

Do Environmental and Social Funds Sell When They Disagree?

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Abstract

We investigate the role of Environmental and Social (ES) funds in corporate governance through exit. ES funds constrain their asset allocation to “good” ES stocks and our hypothesis is that this reduces their ability to influence portfolio firms through the threat of exit. We empirically test this hypothesis by studying their portfolio behavior when they are in disagreement with management at the general assembly of portfolio companies. We find that, contrary to conventional funds, ES funds do not sell portfolio companies when their voting behavior is in contradiction with the management or the voting outcome. Consistent with asset allocation constraints, the results are mainly valid when there are few firms of equally good ES standing available to replace portfolio firms. These results cannot be explained by the differences in characteristics and holdings between ES and conventional funds. Our results cast doubts on the ability of ES funds to influence the policies of portfolio firms through governance via exit.

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1 Introduction

Over the last two decades, there has been a significant increase in investor’s interest in sustainability, and this has translated into increasing flows to Environmental and Social (ES) mutual funds, that have a stated objective about the Environmental or Social behavior of the firms they invest in (Hartzmark and Sussman 2019; Ceccarelli, Ramelli, and Wagner 2021; Kim and Yoon 2022). Regarding how ES funds achieve their stated investment objectives, the finance literature has shown that ES funds invest in firms with already “good” environmental or social behavior (Heath et al. 2021) and then influence these selected portfolio firms through governance by voice (Dikolli et al. 2022, Lowry, Wang, and Wei 2022) and exit (Gantchev, Giannetti, and Li 2022). While “Voice” mainly involves engaging and voting with the management to promote improvements, the mechanism of governance via exit uses the threat of exit to discipline the management (Admati and Pfleiderer 2009 and Edmans 2009). In this paper, we hypothesize and provide empirical evidence that ES funds have reduced ability to influence portfolio firms through the threat of exit; ES funds have an investment universe restricted to “good” ES stocks and our hypothesis is that this asset allocation constraint, additional compared to conventional (Non-ES) funds, makes more difficult the eventual replacement of portfolio stocks. We empirically test this hypothesis by considering situations in which funds would normally sell portfolio stocks due to a disagreement with the management and this happens when funds take the opposite side of management at the general assembly (Becht, Franks, and Wagner 2021 find that negative shareholder votes coincide with large sell trades); we focus on management proposals voted in shareholder meetings of portfolio companies in the sample period between 2006 and 2021 and we find that ES funds, contrary to conventional funds, do not sell portfolio companies when their voting behavior is in contradiction with the management or the voting outcome.

Our main hypothesis of the paper is that ES funds have an additional asset allocation constraint compared to conventional funds. ES funds have a dual objective as they add environmental-social benefit goals to the financial goals, with the latter not being secondary (Geczy et al. 2021) and constituting the sole objective of conventional funds. They mainly pursue ES goals through their asset allocation (Heath et al. 2021, Bialkowski and Starks 2016) as they adopt the blanket exclusion for stocks in externality-producing industries and generally invest in stocks with higher ES

ratings compared to conventional funds. Our hypothesis is that these additional investment restrictions regarding the ES profile of portfolio companies reduce their investment universe and make more difficult the eventual replacement of portfolio firms.

In order to test that regression results originate specifically from this asset allocation channel, we decompose the main results to verify which situations drive the differential effect between ES and conventional funds. More specifically, we investigate whether it is those ES funds who have the smallest pool of available investment alternatives who react the least being in a minority at the general meeting. If our hypothesis is correct, we expect the results to be mostly driven by the cases in which the constraints of ES funds are more binding. For a given mutual fund voting in the shareholder meeting of a given portfolio company, we create a measure that captures the extent to which there are available potential replacement stocks in the same industry and we define it by considering the proportion of "good" ES stocks in the industry in which the funds has not invested yet (we define the set of "good" ES stocks based on the top 25% stocks held by frequency by ES funds). Our additional regression analysis shows that the baseline results are mostly determined by the situations in which the ES funds have low residual industry availability of potential replacement stocks, supporting the hypothesis of additional asset allocation constraints of ES funds.

Beyond allocation constraints, ES and conventional funds may react differently to general meeting results as a consequences of differences in other characteristics: among others, ES funds are smaller in size than conventional ones, have a lower portfolio turnover and are more likely to be dissenters. For instance, the lower portfolio turnover would explain the results based on a greater long termism of ES funds. We consider all the observable dimensions in which ES and conventional funds differ statistically and we include in the regression model a control for each characteristic conditional on fund disagreement and we confirm that the main results remain economically and statistically unchanged.

One concern of the corporate governance literature is that holdings are endogenous and ES and conventional funds may select stocks with different characteristics to invest in. Endogeneity concerns in our regression setting are relatively limited and our baseline regression model already controls for differences in stock characteristics; however, it is still possible that, conditional on disagreement, funds react differently based stock characteristics. To further rule out explanations

that attribute the results to differences between firms and not funds, we include in the regression model a control for each stock characteristic conditional on disagreement and we confirm that the main results are robust to these controls.

We complement the main analysis by extending it along two different lines: on the one hand, we only consider the most recent sample sub-period between 2015 and 2021; on the other hand, we consider the disagreement on shareholder proposals, instead of management proposals. We find that our baseline results do also hold in the most recent sample sub-period, albeit their economic and statistical significance is slightly reduced compared to the full sample, suggesting that the increase over time in supply of ES attractive stocks has at least compensated the greater demand for green assets. With reference to shareholder proposals, we find that both ES and conventional funds do not change their holdings of portfolio companies when their voting behavior is in contradiction with the management or the voting outcome.

From a methodological point of view, this paper is closely related to Li, Maug, and Schwartz-Ziv [2022](#) as both papers relate the voting decisions of mutual funds in the shareholder meeting of portfolio firms to their trading decisions; while Li, Maug, and Schwartz-Ziv [2022](#) focus on understanding which source of disagreement triggers the portfolio change and they find that the effects are mainly driven by the disagreement with the voting outcome, instead of simply with the management, in this paper we uncover that different types of shareholders, ES and conventional funds, have different reactions to disagreement in shareholder meetings.

Our results have implications on the effectiveness of impact investing. Generally, ES funds can have a positive ES impact through two channels: the selection of "good" ES companies to invest in and the promotion of ES improvements in portfolio companies. In particular, the selection channel generates ES benefits by not allocating capital in "brown" companies that exert negative externalities and this would hinder their expansion due to a higher cost of capital (Pástor, Stambaugh, and Taylor [2021](#)). Our results suggest that the two channels may be substitutes: a high screening on the ES profile of the companies to invest in comes with a reduced influence in selected portfolio firms through the threat of exit. Moreover, the results of this paper are consistent with recent evidence in the finance literature: Heath et al. [2021](#) find that ES funds invest in portfolio firms with already "good" ES behavior but then they fail from significantly improving the ES conduct of portfolio firms; our findings suggest that this weak ability of ES funds to influence

their portfolio firms may depend exactly on their asset allocation choices.

The rest of the paper is organized as follows. Section 2 presents a review of the related literature. Section 3 describes sample construction, variable definitions and reports summary statistics. Section 4 presents the baseline results on the relationship between voting disagreement of ES mutual funds and their changes in portfolio holdings. Section 5 consider situations in which the asset allocation constraints of ES funds are more binding. Section 6 further control on fund characteristics and endogeneity of the holdings. Section 7 consider the most recent period and extends the analysis to shareholder proposals. Section 8 concludes.

2 Contribution and related literature

Our paper is related to several streams of the literature. First, our findings contribute to the voting literature that aims to understand the role of institutional investors in corporate governance through voting and exit. Prior research analyzes how funds' voting stances in shareholder meetings of portfolio companies relate to their trading decisions: Li, Maug, and Schwartz-Ziv 2022 find that funds reduce their holdings after the shareholder meeting when they observe that their vote contradicts the voting outcome using daily trading data in the sample period 2010-2011 while Iliev and Lowry 2015 shows that mutual funds reduce their holdings if they disagree with ISS's recommendation; Duan and Jiao 2016 examine the choice of mutual funds between voting and exiting and find that mutual funds reduce their holdings before the record date of shareholder meetings when ISS's recommendation is inconsistent with management's recommendation. We contribute to this literature by showing that different shareholder types may react differently to disagreement in shareholder meetings of portfolio firms: while we confirm that conventional funds reduce their holdings if they disagree with the management or the voting outcome, we find that ES funds do not change their holdings of portfolio companies if they disagree with the management or the voting outcome. Our results are robust to differences in characteristics of funds and their holdings.

Second, this paper contributes to the growing body of work on impact investing that analyzes how investors with interests in sustainability can improve the ES performance of portfolio companies. First, the literature shows that ES funds mostly invest in "good" ES stocks ((Bialkowski and Starks

2016, Heath et al. 2021) and this may higher the cost of capital of “brown” companies preventing their expansion (Berk and Binsbergen 2021, Broccardo, Hart, and Zingales 2020, Pástor, Stambaugh, and Taylor 2021). Second, a fund can affect the policies of portfolio companies through “Voice” and the threat of exit; with reference to “Voice”, Michaely, Ordonez-Calafi, and Rubio 2021 and Dikolli et al. 2022 focus on voting on shareholder proposals while Lowry, Wang, and Wei 2022 find that ESG funds act differently in corporate governance based on their incentives to engage with portfolio firms. Our work is mainly related to the papers that study the threat of exit: while Edmans, Levit, and Schneemeier 2022 show that exit threats can theoretically improve ES policies, Gantchev, Giannetti, and Li 2022 find that after ES incidents companies with higher ES-conscious institutional ownership improve their ES profile. Our results contribute to this literature by showing that ES funds may have reduced ability to use the threat of exit compared to conventional funds because they have less outside options in terms of replacement stocks. This happens just because they only target stocks with an already “good” ES profile and this asset allocation constraint reduces their ability to influence the policies of portfolio stocks.

3 Data and summary statistics

This section describes how the data, the procedure to construct the sample, we define regression variables and we present the summary statistics of the data.

3.1 Data and sample construction

The dataset we use is defined by the intersection of mutual fund data for which we have portfolio holdings records and data on their voting in shareholder meetings of portfolio companies.

3.1.1 Voting data. Mutual funds voting records and voting outcomes in shareholder meetings are obtained from the ISS Voting Analytics database that collects data from mutual funds and portfolio companies’ filings. The mutual funds voting records dataset includes funds’ votes, ISS’s recommendations, management recommendations, proxy filing dates and data on the votes cast by mutual funds that is reported on SEC form N-PX. Since 2003, the SEC requires mutual funds to disclose their proxy voting records in every proposal at any annual or special meeting on their

annual N-PX forms. The N-PX form contains the portfolio company name, record date, meeting date, proposal, management voting recommendation, and all votes cast by the fund from July 1 of the previous year to June 30 of the current year. The ISS database covers N-PX information from July 2003 to December 2021. The voting outcome dataset documents the aggregate voting outcomes for each proposal that came up for a vote at a shareholder meeting. It contains the company's CUSIP, numbers of votes "For," "Abstain," "Against/Withhold," and "Broker Non-votes," and it also provides proposal's description, shareholder meeting date, sponsor information, number of shares outstanding, and the Pass/Fail outcome. These outcomes are reported in company's 8-K, 10-Q, and 10-K filings.

3.1.2 Mutual fund holding data. Mutual funds' portfolio data and characteristics come from the CRSP Mutual Fund database. The portfolio composition data has quarterly frequency and for mutual funds that voluntarily report on a monthly basis, data is available at this higher frequency; for each security held in funds' portfolios, it contains the number of shares held and the security's percentage of the total net asset value. The dataset also includes information on mutual funds characteristics such as the total net assets, portfolio turnover, the expense ratio and on whether it is an index-based fund.

3.1.3 Merging procedure. To connect the ISS Voting Analytics dataset to the CRSP Mutual Fund database, we follow the procedure outlined by Peter Iliev in his website note of March 2021, which updates the methodology compared to Iliev and Lowry 2015 accounting for the availability of the N-PX form reference in the ISS Voting Analytics dataset. We present the details of the matching procedure in the appendix B. This procedure allowed us to match around 80% of the individual mutual funds' votes of the ISS Voting Analytics with their corresponding portfolio holdings from CRSP in the quarter of the shareholder meeting and we obtained a merged dataset at mutual fund – portfolio firms's shareholder meeting level for the sample period from 2006 to 2021.

3.1.4 ES ratings of companies. We combine the regression dataset with the ESG scores from Refinitiv. Refinitiv provides a score for the Environmental (E), Social (S) and Governance (G) pillars of each company on an annual basis and an ESG summary score as their weighted average.

For our purposes, we mainly consider the ES score as the average of the E and S pillars.

3.1.5 Stock Characteristics. We merge the dataset with company-level data. Market capitalization, trading volume and total stock returns to construct the Amihud illiquidity measure are obtained from CRSP/Compustat Merged Database - Security Monthly. Total institutional ownership is obtained from Thomson/Refinitiv.

3.2 Variable constructions

3.2.1 ES Fund classification. Our classification of funds into ES and conventional (non-ES) is based on mutual fund names, following the procedure of Michaely, Ordonez-Calafi, and Rubio [2021](#). In 2001, the SEC adopted rule 35d-1, also known as the “Names Rule” which prohibits the use of misleading mutual fund names. Other papers use funds’ names to identify their investment styles, such as index and passive (Gaspar, Massa, and Matos [2006](#)), or, as we do, an ES orientation ((He, Kahraman, and Lowry [2021](#))).

We classify funds as ES if their name contains a string related to environmental or social issues. We consider a comprehensive list of strings (sorted by frequency of appearance in our final sample): *sustain* (excluding “*sustainable dividend*”), *social* (excluding “*social media*”), *esg*, *pax*, *responsib*, *clean*, *impact*, *water*, *sri*, *environm*, *green*, *catholic*, *parnassus*, *aquina*, *women*, *alternative energy*, *equality*, *wind energy*, *fossil*, *low carbon*, *amana*, *eco or ecolog*, *epiphany*, *solar*, *climate*, *better world*, *energy solutions*, *gender*, and *just*. Similar to Renneboog, Ter Horst, and Zhang [2011](#), we include funds with religious values in our main tests. Symmetrically, Non-ES funds are funds that do not include any of those strings in their names. Michaely, Ordonez-Calafi, and Rubio [2021](#) verified the accuracy of this classification of funds manually by reading the prospectus of a subsample of ES and conventional funds. They find that while the principal investment strategies of all ES categorized funds do include ES criteria, i.e., they claim to be ES-oriented funds, 1.5% of conventional funds claim to pursue investment strategies that align with ES objectives even though their name does not contain an ES-related string. Therefore, the sample contains a small classification error, and of only one type: ES funds classified as non-ES.

3.2.2 Variable definitions. To measure fund disagreement in shareholder meeting of portfolio companies, we follow Li, Maug, and Schwartz-Ziv 2022 and define the dummy variable $VoteAgainstMgt_{ij}$ that equals one if the mutual fund i voted against the management's recommendation in at least one management proposal in the shareholder meeting j where j indexes shareholder meetings of portfolio companies. As an alternative measure of disagreement, we define the dummy variable $VoteAgainstRes_{ij}$ that equals one if the voting behavior of fund i is opposed by the majority of other shareholders at meeting j for at least one proposal voted on at that meeting, that is, if the fund voted in support of at least one proposal and that same proposal failed, or if the fund voted against at least one proposal and that same proposal passed; otherwise, $VoteAgainstRes_{ij}$ equals zero.

As control variables, we consider fund characteristics such as total net assets, portfolio turnover, expense ratio, the fractional ownership and portfolio weight of the stock. These variables are defined in Appendix A.

3.3 Summary statistics

Tables 1a, 1b and 1c present summary statistics at the mutual fund – portfolio firm's shareholder meeting level for the full sample of mutual funds. With reference to the voting behavior of mutual funds, the mean of $VoteAgainstMgt$ is 20% for management proposals and 50% for shareholder proposals; given that in the average shareholder meeting there are around 7-8 management proposals, it means that, on average, in 20% of shareholder meetings a fund votes against the management in at least one proposal. Similarly, the mean of $VoteAgainstRes$ is 21% for management proposals and 44% for shareholder proposals. ES funds constitute 3.5% of the sample and this number is very close to Michaely, Ordóñez-Calafi, and Rubio 2021 which uses the same classification. The average mutual fund has 0.04% of fractional ownership of portfolio companies and, on average, each one represents 0.83% of the total fund's assets.

Table 2a splits fund characteristics between ES and conventional funds and present t-stats for differences between means. About the voting behavior, ES funds are more often dissenters than conventional funds with the management and the voting outcome in both management and shareholder proposals. For instance, the mean of $VoteAgainstMgt$ in management proposals is 34%

for ES funds and 19% for conventional funds while, for shareholder proposals, it is 65% and 49% respectively. ES and conventional funds also differ in the portfolio turnover: the mean in the ES funds sample is 0.37 while the mean for conventional funds is 0.66 meaning that ES funds buy and sell their positions less frequently. With reference to the size of their holdings, while ES funds have a lower fractional ownership of portfolio firms compared to conventional funds, consistent with their lower total net assets, the average position represents 0.88% of the total net assets in the ES funds sample while 0.82% in the conventional funds sample.

Regarding stock characteristics, Tables 2b shows that ES and conventional funds invest in different types of stocks. ES funds tend to hold more liquid stocks, larger companies, measured through the market capitalization, and with a higher proportion of institutional investors in the shareholder base. ES funds also have a higher average ES and G scores of portfolio companies compared to conventional funds, consistent with the literature (Bialkowski and Starks 2016, Heath et al. 2021) that shows that ES funds select firms with already “good” environmental or social behavior.

To further analyze the asset allocation choices of ES funds, in Figure 1, we compare the average ES rating of ES and conventional funds by industries defined on the basis of the “Refinitiv Business Classification Code” which assigns companies across the twenty-eight industries. We observe that ES funds tend to have a higher average industry ES rating compared to conventional funds in almost all the industries and this suggests that their selection operates not only with the blanket exclusion of companies in industries with high negative externalities but also with the inclusion of better ES companies in each industry.

All the variables are defined in Appendix A.

4 Results

4.1 Baseline regression results

We relate mutual funds’ change in portfolio holdings around the shareholder meeting to their voting behavior at the meeting itself. We run the following regression at the mutual fund-shareholder

meeting level:

$$\Delta Holdings_{ij} = \beta_1 VoteAgainstMgt_{ij} + \beta_2 ESfund_i + \beta_3 VoteAgainstMgt_{ij} \times ESfund_i + \lambda X_{it} + \alpha_i + \theta_j + \epsilon_{ij}$$

where i indexes mutual funds and j indexes shareholder meetings of portfolio companies. The dependent variable $\Delta Holdings$ is the change in portfolio holdings of a stock in a mutual fund around the shareholder meeting indexed by j of a portfolio company; it is computed by taking the difference between the holdings in the reporting date immediately after the shareholder's meeting and the holdings from the last reporting date before the shareholder's meeting. It is either $\Delta Portfolio Weight$ if portfolio weight of the stock in the fund is used or $\Delta Ownership Share$ if the fractional ownership of the stock by the fund is considered. Regarding independent variables, the dummy variable $ESfund_i$ equals one if the mutual fund i is categorized as an Environmental and Social (ES) fund, the dummy variable $VoteAgainstMgt_{ij}$ equals one if the mutual fund i voted against the management's recommendation in at least one management proposal in the shareholder meeting j and the interaction term $VoteAgainstMgt_{ij} \times ESfund_i$ indicates if a fund i categorized as an ES fund voted against the management's recommendation in at least one management proposal in the shareholder meeting j ; X_{it} is a vector of controls and includes fund's characteristics that are time-varying such as total net assets, portfolio turnover, expense ratio and the fractional ownership and portfolio weight of the stock in the quarter before the shareholder's meeting. α_i is the mutual fund fixed effect while θ_j is the shareholder meeting fixed effect. Variables are defined in Appendix A.

Our baseline results are reported in Columns (3) and (4) of Table 3. First, we show in Columns (1) and (2) that the coefficient of $VoteAgainstMgt_{ij}$, β_1 , is negative indicating that conventional mutual funds (funds not categorized as ES funds) reduce their holdings if they disagree with the management in management proposals during shareholder meetings and this is generally consistent with the literature (Li, Maug, and Schwartz-Ziv 2022, Iliev and Lowry 2015). In Columns (3) and (4), we find that the coefficient β_3 of the interaction term $VoteAgainstMgt_{ij} \times ESfund_i$ is positive indicating that ES funds reduce less their holdings in case of disagreement compared to conventional funds. By looking at the partial effect of $VoteAgainstMgt_{ij}$ on $\Delta Holdings_{ij}$ that is

given by the equation $d(\Delta Holdings_{ij}) / d(VoteAgainstMgt_{ij}) = \beta_1 + \beta_3 \times ESfund_i$ and assigning values to coefficients based on standardized regression results in Column (3):

$d(\Delta Holdings_{ij}) / d(VoteAgainstMgt_{ij}) = -0.0035 + 0.0026 \times ESfund_i$, an increase in one standard deviation of $ESfund_i$ almost completely offsets the negative effect of $VoteAgainstMgt_{ij}$ on $\Delta Holdings_{ij}$.

Our regression results uncover that ES and conventional funds react differently to disagreement in shareholder meetings of portfolio firms: while we confirm that conventional funds reduce their holdings after the meeting if they disagree with the management, we find that ES funds basically do not change their holdings of portfolio companies after disagreement with the management.

4.2 Disagreement with the majority of other shareholders

To complement baseline regression results, we repeat the analysis using the same regression model but considering a different type of disagreement of mutual funds in the shareholders' meeting. Instead of disagreement with management, we now consider the cases when the voting behavior of the mutual fund is in contradiction with the vote outcome. The dummy variable $VoteAgainstRes_{ij}$ equals one if the voting behavior of fund i is opposed by the majority of other shareholders at meeting j for at least one proposal voted on at that meeting, that is, if the fund voted in support of at least one proposal and that same proposal failed, or if the fund voted against at least one proposal and that same proposal passed; otherwise, $VoteAgainstRes_{ij}$ equals zero.

Regression results are reported in Table 4. As before, Columns (1) and (2) show that the coefficient of $VoteAgainstRes_{ij}$, β_1 , is negative indicating that conventional mutual funds (funds not categorized as ES funds) reduce their holdings if their voting behavior is in contradiction with the vote outcome in management proposals. Instead Columns (3) and (4) show that the coefficient β_3 of the interaction term $VoteAgainstRes_{ij} \times ESfund_i$ is positive indicating that ES funds reduce less their holdings in case of disagreement compared to conventional funds. The magnitudes are similar to baseline results in Table 3.

5 Asset allocation constraints of ES funds

Our main hypothesis is that the baseline regression results originate from the additional asset allocation constraint of ES funds compared to conventional funds: this constraint regards the "good" ES profile of companies to include in their portfolios; this constraint reduces their investment universe and makes more difficult the eventual replacement of portfolio firms. In this section, we consider how the baseline treatment effect varies based on whether the asset allocation constraints of the ES funds are more or less binding; after introducing a measure intended to capture the difficulty of ES funds at finding replacement stocks, we conduct a regression analysis to verify whether the results to be concentrated in cases where asset allocation constraints are more binding.

5.1 Industry availability of "good" ES stocks

To test the plausibility of the hypothesis that baseline regression results originate from additional asset allocation constraints of ES funds making more difficult the replacement of portfolio stocks, we decompose the treatment effect of the interaction term $VoteAgainstMgt_{ij} \times ESfund_i$ to understand whether it is generated from situations in which the mutual funds are more or less constrained at the time of the shareholder meeting of the portfolio firm.

To identify situations in which the asset allocation constraints of mutual funds are more or less binding, we assume that the industry breakdown of portfolio stocks in mutual funds before shareholder meetings is optimal from the fund's manager point of view and a deviation from it would entail high underdiversification costs (Busse and Tong 2012 show that industry selection accounts for a full third of fund performance) and we rely on the residual availability of stocks in the same industry that are attractive to ES investors. To replace a current portfolio stock in a given industry, an ES mutual fund can either increase the holdings of other current portfolio stocks in that industry or include in its portfolio new stocks in the same industry with a "good" ES rating. Other conditions being equal, a lower residual availability of stocks with a "good" ES rating implies more binding asset allocation constraints while a higher residual availability of stocks with a "good" ES rating implies less binding asset allocation constraints. If our baseline results are driven by additional asset constraints of ES funds, we would expect the interaction coefficient to be mostly

generated by observations in which there is low industry availability of "good" ES stocks before the shareholder meeting.

First, to identify the set of stocks in a given industry that are available to ES investors, we consider the frequency at which a given stock is included in the portfolios of ES funds in a given quarter and we define the set of preferred stocks based on the top 25% stocks held by frequency by ES funds. This method is entirely empirical as it depends on the asset allocation choices of ES funds and it does not rely on third-party rating providers to rank stocks from an ES standpoint avoiding issues relating to rating disagreement across providers as documented by the finance literature (Berg, Koelbel, and Rigobon 2019)

To construct our measure of residual industry availability for a given mutual fund i voting in the shareholder meeting j of a portfolio company, we compute the following ratio:

$$Residual\ Industry\ Availability_{ij} = \frac{Residual\ Industry\ Stocks_{ij}}{Industry\ Stocks_j} \quad (1)$$

where $Residual\ Industry\ Stocks_{ij}$ is the total number of ES preferred stocks in the same industry of the company having the shareholder meeting j for which the mutual fund i has not invested yet and $Industry\ Stocks_j$ is the total number of ES preferred stocks in the same industry of the company having the shareholder meeting j . This continuous measure of industry availability assumes values in the range $[0, 1]$.

Based on this measure of industry availability, an observation in the regression dataset is either assigned to $High\ Industry\ Availability_{ij}$ when $Residual\ Industry\ Availability_{ij}$ assumes values greater of equal than its mean or $Low\ Industry\ Availability_{ij}$ when $Residual\ Industry\ Availability_{ij}$ assumes values lower than its mean. We thus decompose the interaction term as follows:

$$VoteAgainstMgt_{ij} \times ESfund_i = VoteAgainstMgt_{ij} \times ESfund_i \times Low\ Industry\ Availability_{ij} + \\ VoteAgainstMgt_{ij} \times ESfund_i \times High\ Industry\ Availability_{ij}$$

where $VoteAgainstMgt_{ij} \times ESfund_i \times Low\ Industry\ Availability_{ij}$ is the part of interaction term corresponding to observations with low residual availability of preferred ES stocks and

$VoteAgainstMgt_{ij} \times ESfund_i \times High\ Industry\ Availability_{ij}$ is the part of interaction term cor-

responding to observations with high residual availability of preferred ES stocks. Based on our hypothesis of asset allocation constraints of ES funds, we expect the results to mostly originate from the part of the interaction term corresponding to observations with low industry availability.

Our regression results are in Table 5 and we consider in Columns (1) and (2) voting disagreement with the management and in Columns (3) and (4) contradiction with the vote outcome. The coefficient of the interaction term $VoteAgainstMgt_{ij} \times ESfund_i \times LowIndustryAvailability_{ij}$ is positive and statistically significant in almost all specifications while the coefficient of $VoteAgainstMgt_{ij} \times ESfund_i \times HighIndustryAvailability_{ij}$ albeit positive is never statistically significant.

These regression results supplement the baseline results and suggest that the lack of reaction after disagreement of ES funds is concentrated in observations in which there is low industry availability of replacement stocks.

6 Fund characteristics and endogeneity concerns

6.1 Fund characteristics

ES and conventional funds differ in their characteristics, as shown in Table 2a. As the panel dataset is at fund-shareholder meeting level, we included fund fixed effects in our regression model to control for fund-specific characteristics that do not vary over time and between companies; additionally, we also included time-varying fund characteristics and fund characteristics that both vary over time and between companies as control variables. While this design controls for differences between ES and conventional funds, our coefficient of interest is at the interaction level $VoteAgainstMgt_{ij} \times ESfund_i$ to capture their differences in portfolio behavior conditional on disagreement; it is thus theoretically possible that fund characteristics are unbalanced conditional on disagreement and this may affect the interaction term of interest.

For this purpose, we introduce the following control term at the interaction level $VoteAgainstMgt_{ij} \times FundCharacteristic_i$ where $Characteristic_i$ is a fund characteristic.

The regression model becomes as follows:

$$\Delta Holdings_{ij} = \beta_1 VoteAgainstMgt_{ij} + \beta_2 ESfund_i + \beta_3 VoteAgainstMgt_{ij} \times ESfund_i + \beta_4 VoteAgainstMgt_{ij} \times FundCharacteristic_{ij} + \lambda X_{it} + \alpha_i + \theta_j + \epsilon_{ij}$$

where $FundCharacteristic_{ij}$ is a characteristics of the mutual fund i at the time of the shareholder meeting of portfolio company j . We consider the following characteristics in which ES and conventional funds statistically differ: total net assets, fund turnover, expense ratio, the ownership share and portfolio weight of the stock and the propensity to be dissenter.

If our results were to be explained by these characteristics, we would expect the coefficient β_3 of $VoteAgainstMgt_{ij} \times ESfund_i$ to not be statistically significant while results should be entirely explained by coefficient β_4 of $VoteAgainstMgt_{ij} \times FundCharacteristic_{ij}$.

We report regression results in Table 6a and 6b. The tables report the coefficient of the interaction term $VoteAgainstMgt_{ij} \times ESfund_i$ and its t-stat, after controlling for each fund characteristic separately, and the last row when all fund characteristics are included together. The Tables show that the coefficient remains positive and statistically significant after the controlling for each fund characteristic and also when all characteristics are included together.

These regressions confirm that baseline results are not driven by fund characteristics and allow us to rule out potential alternative explanations based on them. For example, if the results were to be explained by the fund portfolio turnover, usually used in the finance literature as an indicator of longtermism (among others, Gaspar, Massa, and Matos 2005), the explanation would have been that ES do not sell their stocks due to their greater long termism. If instead result were driven by the propensity of funds to be dissenters, one explanation would have been that general trading constraints may prevent funds from simultaneously reducing their holdings in many portfolio firms in case they disagree with all of them.

6.2 Endogeneity concerns

One general concern of the corporate governance literature is that holdings are endogenous. First, firm characteristics such as size and liquidity jointly affect ownership and governance. Second, different firm policies attract different types of investors. In our setting, we relate one governance

action of a fund, voting in shareholder meeting, to one of his possible consequent action, trading, and we find that this relation is different between ES and conventional funds. One concern may be that our results reflect differences between firms and not funds: for instance, if ES funds tend to hold well-run firms whose management is often right and conventional funds tend to hold poorly run firms whose management is often wrong, this could explain the lower exits of ES funds. However, endogeneity concerns are relatively limited: first, our finding is conditional of disagreement: once there is disagreement, we find a different trading behavior of ES and conventional funds. Eventual differences between firms could already have manifested themselves before through voting behavior and therefore trading may just be a simple consequence of voting. Second, our regression design already controls for firm characteristics, including their variation over time, through the inclusion of the shareholder proposal fixed effect. In order to further alleviate these concerns, we propose an additional control for stock characteristics by introducing the following control term at the interaction level $VoteAgainstMgt_{ij} \times StockCharacteristic_j$ where $StockCharacteristic_j$ is a stock characteristic at the time of the shareholder meeting j .

The regression model becomes as follows:

$$\Delta Holdings_{ij} = \beta_1 VoteAgainstMgt_{ij} + \beta_2 ESfund_i + \beta_3 VoteAgainstMgt_{ij} \times ESfund_i + \beta_4 VoteAgainstMgt_{ij} \times StockCharacteristic_j + \lambda X_{it} + \alpha_i + \theta_j + \epsilon_{ij}$$

where $StockCharacteristic_j$ at the shareholder meeting j and we consider the following stock characteristics reported in [1c](#): the Amihud illiquidity ratio, trading volume, market capitalization, total institutional ownership and the ES and G scores.

If our results were to be explained by differences in stock characteristics between ES and conventional funds, we would expect the coefficient β_3 of $VoteAgainstMgt_{ij} \times ESfund_i$ to not be statistically significant while results should be entirely explained by coefficient β_4 of $VoteAgainstMgt_{ij} \times StockCharacteristic_j$.

We report regression results in [Table 7a](#) and [7b](#). The tables report the coefficient of the interaction term $VoteAgainstMgt_{ij} \times ESfund_i$ and its t-stat, after controlling for each stock characteristic separately, and the last row when all fund characteristics are included together. The Tables shows that the coefficient remains positive and statistically significant after the controlling for each stock

characteristic and also when all characteristics are included together. Only in the fourth model does the coefficient fall, with reference to ES and G score, below the significance threshold.

These regressions confirm that baseline results are not driven by differences between firm but instead reflect intrinsic differences between ES and conventional funds that we proved are mostly driven by asset allocation constraints.

7 Extension of the analysis

In this section, we aim to complement the previous analysis by extending it along two different lines: on the one hand, we repeat the regression analysis on sample sub-periods to check if the results change; on the other hand, while the baseline results are obtained with reference to proposals sponsored by the management, we now investigate whether they also apply to shareholder proposals.

7.1 Sub-sample from 2015

Baseline regression results are obtained in the sample period from 2006 to 2021. However, since then several forces have changed in impact investing: on the demand side, the growing interest in investor sustainability has transformed into greater demand and inflows of capital to ES funds while on the supply side, many companies have increased their green footprint and the availability of information on these activities has also increased, both through their own disclosure and through rating providers. While the first effect on demand increases the asset allocation constraints of ES funds, the second effect expands the investable universe and therefore reduces asset allocation constraints. In this section, we consider the most recent sample period separately, starting from 2015 through 2021 and repeat the baseline analysis.

The results are reported in Table 8. We confirm in Columns (1) and (2) that conventional mutual funds reduce their holdings after they disagree in shareholder meetings also in this more recent period of the sample. In Columns (3) and (4), we find that the coefficient of the interaction term $VoteAgainstMgt_{ij} \times ESfund_i$ is positive and its economic and statistical significance is only slightly reduced compared to the baseline results.

This analysis confirms that the results are also found in the more recent period even if the reduc-

tion of the effects could mean a general relaxation of the asset allocation constraints of ES funds, probably due to the increase in companies attractive to ES funds.

7.2 Shareholder proposals

Our main analysis is developed around the disagreement of funds on proposals sponsored by management, which are the most numerous, and mainly concern issues such as election of directors, approval of auditors and voting on management compensation. However, mutual funds often also vote on proposals sponsored by shareholders which are normally on ESG issues. As previous research by Li, Maug, and Schwartz-Ziv 2022 shows that funds do not react to disagreement on shareholder proposals, up to now we have focused on management proposals but, in this section, we analyze whether ES funds react differently from conventional funds on shareholder proposals.

The results are reported in Table 9. First, we confirm the literature as we find that conventional funds do not react to disagreement on shareholder proposals given that the coefficient of $VoteAgainstMgt(S)_{ij}$ is not statistically significant. Second, we find that the coefficient of the interaction term $VoteAgainstMgt(S)_{ij} \times ESfund_i$ is negative but not statistically significant.

These additional results suggest that ES funds tend to reduce their holdings after disagreement in shareholder proposals, contrary to management proposals. Since these proposals are directly on ES issues, failure to pass them could weaken the ES profile of the company, thus justifying the reaction from the ES funds.

8 Conclusion

In this paper, we relate the funds' voting stances in shareholder meetings of portfolio companies to their trading decisions: in the sample period between 2006 and 2021, we find that ES and conventional funds react differently to disagreement in shareholder meetings of portfolio firms: while conventional funds reduce their holdings if they disagree with the management or the voting outcome, ES funds do not change their holdings of portfolio companies if they disagree with the management or the voting outcome.

We consider potential explanations of the results based on different observable characteristics be-

tween ES and conventional funds, as they differ in portfolio turnover and in the propensity to dissent. After controlling for these characteristics, we confirm that the main results remain statistically and economically unchanged.

Our main hypothesis is that ES funds have an additional asset allocation constraint regarding the high ES profile of companies to include in their portfolios compared to conventional funds and this reduces their investment universe making more difficult the eventual replacement of portfolio firms.

To test this hypothesis, we first analyze the portfolio composition of ES funds and we confirm that they have an higher average ES rating compared to conventional funds. We then identify cases in which their asset allocation constraints are more or less binding based on their relative difficulty of finding replacement stocks and we find that results are driven by observations in which the ES funds have low residual industry availability, supporting the hypothesis of additional asset allocation constraints of ES funds.

Our results suggest that ES funds have reduced ability to exercise corporate governance through the threat of exit. They are also consistent with the recent finance literature that finds that ES ownership has a weak effect on firm policies.

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Figure 1. Average portfolio ES rating by industries - ES vs Conventional funds

This bar chart compares the average ES rating of the portfolio between ES and conventional funds, broken down by industries. Industries are defined based on the "Refinitiv Business Classification Code".

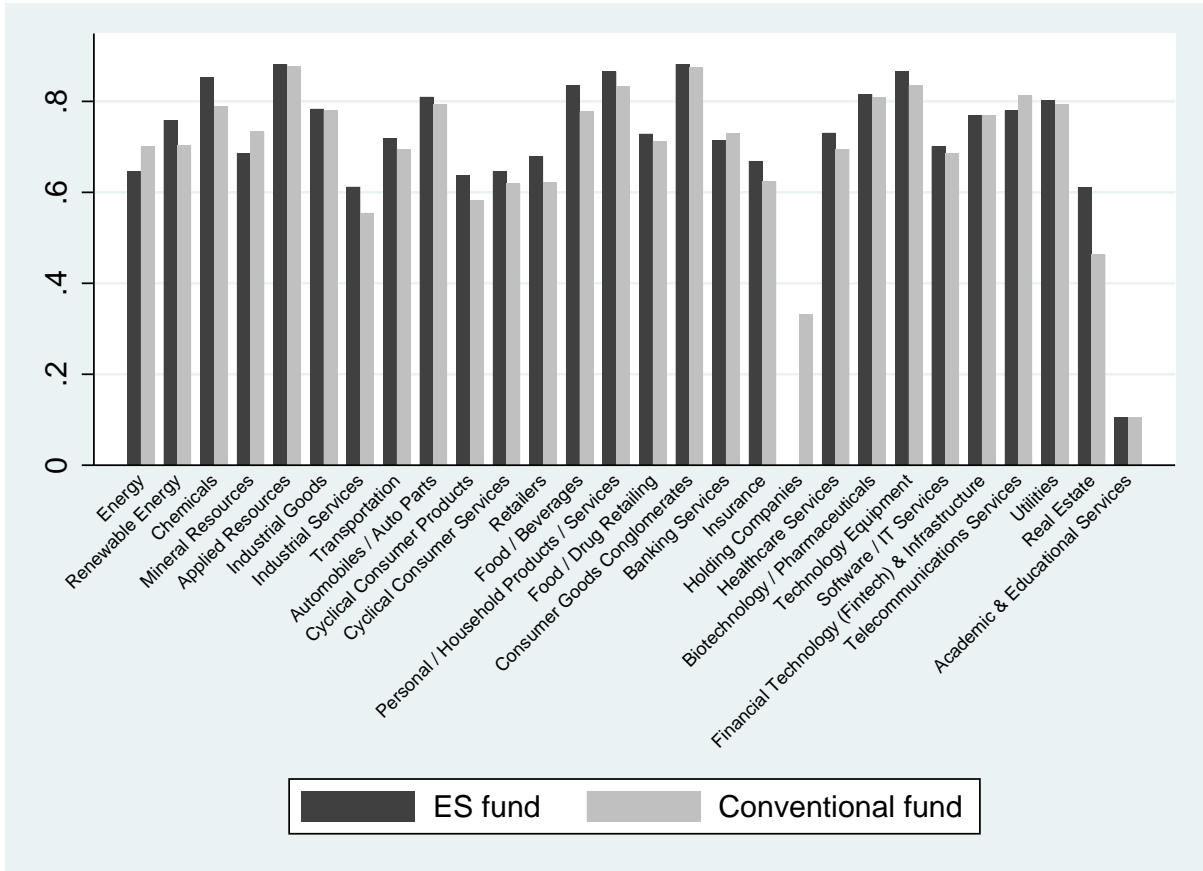


Table 1. Summary statistics - Full sample of mutual funds

This table presents summary statistics for our sample, at the mutual fund-portfolio company's shareholder meeting level. The sample period starts from 2006 and ends in 2021. Variables are defined in Appendix A.

(a) Change in Holdings variables

Variable	Mean	S.D.	P25	P50	P75	N
Δ PortWeight	-0.083	0.475	-0.070	0.000	0.020	932,202
Δ OwnShare	-0.003	0.033	-0.000	-0.000	0.000	899,274

(b) Fund voting and their characteristics

Variable	Mean	S.D.	P25	P50	P75	N
VoteAgainstMgt (M)	0.204	0.403	0.000	0.000	0.000	931,930
VoteAgainstMgt (S)	0.516	0.500	0.000	1.000	1.000	929,393
VoteAgainstRes (M)	0.212	0.408	0.000	0.000	0.000	931,930
VoteAgainstRes (S)	0.455	0.498	0.000	0.000	1.000	929,393
ES Fund	0.034	0.181	0.000	0.000	0.000	932,202
Ln TNA	19.912	2.045	18.591	19.962	21.245	929,236
Fund Turnover	0.816	1.549	0.280	0.540	0.930	585,415
Expense Ratio	0.010	0.005	0.007	0.010	0.013	585,408
OwnShare (%)	0.037	0.102	0.001	0.004	0.023	900,153
PortWeight (%)	0.948	1.283	0.140	0.510	1.280	932,202
FundAvDissentMgt	0.080	0.060	0.039	0.076	0.107	932,202
FundAvDissentRes	0.073	0.056	0.036	0.066	0.095	932,202

(c) Stock characteristics

Variable	Mean	S.D.	P25	P50	P75	N
AmihudIll	0.038	0.959	0.003	0.006	0.015	881,371
TradVol	1.838	4,405	0.365	0.827	1.860	881,371
MktCap	1.017	1.796	0.156	0.452	1.208	881,371
InstOwn	0.774	0.253	0.680	0.765	0.861	860,565
ESscore	0.721	0.231	0.610	0.813	0.898	782,374
Gscore	0.811	0.145	0.746	0.853	0.916	866,660

Table 2. Summary statistics - ES vs Conventional funds

This table presents the summary statistics split between ES and conventional funds from our sample and presents the mean difference between the two groups and the t-stats for their differences. The sample period starts from 2006 and ends in 2021. Variables are defined in Appendix A. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

(a) Fund voting and their characteristics

Variable	ES Funds			Conventional Funds			Difference	
	Mean	S.D.	N	Mean	S.D.	N	Diff	t-stat
VoteAgainstMgt (M)	0.360	0.480	31,583	0.198	0.399	900,347	0.157***	70.04
VoteAgainstMgt (S)	0.654	0.476	31,533	0.512	0.500	897,860	0.137***	49.83
VoteAgainstRes (M)	0.365	0.481	31,583	0.206	0.405	900,347	0.154***	67.97
VoteAgainstRes (S)	0.581	0.493	31,533	0.450	0.497	897,860	0.125***	45.91
Ln TNA	18.967	1.965	31,587	19.949	2.040	897,649	-1.004***	-84.16
Fund Turnover	0.456	0.779	20,554	0.829	1.569	564,861	-0.395***	-33.95
Expense Ratio	0.007	0.005	20,578	0.010	0.005	564,830	0.003***	-78.65
OwnShare (%)	0.016	0.063	30,924	0.038	0.103	869,229	-0.023***	-36.69
PortWeight (%)	0.984	1.672	31,587	0.945	1.267	900,615	5.102***	5.10
FundAvDissentMgt	0.154	0.138	31,587	0.077	0.054	900,615	0.075***	230.00
FundAvDissentRes	0.144	0.135	31,587	0.070	0.049	900,615	0.073***	242.00

(b) Stock characteristics

Variable	ES Funds			Conventional Funds			Difference	
	Mean	S.D.	N	Mean	S.D.	N	Diff	t-stat
AmihudIll	0.021	0.277	30,270	0.038	0.975	851,101	-0.017***	-3.05
TradVol	1.615	3.445	30,270	1.846	4.435	851,101	-0.231***	-8.96
MktCap	1.107	2.165	30,270	1.014	1.782	851,101	0.093***	8.84
InstOwn	0.784	0.251	29,677	0.773	0.253	830,888	0.011***	7.27
ESscore	0.741	0.216	24,424	0.720	0.232	757,950	0.017***	13.39
Gscore	0.814	0.143	29,887	0.811	0.145	836,773	0.001***	3.34

Table 3. Regressions of Change in Holdings Around Shareholder Meetings

This table reports the results of multivariate OLS regressions explaining the change in mutual funds' holdings around shareholder meetings of portfolio companies based on voting disagreement with management, differentiating between ES and conventional funds. All specifications include shareholder meeting fixed effects. Standard errors are robust to heteroscedasticity and clustered at the mutual fund level. Variables are defined in Appendix A. t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. •

	(1)	(2)	(3)	(4)	(5)	(6)
	Δ PortWeight	Δ OwnShare	Δ PortWeight	Δ OwnShare	Δ PortWeight	Δ OwnShare
ES Fund * VoteAgainstMgt (M)			0.0062** (2.38)	0.0047*** (2.58)	0.0058* (1.86)	0.0041*** (2.64)
VoteAgainstMgt (M)	-0.0074*** (-3.86)	-0.0079*** (-3.62)	-0.0084*** (-4.30)	-0.0086*** (-3.89)	-0.0099*** (-4.17)	-0.0078*** (-3.33)
ES Fund					0.0015 (0.27)	-0.0002 (-0.09)
ln TNA	0.0015 (0.19)	0.0001 (0.02)	0.0015 (0.19)	0.0001 (0.02)	0.0114*** (4.10)	0.0136*** (6.19)
Fund Turnover	-0.0142*** (-3.05)	-0.0054 (-1.35)	-0.0142*** (-3.05)	-0.0054 (-1.35)	-0.0249** (-2.29)	-0.0090* (-1.76)
Controls	YES	YES	YES	YES	YES	YES
Fund FEs	YES	YES	YES	YES	NO	NO
Shar. Meeting FEs	YES	YES	YES	YES	YES	YES
N	557,449	556,690	557,449	556,690	557,968	557,211

Table 4. Regressions of Change in Holdings Around Shareholder Meetings

This table reports the results of multivariate OLS regressions explaining the change in mutual funds' holdings around shareholder meetings of portfolio companies based on voting disagreement with the outcome, differentiating between ES and conventional funds. All specifications include shareholder meeting fund fixed effects. Standard errors are robust to heteroscedasticity and clustered at the mutual fund level. Variables are defined in Appendix A. t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. •

	(1)	(2)	(3)	(4)	(5)	(6)
	Δ PortWeight	Δ OwnShare	Δ PortWeight	Δ OwnShare	Δ PortWeight	Δ OwnShare
ES Fund * VoteAgainstRes (M)			0.0064** (2.27)	0.0038** (2.34)	0.0062* (1.91)	0.0036** (2.46)
VoteAgainstRes (M)	-0.0077*** (-3.96)	-0.0072*** (-3.44)	-0.0087*** (-4.40)	-0.0078*** (-3.64)	-0.0010*** (-4.19)	-0.0073*** (-3.17)
ES Fund					0.0013 (0.22)	0.0001 (0.04)
ln TNA	0.0015 (0.19)	0.0001 (0.02)	0.0015 (0.18)	0.0001 (0.02)	0.0114*** (4.10)	0.0135*** (6.18)
Fund Turnover	-0.0142*** (-3.05)	-0.0054 (-1.35)	-0.0141*** (-3.05)	-0.0054 (-1.35)	-0.0249** (-2.29)	-0.0090* (-1.76)
Controls	YES	YES	YES	YES	YES	YES
Fund FEs	YES	YES	YES	YES	NO	NO
Shar. Meeting FEs	YES	YES	YES	YES	YES	YES
N	557,449	556,690	557,449	556,690	557,968	557,211

Table 5. Regressions of Change in Holdings Around Shareholder Meetings - Industry

Availability of Replacement Stocks

This table reports the results of multivariate OLS regressions explaining the change in mutual funds' holdings around shareholder meetings of portfolio companies based on voting disagreement with management or the outcome, differentiating between ES and conventional funds; this specification separates cases where there is high availability of replacement stocks from those where availability is low. All specifications include shareholder meeting and mutual fund fixed effects. Standard errors are robust to heteroscedasticity and clustered at the mutual fund level. The sample only includes active funds. Variables are defined in Appendix A. t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. •

	(1)	(2)	(3)	(4)
	Δ PortWeight	Δ OwnShare	Δ PortWeight	Δ OwnShare
ES Fund * VoteAgainstMgt (M) * Low Industry Availability	0.0050** (2.29)	0.0015* (1.92)		
ES Fund * VoteAgainstMgt (M) * High Industry Availability	0.0011 (0.42)	0.0013 (0.86)		
VoteAgainstMgt (M) * High Industry Availability	-0.0002 (-0.07)	0.0011 (0.46)		
VoteAgainstMgt (M)	-0.0090*** (-3.50)	-0.0095*** (-4.26)		
ES Fund * VoteAgainstRes (M) * Low Industry Availability			0.0053** (2.09)	0.0011 (1.52)
ES Fund * VoteAgainstRes (M) * High Industry Availability			0.0009 (0.37)	0.0002 (0.11)
VoteAgainstRes (M) * High Industry Availability			-0.0013 (-0.49)	-0.0004 (-0.15)
VoteAgainstRes (M)			-0.0088*** (-3.41)	-0.0079*** (-3.52)
ES Fund * High Industry Availability	0.0045 (1.16)	0.0005 (0.24)	0.0049 (1.20)	0.0011 (0.42)
Controls	YES	YES	YES	YES
Fund FEs	YES	YES	YES	YES
Shar. Meeting FEs	YES	YES	YES	YES
N	470,810	470,204	470,810	470,204

Table 6. Regressions of Change in Holdings Around Shareholder Meetings - Controlling for Fund Characteristics

These tables report the results of multivariate OLS regressions explaining the change in mutual funds' holdings around shareholder meetings of portfolio companies based on voting disagreement with management or the outcome, differentiating between ES and conventional funds; These specifications control for fund characteristics conditional on fund disagreement and include shareholder meeting and mutual fund fixed effects. Standard errors are robust to heteroscedasticity and clustered at the mutual fund level. The sample only includes active funds. Variables are defined in Appendix A. t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

(a) Vote Against Management

	Δ PortWeight		Δ OwnShare	
	ES Fund x VoteAgainstMgt	t-stat	ES Fund x VoteAgainstMgt	t-stat
In TNA	0.0056**	2.37	0.0036**	2.04
Fund Turnover	0.0058**	2.19	0.0048***	2.58
Expense Ratio	0.0056**	2.36	0.0048***	2.65
OwnShare	0.0055**	2.33	0.0035*	1.88
PortWeight	0.0056**	2.36	0.0045***	2.58
FundAvDissent	0.0052**	1.98	0.0041**	2.23
All Characteristics	0.0048*	1.95	0.0034*	1.73

(b) Vote Against Outcome

	Δ PortWeight		Δ OwnShare	
	ES Fund x VoteAgainstRes	t-stat	ES Fund x VoteAgainstRes	t-stat
In TNA	0.0057**	2.25	0.0029*	1.85
Fund Turnover	0.0060**	2.12	0.0038**	2.35
Expense Ratio	0.0058**	2.26	0.0040**	2.50
OwnShare	0.0057**	2.24	0.0029*	1.81
PortWeight	0.0057**	2.27	0.0036**	2.35
FundAvDissent	0.0056**	1.96	0.0032*	1.95
All Characteristics	0.0052**	1.99	0.0028*	1.70

Table 7. Regressions of Change in Holdings Around Shareholder Meetings - Controlling for Stock Characteristics

These tables report the results of multivariate OLS regressions explaining the change in mutual funds' holdings around shareholder meetings of portfolio companies based on voting disagreement with management or the outcome, differentiating between ES and conventional funds; These specifications control for stock characteristics conditional on fund disagreement and include shareholder meeting and mutual fund fixed effects. Standard errors are robust to heteroscedasticity and clustered at the mutual fund level. The sample only includes active funds. Variables are defined in Appendix A. t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

(a) Vote Against Management

	$\Delta\text{PortWeight}$		$\Delta\text{OwnShare}$	
	ES Fund x VoteAgainstMgt	t-stat	ES Fund x VoteAgainstMgt	t-stat
AmihudIll	0.0049**	2.24	0.0035**	2.28
TradVol	0.0048**	2.22	0.0035**	2.37
MktCap	0.0048**	2.22	0.0035**	2.39
InstOwn	0.0048**	2.22	0.0036**	2.44
ESscore	0.0045**	2.06	0.0026*	1.74
Gscore	0.0047**	2.15	0.0026*	1.79
All Characteristics	0.0043*	1.96	0.0025*	1.66

(b) Vote Against Outcome

	$\Delta\text{PortWeight}$		$\Delta\text{OwnShare}$	
	ES Fund x VoteAgainstRes	t-stat	ES Fund x VoteAgainstRes	t-stat
AmihudIll	0.0050**	2.08	0.0026**	1.99
TradVol	0.0050**	2.06	0.0025**	1.98
MktCap	0.0050**	2.06	0.0026**	1.99
InstOwn	0.00503**	2.10	0.0027**	2.09
ESscore	0.0047*	1.94	0.0019	1.38
Gscore	0.0049**	2.02	0.0018	1.40
All Characteristics	0.0046*	1.90	0.0016	1.32

Table 8. Regressions of Change in Holdings Around Shareholder Meetings - Subperiod 2015-2021

This table reports the results of multivariate OLS regressions explaining the change in mutual funds' holdings around shareholder meetings of portfolio companies based on voting disagreement with management, differentiating between ES and conventional funds. The sample is limited to period between 2015 and 2021. All specifications include shareholder meeting and mutual fund fixed effects. Standard errors are robust to heteroscedasticity and clustered at the mutual fund level. Variables are defined in Appendix A. t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. •

	(1)	(2)	(3)	(4)
	$\Delta\text{PortWeight}$	$\Delta\text{OwnShare}$	$\Delta\text{PortWeight}$	$\Delta\text{OwnShare}$
ES Fund * VoteAgainstMgt (M)			0.0041* (1.74)	0.0040** (2.20)
VoteAgainstMgt (M)	-0.0080*** (-4.01)	-0.0041* (-1.80)	-0.0087*** (-4.28)	-0.0048** (-2.10)
Controls	YES	YES	YES	YES
Fund FEs	YES	YES	YES	YES
Shar. Meeting FEs	YES	YES	YES	YES
N	340,740	340,295	340,740	340,295

Table 9. Regressions of Change in Holdings Around Shareholder Meetings - Shareholder Proposals

This table reports the results of multivariate OLS regressions explaining the change in mutual funds' holdings around shareholder meetings of portfolio companies based on voting disagreement with management or the outcome, differentiating between ES and conventional funds. All specifications include shareholder meeting and mutual fund fixed effects. Standard errors are robust to heteroscedasticity and clustered at the mutual fund level. Variables are defined in Appendix A. t-statistics are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively. •

	(1)	(2)	(3)	(4)
	$\Delta\text{PortWeight}$	$\Delta\text{OwnShare}$	$\Delta\text{PortWeight}$	$\Delta\text{OwnShare}$
ES Fund * VoteAgainstMgt (M)			0.0062** (2.33)	
ES Fund * VoteAgainstMgt (S)			-0.0030 (-0.91)	
VoteAgainstMgt (M)	-0.0069*** (-3.58)		-0.0078*** (-4.02)	
VoteAgainstMgt (S)	-0.0018 (-0.79)		-0.0014 (-0.65)	
ES Fund * VoteAgainstRes (M)				0.0038** (2.34)
ES Fund * VoteAgainstRes (S)				-0.0026 (-1.13)
VoteAgainstRes (M)		-0.0069*** (-3.27)		-0.0075*** (-3.48)
VoteAgainstRes (S)		-0.0006 (-0.28)		-0.0003 (-0.15)
Controls	YES	YES	YES	YES
Fund FEs	YES	YES	YES	YES
Shar. Meeting FEs	YES	YES	YES	YES
N	555,581	554,824	555,581	554,824

Appendix A. Variable Definitions

Variable	Definition
Δ PortWeight	Δ PortWeight is the change in portfolio weight of a stock in a fund from the last reporting date before the shareholders' meeting to the one immediately after.
Δ OwnShare	Δ OwnShare is the change in fractional ownership of a stock in a fund from the last reporting date before the shareholders' meeting to the one immediately after.
VoteAgainstMgt (M)	VoteAgainstMgt (M) is a dummy variable that equals one if, for at least one management proposal in the shareholder meeting, the fund voted against management's recommendation.
VoteAgainstMgt (S)	VoteAgainstMgt (S) is a dummy variable that equals one if, for at least one shareholder proposal in the shareholder meeting, the fund voted against management's recommendation.
VoteAgainstRes (M)	VoteAgainstRes (M) is a dummy variable that equals one if the voting behavior of the fund is opposed by the majority of other shareholders at the meeting for at least one management proposal voted on at that meeting.
VoteAgainstRes (S)	VoteAgainstRes (S) is a dummy variable that equals one if the voting behavior of the fund is opposed by the majority of other shareholders at the meeting for at least one shareholder proposal voted on at that meeting.
ES Fund	ES Fund is a dummy variable that equals one if the fund has one of ES related words (the full list in Section 3) in its reported name
Ln TNA	Ln TNA is the natural logarithm of fund's total net assets as of month-end (in billions).
Fund Turnover	Fund Turnover Rolling is the average of fund's past 12-month turnover ratio; turnover ratio is defined as the minimum (of aggregated sales or aggregated purchases of securities) divided by fund's average past 12-month total net assets (Source: CRSP).
Expense Ratio	Expense Ratio is the ratio of total investment that shareholders pay for the fund's operating expenses (Source: CRSP).
OwnShare (%)	OwnShare (%) is the fractional ownership of a stock in a fund in the last reporting date before the shareholders' meeting.
PortWeight (%)	PortWeight (%) is portfolio weight of a stock in a fund in the last reporting date before the shareholders' meeting.
FundAvDissentMgt	FundAvDissentMgt is the fraction of votes in which the fund consistently voted against management's recommendation in the year of the shareholder meeting across all portfolio companies.
FundAvDissentRes	FundAvDissentRes is the fraction of votes in which the fund consistently voted against the majority of other shareholders in the year of the shareholder meeting across all portfolio companies.
AmihudIll	AmihudIll is the 12-month average of the monthly illiquidity ratio computed as the absolute value of the firm's monthly return divided by trading volume.
TradVol	TradVol the average dollar trading volume (in billions) in the past 12 months.
MktCap	MktCap is the firm's market capitalization.
InstOwn	InstOwn is the percentage of shares owned by institutional investors.
ESscore	ESscore is company's Environmental and Social score attributed by Refinitiv.
Gscore	Gscore is company's Corporate Governance score attributed by Refinitiv.

Appendix B. Data matching procedure.

The ISS Voting Analytics dataset lacks a mutual fund identification variable that would be common with other popular datasets on mutual funds, like CRSP Mutual Funds database and Thomson Reuters 13f. In this paper, we follow the most recent and complete procedure proposed by the website's note of Peter Iliev that entails an almost entirely automated process.

Starting from the mutual funds voting records in the ISS Voting Analytics dataset, we use the NPXFileID field, that denotes the ID of the corresponding mutual fund N-PX form filing, to retrieve original SEC N-PX file from EDGAR database; we then extract information from the header of the file and we collect the CIK field and the fund class tickers of mutual funds that map directly to the CRSP mutual fund database (which has fund tickers) Since a N-PX form may contain voting data for more than one mutual fund (usually up to 20 funds), we match Series Name (from the SEC N-PX form) to Fund Name (from the ISS dataset). Within each N-PX filing, we perform name matching between mutual funds names in a two-step procedure. First, for a fund from ISS dataset we rank all funds from an N-PX filing by their Levenshtein distance in their names to the fund in question. For best matches with Levenshtein distance of 3 or smaller (where 0 corresponds to a perfect match) we assume that funds in both datasets represent the same fund. Second, for all unmatched funds (with minimum distance of 4 and larger) we conduct a manual name match (assisted by sorting N-PX filing's funds by their similarity to a fund in question). If no match seems reasonable, we assign a no-match label.

This matching procedure allows us to associate each mutual fund from ISS dataset with its Series ID and Ticker from SEC data. To merge with CRSP mutual funds database, we rely on the mutual fund's ticker and date of the N-PX report. There is also an alternative route that uses WRDS CRSP CIK MAP dataset that links pairs of CIK and Series ID (Comp CIK) to fund's records in CRSP Mutual Fund database. Both paths give very similar match results.