Are All ESG Funds Created Equal? Only Some Funds Are Committed*

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Abstract:

ESG funds are not all equal: there is significant heterogeneity in incentives of fund managers to engage with portfolio firms. We argue that differences in incentives affect ESG-related information acquisition, investment strategies, engagement activities, and impact of ESG funds. Our findings support these predictions. Conditional on similarly large ESG investments, those funds with higher incentives to engage with portfolio firms, which we refer to as committed ESG funds, differ significantly from other ESG funds along each of these dimensions. Moreover, committed ESG funds have outperformed other ESG funds on their ESG holdings, particularly those with longer duration. Our findings highlight that committed ESG funds view ESG as a value driver.

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1. Introduction

According to Morningstar, in 2021 nearly $70 billion was invested into open-end and exchange-traded funds that claim some type of sustainable investing mandate. The growing flows into this space reflect investors' increased prioritization of sustainability-related issues. ESG funds typically advertise ESG as a value driver and claim to deliver both financial returns and ESG outcomes. However, regulators, academics and industry experts question whether these funds' claims simply represent greenwashing. The view is well expressed by Tariq Fancy, the former head of BlackRock's sustainable investing, "The major problem that I have is that even if they're [ESG funds] marketed correctly, they actually have no demonstrable impact."[1]

We argue that only some ESG funds should be expected to have an impact. ESG funds will only impact underlying firms' ESG policies if fund managers: view ESG policies as a value driver, *and* have high incentives to engage with portfolio firms. If fund managers view ESG policies as a value driver, then their investment and engagement strategies should extend to ESG issues, and their actions should impact portfolio firms' ESG profiles. At the same time, this allocation of resources should contribute to improved portfolio returns. In contrast, ESG funds with low incentives to engage would be less likely to actively work with firms to achieve change and, as such, they would not have a similar impact on firms' ESG performance.[2]

Our setting and associated analyses provide a unique opportunity to examine several unsettled issues. First, Krueger, Sautner, and Starks (2020)'s survey of institutional investors indicates that investors deem climate risks, social risks, and governance risks to be financially material, but there remains a striking lack of consensus regarding this issue. Second, Lewellen

[1] https://www.greenbiz.com/article/blackrocks-former-head-sustainable-investing-says-esg-and-sustainability-investing-are.

[2] While we primarily focus on the engagement channel, as discussed in more detail later, our empirical approach enables us to also compare the impact of funds that are more likely to exit versus engage.

and Lewellen (2022) show that institutional investors vary in their incentives to engage with portfolio firms, but generally it can be difficult to identify both the topics on which various funds engage and the extent of impact among portfolio firms.

ESG is a long-term strategy, suggesting that long-term engagement will be more effective than short-term strategies. Berk and van Binsbergen (2021) and Broccardo, Hart, and Zingales (2022) highlight the potential value of engagement, as opposed to exit, which generally has a relatively small effect on firms' cost of capital.[3] We adopt two approaches to identifying ESG funds with high incentives to engage, which we refer to as committed ESG funds.[4] First, we use the Lewellen and Lewellen (2022) (LL) "Incentive to Engage" proxy. This measure captures the extent to which increases in firm value contribute to higher management fees, through both increases in fund value and higher fund flows. Our second incentive measure is constructed based on Pastor, Stambaugh and Taylor's (2020) (PST) measure of portfolio liquidity. Fund liquidity is positively related to two factors: the liquidity of the portfolio stocks and portfolio diversification. Funds with lower portfolio liquidity have greater costs of exit and thus higher incentives to engage.

Holding constant portfolio weight on high ESG stocks, we categorize ESG mutual funds as *committed ESG funds* if their incentive measure is above-median, and *other ESG funds* otherwise. By design, both sets of ESG funds invest the same portion of net asset value (NAV) in high ESG firms - within our sample this equals 39%.

We conduct several validation exercises, which confirm that our incentive to engage

[3] Heath et al. (2022) and Hartzmark and Shue (2023) similarly show that divestment has little impact on firms' cost of capital or ESG practices. In contrast, Gantchev et al. (2022) find that small share sales lead firms to improve their ESG policies.

[4] Following a wide body of prior literature, we define ESG funds based on the ESG ratings of the funds' value-weighted holdings.

measures capture variation in fund commitment. First, our classification matches well with the newly introduced Morningstar ESG Commitment Level measure. Based on the 2020 Morningstar report, committed (other) ESG funds are more likely to have a Morningstar ESG Commitment Level of Leader or Advanced (Basic or Low). Second, consistent with committed funds devoting more resources to monitoring and working with management to achieve change, we find that they implement a longer-term investment strategy. On average, committed ESG funds are less likely to sell a stock after poor performance, as compared to other ESG funds. This evidence is novel as it cannot be explained by potential endogenous matching between the horizon of investors and the horizons of their portfolio firms (Starks, Venkat, and Zhu, 2021), given that both committed and other ESG funds invest heavily in high ESG firms.

Our main empirical tests focus on the information acquisition, investment strategy, ESG engagement activity, and impact of committed versus other ESG funds. We begin by analyzing funds' information acquisition. Committed funds' higher incentives to engage with portfolio firms incentivize them to conduct more research on issues that they perceive to influence firm value. If fund managers view ESG as a value driver, then this greater research should include ESG-related issues. This is precisely what we find. Committed ESG funds are significantly more likely to view a firm's regulatory filings when the firm is exposed to heightened ESG risk. In contrast, the views of other ESG funds (which lack similar incentives to engage) are significantly less intensive and persistent around these risk events and do not vary with their severity.

Next, we turn to funds' investment strategies. Committed funds should have a longer-term strategy toward their portfolio firms' material (i.e., value-relevant) issues, as they work with firms to achieve change. Consistent with this, we find that committed ESG funds are significantly less likely to sell firms following negative ESG risk events, compared to other ESG

funds. This is consistent with the idea that committed funds rely less on negative screening as they aim to improve firms' ESG practices.

Analyses of funds' ESG engagement provide further evidence that committed funds differ significantly from other ESG funds. First, we analyze the Q&A section of firms' earnings conference calls. Within the same call, analysts from committed fund families demonstrate a greater frequency and intensity of questions related to ES issues. This is particularly salient evidence on their commitment to these issues, given the low unconditional probability of active buy-side participation in these calls (Jung, Wong, and Zhang, 2018). Moreover, these findings provide further evidence that committed funds consider ESG as a value driver, given that these calls are mainly platforms for discussing firms' financial performance and business prospects. Second, we measure funds' engagement on ESG issues via voting. Following Iliev and Lowry (2015), we employ two proxies: the tendency of a fund to vote independently from ISS, and the tendency of a fund to not vote in a one-size-fits-all manner. Both measures lead to the same conclusion. Committed funds are significantly more likely than other ESG funds to devote resources to voting. Moreover, an analysis of firm abnormal returns around close votes suggests that committed funds are more focused than other ESG funds on shareholder value.

We expect that committed funds' significantly greater attention to ESG, in terms of information acquisition, investment policies, and engagement, will manifest in greater impact. This is precisely what we find. First, firms intensely bought by committed funds following severe ESG incidents subsequently experience a 31% reduction in their risk index, relative to the base case in which these firms are neither intensely bought nor intensely sold by ESG funds. Moreover, this relation is driven by committed funds that have engaged most with the firm in the past, defined as independently voting rather than indiscriminately following ISS. Second, this

relation cannot be explained by funds' ability to select good ESG firms. Following Hartzmark and Sussman (2019), we use the initiation of Morningstar Sustainability Ratings in early 2016 as a shock to flows into high ESG funds. This shock caused funds to increase the dollars invested within existing portfolio firms (in addition to any investments in new firms). This greater ownership increases funds' ability to influence firms' policies and thus increases the potential benefit of funds' engagement. Under the premise that this shock is exogenous to funds' pre-shock investment choices, this channel enables us to shut down the selection effect and focus on the engagement channel. Consistent with the engagement channel driving results, firms overweighted by committed funds prior to the shock experience a significant decrease in their ESG risk and in their carbon footprint after the shock.

Can funds do well by doing good? In the last part of the paper, we examine whether committed ESG funds' greater engagement contributes to higher returns. Specifically, we examine performance within subsets of funds' portfolios. First, based on the premise that engagement takes time, we subset the funds' portfolios based on investment duration. Second, based on the premise that ESG funds who choose to engage will focus their engagement on ESG-related issues, we subset the funds' portfolios based on ESG versus non-ESG stocks. Consistent with predictions, our findings indicate that committed ESG funds outperform other ESG funds within longer held positions and within ESG stocks.

In aggregate, our findings provide strong support for the prediction that heterogeneity in fund incentives affects funds' engagement on ESG-related issues. Our findings indicate that fund managers perceive ESG to be a value driver, and realized returns validate this perception.

Our paper contributes to several streams of literature. First, our analysis furthers our understanding of mutual funds' engagement on ESG issues. Broccardo, Hart and Zingales (2022)

conclude that voice is an effective mechanism to achieve socially desirable outcomes even when most investors are just slightly socially responsible. However, He, Kahraman, and Lowry (2023) and Li, Naaraayanan, and Sachdeva (2023) show that ES shareholder proposals rarely pass and thus rarely succeed in pressuring firms to change. Relative to these findings, our paper highlights the influence of ESG funds' incentives to engage. Our findings also relate to Dimson, Karakas, and Li (2015) and Hoepner et al. (2022), which both analyze ESG-related engagements but focus solely on one large institutional investor. Here, our study provides a key advantage: it does not suffer from any selection bias arising from the fact that funds whose engagement activities have been successful may be more willing to share their data.

Second, our paper relates to the growing literature on greenwashing. In contrast to studies that characterize greenwashing according to whether entities invest heavily in high ESG firms (see, e.g., Gibson et al., 2021and Kim and Yoon, 2021), our empirical tests go one step further by focusing on ESG funds' investment and engagement strategies. Our evidence suggests a new form of greenwashing: conditional on the dollars invested in high ESG firms, the distribution of these dollars and the associated effects on funds' incentives to engage play a critical role.

Lastly, our study complements several recent studies suggesting that investor divestiture might not be the most effective way to influence corporate ESG conduct (see, e.g., Berk and van Binsbergen, 2021; Cohen, Gurun, and Nguyen, 2021; Atta-Darkua et al., 2022; Heath et al., 2022; Hartzmark and Shue, 2023). Our finding that committed funds influence firm behavior without relying on negative screening suggests that the divestment-oriented strategies of many institutional campaigns, including those led by the PRI, may be misguided.

2. Data and Methodology

2.1 Description of data sources

We use MSCI ESG Ratings data to assess firm-level ESG performance. MSCI is the world's largest provider of ESG ratings and provides the most comprehensive coverage (Eccles and Stroehle, 2018). Moreover, Berg, Kölbel, Pavlova, and Rigobon (2021) conclude that its ESG ratings are less noisy than those of other vendors. MSCI assigns percentage risks to each ESG factor for each company, combines these into a single company-level score, and normalizes this score relative to industry peers to achieve the overall company ESG rating. MSCI ESG scores range from zero to ten and are updated at least once a year. Each quarter we place stocks into deciles by their ESG score and classify those within the top three deciles as high ESG stocks. Since MSCI did not start covering small U.S. stocks until late 2012, our sample period is January 2013 to December 2020. We use Center for Research in Security Prices (CRSP) and Compustat for data on stock returns and financial characteristics.

Our sample of mutual funds includes actively managed U.S. domestic equity mutual funds. We rely on the CRSP Survivor-Bias-Free Mutual Fund Database to extract monthly fund characteristics and net-of-fees returns. We obtain funds' quarterly equity holdings from the Thomson/Refinitive s12 database and merge them with the CRSP Mutual Fund data using the MFLINKS tables available via WRDS (Wermers, 2000). We rely on SEC EDGAR and Morningstar for additional information on fund characteristics.

We employ the EDGAR server log and IP demographic data to examine asset managers' views of their portfolio firms' filings around ESG news events. The EDGAR server log data identify the individual (partially masked) IP addresses that view each firm filing each day up to June 2017. Following Wang (2019) and Gibbons, Iliev, and Kalodimos (2021), we match the IP addresses from EDGAR to the institution that holds a block of corresponding IP addresses.

Our first proxy for funds' engagement activities comes from buy-side analysts' questions concerning ES issues during the Q&A section of firms' earnings conference calls. We obtain conference call transcripts from the Capital IQ Transcripts database. After merging with Compustat and CRSP, we have 121,129 transcripts on 5,711 unique firms. For analysts asking questions during the Q&A section of the call, we manually match their self-identified affiliations with CRSP fund family names. Similar to Jung et al. (2018), we find that 19% of the earnings calls have at least one question from buy-side institutions.

Our second measure of funds' engagement activities is mutual fund votes, which are obtained from the Institutional Shareholder Services (ISS) Voting Analytics database. We match ISS fund IDs to the CRSP mutual fund database by ticker with the help of the N-PX header. We follow He et al. (2023) to identify the subset of shareholder proposals related to environmental and social (ES) issues. We additionally identify the subset of shareholder proposals related to governance (G) issues. During our sample period, there are 732 firm-years with 973 ES proposals, and 1,673 firm-years with 2,122 G proposals.

We use several proxies to measure firms' ESG risk exposures. First, to measure firms' environmental activities at a micro level, we use each firm's annual on-site waste release from the Toxics Release Inventory (TRI) dataset, as provided by the EPA (see, e.g., Lyu, Shan, and Tang, 2021; Naaraayanan, Sachdeva, and Sharma, 2021). Second, we employ RepRisk daily news counts to capture negative ESG incidents. We also use the RepRisk Risk Index to measure a firm's overall ESG risk exposure (see, e.g., Gantchev et al., 2022; He et al., 2023). We use Ravenpack News Analytics to quantify individual firms' non-ESG related news coverage.[5]

[5] To avoid double counting, we only consider Ravenpack news that is not released on the same day as RepRisk incidents concerning the same firm.

2.2 Committed vs. Other ESG funds

We begin by classifying all actively managed equity funds into ESG versus non-ESG funds, according to the asset weighted MSCI ESG scores of their holdings. Similar to the Morningstar Sustainability Rating (which was introduced in 2016), we calculate a fund's quarterly ESG rating as the weighted average of its trailing four quarters' MSCI ESG scores, with recent quarters weighted more heavily.[6] Each quarter, funds with ESG ratings ranked within the top tercile are classified as ESG funds while the rest are classified as non-ESG funds.[7]

Within the set of ESG funds, we classify funds into two groups according to each fund's benefits and costs of engaging with portfolios firms. Our first approach employs the Lewellen and Lewellen (LL) (2022) "Incentive to Engage" measure. For each stock in a fund's portfolio, the incentive to engage includes: the direct component, which is the stock's weight, and the flow component, which is the product of flow-to-performance sensitivity and the deviation of the stock's weight in the fund from the fund's portfolio benchmark. Intuitively, the direct component captures the direct impact of a holding's performance on a fund's AUM and thus on management fees, and the flow component captures the indirect impact from performance-related fund flows. A fund's incentive to engage is the weighted sum, across its holdings, of these two components:

$$Incentive\ to\ Engage\ = \sum_{i \in E} w_i[w_i + \beta(w_i - v_i)],$$

where E is the set of stocks in the fund's portfolio, w_i is the weight of each stock i in the fund's portfolio, v_i is the weight of stock i in the benchmark portfolio, and β is the flow-to-performance

[6] We adopt the weighting scheme of the Morningstar Sustainability Rating. To receive a fund-level ESG score, at least 67% of a portfolio's AUM must have an MSCI ESG rating. Further detail can be found at https://www.morningstar.com/content/dam/marketing/shared/research/methodology/744156_Morningstar_Sustainability_Rating_for_Funds_Methodology.pdf.

[7] Because MSCI's ESG ratings represent industry-adjusted metrics, high ESG funds do not necessarily exclude firms in brown industries. Figure A2 shows the distribution of ratings across brown versus non-brown industries.

sensitivity of the fund. Flow-to-performance sensitivity is estimated following LL by regressing fund flows in quarters *t+1* through *t+12* on benchmark-adjusted returns in quarter *t* and summing the slope coefficients. We use the aggregated holdings of all index funds within the same Morningstar style category as the fund's benchmark portfolio.

We also employ an alternative proxy of funds' incentives to engage that is based on the cost of exit, as motivated by the portfolio liquidity measure in Pastor, Stambaugh, and Taylor (PST) (2020). As discussed by PST, a fund's portfolio liquidity depends on both the liquidity of the stocks held in the portfolio and the degree to which the portfolio is diversified. For each fund-quarter, we compute the product of the portfolio-weighted Amihud illiquidity and the Herfindahl-Hirschman Index of portfolio weights across all the fund's holdings. Funds with high portfolio illiquidity face greater costs of liquidation due to either the illiquidity of fund holdings or potential price impacts from selling concentrated holdings. Such funds are more likely to choose engagement over exit.

We classify ESG funds based on the four-quarter moving average of the respective fund-level incentive to engage measure. To ensure that a fund's incentive to engage is not correlated with the weight of high ESG stocks within its portfolio, we rank all ESG funds into terciles by their ESG scores and classify each ESG fund as committed (other) if its incentive to engage is above (below) the median within the tercile. We do this separately for the LL and PST measures.

We employ a similar procedure to calculate funds' incentives to engage on high ESG versus other stocks in their portfolio. To account for the effect of relative portfolio weight and to make the incentive measures comparable across different sub portfolios of a fund, we divide each measure by the percent of the portfolio held in the analogous set of stocks.[8]

[8] When constructing the PST incentive measure among a fund's high ESG versus other holdings, we similarly adjust for the effect of the number of stocks in each sub portfolio on its Herfindahl index.

The overlap in funds' commitment status by the LL and PST measures is 78%. Using either measure, an ESG fund's commitment status is highly persistent, likely reflecting a systematic investment strategy. The probability of an ESG fund remaining in the same group, i.e., either committed or other, four quarters later is 94% (93%) under the LL (PST) measure.

Since some analyses are at the fund family level, we classify ESG families in a similar fashion. First, each quarter we classify a family as an ESG family if the fraction of assets held by ESG funds is in the top tercile. Second, within ESG families, a family is committed (other) if the fraction of TNA held by committed ESG funds—over all ESG funds in the family—is above (below) median. As shown in Internet Appendix Figure A1, families are clustered in each tail of the distribution, suggesting that incentives to engage are shared across funds within a family.

2.3 Summary Statistics

Table 1 shows summary statistics for committed and other ESG funds. Panel A is based on the LL measure, and Panel B on the PST measure. By construction, committed ESG funds have significantly higher incentives to engage on both high-ESG and other stocks, compared to other ESG funds. We also observe that committed funds have significantly stronger incentives to engage on their high ESG holdings than on other holdings. There is not a similar difference among other ESG funds.

Looking at Table 2, both committed and other ESG funds allocate 39% of their total net assets (TNA) to high ESG stocks, compared to 28% for non-ESG funds. Both groups of ESG funds also have similar fund turnover ratio, performance, flows, family size and proportion of load funds, though committed funds tend to be somewhat younger and smaller.

Both groups of ESG funds outperform non-ESG funds during our sample period, and they tend to have lower turnover. These differences are consistent with patterns documented by

Pastor, Stambaugh, and Taylor (2021) and Starks et al. (2021). Despite their relatively lower turnover, committed funds appear to be more active as indicated by their higher Industry Concentration Index and their higher Active Share, compared to either other ESG funds or non-ESG funds (Kacperczyk, Sialm, and Zheng, 2005; Cremers and Petajisto, 2009).

2.4 Validation of ESG fund classification

We employ two approaches, at the fund family and individual fund levels, respectively, to verify that the LL and PST measures provide an effective way to identify institutional investors with greater incentives to engage. First, we assess fund families' Morningstar ESG Commitment Level measure, which was introduced in 2020. Unlike the quantitative Morningstar Sustainability Rating, which measures the extent to which funds invest in firms with low ESG risk, the Morningstar ESG Commitment Level is based on the investment process and active engagement on ESG issues (Morningstar, 2020).[9] Among the short list of asset managers with Morningstar ESG Commitment Level of Leader or Advanced in 2020, the only two U.S. companies (Calvert and Parnassus) are classified as committed ESG fund families under our classification. Moreover, 10 out of the 12 US asset managers that are rated as having Commitment Level of Basic or Low are classified as other (i.e., non-committed) ESG families.

Our second validation is based on the premise that engagement requires time. If a fund seeks to increase the value of a firm through engagement, the fund will tend to hold that firm longer. Therefore, we expect committed funds' trades to be less sensitive to recent performance. We verify this conjecture in Table 3 using both the LL (columns 1 and 2) and PST (columns 3 and 4) measures. The sample represents a mutual fund × portfolio firm × quarter panel. We regress *Net Trades* of each fund in each firm on *Poor Firm Performance* and this variable

[9] The majority of the rated funds are ESG funds being tagged as "sustainable investment" by Morningstar.

interacted with *Committed ESG Fund* and with *Other ESG Fund. Net Trades* equals the dollar amount of a fund's trading of a stock (multiplied by 100) during the quarter, scaled by the fund's portfolio value in the prior quarter. In Columns 1 and 3 (2 and 4), *Poor Firm Performance* equals one if the stock is ranked in the bottom quintile by earnings surprise (3-month stock returns) in the prior quarter, zero otherwise. Earnings surprise equals the difference between the firm's actual earnings and the median analyst forecast.[10] We include fund-by-quarter fixed effects to control for any differences in funds' investment horizon, for example due to investment style.

Consistent with existing evidence, we find that mutual funds, on average, behave like momentum traders, selling stocks with poor performance in the past quarter. Moreover, other ESG funds' trading responses are no different than those of non-ESG funds; they similarly behave like momentum traders. In contrast, committed funds pursue a longer-term investment strategy, as indicated by the significantly positive coefficient on *Poor Firm Performance* × *Committed ESG Fund*. Relative to Starks et al. (2021), our findings indicate that not all ESG funds are longer-term investors. The contrast between committed versus other ESG funds is consistent with committed funds having stronger incentives to engage.

3. Comparing Investment Strategies across Different Types of ESG Funds

If managers of committed funds perceive ESG to be a value driver, then these funds' higher incentives to engage should manifest in their monitoring of portfolio firms' ESG risks and their longer-term approach towards the related risk events. We examines these issues in subsections 3.1 and 3.2.

[10] We extract median analyst forecasts from I/B/E/S. Earnings surprise is scaled by stock price as of the fiscal quarter end corresponding to the reported earnings.

3.1 Evidence on funds' research of ESG risk events

Existing studies show that sophisticated investors collect information from financial filings to improve performance (see, e.g., Gargano, Rossi and Wermers, 2017; Wang, 2019 and Crane, Crotty, and Umar, 2021). We compare views of SEC financial filings by committed versus other ESG fund families.[11] To measure portfolio firms' ESG risk events, we rely on RepRisk ESG news. RepRisk identifies and assesses material ESG risks by screening and analyzing information daily from a wide range of public sources, and it provides time-stamped data on ESG risk incidents concerning individual firms.

Figure 1 illustrates the probability of each family type viewing firm financial statements on EDGAR, during the ten days around each negative ESG news announcement. We separately present results using the LL (Panels A and B) and PST (Panels C and D) incentive measures. Panels A and C focus on severe ESG news events, defined as cases in which the three-day cumulative abnormal returns (CAR) around the news announcement day falls into the bottom quintile among all risk events (where quintiles are defined each quarter). All other ESG news events are considered non-severe, and these are shown in Panels B and D.

We find that committed ESG fund families exhibit elevated attention to a firm when it is exposed to a severe ESG risk event, while other ESG families' attention does not vary with event severity. Moreover, committed funds' attention is higher than that of other ESG funds in the days immediately around the news release day, and the difference is significant on the first two days following the announcement. There is also some indication that committed funds' heightened interest begins prior to the news announcement, potentially reflecting awareness of the issue

[11] Using the EDGAR server log data (which is available up to June 2017), the identity of downloading institutions can only be determined at the fund family level.

before it is covered widely by the news media.

3.2 Evidence from trading activities

Severe ESG risk events, by definition, are accompanied by negative market reactions, and in some cases they may result in downgrades of firms' ESG ratings.[12] To the extent that committed funds have a better understanding of the value-effects of these events and greater incentives to engage with portfolio firms to help them improve, as suggested by Figure 1 and Table 1 respectively, then these funds will be less likely to indiscriminately divest following these events. In comparison, other ESG funds' lower research and lower incentives to engage suggest that they would be more likely to sell shares.

We examine fund trading during the quarter in which a firm experiences an ESG risk event. We control for non-ESG news, as captured by Ravenpack News Analytics, and we subset both types of news, ESG-related and non-ESG-related, into severe versus non-severe. One key distinction between these sources is that RepRisk ESG news includes only adverse incidents, whereas Ravenpack includes all news (both positive and negative). As a result, the *Other ESG Negative News* category includes only negative news, whereas the *Other Non-ESG News* category includes both positive and small negative news. All our news variables represent the number of the news articles, of the designated type, during the quarter. To capture additional factors that potentially influence fund trading, we control for the following set of stock characteristics measured as of the quarter before the event: the natural logarithm of market capitalization, book-to-market, stock performance, and Amihud illiquidity.

Results are shown in Table 4. Given the high overlap between the LL and PST

[12] Within our sample, high ESG firms have only half as many incidents as other firms. Thus, even after an increase in incidents, there is on average a large difference in ESG ratings between the two groups of firms.

classifications (78%) and the similarity of results using each measure to this point, we present results using the LL measure here and report those using the PST measure in Internet Appendix Table A1. Panel A estimates fund-security level regressions where the dependent variable is the fund's *Net Trade*. Panel B shows security level regressions where the dependent variable is the aggregate change in the number of shares held by a fund type, scaled by the number of shares outstanding, in basis points. In these specifications, the sample is limited to stocks held by both committed and other ESG funds, thus mitigating sample selection concerns.[13] The fund-security level analyses give equal weight to individual funds, while the aggregated security-level analyses give more weight to larger funds, which tend to make larger trades.

Looking first at Panel A, we find significant differences in trading among the different fund types. Committed ESG funds exhibit no tendency to have lower net trades following severe ESG events, despite the risk of firms' ESG ratings being downgraded at such times. This may reflect these funds' belief that they can improve firms' ESG footprints through engagement, a point we examine directly in the next section. In comparison, other ESG funds' net trades are significantly lower. The contrast between committed and other ESG funds is striking. While Chen et al. (2021) and Gantchev et al. (2022) conclude that institutional investors, and particularly ESG-conscious investors, are more likely to sell after ESG incidents, our findings show that this effect is limited to the subset of ESG funds with weak incentives to engage.

The finding from the fund-security level regressions that only non-committed ESG funds are significantly more likely to sell around severe ESG negative news implies that the ownership composition of the stocks may change during these times. Regressions at the security level, shown in Panel B, show that this is the case. The ownership of committed ESG funds

[13] In unreported analyses, we do not find divestments by either committed or other ESG funds before ESG risk events.

significantly increases following these events, whereas the ownership of other ESG funds significantly decreases. These findings are consistent with committed ESG funds, in aggregate, providing liquidity to the other ESG funds, which are more likely to sell. As reported in Internet Appendix Table A1, results using the PST measure are similar.

As shown in Internet Appendix Table A2, we also find that committed funds adopt a longer-term investment strategy among ESG stocks more generally, relative to other stocks ~~when the trading portfolio firms with poor past performance~~. This is consistent with committed funds' investment positions generating higher incentives to engage on their ESG stocks than on other stocks (as shown in Table 1) and with existing evidence that ESG-related investments can take time to pay off and even contribute to short-term underperformance (Starks et al., 2021).

4. Funds' ESG Engagement Activities

Given the differences between committed and other ESG funds' investment strategies, we conjecture that there will be a similar contrast in ESG engagement activities. We examine two types of engagement: questions during conference calls and voting on ESG issues.

4.1 Fund attention to ESG issues during earnings conference calls

To proxy for funds' engagement on ESG issues, we first examine fund families' questions during the Q&A section of firms' earnings conference calls. Several factors motivate this proxy. First, Li, Mai, Shen, and Yan (2021) and Cen, Han, and Harford (2022) show that call participants' questions often reveal their interest and expertise in specialized areas. Second, any questions about ESG arguably signal a belief that these issues are material, particularly given buy-side institutions' low overall participation rate in these calls (Jung et al., 2018). Third, these ESG related discussions reflect "soft" information, beyond what can be deciphered from

disclosures such as financial statements. Lastly, since earnings calls are mainly designed to discuss firms' financial performance and business prospects, they arguably reflect a fund's belief in ESG as an essential value driver.

Since conference call discussions concerning corporate governance tend to be generic and difficult to quantify, we follow existing studies and focus on ES issues. We employ two sets of keywords to conduct textual analyses of earnings call transcripts. First, we utilize a comprehensive set of environmental keywords derived from earnings call transcripts as employed in Sautner, van Lent, Vilkov, and Zhang (2023).[14] A key benefit of this source is that it captures the context-specific jargon used in earnings conference calls. Second, we follow Chava, Du, and Malakar (2021) and Li et al. (2021) to identify the five most mentioned social impact keywords (*human rights*, *discrimination*, *gender equality*, *racial ethnic*, *employee engagement*) based on key sustainability standards and documents.[15] Following Li et al. (2021), we use these as seed words and apply a machine learning model, *word2vec*, to these sustainability documents. We compute the cosine similarity between word vectors containing the seed words and other word vectors to generate a social impact directory.

After constructing ES dictionaries, we measure the occurrence of these issues in the conference call Q&As. Analyses are at the fund family-firm-quarter level, consistent with buy-side analysts representing fund families (rather than specific funds). For each conference call, we classify buy-side analysts into two groups, those from committed ESG families versus other ESG families. For conciseness, we focus on the LL measure as a basis of classification.[16]

[14] We thank Zacharias Sautner for generously sharing this list of keywords. As described in more detail in Sautner et al. (2023), this list is generated via the keyword discovery algorithm proposed in King, Lam, and Roberts (2017).
[15] This includes Sustainability Accounting Standards Board (SASB), United Nation Global Impact's guide to corporate sustainability, 2022 S&P Global Corporate Sustainability Assessment, and data manuals of MSCI KLD, Reprisk and Sustainalytics.
[16] Results using the PST measure reported in Internet Appendix Table A3.

In Table 5, we examine the relation between ES questions and committed ESG family status. The dependent variable in columns 1 and 2 is a dummy variable indicating at least one ES question during the call. The dependent variable in columns 3 and 4 captures the intensity of ES issues within the question, measured as the ratio of ES keywords over the total word count of the analyst's question. The independent variable of interest is a committed family indicator variable.

As Jung et al. (2018) discuss, buy-side analyst participation in conference calls is determined by many firm- and institution-specific factors. Also, the earnings call data only identify cases in which a fund family asks at least one question; it does not differentiate between calls in which a fund family does not participate, remains silent, or intended to ask questions but was not selected to speak. We limit our sample along two alternative dimensions to mitigate such concerns. In columns 1 and 3, we limit the sample to family-firm pairs in which the fund family asked at least one question about the firm in the past year, indicating some level of attention to the firm. To account for firm-specific factors that trigger analyst questions, we include firm fixed effects, a dummy variable indicating whether the firm is currently held by the family's ESG funds, and control variables that proxy for the uncertainty of earnings, past performance, and firm size, all measured as of the prior-quarter end. In columns 2 and 4, we adopt the stricter criteria of focusing on conference calls in which analysts from both committed and other ESG families asked at least one question, and we include conference call fixed effects to control for factors such as firm performance and tone of management discussion that may affect the level of engagement from buy-side institutions.

Consistent with predictions, columns 1 and 2 indicate that analysts from committed ESG families are significantly more likely to ask ES questions during firms' earnings conference calls, relative to other ESG families. Moreover, Columns 3 and 4 provide some evidence that

committed ESG families ask more intense ES-related questions. Because the unconditional probability of questions from buy-side analysts is low, the power of this analysis is weak. Nonetheless, results indicate a positive relation, and it is significant at the 5% level in column 4.

4.2 Fund voting on ESG proposals

The second type of ESG-related engagement activities we examine is fund voting on ESG proposals. Mutual funds have a fiduciary duty to vote. We focus our analysis on shareholder proposals related to ESG issues. Incremental to other factors such as fund family or the active versus passive nature of the fund, we predict that committed ESG funds will devote more attention to voting on ESG proposals, compared to other ESG funds.[17]

Committed funds' incentives to engage with portfolio firms are based on fund managers' perceived financial gains from engagement, as highlighted by LL. If these funds view ESG issues as a value driver, then they should take an informed approach toward voting on ESG proposals. Following Iliev and Lowry (2015), this generates two predictions. First, committed funds will independently assess items up for vote, rather than indiscriminately following the advice of a proxy advisory service company such as ISS. Second, committed funds will separately assess the issue up vote for each portfolio firm, rather than adopting a one-size-fits-all strategy of always supporting or rejecting certain agenda items. In contrast, other ESG funds would be more likely to follow ISS and more likely to adopt one-size-fits-all strategies.

Looking at Panel A of Table 6, we estimate regressions where the dependent variable is an indicator equal to one if the fund's vote is different than ISS's recommendation, zero otherwise. Independent variables of interest include committed ESG fund and other ESG fund

[17] Michaely, Ordonez-Calafi, and Rubio (2022), Dikolli, Frank, Guo, and Lynch (2021) and Li et al. (2023) find that the fund family to which an ESG fund belongs, whether a fund is active or passive, and whether the proposal relates to ES vs G issues influence voting.

indicator variables defined according to the LL incentive measure. Because the net benefits of actively engaging in voting are greater for larger funds and funds with longer investment horizons (Iliev and Lowry, 2015), we include the logarithm of fund size and fund turnover. We additionally control for fund ownership of the firm, the firm's portfolio weight in the fund, and agenda item, industry, and year fixed effects. We focus on the subsample of ESG proposals that have a positive historical passing rate to increase the power of our tests.[18] Columns 1 – 2 focus on ES proposals, and columns 3 – 4 focus on G proposals. We estimate regressions based on all funds (odd-numbered columns) and based only on ESG funds (even-numbered columns).

Among the ES proposals, conclusions are similar across both specifications. Committed ESG funds are significantly more likely to come to a different conclusion than ISS, compared to either non-ESG funds or other ESG funds (the benchmark category in the odd-numbered and even-numbered columns, respectively). Results are similar among G proposals, though slightly weaker. In sum, results are consistent with committed ESG funds taking a more active role in voting, rather than indiscriminately following ISS. This is consistent with them viewing ESG as a value driver and actively engaging on these issues as they strive to impact firms' policies.

In Panel B, we estimate regressions in which the dependent variable is based on funds' voting for the proposal (rather than disagreement with ISS), and we capture the tendency to disagree with ISS by separately examining cases in which ISS recommends "For" or "Against" (columns 1 and 3, and columns 2 and 4, respectively). This specification enables us to control for factors that influence support for a proposal (and analogously opposition to management). Findings are consistent with those reported in Panel A. Committed funds are more likely to independently vote, as reflected by their tendency to come to a different conclusion from ISS on

[18] 370 out of 973 ES proposals have a positive historical passing rate, defined as having passed at least once previously; 1950 out of 2122 governance proposals have a positive passing rate.

controversial proposals. Specifically, when ISS recommends against, committed funds are more likely than other ESG funds to vote for.[19] In unreported analyses we find no evidence that committed funds' voting reflects a pro-management voting pattern.

In Table 7, we examine funds' propensity to take a blanket approach towards voting. To construct a one-size-fits-all measure of voting, for each fund × agenda item × year, we calculate the absolute difference in the number of proposals the fund supports versus the number it opposes during the following five-year period, divided by the total number of proposals voted by the fund during the period. Funds that exhibit more discretionary voting across firms on the same agenda item will have a smaller one-size-fits-all measure. Similar to Table 6, we focus on those proposals with a positive historical passing rate. Control variables include the subset of Table 6 controls that are at the fund level.

Results in Table 7 provide further support for committed funds being more active voters: they are significantly less likely to follow one-size-fits-all strategies. For the same ES agenda item, they are more likely to vote yes for some firms and no for others. In contrast, other ESG funds tend to adopt a more passive voting strategy.[20]

4.3. Relation between fund engagement and firm value

The main premise of our analysis is that funds with higher incentives to engage will devote more resources to portfolio firms' ESG-related factors if they view ESG as a value driver. This generates the further prediction that committed ESG funds' voting on ESG-related issues should be positively correlated with firm value. We examine this prediction in Table 8.

[19] The lack of a significant difference among proposals on which ISS recommends against is consistent with the fact that these proposals are less controversial. Both ISS and management (by nature of the fact that ESG proposals represent shareholder proposals) recommend against them.

[20] Voting tests using the PST measure are shown in Internet Appendix Table A4. The results on independent voting are similar to those using the LL measure while those concerning one-size-fits-all voting are slightly weaker.

We classify ESG proposals along two dimensions: whether they passed or failed, and whether committed funds voted for or against. We measure market reaction as the cumulative market-adjusted abnormal returns (CARs) over the three days surrounding the meeting date. If engagement by committed funds is value enhancing, then CARs should be negative when committed funds' assessment of the issue, as reflected in voting, differ from the vote outcome.

Results are consistent with predictions. Rows 1 and 2 of Table 8 show CARs around meetings with failed ESG proposals. Among the subset of meetings in which committed funds disagreed with the vote outcome, as indicated by more than 50% of these funds voting for, CARs equal -0.29%. This increases in magnitude to -1.29%, significant at the 1% level, among cases where the vote outcome was more of a surprise, measured as failing within a 5% margin.

An analysis of passed proposals generates similar conclusions, as shown in rows 3 and 4. CARs equal -1.32% among cases where committed funds disagreed with the vote outcome, i.e., cases in which a majority of committed funds voted against. Looking at those proposals that pass within a 5% margin, the CAR equals –1.31%, significant at the 5% level.

Strikingly, when we conduct similar analyses but focus on other ESG funds' voting, we do not find similar effects.[21] In sum, committed funds' engagement with firms on ESG issues, as proxied by their propensity to devote resources toward independent voting, pushes firms to adopt value-increasing ESG policies. When other shareholders do not push firms in the same direction, shareholder value is lower than it otherwise would be. Our findings also suggest that approaches frequently adopted in the literature to compare ESG proposal support rates may fail to identify those institutional investors who are skillful in evaluating value-enhancing ESG policies.

[21] To isolate the differential effects of other ESG funds' vote, we focus on cases where other ESG funds' votes do not overlap with those of committed ESG funds.

5. Real Impacts on Firms' ESG Performance?

5.1 Changes in ESG performance, conditional on investment and engagement

Our findings to this point regarding the attention, investment strategy, and engagement of committed versus other ESG funds suggest that these different types of funds will differentially impact portfolio firms. We begin by examining how changes in firm ownership by different types of ESG funds relate to firms' subsequent ESG risk profiles. As previously shown in Table 4, committed ESG funds tend to maintain their investments in firms following negative ESG events, whereas other ESG funds are more likely to at least partially divest during such times.

We focus on funds' trading in each stock during the quarter of a severe negative ESG incident, which we refer to as quarter *t*. We classify a stock as subject to intensive buy (sell) by committed ESG funds if the stock is in the top (bottom) quintile among committed funds' trading during quarter *t*. We label these cases 'Committed ESG buy' and 'Committed ESG sell', respectively. 'Other ESG buy' and 'Other ESG sell' are defined analogously. To mitigate endogeneity concerns, we limit the sample to firms held by each of these types of funds. Results are shown in Table 9. For conciseness, we report results using the LL classification. Findings using the PST classification are similar, as reported in Internet Appendix Table A5.

We estimate regressions in which the dependent variable represents the change in the RepRisk ESG risk index over periods ranging from one to four quarters after the quarter of the risk incident. Specifically, the dependent variables in columns 1 – 4 represent $\Delta RRI_{t, t+1}$, $\Delta RRI_{t, t+2}$, $\Delta RRI_{t, t+3}$, and $\Delta RRI_{t, t+4}$, respectively. The baseline case represents stocks not intensively traded by any ESG funds. Control variables include firm size and book-to-market as of the end of quarter t, and stock returns during quarter t.

We find that *Committed ESG Buy* is significantly related to decreases in firm risk over the subsequent three quarters. In economic terms, firms intensely bought by committed funds experience a risk reduction of 16.7% after two quarters. Compared to the base case of firms that are neither intensively bought nor sold, this represents a 31% reduction.[22]

Although other ESG funds tend to sell firms experiencing severe ESG risk incidents (as shown in Table 4), this exit strategy does not have significant disciplinary effects on firms' ESG performance, as indicated by the coefficients on "*Other ESG Sell*". This finding echoes the view that divestiture is unlikely the most effective way to influence corporate ESG conduct (see, e.g., Berk and van Binsbergen, 2021; Cohen et al., 2021).

While Table 9 provides suggestive evidence on the role of engagement, in Table 10 we examine this more directly, by taking advantage of the fact that engagement varies within fund (in addition to across funds, as characterized by committed vs other ESG funds).[23] Recognizing the difficulty of explicitly modeling each source of within-fund variation, we categorize a fund as having strong engagement with a firm if it has demonstrated less evidence of indiscriminately following ISS's recommendations when voting on the firm's proposals. Specifically, we calculate the percentage of issues on which a fund has come to a different decision from ISS over the prior two years, and we classify the fund as conducting 'High Engagement with Firm' if this is above-median, and 'Low Engagement with Firm' otherwise. If engagement drives the relation between committed fund buy and subsequent decreases in risk documented in Table 9, then effects should be concentrated within the subset of firms for which committed ESG funds were

[22] When all dummies (committed and other, buy and sell) are set to zero, the average change in RRI from t to t+2 is -12.7%. The coefficient on Committed Buy of -4.045% indicates that the total change in RRI when committed funds purchase is -16.7%; (16.7 – 12.7) / 12.7 = 31%,

[23] For example, Iliev and Lowry (2015) and Cvijanovic and Dasgupta (2016) show that funds tend to engage more with firms in which they own a larger position, firms they have held for longer, and firms with which they do not have conflicts of interest stemming from business ties.

more highly engaged. As shown in Table 10, this is precisely what we find. The coefficient on the interaction term between *Committed ESG Buy* (a dummy variable indicating intensive buy by committed ESG funds) and *High Engagement with Firm* (a dummy variable indicating high prior engagement) is negatively related to the change in the RepRisk Index over the four quarters following ESG risk incidents. In contrast, coefficients on *Committed ESG Buy x Low Engagement with Firm* are insignificant. This suggests that the impact of committed funds' investments on firms' ESG risk is mainly driven by engagement activities.

5.2. The causal impact of investments by committed funds

While findings in the prior section suggest that committed funds influence portfolio firms' ESG policies, endogeneity is a potential concern. The positive relation between fund buying and subsequent decreases in a firm's ESG risk potentially reflects one of two phenomena: fund engagement that causes the firm to modify their behavior in ways that lower risk (engagement channel), or the fund predicting changes in risk and buying on that information (selection channel). While results on Table 10 mitigate this concern, we use a natural experiment to more precisely isolate the engagement channel.

Hartzmark and Sussman (2019) find that after the introduction of the Morningstar Sustainability Rating in 2016, funds ranked as low sustainability experienced net outflows while those categorized as high sustainability attracted large inflows.[24] Importantly, the additional inflows are unrelated to fund performance and the fundamentals of fund holdings. Moreover, we find that both committed and other ESG funds receive similarly large inflows. As such, these inflows represent an exogenous shock to ESG funds' TNA, which will, on average, lead to increased positions within the portfolio firms. The funds' increased ownership (as a percent of

[24] Internet Figure A3 replicates this finding within our sample, specifically showing that ESG funds experience significant inflows relative to non-ESG funds after the introduction of the Morningstar rating in March 2016.

firm market capitalization) enhances the funds' ability to influence firm policies, and thus raises the expected benefits of active engagement (Iliev and Lowry, 2015).

To shut down the selection channel and focus solely on the engagement channel, we fix the portfolios of firms held by each fund as of the quarter prior to the shock. We then examine whether those firms that were part of an ESG fund's portfolio before the shock subsequently experience significant changes in their ESG performance.

Results are shown in Table 11. We estimate annual regressions, which enables us to examine outcome measures that are not available at the quarterly interval. Our measures of firms' ESG performance include: each firm's annual RepRisk Risk Index and each firm's annual toxic release, as available from the Toxics Release Inventory (TRI) Program of the U.S. EPA. The former provides an overall assessment of a firm's ESG performance while the latter provides a more precise measure of a firm's environmental practices. Firms' on-site toxic release captures pollutants released to the air, surface water, land, and underground (Lyu et al., 2021).

Our first step is to isolate the effects of the exogenous fund flows on ESG funds' additional investments into portfolio firms. We follow the approach of Doshi, Elkamhi, and Simutin (2015). Focusing on the last quarter of 2015, we create an aggregate portfolio representing the sum of all company shares held by committed ESG funds. For each company, we calculate its weight in this 'committed' portfolio minus its weight in the market portfolio. This difference represents an estimate of the stock's overweighting by committed ESG funds. The dummy variable *High Committed ESG Overweight* equals one if this measure is in the top quintile. We employ an analogous approach to calculate each stock's overweighting by other ESG funds to create the *High Other ESG Overweight* dummy.

We regress the logarithm of the RepRisk Risk Index and the logarithm of the TRI on-site

release on the interaction terms *High Committed ESG Overweight× Post* and *High Other ESG Overweight×Post*, where *Post* is a dummy variable equal to one in the post-2015 period. These interaction terms capture the extent to which an exogenous increase in funds' ownership of high ESG stocks relates to subsequent changes in firm operations, specifically to a decrease in ESG-related risk or to a decrease in emissions. As such, they isolate the effects of the engagement channel. We predict a significant negative coefficient on these interaction terms.

Results from this specification are shown in Table 11; columns 1 and 2 (3 and 4) are based on the RepRisk Index (TRI), using either the LL or PST measure. Across all specifications, findings indicate that committed funds' higher incentives to engage and their resulting greater information acquisition and longer-term investment strategy have real effects. Greater overweighting by such funds leads to significant decreases in ESG-related risk (the RRI Risk Index) and to significant decreases in emissions. In contrast, although firms heavily overweighted by other ESG funds also receive additional investment, there is no significant change in either of these ESG performance metrics. All ESG funds are not equal.

In additional analyses, we examine heterogeneity across firm types. Several factors suggest that the observed changes in firms, as shown in Table 11, will be concentrated within high ESG firms. First, high ESG firms should be more affected by exogenous capital infusions from committed funds since these funds have more concentrated portfolio weights in these firms.[25] Second, as reported in Table 1, committed funds' incentives to engage are significantly higher on ESG stocks than on non-ESG stocks. Third, ESG engagement may be more likely to succeed when targets are more sensitive to ESG rating downgrades and thus more cooperative

[25] This assumption is consistent with the fact that individual firms' portfolio weights in a fund remains relatively stable during the quarters leading up to the event. Specifically, 83% of overweighted firms by a fund at the end of 2014 remain as overweighted at the end of 2015.

(Dimson et al., 2015 and Barko et al., 2021). Our findings are consistent with these predictions. As reported in Internet Appendix Table A6, exogenous shocks to capital within committed ESG funds are followed by significant ESG-related improvements among high ESG stocks. In contrast, effects are weaker within non-ESG stocks.

Overall, results show that different types of ESG funds employ different strategies. Committed ESG funds adopt ESG integrated investment strategies that are more sophisticated and rely more on independent research; their continued investments and associated engagement are more effective in improving firms' ESG performance. In contrast, other ESG funds have more dispersed investments and as a result face fewer incentives to engage with their portfolio companies on ESG-related issues. They are more likely to sell firms exposed to severe ESG risk, and we find no evidence that this exit strategy leads to real impacts on underlying firms.

6. Performance and Flows of ESG Funds

6.1 Performance of ESG funds

Prior studies find mixed evidence regarding the performance of ESG investments. There is no consensus on whether funds can "do well by doing good." In contrast to prior literature that considers ESG funds as a whole, we hypothesize that there will be heterogeneity within ESG funds. Committed funds' greater attention to and engagement on ESG issues can provide an advantage in identifying best ESG practices that contribute to firms' long-term value.

We begin by examining whether committed ESG funds have outperformed other ESG funds, across all firms in their portfolios. We then examine more specifically whether the committed funds have outperformed in the subsets of their portfolios where engagement would be most likely to play a role. In each analysis, we employ three measures of fund performance. In

columns 1 and 2 of each panel of Table 12, we use Carhart alpha (Carhart 1997), calculated using each fund's net-of-fee returns and a 36-month rolling window. In columns 3 and 4, we utilize Value-Added (Berk and van Binsbergen, 2015), calculated as a fund's Carhart alpha plus the expense ratio, multiplied by the fund's TNA (in millions of dollars). In columns 5 and 6, we utilize the DGTW (1997) characteristics-adjusted returns of fund holdings. All three measures are calculated over a 12-month horizon. In each regression, we control for a battery of fund characteristics that have been shown to affect fund performance including expense ratio, turnover ratio, the natural logarithm of fund TNA, industry-concentration index (ICI), ActiveShare, past-year return and flow volatility, and past-year performance.[26]

In the odd columns of Panel A, the sample includes all funds, and fund performance is regressed on *Committed ESG fund* and *Other ESG fund*, meaning the benchmark category is non-ESG funds. Results indicate that both types of ESG funds outperformed non-ESG funds during our sample period.[27] However, when we restrict the sample to ESG funds (cols 2, 4, and 6), the insignificant coefficient on *Committed ESG fund* indicates that there is no significant difference between the overall performance of the two types of ESG funds.

To provide more direct evidence on our main question, whether committed ESG funds' distinct strategy towards ESG manifests in differential returns, we take advantage of the fact that DGTW characteristic-adjusted returns can be calculated on subsets of funds' portfolios. Our first prediction is based on the premise that engagement takes time: if committed funds' engagement activities contribute to higher returns, then we would expect these higher returns to be concentrated within positions that funds have held longer. For each stock in a fund's portfolio,

[26] We focus on the LL measure of engagement, though results using the PST measure, shown in Internet Appendix Table A7, are similar.
[27] This potentially reflects either the value of integrating ESG considerations into portfolio decisions (Chen et al., 2021) or the unexpectedly strong demand for high ESG stocks that contributed to price run-ups (Pastor et al., 2021).

we calculate its holding duration following Cremers and Pareek (2016), and we categorize stocks with a duration of more than (less than) two years as high (low) duration stocks.[28] We estimate regressions similar to those in the even columns of Panel A.

In columns 1 and 2 of Panel B of Table 12, the sample consists of ESG funds' high and low duration positions, respectively. Consistent with the premise that engagement takes time to pay off, we find that committed ESG funds significantly outperform other ESG funds on long duration positions, with an economic magnitude of approximately 1.0% per year. In contrast, we find no significant difference among short duration positions.

Our second prediction is that ESG funds' engagement will be concentrated within ESG stocks. If this engagement pays off, then committed ESG funds should outperform other ESG funds on their ESG stocks. In column 3 (column 4) of Panel B, the DGTW characteristics-adjusted returns are measured across the subset of the fund's holdings that represent high ESG stocks (all other stocks). Consistent with predictions, our findings indicate that committed ESG funds' attention to ESG has provided them an advantage. As shown in column 3, committed funds significantly outperform other ESG funds on their ESG investments, with an economic magnitude of approximately 30 bps per year. In contrast, column 4 indicates that these two groups of ESG funds have not performed significantly differently on their non-ESG holdings.

Finally, in columns 5 and 6, we examine the joint influence of investment duration and ESG focus. Looking first at column 5, for each mutual fund, we calculate DGTW abnormal returns across the subset of stocks that have both an ESG focus and an investment duration of at least two years. Results provide further evidence regarding the influence of each of these dimensions. Among the high duration ESG stock portfolio, committed ESG funds outperform

[28] We choose a two-year cutoff because the average duration is close to two years.

other ESG funds by an average of 1.5% per year. In comparison, we find no evidence of such outperformance among the low duration ESG stock portfolio, as shown in column 6.

Our finding that committed funds outperform other ESG funds only on these subsets of stocks is striking for several reasons. First, the outperformance cannot be explained by greater holdings in ESG stocks, as the conclusions of Pastor et al. (2021) might suggest. Both sets of ESG funds invest a similar percent of AUM in ESG stocks, as shown in Table 2. Second, committed funds' outperformance is consistent with the value of specialization resulting from proprietary ESG research (Cremers, Reiley, and Zambrana, 2023).[29] Third, committed funds' outperformance cannot be attributed to their holding of more active or concentrated portfolios — attributes that could be related to managerial skill (Kacperczyk et al., 2005; Cremers and Petajisto, 2009). This is because committed and other ESG funds perform similarly on other holdings. In addition, the outperformance of committed funds on ESG stocks is mainly concentrated within long duration holdings where long term engagement, rather than short term stock selection, is more likely to be the driver of fund performance.

6.2 Flows of ESG funds

Our findings raise the question of whether investors are aware of the differences between committed and other ESG funds. That is, are committed funds rewarded for their more sophisticated ESG integration and greater impacts, in terms of higher fund flows? We calculate fund flows as the quarterly changes in fund TNA, adjusted for fund returns. We regress fund flows on *Committed ESG fund* and *Other ESG fund*. We measure fund performance as either raw net-of-fee returns or the Carhart (1997) four-factor alpha estimated using monthly fund returns over the past 36 months, and we control for key fund characteristics. Since investor awareness of

[29] In addition to devoting more resources to long-term engagement, committed funds' greater research may also make them better at selecting firms where ESG performance contributes positively to financial performance.

sustainable investments has increased significantly in recent years, particularly after the introduction of the Morningstar Sustainability Rating, we examine flows separately for the pre-2016 and post-2016 periods. Results are presented in Table 13. We again focus on the LL measure, with results using the PST measure reported in Internet Appendix Table A7.

The first takeaway is that there has been a shift during our sample period, which coincides with the introduction of the Morningstar Sustainability Index. While columns 1 – 3 show no effect during the pre-2016 period, columns 4 – 6 indicate that both committed and other ESG funds have attracted significantly positive abnormal flows over the post-2016 period. However, a comparison of the coefficients on *Committed ESG fund* and *Other ESG fund* provides no evidence that conditional on financial performance, committed funds are rewarded for their greater impact. Despite their preferences for sustainable investments, average mutual fund investors cannot differentiate between sustainable investments that are positioned to have social impacts and opportunistic window dressing behavior that aims to attract investor flows. Our evidence calls for greater investor awareness on the heterogeneity across ESG funds.

7. Discussion

Throughout the paper, we primarily focus on differences across funds, specifically across committed versus other ESG funds. However, results in Table 10 indicated that intra-fund differences also play a role. Here, we consider three additional sources of intra-fund variation.

First, funds should rationally devote more attention to holdings for which an increase in value has the greatest impact on total fund value and thus on management fees. To test this idea, we compute the LL measure at the holding level, within each fund. We find that funds tend to have a longer-term investment strategy towards firms with which they have greater incentives to

engage, and they exhibit more independent voting on these firms' ESG proposals (results not tabulated). Moreover, this heterogeneity across holdings exists among both committed ESG funds and other ESG funds, even though the latter has significantly lower incentives overall.

Second, we examine variation across green versus brown stocks within funds' portfolios. We find that committed ESG funds devote more attention to those stocks with greater LL measures, irrespective of whether they are green or brown. On the other hand, as shown in Table 12, these funds only outperform other ESG funds on their investments in high ESG stocks, consistent with these funds' greater ESG expertise and the benefits of specialization (Cremers, Riley and Zambrana, 2023).

Third, conditional on the same incentive to engage, funds' ownership as a percent of firm value should also play a role in sustainable investing (see, e.g., Fich, Harford, and Tran, 2015 and Iliev and Lowry, 2015). When a fund controls a larger percent of the vote, it is more likely to get management's attention in behind-the-scenes engagements. Our causal analysis of the impact of ownership by different types of ESG funds provides evidence regarding the influence of fund ownership as a percent of firm value. As shown in Table 11, when committed funds are more overweighted in a stock, the subsequent impacts of their investments are greater.

8. Conclusion

Both regulators and academic studies often measure sustainable investments by asset managers' dollar investments in high ESG firms. Yet, several recent studies find no evidence that funds engaging in sustainable investments exert material impacts on firms' cost of capital or improve corporate conduct. We argue that only ESG funds that consider ESG as a value driver and have incentives to engage with portfolio firms should be expected to have an impact.

We find that committed ESG funds, which have higher incentives to engage, monitor ESG-related issues more intensely, have a longer-term investment strategy, and devote more resources to engagement on ESG related issues. This strategy is effective: investments and engagement by committed funds contribute to improvements in firms' ESG performance. Committed funds also outperform other ESG funds on their investments in high ESG firms, particularly those that have been held in the portfolio for a long time.

In contrast, other ESG funds' strategy of exiting following negative ESG incidents has no observable impact on firms' ESG policies. Their investment strategies are often no different from those of non-ESG funds. In aggregate, our results suggest that these funds are better characterized by greenwashing. While they hold a similar percent of AUM in ESG firms as committed funds, they have no impact on the underlying firms.

While committed funds' greater attention to ESG issues generates value, we find no evidence that average investors are sophisticated enough to identify these impactful funds. Conditional on performance, we find no evidence that committed funds attract higher flows. Our study highlights the importance of understanding funds' incentives to engage firms on ESG-related issues. Not all ESG funds are created equal; committed ESG funds are significantly more likely to pressure firms into improving their environmental and social impacts. Our paper also suggests that engagement, as opposed to divestiture, is likely to be a more effective mechanism to influence corporate ESG conduct.

References

Atta-Darkua, Vaska, Simon Glossner, Philipp Krueger, and Pedro Matos, 2022, Decarbonizing institutional investor portfolios, Available at SSRN.

Barber, Brad M, Adair Morse, and Ayako Yasuda, 2021, Impact investing, *Journal of Financial Economics* 139, 162–185.

Barko, Tamas, Martijn Cremers, and Luc Renneboog, 2021, Shareholder engagement on environmental, social, and governance performance, *Journal of Business Ethics* 1–36.

Berg, Florian, Julian F Kölbel, Anna Pavlova, and Roberto Rigobon, 2021, ESG confusion and stock returns: Tackling the problem of noise, Available at SSRN 3941514.

Berk, Jonathan, and Jules H van Binsbergen, 2021, The impact of impact investing, Available at SSRN 3909166.

Berk, Jonathan B, and Jules H Van Binsbergen, 2015, Measuring skill in the mutual fund industry, *Journal of Financial Economics* 118, 1–20.

Broccardo, Eleonora, Oliver Hart, and Luigi Zingales, 2022, Exit versus voice, *Journal of Political Economy* 130, 3101–3145.

Carhart, Mark M, 1997, On persistence in mutual fund performance, *The Journal of Finance* 52, 57–82.

Cen, Ling, Yanru Han, and Jarrad Harford, 2022, What do questions reveal? Skill acquisition, detection, and recognition in the capital markets, Available at SSRN 3730815.

Chava, Sudheer, Wendi Du, and Baridhi Malakar, 2021, Do managers walk the talk on environmental and social issues? Georgia Tech Scheller College of Business Research Paper.

Chen, Linquan, Yao Chen, Alok Kumar, and Woon Sau Leung, 2021, Firm-level ESG news and active fund management, University of Miami Business School Research Paper.

Cohen, Lauren, Umit G Gurun, and Quoc Nguyen, 2021, The ESG-innovation disconnect: Evidence from green patenting, European Corporate Governance Institute–Finance Working Paper.

Crane, Alan, Kevin Crotty, and Tarik Umar, 2022, Hedge funds and public information acquisition, *Management Science* .

Cremers, KJ Martijn, and Antti Petajisto, 2009, How active is your fund manager? A new measure that predicts performance, *The Review of Financial Studies* 22, 3329–3365.

Cremers, KJ Martijn, Timothy B Riley, and Rafael Zambrana, 2023, The complex materiality of ESG ratings: Evidence from actively managed ESG funds, Available at SSRN 4335688.

Cremers, Martijn, and Ankur Pareek, 2016, Patient capital outperformance: The investment skill of high active share managers who trade infrequently, *Journal of Financial Economics* 122, 288–306.

Cvijanović, Dragana, Amil Dasgupta, and Konstantinos E Zachariadis, 2016, Ties that bind: How business connections affect mutual fund activism, *The Journal of Finance* 71, 2933–2966.

Daniel, Kent, Mark Grinblatt, Sheridan Titman, and Russ Wermers, 1997, Measuring mutual fund performance with characteristic-based benchmarks, *The Journal of Finance* 52, 1035–1058.

Dikolli, Shane S, Mary Margaret Frank, Zhe Michael Guo, and Luann J Lynch, 2022, Walk the talk: ESG mutual fund voting on shareholder proposals, *Review of Accounting Studies* 27, 864–896.

Dimson, Elroy, Oğuzhan Karakaş, and Xi Li, 2015, Active ownership, *The Review of Financial Studies* 28, 3225–3268.

Doshi, Hitesh, Redouane Elkamhi, and Mikhail Simutin, 2015, Managerial activeness and mutual fund performance, *The Review of Asset Pricing Studies* 5, 156–184.

Eccles, Robert G, and Judith C Stroehle, 2018, Exploring social origins in the construction of ESG measures, Available at SSRN 3212685.

Fich, Eliezer M, Jarrad Harford, and Anh L Tran, 2015, Motivated monitors: The importance of institutional investors' portfolio weights, *Journal of Financial Economics* 118, 21–48.

Gantchev, Nickolay, Mariassunta Giannetti, and Rachel Li, 2022, Does money talk? Market discipline through selloffs and boycotts, *Review of Finance*, forthcoming.

Gibbons, Brian, Peter Iliev, and Jonathan Kalodimos, 2021, Analyst information acquisition via EDGAR, *Management Science* 67, 769–793.

Gibson Brandon, Rajna, Simon Glossner, Philipp Krueger, Pedro Matos, and Tom Steffen, 2022, Do responsible investors invest responsibly? *Review of Finance* 26, 1389–1432.

Hartzmark, Samuel M, and Kelly Shue, 2023, Counterproductive impact investing: The impact elasticity of brown and green firms, Available at SSRN 4359282.

Hartzmark, Samuel M, and Abigail B Sussman, 2019, Do investors value sustainability? A natural experiment examining ranking and fund flows, *The Journal of Finance* 74, 2789–2837.

He, Yazhou, Bige Kahraman, and Michelle Lowry, 2023, ES risks and shareholder voice, *The Review of Financial Studies*, forthcoming.

Heath, Davidson, Daniele Macciocchi, Roni Michaely, and Matthew C Ringgenberg, 2022, Does socially responsible investing change firm behavior? *Review of Finance*, forthcoming.

Hoepner, Andreas GF, Ioannis Oikonomou, Zacharias Sautner, Laura T Starks, and Xiaoyan Zhou, 2022, ESG shareholder engagement and downside risk, European Corporate Governance Institute–Finance Working Paper.

Iliev, Peter, and Michelle Lowry, 2015, Are mutual funds active voters? *The Review of Financial Studies* 28, 446–485.

Jung, Michael J, MH Franco Wong, and X Frank Zhang, 2018, Buy-side analysts and earnings conference calls, *Journal of Accounting Research* 56, 913–952.

Kacperczyk, Marcin, Clemens Sialm, and Lu Zheng, 2005, On the industry concentration of actively managed equity mutual funds, *The Journal of Finance* 60, 1983–2011.

Kim, Soohun, and Aaron Yoon, 2023, Analyzing active fund managers' commitment to ESG: Evidence from the United Nations Principles for responsible investment, *Management science* 69, 741–758.

King, Gary, Patrick Lam, and Margaret E Roberts, 2017, Computer-assisted keyword and document set discovery from unstructured text, *American Journal of Political Science* 61, 971–988.

Krueger, Philipp, Zacharias Sautner, and Laura T Starks, 2020, The importance of climate risks for institutional investors, *The Review of Financial Studies* 33, 1067–1111.

Lewellen, Jonathan, and Katharina Lewellen, 2022, Institutional investors and corporate governance: The incentive to be engaged, *The Journal of Finance* 77, 213–264.

Li, Kai, Feng Mai, Rui Shen, and Xinyan Yan, 2021, Measuring corporate culture using machine

learning, *The Review of Financial Studies* 34, 3265–3315.

Li, Tao, S Lakshmi Naaraayanan, and Kunal Sachdeva, 2023, Conflicting objectives between ESG funds and their investors: Evidence from mutual fund voting records, Available at SSRN 3760753.

Liang, Hao, Lin Sun, and Melvyn Teo, 2020, Greenwashing: Evidence from hedge funds, Available at SSRN 3610627.

Lyu, Xiaoyi, Chenyu Shan, and Dragon Yongjun Tang, 2021, Corporate finance and firm pollution, Available at SSRN 3805629.

Michaely, Roni, Guillem Ordonez-Calafi, and Silvina Rubio, 2022, Mutual funds' strategic voting on environmental and social issues, European Corporate Governance Institute–Finance Working Paper.

Morningstar, 2020, The Morningstar ESG commitment level: Our first assessment of 100-plus strategies and 40 asset managers.

Naaraayanan, S Lakshmi, Kunal Sachdeva, and Varun Sharma, 2021, The real effects of environmental activist investing, European Corporate Governance Institute–Finance Working Paper.

Oehmke, Martin, and Marcus M Opp, 2020, A theory of socially responsible investment, Swedish House of Finance Research Paper.

Pástor, L'uboš, Robert F Stambaugh, and Lucian A Taylor, 2020, Fund tradeoffs, *Journal of Financial Economics* 138, 614–634.

Pástor, L'uboš, Robert F Stambaugh, and Lucian A Taylor, 2022, Dissecting green returns, *Journal of Financial Economics* 146, 403–424.

Riedl, Arno, and Paul Smeets, 2017, Why do investors hold socially responsible mutual funds? *The Journal of Finance* 72, 2505–2550.

Sautner, Zacharias, Laurence van Lent, Grigory Vilkov, and Ruishen Zhang, 2023, Firm-level climate change exposure, *The Journal of Finance*, forthcoming.

Starks, Laura T, Parth Venkat, and Qifei Zhu, 2021, Corporate ESG profiles and investor horizons, Available at SSRN 3049943.

Wang, Pingle, 2019, Demand for information and stock returns: Evidence from EDGAR, Available at SSRN 3348513.

Wermers, Russ, 2000, Mutual fund performance: An empirical decomposition into stock-picking talent, style, transactions costs, and expenses, *The Journal of Finance* 55, 1655–1695.

Figure 1
Filing downloads around ESG negative news

This figure plots the probability of a committed (other) ESG fund family downloading a firm's filings on EDGAR during the days surrounding ESG negative news. For each ESG news event, we calculate the three-day cumulative market-adjusted abnormal return (CAR) of the firm around the news release and consider an ESG news event as a severe ESG negative news event if its CAR is ranked in the bottom quintile in a given quarter, and other ESG negative news event otherwise. The x-axis shows the days relative to the news release ($t = 0$). The shaded area plots the 95% confidence interval.

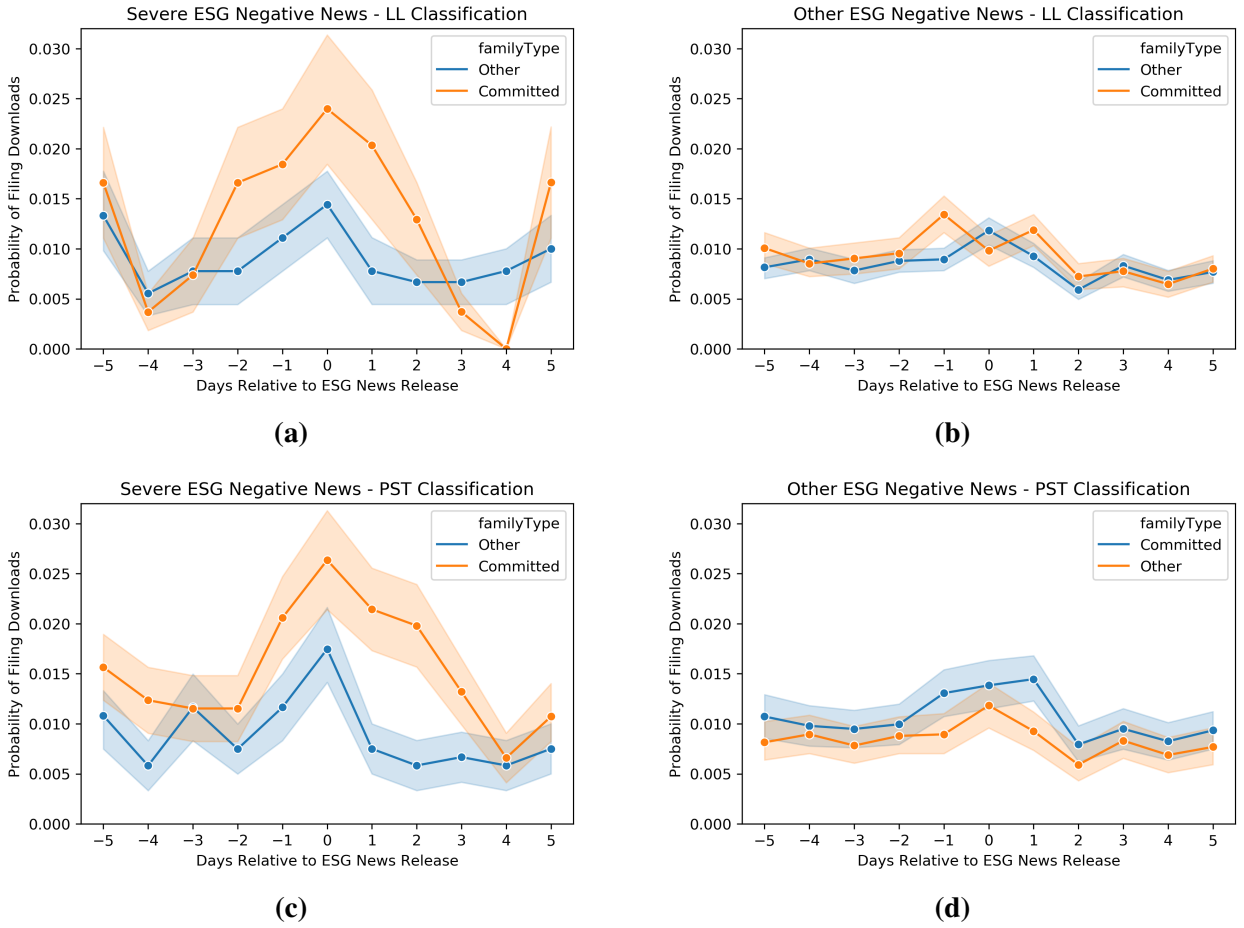

Table 1
Incentive to engage and portfolio illiquidity of committed and other ESG funds

This table reports the Lewellen and Lewellen (2022) "Incentive to Engage" measure and Pástor, Stambaugh, and Taylor (2020) "Portfolio Illiquidity" measure of committed and other ESG funds, separately for high ESG versus other portfolio firms. High ESG firms are those ranked in the top tercile according to their MSCI ESG scores during the quarter. In Panels A and B, ESG funds are classified as committed and other ESG funds by the Incentive to Engage measure and Portfolio Illiquidity measure, respectively. We also test the statistical significance of the differences in measures between high ESG and other firms for committed and other funds, respectively, at the bottom of each panel.

Panel A: LL classification

Incentive to Engage	Committed ESG Funds	Other ESG Funds
All Firms	0.087	0.035
High ESG Firms	0.091	0.037
Other Firms	0.075	0.032
High ESG vs Other Firms	0.016***	0.005

Panel B: PST classification

Portfolio Illiquidity	Committed ESG Funds	Other ESG Funds
All Firms	0.009	0.003
High ESG Firms	0.077	0.019
Other Firms	0.071	0.018
High ESG vs Other Firms	0.006*	0.001

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 2
Fund characteristics

This table compares fund characteristics of committed ESG funds, other ESG funds, and non-ESG funds. *Weight on High ESG Stocks* is the weight of high ESG stocks in a fund portfolio. *Expense Ratio* is the annual operating expenses relative to AUM in percentage. *Turnover Ratio* is annual fund turnover ratio. *Age* is the number of years since fund inception. *Load* is a dummy variable indicating funds charging front or rear load fees. *TNA* is the total net assets of a fund in billion dollars. *Family TNA* is the total net assets of all funds in the fund family in billion dollars. *Quarterly Return* is the quarterly return net of fees in percentage. *Quarterly 4-factor Alpha* is Carhart four-factor alpha estimated from 36-month rolling regressions. *Quarterly Flow* is quarterly fund flow in percentage, estimated as TNA at the end of quarter minus last quarter's TNA times this quarter's return, divided by last quarter's TNA. *Industry Concentration Index* is as defined in Kacperczyk et al. (2005). *Active Share* is as defined in Cremers and Petajisto (2009). The last two columns report differences in fund characteristics between committed and other ESG funds and between committed and non-ESG funds.

Panel A: LL classification

	Committed ESG	Other ESG	Non-ESG	Committed - Other	Committed - Non
Weight on High ESG Stocks	0.39	0.39	0.28	0.00	0.11***
Expense Ratio (%)	1.12	1.00	1.08	0.12***	0.04
Turnover Ratio (%)	55.79	60.44	72.83	-4.65	-17.04***
Age (year)	20.80	22.78	19.70	-1.98**	1.10
Load	0.71	0.69	0.72	0.02	-0.01
TNA (billion)	1.55	3.01	2.13	-1.46***	-0.58**
Family TNA (billion)	158.28	196.56	195.53	-38.28	-37.25
Quarterly Return (%)	3.07	3.31	2.60	-0.24	0.47***
Carhart 4-factor Alpha (%)	-0.51	-0.43	-0.78	-0.08	0.27***
Quarterly Flow (%)	-1.41	-1.31	-1.43	-0.10	0.02
Industry Concentration Index	0.27	0.19	0.22	0.08***	0.04***
Active Share	0.85	0.75	0.82	0.10***	0.03***

Panel B: PST classification

	Committed ESG	Other ESG	Non-ESG	Committed - Other	Committed - Non
Weight on High ESG Stocks	0.39	0.39	0.28	0.00	0.11***
Expense Ratio (%)	1.11	1.00	1.08	0.11***	0.03
Turnover Ratio (%)	56.66	59.62	72.83	-2.96	-16.17***
Age (year)	20.47	23.04	19.70	-2.57**	0.77
Load	0.72	0.68	0.72	0.04	0.00
TNA (billion)	1.43	3.08	2.13	-1.65***	-0.70**
Family TNA (billion)	132.90	219.60	195.53	-86.70	-62.63
Quarterly Return (%)	2.91	3.46	2.60	-0.55	0.31***
Carhart 4-factor Alpha (%)	-0.47	-0.47	-0.78	-0.00	0.31***
Quarterly Flow (%)	-1.41	-1.31	-1.43	-0.10	0.02
Industry Concentration Index	0.25	0.20	0.22	0.05***	0.03***
Active Share	0.85	0.75	0.82	0.10***	0.03***

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3
Fund trading in response to poor firm performance

This table examines whether funds' trading responses to poor past performance differ across fund types. The dependent variable *Net Trades*$_{ijt}$ is the dollar amount of fund i's trading of stock j from quarter $t-1$ to quarter t, scaled by the fund's portfolio value in quarter $t-1$, expressed in percentage. The dummy variable *Poor Firm Perf* is equal to one if a stock is ranked in the bottom quintile by either prior-quarter earnings surprise (columns 1 and 3) or three-month stock returns (columns 2 and 4), and zero otherwise. We estimate a pooled regression of all funds, where the dependent variable is *Net Trades*, and independent variables include *Poor Firm Perf*, and its interaction terms with the committed ESG fund and other ESG fund dummies, respectively. Columns 1 and 2 (3 and 4) classify ESG funds by the LL incentive to engage (PST illiquidity) measure. All regressions control for the natural logarithm of the stock's market capitalization, book-to-market, stock returns, and Amihud illiquidity measure in quarter $t-1$, and include *fund* × *time* fixed effects. Standard errors are clustered at the fund level.

	Dept Var = Net Trades of Fund			
	LL Classification		PST Classification	
	(1)	(2)	(3)	(4)
Poor Firm Perf	-0.008***	-0.008***	-0.008***	-0.008***
	(-6.95)	(-5.00)	(-6.95)	(-4.99)
Committed ESG Fund X Poor Firm Perf	0.009**	0.018**	0.009**	0.021***
	(2.05)	(2.14)	(2.52)	(3.35)
Other ESG Fund X Poor Firm Perf	-0.002	-0.009**	-0.003	-0.015***
	(-0.89)	(-2.46)	(-1.52)	(-3.54)
Past Performance Measure	Lag SUE	Lag 3-month Return	Lag SUE	Lag 3-month Return
Fund X Time FE	Y	Y	Y	Y
Stock Control	Y	Y	Y	Y
N	3238712	3471788	3238712	3471788
Adjusted R-squared	0.038	0.038	0.038	0.038

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4
Fund trading following ESG risk incidents

This table examines how funds trade stocks experiencing ESG negative news. Committed and other ESG funds are classified using the LL measure. In Panel A, the regressions are estimated at fund-security level with fund-time fixed effects, and the dependent variable *Net Trades*$_{ijt}$ is the dollar amount of fund i's trading of stock j from quarter $t-1$ to quarter t, scaled by the fund's portfolio value in quarter $t-1$, expressed in percentage. In Panel B, fund trades are aggregated to the security level, and the dependent variable is the change in the number of shares held by a particular fund type from quarter $t-1$ to quarter t, scaled by the number of shares outstanding in basis points. ESG negative news are collected from RepRisk ESG risk incidents and non-ESG related news are collected from Ravenpack. We define a news event concerning a stock as severe if the stock's three-day cumulative market-adjusted abnormal return (CAR) is ranked in the bottom quintile in a given quarter. The independent variables include *Severe ESG Negative News*, *Other ESG Negative News*, *Severe Non-ESG News*, and *Other Non-ESG News*, all measured as natural logarithm of the number of news in each category. All regression specifications control for stock characteristics including the natural logarithm of market capitalization, book-to-market, past stock performance, and Amihud illiquidity, measured as of the quarter before the news event. We also report the differences in coefficients between severe ESG negative news and severe non-ESG news and the corresponding significance levels under F-test. Standard errors are clustered at the fund level in Panel A, and at the stock level in Panel B.

Panel A: Fund-security level regressions

Dept Var = Net Trades of Fund		
	Committed ESG	Other ESG
	(1)	(2)
Severe ESG Negative News	0.002	-0.013**
	(0.13)	(-2.22)
Other ESG Negative News	0.013	0.003
	(0.63)	(0.77)
Severe Non-ESG Negative News	0.018	-0.008
	(1.30)	(-1.29)
Other Non-ESG News	-0.015	0.007
	(-0.87)	(1.45)
Severe ESG - Severe Non-ESG	-0.016	-0.005
FE	Fund-Time	Fund-Time
Controls	Y	Y
N	118535	368318
Adjusted R-squared	0.090	0.033

Panel B: Security level regressions

Dept Var = Δshares by Fund Type / Shares Outstanding		
	Committed ESG	Other ESG
	(1)	(2)
Severe ESG Negative News	3.655**	-4.532**
	(1.96)	(-1.96)
Other ESG Negative News	-0.029	1.208
	(-0.03)	(1.01)
Severe Non-ESG Negative News	0.252	-2.549***
	(0.35)	(-2.89)
Other Non-ESG News	0.692	4.032***
	(1.01)	(4.78)
Severe ESG - Severe Non-ESG	3.403*	-1.983
FE	Time	Time
Controls	Y	Y
N	21902	21902
Adjusted R-squared	0.173	0.179

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5
E&S questions in earnings calls

This table examines whether committed families are more likely to ask questions regarding E&S issues during earnings calls. In columns (1) and (2), the dependent variable is a dummy variable that is equal to one if analysts from a fund family ask an E&S question during an earnings call, and zero if they ask no E&S question or no question at all. In columns (3) and (4), the dependent variable is the intensity of E&S keywords, measured by the frequency of E&S keywords in a question normalized by the total number of words in the question. The independent variables include a dummy variable indicating committed ESG families classified based on LL classification, a dummy indicator that is equal to one if the firm is held by ESG funds of the family, prior quarter analysts' forecast dispersion of earnings, absolute value of prior quarter stock returns, firm size, book-to-market ratio, and standardized unexpected earnings (SUE) as of the prior quarter end. We employ two alternative sampling criterion. Under sampling criteria #1, we limit the analyses to those family-firm pairs where the fund family has asked questions about the firm at least once in the past one-year period. If the family does not ask any questions during the current earnings call, the dependent variables are set to zero. Under sampling criteria #2, we zoom in on a set of conference calls where both committed and other ESG families have each asked at least one question during the call. Models 1 and 3 control for firm fixed effects and quarter fixed effects, and cluster standard errors at the firm level. Models 2 and 4 control for earnings call fixed effects, and cluster standard errors at the earnings call level.

	(1)	(2)	(3)	(4)
	E&S Question	E&S Question	Intensity	Intensity
Committed ESG Family	0.025**	0.035*	0.007	0.021**
	(2.16)	(1.91)	(1.08)	(2.09)
ESG Fund Holding	0.026*	0.047*	-0.001	0.004
	(1.86)	(1.86)	(-0.09)	(0.34)
Analysts' Forecast Dispersion of Earnings	-0.011		-0.005	
	(-1.05)		(-1.39)	
Absolute Value of Stock Returns	-0.059		-0.033	
	(-1.53)		(-1.62)	
Firm Size	-0.018		-0.004	
	(-1.37)		(-0.57)	
Book-to-market	0.032		-0.006	
	(0.62)		(-0.44)	
SUE	-0.347**		-0.001	
	(-2.45)		(-0.05)	
Sampling Criteria	1	2	1	2
Firm FE	Y	N	Y	N
Quarter FE	Y	N	Y	N
Earnings Call Fixed Effects	N	Y	N	Y
N	3846	978	3846	978

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6
Voting against ISS recommendations

This table examines the likelihood of fund voting against the ISS recommendation. Committed and other ESG funds are classified using the LL measure. The sample includes ESG agenda items with a positive historical passing rate. In Panel A, the dependent variable is a dummy variable that equals one if a fund votes against the ISS recommendation. The independent variables include ESG fund type dummies. The regression also controls a set of firm characteristics, including the natural logarithm of firm size, book-to-market, return-to-assets, leverage, and past-year returns, and a set of fund characteristics, including expense ratio, turnover ratio, the natural logarithm of fund TNA, the fund's ownership of the firm, and the firm's portfolio weight in the fund's portfolio. It also includes agenda item fixed effects, firm's industry fixed effects, and year fixed effects. Columns (1) and (2) examine E&S proposals, and columns (3) and (4) examine governance proposals. The odd (even) columns include all (ESG) funds. In Panel B, we separately examine whether committed ESG funds are more likely to vote for ESG proposals than other ESG funds, conditional on ISS recommendations. The dependent variable is a dummy variable that equals one if a fund votes for a proposal. Columns (1) and (3) are cases when ISS vote for the proposal, and columns (2) and (4) are cases when ISS vote against the proposal. Standard errors are clustered at the fund level.

Panel A: Fund voting against ISS recommendations

	Dept Var = $\mathbf{1}_{\text{fund vote against ISS}}$			
	E&S Proposals		Governance Proposals	
	(1)	(2)	(3)	(4)
Committed ESG Fund	0.031*	0.059***	0.014	0.042*
	(1.88)	(2.75)	(0.89)	(1.95)
Other ESG Fund	-0.032**		-0.022	
	(-2.07)		(-1.25)	
Fund Expense Ratio	-1.488	-0.631	-1.102	-4.102
	(-0.49)	(-0.17)	(-0.37)	(-0.96)
Fund Turnover Ratio	-0.005	0.007	0.027***	0.028*
	(-0.61)	(0.59)	(2.62)	(1.90)
Log(TNA)	0.019***	0.006	0.029***	0.018*
	(3.92)	(0.93)	(5.12)	(1.84)
Fund Ownership of Firm	0.025**	0.049***	0.013	0.045**
	(2.15)	(2.68)	(1.26)	(2.32)
Firm Weight of Fund	-0.192	-0.736**	0.353	-0.262
	(-0.84)	(-1.99)	(1.25)	(-0.72)
Sample	All Funds	ESG Funds	All Funds	ESG Funds
Firm Controls	Y	Y	Y	Y
Agenda Item FE	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
N	26043	8202	149449	47638
Adjusted R-squared	0.224	0.185	0.116	0.089

Panel B: Fund voting conditional on ISS recommendations

	Dept Var = $\mathbf{1}_{\text{fund vote for proposal}}$			
	E&S Proposals		Gov Proposals	
ISS Recommendation	For	Against	For	Against
	(1)	(2)	(3)	(4)
Committed ESG Fund	-0.114***	-0.006	-0.049*	-0.005
	(-2.97)	(-0.26)	(-1.70)	(-0.23)
Sample	ESG Funds	ESG Funds	ESG Funds	ESG Funds
Controls	Y	Y	Y	Y
Agenda Item FE	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
N	4473	3724	37387	10248
Adjusted R-squared	0.105	0.088	0.101	0.087

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 7
One-size-fits-all voting

This table examines funds' tendency to vote in a one-size-fits-all manner. Committed and other ESG funds are classified using the LL measure. The sample includes ESG agenda items with a positive historical passing rate. For each fund-agenda item-year pair, we calculate the absolute difference in the number of proposals the fund votes for and against the agenda item, scaled by the total number of proposals, during the following five-year period. The higher the measure is, the more likely the fund votes in a one-size-fits-all manner. We then regress this measure on ESG fund type dummies, and a set of fund characteristics. Columns (1) and (2) examine E&S proposals, and columns (3) and (4) examine governance proposals. The odd (even) columns include all (ESG) funds.

	Dept Var = $\left\lvert \frac{\text{\#Vote For–\#Vote Against}}{\#Proposals} \right\rvert$			
	E&S Proposals		Governance Proposals	
	(1)	(2)	(3)	(4)
Committed ESG Fund	-0.034***	-0.032***	-0.021***	-0.015**
	(-3.14)	(-2.60)	(-3.48)	(-2.16)
Other ESG Fund	-0.009		-0.010**	
	(-1.26)		(-2.32)	
Expense Ratio	-0.802	6.595***	-5.532***	-5.019***
	(-0.78)	(3.21)	(-8.91)	(-4.52)
Turnover Ratio	0.003	-0.005	0.016***	0.016***
	(0.65)	(-0.68)	(5.78)	(3.17)
Log(TNA)	0.023***	0.025***	0.000	-0.007***
	(12.70)	(7.91)	(0.27)	(-3.66)
Sample	All Funds	ESG Funds	All Funds	ESG Funds
N	10362	3450	25984	8682
Adjusted R-squared	0.021	0.020	0.005	0.004

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8
Committed funds' voting and market reaction

This table examines the relation between committed funds' voting behavior and market reaction around meeting date. For each ESG proposal, we calculate the three-day cumulative market-adjusted abnormal return (CAR) of the firm around the meeting date. The average CAR is then tabulated, conditioned on the outcome of the proposal and the voting behavior of committed funds (for or against the proposal). A proposal is classified as being supported by committed funds (i.e., voting "for") if over 50% of committed funds vote in its favor, and "against" otherwise.

Vote Result/Committed Vote	Against	For
All Fail Cases	-0.0025	-0.0029
	(-0.67)	(-0.51)
Fail within 5% Margin	-0.0066	-0.0129***
	(-1.42)	(-3.52)
All Pass Cases	-0.0132***	-0.0001
	(-3.83)	(-0.06)
Pass within 5% Margin	-0.0131**	-0.0058*
	(-2.96)	(-1.67)

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 9
Changes in ESG risk index following severe ESG risk incidents

This table examines how changes in the RepRisk Risk Index (RRI) following severe ESG risk incidents are related to trading by committed versus other ESG funds. The dependent variables are changes of RRI, in percent, from quarter t to quarter $t + k$, where k ranges from one quarter to four quarters. The independent variables include indicator variables *Committed ESG Buy*, *Committed ESG Sell*, *Other ESG Buy* and *Other ESG Sell*. *Committed ESG Buy (Sell)* is a dummy variable indicating intensive buy (sell) by committed ESG funds if the stock is in the top (bottom) quintile among committed ESG funds' trading of all stocks during quarter t. *Other ESG Buy* and *Other ESG Sell* are defined analogously. Committed and other ESG funds are classified based on the LL measure. Control variables include firm size proxied by the logarithm of market capitalization, book-to-market, and stock returns during quarter t. All regressions include time fixed effects. Standard errors are clustered at the firm level.

	$\Delta RRI_{t,t+1}$	$\Delta RRI_{t,t+2}$	$\Delta RRI_{t,t+3}$	$\Delta RRI_{t,t+4}$
	(1)	(2)	(3)	(4)
Committed ESG Buy	-2.109*	-4.045***	-3.631**	-1.554
	(-1.67)	(-3.01)	(-2.17)	(-0.86)
Committed ESG Sell	-1.312	-2.342*	-3.366*	-2.289
	(-1.13)	(-1.67)	(-1.95)	(-1.16)
Other ESG Buy	-2.171*	-0.807	-0.493	2.051
	(-1.75)	(-0.61)	(-0.30)	(1.07)
Other ESG Sell	-1.547	1.080	1.882	3.709*
	(-1.35)	(0.73)	(1.13)	(1.86)
Firm Size	2.910***	4.886***	7.484***	8.523***
	(12.28)	(16.77)	(19.86)	(18.54)
Book-to-Market	0.083	-1.266	-0.235	-0.110
	(0.07)	(-0.89)	(-0.13)	(-0.05)
Stock Returns	-1.783	-5.284*	-3.691	-4.374
	(-0.70)	(-1.69)	(-0.88)	(-0.89)
Time FE	Y	Y	Y	Y
N	2215	2075	1998	1895
Adjusted R-squared	0.089	0.138	0.202	0.215

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 10
Do committed funds' engagement help improve ESG performance?

This table examines whether committed funds' engagement help improve ESG performance following severe ESG risk incidents. For each proposal, we code a committed fund's independent voting measure as 1(0) if it votes against (with) the ISS recommendation. We then calculate committed funds' average independent voting measure across all proposals of the firm in the past two years, as a proxy for their engagement with the firm. Firms with above-median independent voting by committed funds are coded as under "High Engagement with Firm", otherwise under "Low Engagement with Firm". The regression specification and sample construction are identical to those in Table 9, except that we decompose *Committed ESG Buy* into two cases: *Committed ESG Buy X High Engagement with Firm* and *Committed ESG Buy X Low Engagement with Firm*. Standard errors are clustered at the firm level.

	(1)	(2)	(3)	(4)
	$\Delta RRI_{t,t+1}$	$\Delta RRI_{t,t+2}$	$\Delta RRI_{t,t+3}$	$\Delta RRI_{t,t+4}$
Committed ESG Buy X High Engagement with Firm	-2.721*	-5.053***	-4.394**	-3.024
	(-1.93)	(-3.22)	(-2.20)	(-1.41)
Committed ESG Buy X Low Engagement with Firm	-2.643	-2.845	-3.622	-0.723
	(-1.21)	(-1.12)	(-1.16)	(-0.19)
Committed ESG Sell	-2.200*	-2.487*	-3.482*	-2.905
	(-1.73)	(-1.66)	(-1.90)	(-1.42)
Other ESG Buy	-2.426*	-0.688	-0.351	1.476
	(-1.82)	(-0.49)	(-0.20)	(0.72)
Other ESG Sell	-1.487	0.634	2.326	3.174
	(-1.20)	(0.40)	(1.31)	(1.49)
Time FE	Y	Y	Y	Y
Firm Controls	Y	Y	Y	Y
N	1926	1811	1746	1658
Adjusted R-squared	0.0891	0.127	0.184	0.195

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 11
Real effects of investments by ESG funds

This table examines whether investments by ESG funds help improve portfolio firms' ESG performance using the introduction of the *Morningstar Sustainability Rating* to proxy for an exogenous flow shock to ESG funds. The unit of observation is at the stock-year level. The dependent variables are the natural logarithm of the RepRisk Risk Index (columns 1-2) and the natural logarithm of a firm's on-site release from EPA emission data (column 3-4). For each stock held by ESG funds as of the last quarter of 2015, we calculate the stock's portfolio overweight by committed (other) ESG funds as the stock's weight in committed (other) ESG funds' aggregate portfolio relative to its market portfolio weight, following Doshi et al. (2015). The dummy variable *High Committed (Other) ESG Overweight* is equal to one if the stock is ranked in the top quintile by the overweight measure. The dummy variable *Post* is equal to one for years after 2015, and zero if otherwise. All regressions control for the logarithm of market capitalization, book-to-market, 12-month returns during the year, firm and time fixed effects. Columns (1) and (3) are based on LL classification of committed ESG funds, and Columns (2) and (4) are based on PST classification. Standard errors are clustered at the firm level.

	Dept Var = log(Annual RRI)		Dept Var = log(Emissions)	
	LL	PST	LL	PST
	(1)	(2)	(3)	(4)
High Committed ESG Overweight × Post	-0.206*	-0.243**	-0.195*	-0.182*
	(-1.81)	(-2.18)	(-1.94)	(-1.88)
High Other ESG Overweight × Post	-0.113	-0.0513	-0.001	0.003
	(-1.08)	(-0.51)	(-0.01)	(0.03)
Controls	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
N	5113	5778	2311	2524
Adjusted R-squared	0.493	0.489	0.961	0.960

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 12
Performance of ESG funds

This table analyzes the performance of ESG funds. In Panel A, the dependent variables are a fund's Carhart alpha, value added, and DGTW (1997) characteristic-adjusted abnormal returns of fund portfolios over the next year. The sample in Panel A contains all funds in odd columns and ESG funds in even columns. In columns (1) and (2) of Panel B, we split a fund's holdings into high and low duration stocks, and separately calculate the DGTW characteristic-adjusted abnormal returns. In columns (3) and (4) of Panel B, we split a fund's holdings into high ESG stocks and other stocks, and separately calculate the DGTW characteristic-adjusted abnormal returns. In columns (5) and (6) of Panel B, we split a fund's ESG holdings into high and low duration stocks, and separately calculate the DGTW characteristic-adjusted abnormal returns. The sample in Panel B contains ESG funds. Carhart alpha is estimated using a fund's net-of-fee returns and a 36-month rolling window. Value added is calculated as a fund's Carhart alpha plus expense ratio, multiplied by the fund's TNA, in million dollars. DGTW characteristic-adjust abnormal returns are asset-weighted abnormal returns of stocks in a fund's portfolio. For each stock in a fund's portfolio, we calculate its holding duration following Cremers and Pareek (2016), and high duration stocks are the ones with duration over two years. The independent variables are ESG fund type dummies defined based on the LL classification, expense ratio, turnover ratio, the natural logarithm of fund TNA, industry-concentration index (ICI), active share, past-year return and flow volatility, and past-year performance. All regressions include time fixed effects. Standard errors are clustered at the fund level.

Panel A: Fund performance comparison

	(1) Carhart Alpha	(2) Carhart Alpha	(3) Value-added	(4) Value-added	(5) DGTW Abnormal Ret	(6) DGTW Abnormal Ret
Committed ESG Fund	0.563***	-0.129	4.134***	-1.626	0.769***	0.084
	(6.13)	(-1.21)	(2.66)	(-1.23)	(4.58)	(0.74)
Other ESG Fund	0.610***		6.181***		0.682***	
	(9.03)		(3.74)		(5.80)	
Sample	All Funds	ESG Funds	All Funds	ESG Funds	All Funds	ESG Funds
Fund Controls	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y
N	29055	9866	29055	9866	29055	9866
Adjusted R-squared	0.108	0.078	0.035	0.021	0.039	0.042

Panel B: Decomposed DGTW characteristic-adjusted abnormal returns

	(1) High Duration Stocks	(2) Low Duration Stocks	(3) ESG Stocks	(4) non-ESG Stocks	(5) High Duration ESG Stocks	(6) Low Duration ESG Stocks
Committed ESG Fund	1.002***	0.010	0.306**	0.038	1.445***	-0.056
	(4.89)	(0.07)	(2.00)	(0.29)	(5.35)	(-0.27)
Fund Controls	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y
N	8951	9831	9866	9866	8373	9753
Adjusted R-squared	0.021	0.043	0.059	0.082	0.043	0.050

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 13
Flows to ESG funds

This table examines net flows into ESG funds, after controlling for fund performance and characteristics. We regress a fund's quarterly net flows, in percentage, on dummy variables indicating committed and other ESG funds classified based on the LL measure, respectively. Regressions are estimated separately for two subperiods, before and after year 2016. The independent variables include fund performance measured by past 36-month net-of-expense returns (columns 2 and 5) or Carhart four-factor alphas (columns 3 and 6), expense ratio, turnover ratio, the natural logarithm of fund TNA, the natural logarithm of fund age, total quarterly flows into a fund's Morningstar style category, and quarterly fund flows, all measured as of the prior quarter. All regressions include style and time fixed effects. Standard errors are clustered at the fund level.

	Dept Var = Flow$_{t+1}$					
	(1)	(2)	(3)	(4)	(5)	(6)
Committed ESG Fund	-0.133	-0.062	-0.261	0.930***	0.554*	0.604**
	(-0.57)	(-0.26)	(-1.12)	(3.12)	(1.94)	(2.10)
Other ESG Fund	0.199	0.356	0.199	0.868***	0.572*	0.575**
	(0.40)	(0.77)	(0.43)	(2.99)	(1.94)	(1.98)
Performance		7.771***	14.05***		8.376***	11.95***
		(7.45)	(6.25)		(9.35)	(4.87)
Expense Ratio	-1.050***	-0.787*	-0.692*	-1.302***	-1.429***	-1.226***
	(-2.75)	(-1.92)	(-1.70)	(-3.73)	(-4.20)	(-3.57)
Turnover Ratio	1.461**	1.521**	1.702**	0.799*	0.810*	0.891*
	(2.08)	(2.15)	(2.38)	(1.78)	(1.79)	(1.90)
Log(TNA)	-0.418***	-0.524***	-0.567***	-0.227***	-0.377***	-0.375***
	(-3.98)	(-4.36)	(-4.78)	(-3.32)	(-4.99)	(-5.04)
Log(Fund Age)	-0.491**	-0.847***	-0.368**	-0.778***	-1.157***	-0.485**
	(-2.46)	(-4.55)	(-2.20)	(-3.61)	(-5.38)	(-2.35)
Style Flow	-0.022	-0.117**	-0.128**	-0.000	0.000	0.000
	(-0.55)	(-2.09)	(-2.29)	(-0.06)	(0.11)	(0.33)
Flow	0.432***	0.418***	0.399***	0.376***	0.374***	0.364***
	(16.42)	(15.82)	(14.91)	(12.44)	(12.99)	(12.68)
Sample		Pre-2016			Post-2016	
Performance measure	N/A	Return	FF4	N/A	Return	FF4
Style FE	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y
N	16903	16903	16903	17735	17735	17735
Adjusted R-squared	0.072	0.083	0.087	0.075	0.091	0.093

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Internet Appendix

Figure A1
Histogram of the fraction of committed ESG funds in ESG families

This figure plots the histogram of the fraction of committed ESG funds in ESG families. A fund is defined as an ESG fund if its asset-based ESG score is ranked in the top tercile in a quarter. Among ESG funds, a fund is classified as a committed (other) ESG fund if its *Incentive to Engage* measure is in the above-median (below-median) group. A fund family is classified as an ESG family if the fraction of its ESG funds by total assets is ranked in the top tercile in a quarter. Lastly, within an ESG family, we calculate the fraction of the total net assets of committed ESG funds relative to those of all ESG funds, and plot the histogram.

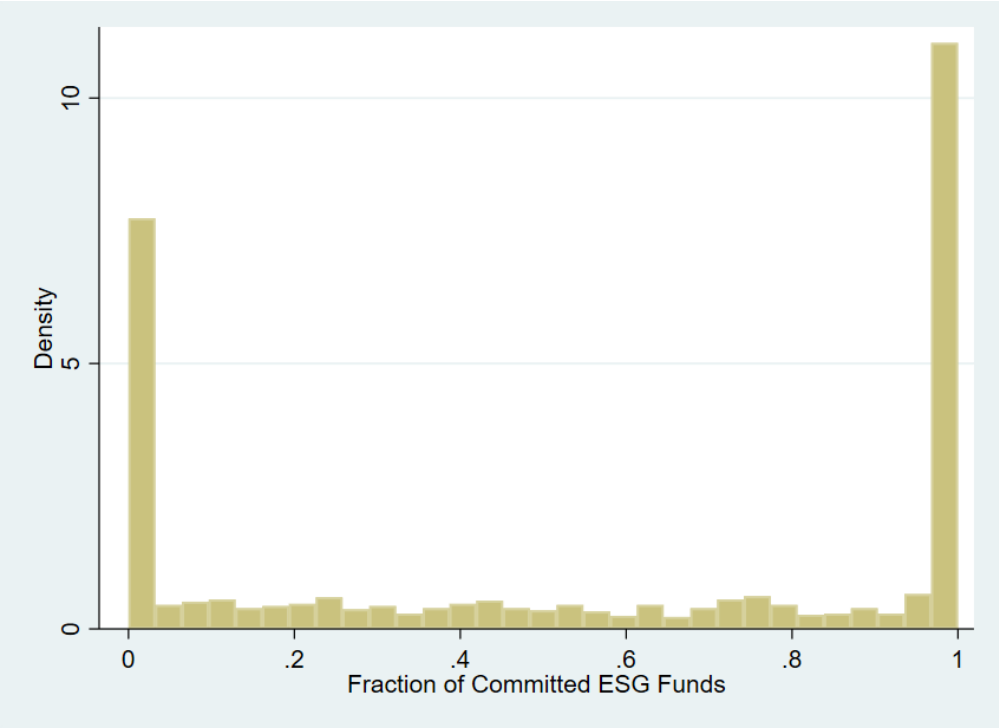

Figure A2
ESG score distribution across brown and non-brown industries
This figure plots the MSCI ESG score distribution across brown and non-brown industries. Brown industries are defined as the ten lowest-ranked industries according to the MSCI environmental scores of individual firms within an industry as in Pástor et al. (2022).

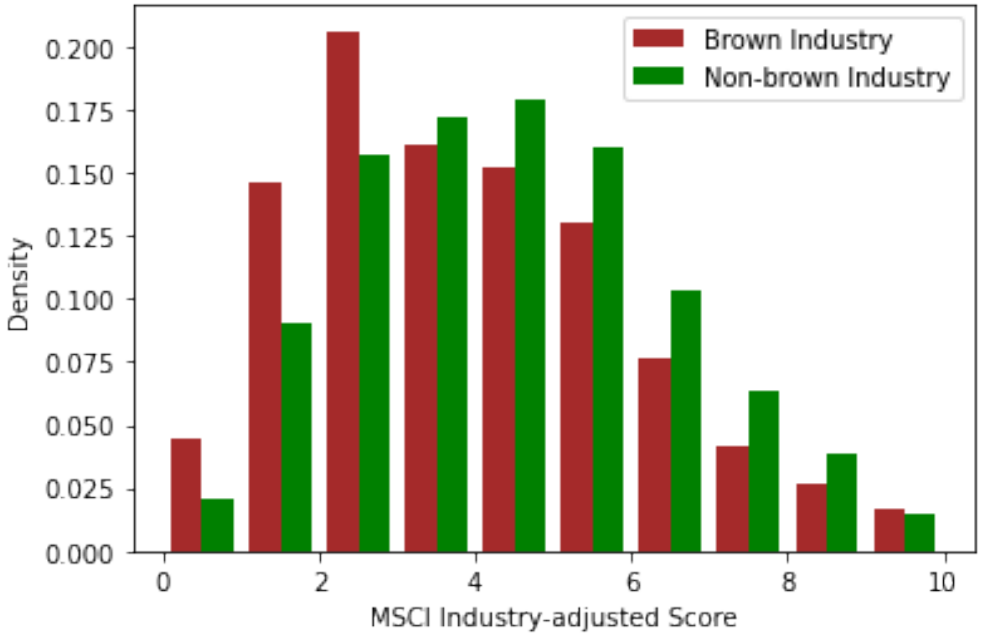

Figure A3
Flows to ESG funds around the introduction of Morningstar Sustainability Ratings

This figure plots funds' cumulative flows around the introduction of Morningstar Sustainability Ratings, separately for high and low ESG funds as determined by their asset-based ESG score tercile rankings in December 2015. The x-axis denotes the number of months relative to the month of the introduction, March 2016. The y-axis denotes cumulative fund flows. Following Hartzmark and Sussman (2019), we accumulate fund flows after removing year-by-month fixed effects for 15 months before and after the introduction. Cumulative flows are set to zero both in month -15 and in month 0. Shaded areas indicate the 95% confidence interval.

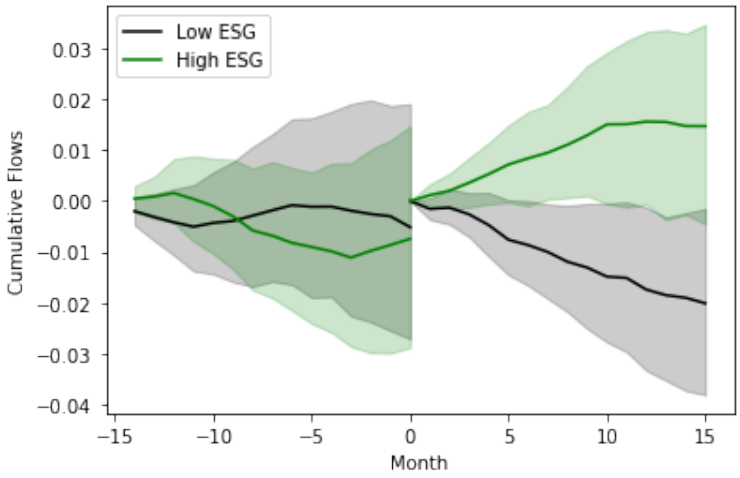

Table A1
Fund trading following ESG risk incidents (PST Classification)

This table examines how funds trade stocks experiencing ESG negative news. Committed and other ESG funds are classified using the PST measure. In Panel A, the regressions are estimated at fund-security level with fund-time fixed effects, and the dependent variable *Net Trades*$_{ijt}$ is the dollar amount of fund i's trading of stock j from quarter $t-1$ to quarter t, scaled by the fund's portfolio value in quarter $t-1$, expressed in percentage. In Panel B, fund trades are aggregated to the security level, and the dependent variable is the change in the number of shares held by a particular fund type from quarter $t-1$ to quarter t, scaled by the number of shares outstanding in basis points. ESG negative news are collected from RepRisk ESG risk incidents and non-ESG related news are collected from Ravenpack. We define a news event concerning a stock as severe if the stock's three-day cumulative market-adjusted abnormal return (CAR) is ranked in the bottom quintile in a given quarter. The independent variables include *Severe ESG Negative News*, *Other ESG Negative News*, *Severe Non-ESG News*, and *Other Non-ESG News*, all measured as natural logarithm of the number of news in each category. All regression specifications control for stock characteristics including the natural logarithm of market capitalization, book-to-market, past stock performance, and Amihud illiquidity, measured as of the quarter before the news event. We also report the differences in coefficients between severe ESG negative news and severe non-ESG news and the corresponding significance levels under F-test. Standard errors are clustered at the fund level in Panel A, and at the stock level in Panel B.

Panel A: Fund-security level regressions

Dept Var = Net Trades of Fund		
	Committed ESG	Other ESG
	(1)	(2)
Severe ESG Negative News	-0.003	-0.011*
	(-0.23)	(-1.83)
Other ESG Negative News	0.015	0.000
	(0.90)	(0.00)
Severe Non-ESG Negative News	0.029***	-0.017***
	(3.75)	(-3.97)
Other Non-ESG News	-0.013	0.009*
	(-1.13)	(1.91)
Severe ESG - Severe Non-ESG	-0.032***	0.006
FE	Fund-Time	Fund-Time
Controls	Y	Y
N	158391	328462
Adjusted R-squared	0.079	0.038

Panel B: Security level regressions

Dept Var = Δshares by Fund Type / Shares Outstanding		
	Committed ESG	Other ESG
	(1)	(2)
Severe ESG Negative News	3.133*	-3.944*
	(1.65)	(-1.84)
Other ESG Negative News	-0.255	1.475
	(-0.26)	(1.35)
Severe Non-ESG Negative News	1.035	-3.370***
	(1.31)	(-4.15)
Other Non-ESG News	0.789	3.805***
	(1.06)	(5.05)
Severe ESG - Severe Non-ESG	2.098	-0.574
FE	Time	Time
Controls	Y	Y
N	22091	22091
Adjusted R-squared	0.165	0.186

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A2
Fund trading in response to poor firm performance of high ESG versus other holdings

This table examines whether funds' trading responses to poor past performance differ across fund types, and between high ESG and other stocks. The dependent variable *Net Trades*$_{ijt}$ is the dollar amount of fund i's trading of stock j from quarter $t-1$ to quarter t, scaled by the fund's portfolio value in quarter $t-1$, expressed in percentage. The dummy variable *Poor Firm Perf* is equal to one if a stock is ranked in the bottom quintile by either prior-quarter earnings surprise (Panel A) or three-month stock returns (Panel B), and zero otherwise. The dummy variable *High ESG Stock* is equal to one if a stock's MSCI ESG score is ranked in the top three deciles during the quarter, and zero otherwise. We then regress *Net Trades* on *Poor Firm Perf*, *High ESG Stock*, and their interaction term on a subsample of each fund type. All regressions control for the natural logarithm of the stock's market capitalization, book-to-market, stock returns, and Amihud illiquidity measure in quarter $t-1$, and include *fund* × *time* fixed effects. Standard errors are clustered at the fund level.

Panel A: Performance measured as prior quarter earnings surprise

	Dept Var = Net Trades of Fund				
	LL Classification		PST Classification		
	Committed ESG Funds	Other ESG Funds	Committed ESG Funds	Other ESG Funds	Non-ESG Funds
	(1)	(2)	(3)	(4)	(5)
Poor Firm Perf	-0.008*	-0.008***	-0.007**	-0.009***	-0.008***
	(-1.87)	(-5.14)	(-2.10)	(-4.98)	(-6.97)
High ESG Stock X Poor Firm Perf	0.011*	0.001	0.012**	-0.001	-0.001
	(1.71)	(0.41)	(2.46)	(-0.43)	(-0.42)
Fund X Time FE	Y	Y	Y	Y	Y
Stock Control	Y	Y	Y	Y	Y
N	206240	665744	285743	586241	2367859
Adjusted R-squared	0.059	0.030	0.054	0.035	0.036

Panel B: Performance measured as prior quarter stock return

	Dept Var = Net Trades of Fund				
	LL Classification		PST Classification		
	Committed ESG Funds	Other ESG Funds	Committed ESG Funds	Other ESG Funds	Non-ESG Funds
	(1)	(2)	(3)	(4)	(5)
Poor Firm Perf	-0.008	-0.014***	-0.002	-0.018***	-0.007***
	(-1.36)	(-6.05)	(-0.54)	(-6.69)	(-4.90)
High ESG Stock X Poor Firm Perf	0.022***	-0.002	0.013**	-0.001	-0.005***
	(2.96)	(-0.78)	(2.41)	(-0.31)	(-3.16)
Fund X Time FE	Y	Y	Y	Y	Y
Stock Control	Y	Y	Y	Y	Y
N	214441	697641	299887	612195	2561766
Adjusted R-squared	0.058	0.030	0.053	0.035	0.035

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A3
E&S Questions in Earnings Calls (PST classification)

This table examines whether committed families are more likely to ask questions regarding E&S issues during earnings calls. In columns (1) and (2), the dependent variable is a dummy variable that is equal to one if analysts from a family ask an E&S question during an earnings call, and zero if they ask no E&S question or no question at all. In columns (3) and (4), the dependent variable is the intensity of E&S keywords, measured by the frequency of E&S keywords in a question normalized by the total number of words in the question. The independent variables include a dummy variable indicating committed ESG families based on PST classification, a dummy indicator that is equal to one if the firm is held by ESG funds of the family, prior quarter analysts' forecast dispersion of earnings, absolute value of prior quarter stock returns, firm size, book-to-market ratio, and standardized unexpected earnings (SUE) as of the prior quarter end. We employ two alternative sampling criterion. Under sampling criteria #1, we limit the analyses to those family-firm pairs where the fund family has asked questions about the firm at least once in the past one-year period. If the family does not ask any questions during the current earnings call, the dependent variables are set to zero. Under sampling criteria #2, we zoom in on a set of conference calls where both committed and other ESG families have each asked at least one question during the call. Models 1 and 3 control for firm and quarter fixed effects, and cluster standard errors at the firm level. Models 2 and 4 control for earnings call fixed effects, and cluster standard errors at the earnings call level.

	(1) E&S Question	(2) E&S Question	(3) intensity	(4) intensity
Committed ESG Family	0.021*	0.046**	0.004	0.016*
	(1.71)	(2.11)	(0.26)	(1.77)
ESG Fund Holding	0.010	0.043*	0.001	0.003
	(0.94)	(1.70)	(0.29)	(0.18)
Analysts' Forecast Dispersion of Earnings	-0.014		-0.011	
	(-0.23)		(-0.43)	
Absolute Value of Stock Returns	-0.022		0.005	
	(-1.44)		(0.80)	
Firm Size	-0.023		-0.002	
	(-0.54)		(-0.20)	
Book-to-market	-0.170		0.013	
	(-1.33)		(0.40)	
SUE	0.019		-0.000	
	(1.31)		(-0.01)	
Sampling Criteria	1	2	1	2
Firm FE	Y	N	Y	N
Quarter FE	Y	N	Y	N
Earnings Call Fixed Effects	N	Y	N	Y
N	3846	978	3846	978

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A4
Voting against ISS recommendation and one-size-fits-all voting (PST classification)

This table examines funds' tendency to vote against ISS recommendations and to vote in a one-size-fits-all manner, using the PST classification of committed ESG funds. The sample includes ESG agenda items with a positive historical passing rate. In Panel A, the dependent variable is a dummy variable that equals one if a fund votes against the ISS recommendation. The independent variables include ESG fund type dummies. The regression also controls a set of firm characteristics, including the natural logarithm of firm size, book-to-market, return-to-assets, leverage, and past-year returns, and a set of fund characteristics, including expense ratio, turnover ratio, the natural logarithm of fund TNA, the fund's ownership of the firm, and the firm's portfolio weight in the fund's portfolio. It also includes agenda item, industry and year fixed effects. Columns (1) and (2) examine E&S proposals, and columns (3) and (4) examine governance proposals. The odd (even) columns include all (ESG) funds. In Panel B, for each fund-agenda item-year pair, we calculate the absolute difference in the number of proposals the fund votes for and against the agenda item, scaled by the total number of proposals, during the following five-year period. The higher the measure is, the more likely the fund votes in a one-size-fits-all manner. We then regress this measure on ESG fund type dummies.

Panel A: Fund voting against ISS recommendations

	Dept Var = $\mathbf{1}_{\text{fund vote against ISS}}$			
	E&S Proposals		Governance Proposals	
	(1)	(2)	(3)	(4)
Committed ESG Fund	0.025*	0.048**	0.004	0.021
	(1.77)	(2.46)	(0.21)	(0.89)
Other ESG Fund	-0.032**		-0.020	
	(-1.98)		(-1.08)	
Sample	All Funds	ESG Funds	All Funds	ESG Funds
Firm and Fund Controls	Y	Y	Y	Y
Agenda Item FE	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
N	26043	8202	149449	47638
Adjusted R-squared	0.224	0.184	0.116	0.088

Panel B: One-size-fits-all voting

	Dept Var = $\left\lvert \frac{\#\text{Vote For}-\#\text{Vote Against}}{\#Proposals} \right\rvert$			
	E&S Proposals		Governance Proposals	
	(1)	(2)	(3)	(4)
Committed ESG Fund	-0.010	0.006	-0.022***	-0.017**
	(-0.82)	(0.42)	(-3.72)	(-2.47)
Other ESG Fund	-0.023***		-0.010**	
	(-2.99)		(-2.12)	
Expense Ratio	-2.014*	5.153**	-5.515***	-4.954***
	(-1.90)	(2.42)	(-8.88)	(-4.46)
Turnover Ratio	0.007	-0.000	0.016***	0.016***
	(1.54)	(-0.00)	(5.78)	(3.20)
Log(TNA)	0.025***	0.029***	0.000	-0.007***
	(13.32)	(8.20)	(0.26)	(-3.67)
Sample	All Funds	ESG Funds	All Funds	ESG Funds
N	10362	3450	25984	8682
Adjusted R-squared	0.025	0.022	0.006	0.005

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A5
Changes in ESG risk index following severe ESG risk incidents (PST classification)

This table examines how changes in the RepRisk Risk Index (RRI) following severe ESG risk incidents are related to trading by committed versus other ESG funds. The dependent variables are changes of RRI, in percent, from quarter t to quarter $t + k$, where k ranges from one quarter to four quarters. The independent variables include indicator variables *Committed ESG Buy*, *Committed ESG Sell*, *Other ESG Buy* and *Other ESG Sell*. *Committed ESG Buy (Sell)* is a dummy variable indicating intensive buy (sell) by committed ESG funds if the stock is in the top (bottom) quintile among committed ESG funds' trading of all stocks during quarter t. *Other ESG Buy* and *Other ESG Sell* are defined analogously. Committed and other ESG funds are classified based on the PST measure. Control variables include the logarithm of market capitalization, book-to-market, and stock returns during quarter t. All regressions include time fixed effects. Standard errors are clustered at the stock level.

	$\Delta RRI_{t,t+1}$	$\Delta RRI_{t,t+2}$	$\Delta RRI_{t,t+3}$	$\Delta RRI_{t,t+4}$
	(1)	(2)	(3)	(4)
Committed ESG Buy	-4.841***	-3.610**	-4.021**	-2.314
	(-3.97)	(-2.55)	(-2.16)	(-1.16)
Committed ESG Sell	-3.727***	-2.584*	-1.867	-1.435
	(-3.29)	(-1.77)	(-1.06)	(-0.74)
Other ESG Buy	-0.654	-1.685	0.389	1.936
	(-0.46)	(-1.20)	(0.25)	(1.03)
Other ESG Sell	-0.240	0.864	2.565	3.458*
	(-0.19)	(0.58)	(1.46)	(1.77)
Firm Size	2.789***	4.732***	7.263***	8.412***
	(12.03)	(16.42)	(19.54)	(18.66)
Book-to-Market	-0.180	-1.405	-0.332	-0.533
	(-0.15)	(-1.02)	(-0.18)	(-0.26)
Stock Returns	-1.896	-4.817	-3.714	-4.678
	(-0.76)	(-1.55)	(-0.89)	(-0.97)
Time FE	Y	Y	Y	Y
N	2236	2095	2018	1915
Adjusted R-squared	0.097	0.145	0.209	0.225

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A6
Real effects of investments by ESG funds on high ESG versus other stocks

This table examines whether the effect of committed funds' investments on firms' ESG performance varies across high ESG versus other stocks. We repeat the analysis in Table 9 separately for high ESG versus other stocks. The dependent variables include the natural logarithm of the RepRisk Risk Index (Panel A) and the natural logarithm of a firm's on-site release from EPA emission data (Panel B). For each stock held by ESG funds as of the last quarter of 2015, we calculate the stock's portfolio overweight by committed (other) ESG funds as the stock's weight in committed (other) ESG funds' aggregate portfolio relative to its market portfolio weight, following Doshi et al. (2015). The dummy variable *High Committed (Other) ESG Overweight* is equal to one if the stock is ranked in the top quintile by the overweight measure. The dummy variable *Post* is equal to one for years after 2015, and zero if otherwise. All regressions control for the logarithm of market capitalization, book-to-market, 12-month returns during the year, firm and time fixed effects. Standard errors are clustered at the firm level.

Panel A: Real effects measured as Annual RRI

	Dept Var = log(Annual RRI)			
	LL Classification		PST Classification	
	High ESG Stocks	Other Stocks	High ESG Stocks	Other Stocks
	(1)	(2)	(3)	(4)
High Committed ESG Overweight X Post	-0.398**	-0.206	-0.499***	-0.109
	(-2.20)	(-1.26)	(-2.67)	(-0.74)
High Other ESG Overweight X Post	-0.108	-0.024	0.0153	0.135
	(-0.55)	(-0.18)	(0.08)	(1.03)
Controls	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
N	1525	3588	1638	4140
Adjusted R-squared	0.528	0.480	0.517	0.478

Panel B: Real effects measured as Emissions

	Dept Var = log(Emissions)			
	LL Classification		PST Classification	
	High ESG Stocks	Other Stocks	High ESG Stocks	Other Stocks
	(1)	(2)	(3)	(4)
High Committed ESG Overweight X Post	-0.256*	0.037	-0.164	0.174
	(-1.66)	(0.24)	(-1.09)	(1.15)
High Other ESG Overweight X Post	0.072	-0.017	0.051	-0.190
	(0.47)	(-0.11)	(0.34)	(-1.25)
Controls	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
N	928	1383	984	1540
Adjusted R-squared	0.959	0.961	0.961	0.958

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A7
DGTW-adjusted performance and flows of ESG funds (PST classification)

This table shows the robustness of results in Table 12 and Table 13, using the PST measure to classify ESG funds into committed and other funds. Panel A analyzes the DGTW (1997) characteristic-adjusted abnormal returns of fund portfolios. In columns (1) and (2), the dependent variables are fund-level asset-weighted DGTW (1997) characteristic-adjusted abnormal returns over the next year. In column (3) and (4), the dependent variables are asset-weighted abnormal returns of high ESG holdings and other holdings, respectively. The independent variables are ESG fund type dummies, expense ratio, turnover ratio, the natural logarithm of fund TNA, industry-concentration index (ICI), active share, past-year return and flow volatility, and past-year performance. All regressions include time fixed effects. Standard errors are clustered at the fund level. Panel B examines net flows into ESG funds, after controlling for fund performance and characteristics. We regress a fund's quarterly net flows, in percentage, on dummy variables indicating committed and other ESG funds, respectively. Regressions are estimated separately for two subperiods, before and after year 2016. The independent variables include fund performance measured by past 36-month net-of-expense returns (columns 1 and 3) or Carhart four-factor alphas (columns 2 and 4), expense ratio, turnover ratio, the natural logarithm of fund TNA, the natural logarithm of fund age, total quarterly flows into a fund's Morningstar style category, and quarterly fund flows, all measured as of the prior quarter. All regressions include style and time fixed effects. Standard errors are clustered at the fund level.

Panel A: Future DGTW-adjusted performance

	(1) All Holdings	(2) All Holdings	(3) High ESG Holdings	(4) Other Holdings
Committed ESG Fund	0.826***	0.263**	0.297*	0.115
	(5.16)	(2.32)	(1.95)	(0.89)
Other ESG Fund	0.625***			
	(4.83)			
Sample	All Funds	ESG Funds	ESG Funds	ESG Funds
Fund Controls	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
N	29055	9866	9866	9866
Adjusted R-squared	0.039	0.043	0.083	0.059

Panel B: Future fund flows

	Dept Var = Flow_{t+1}			
	(1)	(2)	(3)	(4)
Committed ESG Fund	0.398	0.138	0.489*	0.437*
	(0.85)	(0.29)	(1.74)	(1.80)
Other ESG Fund	-0.0966	-0.199	0.643**	0.749**
	(-0.44)	(-0.92)	(2.00)	(2.50)
Sample	Pre-2016	Pre-2016	Post-2016	Post-2016
Performance measure	Return	FF4	Return	FF4
Fund Controls	Y	Y	Y	Y
Style FE	Y	Y	Y	Y
Time FE	Y	Y	Y	Y
N	16903	16903	17735	17735
Adjusted R-squared	0.081	0.085	0.086	0.089

t-statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$