154***	0.0148***
	(4.12)	(3.89)	(3.55)	(4.71)	(4.34)	(4.03)
Institution-by-month FE	X	X	X	X	X	X
Proposal FE	X	X	X	X	X	X
Sample restricted to obs. with non-missing ESG score	X	X	X			
Sample restricted to obs. with non-missing ISS classification				X	X	X
N	219,815	108,412	108,472	269,084	177,561	87,049
R^2	0.577	0.610	0.573	0.574	0.574	0.708

Table 8

Heterogeneity Across Fund Types

This table presents coefficients from a proposal-by-institution-level estimation that regresses the share of an institution's funds that vote against the ISS recommendation for a given proposal onto measures of how important that proposal company's bonds and equity are in the overall portfolio of the institution. Specifically, we estimate:

$$Against\ ISS_{ijkm} = \beta_1\left(\frac{Bond\ holdings\ [in\ bond-only\ funds]}{TNA}\right)_{ikm} + \beta_2\left(\frac{Bond\ holdings\ [in\ mixed-asset\ funds]}{TNA}\right)_{ikm} + \theta\left(\frac{Equity\ holdings}{TNA}\right)_{ikm} + \alpha_j + \delta_{im} + \varepsilon_{ijkm},$$

where *Against ISS* is the share of institution *i*'s funds voting against the ISS recommendation on proposal *j* for firm *k* in month *m*, *Bond [in bond-only funds]/TNA* and *Bond [in mixed-asset funds]/TNA* are the proportion of institution *i*'s total net assets (TNA) that is held in firm *k*'s bonds by fund classification as of month *m* scaled by their sample standard deviations, *Equity holdings/TNA* is the share of the institution's TNA held in firm *k*'s stock scaled by its sample standard deviation, and α_j and δ_{im} are proposal and institution-by-month fixed effects, respectively. Column 2 further divides holdings in mixed-asset funds into those that are index and non-index funds. The sample is limited to contentious shareholder proposals (i.e., proposals where ISS recommended voting against management) that were voted on between January 2008 and June 2020. *t*-statistics are reported in parentheses; standard errors are clustered by institution; and ***, **, and * reflect statistical significance at the 1, 5, and 10% confidence intervals, respectively.

	Dependent variable = *Against ISS*	
	(1)	(2)
Bond holdings [in bond-only funds] / TNA	0.00343	0.00346
	(1.52)	(1.53)
Bond holdings [in mixed-asset funds] / TNA	0.00516***	
	(2.70)	
Bond holdings [in non-index mixed-asset funds] / TNA		0.00508***
		(3.03)
Bond holdings [in index mixed-asset funds] / TNA		-0.00107
		(0.38)
Equity holdings / TNA	0.0166***	0.0166***
	(4.65)	(4.65)
Institution-by-month FE	X	X
Proposal FE	X	X
N	324,346	324,346
R^2	0.562	0.562

Table 9

Robustness to Excluding Firms in Financial Distress

This table presents coefficients from a proposal-by-institution-level estimation that regresses the share of an institution's funds voting against the ISS recommendation for a given proposal, *Against ISS*, onto measures of how important that proposal's company's bonds are in the overall portfolio of the institution. The estimation is the same as in Tables 4 and 8, except that the sample is restricted to observations with the data necessary to calculate a firm's distance to default at the time of the vote, where distance to default is calculated using the approach of Bharath and Shumway (2008). Columns 2 and 4 further exclude firms where this distance to default measure indicates a firm's default probability is at least 75 percent, which is the threshold used in Keswani, Tran, and Volpin (2021) to flag financially distressed firms. *t*-statistics are reported in parentheses; standard errors are clustered by fund family; and ***, **, and * reflect statistical significance at the 1, 5, and 10% confidence intervals, respectively.

	Dependent variable = *Against ISS*			
	(1)	(2)	(3)	(4)
Bond holdings / TNA	0.00545**	0.00510**		
	(2.36)	(2.30)		
Bond holdings [in bond-only funds] / TNA			0.00223	0.00178
			(0.95)	(0.79)
Bond holdings [in mixed-asset funds] / TNA			0.00563***	0.00575***
			(2.83)	(3.06)
Equity holdings / TNA	0.0147***	0.0148***	0.0146***	0.0148***
	(4.10)	(4.15)	(4.08)	(4.13)
Institution-by-month FE	X	X	X	X
Proposal FE	X	X	X	X
Sample Excludes Firms in Financial Distress		X		X
Sample Restricted to Obs. w/ Non-missing Distress Data	X	X	X	X
N	256,636	250,658	256,636	250,658
R^2	0.564	0.565	0.564	0.565

Table 10

Default Risk of Companies and Bonds

This table presents coefficients from a proposal-level estimation that regresses the share of an institution's funds that vote against the ISS recommendation for a given proposal, *Against ISS*, onto measures of how important that proposal's company is in the overall bond and equity portfolio of the fund family but now allowing the association to vary with a firm's expected default risk and with the type of bonds being held. Specifically, the estimation in column 1 is the same as Table 10, column 1, except that we now include an interaction between an institution's bond holdings and a firm's expected default frequency (EDF) at the time of the vote, as measured by Bharath and Shumway (2008) distance to default measure. Column 2 is the same as Table 4, column 2 except the *Bond holdings/TNA* variable is replaced with the share of an institution's total net assets held in that company's junk bonds (*Junk bond holdings/TNA*), investment grade bonds (*Investment grade bond holdings/TNA*), and unrated bonds (*Unrated bond holdings/TNA*). The sample is limited to contentious shareholder proposals (i.e., proposals where ISS recommended voting against management) that were voted on between January 2008 and June 2020, and the sample in Column 1 is further restricted to observations with the data necessary to calculate a firm's distance to default. *t*-statistics are reported in parentheses; standard errors are clustered by fund family; and ***, **, and * reflect statistical significance at the 1, 5, and 10% confidence intervals, respectively.

	Dependent variable = *Against ISS*	
	(1)	(2)
Bond holdings / TNA	0.00501**	
	(2.21)	
Bond holdings / TNA × EDF	0.00555	
	(1.17)	
Junk bond holdings / TNA		0.00136
		(1.18)
Investment grade bond holdings / TNA		0.00646***
		(3.47)
Unrated bond holdings / TNA		0.00340**
		(2.08)
Equity holdings / TNA	0.0147***	0.0166***
	(4.10)	(4.66)
Institution-by-month FE	X	X
Proposal FE	X	X
N	256,636	324,346
R^2	0.564	0.562

Table 11

Director Elections versus Other Proposals

This table presents coefficients from a proposal-by-institution-level estimation that regresses the share of an institution's funds voting against the ISS recommendation for a given proposal onto measures of how important that company's bonds are in the overall portfolio of the institution. In column 1, the estimation is the same as in Table 4, except that the sample is limited to director election proposals. Column 2 restricts the sample to all other proposals. *t*-statistics are reported in parentheses; standard errors are clustered by fund family; and ***, **, and * reflect statistical significance at the 1, 5, and 10% confidence intervals, respectively.

	Dependent variable = *Against ISS*	
	Director election proposals	All other proposals
	(1)	(2)
Bond holdings / TNA	0.0124*	0.00465**
	(1.81)	(2.36)
Equity holdings / TNA	0.0133*	0.0160***
	(1.69)	(4.50)
Institution-by-month FE	X	X
Proposal FE	X	X
N	26,336	295,547
R^2	0.677	0.569

Appendix

Appendix A: Processing fund's information acquisition via EDGAR

The search traffic data for SEC.gov covers the period from February 2003 through June 2017. EDGAR log file data set includes information on the visitor's Internet Protocol (IP) address, date, timestamp, CIK, and filing document's accession number. The IP address in the dataset is in version 4 (IPv4) format, which defines an IP address as a 32-bit number separated into four 8-bit numbers. A dot separates each 8-bit number, and the number between the dots could be between 0 and 255 (2^8 -1). So, a specific IP address, let us say BlackRock's, looks like 199.253.64.128. However, the last octet of the IP addresses in the EDGAR log files is replaced with alphabets. The replacement is done to preserve the uniqueness of the IP address and not reveal the visitor's full identity. Thus, if Blackrock accesses the SEC.gov website from the IP address, the log file will show an entry 199.253.64.gjs. In essence, the EDGAR log file dataset has a 24-bit (IP3) address for each EDGAR server activity. Fortunately, most fund families register large blocks of IP addresses; for example, BlackRock owns IP addresses ranging from 199.242.6.0 to 199.242.6.255. As such, the IP3 address is a sufficiently precise representative of IPv4 addresses.

Loughran & Mcdonalds (2017) suggests separating EDGAR requests generated by robots from server requests by regular investors. We classify an IP address as a robot if it requests more than a thousand filings in a day. We remove IP addresses classified as robots for that day. To include only valid EDGAR activities, we follow Drake et al. (2015), and exclude activities not related to governance research. We remove index pages (index.htm), icons (.ico), XML filings (.xml), and filings that are under 500 bytes in size. We also combine views by an IP address if they are less than five minutes apart and for the same filing.

The second part of our dataset is a lookup table from Digital Element, a geolocation data and services firm containing a timestamp of IP addresses (IPv4) and registered organization name as of December 2016. We use regular expressions, such as (.*blackrock.*) for BlackRock Financial Management, to get IPv4 associated with fund families. To assign IP3 blocks to fund families, we use a similar procedure as Iliev et al. (2021). If a fund family owns all or a subset of

the IP3 address and no other fund family owns an address from the IP3 block, we attribute it to the fund family. If two or more fund families own a subset of the IP3 block, we assign it to the family that contains the most IP address for the IP3 block. If two fund families own an equal number of IP addresses in an IP3 block, we drop those IP3 blocks. The chances of overestimating views from assigning an entire IP3 block to a fund family if they own a fraction of addresses is low, as it is unlikely for non-financial firms to access filings from SEC.gov.

Next, we look for the validity of IP3 blocks assigned to the fund family. The IP address to the organization name lookup table is a snapshot from December 2016. However, fund families sometimes change their underlying technology infrastructure and, in that process, register for different IP3 blocks. To ensure that we have credible IP3 blocks, we go back quarterly from December 2016 and see what fraction of holdings fund family access through the EDGAR server. We use CRSP mutual fund data to get fund family holdings. If a fund family does not access more than 1% of its holding in two consecutive quarters, we stop including the fund family before the quarter. For example, Cambiar Investors accessed 1.9%, 3.3%, 0.0%, and 0.1% of its holdings in 2015Q4, 2015Q3, 2015Q2, and 2015Q1 respectively. Therefore, we exclude Cambiar Investors from our sample before June 2015.

Subsequently, we match valid IP3 blocks from the organization lookup table with IP3 from EDGAR log files. We identify proxy filings associated with a shareholder meeting (definitive proxy statement) based on the accession number of the filing in log files and SEC's index files. To measure whether a fund family accessed definitive proxy statements before a shareholder meeting, we look at fund family views using a window starting from 30 days before the definitive proxy statement to the shareholder meeting date. Fund family's views, as measured from EDGAR log files, likely under-represents the actual views. As mentioned in Bauguess et al. (2018), the EDGAR log files do not contain any SEC filing requests from EDGAR's FTP site. Moreover, internet service providers cache frequently requested documents for future ease of reference. So, requests for the same content that have been cached may not be captured by the log file.

Table A1

Heterogeneity by ESG Score, Broken Down by Each ESG Component

This table presents coefficients from a proposal-by-institution-level estimation that regresses the share of an institution's funds voting against the ISS recommendation for a given proposal onto measures of how important that company's bonds are in the overall portfolio of the institution. In column 1, the estimation is the same as in Table 4, except that the sample is limited to firms with above-median "Environment" scores, as obtained from Sustain Analytics, while column 2 restricts the sample to firms that have below median scores. Columns 3 and 4 select the sample in a similar way using Sustain Analytics' "Social" score, while Columns 5 and 6 select the sample using its "Governance" score. *t*-statistics are reported in parentheses; standard errors are clustered by fund family; and ***, **, and * reflect statistical significance at the 1, 5, and 10% confidence intervals, respectively.

	Dependent variable = *Against ISS*					
	High E score firms	Low E score firms	High S score firms	Low S score firms	High G score firms	Low G score firms
	(1)	(2)	(3)	(4)	(6)	(5)
Bond holdings / TNA	0.00317	0.00640***	0.00451**	0.00451*	0.00296	0.00577**
	(1.42)	(2.61)	(2.14)	(1.67)	(1.47)	(2.10)
Equity holdings / TNA	0.0120***	0.0209***	0.0147***	0.0175***	0.0170***	0.0148***
	(3.21)	(4.09)	(3.96)	(3.67)	(3.88)	(3.48)
Institution-by-month FE	X	X	X	X	X	X
Proposal FE	X	X	X	X	X	X
p-value of difference in Bor	24.0%		99.9%		27.0%	
N	107,212	107,014	107,294	106,871	103,158	110,837
R^2	0.611	0.573	0.600	0.581	0.596	0.586

Table A2

Voting Against ISS for Less-perfunctory Management Proposals

This table presents coefficients from a proposal-by-institution-level estimation that regresses share of an institution's funds voting against the ISS recommendation for a given proposal onto measures of how important that proposal's company's bonds are in the overall portfolio of the institution. The estimation is the same as in Table 4, except that we now analyze votes on management proposals that are less likely to be perfunctory. Specifically, we analyze management proposals that are contentious (i.e., ISS recommends voting against management) and related to say-on-pay, governence, or mergers and acquisitions. *t*-statistics are reported in parentheses; standard errors are clustered by fund family; and ***, **, and * reflect statistical significance at the 1, 5, and 10% confidence intervals, respectively.

	Dependent variable = *Against ISS*	
	(1)	(2)
Bond holdings / TNA	0.00237*	0.00228
	(1.66)	(1.63)
Equity holdings / TNA		0.0246***
		(7.01)
Institution-by-month FE	X	X
Proposal FE	X	X
N	312,864	312,864
R2	0.516	0.516

Table A3

Voting Against ISS, Using Votes from Equity-Only Funds

This table presents coefficients from a proposal-by-institution-level estimation that regresses the share of an institution's funds voting against the ISS recommendation for a given proposal onto measures of how important that company's bonds are in the overall portfolio of the institution. The estimation is the same as in Table 4, except that we construct the share of an institution's funds voting against the ISS recommendation using only votes from the institution's equity-only funds. *t*-statistics are reported in parentheses; standard errors are clustered by fund family; and ***, **, and * reflect statistical significance at the 1, 5, and 10% confidence intervals, respectively.

	Dependent variable = *Against ISS*	
	(1)	(2)
Bond holdings / TNA	0.00359*	0.00350*
	(1.81)	(1.78)
Equity holdings / TNA		0.0167***
		(4.24)
Institution-by-month FE	X	X
Proposal FE	X	X
N	284,790	284,790
R2	0.549	0.549

Table A4

Additional Robustness to Excluding Firms in Financial Distress

This table presents coefficients from a meeting-by-institution-level estimation that regresses an indicator for whether the institution viewed a company's proxy documents via EDGAR prior to a vote onto measures of how important that company is in the overall bond and equity portfolio of the institution. The estimation and sample is the same as in Table 6, column 2, except that the sample is restricted to observations with the data necessary to calculate a firm's distance to default at the time of the meeting, where distance to default is calculated using the approach of Bharath and Shumway (2008). Column 2 further excludes firms where this distance to default measure indicates a firm's default probability is at least 75 percent, which is the threshold used in Keswani, Tran, and Volpin (2021) to flag financially distressed firms. *t*-statistics are reported in parentheses, and the standard errors are clustered by fund family, and ***, **, and * reflect statistical significance at the 1, 5, and 10% confidence intervals, respectively.

	Dependent variable = *Non-zero EDGAR views*	
	(1)	(2)
Bond holdings / TNA	0.00258*	0.00251*
	(1.96)	(1.96)
Equity holdings / TNA	0.00943***	0.00942***
	(4.25)	(4.25)
Institution-by-month FE	X	X
Meeting FE	X	X
Sample Excludes Firms in Financial Distress		X
Sample Restricted to Obs. w/ Non-missing Distress Data	X	X
N	943,096	923,830
R^2	0.343	0.344

Table A5

Robustness to Lagging Institutional Holdings 6 Months

This table presents coefficients from a proposal-by-institution-level estimation that regresses the share of an institution's funds voting against the ISS recommendation for a given proposal onto lagged measures of how important that company's bonds are in the overall portfolio of the institution. The estimation is the same as in Table 4, except that the explanatory variables *Bond holdings/TNA* and *Equity holdings/TNA* are lagged six months. *t*-statistics are reported in parentheses; standard errors are clustered by fund family; and ***, **, and * reflect statistical significance at the 1, 5, and 10% confidence intervals, respectively.

	Dependent variable = *Against ISS*	
	(1)	(2)
Bond holdings / TNA [measured 6 months prior to vote]	0.00581***	0.00563***
	(2.66)	(2.59)
Equity holdings / TNA [measured 6 months prior to vote]		0.0146***
		(4.18)
Institution-by-month FE	X	X
Proposal FE	X	X
N	311,079	311,079
R^2	0.562	0.562