Custom Proxy Voting Advice

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Abstract

This paper studies institutional investors' decision-making using novel data from a major proxy advisor. We highlight the significant role of customized proxy advice in shaping shareholders' voting decisions. About 80% of funds receive customized advice, and custom recommendations differ substantially from benchmark recommendations. We show that customization plays two key roles. First, it helps shareholders express their ideologies through the vote. Second, it facilitates shareholders' decision-making process by reducing the need to pay attention to every proposal individually and enabling focus on the more important proposals. Customization thus influences both the aggregation of preferences and the aggregation of information in voting outcomes. Our findings offer a new perspective on the role of proxy advisors and suggest a shift away from solely focusing on benchmark recommendations.

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1. Introduction

How institutional investors arrive at their voting decisions is critical to understanding corporate stewardship. Yet little is known about shareholders' decision-making process, as researchers typically study data on their ex post voting decisions. In this paper, we open the black box of institutional decision-making by using novel data from a major proxy advisor. We highlight a previously unexplored role played by proxy advisors in helping institutions arrive at their voting decisions: the use of custom voting policies. We show that customization can help investors both express their ideological positions and focus their costly monitoring and governance research on the proposals that are most important to them.

Institutional investors' costs of stewardship can be substantial as they face ballots at thousands of portfolio companies. One way that they can potentially reduce such costs is by hiring proxy advisors such as ISS or Glass Lewis, which provide research and recommendations as well as vote execution services. Significant scholarly attention has focused on the influence of proxy advisors and the concern that many institutions passively follow their recommendations. Policymakers have taken note, with the SEC going as far as to propose to regulate the use of proxy advisory services (SEC, 2019).

However, as we highlight in the paper, most institutional investors play an active role in shaping the voting recommendations they receive from proxy advisors. In particular, they work with the proxy advisor to develop custom voting policies, i.e., the set of rules and standards to be applied by the proxy advisor that reflect the shareholder's voting ideology. These custom policies allow the proxy advisor to issue custom recommendations, tailored to the client's preferences and beliefs. For example, a shareholder may be systematically more or less inclined to consider environmental and social (ES) issues relative to benchmark recommendations, and this aspect would then be incorporated into its custom voting policies.[1]

Using proprietary data from the second largest proxy advisor Glass Lewis, we show that about 80% of funds use custom voting policies, a departure from the extant literature that focuses

[1] As we discuss in Section 3, such custom policies can be either tailored to the individual fund, based, e.g., on the fund's voting policies (Couvert, 2021) or be chosen from a menu of pre-determined (which we refer to as "ready-made") policies developed by the proxy advisor. For example, Glass Lewis's ready-made "Climate" policy is to "vote against the board chair or the chair of the audit committee if a company has not established proper risk oversight of material environmental and social risks, including those related to climate change" (https://www.glasslewis.com/voting-policies-current/).

on proxy advisors' benchmark recommendations.[2] Funds that customize receive significantly different recommendations: we estimate that in our sample, custom recommendations differ from benchmark recommendations in more than 20% of ballots.

Thus, the best way to think about how most institutional investors use proxy advisors is through a two-stage decision-making process. First, institutions set a custom voting policy, which helps determine the recommendations they receive from the proxy advisor and translates into the default votes they cast should they follow these custom recommendations. Second, once the actual proposals are announced and relevant information is observed, institutions decide whether to conduct additional research on portfolio companies and whether to deviate from the custom recommendations.

Given the prevalence of customization it is crucial to understand how it affects voting outcomes. We argue that customization has implications for two key roles of shareholder voting: the aggregation of preferences and the aggregation of information. Recent literature shows substantial heterogeneity among shareholders in their voting ideologies including on environmental and social issues (e.g., Bolton et al., 2020; Bubb and Catan, 2022; Zytnick, 2023), which suggests that voting serves a role in aggregating preferences. Our paper is the first to show that through customization, proxy advisors help shareholders express their preferences and thus play an important role in preference aggregation. In addition, voting is thought to aggregate information from multiple shareholders who potentially have access to different signals. Prior literature focuses on the idea that the proxy advisor provides a common signal and studies how this signal affects shareholders' incentives to conduct independent research (e.g., Choi, Fisch, and Kahan, 2010; Iliev and Lowry, 2015; Malenko and Malenko, 2019). In contrast, our paper argues that the role of common (benchmark) recommendations may be overemphasized, since proxy advisors often provide different advice to different shareholders. Moreover, we show that customization can both increase and decrease shareholders' incentives for independent research, further influencing information aggregation.

To formalize these ideas, we build a theoretical framework to study the two-stage decision-making process of institutions, and then analyze its predictions using proprietary data from Glass Lewis. In the first stage of our model, a fund whose ideology may differ from that of the proxy advisor (e.g., the fund is more ESG-friendly), decides whether to pay a cost to customize the

[2] While our sample is based on Glass Lewis's customers, customization is also prevalent among the customers of another major proxy advisor, ISS. See Section 4 for details.

recommendations it receives. Then, at the second stage, the recommendation received by the fund (custom or benchmark, depending on whether the fund chose to customize) determines the fund's default vote if it decides to follow the recommendation and not conduct additional research. However, the fund can also invest resources in independent research, which allows it to learn additional information about the proposal beyond what is contained in the recommendation.

The model predicts that funds whose ideologies deviate little from the proxy advisor's ideology will not customize, especially if the benchmark recommendations are sufficiently accurate. For such funds, custom recommendations tailored to their ideologies would mostly coincide with benchmark recommendations, so the costs of customization are not worth the benefits. Thus, customization is most valuable when there is a large ideological gap in preferences between the fund and the proxy advisor's benchmark policies. Accordingly, our empirical analysis shows that funds are substantially more likely to subscribe to Glass Lewis's custom recommendations when they disagree with Glass Lewis's benchmark recommendations in a consistent ideological direction, for example, if they tend to support ES proposals more than Glass Lewis.

Customization thus allows the fund's default vote to reflect its ideology more closely, facilitating preference aggregation. Moreover, because the proxy advisor applies custom policies to give recommendations on all firms in the fund's portfolio, customization allows the fund to exploit economies of scale and reduces its need to pay attention to proposals in each individual firm. A fund with stakes in many firms is thus more likely to benefit from an ex-ante investment in a custom voting policy. Conversely, a fund with a stake in a single firm would gain relatively little from customization and instead could pay close attention to that firm's shareholder meetings at relatively low cost. In line with this prediction, we find that large shareholders with more firms in their portfolios are more likely to customize.

This logic may suggest that customization always serves as a *substitute* for paying attention to voting. However, our model shows that in addition to a substitution effect, customization has a *complementarity* effect and can encourage more attention and independent research. The complementarity effect arises because custom recommendations help shareholders identify and focus their attention on the most important and contentious proposals, for which their research is particularly cost-effective, rather than split their attention across many uncontroversial proposals. The substitution effect predicts that, holding its votes fixed, a customizing fund could devote less attention and research effort to each proposal and, holding its attention and research effort fixed,

could vote more in line with its preferences. The complementarity effect predicts that, for key proposals, customizing funds would devote more attention compared to non-customizing funds.

Combining these effects, we predict that customization has three observable impacts on funds. First, customization allows funds to cast votes that are more in line with their preferences and ideologies. Second, customization allows funds to reduce the research effort and attention they expend on votes. Third, this effect should be larger for non-contentious proposals, whereas for contentious proposals, the attention to votes could increase with customization.

To explore these predictions and study the relation between customization and shareholders' attention to voting, we use unique data from Glass Lewis on the timing of funds' votes. These data allow us to judge whether the fund automatically submitted its vote according to the pre-populated vote recommendations (i.e., voted passively) or whether it manually submitted its vote, which we use as a proxy for attention to voting.

We begin by documenting that, holding constant a shareholder's propensity to vote manually, customizers are more likely to deviate from benchmark recommendations than non-customizers. For example, among funds with relatively low manual voting rates (below 10%), non-customizers deviate from the benchmark in less than 5% of the ballots, whereas customizers deviate in more than 20% of the ballots. We interpret this evidence as consistent with the substitution effect—i.e., customization reducing the need to pay attention to multiple proposals at once. By aligning the shareholder's default vote with its ideology, customization reduces both the error costs of not paying attention to the vote and the actual expenses associated with paying attention and manually voting. In addition, our evidence suggests that deviations from the proxy advisor's benchmark recommendations, which are often interpreted as a sign of active voting and independent research (e.g., Iliev and Lowry; 2015; Malenko and Malenko, 2019) may not necessarily reflect active voting. Instead, deviations from the benchmark could reflect the ex-ante decision to subscribe to custom recommendations and then passively follow them.

Next, we examine the relationship between a shareholder's customization status and its propensity to vote manually. In general, this relationship reflects both the treatment effects of customization (substitution and complementarity) and selection into customization. In line with the selection effect, and as predicted by our model, funds that customize tend to vote manually more often, indicating that both customization and attention to voting could be related to unobserved factors, such as the overall importance of voting to the shareholder. We therefore try to isolate the role of such unobserved factors in two ways: first, by exploiting the fact that

customization decisions are made at the fund family level, and second, by relying on specific predictions of our model.

For the first test, we examine variation in customization and manual voting within fund family. By analyzing within-institution (i.e., fund-level) variation we can control for factors such as the degree to which the institution pays attention to voting. This test exploits the fact that, for several institutions in our sample, most of their funds subscribe solely to benchmark recommendations (suggesting that these funds' ideologies are close to that of Glass Lewis), but some funds receive custom recommendations (suggesting that these few funds have a different ideology). For those funds that receive the benefit of custom recommendations, we would expect them to devote less attention to voting decisions than funds within the same family that rely on benchmark recommendations. Consistent with such within-institution substitution, we find that the customizing funds within such institutions are substantially less likely to vote manually than the non-customizing funds.

Second, we explore a special category of customizers that we call "ready-made" customizers. In addition to offering tailored custom recommendations, proxy advisors offer several "ready-made" custom policies, i.e., policies that are pre-determined and not individually tailored to shareholders (e.g., an "ESG" or a "Climate" policy).[3] It is likely cheaper for a fund to subscribe to ready-made recommendations than to create tailored recommendations based on its own voting guidelines. The positive relationship between customization and research that is driven by unobserved factors such as importance placed on voting will tend to be weaker if the cost of customization is small, since even funds will a low importance of voting will choose to cheaply customize if the ready-made policy is close to their ideological preferences. Thus, according to our model, the selection effect is less likely to result in a positive association between customization and manual voting when focusing only on ready-made customizers. Our empirical analysis shows that ready-made customizers are highly ideological but, in line with the substitution effect, are significantly less likely to vote manually compared to funds that do not customize. Thus, some customizers appear to use ready-made policies as a way to minimize the costs of voting—both in terms of the error costs of passively following benchmark recommendations and in terms of reducing the costs of paying attention to voting.

[3] See footnote 1 above and Section 3 below.

While these results are consistent with substitution between customization and attention to voting, we also find evidence of the complementarity effect. Specifically, we examine the interaction between a shareholder's customization status and its attention to important proposals. The model predicts that while customizers allocate less attention than non-customizers to less crucial proposals (substitution), they allocate more attention than non-customizers to significant and contentious proposals (complementarity). We focus on several categories of important meetings, such as those with a negative ISS or Glass Lewis recommendation, meetings involving an activist investor, or special meetings. In line with the complementarity effect, we show that customizers are relatively more likely to manually vote when meetings are more important. This result holds across multiple categories of important meetings and is robust to the inclusion of meeting, fund-year, and fund-firm fixed effects. It also holds at the intensive margin: customizers with a higher degree of customization are more sensitive in their attention to important proposals than customizers with a lower degree of customization.

Our findings are relevant for policymakers' discussions about customized voting policies and the use of auto-submitted ballots (SEC, 2019). The SEC has expressed concerns that customization, combined with auto-submission, can be detrimental as it may reduce shareholders' case-by-case consideration of proposals. While we find some evidence of such substitution, we conclude that customization can also enhance independent research. Customization appears to enable the reallocation of funds' attention from less important proposals, on which custom recommendations accurately capture the fund's optimal vote, to more important proposals, where in-depth research is particularly valuable.

Related literature. Our paper contributes to the literature on shareholder voting and the role of proxy advisors by painting a more nuanced picture of the proxy voting process. The extensive empirical literature on proxy advisors focuses exclusively on benchmark recommendations.[4] Thus, our first and most basic contribution is in documenting the widespread use of customization among institutional investors and highlighting its importance in voting outcomes. Customization could become even more prominent given the introduction of pass-through voting for clients of large asset managers, which in practice involves significant use of custom recommendations (Blackrock,

[4] See Alexander et al. (2010), Choi, Fisch, and Kahan (2010), Dey, Starkweather, and White (2024), Ertimur, Ferri, and Oesch (2013, 2018), Iliev and Lowry (2015), Larcker, McCall, and Ormazabal (2015), Li (2018), Malenko and Shen (2016), and Shu (2024), among others.

2022; Fisch and Schwartz, 2023; Malenko and Malenko, 2023). This underscores the need to account for and better understand custom voting policies and the more complex role played by proxy advisors.

Our results enhance the current understanding of proxy advisors' informational role. The literature concludes that proxy advisors provide an informative signal (e.g., Alexander et al., 2010, Albuquerque, Carter, and Gallani, 2020; Malenko, Malenko, and Spatt, 2023), but that their recommendations may crowd out independent research by shareholders, leading to potential overreliance on a common noisy signal (e.g., Calluzzo and Dudley, 2019; Malenko and Malenko, 2019). We highlight that customization implies the presence of multiple signals tailored to individual shareholders, reducing the concerns about the reliance on one common signal. Moreover, we show that while customization can crowd out some independent research, it can also encourage additional research on the most important proposals. This complementarity effect relates to but is distinct from that in the theory of Buechel, Mechtenberg, and Wagner (2023), who focus on benchmark recommendations and shareholders with homogeneous preferences. It also connects our paper with the broader literature studying how information received by market participants affects their incentives for information production (e.g., Diamond, 1985; Boot and Thakor, 2001; Goldstein and Yang, 2017).

Our finding that customization facilitates the expression of investors' ideologies relates to research on the importance of heterogeneous preferences among shareholders and the need to aggregate these preferences efficiently.[5] In particular, a growing literature studies investors' ES preferences and their effect on voting behavior (e.g., Dikolli et al., 2022; Li, Naaraayanan, Sachdeva, 2023; Michaely, Rubio, and Yi, 2023). We highlight that investors with strong views on ES issues can use proxy advisors to express their preferences through custom recommendations. These results are consistent with Couvert (2021)'s finding that fund families' voting policies are a major predictor of their voting behavior and in line with the idea that funds use proxy advisors to implement their policies. Matsusaka and Shu (2021) develop a theory of proxy advice when investors have social goals and show, in an extension of their model, that customized advice emerges when the proxy advisory market is monopolistic. Unlike their theory, which focuses on

[5] See, e.g., Bolton et al. (2020), Bubb and Catan (2022), Couvert (2021), and Zytnick (2023) for empirical evidence, and Zachariadis, Cvijanovic, and Groen-Xu (2020), Levit, Malenko, and Maug (2023), and Meirowitz, Pi, and Ringgenberg (2023) for theoretical studies. The theory of Ma and Xiong (2021) shows that when shareholders have non-value-maximizing preferences, the proxy advisor optimally caters its advice to their preferences, and Shu (2024) find empirical evidence in line with this mechanism.

the structure of the proxy advisory industry, our focus is on the interaction between customization and shareholders' independent research.

Finally, our paper is related to the literature on institutional investor attention (e.g., Kacperczyk, Van Nieuwerburgh, and Veldkamp, 2016; Kempf, Manconi, and Spalt, 2017). In the context of institutional voting, Iliev, Kalodimos, and Lowry (2021) and Calluzzo and Kedia (2022) point out that the busy spring proxy season could distract investors' attention and reduce their independent research. We add to this literature by showing that institutional investors can take proactive steps to manage their limited attention. By dedicating resources to customize the proxy advice they receive, investors can allocate their attention more efficiently, conserving it for critical matters while reducing emphasis on less significant issues.

2. Theoretical framework and predictions

To understand the role of customization and derive predictions that guide our empirical analysis, we develop a simple theoretical framework, which models the two-stage decision-making process of shareholders: the decision to customize, followed by the decision to conduct additional research. The formal setup and results of the model are presented in Appendix C. In this section, we describe its key ingredients and implications.

In the model, the fund votes on a proposal at one of the firms in its portfolio. The fund is subscribed to the proxy advisor's services. If it does not incur any additional costs, it receives the benchmark (i.e., non-custom) recommendation, which is a noisy signal about the value of the proposal. However, the benchmark recommendation can be systematically different from the optimal vote of the fund because of differences in preferences or ideology. For example, as discussed above, the fund may consistently prioritize or de-prioritize ES issues compared to benchmark recommendations. Alternatively, benchmark recommendations of proxy advisors are often based on cutoff rules (e.g., vote against a director who sits on more than five company boards), and the fund may consider those cutoffs to be too restrictive or too lenient.

The fund can pay an additional cost to become a customizer. In practice, the cost of customization includes both the additional fees charged by the proxy advisor and the effort undertaken by the fund to develop its voting policies and communicate them to the proxy advisor. If the fund incurs this cost, it receives custom recommendations, which account for the fund's preferences and ideology. In the first example above, a custom recommendation could be to vote against a director if the board does not provide proper oversight of environmental issues, as in

Glass Lewis's "Climate" policy described in the Introduction (see footnote 1). In the second example above, the custom policy could apply a different cutoff in votes relating to busy directors.[6]

After receiving recommendations from the proxy advisor, the fund evaluates whether to conduct further research before making the final voting decision. Research is costly and is only optimal if it is expected to substantially improve the fund's decision-making relative to voting based on the recommendation (benchmark or custom) alone.

Using this framework, we derive the following results.

2.1. Effect of customization on the fund's vote and independent research

First, we take the fund's customization decision as given and compare the fund's vote and propensity to conduct research in two scenarios: when it is a customizer and when it is not.

A key effect of customization is to change the fund's default vote (i.e., the vote based on the recommendation), aligning it more closely with the fund's preferences and ideology.

In addition, we show that customization has two effects on the fund's propensity to conduct independent research:

- For non-contentious proposals, the fund conducts *less research* if it customizes than if it did not customize.
- For contentious proposals, the fund conducts *more research* if it customizes than if it did not customize.

Specifically, in our model, non-contentious (contentious) proposals correspond to those over which there is agreement (disagreement) between the benchmark and the custom recommendation.

The intuition is the following. There are two reasons to conduct independent research. First, research allows the fund to learn a more precise signal about the value of the proposal than the proxy advisor's signal alone. Second, it allows the fund to learn about the characteristics of the proposal that are particularly relevant for its vote given the fund's unique ideological preferences. Customization weakens the latter motive for research, allowing the fund to conduct less research overall. This is because the custom recommendation already accounts for the specific characteristics of the proposal that are particularly important to the fund (e.g., characteristics reflecting the fund's concern for ES issues).

[6] For example, the "Corporate Governance Focused" ready-made policy of Glass Lewis is more lenient towards busy directors compared to its benchmark policy, applying the cutoff of six (rather than five) boards to recommend voting against a director (https://www.glasslewis.com/voting-policies-current/).

However, if the fund's ideology is not too strong, it cares not only about these specific characteristics but also about the overall value of the proposal. Then, customization does not completely crowd out the fund's independent research: because the custom recommendation is based on a relatively imprecise signal of the proxy advisor, the first motive for research remains strong. Moreover, customization plays a valuable role of highlighting contentious proposals—those with most disagreement—for which additional research is especially valuable. As a result, the customizing fund conducts more research on contentious proposals than if it did not customize. Effectively, customization decreases the fund's need to review non-contentious proposals while directing its focus toward contentious proposals and promoting further research on them.

Given these results, our analysis reveals three motives for the fund to customize.

1. **Customization enables the fund's vote to align more closely with its ideology.**
   Suppose that the fund does not conduct independent research and simply follows the proxy advisor's recommendation. Unlike the benchmark recommendation, the custom recommendation accounts for the fund's ideology, so the fund's vote will more accurately reflect its ideology if it chooses to customize. In this sense, customization reduces the error costs of not paying attention to the vote.

2. **Customization reduces the fund's costs of paying attention to the vote**.
   Suppose that without customization, the fund does not follow the benchmark recommendation and, instead, always reviews the proposal and conducts additional research to vote in line with its ideology. Customization then allows the fund to reduce the costs of research, as the fund can now vote in line with its ideology by simply following the custom recommendation.

These two motives for customization are closely related. They both reflect the idea that for a fund whose ideology differs from that of the proxy advisor, customization reduces the fund's costs of voting – either the error costs of not paying attention and thus not voting in line with its ideology (first motive above) or the costs of paying attention and ensuring alignment with its ideology (second motive above). In essence, they demonstrate that a fund striving to vote in line with its ideology can *substitute* attention to the vote with customization. Thus, in what follows, we refer to these two roles of customization as the "**substitution**" effect.

The third motive for customization echoes the previously discussed result that, for contentious proposals, customization stimulates further research by the fund:

3. **Customization directs the fund's focus to proposals where research is most valuable**.

Customization highlights contentious proposals, for which the fund's research is most useful and cost-effective. This allows the fund to allocate its attention more effectively and encourages additional research on the most important proposals.

Put differently, customization *complements* the fund's research efforts by making them more precisely targeted. We thus refer to this role of customization as the "**complementarity**" effect.

2.2. Decision to customize

We next study the fund's decision regarding whether to pay the cost of customization. The analysis of the motives for customization outlined in Section 2.1 helps understand which fund characteristics predict the decision to customize. The results are as follows.

(i) The fund is more likely to customize if it has a large enough number of firms in its portfolio.

Intuitively, by customizing the fund exploits economies of scale: it receives custom recommendations on all firms in its portfolio, allowing it to consistently vote in line with its ideology and reducing the need to review proposals in each individual firm.

(ii) The fund is more likely to customize if its stake in an average portfolio firm is large enough.

This is because if the fund's stake is small, its vote has a small effect on its utility for two reasons: both because the fund internalizes the effects of the proposal to a smaller extent, and because the fund's vote is less likely to be decisive in the outcome. Hence, investing in customization is only worthwhile if the fund's average stake is large enough. More generally, the fund is more likely to customize if it cares sufficiently about voting.

(iii) The fund is more likely to customize if the fund's ideology is sufficiently different from that of the proxy advisor's ideology (as captured by benchmark recommendations).

Intuitively, if the fund's ideology is close to that of the proxy advisor's, benchmark recommendations will mostly coincide with the custom recommendations optimally tailored to the fund, making custom recommendations redundant.

In summary, our model indicates that customization has a substantial impact on funds' decision-making and voting outcomes. First, it allows funds to express their preferences through the vote: custom recommendations reflect funds' ideologies. In this sense, customization facilitates the aggregation of shareholders' preferences. Second, it helps funds allocate their attention more efficiently: it removes the need for conducting research on each individual proposal and, instead,

focuses funds' attention on the more important proposals. By both altering the information shareholders receive from the proxy advisor and changing their research and attention allocation decisions, customization influences the extent of information aggregation in voting.

In what follows, we empirically analyze institutional investors' customization and voting decisions to understand whether their behavior is consistent with the model predictions.

3. Data and institutional background

Our primary source of data is a novel proprietary dataset from Glass Lewis, which contains information on shareholder meetings of public U.S. firms held between 2011 and 2017 for each of the voting service customers of Glass Lewis. In particular, these are institutional investors that not only receive Glass Lewis's proxy recommendations but also subscribe to its web-based voting platform Viewpoint, which facilitates vote execution.[7] A shareholder can use Glass Lewis's platform to view the proposals on the ballot for each issuer in its portfolio and to submit its votes.

Institutional investors typically have multiple subsidiary voting units – funds or separately managed accounts – which may have distinct portfolios and submit different votes. For simplicity, we will refer to these voting units as "funds." Our dataset contains information at the fund level.

Data on customization

For each Glass Lewis client, we observe the type of recommendations the client receives as of July 2022.[8] These data are provided both at the fund-level and at the institution-level:

- Fund-level: For each fund, we see whether the fund receives Glass Lewis's benchmark recommendations or custom recommendations.
    - *Type of customization*: If a fund receives custom recommendations, we observe whether the recommendations are tailored to the fund (we call them "*tailored*") or are chosen out of several pre-determined custom policies developed by Glass Lewis (we

[7] Three firms provide vote execution services for the vast majority of institutional investors: Broadridge, Glass Lewis, and ISS, with software ProxyEdge, Viewpoint, and ProxyExchange, respectively (e.g., Shu, 2024).

[8] This information was provided in a second data request and thus dates five years after the shareholder voting data we received from Glass Lewis. We use the 2022 customization data as it is more comprehensive but note that only one institution changed its customization policy between the first data request (made in 2020) and 2022, so the choice of years makes no substantive impact.

call them "*ready-made*").[9] In particular, there are five ready-made policies used by funds in our sample: Catholic, ESG, MacBride, Public Pension, and Taft Hartley.

- Institution-level: For each institution, we thus observe whether it receives only benchmark recommendations for all its funds or whether it receives some type of custom recommendations for at least some of its funds.
    - *Level of customization*: In addition, for each institution, we observe Glass Lewis's internal categorization of the level of customization provided to this institution: each customizing institution is classified as having a "*low*," "*medium*," or "*high*" level of customization. Based on our conversations with Glass Lewis's employees, low-level customization corresponds to introducing just a few tweaks to the benchmark policy or subscribing to one of the ready-made policies. Medium-level customization involves numerous deviations from either the benchmark or one of the ready-made policies and reflects the client's individual stance on various types of proposals. Finally, institutions with high levels of customization have almost completely tailored policies, which have little overlap with those of Glass Lewis.

Note that while we observe the type of recommendation received by each fund, we do not observe the custom recommendations themselves. Nevertheless, as detailed below, our data enable us to infer how frequently custom recommendations differ from benchmark recommendations.

Pre-populated voting choices, auto-submission, and data on vote timing

For each shareholder meeting, Glass Lewis's vote execution platform pre-populates the ballot of each fund, i.e., pre-fills it with voting choices based on the fund-specific (benchmark or custom) recommendations for all proposals on the ballot. This pre-populated ballot becomes the default vote of the fund if it does not manually submit its ballot (the platform then auto-submits this pre-populated ballot on a certain day specified by the fund). However, each fund can deviate from its pre-populated ballot by manually altering its voting choices within the platform.

In addition to deciding whether to customize the recommendations it receives, each fund decides whether its ballot should be automatically submitted if the fund itself does not manually submit the ballot and, if so, when this automatic submission should occur. We observe these auto-

[9] Glass Lewis refers to such ready-made custom policies as "thematic policies," and ISS, which also has several ready-made custom policies, refers to them as "specialty policies." See https://www.glasslewis.com/proxy-voting-policy-options and https://www.issgovernance.com/policy-gateway/voting-policies, respectively.

submission timing choices and explore them in detail in Hu, Malenko, and Zytnick (2023). There, we show that the vast majority of funds choose to specify an auto-submission date and designate this date to be four days before the shareholder meeting (which is three days before the voting deadline of one business day before the meeting).[10] In other words, if the fund does not manually submit its ballot, the voting platform will auto-submit its ballot pre-populated with (benchmark or custom) recommendations four days before the meeting. Among the minority of funds whose auto-submission date is not four days before the meeting, most choose an auto-submission date immediately upon receipt of the recommendation or do not enable automatic submission at all.

Importantly, we also observe the day when each fund ultimately submits its vote. Thus, for each fund and each meeting, we can check whether the fund's actual date of the vote coincides with its prespecified auto-submission date. For ballots submitted on days other than the auto-submission date, we can thus infer that they were not auto-submitted, i.e., were manually submitted. Hence, the vote timing data offers us a proxy to gauge funds' attention to voting: ballots submitted on the auto-submission date are more likely to be voted according to the pre-populated voting choices in line with the (benchmark or custom) recommendations. Conversely, ballots submitted on different dates are more likely to reflect the fund's active decision-making process.

Formally, following Hu, Malenko, and Zytnick (2023), we define a ballot as being "*auto-submitted*" if it was cast either on the fund's auto-submission date or exactly four days before the meeting (or six days before a Monday meeting).[11] We define ballots submitted on all other dates as being "*manually submitted*." In Hu, Malenko, and Zytnick (2023), we explore this measure in-depth and conclude that although it is noisy, it effectively predicts whether the fund automatically submitted its ballot according to the prepopulated recommendation. Hence, it serves as a reliable proxy for the fund's attention to the vote. For example, among other results, we show that for funds subscribing to benchmark recommendations, 97% of auto-submitted ballots but only 76% of manually submitted ballots are voted in line with benchmark recommendations. In other words, manually submitted ballots are more likely to reflect "active voting" (Iliev and Lowry, 2015).

[10] For Monday meetings, the voting deadline is Friday of the preceding week. Therefore, for Monday meetings, three days before the voting deadline translates to six days before the meeting.

[11] We only observe auto-submission policies at the institution level, and some institutions list multiple auto-submission policies. As a result, we do not observe the auto-submission policy for all funds and there is some degree of error in our data on auto-submission policies. Hu, Malenko, and Zytnick (2024) find large concentrations of votes four days before the meeting even for institutions that specify auto-submission immediately upon receipt of the recommendation or specify no auto-submission at all. They treat such votes as being auto-submitted and validate this assumption using voting data, so we follow their approach.

Therefore, in the empirical analysis that follows, we use this measure of manual vs. auto-submission as a *proxy for funds' attention to voting*. The literature employs a different measure of investors' attention, which is based on investors' views of proxy filings in EDGAR (e.g., Iliev, Kalodimos, and Lowry, 2021; Brav et al., 2023). We do not use the EDGAR measure for two reasons. First, our data are anonymized, so we cannot link it to investors' views of proxy filings. Second, the EDGAR measure is based on IP addresses and thus can only be constructed at the institution-level, whereas we are also interested in fund-level analysis and exploring the variation in attention among funds within an institution.

Voting data

Our voting data are at the fund-ballot level. For each ballot cast by the fund, we observe the date on which it was cast (as described earlier), the fund's number of shares in the issuer, and whether the ballot followed Glass Lewis's benchmark recommendations on all proposals on the ballot or deviated on at least one proposal on the ballot. Each institution and each fund have anonymized identification numbers, so we observe this information for each fund across years.

Since our voting data are at the fund-ballot and not at the fund-proposal level, we know whether the fund deviated on at least one proposal on the ballot, but we do not know the exact proposals on which it deviated and their number (as well as the fund's vote on any given proposal). In addition, although we precisely observe whether the fund deviated from Glass Lewis's benchmark recommendations, we do not directly observe these benchmark recommendations. Instead, we use the imputed Glass Lewis's recommendations produced in Zytnick (2024), who uses data on mutual fund votes from ISS Voting Analytics and on funds that are identified by Proxy Insight as "followers of Glass Lewis." Specifically, Zytnick (2024) applies Bayes' formula to back out Glass Lewis's recommendations from funds' votes and from the rate at which they follow Glass Lewis. Zytnick (2024) shows that these imputations produce recommendations that are comprehensive, accurate, and that feature accurate rates of agreement between Glass Lewis and management and between Glass Lewis and ISS.[12]

Other data

We use several other data sources. For information on shareholder meetings, proposals on the ballot, and ISS recommendations, we use ISS Voting Analytics. For information on securities (to

[12] In particular, using a subset of proposals for which the actual Glass Lewis's recommendations are available, Zytnick (2024) shows that imputed recommendations coincide with the actual recommendations in 99% of proposals.

get the market prices of firms held by funds in our sample and calculate funds' stakes and AUM), we use CRSP monthly stock file. For activist events, we use data from FactSet SharkRepellent, and we define a firm's shareholder meeting as connected to an activist if there is a proxy campaign at that firm for which the campaign meeting date matches the date of the meeting.

We acknowledge several limitations of our data. First, our work is based on institutions that use Glass Lewis's vote execution services, i.e., subscribe to its voting platform Viewpoint. To the extent Glass Lewis's vote execution customers differ from those who use ISS's vote execution services or who do not use proxy advisors to execute their votes, this limits the external validity of our work. However, according to ISS (2023), custom policies are widespread among its clients as well (see Section 4 for details). Glass Lewis is also an important player in the industry: according to Shu (2024), its market share grew to 42% of the U.S. mutual fund proxy advice market in 2021.

Second, we observe the information on customization as of July 2022 (or when the client became inactive, if earlier), and not for 2011 through 2017, when our voting data are from. Third, as noted, we do not observe the custom recommendations themselves, and our only information about how funds voted on a ballot is whether their vote on any proposal on the ballot deviated from Glass Lewis's benchmark recommendations.

Summary statistics

Table 1 provides summary statistics for our main dataset, Glass Lewis's data merged with data on issuers and ISS Voting Analytics. Our sample has 341 institutions and 28,070 funds, which together cast votes in more than 30,000 shareholder meetings over 2011-2017.[13] For each fund, we define its *Number of Stakes* as the number of firms in its portfolio, and its *Mean Stake Size* as the average dollar value of the stake it holds in portfolio firms. We define institution-level variables similarly, by aggregating across all funds within an institution.

Table 1 shows that the average fund (fund family) in our sample has $87 million ($5.3 billion) in assets under management and a $1.9 million ($12.5 million) stake in an average company it owns. Institutions have on average 43 funds, and a typical fund holds about 46 portfolio companies. Funds in our sample do not predominantly follow Glass Lewis or passively auto-submit their votes: out of all ballots cast by the funds, 30% deviate from Glass Lewis's recommendations on at least one proposal, and 36% are voted manually.

[13] The number of funds and institutions with available information on AUM and stake size is smaller because we rely on CRSP for information about stock prices and cannot match all the firms that our sample funds hold to CRSP.

Investor ideology

In addition to investors' portfolio characteristics, our analysis requires measures of their voting ideologies. We construct three ideology scores, which range within the interval $[-1; 1]$. A fund's *ES (Governance) score* reflects its stance (relative to Glass Lewis) on environmental and social (governance) proposals, and the fund's *Management score* captures its ideology with respect to support for management. Specifically, a higher ES (Governance, Management) score indicates greater support for ES (governance, management) proposals relative to Glass Lewis, and a score near zero implies that the fund's ideology on the corresponding issues is close to that of Glass Lewis. For example, to construct a fund's ES score, we measure the difference between the fund's support rate for ES proposals and Glass Lewis's support rate for such proposals. Appendix B contains a detailed explanation of how these scores are constructed.

4. Frequency and properties of custom recommendations

This section presents several novel facts about the prevalence of customization and the differences between benchmark and custom recommendations. The literature on proxy advisors focuses entirely on their benchmark recommendations. However, as we show in this section, few institutional investors actually use benchmark recommendations. Instead, customization is widespread, and custom recommendations often differ from benchmark recommendations.

How widespread is customization?

Panel A of Figure 1 presents the frequency of customization at the fund level and shows that only 21.5% of funds in our sample subscribe to benchmark recommendations, whereas 78.5% subscribe to custom recommendations. Among customizers, the vast majority (77.2% of the entire sample) receive recommendations tailored to the fund; the fraction of funds subscribing to ready-made (i.e., pre-determined and not tailored to a given shareholder) policies is only 1.3%. At the fund-ballot level (Panel B), the frequency of customization is even higher, 80.5%, indicating that customizing funds tend to have more portfolio firms than non-customizers. Panel C shows that customization is also widespread at the institution-level: customizers represent 54.3% of institutions and 73% of institution-ballot observations in our sample. The comparison of these numbers to those in Panels A and B suggests that customization is relatively more frequent among larger institutions with many funds and many portfolio firms – a hypothesis we confirm in Section 5.1.

Figure 1 also illustrates the extent to which customization is prevalent at the intensive margin. According to Panels C and D, low-level and medium-level customization are most common (28.2% and 21.7% of institutions, respectively), whereas clients with a high level of customization correspond to 4.4% of institutions and 13.5% of institution-ballot observations.

These numbers broadly align with the frequency of customization reported by ISS. According to Steven Friedman, the General Counsel of ISS, "during calendar year 2022, approximately 86% of the total voted shares processed by ISS on behalf of our clients were linked to clients' custom voting policies" (ISS, 2023).

Finally, in Table A1 of the Online Appendix,[14] we study how customization policies vary within institutions. Most institutions subscribe to the same type of recommendations for all their funds—benchmark, ready-made, or tailored. However, there are also several institutions whose funds have different customization policies (for example, when most funds within an institution do not customize, but a few do). We explore these "mixed" institutions in Section 5.2.

Differences between benchmark and custom recommendations

Although the use of custom recommendations is ubiquitous, such widespread adoption would be less interesting if custom recommendations barely deviated from the benchmark ones. In this section, we show that there is in fact a substantial disparity between the two.

Since we do not observe custom recommendations directly, we take advantage of our auto-submission measure and the fact that auto-submitted ballots are likely automatically voted in line with pre-populated voting choices. We therefore restrict the sample to auto-submitted votes. First, consider non-customizing funds, for whom the pre-populated voting choices reflect benchmark recommendations. As Table 2 shows, 95.4% of their ballots that are auto-submitted (according to our definition) are indeed cast in line with Glass Lewis's benchmark recommendations.[15]

Next, consider customizers, for whom the pre-populated voting choices reflect custom recommendations. According to Table 2, the average auto-submitted ballot of a customizer agrees with Glass Lewis's benchmark recommendations only 74.5% of the time. The 21% gap (95.4% vs. 74.5%) suggests that there is a relatively large percentage of ballots for which custom recommendations differ from benchmark recommendations on at least one proposal.

[14] The Online Appendix is available on the authors' websites.

[15] The 4.6% deviation from 100% reflects the fact that our measure inherently overestimates auto-submission since it assumes that any ballot cast on the auto-submission date is auto-submitted.

We further break down custom recommendations into tailored and ready-made. Panel B of Table 2 shows that the average auto-submitted ballot of a ready-made customizer agrees with benchmark recommendations even more rarely, only 50.5% of the time, suggesting that ready-made custom policies are very different from benchmark policies.

Overall, customization appears to produce substantial deviations from benchmark recommendations. In Table A2 of the Online Appendix, where we present similar analysis at the institution-level, we show that the deviations are mostly driven by recommendations received by medium-level and high-level customizers, in line with Glass Lewis's description of low-level customization discussed in Section 3.

Summary

The analysis presented in this section reveals three important facts. First, the use of custom voting policies is widespread. Second, there is a large variation in customization across shareholders. Third, custom recommendations frequently differ from benchmark recommendations. We next explore the implications of these findings.

5. Understanding the customizers and their decision-making process

This section presents a detailed analysis of customizers, in which we examine the data through the lens of our model. We first ask which shareholders opt to customize, studying the predictions outlined in Section 2.2. Then, we focus on customizers' votes and attention to voting and explore the substitution and complementarity effects highlighted in Section 2.1.

5.1. Who are the customizers?

We start with a simple univariate comparison of customizers and non-customizers. Panel A of Table 3 shows that customizers are larger, both in terms of their AUM ($48 million vs. $97 million in an average fund) and in terms of the average stake they hold in portfolio firms ($1.63 million vs. $1.93 million invested in an average portfolio firm). Customizers also have more firms in their portfolios. In addition, Table 3 reveals a difference in voting ideologies. The ideologies of funds subscribing to benchmark recommendations are very similar to those of Glass Lewis: their mean and median ES score, Governance Score, and Management Score are all close to zero. In contrast, there is more variation in the ideology scores of customizing funds across all three dimensions.

In the Online Appendix, we perform analogous comparisons at the institution-level (Panels A and B of Table A3). Similar to the fund-level results, customizing institutions are larger and

more ideological; they also have a larger number of funds. Moreover, when we compare institutions with a low level of customization to those with a medium or high level of customization, we conclude that the same patterns also hold at the intensive margin.

Finally, in Panel B of Table 3, we explore the differences between customizers that subscribe to tailored recommendations and those that select one of the ready-made custom policies. Ready-made customizers are smaller than tailored customizers; in fact, the average stake they hold is even smaller than for non-customizers. At the same time, ready-made customizers hold a larger number of firms, approximately twice as many as either of the other two categories (tailored customizers and non-customizers). They also have strong ideologies, being substantially more supportive of ES proposals and less supportive of management compared to tailored customizers. We return to these differences in our analysis of ready-made customizers in Section 5.2.

Determinants of customization

We next explore shareholders' motives for customization in more depth, building on the model predictions in Section 2.2. In Table 4, the dependent variable is the fund's customization status, and the explanatory variables are fund characteristics. We start by examining the first and second predictions, i.e., the role of stake size and number of firms in a shareholder's portfolio. The first column considers only fund-level characteristics. In the second column, because decisions on customization are made at the fund family level, we also include the number of distinct firms and average stake size owned by the fund's parent institution. Both columns are consistent with the economies of scale argument: shareholders with more firms in their portfolios are more likely to customize. For example, a 10% increase in the number of distinct companies owned by the institution is associated with a 0.82 percentage points higher probability of customization, which is a 1% increase over the sample mean. The results are also in line with the second prediction: the average stake size is a strong predictor of customization. Table A.3 in the Online Appendix shows that the same characteristics also predict customization at the intensive margin: the number of portfolio firms and stake size are strongly associated with whether the institution chooses a medium or high level of customization as opposed to a low level of customization.

We next explore the third prediction in Section 2.2—the role of ideology. Figure 2 compares customizers and non-customizers' ideologies by plotting the histograms of deviations from Glass Lewis and funds' ideology scores by customization status. The upper left quadrant presents a simple rate of deviation from Glass Lewis, calculated as the fraction of ballots for which

a shareholder deviates from Glass Lewis's benchmark recommendations on at least one proposal. Both customizers and non-customizers have a large mass of investors with a near-zero deviation rate, but this mass is substantially smaller for customizers: customizers tend to deviate more frequently. There is also a sizeable fraction of customizers whose rate of deviation exceeds 50%, whereas there are very few non-customizers with such high deviation rates.

An investor that frequently deviates from benchmark recommendations on, say, ES proposals does not necessarily have a more pro-ES or more anti-ES stance than Glass Lewis. In particular, an investor may have an ES score near zero if it deviates from benchmark recommendations in both pro- and anti-ES directions at comparable rates. Thus, in three other quadrants, we plot the histograms for the three ideology scores, which measure consistent ideological deviations from Glass Lewis in a particular direction. These figures show that all three scores are concentrated around zero for non-customizers, but are much more dispersed for non-customizers, in line with the patterns in Table 4.

Overall, Figure 2 shows not only that customizers deviate from Glass Lewis more frequently than non-customizers, but also that their deviations are directional, i.e., ideological. Figure A1 in the Online Appendix shows similar results at the institution-level, as well as at the intensive margin: medium- and high-level customizers have larger ideological deviations from Glass Lewis than low-level customizers across all three dimensions. Finally, Panel B of Figure 2 breaks down the customizing funds into those opting for tailored recommendations and those choosing ready-made custom policies. Panel B shows that both groups have strong ideological differences from benchmark recommendations. Ready-made customizers, in particular, exhibit pronounced differences on the ES dimension, demonstrating stronger support for ES proposals.

Next, we formally test the predictive power of ideology scores by including them as independent variables in Table 4 (the absolute value of the ES, governance, and management score in columns one, two, and three, respectively).[16] Each of the three ideology scores is a strong predictor of customization. In the last column, we include all three ideology scores together, and also control for portfolio characteristics analyzed in the first two columns. Each ideology score continues to be strongly statistically and economically significant. Finally, Table A4 of the Online

[16] The sample size is smaller than in the first two columns and varies by specification because we cannot compute the ideology score for all institutions, as it requires the institution to submit a large enough number of votes on the corresponding type of proposals. For example, the SRI score restricts the sample the most because SRI proposals are relatively rare, whereas the management score restricts the sample the least.

Appendix shows that ideological deviations from Glass Lewis, particularly those related to ES issues, also predict customization at the intensive margin, i.e., whether the institution is a medium- or high-level customizer rather than a low-level customizer.

One challenge with studying the relationship between customization and ideology is due to the fact that we proxy for ideology using vote outcomes that may be affected by customization. On the one hand, having a strong ideological difference from the proxy advisor should encourage the fund to become a customizer. On the other hand, there can also be a more mechanical effect: if a fund is a customizer and closely follows the custom recommendations (which may have their own distinct ideology), the fund's votes will systematically differ from benchmark recommendations even if the custom recommendations do not reflect the fund's true ideology. To disentangle the two effects, we recompute each fund's ideology scores using only the votes that were manually submitted by the fund. Manually submitted votes are less likely to be based on pre-populated custom recommendations than auto-submitted votes. Instead, they are likely to reflect the outcome of the fund's active decision-making process, and hence its true ideology.

Using these new ideology scores, we perform two tests.[17] In the first, we study the relationship between manual-voting-based scores and the decision to customize. This relationship is less prone to capturing the mechanical effect of customization than if the scores are based on auto-submitted votes as well. Panel A of Table 5 shows that ideology scores based on manually submitted votes predict funds' decision to customize, in line with the model predictions. The effect is the strongest for the ES and Governance scores. Is it also worth noting that the coefficients are smaller than those in Table 4, possibly indicating that the coefficients in Table 4 partly capture the mechanical effect of customization.[18]

In the second test, we focus on customizers and study whether the custom recommendations they receive capture their true ideology (as reflected in their manually submitted votes). Specifically, for each customizing fund, we compute another set of ideology scores, which are based solely on the fund's auto-submitted votes. As discussed earlier, auto-submitted votes are likely cast according to the pre-populated custom recommendations, and thus the corresponding

[17] The number of observations in these two tests is smaller than in earlier tests because the construction of scores based solely on manually submitted (auto-submitted) ballots requires enough votes that are manually submitted (auto-submitted) by the fund. This limits the number of funds for which these scores can be constructed.

[18] An alternative way to separate the two effects would be to compute each shareholder's ideology score using the shareholder's votes prior to the year when it becomes a customizer, and then test whether those scores predict the customization decision. However, we cannot perform the test because we do not know the exact year when a given shareholder becomes a customizer—only whether it is a customizer in 2022.

ideology scores capture the ideology of custom recommendations (which may not necessarily mirror the fund's true ideology). We then regress each score from auto-submitted votes on the corresponding score from manually submitted votes, with the idea that the latter reflects the fund's true ideology. Panel B of Table 5 presents the results and shows a strong positive relation between the two sets of scores. Table A5 in the Online Appendix further confirms the robustness of this result when analyzing the data at the institution level.

Overall, Table 5 suggests that the results in Table 4 do not simply reflect the mechanical effect of the customizing shareholder following whatever custom recommendations it receives. Instead, they reflect the shareholder's collaboration with the proxy advisor to integrate its unique voting ideology into the custom recommendations. Together, these findings confirm, in line with our theoretical framework, that customization enables shareholders to express their preferences and ideology through the vote, thereby facilitating preference aggregation.

5.2. Customization and attention to voting

Our model predicts that by changing the information shareholders receive from the proxy advisor, customization affects their decision-making process: It decreases the need to devote attention and conduct research on less crucial proposals (substitution) and allows shareholders to focus their attention on the more important and contentious proposals (complementarity). To explore these predictions, we focus on manual voting as a proxy for a shareholder's attention to the vote. In particular, we compute each institution's manual voting rate as the percentage of ballots that were manually submitted by this institution, as opposed to being auto-submitted.

We start our analysis by studying the relation between a fund's manual voting rate and the rate of its deviation from Glass Lewis. The former is defined as the percentage of ballots that were manually submitted by the fund, and the latter as the percentage of ballots on which the fund deviated from benchmark recommendations. Figure 3 plots this relation separately for customizers and non-customizers. On average, across all funds, there is a positive relation between the rate of manual voting and the rate of deviation from the benchmark. This reflects the idea that the easiest and least costly way to follow the proxy advisor's recommendation is to auto-submit the vote (since the pre-populated voting choice in the platform reflects this recommendation). Therefore, manual voting captures an active choice to deviate from the pre-populated recommendations, both for customizing and non-customizing funds.

Importantly, Figure 3 reveals a clear difference between customizers and non-customizers: for any given rate of manual voting, customizers are substantially more likely to deviate from benchmark recommendations than non-customizers. This finding is consistent with the first two motives to customize described in Section 2.2, i.e., with the substitution effect of customization. For a fund that would otherwise follow the benchmark recommendation, customization helps bring the fund's default vote closer to its ideology. For a fund that would otherwise engage in research and manual voting to express its ideology, customization helps achieve the same goal more efficiently: the fund can simply follow the custom recommendation. In other words, customization helps shareholders reduce the error costs of not paying attention, as well as the expenses associated with paying attention.[19]

The substitution effect appears to be particularly strong among funds with low levels of manual voting (e.g., manual voting rates below 10%). For non-customizers, such low manual rates imply predominantly voting in line with the benchmark (their deviation rate is less than 5%), whereas customizers deviate from the benchmark in about 20% of ballots. Figure A2 in the Online Appendix reveals similar patterns at the intensive margin: medium- and high-level customizers deviate from benchmark recommendations even more than low-level customizers. Thus, customizers can achieve higher degrees of deviation without relying as much on manual voting.

To delve deeper into the interaction between customization and attention to voting, we next directly examine the relationship between customization and the propensity to vote manually. In general, this relationship captures not only the treatment effect of customization, but also selection into customization. Specifically, according to our model, funds that care more about voting are more likely to pay attention and conduct independent research. At the same time, such funds are also more likely to customize: If voting is not important to the fund, it does not find it worthwhile to pay the cost of customization (see Proposition 3 in Appendix C). This selection effect can lead to a positive relationship between customization and attention to voting.

In line with the selection effect, Panel A of Figure 4 shows that customizers' manual voting rates tend to be higher than those of non-customizers. This pattern is also apparent in the first column of Table 6 Panel A, which presents a fund-ballot level regression of manual voting on

[19] Our model does not predict complete substitution of independent research for all proposals: there are categories of proposals for which customizers that care about voting choose to conduct further research (see Propositions 2 and 3 in Appendix C). Accordingly, Figure 3 shows that many customizers have high manual voting rates, likely reflecting their case-by-case consideration of proposals for which substitution does not occur.

customization. For each ballot cast by the fund, the outcome variable is whether the ballot was manually submitted, and the explanatory variable is whether the fund is a customizer. Standard errors are clustered at the fund level and ballot level; we also include year fixed effects. The coefficient on customization is positive, consistent with selection playing a large role.

In the remainder of this section, we examine the substitution and complementarity effects by trying to isolate the role of unobserved factors, such as the importance of voting to the shareholder, in several ways. First, we rely on the idea that customization decisions are made at the fund family level and explore variation in customization within a given family. Second, we leverage the model predictions and (i) analyze a special category of customizers for which, based on the model, the selection effect is likely to be less pronounced, and (ii) study the differential sensitivity of customizers and non-customizers' attention to voting to important proposals.

Within-institution analysis

Our first test examines differences across funds within the same fund family. As discussed in Section 3, while funds within the same institution generally have the same customization policy, there are several institutions in our sample that have both non-customizing and customizing funds (Table A1 in the Online Appendix). In Columns 2 through 4 of Table 6 Panel A, we include institution fixed effects to exploit this within-family variation. Effectively, this allows us to control for any institution-level omitted variables, such as the importance of voting to the institution. The coefficient on customization now changes sign: it is negative and economically large. Compared to a fund within the same fund family that subscribes to benchmark recommendations, a customizing fund votes manually with a 14 percentage point lower probability, a 40% reduction relative to the sample mean. In column 3, we add meeting fixed effects, and in column 4, we add fund-level and institution-level portfolio characteristics. Column 4 shows that funds holding stakes in a larger number of firms are less likely to vote manually, consistent with the idea that it is difficult to pay attention to many firms at once (in line with Hu, Malenko, and Zytnick, 2023), and that funds with larger stakes are more likely to pay attention to voting (in line with Iliev, Kalodimos, and Lowry, 2021). However, the coefficient on customization remains negative and statistically and economically significant.

While we caution against putting too much weight on this result as it is based on only a few institutions, the negative coefficient aligns with the substitution effect. Moreover, it is consistent with the institutional dynamics of shareholder voting. Specifically, institutions typically

coordinate their voting policies and votes through centralized stewardship teams (e.g., Morgan et al., 2011; Choi, Fisch, and Kahan, 2013). Large institutions have dedicated stewardship teams that formulate policies, conduct independent research on proposals, and ultimately decide how to vote, which is then the default vote of most funds in the institution. An institution whose ideology is close to the proxy advisor's ideology may opt to receive benchmark recommendations. These recommendations, alongside the accompanying research reports, could offer sufficient information for its stewardship team to make informed voting decisions. However, if one or two funds within such an institution has a different ideology from most other funds, it could be too costly for the stewardship team to conduct fund-specific research and provide separate recommendations for this fund. Instead, consistent with the substitution argument, it could be optimal to subscribe to custom recommendations for this fund alone. Then, non-customizing funds would often vote manually, according to the stewardship team's recommendations, whereas the customizing fund would auto-submit according to the prepopulated custom recommendations. In line with this hypothesis, Table A1 Panel B in the Online Appendix shows that for most institutions that have both non-customizing and customizing funds, the majority of their funds are non-customizers, and only a minority are customizers.[20]

Ready-made customizers

Our second test focuses on a subset of customizers for which, according to the model predictions, the selection effect is less likely to result in a positive association between customization and manual voting. Specifically, we focus on ready-made customizers—funds that select their custom policy from a set of pre-determined policies developed by the proxy advisor and offered as-is (e.g., "ESG" or "Climate"). Such ready-made customization should be easier and cheaper than tailored customization for two reasons. First, based on our conversations with Glass Lewis, ready-made recommendations come with lower fees than recommendations tailored to the shareholder, as they do not require any additional work from the proxy advisor. Second, the shareholder does not need to incur the costs of developing its own voting policy and working with the proxy advisor to incorporate it into custom recommendations— it can simply follow the policy already developed by the proxy advisor. The smaller expenses associated with ready-made customization imply, in

[20] For two institutions in Panel B of Table A1, the composition is different: the majority of their funds are customizers and only a minority are non-customizers. In Table A6 of the Online Appendix, we repeat the analysis in Table 6 Panel A, but excluding these two institutions, and show that the results remain robust.

the context of our model, that it will be chosen by shareholders who place less emphasis on voting but still have a strong ideological stance. Thus, if we focus on ready-made customizers only, the likelihood of omitted variables (such as the importance of voting for the fund) driving a positive association between manual voting and customization is reduced (see Section C.4.4 of the Appendix for more details).

Motivated by this argument, we repeat the analysis in Panels A of Figure 4 and Table 6 but restricting the sample to non-customizers and ready-made customizers (excluding tailored customizers). Panel B of Figure 4 shows that the higher manual voting rates of customizers observed in Panel A are entirely driven by tailored customizers. In contrast, the majority of ready-made customizers consistently auto-submit their votes, doing so more frequently than the average non-customizer. Accordingly, the first column of Table 6 Panel B shows that the coefficient in the regression of manual voting on customization now becomes strongly negative. It remains negative after including meeting fixed effects, year and institution fixed effects, as well as fund-level and institution-level portfolio characteristics (columns 2–4).[21]

This result is consistent with the idea that among ready-made customizers, customization plays a substitution role. Customization enables these funds to avoid the expenses they would need to incur to vote in line with their ideology, i.e., the expenses associated with paying attention to the vote and acquiring information about the characteristics of the proposal they care about (e.g., ES aspects). At the same time, customization allows such funds to reduce the error costs of simply following benchmark recommendations and not expressing their ideological positions through the vote: As Table 2 and Panel B of Figure 2 show, ready-made custom recommendations are very different from benchmark recommendations and are quite ideological. Given the relatively small stakes of ready-made customizers and the large number of firms in their portfolios (Table 3 Panel B), customization appears a cost-effective solution to the difficulty of paying attention to multiple firms at once, which such funds may encounter.

The analysis of ready-made customizers is particularly relevant given the recent trend toward pass-through voting (Fisch and Schwartz, 2023; Malenko and Malenko, 2023). According to BlackRock (2022), many institutional clients that opt to stop delegating their votes to BlackRock

[21] In Table A6 Panel C of the Online Appendix, we further verify that this result is not solely driven by within-institution variation. Likewise, it is useful to verify that the within-institution results in Table 6 Panel A are not solely driven by ready-made funds and also hold for tailored funds. We confirm this in Table A6 Panel B in the Online Appendix, where we repeat the analysis in Table 6 Panel A but excluding all ready-made funds from the sample.

and instead vote themselves, do so by adopting one of the ready-made policies. Our results suggest that the presence of ready-made customization can facilitate pass-through voting by allowing shareholders to vote in line with their ideologies without incurring significant costs.

Complementarity effect

Our model suggests that customization enables shareholders to concentrate their attention on proposals where their research efforts are most cost-effective. As a result, while customizers pay less attention than non-customizers to less important proposals (substitution), they pay more attention than non-customizers to more important and contentious proposals (complementarity). The key implication of this result is the differential sensitivity of customizers and non-customizers to the presence of important proposals on the ballot: customizers' research and attention should be more sensitive than those of non-customizers. Therefore, to test the complementarity effect, we regress our indicator for manual voting (which proxies for attention to voting) on the interaction between the fund's customization status and the presence of an important proposal on the ballot.

Following the literature, we identify several types of meetings that can be viewed as important or contentious. The first are meetings for which one of the proxy advisors (ISS or Glass Lewis) recommends voting against management on at least one of the proposals (e.g., Brochet, Ferri, and Miller, 2021). The second are meetings connected to an activist investor (e.g., Brav et al., 2023), and the third are special meetings (e.g., Li, Maug, and Schwartz-Ziv, 2022). In Hu, Malenko, and Zytnick (2023), we show that each of these meeting categories is associated with higher manual voting rates among shareholders, supporting the idea that these meetings are viewed as more important. However, the complementarity effect predicts that this heightened attentiveness of shareholders to contentious meetings should be especially pronounced among customizers.

Table 7 presents evidence consistent with the model prediction: compared to non-customizers, the manual voting rates of customizers are more sensitive to important meetings than those of non-customizers. This greater sensitivity is observed for all categories of important meetings and remains robust across multiple specifications: in the first column, we only include meeting fixed effects; in the second, we add fund-year fixed effects, and in the third, most stringent specification, we further add fund-firm fixed effects. For example, according to column 3, a customizer's propensity to vote manually when ISS (Glass Lewis) opposes management increases by 2 (4.5) percentage points more than it does for a non-customizer, corresponding to a 6% (13%) increase relative to the sample mean. The distinction in sensitivity between customizers and non-

customizers is even more pronounced for special meetings and meetings involving proxy contests. Furthermore, in Table A7 of the Online Appendix, we show that the complementarity effect is also observed at the intensive margin: the attention of medium- and high-level customizers is more sensitive to important meetings than for low-level customizers.

Discussion

Collectively, the findings presented in this section align with the three motives for customization discussed earlier. Table 7 supports the notion that customization helps steer the fund's attention towards proposals that are particularly important (motive 3 in Section 2.2). Meanwhile, Figure 3 and Table 6 support the substitution channel: Customization enables the fund to express its preferences and thereby decrease the error costs of not paying attention (motive 1 in Section 2.2), as well as to reduce the expenses associated with paying attention (motive 2 in Section 2.2). Note also that while motives 1 and 2 both suggest a substitution between customization and attention to voting, distinguishing between these two motives is challenging because we do not observe the counterfactual. If the fund did not customize, would it follow benchmark recommendations and diverge from its ideology? Or would it incur the expenses associated with paying attention, to vote in line with its preferences and beliefs? Distinguishing between these two motives could require shocks that increase customization costs for a random subset of customizers (prompting them to stop customizing) and observing how they respond, and we leave this question for future research.

6. Conclusion and policy implications

This paper presents the first empirical analysis of custom proxy voting advice. We find that customization is widespread and that custom recommendations differ significantly from benchmark recommendations. Using a theoretical framework and proprietary data from Glass Lewis, we show that customization serves two purposes. First, it aids shareholders in expressing their preferences, such as those related to ES issues, through voting. Second, it streamlines shareholders' decision-making process by decreasing the need to pay attention to each individual proposal, enabling shareholders to concentrate their research efforts on the more crucial and contentious matters.

Our results offer a new perspective on institutional investor decision-making and the role of proxy advisors: we argue that most funds' use of proxy advisors is best described by a two-stage decision-making process. In the first stage, investors work with the proxy advisor to set their

custom voting policies, and in the second stage, they decide whether to follow custom recommendations or to conduct additional research.

Our paper has important implications for the continued policy debates surrounding institutional voting and proxy advisors. As legal scholars have long recognized, there are reasons to question the incentives of asset managers to engage in stewardship (Black, 1990; Coffee, 1991; Rock, 1991; Gilson and Gordon, 2013; Bebchuk and Hirst, 2019), and even their use of proxy advisors as little more than a tool for complying with legal obligations to vote (Rock, 2018). However, recent efforts to impede the use of proxy advisory services by lawmakers (SEC, 2019; HFSC, 2023) may be misplaced, as any regulatory actions should account for the growing use of customization. For example, policymakers often cite the concentration of proxy advisors as a reason for concern, given the perceived excess influence of a single recommendation. Our paper shows that, due to the widespread use of custom recommendations, proxy advisors provide far more than one recommendation on a given proposal. More generally, we suggest moving away from exclusively focusing on benchmark recommendations.

Policymakers have also considered banning pre-populated voting choices and auto-submission of the votes, to encourage shareholders to deliberate before casting votes (SEC, 2019). Our findings imply that regulators should carefully consider the potential costs of limiting auto-submission, as such limitations could decrease the efficiency of voting outcomes. Such limitations could discourage the use of customization, thereby impeding the effective aggregation of shareholders' preferences and leading to increased reliance on benchmark recommendations. Moreover, they could paradoxically lead to less independent research: the increased costs of voting and the need to manually review and submit each proposal could diminish shareholders' ability to concentrate their research efforts on the most critical issues.

Overall, our paper implies that the existing system might function better than its critics have suggested. Given that it is not feasible for institutional investors to devote full attention to every proposal for each firm in their portfolios, the approach of devising a custom voting policy tailored to their specific preferences, outsourcing its application for routine proposals to proxy advisors, and reserving attention for important proposals could offer a useful practical solution. Effectively, institutional investors appear to 'self-regulate' their use of proxy advisors.

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Appendix A: Figures and tables

Figure 1. Frequency of customization

This figure presents pie charts demonstrating the degree to which funds and institutions use custom recommendations. Panel A is at the fund level; Panel B is at the fund-ballot level; Panel C is at the institution-level; Panel D is at the institution-ballot level. The institution-ballot level pie chart aggregates all ballots of the institution's funds for a particular meeting. Panels A and B separate customizing funds into those that receive tailored recommendations and those that receive ready-made recommendations. Panels C and D separate customizing institutions into those that have low, medium, or high levels of customization, as designated by our data provider.

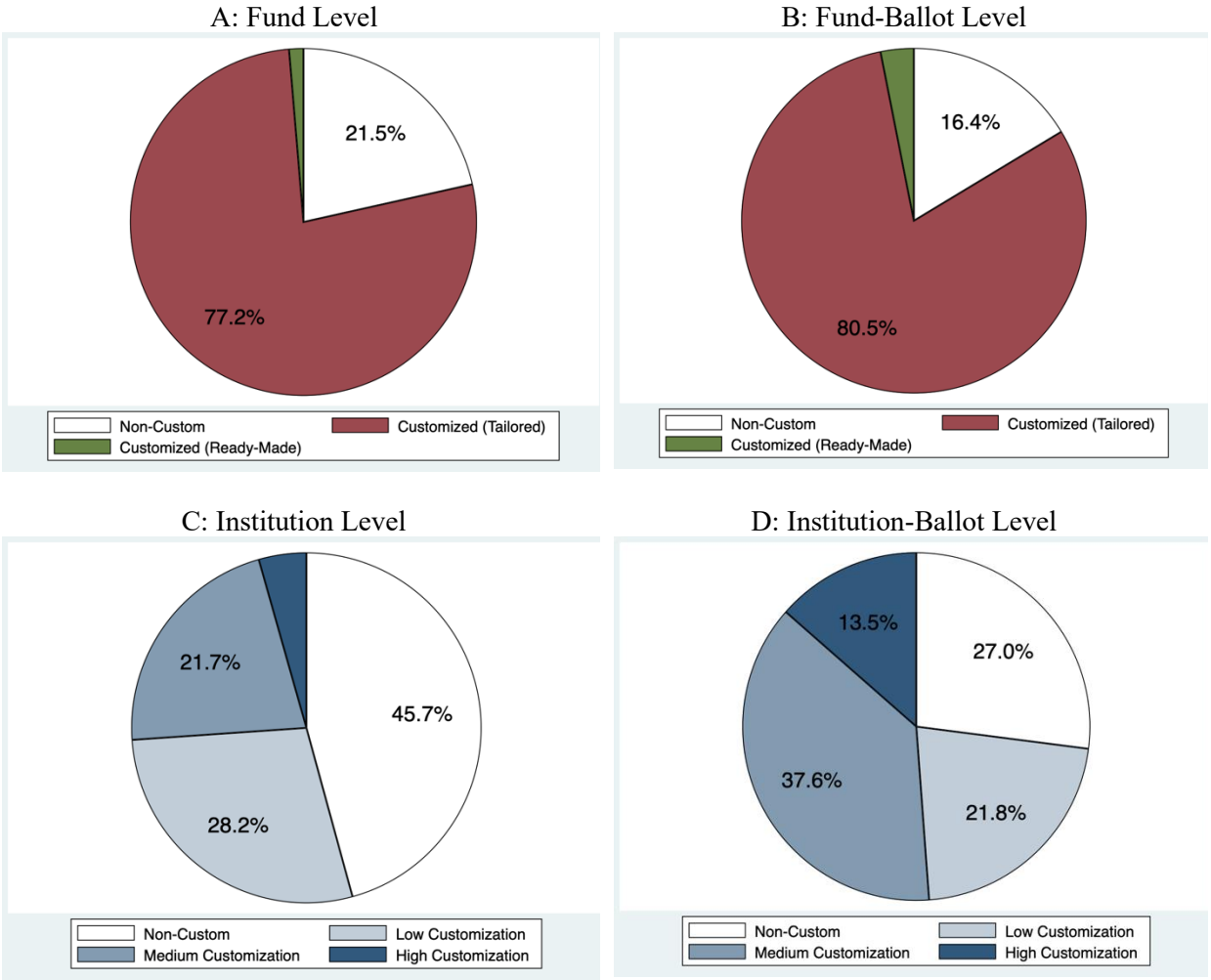
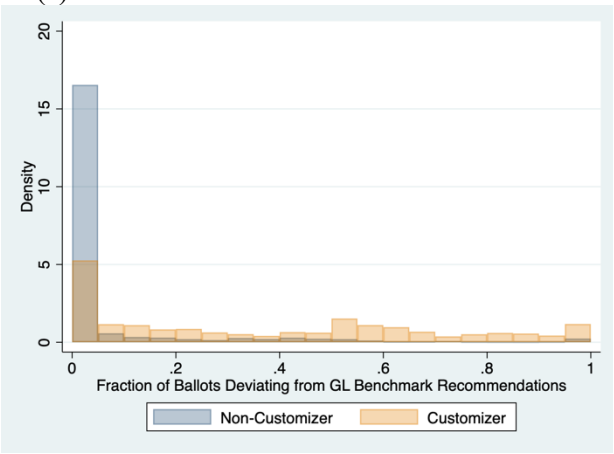


Figure 2. Ideology scores by customization status

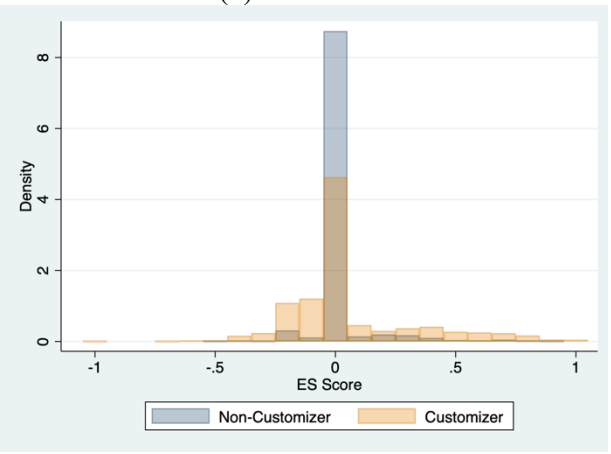
This figure presents histograms of ideology at the fund level. The upper left quadrant presents each fund's deviation rate from Glass Lewis, defined as the fraction of the fund's ballots that disagree with Glass Lewis's recommendations on at least one proposal. The other three quadrants present funds' ES scores, governance scores, and management scores, respectively. The ideology scores are defined as the fund's fraction of votes in favor of proposals of a given type minus Glass Lewis's fraction of recommendations in favor of such proposals, aggregated to the ballot level; the detailed methodology on their construction is described in Appendix B. Panel A compares customizers and non-customizers. Panel B restricts the sample to customizing funds and compares those subscribing to ready-made custom recommendations and those subscribing to tailored custom recommendations.

Panel A: Comparison between customizers and non-customizers

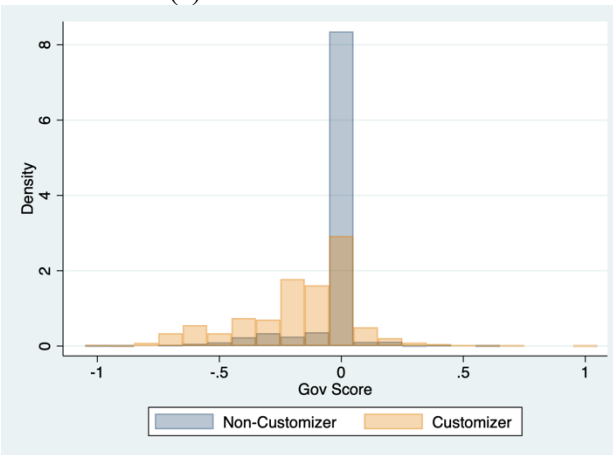
(a) Overall Deviation Rate from Glass Lewis



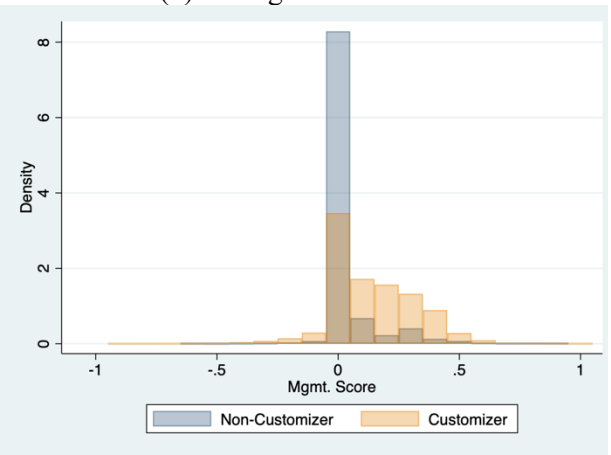
(b) ES scores



(c) Governance scores

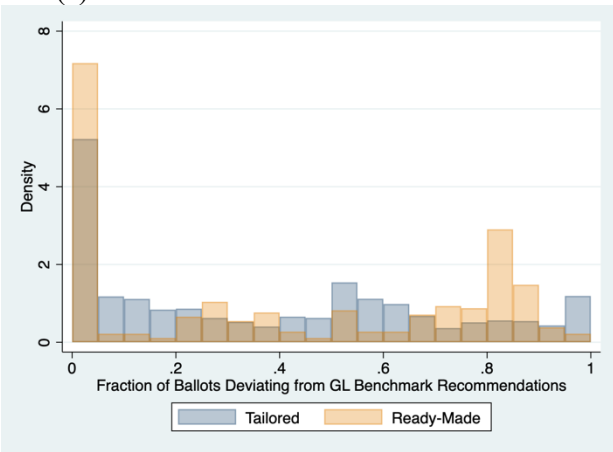


(d) Management scores

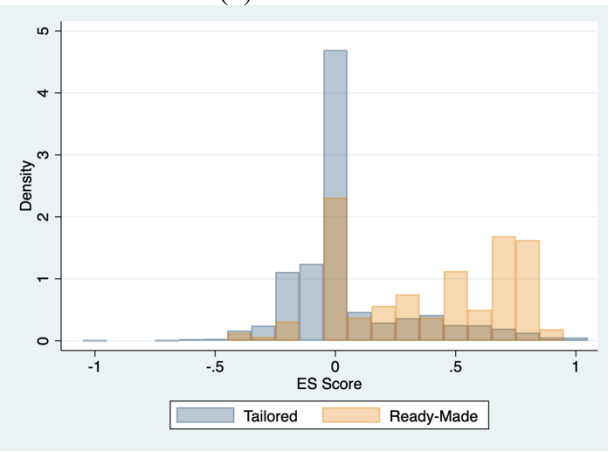


Panel B: Comparison between tailored and ready-made customizers

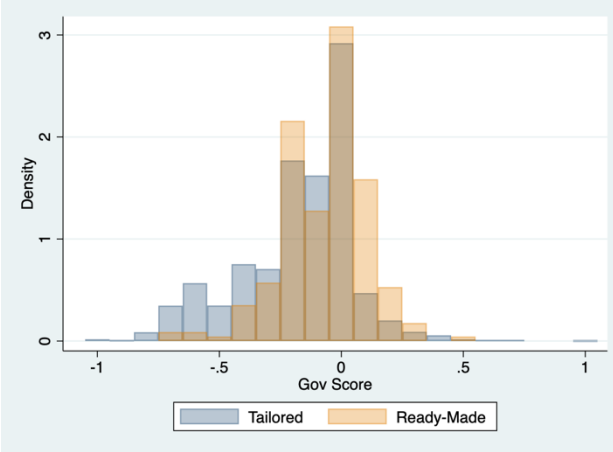
(a) Overall Deviation Rate from Glass Lewis



(b) ES scores



(c) Governance scores



(d) Management scores

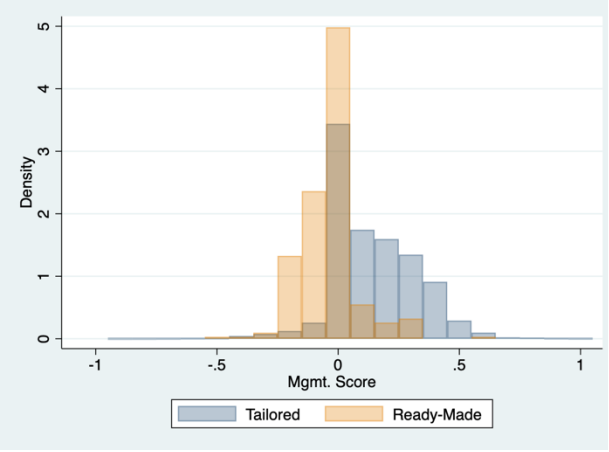


Figure 3. Manual voting rate and deviations from the benchmark

This figure presents binned scatterplots and lines of best fit of funds' rate of deviation from Glass Lewis (on the y-axis) and funds' rate of manual voting (on the x-axis), separately for customizing and non-customizing funds. A fund's rate of deviation is defined as the fraction of its ballots in which the fund's vote on at least one proposal does not follow Glass Lewis's benchmark recommendation. A fund's rate of manual voting is defined as the fraction of its ballots that are not submitted on the fund's auto-submission date or exactly four days before the meeting (or six days before a Monday meeting). Binning is conducted by dividing the x-axis into ventiles, then taking the mean of the y-axis variable for each ventile. The line of best fit represents the results of a univariate regression at the fund level.

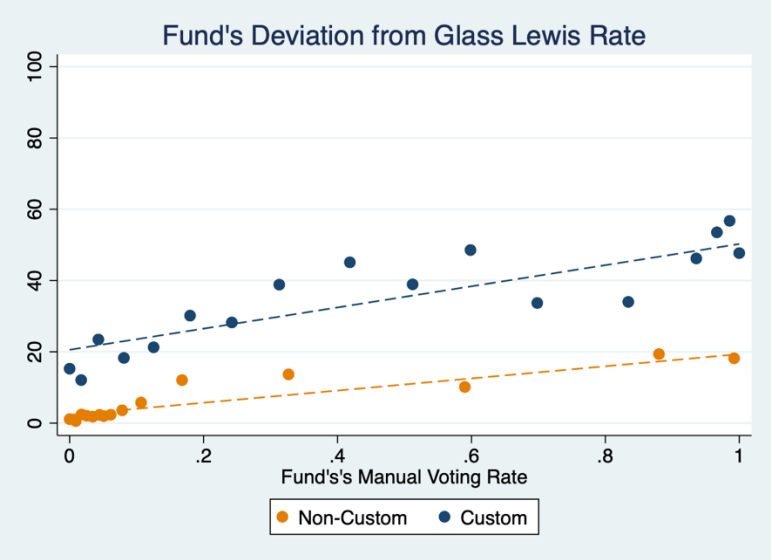
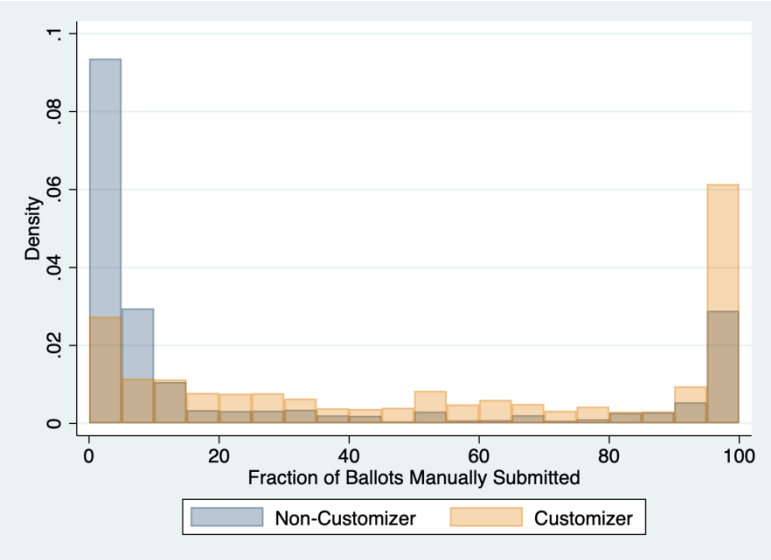


Figure 4. Customization and manual voting rates

This figure presents histograms of manual voting rates at the fund level. A fund's rate of manual voting is defined as the fraction of its ballots that are not submitted on the fund's auto-submission date or exactly four days before the meeting (or six days before a Monday meeting). Panel A compares funds that receive custom and non-custom recommendations; Panel B limits the sample to funds that are either non-customizers or that have ready-made customization and compares these two categories.

Panel A: Comparison between customizers and non-customizers



Panel B: Comparison between ready-made customizers and non-customizers

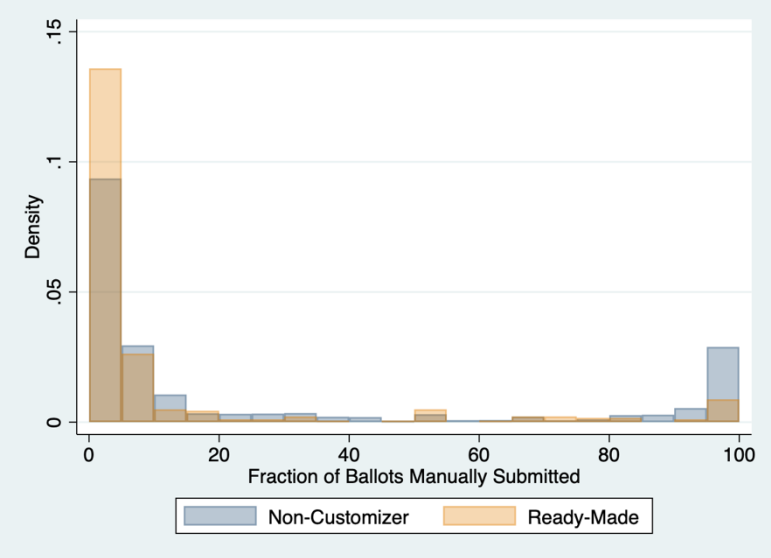


Table 1. Summary statistics

This table presents summary statistics at the fund, fund-ballot, institution, and institution-ballot levels. Total AUM, mean stake size, and number of stakes are calculated for each fund for each year, then averaged across years for the fund. Total AUM and mean stake size are defined as the sum of and average of the value of the fund's stakes. Number of stakes is defined as the number of distinct companies held by the fund. A fund's ballot deviates from Glass Lewis benchmark recommendations if it deviates from at least one benchmark recommendation on the ballot. A fund's ballot is defined as being cast manually if it is not submitted on the fund's auto-submission date or exactly four days before the meeting (or six days before a Monday meeting). Institution-level variables are defined similarly, but aggregated across funds within an institution.

Panel A: Fund-level

	mean	sd	p25	p50	p75	count
Fund Level						
Fund Total AUM ($mil)	87.48	943.92	0.35	2.61	23.13	25,724
Fund Mean Stake Size ($mil)	1.86	11.00	0.02	0.13	0.82	25,724
Fund Number of Stakes	45.90	127.42	5.00	23.50	43.00	28,070
Fund-Ballot Level						
Fraction Deviating from GL Benchmark Recommendations	30.31					5,105,024
Fraction Manually Voted	36.01					5,106,359

Panel B: Institution-level

	mean	sd	p25	p50	p75	count
Institution Level						
Institution Total AUM ($mil)	5286.01	18192.22	98.36	470.13	2750.77	341
Institution Mean Stake Size ($mil)	12.49	30.45	0.86	3.16	10.67	341
Institution Number of Stakes	455.59	665.60	45.00	174.14	531.00	341
Institution Number of Funds	43.16	123.49	3.67	8.37	28.14	316
Institution-Ballot Level						
Fraction Deviating from GL Benchmark Recommendations	26.74					872,964
Fraction Manually Voted	30.51					873,283

Table 2. Differences between benchmark and custom recommendations

This table presents the average rate of following Glass Lewis's benchmark recommendations, at the fund-ballot level. The outcome variable equals one if the fund's ballot fully follows Glass Lewis's recommendations and zero if it deviates on at least one proposal. The sample is restricted to include only auto-submitted votes. In Panel A, Columns 1 and 2 present averages for non-customizing and customizing funds, respectively. In Panel B, the sample is restricted to customizing funds, and Columns 1 and 2 present averages for funds that receive tailored and ready-made custom recommendations, respectively. In both panels, Column 3 presents the difference. Standard errors are clustered at the meeting and fund level. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A: Comparison between custom and benchmark recommendations

	(1) Non-Custom	(2) Custom	(3) Difference
Ballots following Glass Lewis benchmark recommendations	95.43	74.46	-20.97***
			(1.16)
N	620,112	2,476,316	3,096,428

Panel B: Comparison between tailored and ready-made recommendations

	(1) Ready-Made	(2) Tailored	(3) Difference
Ballots following Glass Lewis benchmark recommendations	50.54	75.94	25.40***
			(3.84)
N	144,419	2,331,897	2,476,316

Table 3. Investor characteristics by customization status

This table presents summary statistics, at the fund level, split out by customization status. Total AUM, mean stake size, and number of stakes are calculated for each fund for each year, then averaged across years for the fund. Total AUM and mean stake size are defined as the sum of and average of the value of the fund's stakes in portfolio companies. Number of stakes is defined as the number of distinct companies held by the fund. Ideology scores are defined as the fund's fraction of votes in favor of proposals of a given type minus Glass Lewis's fraction of recommendations in favor of such proposals, aggregated to the ballot level; the detailed methodology on their construction is described in Appendix B. Panel A compares customizers and non-customizers. Panel A compares non-customizing and customizing funds. Panel B compares funds with tailored policies and ready-made custom policies.

Panel A: Comparison between customizers and non-customizers

	Customized	mean	sd	p25	p50	p75	count
Fund Total AUM ($mil)	No	48.47	280.51	0.21	1.30	12.68	5,093
	Yes	97.28	1060.06	0.40	3.04	26.17	19,953
Fund Mean Stake Size ($mil)	No	1.63	7.16	0.01	0.08	0.72	5,093
	Yes	1.93	11.92	0.03	0.14	0.85	19,953
Fund Number of Stakes	No	35.22	82.91	2.50	16.67	33.71	5,877
	Yes	48.53	135.88	6.15	25.50	44.23	21,448
Fund ES Score	No	0.02	0.11	0.00	0.00	0.00	956
	Yes	0.06	0.26	-0.08	0.00	0.08	6,187
Fund Gov. Score	No	-0.04	0.12	0.00	0.00	0.00	1,636
	Yes	-0.17	0.24	-0.29	-0.12	0.00	8,653
Fund Mgmt. Score	No	0.04	0.11	0.00	0.00	0.02	4,003
	Yes	0.14	0.18	0.00	0.10	0.26	16,482

Panel B: Comparison between tailored and ready-made customizers

	Type	mean	sd	p25	p50	p75	count
Fund Total AUM ($mil)	Tailored	97.68	1068.32	0.39	2.95	25.92	19,606
	Ready-Made	74.67	360.42	2.29	9.86	36.58	347
Fund Mean Stake Size ($mil)	Tailored	1.94	12.01	0.03	0.14	0.85	19,606
	Ready-Made	1.12	3.71	0.05	0.22	0.75	347
Fund Number of Stakes	Tailored	47.82	134.56	6.00	25.29	43.67	21,083
	Ready-Made	89.88	193.86	19.67	53.14	102.14	365
Fund ES Score	Tailored	0.05	0.25	-0.09	0.00	0.04	6,027
	Ready-Made	0.39	0.34	0.00	0.45	0.70	160
Fund Gov. Score	Tailored	-0.17	0.24	-0.30	-0.12	0.00	8,426
	Ready-Made	-0.07	0.18	-0.20	0.00	0.03	227
Fund Mgmt. Score	Tailored	0.14	0.18	0.00	0.11	0.26	16,173
	Ready-Made	-0.03	0.12	-0.11	-0.01	0.00	309

Table 4. Predictors of customization

This table presents results of regression estimations at the fund level. The outcome variable in both panels is whether the fund is a customizer. Mean stake size and number of stakes are calculated for each fund for each year, then averaged across years for the fund. Mean stake size is defined as the average of the value of the fund's stakes. Number of stakes is defined as the number of distinct companies held by the fund. The ideology scores are defined as the fund's fraction of votes in favor of proposals of a given type minus Glass Lewis's fraction of recommendations in favor of such proposals, aggregated to the ballot level; the detailed methodology on their construction is described in Appendix B. Robust standard errors are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Dep. variable: Custom	(1)	(2)	(3)	(4)	(5)	(6)
Log(Fund Number of Stakes)	2.03***	1.51***				0.48
	(0.18)	(0.16)				(0.48)
Log(Fund Mean Stake Size)	1.05***	0.34***				-0.04
	(0.11)	(0.10)				(0.18)
Log(Institution Number of Stakes)		8.21***				5.29***
		(0.21)				(0.45)
Log(Institution Mean Stake Size)		10.13***				9.11***
		(0.21)				(0.46)
Abs(ES Score)			33.21***			31.33***
			(1.44)			(1.55)
Abs(Gov Score)				51.03***		14.66***
				(1.52)		(1.58)
Abs(Mgmt Score)					78.77***	7.26***
					(1.70)	(3.21)
Constant	61.19***	-147.35***	81.87***	74.97***	69.62***	-109.92***
	(1.41)	(3.73)	(0.54)	(0.55)	(0.43)	(7.89)
Mean dep. variable	79.66	79.66	86.62	84.10	80.46	86.17
N	25,040	25,040	7,143	10,289	20,485	6,494
R^2	0.01	0.21	0.04	0.08	0.09	0.24

Table 5. Customization decisions and ideology scores from manually submitted ballots

This table presents fund-level regressions studying the relation between customization decisions and ideology scores from manually submitted ballots. The ideology scores are defined as the fund's fraction of votes in favor of proposals of a given type minus Glass Lewis's fraction of recommendations in favor of such proposals, aggregated to the ballot level; the detailed methodology on their construction is described in Appendix B. In Panel A, the outcome variable is whether the fund is a customizer, and the explanatory variable is the fund's absolute value of the corresponding ideology score, calculated using solely its manually submitted ballots. In Panel B, the outcome variable is the fund's ideology score calculated using solely its auto-submitted ballots, and the explanatory variable is the fund's ideology score calculated using solely its manually submitted ballots. Robust standard errors are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A: Predicting customization using scores from manually submitted ballots

Dep. variable: Custom	(1)	(2)	(3)
Abs(ES Score Manual submissions)	9.29***		
	(1.24)		
Abs(Gov Score Manual submissions)		21.76***	
		(1.56)	
Abs(Mgmt Score Manual submissions)			8.85***
			(1.35)
Constant	92.63***	85.75***	85.99***
	(0.51)	(0.71)	(0.45)
Mean dep. variable	94.15	91.23	88.14
N	3,763	4,764	14,092
R^2	0.01	0.03	0.00

Panel B: Scores from auto-submitted vs. manually submitted ballots for customizers

	(1) ES Score Auto-submissions	(2) Gov Score Auto-submissions	(3) Mgmt Score Auto-submissions
ES Score Manual submissions	0.29***		
	(0.02)		
Gov Score Manual submissions		0.41***	
		(0.03)	
Mgmt Score Manual submissions			0.16***
			(0.01)
Constant	0.15***	-0.10***	0.04***
	(0.01)	(0.01)	(0.00)
N	1,031	1,688	9,204
R^2	0.12	0.18	0.05

Table 6. Relation between manual voting rates and customization

This table presents results of regression estimations at the fund-ballot level. The outcome variable in each panel is whether a given fund ballot is manually submitted. In Panel A, column 1 includes year fixed effects; column 2 includes year and institution fixed effects, and columns 3–4 include meeting and institution fixed effects. Panel B limits the sample to funds that are either non-customizers or that have ready-made customization. Column 1 of Panel B includes year fixed effects, columns 2–3 include meeting fixed effects, column 4 includes year and institution fixed effects, and columns 5–6 include meeting and institution fixed effects. Mean stake size and number of stakes are calculated for each fund for each year. Mean stake size is defined as the average of the value of the fund's stakes. Number of stakes is defined as the number of distinct companies held by the fund. Institution mean stake size and number of stakes are analogously defined. Standard errors are clustered at the fund and ballot level. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A: Manual voting rates for customizers compared to non-customizers

Dep. Variable: Manual Submission	(1)	(2)	(3)	(4)
Custom	16.43***	-14.02***	-11.59***	-11.11***
	(1.55)	(1.70)	(1.84)	(1.89)
Log(Fund Number of Stakes)				-1.05***
				(0.18)
Log(Fund Mean Stake Size)				0.14
				(0.09)
Log(Institution Number of Stakes)				0.44
				(0.70)
Log(Institution Mean Stake Size)				2.47***
				(0.72)
Constant	22.04***	47.53***	45.49***	5.82
	(1.23)	(1.46)	(1.56)	(13.32)
Mean dep. variable	35.79	35.79	35.79	35.78
N	4,823,691	4,823,684	4,821,242	4,819,347
R^2	0.03	0.48	0.58	0.58
Fixed Effects	Year	Year and Inst.	Meeting and Inst.	Meeting and Inst.

Panel B: Manual voting rates for ready-made customizers compared to non-customizers

Dep. Variable: Manual Submission	(1)	(2)	(3)	(4)	(5)	(6)
Ready-Made	-17.47***	-16.90***	-17.36***	-14.68***	-11.15***	-10.93***
	(1.31)	(1.57)	(2.03)	(1.90)	(1.63)	(1.63)
Log(Fund Number of Stakes)			-0.06			-1.01***
			(0.67)			(0.24)
Log(Fund Mean Stake Size)			1.23***			0.05
			(0.45)			(0.11)
Log(Institution Number of Stakes)			-5.67***			-0.24
			(0.84)			(1.05)
Log(Institution Mean Stake Size)			5.32***			1.19
			(1.81)			(1.26)
Constant	21.16***	21.08***	-37.28	20.71***	20.15***	8.05
	(1.22)	(1.11)	(31.95)	(0.47)	(0.29)	(21.19)
Mean dep. variable	18.35	18.36	18.34	18.35	18.36	18.34
N	936,496	933,270	932,775	936,493	933,267	932,771
R^2	0.04	0.32	0.40	0.59	0.76	0.76
Fixed Effects	Year	Meeting	Meeting	Year and Inst.	Meeting and Inst.	Meeting and Inst.

Table 7. Sensitivity of manual voting rates to important proposals

This table presents results of regression estimations at the fund-ballot level. The outcome variable is whether a given fund ballot is manually submitted. The key outcome variables are interactions of meeting-level variables with the indicator for customization. Column 1 includes meeting fixed effects; column 2 includes meeting and fund-year fixed effects; and column 3 includes meeting, fund-year, and fund-firm fixed effects. Standard errors are clustered at the fund and ballot level. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Dep. Variable: Manual Submission	(1)	(2)	(3)
Custom	6.90***		
	(1.78)		
ISS Opposes Mgmt x Custom	5.67***	2.21***	1.99***
	(0.83)	(0.45)	(0.46)
GL Opposes Mgmt x Custom	7.54***	5.68***	4.48***
	(0.76)	(0.49)	(0.54)
Special Meeting x Custom	11.07***	10.20***	10.97***
	(1.79)	(1.34)	(1.34)
Activist Connected to Meeting x Custom	12.64***	6.90***	3.41***
	(1.63)	(0.94)	(0.85)
Intercept	23.05***	31.41***	31.53***
	(1.28)	(0.27)	(0.29)
Mean dep. variable	35.67	35.66	34.92
N	4,554,262	4,548,139	3,433,767
R^2	0.17	0.68	0.81
Fixed Effects	Meeting	Meeting and Fund-Year	Meeting, Fund-Year, and Fund-Firm

Appendix B: Construction of ideology scores

Recall that we do not observe funds' votes on individual proposals. However, we impute Glass Lewis's benchmark recommendations using Zytnick (2024)'s imputations and, for each fund-ballot, we observe whether the ballot deviated from Glass Lewis's benchmark recommendations on any proposal. Using this information, we construct each fund's ideology scores as follows.

To calculate the ***ES score***, we limit the set of shareholder meetings to those where (i) Glass Lewis (through its benchmark recommendations) supports all management proposals; (ii) there are no governance shareholder proposals on the ballot, and (iii) there is at least one ES shareholder proposal on the ballot. In such meetings, whether a fund-ballot deviates from benchmark recommendations is likely to reflect the fund's stance on ES proposals on the ballot. We further limit the set of meetings to those where Glass Lewis's benchmark recommendations are not split on ES issues, i.e., they are either in favor of *all* ES proposals (we call this set $M_{support\ ES}$) or against *all* ES proposals on the ballot (we call this set $M_{oppose\ ES}$). Next, for any fund, let $N_{support\ ES}$ ($N_{oppose\ ES}$) be the total number of meetings from the set $M_{support\ ES}$ ($M_{oppose\ ES}$) in which the fund casts a vote, and let $N^{follow}_{support\ ES}$ ($N^{follow}_{oppose\ ES}$) be the number of such meetings where the fund follows Glass Lewis's benchmark ballot.[22]

We can then measure the fund's support rate for ES proposals as

$$Fund\ Support\ Rate_{ES} = \frac{N^{follow}_{support\ ES} + (N_{oppose\ ES} - N^{follow}_{oppose\ ES})}{N_{support\ ES} + N_{oppose\ ES}}.$$

Intuitively, the numerator captures the number of meetings in which the fund supported ES proposals on the ballot. The first term in the numerator is the number of meetings in which Glass Lewis supported all ES proposals and the fund followed Glass Lewis. The second term in the numerator is the number of meetings in which Glass Lewis opposed all ES proposals but the fund deviated from Glass Lewis (likely to support ES proposals). Because the denominator measures the total number of meetings in which the fund cast votes on ES proposals, the ratio captures the fund's ES stance.

Similarly, we measure Glass Lewis's support rate for ES proposals as

$$GL\ Support\ Rate_{ES} = \frac{N_{support\ ES}}{N_{support\ ES} + N_{oppose\ ES}}.$$

We then calculate the fund's ES score as the difference between the fund's support for ES proposals and the Glass Lewis's support for ES proposals:

[22] To reduce the noise, we only calculate the ES score for funds for which $N_{support\ ES}+N_{oppose\ ES} \geq 10$.

$$\theta_{ES} = Fund\ Support\ Rate_{ES} - GL\ Support\ Rate_{ES}.$$

For example, a score close to 0 implies that the fund's support rate for ES proposals is similar to that of Glass Lewis's, i.e., that their ES ideologies are similar. A positive (negative) score implies that the fund is consistently more (less) supportive of ES proposals than Glass Lewis.

To calculate the ***Governance score***, we follow a similar procedure, except that in the first step, we restrict the set of meetings to those with no ES shareholder proposals and at least one governance shareholder proposal. Finally, to calculate the ***Management score***, we again follow a similar procedure, this time restricting the set of meetings to those with no shareholder proposals.

We similarly calculate institution-level ideology scores by first averaging the votes across an institution's funds for each pairing of institution and meeting, then calculating the institution's ideology score as we did for the funds.

Appendix C: Model

This appendix describes the setup of our model and presents the analysis and main results. The proofs of the results are relegated to Section III of the Online Appendix.

C.1 Setup

Consider a fund that owns N firms and votes on a proposal in each of the firms. In any given firm, the fund's value if the proposal is rejected is 0. If the proposal is accepted, the fund's value is

$$(X + \beta Y)s,$$

where $X \in \{-1,1\}$ and $Y \in \{0,1\}$ are unknown, independent of each other, characteristics of the proposal, with $\Pr(X = 1) = \Pr(Y = 1) = \frac{1}{2}$. The variables X and Y are independent of the corresponding variables at other firms, i.e., the fund's voting decisions are independent across firms. We can think of X as capturing common value, which is the same for all shareholders and which, as becomes clear below, also reflects what the proxy advisor's benchmark recommendations are based on. We can think of βY as the fund's private value, reflecting its unique preferences. We assume that $Y \in \{0,1\}$ to capture the idea that the fund has a systematic ideology: it is consistently more (or less) inclined to vote for certain proposals, as compared to shareholders who only care about X, because of its concern about characteristic Y. We focus on $\beta > 0$, as the case $\beta < 0$ is similar. Parameter β thus reflects the fund's ideology relative to the proxy advisor's benchmark recommendations. Parameter $s > 0$ captures the value of voting to the fund: s is higher if the vote has a higher effect on the fund's value. For example, s is likely to increase with the fund's stake in the firm.

To illustrate these preferences, consider director elections. Then X could reflect director busyness: $X = -1$ if a director is busy given his positions as an executive or director at other firms. The fund cares about director busyness, like all other shareholders, but could be more lenient on busyness if the director performs well on other characteristics ($Y = 1$). For instance, in line with the example in the introduction, if the fund cares about ESG, Y could capture whether the director, or the board as a whole, provides oversight on ESG issues ($Y = 1$) or not ($Y = 0$). Because the fund cares about ESG, it may vote in favor even if the director is busy, as long as the board provides sufficient ESG oversight.

The fund is subscribed to the proxy advisor's services and receives benchmark (i.e., non-customized) recommendations by default. However, it can pay an additional cost c_{cust} to get customized advice. If it pays this cost, then for all firms in the fund's portfolio, the proxy advisor creates a custom recommendation for the fund. In particular:

- If the fund does not pay the cost of customization, it only receives the benchmark recommendation, which is based on a noisy signal x about X with precision p_x:

$$\Pr(x = 1|X = 1) = \Pr(x = -1|X = -1) = p_x.$$

  The benchmark recommendation is to vote in favor if and only if $x = 1$.

- If the fund pays the cost of customization, the proxy advisor finds out Y and combines it with its signal x to issue the optimal custom recommendation for the fund given the fund's ideology (we derive this custom recommendation in the analysis below).[23]

The fund can also pay cost c_{res} and learn X and Y with certainty. In practice, based on our conversations with proxy advisors, it is easy for the fund to see whether the proxy advisor's recommendation is positive or negative (the voting platform allows setting a simple alert about all negative recommendations without any extra cost for the fund), as well as observe the benchmark recommendation even if it is a customizer. Hence, we assume that the fund makes its decision about independent research after observing the proxy advisor's recommendations, and that for customizers, this decision is based on both the custom and the benchmark recommendation.

Overall, the timeline is as follows. At the first (customization) stage, the fund decides whether to become a customizer. At the second (research) stage, it observes the benchmark recommendations—as well as the custom recommendations if it decided to customize—for all firms in its portfolio and decides, on a firm-by-firm basis, whether to conduct research to learn additional information about the proposal in any given firm. The fund then votes based on all the available information, and its payoff is realized. We assume that the fund votes as-if-pivotal.

C.2 Difference between benchmark and custom recommendations

We start by deriving the custom recommendation that is optimal for the fund given its ideology. The proxy advisor observes Y and a noisy signal x about X and designs its custom recommendation to maximize the fund's utility, determined by $X + \beta Y$. The custom recommendation is to vote in favor if and only if $\mathbb{E}[X + \beta Y|x, Y] > 0$. The following cases are possible:

1. If the proxy advisor gets $x = 1$ (i.e., the benchmark recommendation is positive), then $\mathbb{E}[X + \beta Y|x, Y] = 2p_x - 1 + \beta Y > 0$ for any Y. Hence, if the benchmark recommendation is positive, the custom recommendation is also positive.

[23] The assumption that the proxy advisor perfectly observes Y is made for simplicity and is not crucial: because the custom recommendation combines information about x and Y, the information received by the fund is generally a noisy signal about Y.

2. If the proxy advisor gets $x = -1$ (i.e., the benchmark recommendation is negative), there are two cases:
    a. If $Y = 0$, then $\mathbb{E}[X + \beta Y | x, Y] = 1 - 2p_x < 0$, so the custom recommendation is to vote against, which coincides with the benchmark recommendation.
    b. If $Y = 1$, then $\mathbb{E}[X + \beta Y | x, Y] = 1 - 2p_x + \beta$. Hence, if $\beta \leq 2p_x - 1$, the custom recommendation is to vote against, in line with the benchmark recommendation. In contrast, if $\beta > 2p_x - 1$, the custom recommendation is to vote in favor, which deviates from the benchmark recommendation.

Therefore, the optimal custom recommendation always coincides with the benchmark recommendation if $\beta \leq 2p_x - 1$, i.e., if the fund's ideological deviation from the proxy advisor is not too large and the proxy advisor's information about X is precise enough. This automatically implies, as we formally state in Proposition 3 below, that it is never optimal for the fund to pay the cost of customization if $\beta \leq 2p_x - 1$.

We next solve the model by backwards induction. We first analyze the fund's voting decision. Then, we analyze its decision about independent research, taking its customization status as given. Finally, we analyze the fund's decision to customize.

C.3 Voting decision

First, consider the fund's voting decision taking its decisions about customization and independent research as given. If the fund conducts independent research, it learns X and Y and votes in favor if and only if $X + \beta Y > 0$. If it does not conduct independent research, it votes according to the information it receives from the proxy advisor.

Note that if the fund does not conduct research and does not customize, it may potentially find it optimal to disregard the benchmark recommendation and vote ideologically, i.e., in favor of the proposal even if the benchmark recommendation is negative. This happens if the fund's ideological deviation from the proxy advisor (i.e., its concern about Y) is so strong that it outweighs the information in the proxy advisor's recommendation. In particular, the fund's benefit of voting in favor conditional on a negative benchmark recommendation ($x = -1$) is $\mathbb{E}[X + \beta Y | x = -1] = 1 - 2p_x + \frac{\beta}{2}$, which is positive if $\beta > 4p_x - 2$. In what follows, we assume that

$$\beta \leq 4p_x - 2.$$

This assumption ensures that if the fund only observes the benchmark recommendation, it chooses to follow it, rather than disregard it and always vote in favor, i.e., ideologically.

In contrast, if the fund does not conduct research but customizes, it always finds it optimal to follow the custom recommendation, regardless of β. This is because, by construction, the

custom recommendation reflects its ideology: it is based on the sign of $\mathbb{E}[X + \beta Y|x, Y]$. We summarize these arguments in the following lemma.

Lemma 1 (voting). *Suppose* $\beta \leq 4p_x - 2$.

(i) If the fund does not conduct independent research, it follows the benchmark recommendation if it does not customize, and it follows the custom recommendation if it customizes.

(ii) If the fund conducts independent research, it votes according to its private information and does not follow the proxy advisor's recommendation.

Even though the fund does not follow the benchmark recommendation when it either customizes or conducts independent research, its vote often coincides with the benchmark recommendation. Since both $X + \beta Y$ and $\mathbb{E}[X + \beta Y|x, Y]$ are closer to x when β is smaller and p_x is larger, the fund's vote is more likely to coincide with the benchmark recommendation if its ideological deviation from the proxy advisor is weaker and the quality of the proxy advisor's information is higher.

Lemma 1 shows the first effect of customization: it allows the fund's vote to align more closely with its ideology, particularly for proposals on which the fund does not conduct independent research.

C.4 How customization affects funds' independent research

In this section, we take the fund's customization status as given and analyze the fund's decision on independent research on any given proposal. We first consider the research effort of a non-customizing fund and then compare it to that of a customizing fund.

C.4.1 Research of a non-customizing fund

If the fund does not customize, it decides whether to conduct independent research based on the benchmark recommendation alone. Denote the fund's probability of being pivotal by P_{piv} (for simplicity, we assume that it is a parameter that is independent of all other variables). In practice, the probability of being pivotal is likely to increase with the fund's stake. The following result summarizes the fund's strategy.

Proposition 1. *Suppose the fund does not customize. There exist cutoffs* $\underline{c}$ *and* $\overline{c}$, $\underline{c} < \overline{c}$, *which both decrease in* p_x, *such that the fund:*

(i) follows the benchmark recommendation if $\frac{c_{res}}{P_{piv}s} \geq \overline{c}$;

(ii) follows a positive benchmark recommendation but conducts independent research upon a negative benchmark recommendation if $\underline{c} \leq \frac{c_{res}}{P_{piv}s} < \overline{c}$;

(iii) conducts independent research regardless of the benchmark recommendation if $\frac{c_{res}}{P_{piv}s} < \underline{c}$.

This result has several implications. First, in line with common intuition, it shows that the fund is more likely to conduct independent research if:

- the benchmark recommendation has lower quality (p_x is smaller),
- the fund has a larger stake in the firm (P_{piv} and s are larger).

In addition, part (ii) of Proposition 1 shows that negative recommendations can serve as "alerts", notifying the fund about proposals for which independent research would be particularly useful.

C.4.2 Does customization reduce or increase the fund's propensity to conduct research?

Suppose now that the fund has paid the cost of customization, so the proxy advisor knows both x and Y. Recall, as shown above, that it is never optimal to customize if $\beta \leq 2p_x - 1$. Therefore, it is sufficient to focus on $\beta > 2p_x - 1$. We next ask whether a customizing fund is more or less likely to conduct independent research than a non-customizing fund. The following result presents this comparison.

Proposition 2. *Suppose the fund is a customizer and* $2p_x - 1 < \beta \leq 4p_x - 2$. *Then:*

1. *If the benchmark recommendation is positive, the fund is as likely to conduct independent research as if it did not customize.*
2. *If the benchmark recommendation is negative, then:*
    i. *If the custom recommendation is also negative, the fund does less research than if it did not customize.*
    ii. *If the custom recommendation is positive, then the fund is more likely to conduct research than if it did not customize if* $\beta < \frac{2(2p_x-1)}{1+p_x}$. *However, if* $\beta \geq \frac{2(2p_x-1)}{1+p_x}$, *the fund is less likely to conduct research than if it did not customize.*

The reason for part 1 is that if the benchmark recommendation is positive ($x = 1$), then regardless of the realization of Y, the custom recommendation is positive as well (since $\beta Y \geq 0$). Hence, the fund observes exactly the same information as if it did not customize, and as a result, its incentives to conduct research are unaffected by customization.

Part 2 shows that customization always crowds out independent research when the two recommendations agree with each other. However, when the two recommendations disagree

(which can be thought of as a "contentious" proposal), customization encourages more research unless β is very large. The intuition is the following:

- The reason customization crowds out independent research is that it aligns the default vote of the fund (based on the custom recommendation) more closely with the fund's preferences and reflects its concern about Y. As a result, additional information becomes less important.

- The reason customization can encourage more research is that it helps focus the fund's research efforts on those proposals where research is most cost-effective (in particular, proposals for which the benchmark recommendation is negative, but the custom recommendation is positive). Intuitively, without customization, the fund decides against conducting research, because it is unlikely that additional information from such research would often alter its voting choices. But once the fund customizes, it can more easily identify proposals for which further research is particularly useful and would significantly impact its voting decisions. As a result, its propensity to conduct research increases for such proposals.

  To see this intuition more precisely, consider the scenario where the two recommendations disagree, i.e., the custom recommendation is positive, whereas the benchmark is negative. This happens if $x = -1$ but $Y = 1$. The fund's default decision (if it does not conduct research) is to vote in favor, according to the custom recommendation. Suppose, however, that β is not too large (below $\frac{2(2p_x-1)}{1+p_x}$ in Proposition 2). Then, if $X = -1$, the fund would optimally prefer to vote against, even though $Y = 1$, as it cares about common value as well. Moreover, conditional on the benchmark recommendation being negative ($x = -1$), the chance that $X = -1$ is rather high. Hence, the probability that further research will change the fund's vote is high as well, making research cost-effective. In contrast, without customization, the fund does not conduct research upon a negative benchmark recommendation because the likelihood that research will change the fund's vote is small (only if $Y = 1$, which the fund does not know ex ante). As a result, customization increases the likelihood of research for contentious proposals.

C.4.3 Decision to customize

In this section, we analyze the fund's decision on whether to pay the cost to become a customizer. First, the proof of Proposition 3 below reveals three motives for the fund to customize:

1. **Customization allows the fund's "default" vote to reflect its preferences more closely.** If the fund's costs of conducting research are high (c_{res} is large relative to $P_{piv}s$), it relies on the proxy advisor's recommendations, and customization then helps bring the "default" vote of the fund closer to its preferences. In particular, a non-customizing fund follows the benchmark recommendation (which is only based on x), whereas a customizing fund follows the custom recommendation (which is based on both x and βY). As the appendix shows, the

extra payoff from this motive is captured by $P_{piv}s(1 - 2p_x + \beta)$ and thus increases in the fund's ideological gap from the proxy advisor (β).

2. **Customization reduces the fund's research expenses.** Without customization, the fund often opts to conduct research, partly to learn about Y. However, customization diminishes the need to conduct research aimed at learning about Y (the first effect highlighted in Proposition 2). Instead, the fund can follow the custom recommendation, thereby reducing its research expenses. As the appendix shows, the extra payoff from this motive increases with c_{res}, the costs of conducting research.

3. **Customization directs the fund's focus to proposals where research is most valuable.** This motive is related to the second effect highlighted in Proposition 2: customization enables the fund to concentrate its attention and research efforts on proposals where the potential benefits of research are particularly large, i.e., where research is most cost-effective. As the appendix shows, this motive reflects the extra payoff that the fund gets from conducting research and learning value-relevant information about controversial proposals relative to the payoff it would get from not conducting research and voting in line with the benchmark recommendation.

The first and second motives reflect the *substitution* between customization and the need to conduct research in order to align voting decisions with the fund's preferences and ideology: The first motive is to reduce the fund's error costs of not paying attention to the vote and thus not voting in line with its ideology, whereas the second motive is to reduce the actual expenses associated with paying attention that the fund would otherwise incur to vote in line with its ideology. In contrast, the third motive reflects the *complementarity* between customization and paying attention to the vote: customization can enhance independent research by the fund.

The analysis of these three motives to customize also allows us to derive testable predictions about the determinants of customization, which are summarized in the following result.

Proposition 3 (determinants of customization).

1. If $\beta \leq 2p_x - 1$, the fund will not customize for any positive cost c_{cust}.

2. If $\beta > 2p_x - 1$, the fund will customize:

   a. if the number of firms in its portfolio (N) is large enough;

   b. if $P_{piv}s$ is large enough.

Part 1 follows from the observation made earlier: if β is small, custom recommendations will coincide with benchmark recommendations and hence even an infinitely small but positive cost of customization is not worth the benefit. An immediate implication of this result is that the *difference*

between the fund's ideology and the proxy advisor's ideology (as captured by the proxy advisor's benchmark recommendations) must be large enough for customization to be optimal.

Part 2a implies that there are *economies of scale from customization*. This follows from the assumption that the cost of customization does not grow quickly with the number of firms in the fund's portfolio (in the model, this cost is fixed and does not grow with N at all). There are two rationales for this assumption. First, in practice, the cost of customization for the fund involves developing its own voting policies and communicating them to the proxy advisor, and this type of cost does not increase with the number of firms in the fund's portfolio. Second, based on our conversations with Glass Lewis's employees, the fees charged by the proxy advisor for customization do not substantially increase with the number of portfolio firms.

Part 2b suggests that customization will be more prevalent among funds with a large average stake in their portfolio firms (recall that both P_{piv} and s tend to increase with the fund's stake). The reason for this result is that $P_{piv}s$ increases the fund's benefit from voting "correctly" (i.e., based on information about $X + \beta Y$), which is facilitated by customization.

More generally, Part 2b predicts that funds will customize only if they care enough about voting, i.e., parameter s, which captures the importance of voting to the fund, is large enough.

C.4.4. Treatment and selection effects

Suppose that a researcher observes both funds' customization decisions and their propensity to conduct independent research. What will be the empirical association between the two? Unless the researcher can explore an exogenous source of variation in the decision to customize, this relationship reflects both the treatment and the selection effect. The treatment effect captures the causal effect of customization on funds' propensity to conduct research, i.e., the substitution and complementarity effects discussed above. The selection effect reflects the idea that funds with certain characteristics are more likely to both customize and to conduct research. For example, Part 2b of Proposition 3 combined with Proposition 1, imply that parameter s positively predicts both the fund's decision to customize and its incentives for research. While s is likely to increase with the fund's size and stake in the firm, which can be controlled for, it can also reflect unobserved factors such as the overall importance of voting to the fund. If such unobserved factors are not controlled for in the regression, it may show a positive association between customization and the propensity to conduct research. This positive association may lead the researcher to conclude that there is complementarity between customization and independent research, even if the dominant effect is substitution.

However, the model suggests two ways to distinguish between substitution and complementarity. The first is to decrease the role of omitted factors that positively affect both customization and the propensity to conduct research. In the model, if the cost of customization c_{cust} is relatively small, then the impact of parameter s on the shareholder's decision to customize is smaller: even shareholders with a relatively small s have incentives to customize if their

ideology deviates substantially from that of the proxy advisor's. Hence, the positive relationship between customization and research that is driven by omitted variables such as s will be weaker if c_{cust} is small. As we discuss in the paper, subscribing to ready-made recommendations is an example of such low-cost customization, and hence omitted variables are less likely to generate a positive association between customization and research among ready-made customizers.

The second way to decrease the role of omitted factors is to explore the interaction effects. Proposition 2 predicts that customizers and non-customizers will exhibit differential *sensitivity* in their propensity to perform research on controversial proposals relative to non-controversial proposals. Specifically, customization substitutes for the need to conduct research on non-controversial proposals (those where the benchmark and custom recommendations agree with each other), but increases the fund's incentives to conduct research on controversial proposals (those where the benchmark and custom recommendations disagree). This implies that we should see a positive coefficient in the regression of the propensity to perform research on the interaction between customization and the indicator for non-controversial proposals.

C.5 Summary

To conclude, our analysis reveals that customization has implications for two key roles of shareholder voting: aggregation of preferences and aggregation of information. In particular, the first motive to customize described in Section C.4.3 reflects the preference aggregation role of customization. The second and third motives in Section C.4.3 reflect the idea that customization helps the fund allocate its attention more efficiently. Combined with the fact that customization also changes the information received from the proxy advisor, this implies that customization influences the extent of information aggregation in voting outcomes.