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# Greenwashing or Pragmatism? *

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**Abstract**

Shareholder support for environmental and social (ES) proposals increased by more than 50% between 2010 and 2020, yet the content of such proposals can vary substantially. We first document that there has been a large retreat in big-ask proposals (e.g., demanding operational changes for firms). The big-ask proposals fell from about 40% of ES ballots to roughly 5%, being replaced by small-ask proposals (e.g., requesting additional disclosure), and the increase in overall support rate is driven by favorable votes on small asks compared to big asks. However, we caution against interpreting these trends as greenwashing. Investigating both sides of shareholder democracy (proponents and voters), we develop and estimate a structural model in which ES proponents choose a portfolio of proposal types, anticipating vote outcomes. The model captures a feedback: changes in voting reshape the mix of sponsored proposals, and that mix, in turn, shapes observed support rates. Counterfactuals based on resubmission-style benchmarks suggest that the early part of the decade featured an oversupply of big-ask proposals and a moderate undersupply of small-ask proposals; the subsequent decline in big asks reflects an equilibrium correction toward small asks that are expected to receive meaningful support to generate incremental progress in ES. Therefore, the correction, along with growing voter support, suggests a shift towards a more pragmatic approach to ES issues rather than greenwashing.

**Keywords:** Corporate Governance, ESG, Shareholder Voting, Shareholder Proposals, Socially Responsible Investing, Sustainability

**JEL Classification Numbers:** G12, G14

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# 1 Introduction

Over the past decade, shareholder proposals on environmental and social (ES) issues have moved from the periphery of corporate governance to its center. Large asset managers publish stewardship priorities, and activists and mission-driven investors increasingly use the proxy ballot to press firms on climate risk, political spending, human rights, workplace safety, and other social externalities. A natural reading of this shift is that "shareholder democracy" on ES issues is strengthening. For instance, average shareholder support for ES proposals in US public firms increased by more than 50% from 17.7% to 28.6% between 2010 and 2020, suggesting a growing willingness among shareholders to back ES initiatives.

However, the evolution of ES proposal content casts a shadow on this optimistic interpretation. Over the same period, there is a striking compositional shift in what is being put to a vote, from "big asks"—operational-changing proposals that request substantive changes to a firm's policies, strategy, or operations—to "small asks," which focus on disclosure, reporting, audits, or oversight mechanisms. The proportion of big asks drops from 34.6% in 2010 to 3.8% in 2020, even as average voter support increases for big-ask proposals from 13.4% to 17.3%. These headline facts pose a conceptual puzzle: increasing shareholder support for ES proposals coexists with a pronounced retreat in the substantive scope of the requests embedded in those proposals.

In this paper, we propose a proposal-sponsoring framework that structurally links the sponsoring and voting sides of shareholder proposals, reconciling these seemingly contradictory patterns in ES activism. A proponent is endowed with a Constant Elasticity of Substitution (CES)-type utility function that depends on the number of proposals of different types (e.g., big versus small ES asks) and on their shareholder support rates. The proponent faces a budget constraint that limits total sponsoring expenditures, such as the cost of investigating and formulating what to propose (e.g., researching firm practices and peer benchmarks, consulting experts, drafting a feasible request), legal and compliance costs to draft and file proposals (and respond to SEC/no-action correspondence), staff time to coordinate campaigns and engage with firms, and outreach/communication expenses to mobilize shareholder support. Anticipating shareholders' voting behavior and accounting for proposal-specific costs, the proponent chooses a portfolio of proposals that maximizes utility subject to this budget constraint.

Importantly, the framework allows for rich substitution patterns across proposal types in the proponent's utility function—a key feature for resolving the puzzle generated by rising shareholder support for ES proposals alongside a retreat from big ES asks. When big and small asks are perceived as substitutes, a budget-constrained proponent reallocates sponsorship toward proposals with higher relative support. As a result, shareholder support for both types of ES proposals may increase over time, yet a faster rise in support for small asks can induce a decline in the sponsorship of big asks. More broadly, the framework can accommodate varying degrees of substitutability, complementarity, or independence among proposals through the CES substitution parameters. Together with proposal cost parameters, these objects constitute the core primitives of the model and are central to the empirical implementation.

We apply the framework to the sponsoring of ES shareholder proposals in US public firms from 2010 to 2020. We identify a total of 1,932 such proposals and formally define big-ask and small-ask ES proposals based on their proposal content (resolution). Big-ask proposals are operational-changing proposals that request substantive changes to a firm's policies, strategy, or operations (e.g., divestment policies, business area change, binding human-rights policies, or tying executive pay to emissions targets). Small-ask proposals are monitoring-and-accountability proposals that request disclosure, reporting, audits, or oversight mechanisms (e.g., sustainability reports, civil-rights audits, political-spending reports, or emissions disclosures).[1] Descriptive analysis reveals two prominent

[1]See Table A.1 for examples on the classification.

patterns. First, as shown in Figure 1c, shareholders increasingly support both types of ES proposals over the decade, but support for small asks rises more rapidly than for big asks (by roughly 9 percentage points versus 4 percentage points). Second, the decline in the share of big ES asks contributes around 40% to the increase in overall support for ES proposals, with the remaining 60% explained by changes in voting behavior. Together, these patterns point to a significant role for proposal-sponsoring decisions and hint at an overall substitutable relationship between small- and big-ask ES proposals.

We then tailor the proposal-sponsoring framework to the empirical setting and estimate the parameters governing substitution across ES proposal types and their sponsoring costs. First, we derive from the structural model a reduced-form log–log regression to obtain an approximate estimate of the substitution parameters. Specifically, for each proponent–year combination, we regress the log ratio of the numbers of sponsored big- and small-ask ES proposals on the log ratio of their shareholder support rates, controlling for proponent-type and year fixed effects that proxy relative sponsoring costs and the proponent's budget.[2] The coefficient on the log ratio of support rates is significantly positive, indicating imperfect substitutability between big and small ES asks and validating variation in relative support rate as a source of identification.

Next, we estimate the full proposal-sponsoring model by maximum likelihood, allowing sponsoring cost parameters to vary across proponent groups (e.g., public pension funds, religious organizations, individuals) and over time, and permitting unobserved components in both sponsoring costs and proponents' budgets. Consistent with the reduced-form results, we estimate a positive elasticity of substitution between the two proposal types (around 3.25) and find substantial heterogeneity in the relative sponsoring cost of big-ask proposals over time.

Finally, we examine whether the shift from big to small asks reflects a move by pro-

[2]We estimate proposal-level support as a function of proposal characteristics (e.g., type, sponsor types), company fixed effects, year fixed effects, and their interactions. The support rate for a proposal type in a given proponent–year is then computed as the average predicted support across the meetings attended by that proponent in that year.

ponents from an early, boom-like oversupply of costly big asks toward a more pragmatic trajectory of ES progress, or instead a potentially inflated supply of lighter-touch proposals driven by voter preferences. Drawing on the SEC's threshold-based logic underlying proposal resubmission, we posit that proposals whose support rates exceed a given threshold (e.g., 25%) are practically worth sponsoring. We then simulate a counterfactual in which proponents care about the probability that a proposal attains at least this level of shareholder support, rather than its realized support rate, and benchmark observed proposal counts against the counterfactual outcomes. The results show a persistent but moderate under-supply of small-ask ES proposals over the decade, shrinking from less than 5% in the early years to less than 1% in 2020. At the same time, we find an excess sponsorship of big-ask proposals of up to 10% in the first half of the decade, implying direct annual sponsoring costs of up to two million dollars. This excess gradually declines to a negligible level by 2020, largely driven by an increase in the perceived relative sponsoring cost of big-ask ES proposals. Taken together, these results suggest a reallocation toward efficiency under sponsoring and voting constraints, rather than an inflated expansion of lighter-touch ES proposals.

**Literature review.** This paper develops a structural framework that jointly incorporates the voting and sponsoring sides of shareholder proposals in the study of shareholder democracy. Matsusaka and Ozbas (2017) emphasize the distinction between the right to approve and the right to propose, and show that the latter channel is impactful. We explicitly model how proponents anticipate shareholder voting when deciding what types of proposals to sponsor, which in turn shapes the set of proposals that shareholders are asked to vote on and generates endogenous interdependence between the two sides.

In the context of environmental and social (ES) issues, existing empirical work has mostly focused on shareholders' voting behavior and its implications and influences on firms Dikolli et al. (2022); Li et al. (2023); Di Giuli et al. (2025); He et al. (2023); Michaely et al. (2024) and takes what is voted on as given, without modeling the interaction between voting behavior and proposal sponsorship. In contrast, our framework highlights the central role of substitutability among proposals with different content on the sponsoring margin in explaining the joint evolution of shareholder support and proposal composition. To the best of our knowledge, we are the first to document and quantify this substitution channel in the ES setting. More broadly, the framework allows for flexible substitution patterns across proposal types under proponents' budget constraints, and is applicable to a wide range of settings in shareholder democracy, including ES and governance issues.

Second, and more specifically, we contribute to the growing literature on shareholder engagement and activism on ES issues. A central theme in this literature is that shareholder preferences may extend beyond market value when investors care about externalities, reputation, or stakeholder outcomes, and that voting is one channel through which such preferences can be expressed (Hart and Zingales, 2017; Baron, 2001). For instance, Li et al. (2023) examines whether ESG funds trade off the long-term sustainability of portfolio firms for greater short-term financial performance. Lowry et al. (2026) study the heterogeneity of ESG funds and find that committed ESG funds differ significantly from other ESG funds. Aggarwal et al. (2023) find spillover effects of ES concerns on director elections, documenting a significant association between votes against directors and climate-risk exposure. Complementing this research on the voting side, we examine the proposing side, which has received less systematic attention: how the content of proposals evolves over time and how changes in content interact with changes in voting behavior to shape observed support for ES-related proposals. A key challenge in addressing this question is that proposal content is multi-dimensional and unstructured. We use proposal-resolution text to construct a scalable, economically interpretable measure of proposal substance, a first step in our analysis that enables a clean decomposition of the rise in overall ES support into (i) changing voting behavior and (ii) changing proposal composition.

In addition, our results speak directly to the recent debate on "greenwashing," which has largely focused on whether observed voting behavior reflects genuine engagement or strategic behavior driven by reputational concerns. For instance, Michaely et al. (2024) show that some funds appear supportive of ES proposals on average while reducing support when their votes are more likely to be pivotal. Related work studies the implications of funds' adoption of ESG commitments, such as the United Nations Principles for Responsible Investment (PRI), with mixed evidence on whether such commitments translate into improved ESG outcomes (Kim and Yoon, 2023; Gibson Brandon et al., 2022). At the same time, engagement-based studies suggest that ESG voice can have real effects (Hoepner et al., 2024). Our framework highlights an additional and complementary margin that has received less attention in this debate: changes in the supply and composition of proposals themselves. Using resubmission-style counterfactual benchmarks, we assess whether the observed shift toward disclosure-oriented proposals reflects inflated "light-touch" activism. The results instead point to an early oversupply of operational-changing proposals that is gradually corrected over time, alongside a shrinking undersupply of smaller asks. From this perspective, the retreat of operational-changing proposals is consistent with proponents becoming more pragmatic and making incremental progress on ES issues, rather than with greenwashing.

Finally, our paper relates to the long-standing literature in economics that uses the constant elasticity of substitution (CES) framework, including applications in production (Arrow et al., 1961), international trade (Dixit and Stiglitz, 1977), and industrial organization (Miravete et al., 2023). As a benchmark for analyzing supply–demand relationships (Mrázová and Neary, 2017), the CES model and its generalizations, such as nested CES (Sato, 1967), accommodate flexible substitution patterns in a parsimonious yet economically meaningful way, while delivering tractable closed-form solutions with desirable aggregation properties (Lagomarsino, 2020). We introduce this class of models into the study of shareholder democracy by showing how CES-style substitution naturally captures proponents' trade-offs across proposal types under resource constraints. This connection illustrates the usefulness of CES structures beyond traditional market settings and opens the door to further questions in shareholder democracy, such as equilibrium forces in proposal sponsoring and strategic interactions among proponents.

# 2 Data and Descriptive Analysis of ES Shareholder Proposals between 2010 and 2020

We collect shareholder proposals at annual shareholder meetings from Institutional Shareholder Services (ISS), Voting Analytics, and the Company Voting Results dataset. We then link the data with the ISS Shareholder Proposals dataset to focus on proposals on the environmental and social issues (ES). A proposal is uniquely identified by a combination of company, meeting, and "Item on Agenda" identities. For each proposal, we obtain its status (voted, withdrawn, omitted, etc.), requirement (simple majority, supermajority, etc.), level of support received, and sponsor. We use the filter defined by the ISS to identify ES proposals and obtain 1,932 proposals in the years between 2010 and 2020 (excluding those that are omitted, withdrawn, or not voted on, and those that are not majority-rule based). We also obtain sponsor-type information and harmonize sponsors into six types: public pension funds, SRI funds, religious organizations, special interest groups, individuals, and others (e.g., funds, unions, or companies). Table 1 provides some summary statistics on the proposals and sponsors.

Next, we define two types of ES proposals based on proposal resolution text. Big-ask proposals are operational-changing proposals that request substantive changes to a firm's policies, strategy, or operations. Small-ask proposals are monitoring-and-accountability proposals that request disclosure, reporting, audits, or oversight mechanisms. We apply OpenAI's o3 thinking model on the content of each proposal (resolution), and ask the GPT model to classify it as either big ask or small ask. [3] We present 10 random examples for each type in Table A.1. In total, we identified 1,580 small-ask proposals and 352 big-ask proposals. Table 1 provides summary statistics on proposal types.

Table 1: Summary Statistics

| | Panel A: ES Proposals and Support Rates by Type | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Unique Number of | | | Support Rate (%) | | | | | |
| | Proposals | Firms | Meetings | Mean | SD | p25 | Median | p75 | Passed |
| All | 1,932 | 438 | 1,362 | 21.85 | 14.62 | 7.71 | 22.97 | 31.86 | 2.7 |
| Big-Ask (BA) | 352 | 170 | 315 | 12.66 | 12.15 | 3.49 | 6.61 | 22.03 | 0.6 |
| Small-Ask (SA) | 1,580 | 386 | 1,183 | 23.90 | 14.34 | 10.41 | 24.91 | 33.02 | 3.2 |

| | Panel B: Proposals by Sponsor Type and Classification | | | | | |
|---|---|---|---|---|---|---|
| | | | | Mean Support Rate (%) | | |
| | *N* | Share (%) | % BA | All | BA | SA |
| Public Pension | 316 | 16.4 | 14.2 | 26.8 | 25.0 | 27.1 |
| SRI Fund | 433 | 22.4 | 14.3 | 21.9 | 12.8 | 23.4 |
| Religious | 277 | 14.3 | 27.4 | 21.9 | 13.2 | 25.2 |
| Special Interest | 247 | 12.8 | 32.0 | 16.3 | 6.5 | 21.0 |
| Individual | 163 | 8.4 | 22.1 | 16.6 | 5.3 | 19.7 |
| Union | 106 | 5.5 | 11.3 | 21.7 | 5.8 | 23.8 |
| Fund | 113 | 5.8 | 11.5 | 27.0 | 24.2 | 27.4 |
| Other | 277 | 14.3 | 10.5 | 22.1 | 15.6 | 22.9 |

*Notes:* This table reports summary statistics for environmental and social (ES) shareholder proposals at S&P 500 firms, 2010–2020. The sample consists of 1,932 voted proposals under simple-majority rule. Panel A reports the number of proposals, unique target firms, unique shareholder meetings, and the distribution of support rates (%) by proposal type. Big-ask (BA) proposals request substantive changes to firm policies, strategy, or operations; small-ask (SA) proposals request disclosure, reporting, or oversight. Classification uses OpenAI's o3 model on proposal resolution text. *Passed* is the percentage of proposals receiving ≥50% support. Panel B cross-tabulates sponsor types with proposal classifications. *% BA* is the share of big-ask proposals filed by each sponsor type. "Other" includes companies and miscellaneous organizations.

We now document some prominent patterns in the sponsoring and voting data. We

[3] The prompt used is: "ESG, short for Environmental, Social and Governance, is a set of standards measuring a business's impact on society, the environment, and how transparent and accountable it is. Can you classify the below board meeting ESG proposal resolution into two kinds: small-ask proposals (ones that doesn't have much impact on the company's business and the management team, for instance requesting additional disclosure or asking for a generic report) and big-ask proposals (ones that have direct and important impact on the management team or the firm's business, and request operational changes, for instance proposals related to the firm's business area or management team's compensation). The input data are a list of key-value pairs where the key is the ID and the value is the resolution. The result should be a json formatted string in json key-value pairs, where key is the ID of the proposal, and value is the classification, either 'SA' (for small-ask proposals), 'BA' (for big-ask proposals). Only return what is asked and nothing more."

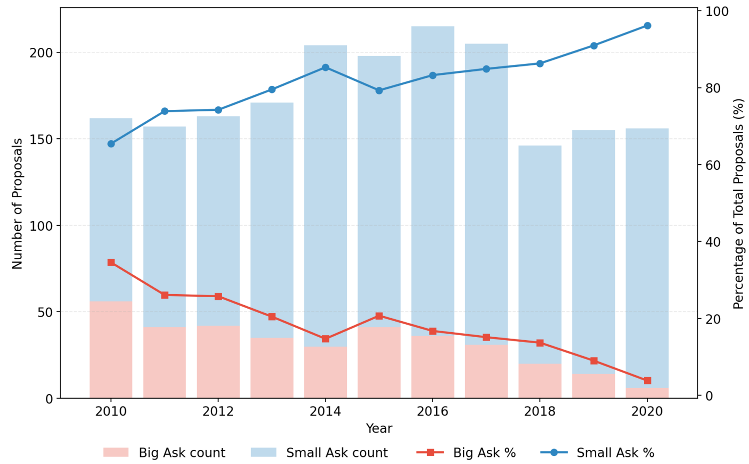
start with the sponsoring side. Figure 1a summarizes the evolution of the numbers of ES proposals and support rate over time. The annual number of sponsored ES proposals stably remains between around 150 and 200 between 2010 and 2020. However, we observe a persistent decrease in the proportion of big-ask ES proposals (red) and increase in the proportion of small-ask ES proposals (blue). Big asks initially made up of around 34.6% of all the sponsored ES proposals in 2010, but the proportion sharply shrunk to 3.8% in 2020. As shown in Figure A.1, this trend also holds among pivotal proposals, i.e., receiving favorable votes between 20% and 80% as per the definition in Michaely et al. (2024). Besides, it is still largely robust after controlling for sponsor type, e.g., public pension, special interest groups (see Figure A.2).

Turning to the voting side, Figure 1b shows the overall support rate for ES proposals and Figure 1c shows support rates for ES proposals by proposal type over time. We document a steady increase in support rate for all ES proposals from 17.7% to 28.6%. The increase is sharper in small-ask proposals. The average support rate of small-ask proposals increases from 20.0% to 29.0%, representing a 45% and 9 p.p. increase. In contrast, the change in the shareholder support for big-ask proposals is much milder, moving upward by only 29% and 3.9 p.p. from 13.4% in 2010 to 17.3% in 2020.

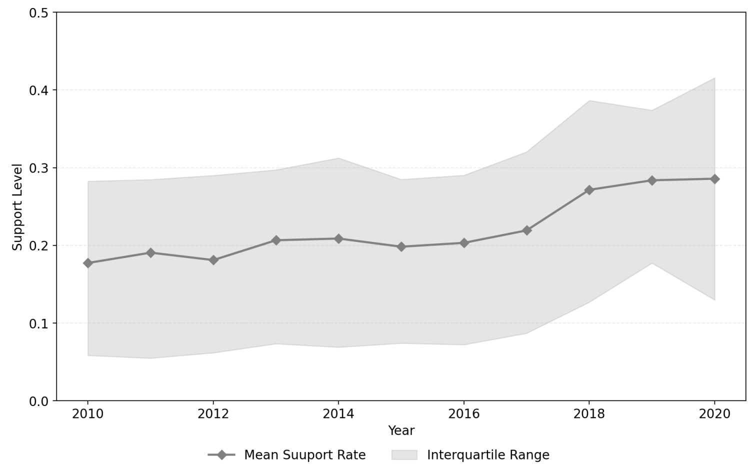
Looking more closely at the distribution of proposal support, Figure 2a illustrates the overall distribution of shareholder support for ES proposals. 89.8% proposals receive a support rate less than 40%, and the average support across all ES proposals is 21.9%. Figure 2b depicts the support rate distributions of big-ask (red) and small-ask (blue) ES proposals. Unsurprisingly, shareholders' support rate for small asks is close to double of the support for big asks (23.9% versus 12.7% on average), and the distribution for big ask proposals is more left-skewed. Figure 2c further breaks down the distribution by 2015 or later. For both small and big asks, there is a notable increase in the average support rate in 2015 and later years, with the shift more pronounced for small asks (from 21.6% to 26.3%), compared with big asks (from 12.2% to 13.6%).

Figure 1: ES Proposals by Content Type: Overview

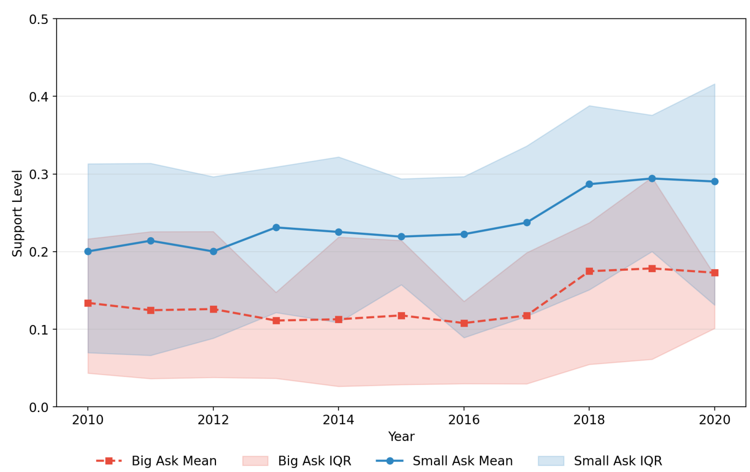
(a) Number and Share of ES Proposals, by Content Type




(b) Level of Support of All ES Proposals



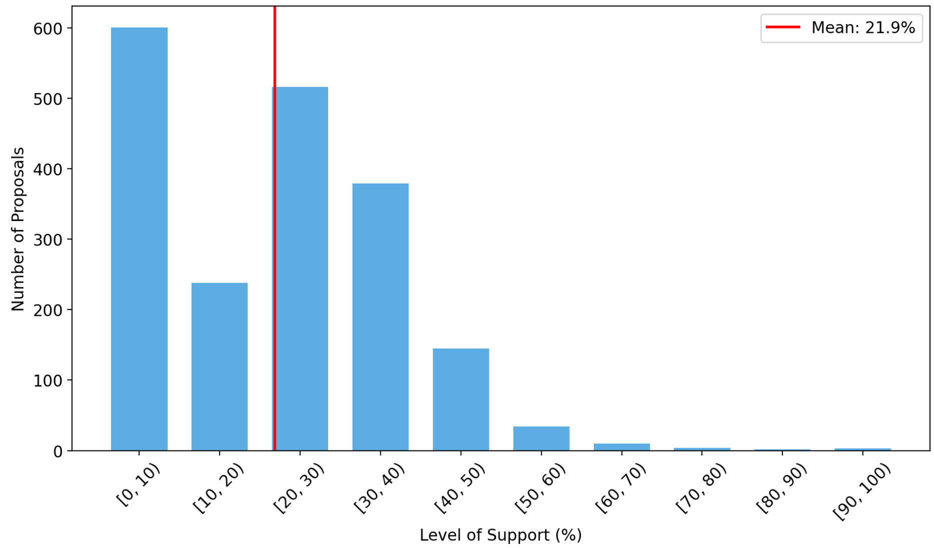

(c) Level of Support of ES Proposals, by Content Type



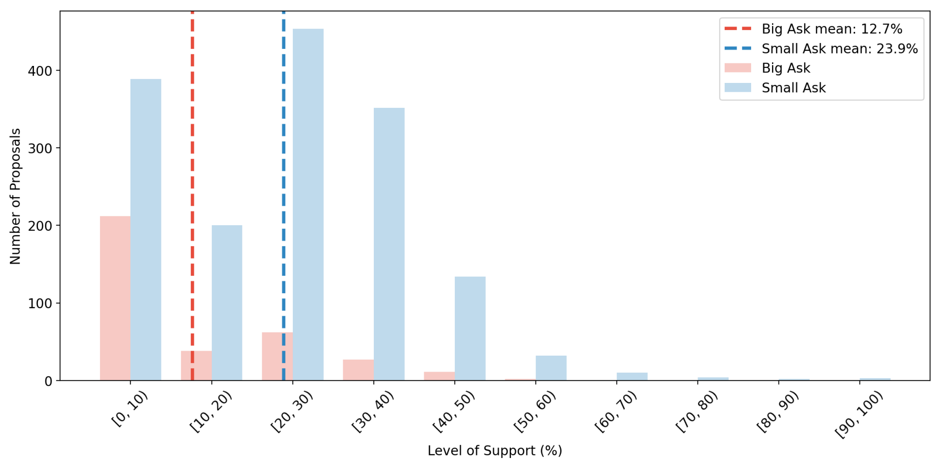

*Notes:* This figure shows the number of proposals and their support rate by content type.

Figure 2: Distribution of Support Rate

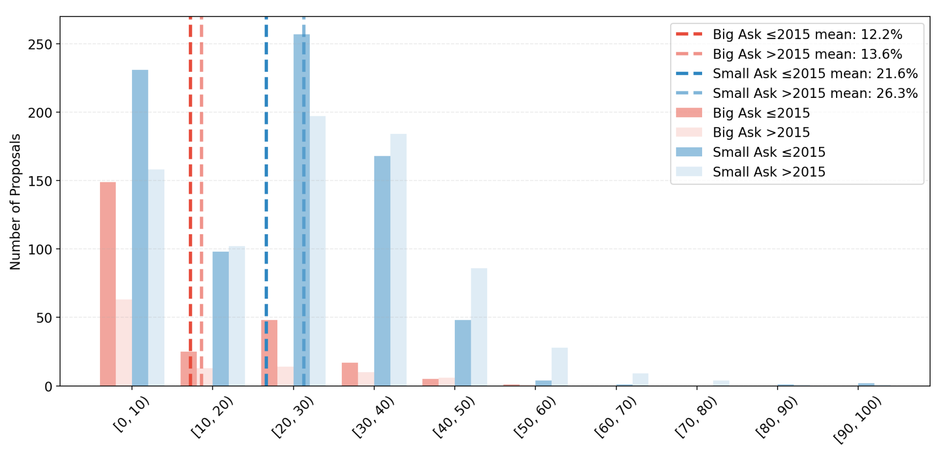
(a) Overall




(b) By Type




(c) By Type and Time Period



Regardless of the proportions of small and big asks, the increasing voters' support for both types of ES proposals will intuitively lead to an overall rise in shareholder support for ES proposals. The compositional shift from big to small asks further enlarges the increase, because small asks receive much higher support than big ones. The two forces jointly lead to a 10.85% increase in the overall shareholder support for ES proposals, or 61.19% in relative term from 2010 to 2020. To shed light on the contribution of the sponsoring-side channel (compositional shift), we decompose the increase in the support rate of ES proposals into three terms. Denote by $\beta_t$ the average support rate of ES proposals in year t, which is defined as

$$\beta_t = \pi_t^{BA}\beta_t^{BA} + (1-\pi_t^{BA})\beta_t^{SA} = \beta_t^{SA} + \pi_t^{BA}(\beta_t^{BA} - \beta_t^{SA}),$$

where $\pi_t^{BA}$ is the proportion of big-ask proposals in year $t$, and $\beta_t^{SA}$ and $\beta_t^{BA}$ the average support rates for small and big asks in the same year, respectively. Then, from years $t$ to $t'$, we have:

$$\begin{aligned}\beta_{t'} - \beta_t &= \Delta\beta_t^{SA} + \Delta(\beta_t^{BA} - \beta_t^{SA})\pi_t^{BA} + \Delta\pi_t^{BA}(\beta_{t'}^{BA} - \beta_{t'}^{SA}) \\ &= (\beta_{t'}^{SA} - \beta_t^{SA}) + \left[(\beta_{t'}^{BA} - \beta_{t'}^{SA}) - (\beta_t^{BA} - \beta_t^{SA})\right]\pi_t^{BA} + (\pi_{t'}^{BA} - \pi_t^{BA})(\beta_{t'}^{BA} - \beta_{t'}^{SA}).\end{aligned} \tag{1}$$

The first two terms on the right-hand side of (1) represent the contribution of the changes in shareholder support rates (by keeping $\pi_t^{BA}$ fixed at year $t$'s level). The third term proxies the contribution of the compositional shift from big to small asks.

Table 2: Decomposition of change in overall ES proposal support

| | Change in overall support | Decomposed into the change in | | |
|---|---|---|---|---|
| | | SA support | BA relative to SA | proportion of BA |
| 2020 vs 2010 | 10.85% | 9.01% | -1.77% | 3.61% |
| relative term | 61.19% | 83.04% | -16.31% | 33.27% |

*Notes:* The table decomposes the change in overall shareholder support for ES proposals between 2010 and 2020. The first component is the change in small-ask (SA) support. The second captures the change in the big-ask (BA) support rate relative to SA, weighted by the 2010 BA share. The third captures the compositional shift from big to small asks. Row 1 reports percentage-point changes; row 2 reports the overall change as a fraction of the 2010 level, and each component as a share of the total change.

Table 2 summarizes the results of this decomposition. The increase in the shareholder support of small asks, i.e., the first term on the right-hand side of (1), contributes around 83.04% of this increase (second column), while the change in the relative support rate of big asks contributes another $-16.31\%$ (the third column). The remaining 33.27% (last column) is allocated to the reduction in the proportion of big-ask ES proposals. The sponsoring-side contribution is far from being negligible—it is equivalent to one half of the contribution from the voting side. We next propose a proposal-sponsoring framework that connects both sides of ES proposals and explains the economic origin of the sponsoring-side channel.

# 3 Model

For expositional purposes, we present a proposal-sponsoring model for two types of proposals of the same category (big and small asks in the ES category). In Appendix C.1, we develop a general model that accommodates multiple categories and each category can have more than two types of proposals.

The proponent, denoted by $f$, can be a fund, an institution, or an individual, and is a shareholder of one or several companies. The proponent sponsors ES proposals for annual shareholder meetings. We model the proponent's decision on the numbers of small- and big-ask proposals via a random utility approach in which the proponent may perceive two types of proposals as substitutable, complementary, or independent. Specifically, suppose that $f$'s utility of proposing $n_{BA}$ big-ask ES proposals and $n_{SA}$ small-ask ones in her shareholder meetings in year $t$ follows a CES-style function:

$$u_{ft}(n_{BA}, n_{SA}) = \left[(\beta_{ft}^{BA} n_{BA})^{\rho} + (\beta_{ft}^{SA} n_{SA})^{\rho}\right]^{\frac{1}{\rho}} + u_{ft} \tag{2}$$

where $\beta_{ft}^{BA}$ and $\beta_{ft}^{SA}$ are average shareholder support rates of a big- and small-ask proposal sponsored by $f$ in year $t$, respectively. $u_{ft}$ is the status quo utility if $f$ does not sponsor any ES proposal in year $t$. $\rho < 1$ is the parameter that captures the substitution between the two types of proposals (and could be $f$ or $t$ specific):

$$\frac{1}{1-\rho} = \frac{d\ln(n_{BA}/n_{SA})}{d\ln\left(\frac{\partial u_{ft}}{\partial n_{BA}}\Big/\frac{\partial u_{ft}}{\partial n_{SA}}\right)},$$

where $\frac{\partial u_{ft}}{\partial n_{BA}}\Big/\frac{\partial u_{ft}}{\partial n_{SA}}$ is the marginal ratio of substitution (MRS) between big- and small-ask proposals. Intuitively, $\frac{1}{1-\rho}$ captures the percentage change in the ratio of the numbers of the two types of proposals due to 1% in their MRS. When $\rho \to 1$, big- and small-ask proposals become perfect substitutes, and the proponent only sponsors one type. When $\rho \to -\infty$, two types of proposals become perfect complements, resulting in a fixed ratio between their numbers.

Besides, $f$ faces a budget constraint on the cost of sponsoring:[4]

$$c_{ft}^{BA} n_{BA} + c_{ft}^{SA} n_{SA} \leq C_{ft}, \tag{3}$$

where $c_{ft}^{BA}$ and $c_{ft}^{SA}$ are $f$'s cost of sponsoring a big- or small-ask proposal in year $t$, and $C_{ft}$ is her total budget of sponsoring ES proposals in year $t$. Conceptually, $C_{ft}$ captures a proponent's attitude towards ES proposals in year $t$: a higher value means that she is more supportive of ES topics in year $t$. Given $C_{ft}$, $c_{ft}^{BA}$ and $c_{ft}^{SA}$ govern $f$'s attitudes toward big-ask and small-ask ES proposals, respectively. A lower value of $c_{ft}^{BA}$ relative to $c_{ft}^{SA}$ means that $f$ is more supportive of big asks than small ones, leading to a higher budget allocated to sponsoring proposals of the former type.

Proponent $f$ maximizes her utility (2) subject to the budget constraint (3). To start with, we first consider this optimization without imposing the constraint that $n^*_{ft,BA}$ and $n^*_{ft,SA}$

[4]In practice, these costs include upstream "idea and investigation" effort—identifying a target, researching the firm and peers, and designing a credible, implementable request—along with drafting/filing, compliance, and investor outreach.

are non-negative integers. The corresponding solutions are (see Appendix C.1.1):

$$
\begin{aligned}
n^*_{ft,BA} &= \frac{(c^{BA}_{ft}/c^{SA}_{ft})^{\frac{1}{\rho-1}}(\beta^{BA}_{ft})^{\frac{\rho}{1-\rho}}}{\left((c^{BA}_{ft}/c^{SA}_{ft})/\beta^{BA}_{ft}\right)^{\frac{\rho}{\rho-1}}+\left(1/\beta^{SA}_{ft}\right)^{\frac{\rho}{\rho-1}}}\frac{C_{ft}}{c^{SA}_{ft}},\\
n^*_{ft,SA} &= \frac{(\beta^{SA}_{ft})^{\frac{\rho}{1-\rho}}}{\left((c^{BA}_{ft}/c^{SA}_{ft})/\beta^{BA}_{ft}\right)^{\frac{\rho}{\rho-1}}+\left(1/\beta^{SA}_{ft}\right)^{\frac{\rho}{\rho-1}}}\frac{C_{ft}}{c^{SA}_{ft}}.
\end{aligned}
\tag{4}
$$

Suppose that proponent $f$ perceives big and small asks as substitutes, i.e., $\rho > 0$. Given sponsoring costs, the solutions (4) imply that (i) an increase in $\beta^{SA}_{ft}$ and $\beta^{BA}_{ft}$ leads to greater $n^*_{ft,SA}$ and $n^*_{ft,BA}$, respectively, and (ii) a rise in relative support rate $\beta^{SA}_{ft}/\beta^{BA}_{ft}$ will lead to a smaller $n^*_{ft,BA}/n^*_{ft,SA}$. This second implication explains the observed patterns in the data: even if the support rates of both types of ES proposals increase over time, due to a faster rise in $\beta^{SA}_{ft}$ than $\beta^{BA}_{ft}$, their ratio increases and hence the proportion of big asks decreases over time.

**Identification of $\rho$ and a reduced-form estimate.** We derive from (4) the following reduced form:

$$
\ln\frac{n^*_{ft,BA}}{n^*_{ft,SA}} = \frac{\rho}{1-\rho}\ln\frac{\beta^{BA}_{ft}}{\beta^{SA}_{ft}} - \frac{1}{1-\rho}\ln\frac{c^{BA}_{ft}}{c^{SA}_{ft}}, \tag{5}
$$

where the error term in (5) is encapsulated in $\ln\frac{c^{BA}_{ft}}{c^{SA}_{ft}}$, i.e., a relative cost shock. Given $\ln\frac{c^{BA}_{ft}}{c^{SA}_{ft}}$, 1% increases in $\frac{\beta^{BA}_{ft}}{\beta^{SA}_{ft}}$ leads to $\frac{\rho}{1-\rho}$% increase in $\frac{n^*_{ft,BA}}{n^*_{ft,SA}}$. Technically, one can rely on the exogenous variation in $\ln\frac{\beta^{BA}_{ft}}{\beta^{SA}_{ft}}$ across $f$ and $t$ to identify $\frac{\rho}{1-\rho}$ and therefore $\rho$. To this purpose, one should have exogenous cross-sectional and/or temporal variation in $\frac{\beta^{BA}_{ft}}{\beta^{SA}_{ft}}$ that is excluded in $\ln\frac{c^{BA}_{ft}}{c^{SA}_{ft}}$. One source for such exclusion restriction is the variation in the set of companies whose meetings are attended by proponent $f$ in year $t$. Intuitively, two sponsors may have different investment mandates and sit on different companies' boards. Moreover, investment mandate could evolve over time for the same proponent. Consequently, the variation in $\beta^{BA}_{ft}$ and $\beta^{SA}_{ft}$ encapsulates the variation in mandates, across sponsors and/or years. If such variation is orthogonal to the relative cost shock (after controlling for sponsor-type and year dummies in the specification of relative cost), the identification of $\rho$ is then guaranteed. In Appendix A, we describe the constructions of $\beta_{ft}^{BA}$ and $\beta_{ft}^{SA}$ and formalize this source of identification.

In practice, we do not observe $(n_{ft,BA}^{*}, n_{ft,SA}^{*})$—both of which can be fractional—, but only the integer solutions. Denote such integers by $(n_{ft,BA}^{\text{int}*}, n_{ft,SA}^{\text{int}*})$, respectively. We can nevertheless derive an approximate form of (5) to obtain a reduced-form estimate of $\rho$:

$$\ln \frac{n_{ft,BA}^{\text{int}*}+1}{n_{ft,SA}^{\text{int}*}+1} \sim \ln \frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}} + \text{fixed effects} \tag{6}$$

where the coefficient of $\ln \frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}}$ is approximately $\frac{\rho}{1-\rho}$ and the fixed effects control for the factors such as sponsor-type and year dummies that determine $\frac{1}{1-\rho} \ln \frac{c_{ft}^{BA}}{c_{ft}^{SA}}$. We add 1 in the numerator and the denominator to account for zero number of proposals. Later on we use this reduced form regression to inform the sign and magnitude of $\rho$.[5]

**Structural estimation.** By linear regression (6), one can obtain approximate estimates of $\rho$ and the parameters in the relative sponsoring cost. Despite their informativeness, these estimates could be biased (see footnote 5). Besides, the total budget $C_{ft}$ is differenced out from the construction of (5) and (6). Consequently, the reduced-form approach is not sufficient for backing out all the parameters underlying (4). Due to these considerations, we propose a structural estimation for (4) that avoids bias and recovers all parameters.

Solutions $(n_{ft,BA}^{*}, n_{ft,SA}^{*})$ in (4) are always positive but can be fractional, while we observe non-negative integers $(n_{ft,BA}^{\text{int}*}, n_{ft,SA}^{\text{int}*})$. To relate the observed $(n_{ft,BA}^{\text{int}*}, n_{ft,SA}^{\text{int}*})$ to $(n_{ft,BA}^{*}, n_{ft,SA}^{*})$, note that $(n_{ft,BA}^{\text{int}*}, n_{ft,SA}^{\text{int}*})$ is the integer solution for $f$ in year $t$ if and only if:

$$c_{ft}^{SA} n_{ft,SA}^{\text{int}*} + c_{ft}^{BA} n_{ft,BA}^{\text{int}*} \leq C_{ft} < \min_{(n'_{SA}, n'_{BA}): u_{ft}(n'_{BA}, n'_{SA}) > u_{ft}(n_{ft,BA}^{\text{int}*}, n_{ft,SA}^{\text{int}*})} (c_{ft}^{SA} n'_{SA} + c_{ft}^{BA} n'_{BA})$$

[5] Note that in our data $n_{ft,BA}^{\text{int}*}$ is mostly smaller than $n_{ft,SA}^{\text{int}*}$ and $\beta_{ft}^{BA}$ is overall smaller than $\beta_{ft}^{SA}$. Consequently, adding one to both the numerator and denominator in (6) could bias the original dependent variable in (5) towards zero, leading to a potential downward bias in the estimated $\rho/(1-\rho)$ and therefore in $\rho$.

where $(n'_{SA}, n'_{BA})$ are non-negative integers. In other words, $(n^{\text{int}*}_{ft,BA}, n^{\text{int}*}_{ft,SA})$ is feasible (the left inequality) and it is strictly more costly than the total budget $C_{ft}$ to sponsor any other combination of small- and big-ask proposals that generates greater utility than $(n^{\text{int}*}_{ft,BA}, n^{\text{int}*}_{ft,SA})$ (the right inequality). The left-hand and the right-hand sides are both functions of $\rho$, $c^{BA}_{ft}$, and $c^{SA}_{ft}$ given observed $(n^{\text{int}*}_{ft,BA}, n^{\text{int}*}_{ft,SA})$ and estimated $(\beta^{BA}_{ft}, \beta^{SA}_{ft})$. We then obtain:

$$\begin{aligned}
&\Pr\left(n^{\text{int}*}_{ft,BA}, n^{\text{int}*}_{ft,SA} | \beta^{BA}_{ft}, \beta^{SA}_{ft}; \rho, c^{BA}_{ft}, c^{SA}_{ft}\right) \\
&= \Pr\left(c^{SA}_{ft} n^{\text{int}*}_{ft,SA} + c^{BA}_{ft} n^{\text{int}*}_{ft,BA} \leq C_{ft} < \min_{(n'_{SA}, n'_{BA}): u_{ft}(n'_{BA}, n'_{SA}) > u_{ft}(n^{\text{int}*}_{ft,BA}, n^{\text{int}*}_{ft,SA})} (c^{SA}_{ft} n'_{SA} + c^{BA}_{ft} n'_{BA})\right) \\
&= \Pr\left(n^{\text{int}*}_{ft,SA} + \frac{c^{BA}_{ft}}{c^{SA}_{ft}} n^{\text{int}*}_{ft,BA} \leq \frac{C_{ft}}{c^{SA}_{ft}} < \min_{(n'_{SA}, n'_{BA}): \left(\frac{\beta^{BA}_{ft}}{\beta^{SA}_{ft}} n'_{BA}\right)^{\rho} + (n'_{SA})^{\rho} > \left(\frac{\beta^{BA}_{ft}}{\beta^{SA}_{ft}} n^{\text{int}*}_{ft,BA}\right)^{\rho} + (n^{\text{int}*}_{ft,SA})^{\rho}} (n'_{SA} + \frac{c^{BA}_{ft}}{c^{SA}_{ft}} n'_{BA})\right).
\end{aligned} \tag{7}$$

Without loss of generality, we normalize $c^{SA}_{ft} = 1$. This amounts to reparametrizing $(c^{BA}_{ft}, C_{ft})$ to $(c^{BA}_{ft}/c^{SA}_{ft}, C_{ft}/c^{SA}_{ft})$. Consequently, we can rewrite (7) as

$$\begin{aligned}
&\Pr\left(n^{\text{int}*}_{ft,BA}, n^{\text{int}*}_{ft,SA} \middle| \beta^{BA}_{ft}, \beta^{SA}_{ft}; \rho, c^{BA}_{ft}\right) \\
&= \Pr\left(n^{\text{int}*}_{ft,SA} + c^{BA}_{ft} n^{\text{int}*}_{ft,BA} \leq C_{ft} < \min_{(n'_{SA}, n'_{BA}): \left(\frac{\beta^{BA}_{ft}}{\beta^{SA}_{ft}} n'_{BA}\right)^{\rho} + (n'_{SA})^{\rho} > \left(\frac{\beta^{BA}_{ft}}{\beta^{SA}_{ft}} n^{\text{int}*}_{ft,BA}\right)^{\rho} + (n^{\text{int}*}_{ft,SA})^{\rho}} (n'_{SA} + c^{BA}_{ft} n'_{BA})\right),
\end{aligned} \tag{8}$$

We specify $c^{BA}_{ft} = \exp\{Z_{ft}\gamma^{BA} + e^{(c)}_{ft}\}$ and $C_{ft} = \exp\{X_{ft}\gamma^{C} + e^{(C)}_{ft}\}$ where

$$\begin{bmatrix} e^{(c)}_{ft} \\ e^{(C)}_{ft} \end{bmatrix} \overset{i.i.d.}{\sim} \text{Normal}\left(\mathbf{0}, \begin{bmatrix} \sigma^2_c & r\sigma_c\sigma_C \\ r\sigma_c\sigma_C & \sigma^2_C \end{bmatrix}\right)$$

In this specification, the correlation between $c^{BA}_{ft}$ and $C_{ft}$ is determined by two sources: the potential observed correlation between $Z_{ft}$ and $X_{ft}$ and the unobserved one between $e^{(c)}_{ft}$ and $e^{(C)}_{ft}$. By allowing for the unobserved correlation, we account for the fact that both $c^{BA}_{ft}$ and $C_{ft}$ are normalized by the same $c^{SA}_{ft}$. Besides, $\sigma_c$ and $\sigma_C$ capture the residual variation that cannot be explained by the observed characteristics in $c^{BA}_{fr}$ and $C_{ft}$, respectively.

Given the estimates of $\beta_{ft}^{BA}$ and $\beta_{ft}^{SA}$ from the shareholder voting (see Appendix A for details), we can estimate $\theta = (\rho, \gamma^{BA}, \gamma^{C}, \sigma_c, \sigma_C, r)$ via the maximum likelihood estimation based on (8): denote by $\Theta$ the domain of $\theta$,

$$\hat{\theta} = \underset{\theta \in \Theta}{\operatorname{argmax}} \sum_{f,t} \log \Pr\left( n_{ft,BA}^{\text{int}*}, n_{ft,SA}^{\text{int}*} \middle| \beta_{ft}^{BA}, \beta_{ft}^{SA}; \rho, c_{ft}^{BA} \right). \tag{9}$$

We compute $\Pr\left( n_{ft,BA}^{\text{int}*}, n_{ft,SA}^{\text{int}*} \middle| \beta_{ft}^{BA}, \beta_{ft}^{SA}; \rho, c_{ft}^{BA} \right)$ by Monte-Carlo method and give the numerical details in Appendix B.

## 3.1 Results

As a first step, we run the reduced-form regression (6) to provide preliminary evidence for the substitutability between big- and small-ask ES proposals. Such reduced-form estimates could also serve as initial parameter values in the structural estimation (11), facilitating numerical convergence of the MLE.

We summarize the reduced-form results and the structural estimates in Table 3. For the reduced-form analysis, we use a specification of a single substitution parameter (first column) and one with proponent-type-specific parameters (second column). Both estimates of $\rho$ are significantly positive but different from one, suggesting that small and big asks are likely to be imperfect substitutes (recall that a higher positive value of $\rho$ means a greater degree of substitutability). When we introduce heterogeneity in $\rho$ in the second column, the estimates range between 0.09 and 0.35. Individual proponents perceive the two types of proposals to be less substitute than other types of proponents such as public pensions and SRI funds. Turning to the structural estimates, we first specify a single substitution parameter in columns (I)-(II) as the first column. The estimated $\rho$, 0.6794, is greater than the value obtained by the reduced-form approach. Moreover, comparing the results in column (I) to those in column (II) where we allow for and estimate potential correlation between $e_{ft}^{(c)}$ and $e_{ft}^{(C)}$, we find that omitting this correlation may underestimate the magnitude of the substitutability between small- and big-ask proposals. Finally, similarly to the second column, we incorporate some heterogeneity in $\rho$ across sponsor groups in column (III). After controlling for a rich set of dummies and unobserved components in sponsoring cost and budget, the estimated substitution parameters are quantitatively similar across sponsor groups; they imply an elasticity of substitution of between $1/(1-0.7003) = 3.34$ and $1/(1-0.6839) = 3.16$.

Table 3: Results: Reduced-form and Structural Estimations

| | Reduced form (6) | | Structural estimates (11) | | |
|---|---|---|---|---|---|
| Substitution parameter | | | (I) | (II) | (III) |
| $\rho$ | 0.1814<br>(0.0049) | | 0.6794 | 0.6959 | |
| $\rho_{\text{non-individual}}$ | | | | | 0.7003 |
| $\rho_{\text{individual}}$ | | 0.0907<br>(0.0087) | | | 0.6839 |
| $\rho_{\text{fund}}$ | | 0.1880<br>(0.0276) | | | |
| $\rho_{\text{other}}$ | | 0.2377<br>(0.0141) | | | |
| $\rho_{\text{public pension}}$ | | 0.2703<br>(0.0195) | | | |
| $\rho_{\text{religious}}$ | | 0.2260<br>(0.0135) | | | |
| $\rho_{\text{SRI fund}}$ | | 0.3478<br>(0.0080) | | | |
| $\rho_{\text{special interest}}$ | | 0.1600<br>(0.0150) | | | |
| $\rho_{\text{union}}$ | | 0.1725<br>(0.0107) | | | |
| Cost & budget parameters | | | | | |
| $Z_{ft}$: sponsor-type and year dummies | | | Yes | Yes | Yes |
| $X_{ft}$: sponsor-type dummies | | | Yes | Yes | Yes |
| $\sigma_c$ | | | 0.6675 | 0.6342 | 0.6582 |
| $\sigma_C$ | | | 1.0571 | 1.0639 | 1.0664 |
| $r$ | | | | 0.2361 | 0.2467 |

*Notes:* Sponsor group 1 includes individual, religious, and special interest sponsors. Sponsor group 2 includes public pension, SRI fund, and other sponsors. For the reduced-form regressions, we also include sponsor-type and year dummies as controls.

## 3.2 Counterfactual simulation

The estimated positive substitution between the two types of ES proposals in sponsoring rationalizes the empirical coexistence of an increasing shareholder support for ES proposals with a pronounced shift from big to small asks. Looking more closely, one may wonder whether this shift reflects a move by proponents from a boom-like oversupply of costly big asks toward a more pragmatic trajectory of ES progress, or instead a potentially inflated supply of lighter-touch proposals driven by voter preferences. To shed light on the deep mechanism, we now implement counterfactual exercises on the basis of the structural estimates in column (III) of Table 3.

We first define a criterion for a just supply of ES proposals to benchmark the observed provision. We draw on the SEC's threshold-based logic underlying proposal resubmission, and suppose that proposals whose support rates exceed a given threshold are practically worth sponsoring.[6] Specifically, we replace $\beta_{ft}^{BA}$ and $\beta_{ft}^{SA}$ in (2) by the probabilities that $\beta_{ft}^{BA}$ and $\beta_{ft}^{SA}$ are no less than a "rule-of-thumb" support rate, say 25%. We then simulate the resulting provision of ES proposals for each proponent-year combination and use these results to quantify the extents of over- or under-supply of big and small asks in the observed scenario (if there were any).

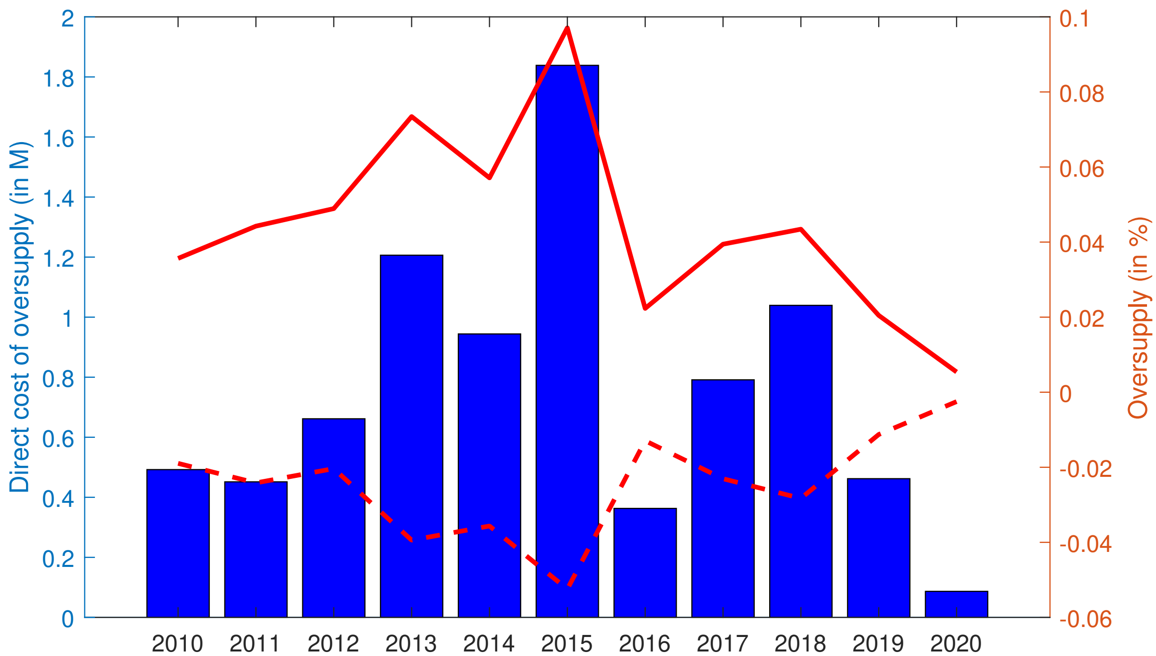
Figure 3 summarizes the counterfactual results. The red plots and the right y axis represent the oversupply of big-ask (solid) and small-ask (dotted) ES proposals relative to their counterfactual provisions in a given year. The results show a persistent but moderate under-supply of small-ask ES proposals over the decade, peaking at around 5% towards the end of 2015. In contrast, we find an excess sponsorship of big-ask proposals of up to 10% in 2015, incurring a direct annual sponsoring costs of up to two million dollars in the same year.[7]

Our results also show that, interestingly, the magnitudes of the under and over supplies gradually shrink to nearly zero in 2020 during the second half of the decade. This pattern suggests that proponents' sponsoring behavior becomes much more aligned with the just-provision benchmark, a practically optimal ES proposal provision that balances

[6]See https://www.sec.gov/files/rules/final/2020/34-89964.pdf.

[7]The cost of a shareholder proposal for a firm is calibrated at $100K as per "Final Rule: Procedural Requirements and Resubmission Thresholds under Exchange Act Rule 14a-8, SEC".

Figure 3: Oversupply of ES proposals, by year and type



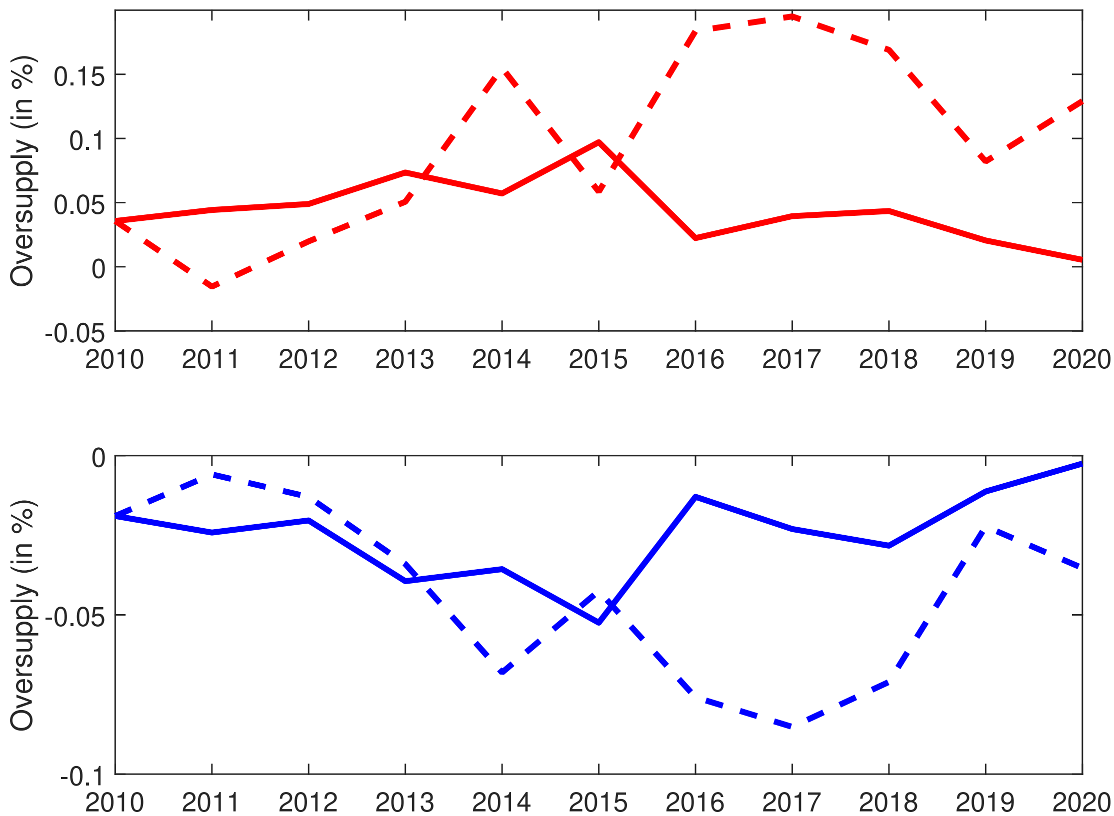

*Notes:* We compare the numbers of ES shareholder proposals ($\lambda = 1$ in (18), i.e., only support rates matter) to those by applying the probabilities of obtaining at least the "rule-of-thumb" support rate in (18) (i.e., $\lambda = 0$). The cost of a shareholder proposal for firm is calibrated at $100K (see "Final Rule: Procedural Requirements and Resubmission Thresholds under Exchange Act Rule 14a-8, SEC"). The red plots illustrate the oversupply of ES proposals (relative to the counterfactual supply in which the "rule-of-thumb" support rate is 25%) for a given year with the solid ones for concrete ES proposals and dotted for ceremonial ones. The blue bar represents the direct cost of concrete ES proposals oversupply for a given year (in millions of dollars). The estimates are based on specification (III) in Table 3.

their pass likelihoods and sponsoring costs. Intuitively, two factors could contribute to this pattern. First, and mechanically, support rates for ES proposals change, and the proponent reacts to such changes by adjusting her supply of ES proposals. Second, and additionally, the proponent's perceived costs of sponsoring ES proposals may evolve over time. Note that we allow the relative cost of sponsoring a big-ask proposal to differ across years in specification (III) of Table 3 by including year dummies in $Z_{ft}$. Our demand estimates show an overall increasing trend in the relative sponsoring cost of big asks. Besides, its overall level during 2016-2020 is significantly higher than 2010-2015 (see Figure A.3), hinting at a potentially non-negligible role of the second channel.

We implement a further set of counterfactual exercises to quantify the contribution of each channel. As an example, to switch off the second channel, we set the parameter value of the relative sponsoring cost of a big-ask ES proposal in any year between 2011 and 2020 to the level of 2010, i.e., setting the coefficient for the year dummy in $Z_{ft}$ to zero. We then re-simulate the provisions of ES proposals under the support-rate criterion in the observed scenario. If the resulting provision of a type of proposal is above (or below) the observed level, we then infer that the channel of the proponent's perceived relative sponsoring cost refrains (or promotes) the supply of this type of proposal.

Figure 4 summarizes the results. In the upper panel, we plot the oversupply of big-ask ES proposals in the observed scenario (solid line) and when we switch off the channel of proponent's perceived relative sponsoring cost (dashed line). Both are relative to the aforementioned just-provision benchmark. A remarkable pattern is that from 2016 onward, the provision of big asks would be more excessive if small and big asks were as costly as they were in 2010, while this would not overall happen during 2010-2015. This pattern is coherent with our estimates that the sponsoring cost of a big ask relative to a small one increases significantly during 2016-2020 relative to 2010-2015 (Figure A.3). Moreover, it suggests such an increase in proponents' perceived sponsoring cost as a driving force for the shrinking oversupply of big-ask proposals during the second half

Figure 4: Decomposition of ES proposals oversupply, by year and type




*Notes:* The solid red/blue plots illustrate the oversupply of big/small-ask ES proposals (relative to the counterfactual supply in which the "rule-of-thumb" support rate is 25%) for a given year. The dotted red/blue plots represent the oversupply of big/small-ask ES proposals when proponent's perceived cost of proposing a big ask relative to a small one is set to the level in 2010. The estimates are based on specification (III) in Table 3.

of the decade. The observations in the bottom panel—where we present the results for small-ask ES proposals—further confirm the importance of this channel: were it absent during 2016-2020, the provision of small asks would be significantly lower than the observed level. In other words, that small-ask proposals become relative cheaper to sponsor during this period remarkably boosts their supply, helping to shrink the extent of the under-provision.

## 3.3 Robustness checks

### 3.3.1 Whether proponents care about proposal pass probabilities in the observed scenario

Our benchmark model assumes that sponsors derive utility directly from the support rate of a proposal, as specified in (2). An alternative behavioral assumption is that sponsors place weight not only on the level of support, but also on the probability that support exceeds a salient threshold (e.g., a majority vote or the rule-of-thumb resubmission benchmark). Under such preferences, marginal increases in support beyond the threshold may have limited value, potentially altering substitution incentives across proposal types and affecting counterfactual provision.

To assess this possibility, we extend the benchmark utility specification by allowing the sponsor's payoff to depend on both the expected support rate and the probability of exceeding the relevant support threshold. The relative weight on the support-rate component is estimated from the data. If sponsors primarily value threshold attainment rather than the level of support, the estimated weight on the support-rate term would be substantially below one.

The estimates reported in Appendix C.2 imply a weight that is economically and statistically close to one, indicating that sponsors place nearly full weight on the support rate itself in the observed scenario. This finding lends support to the benchmark specification and suggests that our counterfactual analysis is not driven by restrictive assumptions about sponsor preferences.

### 3.3.2 The presence of strategic voting when fitting proposal support rates

Recent work (e.g., Michaely et al. (2024)) documents strategic voting behavior when ES proposals are close to being pivotal. Intuitively, such behavior may distort the relationship between proposal characteristics and observed support rates. In particular, if voting incentives change discontinuously when a proposal is expected to pass or fail, the conditional expectation of support may exhibit nonlinearities or kinks around pivotal thresholds (e.g., near 50%). Since our sponsoring model relies on predicted support rates, misspecification of this relationship could bias the estimated substitution parameters.

To assess this concern, we augment our baseline support-rate specification by allowing proposal characteristics to have differential effects when a proposal lies in the pivotal region, following Michaely et al. (2024). Specifically, we interact the baseline regressors with an indicator for proposals whose observed support rate lies between 20% and 80%, a range identified in the literature as capturing proposals for which strategic voting incentives are most salient. This flexible specification permits slope heterogeneity in the support equation for proposals that are potentially pivotal.

The resulting substitution parameter estimates are reported in the first two columns of Table A.2. The estimates are quantitatively similar to, and slightly larger than, the reduced-form baseline results in Table 3. This stability indicates that allowing for strategic voting-induced nonlinearities in the support function does not materially affect our estimated substitution patterns, and hence does not drive our main conclusions.

#### 3.3.3 Proposals that are sponsored but not voted.

Our baseline analysis focuses on ES proposals that were voted in shareholder meetings and excludes those that were sponsored but not presented for a vote. Sponsored proposals may fail to appear on the ballot for several reasons, including filing errors, withdrawal, or omission following an SEC challenge. In our sample (2010–2020), there are 2,369 sponsored ES proposals that were not voted on. The leading reasons are withdrawal (64.08%), omission (23.68%), and not in proxy/not applicable/not filed/not presented (9%). Among the withdrawn proposals, only 293 out of 1,518 report a stated reason, the most common being "The SEC challenge was withdrawn." In contrast, nearly all omitted proposals are associated with an SEC challenge ("Proposal was challenged at the SEC").

Excluding sponsored but unvoted proposals may generate selection concerns. Some non-presentation reasons are plausibly exogenous (e.g., filing mistakes). Others are likely endogenous. For example, proposals omitted due to failure to meet the SEC resubmission threshold (based on insufficient support in prior years) would likely have received relatively low support had they been voted on. Excluding such proposals could therefore remove systematically low-support proposals from the estimation sample, potentially biasing the estimates of substitution parameters. Conversely, selection could operate in the opposite direction: proposals that are expected to receive high shareholder support may be withdrawn prior to the meeting, for instance, following negotiations with management. In that case, excluding unvoted proposals may remove high-support observations, biasing the observed support distribution downward. The net direction of selection is therefore theoretically ambiguous.

To assess the potential magnitude of this concern, we first compare the observable characteristics of voted and unvoted proposals. The proportion of big-ask ES proposals is similar across the two groups (18.20% among voted proposals versus 20.77% among unvoted proposals). Figure A.4 plots the distribution of proponent types. While proposals sponsored by special-interest groups and unions are slightly more prevalent among voted proposals, the differences are below 5 percentage points for each type. Individual-sponsored proposals are approximately 5 percentage points more common among unvoted proposals; about 68% of these cases are recorded as "not in proxy," "not presented," or "omitted." Overall, the observable composition of proposals appears broadly comparable across the two groups.

Suppose that proponents internalize the expected payoff of all sponsored proposals, including those ultimately not voted. The key empirical challenge in incorporating unvoted proposals into the estimation is that their support rates are unobserved. We therefore consider a simple extrapolation approach. Specifically, under the hypothesis that, conditional on observable characteristics, the expected support rate of unvoted proposals equals that of voted proposals (Hypothesis Zero), we use the support-rate model estimated on voted proposals to predict counterfactual support for unvoted ones. We then re-estimate the sponsoring model using the total number of big and small asks, including both voted and predicted unvoted proposals. If excluding unvoted proposals materially biases our baseline estimates, incorporating them under Hypothesis Zero should lead to economically meaningful changes in the substitution parameters.

The results of this exercise, based on the reduced-form approach, are reported in the last two columns of Table A.2. The estimated substitution parameters are quantitatively very similar to the baseline estimates in Table 3. This stability suggests that selection arising from the exclusion of unvoted sponsored proposals is unlikely to drive our main findings.

# 4 Conclusion

This paper contends that to fully grasp the evolution of ESG shareholder democracy, we must consider the supply side of the proxy ballot. The outcomes of environmental, social, and governance (ESG) voting are not determined by a static set of initiatives; instead, what shareholders vote on is shaped by the strategic decisions made by proposal sponsors. Overlooking this interdependency can result in misleading interpretations, especially during a period like 2010–2020 when both voting behavior and the content of proposals were changing rapidly.

We observed two significant trends occurring simultaneously over the past decade. First, shareholder support for environmental and social (ES) proposals increased significantly. Second, the nature of these proposals shifted from "big-ask" resolutions, which demand substantial operational changes, to "small-ask" resolutions focused on disclosure, reporting, audits, and oversight. The decline in big-ask proposals has been striking, dropping from a considerable portion of ES ballots at the beginning of the decade to just a small fraction by 2020. This change is often interpreted as evidence that ESG engagement has become more superficial, or "greenwashing," since disclosure requests are seen as easier to fulfill, less costly, and more beneficial for a company's reputation. However, this interpretation assumes that the content of the proposals is exogenous, which may not capture the full picture.

Our main contribution is to embed proposal content in a structural model of sponsor decision-making. In the model, a proponent chooses a portfolio of proposal types to maximize a CES-style objective that aggregates expected voting support across types, subject to a sponsoring budget. This structure yields a simple but powerful insight: when proposal types are substitutes, changes in relative voter support reshuffle the composition of proposals that are rational to file. As a result, observed support rates reflect both changes in voting and changes in selection—an equilibrium feedback that standard reduced-form analyses can miss. Estimating the model, we find economically meaningful substitutability between big- and small-ask ES proposals, along with time-varying relative sponsoring costs that increase for big asks in the later half of the decade.

We then use the estimated model to evaluate whether the compositional shift is better characterized as greenwashing or pragmatism. Counterfactual benchmarks grounded in resubmission-style threshold logic imply that the early decade featured an "oversupply" of big asks relative to a pragmatic criterion of sponsoring proposals likely to attract meaningful support, while small asks were modestly undersupplied. Over time, both distortions shrink: the supply of big asks converges toward the benchmark, and the shortfall of small asks becomes negligible. This pattern is difficult to reconcile with a story of progressively inflated symbolic activism. Instead, it suggests an equilibrium correction in which sponsors learn, adapt, and reoptimize under voting and cost constraints—shifting toward proposals that can plausibly win broader coalitions and thereby deliver incremental ES progress.

The broader lesson we can draw is both methodological and substantive. Methodologically, evaluating shareholder democracy requires modeling both the right to propose and the right to vote, while also recognizing that the ballot is influenced by various factors. Substantively, the observed increase in support for environmental and social (ES) should not be viewed simply as a one-dimensional indicator of investor "greenness." Instead, it results from a combination of changing voter behavior and a strategic shift in the demands of activists. Future research could broaden this approach by examining multiple proposal categories, exploring strategic interactions among sponsors, analyzing the dynamics of proposal withdrawal and negotiation, and—crucially—mapping how proposal portfolios relate to corporate policies and real-world externalities.

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# Appendix

## A Estimation of proposal support rate

For an ES proposal $j$ voted on at company $i$'s meeting of year $t$, we observe its support rate, denoted by $\beta_{jit} \in (0,1)$. We use a regression model to fit the support rate:

$$\ln \frac{\beta_{jit}}{1-\beta_{jit}} \sim \text{j's type dummies} \times \text{year dummies} + \text{j's type dummies} \times \text{j's sponsor type dummies}$$
$$+ \text{company dummies} \times \text{year dummies} + \text{j's sponsor type dummies} \times \text{year dummies}, \quad (10)$$

where proposal types are big-ask or small-ask. We can extend (10) to account for strategic voting behaviors documented in Michaely et al. (2024). Define dummies of strategic voting as dummies of $\beta_{jit} \in [0.2, 0.8]$ and $\beta_{jit} \notin [0.2, 0.8]$.

$$\ln \frac{\beta_{jit}}{1-\beta_{jit}} \sim \text{j's type dummies} \times \text{dummies of strategic voting} \times \text{year dummies}$$
$$+ \text{j's type dummies} \times \text{dummies of strategic voting} \times \text{j's sponsor type dummies}$$
$$+ \text{company dummies} \times \text{year dummies} + \text{j's sponsor type dummies} \times \text{year dummies}.$$

In other words, we allow for potentially different proposal-type-time-specific coefficients depending on whether the proposal is subject to strategic voting behaviors.

Let $\hat{\beta}_{jit}$ denote the estimated support rate for proposal $j$ in company $i$'s meeting of year $t$, and let $\mathcal{N}_{ft}$ be the set of companies whose meetings in year $t$ are attended by $f$ and $f$ can propose a proposal in these meetings (with $N_{ft}$ being its cardinality). For type $\in \{\text{big ask}, \text{small ask}\}$, the average support rate for a big ask sponsored by $f$ in year t is then estimated as:

$$\beta_{ft}^{BA} = \frac{1}{N_{ft}} \sum_{j \text{ is sponsored by f in i's meeting and is a big ask}, i \in \mathcal{N}_{ft}} \hat{\beta}_{jit}.$$

$\beta_{ft}^{SA}$ is defined in a similar way.

By construction, the variation in $\beta_{ft}^{BA}$ and $\beta_{ft}^{SA}$ across $f$ and $t$ originates from two sources. First, for proposals of the same type, the estimated $\hat{\beta}_{jit}$ can vary across companies, their sponsor types, and years. Second, the set $\mathcal{N}_{ft}$ can vary across proponent and years, leading to additional variation in $\beta_{ft}^{BA}$ and $\beta_{ft}^{SA}$. Since we control for year and sponsor-type dummies in the specification of relative costs (see Table 3), as long as the variation from the second source is orthogonal to the remaining error term in the relative cost, we will have the required excluded variation to identify substitution parameter $\rho$.

# B Maximum Likelihood Estimation: Details

Given the estimates of $\beta_{ft}^{BA}$ and $\beta_{ft}^{SA}$ from the shareholder voting (see Appendix A for details), we can estimate $\theta = (\rho, \gamma^{BA}, \gamma^{C}, \sigma_c, \sigma_C, r)$ via the maximum likelihood estimation based on (8): denote by $\Theta$ the domain of $\theta$,

$$\hat{\theta} = \underset{\theta \in \Theta}{\operatorname{argmax}} \sum_{f,t} \log \Pr\left( n_{ft,BA}^{\text{int}*}, n_{ft,SA}^{\text{int}*} \middle| \beta_{ft}^{BA}, \beta_{ft}^{SA}; \rho, c_{ft}^{BA} \right). \tag{11}$$

We compute $\Pr\left( n_{ft,BA}^{\text{int}*}, n_{ft,SA}^{\text{int}*} \middle| \beta_{ft}^{BA}, \beta_{ft}^{SA}; \rho, c_{ft}^{BA} \right)$ using the simulated likelihood:

$$\begin{aligned}
\Pr\left( n_{ft,BA}^{\text{int}*}, n_{ft,SA}^{\text{int}*} \middle| \beta_{ft}^{BA}, \beta_{ft}^{SA}; \rho, c_{ft}^{BA} \right) \approx & \frac{1}{M} \sum_{m=1}^{M} \mathbf{1} \Big\{ n_{ft,SA}^{\text{int}*} + \exp\{Z_{ft}\gamma^{BA} + \sigma_c v_{ftm}^{(c)}\} n_{ft,BA}^{\text{int}*} \\
& < \min_{(n'_{SA}, n'_{BA}) : \left(\frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}} n'_{BA}\right)^{\rho} + (n'_{SA})^{\rho} > \left(\frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}} n_{BA}\right)^{\rho} + n_{SA}^{\rho}} (n'_{SA} + \exp\{Z_{ft}\gamma^{BA} + \sigma_c v_{ftm}^{(c)}\} n'_{BA}) \Big\} \\
& \times \Pr\Bigg( \log\left( n_{ft,SA}^{\text{int}*} + \exp\{Z_{ft}\gamma^{BA} + \sigma_c v_{ftm}^{(c)}\} n_{ft,BA}^{\text{int}*} \right) - X_{ft}\gamma^{C} \leq e_{ft}^{(C)} \\
& < \log\left( \min_{(n'_{SA}, n'_{BA}) : \left(\frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}} n'_{BA}\right)^{\rho} + (n'_{SA})^{\rho} > \left(\frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}} n_{ft,BA}^{\text{int}*}\right)^{\rho} + (n_{ft,SA}^{\text{int}*})^{\rho}} (n'_{SA} + \exp\{Z_{ft}\gamma^{BA} + \sigma_c v_{ftm}^{(c)}\} n'_{BA}) \right) - X_{ft}\gamma^{C} \,\Bigg|\, e_{ft}^{(c)} = v_{ftm}^{(c)} \Bigg)
\end{aligned}$$

where $v_{ftm}^{(c)}$ are i.i.d. simulated standard normal random variables with $m = 1, ..., M$ for given $ft$. We use $M = 400$ in the structural estimation. Note that

$$
\begin{aligned}
&\Pr\Bigg( \log\left(n_{ft,SA}^{\text{int}*} + \exp\{Z_{ft}\gamma^{BA} + \sigma_c v_{ftm}^{(c)}\} n_{ft,BA}^{\text{int}*}\right) - X_{ft}\gamma^C \leq e_{ft}^{(C)} \\
&< \log\left( \min_{(n'_{SA}, n'_{BA}) : \left(\frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}} n'_{BA}\right)^{\rho} + (n'_{SA})^{\rho} > \left(\frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}} n_{ft,BA}^{\text{int}*}\right)^{\rho} + (n_{ft,SA}^{\text{int}*})^{\rho}} (n'_{SA} + \exp\{Z_{ft}\gamma^{BA} + \sigma_c v_{ftm}^{(c)}\} n'_{BA}) \right) - X_{ft}\gamma^C \Bigg| e_{ft}^{(C)} = \sigma_c v_{ftm}^{(c)} \Bigg) \\
&= \Phi\left( \frac{\log\left( \min_{(n'_{SA}, n'_{BA}) : \left(\frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}} n'_{BA}\right)^{\rho} + (n'_{SA})^{\rho} > \left(\frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}} n_{ft,BA}^{\text{int}*}\right)^{\rho} + (n_{ft,SA}^{\text{int}*})^{\rho}} (n'_{SA} + \exp\{Z_{ft}\gamma^{BA} + \sigma_c v_{ftm}^{(c)}\} n'_{BA}) \right) - X_{ft}\gamma^C - r\sigma_C v_{ftm}^{(c)}}{\sqrt{1-r^2}\sigma_C} \right) \\
&- \Phi\left( \frac{\log\left(n_{ft,SA}^{\text{int}*} + \exp\{Z_{ft}\gamma^{BA} + \sigma_c v_{ftm}^{(c)}\} n_{ft,BA}^{\text{int}*}\right) - X_{ft}\gamma^C - r\sigma_C v_{ftm}^{(c)}}{\sqrt{1-r^2}\sigma_C} \right)
\end{aligned}
$$

where $\Phi$ is the distribution function of the standard normal distribution.

# C Extensions of the benchmark proposal-sponsoring model

We present two extensions of the benchmark sponsoring model in the main text.

## C.1 Multi-category multi-type sponsoring model

The benchmark model considers one category of proposals (ES) with two types (small and big asks). We extend it to accommodate multiple categories, e.g., ES and governance categories, each with potentially more than two types of proposals. We remove $f$ and $t$ to simplify the exposition.

Suppose that there are $G$ categories of proposals. Each category $g = 1, ..., G$ has $J_g$ types of proposals and denote by $\mathcal{J}_g$ the set of these types in category $g$. We specify proponent's utility function to follow a nested-CES style:

$$
u((n_{j1})_{j \in \mathcal{J}_1}, ..., (n_{jG})_{j \in \mathcal{J}_G}) = \left[ \sum_{g=1} \alpha_g \left( \sum_{j \in \mathcal{J}_g} (\beta_{jg} n_{jg})^{\rho_g} \right)^{\frac{\rho}{\rho_g}} \right]^{\frac{1}{\rho}} + u_0, \tag{12}
$$

where $\beta_{jg}$ is the shareholder support rate of proposal type $j$ in category $g$, $\rho_g$ captures the substitution pattern among proposals in category $g$, and $\rho$ captures the substitution pattern across different categories. $\alpha_g$ captures proponent's category-specific preference for proposals. $u_0$ is proponent's utility when she does not sponsor any proposal. The proponent is subject to the following budget constraint:

$$\sum_{g=1,\dots,G, j\in\mathcal{J}_g} c_{jg} n_{jg} \leq C.$$

More broadly, (12) belongs to the class of two-layer CES models. As an example, the first layer is proposal category, say $g \in \{\text{ES}, \text{Governance}\}$; the second layer in the ES category is $j \in \{\text{small ask}, \text{big small}\}$. Then, we have:

$$u(n_{\text{small, ES}}, n_{\text{big, ES}}, n_{\text{G}}) = \left[\alpha_{ES}\left[(\beta_{\text{small, ES}} n_{\text{small, ES}})^{\rho_{ES}} + (\beta_{\text{big, ES}} n_{\text{big, ES}})^{\rho_{ES}}\right]^{\frac{\rho}{\rho_{ES}}} + \alpha_G n_G^{\frac{\rho}{\rho_G}}\right]^{\frac{1}{\rho}} + u_0. \tag{13}$$

One can further extend (12) to a multi-layer nested-CES model. In such models, a type of proposals in a category can have several sub types. Accordingly, one can has different substitution patterns at multiple levels: substitution parameters for proposals within a sub type, those for the substitution across different types, and across different categories. We leave this generalization for future research.

### C.1.1 Optimal proposal sponsoring

Denote by $\lambda$ the Lagrangian multiplier for the budget constraint, and define $\pi_g = \sum_{j\in\mathcal{J}_g}(\beta_{jg} n_{jr})^{\rho_g}$. We then obtain the first-order condition of the optimization: for each $g = 1, \dots, G$ and $j \in \mathcal{J}_g$,

$$\alpha_g \left(\sum_{g=1}^{G} \alpha_g \pi_g\right)^{\rho-1} \pi_g^{\frac{\rho}{\rho_g}-1} (\beta_{jg} n_{jg})^{\rho_g} = \lambda n_{jg} c_{jg}. \tag{14}$$

Summing up (14) over $j$ and $g$ and combining them with the budget constraint $\sum_{j,g} c_{jg} n_{jg} = C$, we obtain:

$$\lambda = \frac{(\sum_{g=1}^G \pi_g \alpha_g)^{\rho-1} \sum_{g=1}^G \alpha_g \pi_g^{\frac{\rho}{\rho_g}-1}}{C}.$$

Consequently,

$$n_{jg} = \left( \frac{C}{c_{jg}} \frac{\beta_{jg}^{\rho_g}}{\pi_g} \frac{\alpha_g \pi_g^{\frac{\rho}{\rho_g}}}{\sum_{g=1}^G \alpha_g \pi_g^{\frac{\rho}{\rho_g}}} \right)^{\frac{1}{1-\rho_g}}. \tag{15}$$

Plugging (15) in the expression of $\pi_g$, we obtain:

$$\pi_g = \alpha_g^{\frac{\rho_g}{1-\rho}} \left( \sum_{g=1}^G \alpha_g \pi_g^{\frac{\rho}{\rho_g}} \right)^{\frac{\rho_g}{\rho-1}} \left[ \sum_{j \in \mathcal{J}_g} \left( \frac{\beta_{jg} C}{c_{jg}} \right)^{\frac{\rho_g}{1-\rho_g}} \right]^{\frac{1-\rho_g}{1-\rho}} \tag{16}$$

Then:

$$\begin{aligned}
\sum_{g=1}^G \alpha_g \pi_g^{\frac{\rho}{\rho_g}} &= \sum_{g=1}^G \alpha_g \left\{ \alpha_g^{\frac{\rho_g}{1-\rho}} \left[ \sum_{j \in \mathcal{J}_g} \left( \frac{\beta_{jg} C}{c_{jg}} \right)^{\frac{\rho_g}{1-\rho_g}} \right]^{\frac{1-\rho_g}{1-\rho}} \right\}^{\frac{\rho}{\rho_g}} \\
&= \left( \sum_{g=1}^G \alpha_g \pi_g^{\frac{\rho}{\rho_g}} \right)^{\frac{\rho}{\rho-1}} \sum_{g=1}^G \alpha_g^{\frac{1}{1-\rho}} \left[ \sum_{j \in \mathcal{J}_g} \left( \frac{\beta_{jg} C}{c_{jg}} \right)^{\frac{\rho_g}{1-\rho_g}} \right]^{\frac{(1-\rho_g)\rho}{\rho_g(1-\rho)}} \\
&\Longrightarrow \\
\sum_{g=1}^G \alpha_g \pi_g^{\frac{\rho}{\rho_g}} &= \left\{ \sum_{g=1}^G \alpha_g^{\frac{1}{1-\rho}} \left[ \sum_{j \in \mathcal{J}_g} \left( \frac{\beta_{jg} C}{c_{jg}} \right)^{\frac{\rho_g}{1-\rho_g}} \right]^{\frac{(1-\rho_g)\rho}{\rho_g(1-\rho)}} \right\}^{1-\rho}.
\end{aligned}$$

Plugging $\sum_{g=1}^G \alpha_g \pi_g^{\frac{\rho}{\rho_g}}$ back to (16), we obtain the expression of $\pi_g$. Further plugging the obtained expression of $\pi_g$ to (15), we finally get the solution $n_{jg}$.

To obtain the solution in the benchmark model, it suffices to set $G = 1$ , $\alpha_1 = 1$, and $\mathcal{J}_1 = \{\text{small ask}, \text{big ask}\}$.

### C.1.2 Reduced-form analysis

Along the lines of the reduced-form analysis of the benchmark model, we derive analogous regressions deliver approximate estimates of the substitution parameters, $\rho_g$ for

$g = 1, ..., G$ and $\rho$, and shed light on the source of identification for these parameters in the general setting.

First, using (15) and taking $1 \in \mathcal{J}_g$ as a reference proposal, we obtain:

$$\ln \frac{n_{jg}}{n_{1g}} = \frac{\rho_g}{1-\rho_g} \ln \frac{\beta_{jg}}{\beta_{1g}} - \frac{1}{1-\rho_g} \frac{c_{jg}}{c_{1g}}.$$

This within-category reduced form is identical to (5). To identify the substitution parameter for category $g$, $\rho_g$, it suffices to vary exogenously the log of the relative support rate $\ln \frac{\beta_{jg}}{\beta_{1g}}$ that is not collinear with the variation in $\ln \frac{c_{jg}}{c_{1g}}$. Besides, we obtain:

$$\ln \frac{n_{jg}^{\text{int}}+1}{n_{1g}^{\text{int}}+1} \sim \ln \frac{\beta_{jg}}{\beta_{1g}} + \text{fixed effects}, \tag{17}$$

where the coefficient of $\ln \frac{\beta_{jg}}{\beta_{1g}}$ is approximately $\frac{\rho_g}{1-\rho_g}$ and the fixed effects control for the factors that determine the log of the ratio of the sponsoring costs.

We now move $\rho$, the substitution parameter for proposals across categories. Note that once we obtain approximate estimates of $\rho_g$, denoted by $\hat{\rho}_g$, from (17) for each $g = 1, ..., G$, we can construct an approximate value of $\pi_g$ as:

$$\hat{\pi}_g = \sum_{j \in \mathcal{J}_g} (\beta_{jg} n_{jr})^{\hat{\rho}_g}.$$

Using (15) and taking proposal 1 in category 1 as the reference, we obtain:

$$\ln \frac{n_{jg}^{1-\rho_g}}{n_{11}^{1-\rho_1}} - \ln \frac{\beta_{jg}^{\rho_g}}{\beta_{11}^{\rho_1}} + \ln \frac{\pi_g}{\pi_1} = -\ln \frac{c_{jg}}{c_{11}} + \ln \frac{\alpha_g}{\alpha_1} + \rho \left( \frac{\ln \pi_g}{\rho_g} - \frac{\ln \pi_1}{\rho_1} \right).$$

Conceptually, to identify $\rho$, one can use temporal variation in $\frac{\ln \pi_g}{\rho_g} - \frac{\ln \pi_1}{\rho_1}$. Due to the construction of $\pi_g$, such variation could originate from the nonlinear variation in support rates.

Similarly to (17), we also obtain a reduced-form regression for $\rho$:

$$\ln \frac{n_{jg}^{1-\hat{\rho}_g}+1}{n_{11}^{1-\hat{\rho}_1}+1} - \ln \frac{\beta_{jg}^{\hat{\rho}_g}}{\beta_{11}^{\hat{\rho}_1}} + \ln \frac{\hat{\pi}_g}{\hat{\pi}_1} \sim \left( \frac{\ln \hat{\pi}_g}{\hat{\rho}_g} - \frac{\ln \hat{\pi}_1}{\hat{\rho}_1} \right) + \text{fixed effects},$$

where the fixed effects include category dummies to control for $\ln \frac{\alpha_g}{\alpha_1}$ in addition to those to control for the relative sponsoring costs. The coefficient for $\frac{\ln \hat{\pi}_g}{\hat{\rho}_g} - \frac{\ln \hat{\pi}_1}{\hat{\rho}_1}$ is then an approximate estimate of $\rho$.

## C.2 When proponents may also care about pass probabilities

We extend the sponsor's utility function to allow preferences over both the level of support and the probability that support exceeds a salient rule-of-thumb threshold. Specifically, we consider:

$$u_{ft}(n_{BA}, n_{SA}) = \left[ ((\beta_{ft}^{BA})^{\lambda} (p_{ft}^{BA})^{1-\lambda} n_{BA})^{\rho} + ((\beta_{ft}^{SA})^{\lambda} (p_{ft}^{SA})^{1-\lambda} n_{SA})^{\rho} \right]^{\frac{1}{\rho}} + u_{ft}, \tag{18}$$

where $p_{ft}^{BA}$ and $p_{ft}^{SA}$ denote the probabilities that support for big and small asks exceeds the relevant threshold. The parameter $\lambda \in [0, 1]$ governs the relative weight placed on the support rate versus pass probability. When $\lambda = 1$, the model reduces to the benchmark specification in which sponsors care only about support rates. When $\lambda = 0$, sponsors care exclusively about threshold attainment.

Subject to the same budget constraint (3), the optimal sponsoring choices are:

$$\begin{aligned} n_{ft,BA}^{*} &= \frac{(c_{ft}^{BA}/c_{ft}^{SA})^{\frac{1}{\rho-1}} {\beta_{ft}^{BA}}^{\frac{\rho\lambda}{1-\rho}} \left(p_{ft}^{BA}\right)^{\frac{\rho(1-\lambda)}{1-\rho}}}{(c_{ft}^{BA}/c_{ft}^{SA})^{\frac{\rho}{\rho-1}} \left(1/\beta_{ft}^{BA}\right)^{\frac{\lambda\rho}{\rho-1}} \left(1/p_{ft}^{BA}\right)^{\frac{(1-\lambda)\rho}{\rho-1}} + \left(1/\beta_{ft}^{SA}\right)^{\frac{\lambda\rho}{\rho-1}} \left(1/p_{ft}^{SA}\right)^{\frac{(1-\lambda)\rho}{\rho-1}}} \frac{C_{ft}}{c_{ft}^{SA}}, \\ n_{ft,SA}^{*} &= \frac{\left(\beta_{ft}^{SA}\right)^{\frac{\rho\lambda}{1-\rho}} \left(p_{ft}^{SA}\right)^{\frac{\rho(1-\lambda)}{1-\rho}}}{(c_{ft}^{BA}/c_{ft}^{SA})^{\frac{\rho}{\rho-1}} \left(1/\beta_{ft}^{BA}\right)^{\frac{\lambda\rho}{\rho-1}} \left(1/p_{ft}^{BA}\right)^{\frac{(1-\lambda)\rho}{\rho-1}} + \left(1/\beta_{ft}^{SA}\right)^{\frac{\lambda\rho}{\rho-1}} \left(1/p_{ft}^{SA}\right)^{\frac{(1-\lambda)\rho}{\rho-1}}} \frac{C_{ft}}{c_{ft}^{SA}}. \end{aligned} \tag{19}$$

The implied reduced form is:

$$\ln \frac{n_{ft,BA}^{*}}{n_{ft,SA}^{*}} = \frac{\rho}{1-\rho} \ln \frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}} + \frac{(1-\lambda)\rho}{1-\rho} \left( \ln \frac{p_{ft}^{BA}}{p_{ft}^{SA}} - \ln \frac{\beta_{ft}^{BA}}{\beta_{ft}^{SA}} \right) - \frac{1}{1-\rho} \ln \frac{c_{ft}^{BA}}{c_{ft}^{SA}}, \tag{20}$$

with $0 \leq \lambda \leq 1$. Variation in relative pass probabilities across proposal types allows separate identification of $\lambda$ from $\rho$.

We estimate equation (20) with sponsor-type specific $\rho$ and $\lambda$, imposing the constraint

$0 \leq \lambda \leq 1$. The estimated $\lambda$'s are statistically indistinguishable from one for all sponsor types except funds and public pensions. For fund proponents, $\hat{\lambda} = 0.95$; for public pensions, $\hat{\lambda} = 0.94$. Both are economically close to one. In addition, the estimated substitution parameters remain quantitatively close to those reported in the second column of Table 3.

Overall, the data provide little evidence that sponsors place economically meaningful weight on pass probabilities beyond the support rate itself. This finding supports the benchmark utility specification and reinforces the validity of our counterfactual analysis.

# D Additional Tables and Figures

Table A.1: Proposal Type Examples

| # | Big-Ask Proposals |
|---|---|
| 1 | Adopt/report on recycling strategy |
| 2 | Adopt sustainable paper purchasing policy |
| 3 | Adopt Quantitative Compnay-wide GHG Goals |
| 4 | Minimize pool storage of spent nuclear fuel |
| 5 | No sales to government of Sudan |
| 6 | Implement a Water Quality Stewardship Policy |
| 7 | improve standards for pig treatment |
| 8 | Implement third-part supply chain monitoring |
| 9 | adopt online advertising principles |
| 10 | Adopt Global Policy Regarding the Rights of Indigenous People |
| 11 | Label Products with GMO Ingredients |
| 12 | No added flavors to tobacco |
| 13 | Adopt Quantitative GHG Goals for Products and Operations |
| 14 | Adopt Policy to Restrict Non-Required Animal Testing |
| 15 | Phase in CAK chicken slaughter |
| 16 | Phase in cage-free eggs to 5% |
| 17 | Adopt Policy to Prohibit Political Contributions |
| 18 | No child labor in tobacco production |
| 19 | Source 75% Cage-Free Eggs |
| 20 | Mediation of Alleged Human Rights Violations |
| **#** | **Small-Ask Proposals** |
| 1 | Report on Actions to Reduce Impact of Enhanced Oil Recovery |
| 2 | Report on Plan to Address Supply Chain Impacts on Deforestation |
| 3 | Report on sustainability, incl. climate change |
| 4 | Report Analyzing Renewable Energy Adoption |
| 5 | Report on Arab and non-Arab Employees using EEO-1 Categories |
| 6 | Report on lobbying Payments and Policy |
| 7 | Report on Global Warming Science |
| 8 | Report on Fleet GHG Emissions in Relation to CAFE Standards |
| 9 | Report on efforts to reduce prison rape |
| 10 | Report on Distributed Renewable Generation Resources |
| 11 | Report on Supply Chain and Deforestation |
| 12 | Require supplier workplace safety/human rights report |
| 13 | Publish Annually a Report Assessing Diversity and Inclusion Efforts |
| 14 | Adopt Policy to Annually Disclose EEO-1 Data |
| 15 | Report on Application of Company Non-Discrimination Policies in States with Pro-Discrimination Laws |
| 16 | Report on Whistleblower Policies and Practices |
| 17 | Establish human rights committee |
| 18 | Report on low-flow showerheads |
| 19 | Report on Plans to Address Stranded Carbon Asset Risks |
| 20 | Report on recycling |

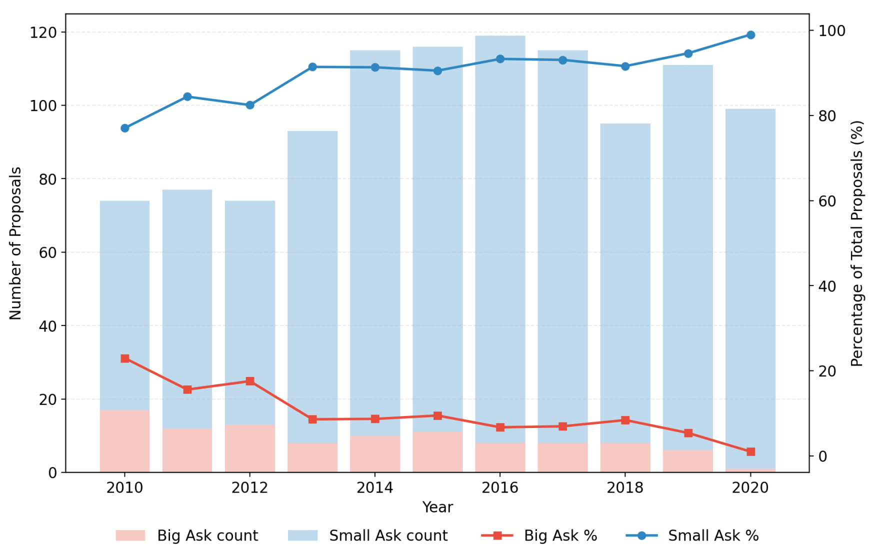
*Notes:* The table gives 20 random examples of big-ask and small-ask proposals. Big-ask proposals request substantive operational changes; small-ask proposals request disclosure, reporting, or oversight mechanisms.

Table A.2: Estimation of Substitution Parameters: Robustness Checks

| Substitution parameter | Presence of strategic voting | Including unvoted proposals |
|---|---|---|
| $\rho$ | 0.2318 (0.0034) | 0.2325 (0.0058) |
| $\rho_{\text{individual}}$ | 0.1771 (0.0089) | 0.0999 (0.0224) |
| $\rho_{\text{fund}}$ | 0.1288 (0.0065) | 0.2862 (0.0280) |
| $\rho_{\text{other}}$ | 0.2671 (0.0090) | 0.3321 (0.0143) |
| $\rho_{\text{public pension}}$ | 0.3852 (0.0131) | 0.3145 (0.0225) |
| $\rho_{\text{religious}}$ | 0.3418 (0.0074) | 0.2703 (0.0159) |
| $\rho_{\text{SRI fund}}$ | 0.4204 (0.0059) | 0.4434 (0.0077) |
| $\rho_{\text{special interest}}$ | 0.2558 (0.0115) | 0.2109 (0.0175) |
| $\rho_{\text{union}}$ | 0.2398 (0.0086) | 0.2173 (0.0127) |

*Notes:* The results are obtained from the reduced-form regressions (6). In these regressions, we include sponsor-type and year dummies as controls.

Figure A.1: Trend of Proposals, Pivotal Proposals only




*Notes:* This figure shows the number of proposals and their support rate by content type, for the set of pivotal proposals. Pivotal proposals are defined as proposals that received support between 20% and 80% following Michaely et al. (2024).

Figure A.2: Share of Big-Ask Proposals, by Sponsor Type

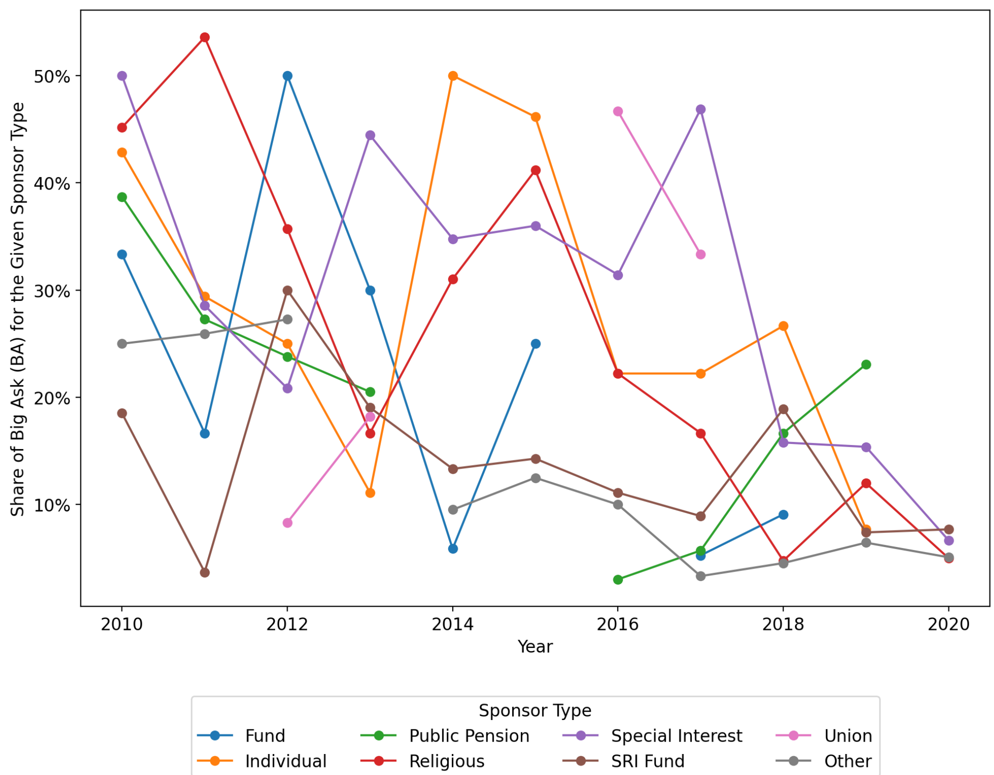


Figure A.3: Estimated Ratios of Sponsoring Costs (Big vs Small asks)

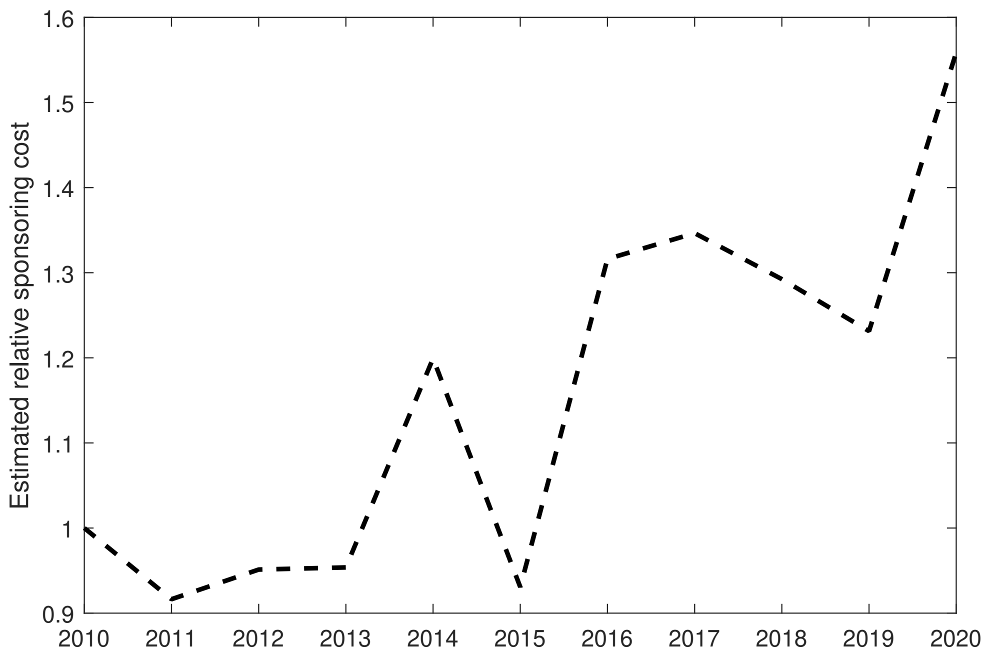



Figure A.4: Distribution of proponent types among voted and unvoted ES proposals