Does Proxy Advice Allow Funds to Cast Informed Votes?*

John G. Matsusaka and Chong Shu
University of Southern California and University of Utah

This paper investigates to what extent proxy advice allows funds to vote as if they were informed. An "informed" vote is a vote cast by a fund that visited and downloaded information about a company from the SEC's Edgar website before voting. A fund's proxy advisor is identified from the format of the regulatory filing of its votes. Our main finding, for the period 2004-2017, is that proxy advice did not reliably lead funds to vote as if they were informed. While advice from Glass Lewis generally moved funds to vote in the same direction as being informed, advice from ISS more often than not led them to vote in the opposite direction. Several potential confounds and selection issues are ruled out with a battery of fixed effects, instrumental variables, and targeted tests. We consider possible explanations for this unexpected pattern and offer suggestive evidence that ISS may have slanted its recommendations in response to pressure from socially responsible investors that wanted to influence the votes of ISS's robo-voting customers.

August 1, 2022

* Contact authors at matsusak@usc.edu and chong.shu@eccles.utah.edu . We received helpful feedback from Joanne Juan Chen, Jill Fisch, Davidson Heath, Peter Iliev, Matthew Kahn, Doron Levit, Dorothy Lund, Erin Smith, Irene Yi, and workshop attendees at the University of Cambridge, USC, University of Utah, Wasatch Finance Conference, and FIRS conference. We thank USC for financial support.

1. Introduction

The purpose of proxy advice is to allow investors to cast their votes as if they were informed without them having to do the research themselves. How well this works is a matter of considerable consequence now that institutional investors cast a majority of the votes in corporate elections, and their votes are often based on recommendations from proxy advisors. If proxy advice is poor or biased, as critics suggest, then corporate elections will not represent the preferences of investors, and shareholder monitoring will be ineffective.

Assessing whether proxy advice allows funds to vote their preferences is challenging because we do not observe fund preferences independent of the votes they cast. To get around this problem, researchers sometimes assume that funds prefer to maximize firm value, and then test whether proxy advice advances that goal. However, the assumption that funds want advice for the sole purpose of maximizing firm value is not necessarily correct, and is probably incorrect for some socially responsible investment (SRI) funds, a growing segment of the market. SRI investors are willing to trade off value at the margin in order to advance nonpecuniary "social" goals, such as environmental protection and human rights (Riedl and Smeets, 2017). In order to assess whether proxy advice helps funds achieve their goals, we need to be able to measure what those goals are.

This paper proposes a strategy for assessing the effectiveness of advice that recognizes the diversity of fund goals. Our conceptual innovation is to focus not on the value consequences of advice or some other a priori goal, but instead on whether advice allows funds to cast the same votes they would have cast had they been independently informed. The concrete research question is then: do funds that receive proxy advice vote in the same way they would have voted if they had independently acquired information? To conduct this exercise requires establishing a baseline for how a fund would have voted if it had been independently informed, and then comparing the baseline with the fund's vote when it relied on proxy advice. Both steps present significant measurement challenges.

To establish a baseline for how a fund would have voted if it had been independently informed, we tracked each fund's activities on the SEC's Edgar website. We label a fund's vote as "informed" about a company if the fund downloaded information about that company from Edgar prior to the election. Our use of Edgar access follows Iliev et al. (2021), which supplies corroborating evidence that funds do in fact become more informed by visiting Edgar.

To determine how a fund voted when advised, we need to know its proxy advisor (if any) and that advisor's recommended vote. Since most funds do not routinely disclose the identity of their proxy advisor, we use the method developed in Shu (2022) that identifies a fund's advisor from the format of its N-PX form filed each year with the SEC. Mutual funds are required to file an N-PX form each year disclosing their voting record. Shu (2022) verifies that this method correctly identifies the customers of the two main proxy advisory firms, Institutional Shareholder Services (ISS) and Glass Lewis. ISS's recommendations are available in standard databases; we discovered Glass Lewis's recommendations through FOIA requests made to several public pension funds that purchase advice from Glass Lewis.

We then examine over 6 million votes cast by 155 mutual fund families on 305,709 corporate election items during 2004-2017. We measure the effect of information on a given election item as the difference in the approval rate by funds that visited and did not visit Edgar, and compare it with the effect of advice, measured as the difference in approval rate by advised and unadvised funds. Our central finding is that while Glass Lewis advice shifted fund votes in the same direction as when they were self-informed, ISS advice shifted their votes in the opposite direction of information. With just a few exceptions, these patterns hold across the most common governance proposals, compensation proposals, and director elections.

We then consider at length issues related to causality, particularly selection. Since we do not have random assignment of information or advice, we attempt to rule out the most natural sources of spurious correlation using fixed effects, instrumental variables, and other tests. In terms of information, a key question is whether visiting Edgar provided information that changed voting behavior, or whether funds that visited Edgar had different voting preferences to begin with. We show that the information effects survive fund-year and election-item fixed effects, ruling out that our findings are due to fund-specific preferences or election-specific factors. To investigate the possibility that visiting Edgar is a proxy for management-friendliness, we estimate regressions of whether a fund's votes agreed with management's recommendations. We find no connection between visiting Edgar and supporting management for director elections and management proposals, and only a quantitatively small connection for shareholder proposals. We also employ three instruments for Edgar visits, two of which are new: whether the election took place during the busy proxy season (following Iliev et al., 2021); whether the company had a contentious item on the proxy statement other than the item in question; and the number of items on the proxy statement. The difference in voting between informed and uninformed funds

is robust to all three of these exercises. Finally, we show that Edgar visits have a similar effect on voting as other proxies for information – fund assets, years that a fund has held a stock, and portfolio weight of a stock – which lends further support for interpreting Edgar visits as providing information.

Another concern pertains to the "advice effect" – whether advised funds voted differently because of advice, or whether they sought advice because they were inclined to vote differently. To address this issue, we estimate the main regressions with fund-year fixed effects, and allow votes to depend on the actual recommendations from a fund's proxy advisor. The fixed effects remove all fund selection effects. We find a strong connection between a fund's votes and its advisor's recommendations, indicating that the recommendations themselves, and not the mere fact of being an advice customer, influenced voting decisions. We also employ quasi-exogenous changes in funds' proxy advisors as a result of mergers and acquisitions and find that the proxy advice effect continues to appear.

Our most puzzling finding is that ISS advice appears to have been "distorting" in the sense that it led many funds to vote contrary to how they would have voted if self-informed. While it is challenging to fully explain this, we sketch the potential explanations, and offer some suggestive evidence that points toward the hypothesis that ISS slanted its proxy advice toward the preferences of SRI funds, which differ from the preferences of non-SRI funds. We show that SRI funds had significantly different voting preferences than non-SRI funds, and that ISS recommendations tended to shift votes in the direction favored by SRI funds.

It seems counterintuitive that funds would have purchased advice from ISS that distorted their votes away from their preferences, but we describe some features of proxy voting and the proxy advice industry that suggest why it could have been rational. For most funds, the benefit of casting an accurate vote is negligible: their votes are not pivotal and their ownership is so small that the gains to their portfolio from even a pivotal vote are tiny; it is therefore not rational for most funds to pay to acquire quality advice. One reason they may nevertheless acquire proxy advice is because they can satisfy their fiduciary responsibilities in the eyes of the SEC by voting based on recommendations of a proxy advisor. A potentially more important reason is that proxy advice is typically purchased bundled with proxy execution services. Transmitting thousands of votes to potentially hundreds of companies each year can be costly, and economizing on those costs by purchasing low-cost execution services is fully rational. In short, it may be rational for funds to purchase advice for the safe harbor it provides and the execution services that are

bundled with it, while at the same time not particularly caring about the quality of the advice. Consistent with not caring how their votes were cast, we find that 16.5 percent of ISS customers were "robo-voters" who followed ISS recommendations more than 99 percent of the time. SRI funds, on the other hand, do care because engaging in proxy voting is a part of their business strategy, and more important, because those recommendations drive the votes of ISS's other customers. From ISS's perspective, it may have been optimal to slant its recommendations in an SRI direction in order to attract SRI funds, knowing that non-SRI customers would not care as long as the cost of vote execution services was low.

Our study is part of a growing literature on proxy advice and shareholder voting. Several studies have established that ISS recommendations swing votes. Cai et al. (2009), Choi et al. (2010), Ertimur et al. (2013), and Larcker et al. (2015) find that ISS recommendations in favor of a proposal were associated with about 6 to 25 percent more support; Malenko and Shen (2016), exploiting a discontinuity, find that ISS recommendation shifted support for say-on-pay proposals by about 25 percent in 2010-2011; and Shu (2022), explicitly linking advisors and advisees, finds that negative recommendations from ISS and Glass Lewis reduced support by 21 and 22 percent, respectively. We extend this stream of research by providing evidence on whether these voting shifts are helping funds achieve their goals or not.

Our findings suggest that some proxy advice, particularly much of Glass Lewis's recommendations, helps funds vote their interests, but also reinforces the cautious skepticism that runs through much of the literature, especially when it comes to ISS. Several studies investigate the connection between proxy advisor recommendations and firm value, most but not all finding that proxy advice reduces value (Larcker et al., 2013, 2015; Iliev and Lowry, 2015; Alburquerque et al., 2021). Cabezon (2021) finds that proxy advisor recommendations induced excessive standardization in executive compensation contracts.

Finally, our study is also related to Bolton et al. (2020) and Bubb and Catan (2022), which draw on methods from the political science and machine-learning literatures to estimate the preferences of funds based on their voting behavior. Those estimates reveal underlying fund preferences if the votes themselves reflect preferences. Our finding that proxy advisor recommendations sometimes distort voting suggests that we should understand the Bolton et al. (2020) and Bubb and Catan (2022) parameters as indicators of preferences induced by advice, and possibly not the true underlying preferences.

2. Framework and Data

A. Conceptual Framework

To motivate our conceptual framework, some notation is helpful. We assume that funds have objectives that include financial returns and in some cases social goals. When voting, funds are not certain how the different outcomes will affect their objectives. To reduce uncertainty, they acquire information and/or advice.

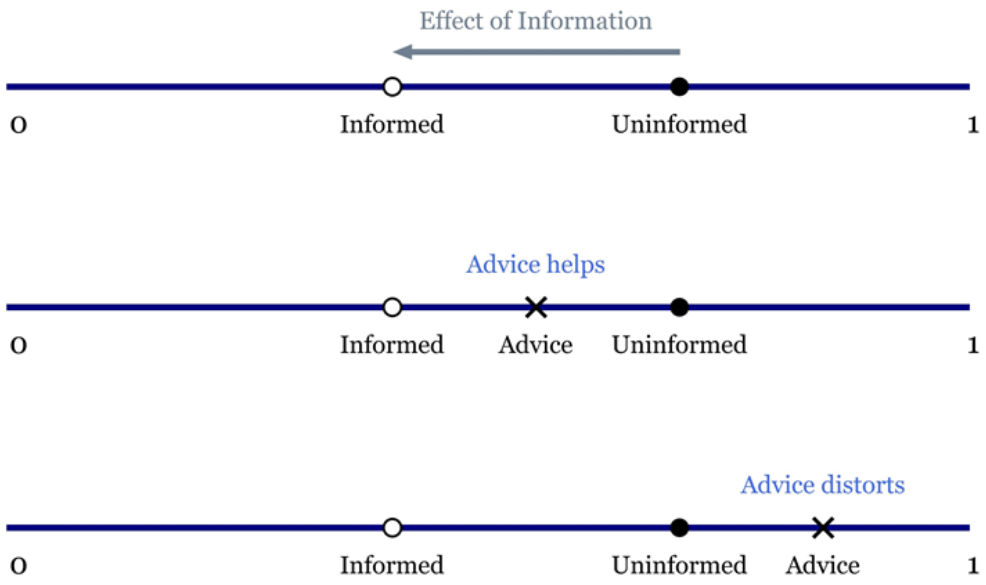
Formally, an election item i (proposal or director election) can fail (0) or pass (1). Fund j's expected payoff from its vote choice $v_{ij} \in \{0,1\}$ depends on the unknown state of the world. Funds can acquire information or advice in the form of a stochastic signal σ that updates their beliefs about the state of the world. Since the signal is stochastic, it could push a fund either toward support or opposition, but in expectation makes the fund's vote more likely to reflect its interest. Let $P_{ij}(\sigma)$ be the probability that fund j supports proposal i, conditional on signal σ.

We focus on three potential signal types: no information (σ_0), collecting information from Edgar (σ_E), and acquiring information from a proxy advisor (σ_{ADV}), where $ADV \in \{ISS, Glass\ Lewis\}$. By "no information" we have in mind a fund's baseline level of information that arrives at no cost. For example, a fund might have a baseline view on the merits of classified boards before conducting research or purchasing advice. "Advice" could include a proxy advisor's bottom line voting recommendation as well as its reports and analysis. A fund can acquire more than one type of signal.

If fund j acquires information from Edgar, its probability of voting in favor shifts from $P_{ij}(\sigma_0)$ to $P_{ij}(\sigma_E)$. We refer to this shift as the effect of collecting information. If it acquires advice but not information, its probability of voting in favor shifts to $P_{ij}(\sigma_{ADV})$. If advice functions as a perfect substitute for collecting information, then $P_{ij}(\sigma_E) = P_{ij}(\sigma_{ADV})$. This is the basic intuition for our analysis. Although $P_{ij}(\sigma)$ cannot be observed on an individual fund level, we can aggregate them by issue: the probability of voting yes on issue i is $P_i(\sigma) = \left(\frac{1}{J}\right)\sum_{j=1}^{J} v_{ij}$, where $j = 1 \ldots J$ are funds with signal σ.

Figure 1 illustrates our basic approach. The black circles show the percentage of uninformed funds that voted in support of a proposal of a certain type, and the open circles show the percentage of informed funds that voted in support. We interpret the gap in the top line as the effect of information, $P_i(\sigma_E) - P_i(\sigma_0)$ in our notation. The × markers in the other two lines show the fraction of favorable votes from funds that acquired proxy advice. If proxy advice

Figure 1. Effect of Information and Advice



replicates self-information, then $P_i(\sigma_{ADV}) = P_i(\sigma_E)$, and the proximity to this condition is an indicator of the quality of advice. The middle line is an example in which proxy advice moves votes in the same direction as information. In this case, we would say that advice helps funds to vote as if they were informed (partially). In the bottom line, proxy advice distorts the voting decision, causing funds to vote contrary to their informed preference; proxy advice is worse than no information at all. Our empirical strategy is to distinguish whether actual voting patterns look more like helping or distorting cases, and if it helps, but how much. Note that our approach does not make any assumptions about whether funds want to maximize value, pursue social objectives, etc. – we are letting their own voting actions reveal their preferences.[1]

B. Data

Votes. Our analysis considers all election items, including proposals sponsored by shareholders, proposals sponsored by managers, advisory votes on executive compensation (say-

[1] Our approach is related to a literature in political science that attempts to determine if citizens in public sector elections are able to cast votes that reflect their preferences by relying on recommendations from advisors (Lupia, 1994; Lupia and McCubbins, 1998). From that literature, we draw the conceptual distinction between *being informed* and *casting an informed vote*.

on-pay), and director elections. Fund voting decisions were taken from Form N-PX filings over 2007-2017, as tabulated by ISS Voting Analytics.[2] Our unit of observation is the vote choice of a particular fund on a particular voting item, which we call a "fund-vote" for short (which is to say that each fund has one "fund-vote" in each election, regardless of the number of shares it holds). We exclude votes on routine or procedural matters, such as whether to adjourn, approve the financial statements, and ratify the auditors. We aggregated votes to the fund-family level, which is common in the literature (e.g., Bolton et al. (2020) and Iliev et al. (2021)): first, fund-level observations were aggregated to the level of CIK identifier; then using CIK × year as the identifier, CIK-level voting data were merged with the CRSP Mutual Fund dataset to recover each CIK's fund family and characteristics; finally, CIK-level observations were aggregated to the fund-family level using the CRSP identifier for fund families (mgmt_cd).[3] A fund's vote on a proposal is either "in favor" or "against"; for director elections, withheld votes are classified as "against."

Informed Funds. We classify a fund family as "informed" about a company if it visited and downloaded the company's proxy statement from the SEC's Edgar website before the meeting, following Iliev et al. (2021). Proxy statements are usually posted 2-3 months prior to the meeting.[4] The visit data come from the Edgar server log file, a record of all activity on the system, which includes each viewer's partially anonymized IP address, the date/time of the view, and the accession number of the viewed file. To map partially anonymized IP addresses to fund families, we deanonymized IP addresses using the cipher provided by Chen et al. (2020) and then mapped the full IP addresses to organization names using linking datasets provided by MaxMind and American Registry of Internet Numbers (ARIN). To match a proxy statement's accession number to an annual meeting, we scraped the proxy statement's header file to get its CIK number and

[2] In some cases, funds reported votes back to 2004, but converage was sparse before 2007.

[3] We use CRSP identifiers instead of the fund identifiers in ISS Voting Analytics because the ISS identifiers appear to contain errors.

[4] Proxy statements contain general information about the company, such as values, mission, strategy, and the like; a description of its governance structure and practices; audit and compensation committee reports; stock ownership by managers and others; and details about the annual meeting and voting. In terms of election items, proxy statements contain the full text of proposals, the sponsor's argument, and the board's recommendation; background information on each director candidate, including experience and qualifications; and a discussion related to each executive's compensation plan for say-on-pay votes.

Period of Report.[5] Then, we matched CIK-Period of Report with an annual meeting's CUSIP-meeting date. If there is no record of a fund family in the Edgar log file in a given year, we omit it from the analysis for that year.[6]

Iliev et al. (2021) offers evidence in support of the idea that funds that visited Edgar were in fact more informed, such as showing that funds were more likely to visit Edgar before contentious elections. The Edgar visit measure is not perfect: it cannot be tied to a specific item in the election; and funds may access company information through other sources, such as Bloomberg or company websites. However, to the extent that Edgar information is coarse or irrelevant, or funds acquire information without visiting Edgar, all of these things will work against finding an information effect in our analysis.

Proxy Advice. Information about whether a fund received proxy advice, and if so, from which advisor, is not publicly available. We linked funds to proxy advisors using the method developed in Shu (2022), which is based on the format of a fund's Form N-PX filed with the SEC. All funds must file Form N-PX, but they have discretion on how to tabulate, format, and characterize their votes and the issues on which they vote. Most funds outsource the preparation of their filings to a voting platform provider. Shu (2022) observed that certain details of the formatting reveal the proxy advisor that helped to file the form, and verified that the format accurately identifies customers of ISS and Glass Lewis. This method assigns a fund to at most one proxy advisor; it does not detect if a fund received advice from multiple proxy advisors.[7] The method would misclassify advisors if (i) a fund used a proxy advisor's voting platform without subscribing to its advice, or (ii) a fund subscribed to advice but did not use the voting platform.[8]

Table 1 reports the number of fund-votes by type of signal, σ. About 10 percent of unadvised fund-votes were associated with visiting Edgar, giving 132,200 observations in our

[5] In a proxy statement, the "Period of Report" is the meeting date. See https://www.sec.gov/info/edgar/edgarfm-vol2-v5.pdf.

[6] This procedure is similar to Iliev et al. (2021), which dropped a fund-family in a given quarter if it did not visit Edgar for at least 1 percent of its portfolio in that quarter.

[7] A small fraction of funds filed two N-PX forms for a given year using different proxy advisors. We deleted these observations.

[8] We also checked the advisor data against information scraped from fund prospectuses. The N-PX classifications are generally accurate, scenarios (i) and (ii) appear to be rare, and if we re-estimate our results using scraped data, the findings are essentially the same.

benchmark group. Most of the votes concerned director elections, about 86 percent of the total, compared to 6 percent on shareholder and management proposals and 8 percent on say-on-pay proposals.

Table 2 provides descriptive statistics on the type of funds that self-informed versus acquired advice, and the type of companies for which they self-informed. Funds that self-informed were larger on average and had larger holdings of the company, both as a fraction of the company's equity and as a share of the fund's portfolio. Funds were more likely to self-inform about large companies than small companies. These differences indicate, not surprisingly, that there is selection at work in funds' information and advice decisions, which will have to be addressed in the empirical analysis.

Part of our analysis drills down into proposals on 10 topics that were the subject of at least 10,000 fund-votes in our data. We manually assigned proposals to a topic based on proposal descriptions in the Voting Analytics database.[9] Table 3 lists and defines the 10 issue types, and provides descriptive information about them. The most common topic was board declassification (30,944 votes on 1,223 items), followed by independent chair (20,674 on 545 items), and removing supermajority provisions (21,263 on 636 items). Most proposals related to lobbying, sustainability, independent chair, and political contributions were sponsored by shareholders. Most proposals related to board declassification and supermajority provisions came from management. Board declassification and removal of supermajority provisions were the most popular, attracting 97 percent of fund-votes in support. Sustainability, lobbying, and political contributions were least popular, with little more than 30 percent of fund-votes in support.

We classify funds as "socially responsible investors" (SRI) in two ways. One measure is based on fund preferences estimated in Bolton et al. (2020). Bolton et al. (2020) use institutional investors' votes to recover their preferences in a two-dimensional issue space, which can be interpreted as social/environment-friendliness and corporate governance strictness. We use their estimate of a fund's ideal point along the social/environment dimension as a measure of its SRI

[9] Manual assignment allowed proposals that were similar but titled differently in the data to be combined, for example, "Require a Majority Vote" and "Company Specific – Majority Vote." Poison pill proposals were not included because often the data did not indicate if the proposal was to remove, adopt, or prohibit a poison pill. Sustainability proposals covered an array of specific topics, but were all concerned with reducing pollution, abating climate change, and generally minimizing impact on the environment.

orientation. Another measure is constructed by classifying a fund as SRI if its name contains any of the following words or phrases: ESG, social, climate, environment, impact, responsible, carbon, and fossil. For each fund family, our measure is the percentage of total net assets managed by its SRI funds. The two classifications are correlated, and seem reasonable based on inspection of actual cases, for example, assigning a high score to Calvert and Domini Social Investment.

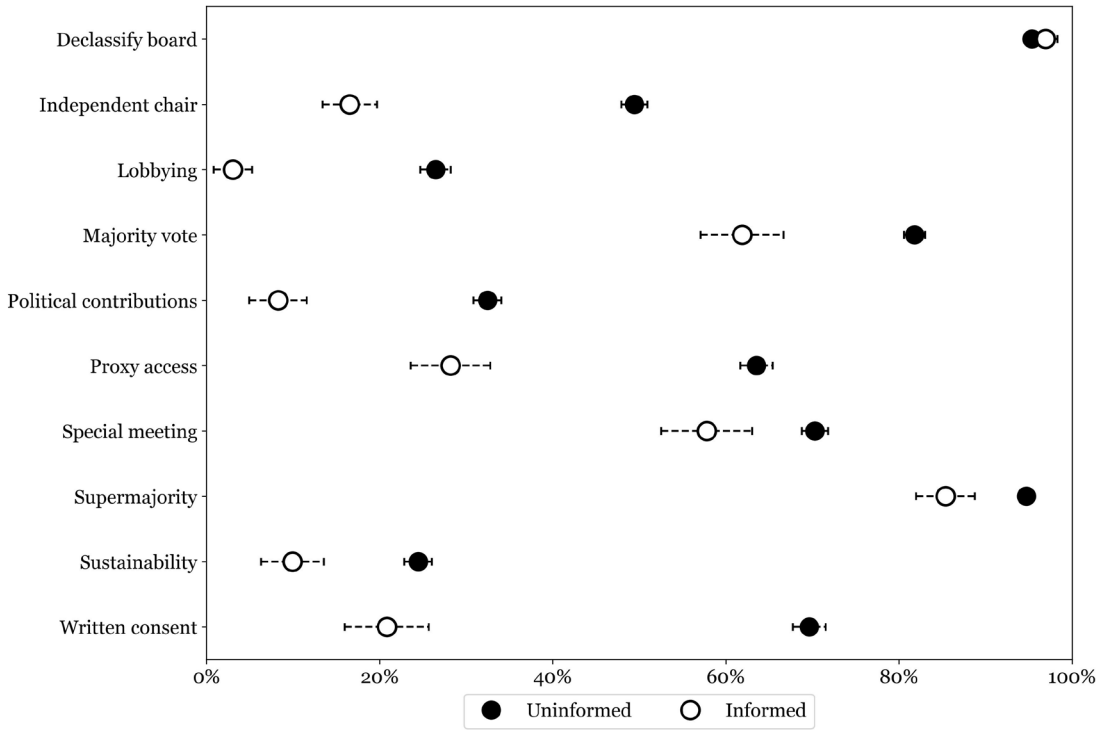
ISS's recommendations were taken from the ISS Voting Analytics dataset. To identify Glass Lewis's recommendations, we made a Freedom of Information Act request to a large public pension. This provided Glass Lewis's recommendations for a little over half of the votes in our data, all of them during the period 2008-2017.

Intersecting the different data sources left a final data set with 6 million votes cast by 155 fund families.

3. Evidence

A. Basic Patterns

Figure 2. Votes in Favor by Informed and Uninformed Funds



We begin with a nonparametric depiction of the patterns for the 10 common issues. Figure 2 shows the percentage of funds that voted in favor of each issue, with 95 percent confidence

intervals. The solid circles show voting by funds that did not collect information from Edgar and did not receive advice from ISS or Glass Lewis, that is, "uninformed" funds with signal σ_0 in our notation. Some proposals, such as board declassification and removal of supermajority provisions, were extremely popular, attracting over 95 percent of fund-votes in favor. On the other end of the spectrum, proposals related to sustainability and lobbying received less than 30 percent of votes in favor. The variation across issues indicates that although we refer to these funds as "uninformed," they must have already acquired some information that guides their voting.

The hollow circles in Figure 2 show the proportion of informed (but not advised) funds – σ_E in our notation – that voted in favor. Informed funds voted differently than uninformed funds, and the difference was often sizeable. Except for board declassification, where the difference was negligible, informed funds were less likely than uninformed funds to support a proposal on any of these topics. Across the nine issues with a difference, the mean gap between informed and uninformed funds was 24.5 percent. The gaps are consistent with the notion that acquiring information led funds to become less supportive of proposals on these topics.[10]

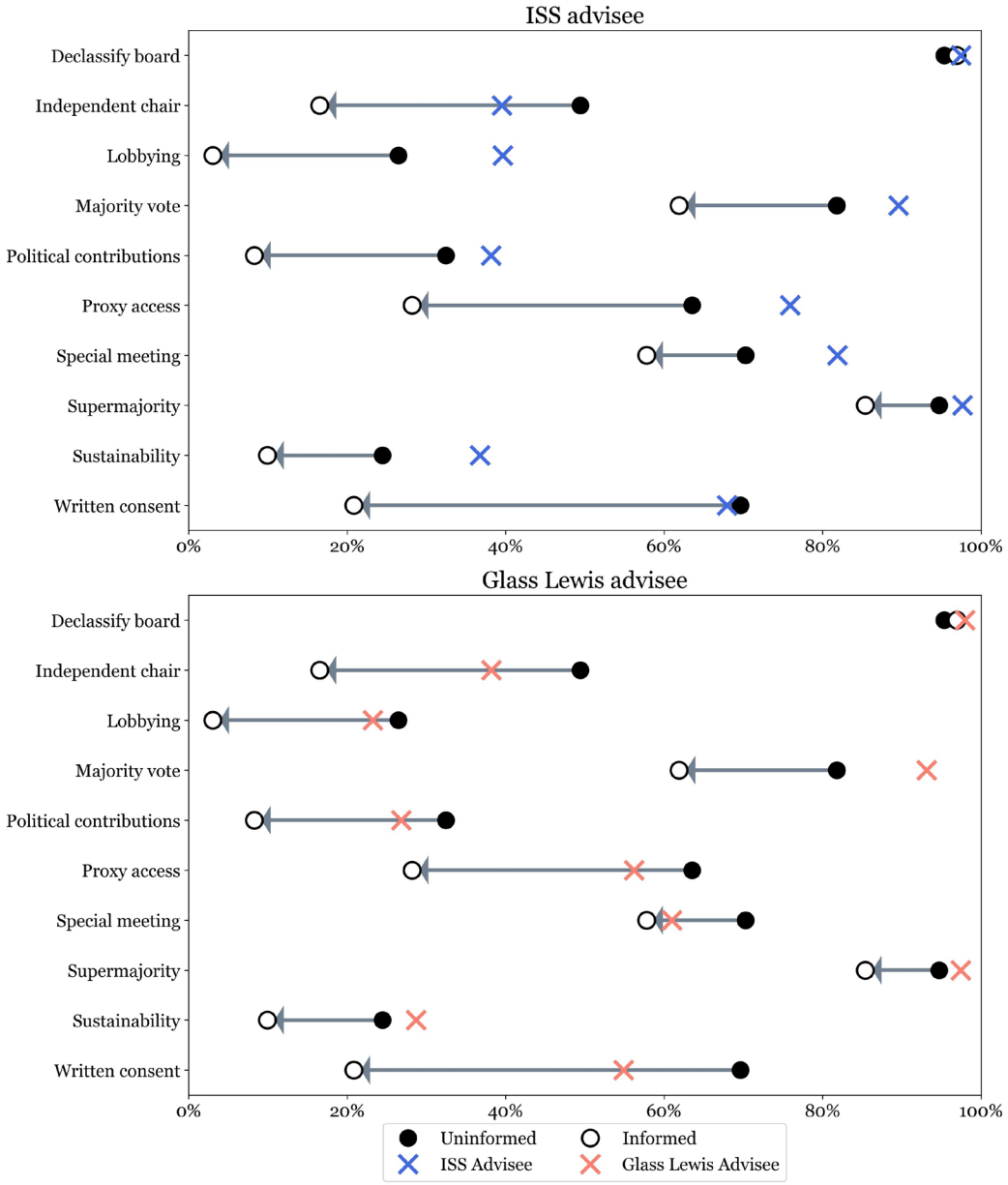
Figure 3 shows the voting patterns for funds that received advice from ISS and Glass Lewis but did not collect information (σ_{ADV}), superimposed on voting patterns for unadvised funds. In the top panel, the striking finding is that ISS advice seemed to move voting in the opposite direction as information on seven issues. Recall that if ISS advice was pure noise, then we would expect its customers to vote the same as uninformed funds; the observed patterns correspond to the "distortion" case. Glass Lewis customers, on the other hand, moved voting in the same direction as informed funds on six issues, and for special meetings, its customers voted almost the same as informed funds. Glass Lewis advice displays the "distortion" pattern for three issues.

With these patterns in mind, we turn to the full set of election items, not just the 10 common issues. To do this, we estimate the following equation proposal-by-proposal:

$$(1) \qquad VoteYes_{fpt} = \beta_0 + \beta_1 \cdot (INF = 1)_{fpt} + \beta_2 \cdot (ISS = 1)_{fpt} + \beta_3 \cdot (GL = 1)_{fpt} + e_{fpt},$$

[10] While our primary use of Figure 2 is to provide a benchmark for the effect of information, the patterns also shed light on the nature of information and how funds update their beliefs. The online appendix develops several Bayesian updating models to illustrate the features that seem necessary to explain the observed patterns.

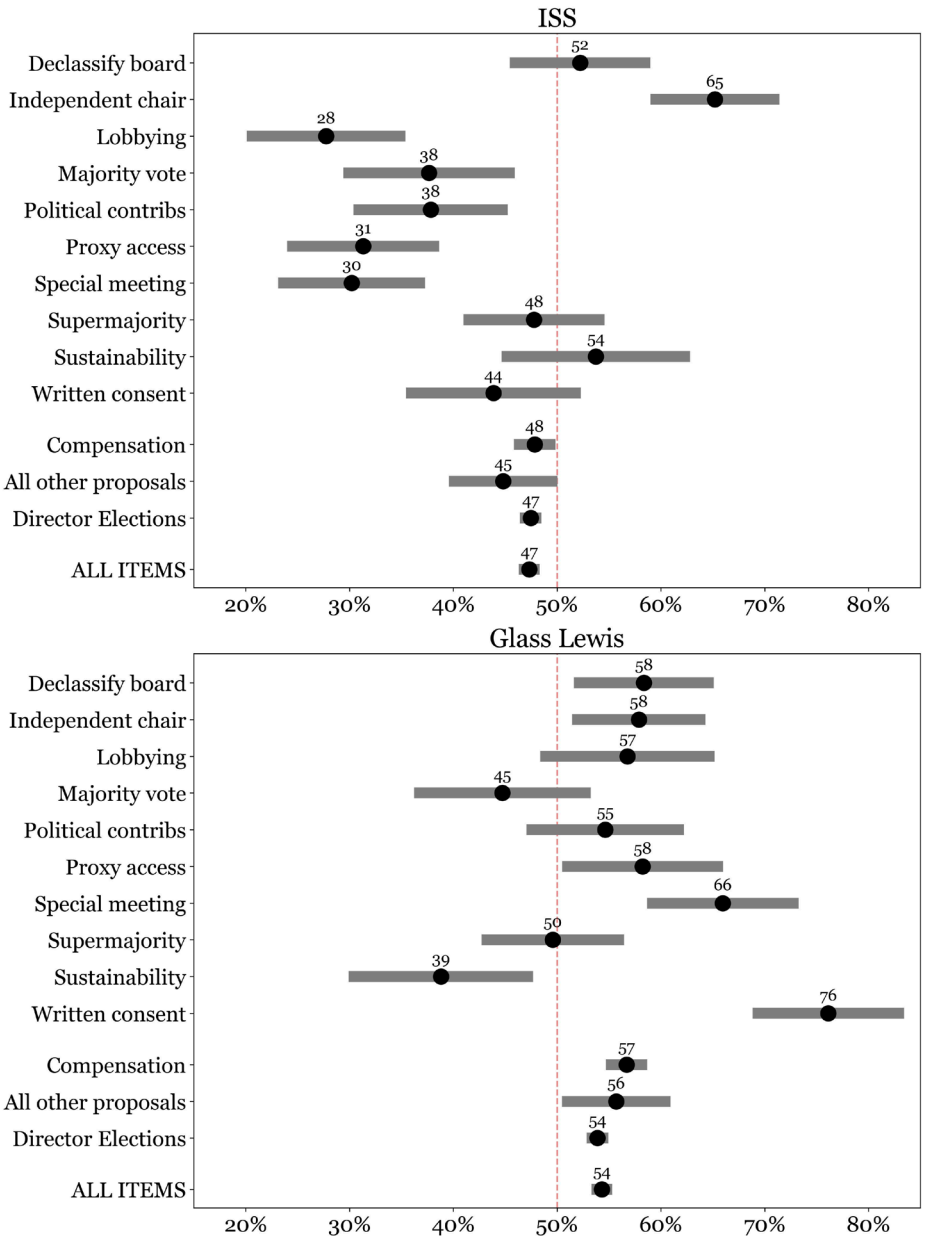
Figure 3. Votes in Favor by Informed, Uninformed, and Advised



where f indexes a fund, p indexes a proposal, and t indexes a year, $VoteYes$ is a dummy equal to one if a fund voted in favor of a proposal, *INF* is a dummy equal to one if a fund visited a company's Edgar site, and ISS and GL are dummies for ISS and Glass Lewis customers. The coefficients β_1, β_2, and β_3 can be thought of as the directional "effect" of information, ISS advice, and Glass Lewis advice, respectively, on voting for each proposal, analogous to the directional moves in the figures. For each proposal, we compare the sign of the estimated coefficient on the Edgar dummy with the signs of the estimated coefficients on advice, $\hat{\beta}_2$ or $\hat{\beta}_3$. We then calculate

the percentage of cases in which the estimated information ($\hat{\beta}_1$), and advice ($\hat{\beta}_2$ or $\hat{\beta}_3$) coefficients have the same sign. Although we have not yet addressed selection issues, for ease of exposition we call the cases when the information and advice coefficients have the same sign "advice provided information" and when they have opposite signs "advice distorted."[11] Note that this approach

Figure 4. Percent of Proposals in Which Advice Provided Information



[11] We exclude proposals in which there were fewer than three votes from ISS customers, Glass Lewis customers, or informed investors, because their β coefficients are likely to be noisy.

differs from Figures 2 and 3 in that the information and advice effects are allowed to vary for every proposal.

Figure 4 reports the percentage of proposals in which advice from ISS (top panel) and Glass Lewis (bottom panel) moved votes in the same direction as self-informing, with 95 percent confidence intervals. For the 10 common issues, ISS advice "distorted" voting on seven issues (five significantly different from 50 percent statistically), with the highest frequency of "distortion" on lobbying proposals, 72 percent. In contrast, Glass Lewis provided information on seven issues (statistically significant on five of them). Glass Lewis advice was statistically below 50 percent for only one issue, sustainability. Turning to compensation-related proposals, ISS advice provided information in 48 percent of cases while Glass Lewis provided information in 57 percent of cases, both percentages statistically different from 50 percent. If we look at all other proposals, ISS provided information 45 percent of the time while Glass Lewis provided information 57 percent of the time. For director elections, ISS advice provided information in 47 percent of cases while Glass Lewis advice provided information in 54 percent of cases; both differences are statistically different from 50 percent. Finally, if we consider all items (proposals on all topics and director elections), ISS advice provided information 47 percent of the time while Glass Lewis advice provided advice 54 percent of the time, both statistically different from 50 percent. These basic patterns are highly consistent across types of elections: more often than not ISS advice pointed in the opposite direction from self-information, while Glass Lewis advice pointed in the same direction as self-information.

B. Selection and Other Confounding Concerns

Information and advice are not randomly assigned. There are many potential sources of spurious correlation; we are particularly concerned with the possibility that funds select into the different information conditions based on pre-existing inclinations to vote one way or the other. In this section we conduct several empirical exercises designed to remove selection and other confounds from our estimates and give us some confidence that we are capturing the effects of information and advice.

B.1 Edgar visits

Across the full set of issues that came to a vote, funds that visited Edgar often voted contrary to funds that received proxy advice from ISS (and the reverse for Glass Lewis), relative to

funds that did not visit Edgar and did not receive proxy advice. To have confidence in interpreting this pattern as meaning that funds that visited Edgar were self-informed, and that being self-informed led them to vote in the opposite direction as when they received proxy advice from ISS (and in the same direction as when receiving advice from Glass Lewis), we need to rule out several potential confounds.

The first possibility is that funds might have chosen to visit Edgar because they were concerned about a proposal; the lower support from "informed" funds would then be interpreted as a pre-existing opinion on the issue rather than an information effect. We address this possibility by estimating equation (1) for the 10 common issues where a yes vote means the same thing across proposals.[12] Panel A of Table 4 reports the regressions without fixed effects to establish a baseline, essentially expressing Figure 3 in tabular form. The leftmost column pools all 10 issues. Panel B contains the estimates with proposal fixed effects. The information coefficients for each issue are similar to those in Panel A, indicating that selection on proposals is not driving the information difference.

A second particularly worrisome possibility is that funds that visited Edgar had different preferences or information to begin with. In other words, visiting Edgar could be a proxy for fund characteristics that influence voting. We address this possibility by including fund-year fixed effects, although this specification runs the risk of stripping out substantive information.[13] The Edgar coefficient can then be interpreted as the effect of information within a fund on an issue in a given year. Panel C of Table 4 reports the estimates. Because proxy advisor is fixed for a fund in a given year, the advisor variables drop out. The magnitude of the information coefficients falls, but the overall directional pattern is similar: nine coefficients are negative, eight of them statistically different from zero. The decrease of magnitude suggests that funds do select to acquire information, and that even after stripping out information due to the selection, visiting

[12] We cannot logically run these regressions for director elections because we would be pooling apples and oranges. Similarly we cannot pool compensation-related proposals because they are highly heterogeneous: proposed cuts to salaries, clawbacks, pay-performance sensitivity, severance payments, and so on. Conceivably, one could create issue categories on specific compensation topics, such as clawbacks, but the summary information in ISS Voting Analytics is not sufficiently detailed to do that, and extracting the information from the individual proxy statements is beyond our scope here.

[13] For example, larger funds may be more informed than smaller funds. A fund-year fixed effect eliminates this variation.

Edgar before voting reduces support for those issues. For completeness, Panel D includes both proposal and fund-year fixed effects, with the usual caveat about the risk of stripping out substantive information. The information coefficient remains negative and statistically significant for all 10 issues pooled, as do the information coefficients on four specific issues: independent chair, majority vote, special meeting, and written consent.

A third possibility is that visiting Edgar is a proxy for business connections. Several studies have investigated whether funds adopt management-friendly voting positions with companies that are their clients (Davis and Kim, 2007; Ashraf et al., 2012; Cvijanović et al., 2016). An example of a business tie is a corporate pension managed by the fund. A conceivable story is that when it came to voting at companies that were clients, funds visited Edgar to ascertain management's position on the issues, which they then followed. If this were happening, the Edgar variable would be a proxy for management friendliness.

We first note that at least the case of supermajority proposals in Figure 2 is inconsistent with this idea because visiting Edgar moved funds against such proposals on average even though management generally supported them. To examine the possibility formally, we create a dummy variable $VOTEM$ equal to one if a fund voted in accordance with management's recommendation and zero otherwise, and then estimate the following regressions:

$$(2) \qquad VOTEM_{fpt} = \beta_0 + \beta_1 \cdot (INF = 1)_{fpt} + e_{fpt}.$$

To focus on the effect of information, we include only votes cast by unadvised funds. All regressions include election item fixed effects.

Table 5 reports the estimates. Column (1), which includes all proposals, shows that visiting Edgar was associated with a 2.8 percent greater likelihood of voting in alignment with management's recommendation. The coefficient is statistically significant, but the economic magnitude is small. Columns (2) and (3) separate proposals according to whether they were sponsored by shareholders or management.[14] Column (2) shows that funds were 8.7 percent more likely to agree with management's recommendation on shareholder proposals if they visited Edgar, while column (3) shows no connection between supporting management and visiting

[14] Cvijanović et al. (2016) suggests that business ties influence voting on shareholder but not on management proposals.

Edgar on management proposals. Perhaps the best way for a fund to signal support for a company's management would be to support re-election of its directors. Column (4), which includes only director elections, however, shows that visiting Edgar was not associated with a material change in the probability of supporting management's nominees. All these findings suggest that visiting Edgar did not ensure that a fund would follow management's recommendation due to a business connection, and for the vast majority of election items (management proposals and director elections), there was no detectable difference.

Another way to address the possibility that an Edgar visit was a proxy for business ties – and to address the issue of spurious correlation more generally – is with instrumental variables. We explore three different instruments in Table 6, two of which are new to the literature. Instrument (1), advanced by Iliev et al. (2021), is a dummy for April, May, and June of each year, the busiest months for shareholder meetings. They argue that such a dummy functions like a shock to the cost of acquiring information: because so many votes must be cast during the busy season, the opportunity cost of acquiring information about any given item is higher, and a fund is less likely to download a specific company's information from Edgar. In our sample, 79 percent of fund-votes were cast in those three months.

Instrument (2) is an indicator for whether there was a contentious proposal to be decided at the meeting, other than the proposal in question. A proposal is defined as having been contentious if either ISS or Glass Lewis issued a recommendation at odds with management's recommendation. In our sample, 15 percent of proposals were contentious so defined. The idea is that if there was a contentious item on the agenda, a fund was more likely to visit Edgar to learn about it, and in the process was more likely to have learned about other election items. In the sample, 49 percent of proposals appeared in an annual meeting in which there was another contentious proposal. The exclusion restriction is that having a contentious item on the agenda did not directly affect how a fund would vote on other proposals.[15]

Instrument (3) is the number of proposals on the proxy statement, expressed as a logarithm. The number of proposals in our data ranged from 1 to 98, with a mean of 10.[16] The idea

[15] The estimates are robust to defininining contentiousness as disagreement between ISS and management; between Glass Lewis and management; or between both ISS and Glass Lewis and management.

[16] The instance of 98 items was from Enstar Group Limited in 2009, which asked shareholders to approve 90+ directors for subsidiaries. We use a log specification because the distribution is right-skewed. The

is that with more proposals to be decided, a fund was more likely to visit Edgar because its demand for information is higher, but the merits of any specific proposal did not depend on the number of proposals.

The regressions in Table 6 pool votes across all 10 common issues, and include issue and year dummies. Pooling seems appropriate since our previous results suggest that information worked in the same direction on all of these issues. The top panel reports the first-stage estimates. All three instruments predict Edgar visits in the expected direction, and their *F*-statistic exceeds 10, the threshold for weak instruments. The bottom panel reports the second-stage estimates. The coefficients on the information variable are negative and statistically different from zero for all three instruments.[17]

We thus have several pieces of evidence, coming at it from different angles, that what we have provisionally called an "information effect" is not a spurious proxy for fund characteristics, fund preferences, or fund business ties with companies. The information interpretation can also be investigated by noting that if visiting Edgar in fact provided information, then we would expect the Edgar coefficient to be qualitatively similar to coefficients on other proxies for being informed. We consider three other information proxies: fund size, number of years holding the stock, and portfolio weight on the stock.

Table 7 reports regressions of fund votes on Edgar and each of these variables in turn, using the 10 common issues, considering only funds that did not receive advice, and including proposal fixed effects. Column (1) contains the baseline regression with the Edgar visit dummy. Column (2) replaces the Edgar dummy with fund size; column (3) uses the number of years that the fund had held the stock, and column (4) uses the weight of the stock in the fund's portfolio, all calculated in the first quarter of the annual meeting year. All three information proxies point in the same direction as the Edgar dummy and are significantly negative, consistent with the idea that Edgar visits provide information.

---

findings are robust to a linear specification, and to winsorizing values in excess of 25. The findings are also robust to controlling for firm size, which partially accounts for the possibility that the number of proposals proxies for firm size.

[17] The results were similar when we estimated the IV regressions with fund-year fixed effects or with the control variables in Table 2.

B.2 Advice

In terms of the proxy advice coefficients, a key concern is that funds may self-select into receiving proxy advice based on their underlying preferences. It could be that ISS customers leaned a certain way on issues and that ISS advice itself had little or no effect on their votes.

A stark version of this hypothesis – that ISS and Glass Lewis coefficients are entirely due to pre-existing fund preferences – can be examined using variation in proxy advisor recommendations. We estimate a modification of equation (1) that includes fund-year fixed effects, and in addition dummy variables for whether ISS and Glass Lewis recommended voting in support. By including fund-year fixed effects, the regressions remove all voting tendencies that result from funds selecting into advisors. The coefficients on the recommendation variables reveal responsiveness to recommendations holding constant whether a fund received advice and if so, from which advisory firm.

Table 8 reports the estimates, again focusing on the 10 common issues. Both ISS and Glass Lewis recommendations carried weight with their customers. Pooled across all 10 issues, ISS customers were 36 percent more likely to vote in favor if ISS was in support, and Glass Lewis customers were 20 percent more likely to vote yes if Glass Lewis was in support. All of the support coefficients are positive and statistically significant, indicating that the different voting behavior of proxy advice customers is more than a selection effect – the content of the recommendations they received matters. The finding that proxy advice influences votes has also been shown in several other studies, as discussed above. Interestingly, ISS recommendations were followed more assiduously by its customers than Glass Lewis recommendations were followed by its customers.

To provide additional insight into selection concerns, we examine the votes of individual funds that changed proxy advisors because they were acquired by another fund family and adopted the acquirer's advisor. These are plausibly exogenous changes in a fund's proxy advisor. We identified acquired funds by searching the CRSP mutual fund database for funds that changed management, and confirming acquisitions using Nexis-Lexis, SDC Platinum, and the internet. We found 19 funds that changed ownership during the sample period and subsequently switched to their acquirer's proxy advisor. Because the sample is small, the results are only suggestive.

Table 9 reports regressions of the form:

$$(3) \qquad VoteYes_{fpt} = \beta_0 + \beta_1 \cdot (ISS = 1)_{fpt} + \beta_2 \cdot (GL = 1) + e_{fpt},$$

in which only funds that changed advisors after being acquired are included. The regressions include votes on the 10 common issues. Regression (1) includes fund and year fixed effects, implying a difference-in-difference specification, and regression (2) adds issue fixed effects. In both regressions, the proxy advice coefficients continue to be positive, and are statistically significant for ISS.

4. Interpretations

We have established several connections between votes, information, and advice, and shown some basis for treating them as causal: compared to funds that neither visited Edgar nor retained a proxy advisor, funds that visited Edgar and funds advised by Glass Lewis shifted their voting in the opposite direction as funds advised by ISS. What sort of "story" can account for these patterns? Logically, there are three possibilities if we accept the evidence that selection issues are not driving the patterns: (i) funds that visited Edgar were informed and voted their preferences, Glass Lewis provided advice that helped funds vote their preferences, and ISS advise distorted voting away from fund preferences; (ii) funds that visited Edgar cast distorted votes contrary to their preferences, Glass Lewis advice led funds to vote against their interests, and ISS advice helped funds to vote their interests; and (iii) self-informed funds, funds advised by Glass Lewis, and funds advised by ISS all cast distorted votes against their interests.

We believe that explanation (i) is the most plausible; the others would require assuming that funds that gather information from Edgar end up confusing themselves to an extreme degree, and that Glass Lewis advice does the same thing. Still, explanation (i) does require assuming that ISS advice leads funds to vote against their latent preferences, which, if true, would present a puzzle: since ISS is the market leader, why would so many funds rationally pay for advice that distorts their voting? We believe a rational case can be made, which we discuss next. To avoid overstating the case, we note that it is beyond this paper's scope to fully develop and test the theory we outline; but we do provide the sketch of a theory and some suggestive pieces of evidence.

First, as to the question of why a profit-maximizing fund would buy advice that is not aligned with its preferences, the reason is that advice is purchased as part of a bundle of services, and for many funds, quality of the advice component is not important to their bottom line. Most funds cannot expect their votes to be pivotal, and even if they were pivotal in some election thereby changing the company's cash flow, the share of an individual firm in their portfolio is so

small that they should not rationally pay for quality advice.[18] This is especially true for diversified passive funds.[19] The analogy here is to voters in public sector elections, who have little incentive to pay for costly information because their votes are not pivotal, leading to so-called "rational ignorance" (Downs, 1957).

Why then would a fund buy any advice at all? One reason is that, based on SEC decisions, funds are generally expected to vote in the best interest of their investors, and following proxy advice is believed to provide them a safe harbor that they have exercised fiduciary responsibility when voting. We suspect that an equally important reason for purchasing proxy advice is the vote execution services that are bundled with it. A typical fund has to cast thousands of votes each season – TIAA-CREF reported 80,000 unique items annually, and Vanguard voted on 169,000 items– the cost of executing those votes does affect the bottom line and is something that is rational to pay for.[20] Because vote execution is a platform product, ISS's scale allows it to offer execution services at a low cost – funds that care little about advice quality may choose ISS for low-cost vote execution alone. Consistent with the idea that vote execution services are more valuable than advice, Shu (2022) estimates that ISS charged $69,000 on average for advice alone, compared to $161,000 on average for vote execution services.[21]

The argument to this point explains why some funds might become ISS customers even if the advice is distorting; it does not explain why ISS would find it optimal to choose distorting

[18] The median ownership in our sample is 0.08%.

[19] Bebchuk et al. (2017) argues that many institutional investors, especially passive funds, have "especially poor incentives to engage in stewardship activities [e.g., voting, nominating directors] that could improve governance and increase value" – because their private benefits from active stewardship are small compared to their costs. Matsusaka and Shu (2021) develop a related model. Heath et al. (2022) show that passive funds are less effective monitors. Shu (2022) shows that passive funds are more likely to be robo-voters.

[20] For a description of the services sold by proxy advisory firms, see U.S. Government Accountability Office (2016). On the importance of vote execution services, see Edelman et al. (2014), who quotes TIAA-CREF (p. 1398): "Though we dedicate a significant amount of resources to corporate governance research and the voting of proxies, we still would have difficulty processing the 80,000 plus unique agenda items voted by our staff annually without using [vote execution services]." Sharfman (2020) provides the number of votes cast by Vanguard.

[21] These estimates are based on information from FOIA requests to several large public pension funds, in which the funds revealed the proxy services they purchased and the price they paid.

advice. Our conjecture for this is that ISS may be slanting its recommendations due to pressure from SRI investors who want to influence the votes of ISS customers that robo-vote. This conjecture is motivated by anecdotal examples of SRI activists pressuring proxy advisors to adjust their voting recommendations on high-profile issues. We expect SRI funds to have different voting preferences than non-SRI funds because they are willing to trade off financial returns for social goals at the margin (Riedle and Smeets, 2017). Influencing ISS's recommendations could affect election outcomes because a nontrivial fraction of funds were robo-voters (or near robo-voters) in the sense that they followed ISS recommendations mechanically when voting.

Again, it would take more evidence than we can marshal in the paper to fully test this hypothesis, but we can offer some evidence that lends it plausibility. First, we can show that SRI funds do have different preferences than non-SRI funds in our data, and ISS recommendations align with those preferences. To illustrate, we pool the 10 common issues and estimate regressions in which votes can depend on whether a fund was informed or uninformed, and also whether it was an SRI or non-SRI fund:

$$(4) \quad VoteYes_{fpt} = \beta_1 \cdot (INF = 1) \cdot (SRI = 0)_{fpt} + \beta_2 \cdot (INF = 0) \cdot (SRI = 1)_{fpt} + \beta_3 \cdot (INF = 1) \cdot (SRI = 1)_{fpt} + e_{fpt}.$$

The regressions include fixed effects for the meeting year and issue type. The omitted category is an uninformed non-SRI fund. To focus on preferences independent of proxy advice, we exclude funds that were advised by ISS or Glass Lewis.

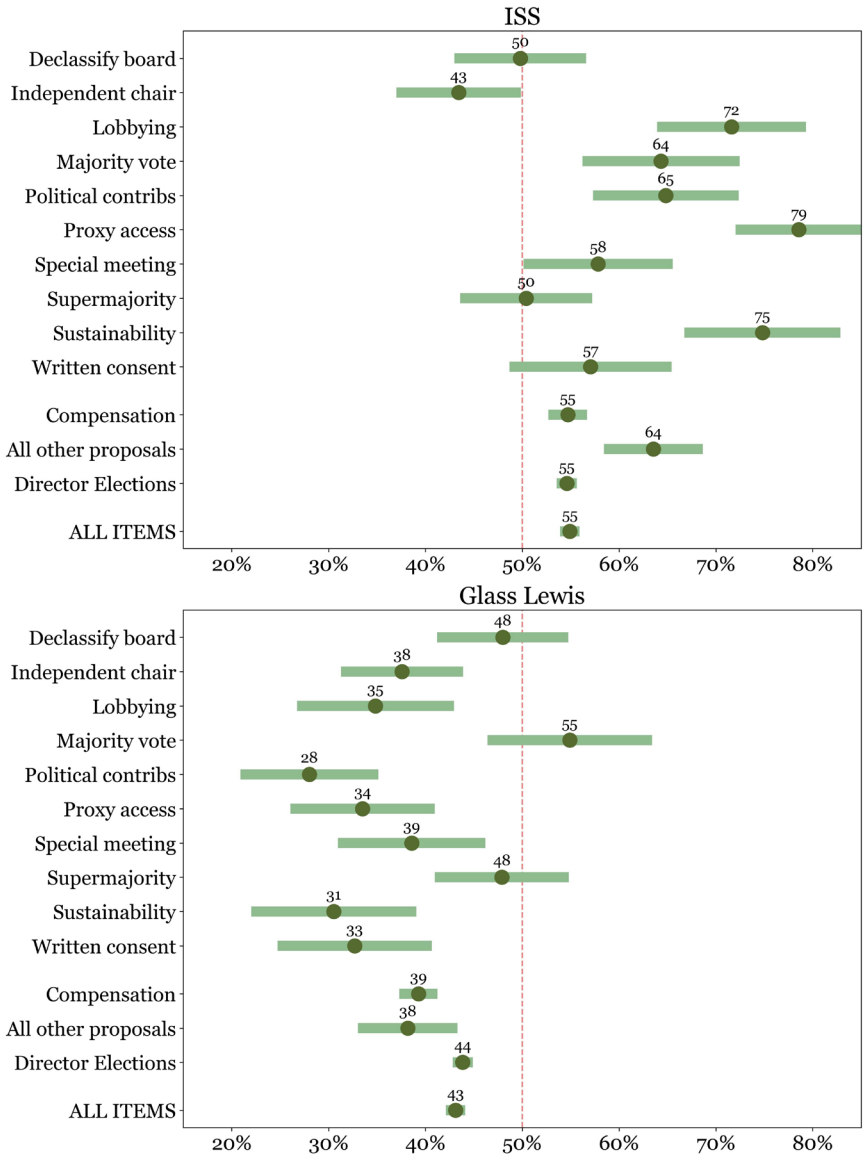
Table 10 reports the estimates. In column (1), a fund family is classified as SRI if its first-dimension ideology score from Bolton et al. (2020) is less than -0.35 (the scores range from roughly -1 to 1). In column (2), a fund family is classified as SRI if at least 1 percent of its assets were in funds with SRI names, as discussed in the data section.[22] The findings are similar for both definitions. Consistent with our previous findings, information reduced support by 21 percent for non-SRI funds (β_1) and by 7 to 8 percent for SRI funds ($\beta_3 - \beta_2$), both statistically significant. Information pushed both types of funds in the same direction. The more important finding for the present purposes is that SRI funds had a higher intrinsic level of support for these proposals than non-SRI funds. When uninformed, SRI funds were 5 to 8 percent (β_2) more likely than non-

[22] SRI funds cast about 5 percent of fund-votes according to both definitions.

SRI funds to vote in favor; and when informed SRI funds were 18 to 22 percent ($\beta_3 - \beta_1$) more likely than non-SRI funds to vote in favor; both differences are statistically different from zero in both SRI definitions. The finding that SRI funds supported these issues more than non-SRI funds, together with earlier evidence that ISS advice moved voting in support, implies that ISS advice tended to shift voting in a direction preferred by SRI funds, while Glass Lewis advice did not typically shift support in the direction favored by SRI funds.

Turning to the full set of election items, we estimate equation (1) proposal-by-proposal after introducing a dummy for SRI funds (using the second definition), then compare the sign of

Figure 5. Percent of Proposals in Which Advice and SRI Dummies Have Same Sign



the estimated coefficient on the advice dummy with the sign on the SRI fund dummy.[23] Figure 5 reports the percentage of election items in which the coefficients have the same sign, meaning that proxy advice moved voting in the direction that SRI funds preferred. Again we see that ISS advice usually moved votes in the SRI direction while Glass Lewis advice usually moved votes in the opposite direction.[24] The significance of this is that ISS advice did not simply "distort" fund voting – it *distorted voting precisely in the direction favored by SRI funds*.[25]

Because ISS and Glass Lewis together have over 90 percent of the advice market, influencing their recommendations can potentially cause a large shift in overall voting. This is especially the case for ISS because its market share is twice that of Glass Lewis, and as we show in Table 11, its customers are more likely to follow its advice blindly. The table shows the fraction of fund-votes that advice customers cast in alignment with advisor recommendations (we are able to calculate these numbers, which have been inaccessible previously, because we know the identity of each fund's advisor.) Column (1) shows that over 90 percent of fund-votes followed the advice they purchased. Column (2) shows the fraction of robo-voters among the two advisory firms' customers, defined as following the advisor's recommendation 99 percent of the time in a given year. Robo-voters were essentially delegating their votes entirely to their advisor. The table shows that 16.5 percent of ISS's customers were robo-voters, as were 8.3 percent of Glass Lewis's customers. The block of robo-voters may be large enough to swing some elections, especially for ISS, which has twice the market share of Glass-Lewis (Shu, 2022).[26] It is then rational for activists to try to influence ISS recommendations.

The final question is why ISS would cater to SRI funds, which comprise a minority of its potential customer base, only 5 percent as we defined it. We conjecture that ISS was willing to slant its advice in support of positions favored by SRI funds that care quite a bit about proxy

---

[23] We exclude proposals with fewer than three votes from ISS customers, Glass Lewis customers, or SRI funds, because their β coefficients are unreliable. The patterns are similar using the other definition of SRI.

[24] The finding in Iliev and Lowry (2015) that ISS recommendations are not predictors of value maximization (a finding that replicates in our data) could also be seen as consistent with this interpretation.

[25] Consistent with ISS recommendations aligning with SRI fund preferences, Iliev and Lowry (2015) find that announcement returns from passage/failure of a shareholder proposal are not connected with whether ISS supported or opposed a proposal, a finding that we confirm for our data as well.

[26] The actual percentage of votes cast robotically may be smaller than the number of robo-voters to the extent that robo-voters are smaller funds.

advisor recommendations while many traditional non-SRI funds care very little. Intuitively, because non-SRI funds place less value on voting "correctly" (think of an index fund) than SRI funds, they are willing to go along with distorted advice in order to utilize the low-cost vote execution services bundled with the advice. Recommendations do matter to SRI funds because their business model is predicated on pro-SRI voting and activism. Thus, it could have been profit-maximizing for ISS to slant its recommendations toward the preferences of SRI funds, even if they were not a majority of its customers.[27]

5. Discussion

The purpose of proxy advice is to allow funds to cast their votes as if they were informed, without actually having to become informed. Given the importance of proxy advice in corporate elections, the effectiveness of shareholder democracy hinges on the quality of proxy advice. While research on proxy advice is growing quickly, it is often assumed that the purpose of proxy advice is to maximize value, which is not necessarily the goal of proxy advice customers themselves, especially SRI funds. Our study attempts – we believe for the first time – to assess the extent to which proxy advice allows funds to cast votes that advance their self-defined interests, as revealed by the votes they cast when independently informed. Our main finding is that while advice from Glass Lewis appears to have helped funds vote their informed interest, advice from ISS – the dominant player in the advice market – appears to have led funds to vote contrary to their informed interests and in support of positions favored by SRI funds.

Reaching this conclusion requires overcoming two empirical hurdles: we must determine the informed preferences of funds and we must know from which company they received their proxy advice. To measure the preferences of informed funds, we use the votes of funds that visited Edgar and downloaded information about a company before the election meeting, following Iliev et al. (2021). To identify which funds were advised by which proxy advisors, we use the formatting

[27] Conceivably, ISS could customize its advice to each customer, and its marketing materials emphasize this option, but market observers doubt that it happens to a significant degree (McCahery et al, 2016). As a practical matter, ISS lacks the staff to do significant customizing for the 250,000 elections over 40,000 shareholder meetings for which it issues recommendation each year (Sharfman, 2020), and as we have shown above, even if some advice was customized, ISS clients overwhelmingly voted according to ISS's standard recommendations.

of a fund's N-PX form, following Shu (2022). Visiting Edgar and purchasing proxy advice are not randomly assigned and there are serious selection issues associated with self-informing and acquiring advice. We go to considerable lengths to chase down as many potential confounds as we can, using a battery of fixed effects, instrumental variables, and auxiliary tests. We are able to provide evidence against the leading potential confounds, including – among other things – that visiting Edgar is a proxy for fund preferences such as management friendliness, or that the patterns are driven by fund-specific preferences. To be sure, more research is required before definitively concluding that ISS recommendations were distorting, but we believe the evidence here constitutes a strong initial case and calls for further investigation.

The finding that ISS advice "distorted" voting is unexpected. While ISS advice is often criticized for being coarse and overly standardized, that would only make voting noisy and uncorrelated with underlying investor interests. Our finding is that ISS advice was sometimes worse than noise – it systematically moved fund votes away from their informed interests. Several recent studies offer theories of why proxy advisors might offer biased advice (Li, 2018; Ma and Xiong, 2021; Malenko et al., 2021; Matsusaka and Shu, 2021). We raise another possibility – that ISS biases its recommendations in favor of the preferences of SRI funds that are seeking to swing the votes of ISS's robo-voting customers.

Although we characterize ISS's advice as "distorting," this should be understood as a shorthand for the idea that it pushes funds in the opposite direction from their own information. We should recognize that such "distortions" are not necessarily harmful in a normative sense. Influencing votes in a way that pushes companies away from profit maximization would reduce corporate profits, but in a world with externalities, it could be socially desirable, as argued by advocates of "stakeholder capitalism." For example, if adopting green technology has external benefits for the population as a whole, then prodding companies to move in that direction even at the expense of some profits could be a good thing. This underscores the importance of grappling with the idea that some investors want companies to move beyond value maximization, as suggested by Hart and Zingales (2017). Our evidence suggests that proxy advisors are not focused exclusively on value maximization – which in fact squares with their public statements that do not commit to value maximization – but runs somewhat at odds with some contemporary thinking, which tends to evaluate shareholder democracy and proxy advice through the lens of value maximization.

Finally, from a policy perspective, our analysis supports the regulatory focus on proxy advice as a critical link in the shareholder voting chain. Because a growing number of funds mechanically follow the recommendations of their advisors (robo-voting), activists can swing corporate elections by gaining control of ISS's or Glass Lewis's voting guidelines. This reinforces questions that have been raised about the wisdom of the SEC essentially requiring funds to vote (Lund, 2018; Bebchuk et al., 2017). If regulators are going to require funds to vote, how proxy advisors come up with their recommendations should be more transparent, and the idea of quality standards for advice seems worth further discussion (Larcker et al., 2013; Sharfman, 2019).

References

Albuquerque, Ana M., Mary Ellen Carter, and Susanna Gallani, "Are ISS Recommendations Informative? Evidence from Assessments of Compensation Practices", working paper, Boston University and Harvard Business School, 2021.

Ashraf, Rasha, Narayanan Jayaraman, and Harley E. Ryan, Jr., "Do Pension-Related Business Ties Influence Mutual Fund Proxy Voting? Evidence from Shareholder Proposals on Executive Compensation," *Journal of Financial and Quantiative Analysis*, June 2021, Vol. 47(3), 567-588.

Bebchuk, Lucian A., Alma Cohen, and Scott Hirst, "The Agency Problems of Institutional Investors," *Journal of Economic Perspectives*, Summer 2017, Vol. 31(3), 89-102.

Bolton, Patrick, Tao Li, Enrichetta Ravina, and Howard Rosenthal, "Investor Ideology," *Journal of Financial Economics*, 2020, Vol. 137, 320-352.

Bubb, Ryan and Emiliano M. Catan, "The Party Structure of Mutual Funds," *Review of Financial Studies*, June 2022, Vol. 35(6), 2839-2878.

Cabezon, Felipe, "Executive Compensation: The Trend Toward One Size Fits All," working paper, University of Southern California, 2021.

Cai, Jie, Jacqueline L Garner, and Ralph A Walkling, "Electing Directors," *Journal of Finance*, 2009, Vol. 64, 2389–2421.

Chen, Huaizhi, Lauren Cohen, Umit Gurun, Dong Lou, and Christopher Malloy, "IQ from IP: Simplifying Search in Portfolio Choice," *Journal of Financial Economics,* October 2020, Vol. 138(1), 118-137.

Choi, Stephen, Jill Fisch, and Marcel Kahan, "The Power of Proxy Advisors: Myth or Reality?," *Emory Law Journal,* January 2010, Vol. 59(4), 869-918.

Copland, James R., David F. Larcker, and Brian Tayan, "A Big Thumb on the Scale: An Overview of the Proxy Advisory Industry," Stanford Closer Look Series, May 30, 2018.

Croatan Institute, *The Impact of Equity Engagement: Evaluating the Impact of Shareholder Engagement in Public Equity Investing*, November 2014, available at: https://croataninstitute.org/wp-content/uploads/2021/05/IE2_Report.pdf.

Cvijanović, Dragana, Amil Dasgupta, and Konstantinos E. Zachariadis, "Ties That Bind: How Business Connections Affect Mutual Fund Activism," *Journal of Finance*, December 2016, Vol. 71(6), 2933-2966.

Davis, Gerald F. and E. Han Kim, "Business Ties and Proxy Voting by Mutual Funds," *Journal of Financial Economics*, 2007, Vol. 85, 552-570.

Downs, Anthony, *An Economic Theory of Democracy*, New York, NY: Harper & Row, 1957.

Ertimur, Yonca, Fabrizio Ferri, and David Oesch, "Shareholder Votes and Proxy Advisors: Evidence from Say on Pay," *Journal of Accounting Research*, December 2013, Vol. 51(5), 951-996.

Hart, Oliver and Luigi Zingales, "Companies Should Maximize Shareholder Welfare Not Market Value," *Journal of Law, Finance, and Accounting*, 2017, Vol. 2(2), 247-274.

Heath, Davidson, Daniele Macciocchi, Roni Michaely, Matthew C Ringgenberg, "Do Index Funds Monitor?," *Review of Financial Studies*, January 2022, Vol. 35(1), 91-131.

Iliev, Peter and Michelle Lowry, "Are Mutual Funds Active Voters?," *Review of Financial Studies*, February 2015, Vol. 28(2), 446-485.

Iliev, Peter, Jonathan Kalodimos, and Michelle Lowry, "Investors' Attention to Corporate Governance," *Review of Financial Studies*, December 2021, Vol. 34(12), 5581-5628.

Larcker, David F., Allan L. McCall, and Gaizka Ormazabal, "Proxy Advisory Firms and Stock Option Repricing," *Journal of Accounting and Economics*, December 2013, Vol. 56, 149-169.

Larcker, David F., Allan L. McCall, and Gaizka Ormazabal, "Outsourcing Shareholder Voting to Proxy Advisory Firms," *Journal of Law and Economics*, February 2015, Vol. 58(1), 173-204.

Larcker, David F., Allan L. McCall, and Brian Tayan, "And Then A Miracle Happens! How Do Proxy Advisory Firms Develop Their Voting Recommendations?," *Stanford Closer Look Series*, February 2013.

Li, Tao, "Outsourcing Corporate Governance: Conflicts of Interest within the Proxy Advisory Industry," Management Science, June 2018, Vol. 64(6), 2951-2971.

Lund, Dorothy S., "The Case against Passive Shareholder Voting," *Journal of Corporation Law*, 2018, Vol. 43(3), 493-536.

Lupia, Arthur, "Shortcuts Versus Encyclopedias: Information and Voting Behavior in California Insurance Reform Elections," *American Political Science Review*, March 1994, Vol. 88(1), 63-76.

Lupia, Arthur and Mathew D. McCubbins, *The Democratic Dilemma: Can Citizens Learn What They Need To Know?*, Cambridge University Press, 1998.

Ma, Shichao and Yan Xiong, "Information Bias in the Proxy Advisory Market," *Review of Corporate Finance Studies*, March 2021, Vol. 10(1), 82-135.

Malenko, Nadya and Yao Shen, "The Role of Proxy Advisory Firms: Evidence from a RegressionDiscontinuity Design," *Review of Financial Studies*, December 2016, Vol. 29(12), 3394- 3427.

Malenko, Andrey, Nadya Malenko, and Chester S. Spatt, "Creating Controversy in Proxy Voting Advice," University of Michigan and Carnegie Mellon University, working paper, 2021.

Matsusaka, John G. and Chong Shu, "A Theory of Proxy Advice when Investors Have Social Goals," working paper, University of Southern California, 2021.

McCahery, Joseph A., Zacharias Sautner, and Laura T. Starks, "Behind the Scenes: The Corporate Governance Preferences of Institutional Investors," *Journal of Finance*, December 2016, Vol. 71(6), 2905-2932.

Riedl, Arno and Paul Smeets, ""Why Do Investors Hold Socially Responsible Mutual Funds?," *Journal of Finance*, December 2017, Vol. 72(6), 2505-2550.

Sharfman, Bernard S., "Enhancing the Value of Shareholder Voting Recommendations," *Tennessee Law Review*, 2019. Vol. 86, 692-733.

Sharfman, Bernard S., "The Risks and Rewards of Shareholder Voting," *SMU Law Review*, 2020, Vol. 73(4), 849-889.

Shu, Chong, "The Proxy Advisory Industry: Influencing and Being Influenced," working paper, University of Utah, 2022.

Online Appendix

According to Figure 2, funds updated their beliefs about proposals upon acquiring information in three ways: (i) $0.5 < P(\sigma_E) < P(\sigma_U)$, as for majority vote, special meeting, and supermajority proposals; (ii) $P(\sigma_E) < P(\sigma_U) < 0.5$, as for lobbying, political contributions, and sustainability proposals; and (iii) $P(\sigma_U) < 0.5 < P(\sigma_E)$, as for proxy access and written consent proposals. This appendix explores how these patterns could be produced in a model with Bayesian updating to shed light on the underlying features of beliefs and information that may be generating the data.

Model 1. A proposal can be "good" (G) or "bad" (B). A fund's net return from a proposal is $u(G) > 0 > u(B)$. Funds do not know the state of nature but have a common prior $\mu > 0.5$ that the proposal is good (analysis of the case $\mu < 0.5$ is symmetric). With probability σ a fund receives an informative signal $S \in \{0,1\}$, such that $\Pr(S = 1|G) = \Pr(S = 0|B) \equiv r > 0.5$. We assume that signals are sufficiently precise that funds choose to follow them if received: $r > \mu$. If a fund does not receive a signal then its vote is based on its priors, which means voting yes under the assumptions $\mu > 0.5$. We assume that uninformed funds are less likely to receive a signal than informed funds: $\sigma_U < \sigma_E$. Given these assumptions, the unconditional probability of voting yes is $P = \sigma\big(\mu r + (1-\mu)(1-r)\big) + 1 - \sigma > 0.5$.

Now compare uninformed and informed funds. Because P is decreasing in σ, it follows that $0.5 < P(\sigma_E) < P(\sigma_U)$. If $\mu < 0.5$, the implication is $P(\sigma_U) < P(\sigma_E) < 0.5$. In terms of the empirical patterns in Figure 2, this can account for (i) but it cannot account for (ii) and (iii). To do that requires a more complicated model.

Model 2. This model is the same as the previous one except that now there are two types of funds that differ on their priors about the quality of the proposal. A fraction λ of funds have a prior $\mu > 0.5$ that the proposal is good, while $1 - \lambda$ have a prior $1 - \mu$ that the proposal is good. One can think of these as SRI and non-SRI funds that differ on their beliefs about the long-run consequences of (say) decarbonization. We assume that signals are sufficiently precise to guide voting behavior: $r > \max\{\mu, 1-\mu\}$. We suppose that the true probability of the good state is a weighted average of beliefs across the economy: $\bar{\mu} = \lambda\mu + (1-\lambda)(1-\mu)$. Under this assumption, each type of fund has incorrect priors about the distribution of the state, but their weighted priors are correct.

For funds with $\mu > 0.5$, the unconditional probability of voting yes is: $P_1 = \sigma\big(\bar{\mu} r + (1-\bar{\mu})(1-r)\big) + 1 - \sigma > 0$ as before. Funds with $\mu < 0.5$ vote no if they receive no signal

so their unconditional probability of voting yes is: $P_2 = \sigma\big(\bar{\mu}r + (1-\bar{\mu})(1-r)\big)$. Across all funds, then, the unconditional probability of approval is $P = \lambda P_1 + (1-\lambda)P_2 = \sigma\big(\bar{\mu}r + (1-\bar{\mu})(1-r)\big) + \lambda(1-\sigma)$.

Because Model 2 nests Model 1, it can explain empirical pattern (i) as above. Note that P can be increasing or decreasing in σ; it can also be greater or lesser than 0.5 depending on whether λ is greater or lesser than 0.5. The model can thus produce pattern (ii). It cannot produce pattern (iii).

Model 3. This model is the same as Model 2 except that it does not require the true probability $\bar{\mu}$ to be the weighted average of the beliefs of the funds in the economy. This could be the case, for example, if one type of fund perceived the state probability correctly while the other group had a biased estimate of the state probability. In this model, P takes the same form as in Model 2, except that $\bar{\mu}$ is untethered from λ and μ. It is straightforward to show that the model can produce pattern (iii) given a proper choice of $\bar{\mu}$.

Conclusions. Some of the patterns in Figure 2 cannot be produced in a simple Bayesian model with one type of fund. The observed patterns can be produced by introducing two additional features of the model: first, that there are two types of funds with different priors over the state of the world, and second, that at least one of the types has a prior that does not correspond to the actual probabilities.

Table 1
Number of Funds Voting by Information and Advice

The table shows the number of fund-votes that were "informed" (the fund downloaded a company's proxy statement from the SEC's Edgar website before the election) and "uninformed," and the number that received advice from ISS, Glass Lewis, or neither. A fund-vote is the voting decision of a particular fund family on a particular proxy item. Data cover 2004-2017.

	No advice	ISS advice	Glass Lewis advice
A. All Items			
Uninformed	1,231,180	3,708,798	738,951
Informed	132,200	228,603	40,768
B. Shareholder and Management Proposals			
Uninformed	67,212	198,225	36,690
Informed	6,518	17,695	3,546
C. Director Elections			
Uninformed	1,066,192	3,218,266	632,637
Informed	112,650	195,853	34,287
D. Say-on-Pay			
Uninformed	97,980	292,307	69,624
Informed	13,032	15,055	2,935

Table 2
Descriptive Statistics

This table reports fund and firm characteristics according to whether funds were informed and/or advised. Each observation represents a fund-vote. Standard deviations are in parentheses next to the means. Leverage is debt scaled by debt plus common equity.

	Uninformed		Self-informed		ISS advice		Glass Lewis advice		No advice	
Fund characteristics										
Fund size (log)	11.1	(1.94)	12.7	(1.93)	11.3	(1,76)	11.3	(1.45)	10.9	(2.66)
% of portfolio	0.12	(0.37)	0.20	(0.53)	0.12	(0.32)	0.13	(0.34)	0.15	(0.53)
% of firm equity	0.60	(1.48)	1.96	(2.77)	0.59	(1.37)	0.67	(1.78)	1.06	(2.17)
Index fund	0.73	(0.44)	0.77	(0.42)	0.79	(0.41)	0.60	(0.49)	0.67	(0.47)
Firm characteristics										
Assets (log)	8.48	(1.98)	9.19	(2.26)	8.54	(2.00)	8.51	(1.99)	8.52	(2.03)
Leverage	0.41	(0.81)	0.43	(0.69)	0.41	(0.80)	0.41	(0.96)	0.41	(0.73)
R&D/assets	0.05	(0.11)	0.05	(0.11)	0.05	(0.11)	0.05	(0.11)	0.05	(0.11)
Cash/assets	0.10	(0.12)	0.10	(0.12)	0.10	(0.12)	0.10	(0.13)	0.10	(0.12)
Market-to-book	3.15	(39.4)	3.61	(35.2)	3.16	(40.1)	3.27	(36.9)	3.21	(37.6)
PPE/assets	0.23	(0.25)	0.22	(0.24)	0.23	(0.25)	0.23	(0.25)	0.23	(0.25)

Table 3
Common Proposal Topics

An "item" is a proposal to be decided by shareholder vote. A "fund-vote" is the vote choice of a particular fund on a particular item. Proposals were sponsored by management or by shareholders. "% Yes" is the percentage of fund-votes in favor of the proposal.

	# Items	# Fund-Votes	% Sponsored by Shareholders	% Yes
Declassify board: require every director to be elected every year	1,223	30,944	37.8	97.1
Independent chair: require board chair to be an independent director	545	20,674	99.8	40.1
Lobbying: disclose company's political lobbying activities	242	10,897	100.0	32.4
Majority vote: require directors to receive a majority of votes in uncontested elections in order to be elected	723	19,923	63.3	87.7
Political contributions: disclose and limit contribuions	433	15,605	93.7	34.2
Proxy access: allow shareholders to nominate candidates for director	329	13,285	83.9	68.5
Special meeting: allow shareholders to call special meeting	438	16,506	63.7	76.0
Supermajority: remove supermajority provisions for shareholder actions such as takeovers and bylaw amendments	636	21,263	22.3	96.8
Sustainability: create and report policies and plans related to climate change, environmental impact, and sustainability	385	13,586	100.0	31.8
Written consent: allow shareholders to act by written consent in lieu of meeting	252	10,235	77.0	63.6

Table 4
Regressions of Voting on Information and Proxy Advice

Each column of each panel reports estimates from a regression in which the dependent variable is 1 if a fund voted in favor and 0 if it voted against. Informed is a dummy equal to 1 if the fund visited the company's proxy statement on Edgar prior to voting. ISS/Glass Lewis are dummies equal to 1 if the fund was an ISS or Glass Lewis customer, respectively. Standard errors clustered by fund-year are in parentheses. Fixed effects are indicated in the panel heading. Significance levels are indicated: * = 10 percent, ** = 5 percent, *** = 1 percent.

Panel A: Baseline Estimates with No Fixed Effects

	All 10 issues	Declassify board	Independent chair	Lobbying	Majority vote	Political contribs	Proxy access	Special meeting	Super-majority	Sustain-ability	Written consent
Informed	-0.14***	0.01*	-0.14***	-0.13***	-0.07***	-0.11***	-0.16***	-0.09***	-0.02**	-0.06***	-0.27***
	(0.01)	(0.01)	(0.02)	(0.03)	(0.02)	(0.02)	(0.04)	(0.02)	(0.01)	(0.02)	(0.03)
ISS	0.07***	0.02**	-0.07**	0.14***	0.09***	0.07**	0.15***	0.12***	0.04***	0.13***	0.01
	(0.02)	(0.01)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.01)	(0.03)	(0.04)
Glass Lewis	-0.03	0.02***	-0.07	-0.04	0.11***	-0.06	-0.04	-0.08**	0.03***	0.03	-0.12**
	(0.02)	(0.01)	(0.06)	(0.04)	(0.03)	(0.04)	(0.07)	(0.04)	(0.01)	(0.04)	(0.06)
Constant	0.65***	0.95***	0.47***	0.26***	0.81***	0.31***	0.61***	0.70***	0.94***	0.24***	0.67***
	(0.02)	(0.01)	(0.03)	(0.03)	(0.03)	(0.02)	(0.04)	(0.03)	(0.01)	(0.02)	(0.03)
N	1713,743	30,826	20,577	10,827	19,732	15,536	13,205	16,408	21,192	13,249	10,191
Clusters	999	936	899	699	930	858	521	834	906	848	673

Panel B: Election Item Fixed Effects

	All 10 issues	Declassify board	Independent chair	Lobbying	Majority vote	Political contribs	Proxy access	Special meeting	Super-majority	Sustain-ability	Written consent
Informed	-0.08***	0.01**	-0.15***	-0.13***	-0.07***	-0.08***	-0.12***	-0.09***	-0.02*	-0.01	-0.25***
	(0.01)	(0.01)	(0.03)	(0.03)	(0.02)	(0.02)	(0.04)	(0.02)	(0.01)	(0.02)	(0.04)
ISS	0.06***	0.02***	-0.06*	0.14***	0.12***	0.07**	0.15***	0.12***	0.04***	0.13***	0.01
	(0.02)	(0.01)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.01)	(0.03)	(0.04)
Glass Lewis	-0.02	0.02**	-0.07	-0.04	0.10***	-0.07*	-0.04	-0.10***	0.04***	-0.01	-0.12**
	(0.02)	(0.01)	(0.06)	(0.04)	(0.03)	(0.04)	(0.07)	(0.04)	(0.01)	(0.04)	(0.06)

Constant	0.65***	0.95***	0.47***	0.26***	0.80***	0.31***	0.61***	0.70***	0.94***	0.24***	0.67***
	(0.01)	(0.01)	(0.03)	(0.03)	(0.02)	(0.02)	(0.04)	(0.02)	(0.01)	(0.02)	(0.03)
N	0.46	30,714	20,559	10,827	19,654	15,508	13,204	16,406	21,171	13,238	10,187
Clusters	171,468	936	899	699	928	857	521	833	905	845	673

Panel C: Fund × Year Fixed Effects

	All 10 issues	Declassify board	Independent chair	Lobbying	Majority vote	Political contribs	Proxy access	Special meeting	Super-majority	Sustainability	Written consent
Informed	-0.13***	0.00	-0.02**	-0.04***	-0.02*	-0.04***	-0.08***	-0.04***	-0.001	-0.07***	-0.08***
	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Constant	0.69***	0.97***	0.40***	0.33***	0.88***	0.35***	0.69***	0.76***	0.97***	0.33***	0.64***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
N	171,729	30,758	20,521	10,680	19,658	15,476	13,172	16,353	21,110	13,164	10,106
Clusters	985	868	843	552	856	798	488	779	824	763	588

Panel D: Proposal and Fund × Year Fixed Effects

	All 10 issues	Declassify board	Independent chair	Lobbying	Majority vote	Political contribs	Proxy access	Special meeting	Super-majority	Sustainability	Written consent
Informed	-0.03***	0.00	-0.02**	-0.01	-0.02*	0.00	-0.01	-0.03***	0.00	-0.02	-0.02**
	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Constant	0.68***	0.97***	0.40***	0.33***	0.88***	0.34***	0.69***	0.76***	0.97***	0.32***	0.64***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
N	171,454	30,644	20,503	10,680	19,580	15,445	13,171	16,352	21,088	13,156	10,102
Clusters	985	866	843	552	854	794	488	779	823	763	588

Table 5
Regressions of Voting in Agreement with Management on Information

Each column reports estimates from a regression in which the dependent variable is a 1 if a fund voted in agreement with management's recommendation and 0 otherwise. Informed is a dummy equal to 1 if the fund visited the company's proxy statement on Edgar prior to voting. Observations include votes cast by fund families that did not receive advice. Standard errors clustered by fund-year are in parentheses. All regressions include election item fixed effects. Significance levels are indicated: * = 10 percent, ** = 5 percent, *** = 1 percent.

	All proposals (excluding director elections)	Shareholder proposals	Management proposals	Director elections
	(1)	(2)	(3)	(4)
Informed	0.028***	0.087***	0.007	0.003
	(0.007)	(0.015)	(0.007)	(0.004)
Observations	1,398,768	232,928	1,165,840	5,166,039
Clusters	1,015	1,005	1,015	1,014

Table 6
Vote Regressions: Instrumental Variable Estimates

Each column reports estimates from a regression that pools fund-votes across the 10 common issues. Dependent variables are indicated in the panel headings. Three different instruments are employed, as indicated in the left column. ISS and Glass Lewis are dummies equal to 1 if a fund received advice from ISS or Glass Lewis, respectively. All regressions include issue and year dummies. Standard errors clustered at the fund-year level are in parentheses. Significance levels are indicated: * = 10 percent, ** = 5 percent, *** = 1 percent.

Panel A: First Stage: Dependent Variable = Dummy if fund visited Edgar

	(1)	(2)	(3)
IV1: Busy proxy season	-0.01***		
	(0.00)		
IV2: Contentious proposal on proxy		0.02***	
		(0.00)	
IV3: # items on proxy (log)			0.04***
			(0.00)
Constant	-0.01**	0.05***	-0.08***
	(0.00)	(0.02)	(0.01)
R^2	0.012	0.013	0.015
F-statistic	13.60	12.94	12.56
Observations	171,743	45,217	171,743
Clusters	999	857	999

Panel B: Instrumented Regressions: Dependent Variable = Dummy if fund voted in favor

	(1)	(2)	(3)
$\widehat{Informed}$	-1.11**	-0.88***	-1.14***
	(0.45)	(0.20)	(0.12)
ISS	0.07***	0.01	0.07***
	(0.02)	(0.02)	(0.02)
Glass Lewis	-0.02	0.02	-0.02
	(0.03)	(0.03)	(0.03)
Constant	0.91***	1.02***	0.91***
	(0.02)	(0.03)	(0.02)
Observations	171,743	45,217	171,743
Clusters	999	857	999

Table 7
Vote Regressions Using Alternative Information Proxies

Each column of each panel reports estimates from a regression in which the dependent variable is 1 if a fund voted in favor and 0 if it voted against. The regressions include observations for funds that did not receive proxy advice, cover the 10 common issues, and include issue fixed effects. Standard errors clustered by fund-year are in parentheses. Significance levels are indicated: * = 10 percent, ** = 5 percent, *** = 1 percent.

	(1)	(2)	(3)	(4)
Edgar visit dummy	-0.200***			
	(0.017)			
Fund assets (log)		-0.020***		
		(0.004)		
# years stock held			-0.019***	
			(0.004)	
% portfolio weight of stock				-0.016***
				(0.008)
Constant	0.658***	0.847***	0.704***	0.620***
	(0.015)	(0.045)	(0.019)	(0.019)
Observations	38,912	38,912	38,912	28,004
Clusters	301	301	301	249

Table 8
Regressions of Voting on Advisor Recommendations with Fund-Year Fixed Effects

Each column of each panel reports estimates from a regression in which the dependent variable is 1 if a fund voted in favor and 0 if it voted against. Informed is a dummy equal to 1 if the fund visited Edgar prior to voting. ISS/Glass Lewis recommendations are dummies equal to 1 if the fund was an ISS/Glass Lewis customer and ISS/Glass Lewis recommended voting in favor. Each regression includes fund-year fixed effects, and the regression pooling all 10 issues includes issue fixed effects. Standard errors, in parentheses, are clustered at the fund×year level. Fixed effects are at the fund×year level. Significance levels are indicated: * = 10 percent, ** = 5 percent, *** = 1 percent.

	All 10 issues	Declassify board	Indepen-dent chair	Lobbying	Majority vote	Political contribs	Proxy access	Special meeting	Super-majority	Sustain-ability	Written consent
Informed	-0.04***	0.00	-0.03***	-0.02	-0.02**	-0.01	-0.02*	-0.05***	-0.01	-0.03**	-0.04***
	(0.004)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Proposal supported by ISS	0.36***	0.39***	0.36***	0.29***	0.61***	0.34***	0.24***	0.28***	0.60***	0.41***	0.40***
	(0.02)	(0.07)	(0.02)	(0.02)	(0.05)	(0.02)	(0.04)	(0.04)	(0.05)	(0.02)	(0.03)
Proposal supported by Glass Lewis	0.20***	0.29***	0.11***	0.13***	0.15***	0.15***	0.43***	0.24***	0.27***	0.14***	0.19***
	(0.01)	(0.06)	(0.01)	(0.02)	(0.05)	(0.01)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)
Constant	0.19***	0.30***	0.08***	0.04**	0.12***	0.03**	0.15***	0.29***	0.12**	0.02*	0.08**
	(0.01)	(0.06)	(0.02)	(0.02)	(0.05)	(0.01)	(0.03)	(0.04)	(0.05)	(0.01)	(0.04)
N	131,219	19,328	16,857	9,735	12,121	12,848	11,200	13,452	15,132	10,667	9,193
Clusters	868	723	748	504	717	735	471	711	737	691	560

Table 9
Vote Regressions for Funds that Changed Advisor after Being Acquired

Each column reports a regression in which the dependent variable is 1 if an individual fund voted in favor. The regressions include 19 funds that shifted advisors after being acquired (adopting the acquirer's advisor). The sample includes votes on the 10 common issues. ISS and Glass Lewis are dummies equal to 1 if a fund received advice from ISS or Glass Lewis, respectively, in the current year. Standard errors clustered at the individual fund level are in parentheses. Each regression has 2,805 observations and 17 clusters. Significance levels are indicated: * = 10 percent, ** = 5 percent, *** = 1 percent.

	(1)	(2)
ISS	0.07***	0.05**
	(0.02)	(0.02)
Glass Lewis	0.06	0.04
	(0.12)	(0.10)
Constant	0.64***	0.66***
	(0.02)	(0.02)
Fixed effects	Fund, Year	Fund, Year, Issue
Observations	2,805	2,805
Clusters	17	17

Table 10
Vote Regressions for Unadvised SRI and non-SRI funds

Each column is a regression in which the dependent variable is a dummy equal to 1 if a fund-vote was cast in favor of a proposal. Each regression pools the 10 common issues and year and issue fixed effects. Funds advised by ISS or Glass Lewis are excluded. The regressions differ in the definition of an SRI fund: the definitions are (1) Bolton et al. (2020) parameter > .35 and (2) share of fund family assets labeled ESG > 0.01. Standard errors, clustered by fund-year, are in parentheses. Significance levels are indicated: * = 10 percent, ** = 5 percent, **** = 1 percent.

	SRI: Bolton et al. score > .35	SRI: assets in SRI funds > 1%
	(1)	(2)
Informed & Not SRI	-0.21***	-0.21***
	(0.02)	(0.02)
Uninformed & SRI	0.08***	0.05**
	(0.03)	(0.03)
Informed & SRI	0.01	-0.03
	(0.06)	(0.04)
Observations	327,66	38,912
Clusters	236	301

Table 11
Voting, Robo-voting, and Advisor Recommendations

Column (1) shows the percentage of proxy advisor customers' votes that followed the advisor's recommendations. Column (2) shows the fraction of a proxy advisor's customers that were robo-voters in a given year. ISS and Glass Lewis customers were inferred from each mutual fund's N-PX format.

	% Votes that followed recommendations (1)	% Robo-voters: funds that followed 99 percent of recommendations (2)
ISS customers	94.0	16.5
Glass Lewis customers	91.4	8.3