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

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Abstract

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Although flows into ESG funds have risen dramatically, it remains unclear whether these funds are truly committed to sustainable investments and how much their investments matter. We shed light on this debate by examining the incentives of fund managers. We find that conditional on similarly large ESG investments, ESG funds vary in their incentives to engage with portfolio firms. ESG funds with higher incentives to engage – committed ESG funds – hold their ESG investments longer, pay more attention to portfolio firms' ESG risk exposure and implement less negative screening. They also demonstrate more discretionary voting on portfolio firms' ESG proposals. Strikingly, only investments by committed ESG funds contribute to real ESG-improvements, and these funds have outperformed other ESG funds on their ESG holdings. Our paper highlights the importance of incentives when assessing the real impacts of sustainable investments and calls for greater investor awareness of a hidden form of greenwashing.

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1. Introduction

There are significantly more ESG funds than a decade ago. According to Morningstar, in 2021 investors invested nearly $70 billion into open-end and exchange-traded funds that claim some type of sustainable investing mandate.[1] Given increased investor interest in sustainability, ESG funds may be created simply to capture flows. This would be a rational strategy, even if fund managers do not believe that firms' ESG policies affect firm value. Alternatively, managers of ESG funds may be motivated by a belief that ESG represents an intangible asset that contributes positively to firm value, similar to management compensation, management quality, or innovative capability (see, e.g., Edmans, 2022).

Fund managers' beliefs relate directly to the critical question of whether ESG funds impact the ESG policies of portfolio firms. If fund managers do not perceive ESG to be a value driver, or if they assess the value effects to be too small, then they have little incentive to pressure firms to improve their environmental footprint or social policies.

We formalize these ideas in terms of two hypotheses: the *greenwashing hypothesis* and the *impact hypothesis*. The greenwashing hypothesis is well summarized 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."[2] Importantly, if the fund managers do not perceive ESG issues to affect firm value, then the managers would not try to influence firms' ESG policies. ESG funds' statements of purpose would simply represent a form of greenwashing.[3] Alternatively, under the impact hypothesis,

[1] See at https://www.morningstar.com/articles/1080300/sustainable-funds-landscape-highlights-and-observations.
[2] See more details at https://www.greenbiz.com/article/blackrocks-former-head-sustainable-investing-says-esg-and-sustainability-investing-are
[3] Under the reasonable assumption that investors cannot observe funds' engagements with firms or detect the causal effects of such engagements, we would not expect fund engagements to be motivated by investor flows.

fund managers' beliefs in the value-relevance of ESG issues may incentivize them to monitor portfolio firms' ESG policies, and their investments will lead to real impacts.

To maximize the power of our tests, we first identify the subset of ESG funds that are most likely to engage with their portfolio firms, as engagement represents a direct channel toward having impact. Our focus on engagement is motivated by the fact that ESG is a long-term strategy, suggesting that a long-term engagement approach will be more effective than short-term strategies. Berk and van Binsbergen (2021) also highlight the potential value of engagement, as exit generally has a relatively small effect on firms' cost of capital.[4] We classify ESG funds with high incentives to engage as *committed funds*, and we compare committed funds with both other ESG funds and with non-ESG funds.

We adopt two approaches to identifying committed funds. First, we use the Lewellen and Lewellen (2022) (LL) "Incentive to Engage" proxy. It equals a direct component plus an indirect component, averaged across all firms in a fund's portfolio. The direct component is based on the dollar investment in the firm; it captures the extent to which greater engagement increases the value of the firm, thereby contributing to higher fund value and higher management fees. The indirect component is based on the fund's holdings in the firm relative to holdings of peer funds; it captures how the mutual fund's relative performance (compared to peer funds with the same investment style) affects subsequent fund flows.[5] Holding constant portfolio weight on high ESG stocks, we categorize ESG mutual funds as *committed ESG funds* if their incentive measures are above-median, and *other ESG funds* otherwise.[6]

[4] In contrast to Berk and van Binsbergen's conclusion, Gantchev et al. (2022) find that small share sales lead firms to significantly improve their ESG policies. While we primarily focus on the engagement channel, our empirical approach enables us to additionally compare the impact of funds that are more likely to engage versus exit.
[5] While the mission-orientation of ESG funds may influence their incentives to engage in ways that are different from other mutual funds, management fees are arguably a key focus for any mutual fund manager.
[6] This categorization is conditional on the asset-weighted MSCI ESG score of each fund. Thus, by definition, committed and other ESG funds have very similar asset-weighted MSCI ESG scores.

Our second incentive measure is constructed based on the 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. We categorize ESG mutual funds with below-median fund liquidity as *committed ESG funds* and those with above-median as *other ESG funds*.

By design both sets of funds (i.e., committed ESG funds and other ESG funds) invest the same portion of net asset value (NAV) in high ESG firms - within our sample this equals 39%. In contrast to existing studies that characterize greenwashing according to the nature of ESG funds' investments, i.e., whether or not they invest heavily in sustainable firms (see, e.g., Kim and Yoon, 2021 and Gibson et al., 2021), our empirical tests go one step further by focusing on funds' strategies toward ESG-related incidents and toward the ESG firms in their portfolio.

We begin with descriptive evidence. First, a verification exercise confirms that our incentive to engage measures capture variation in fund strategy. If committed funds devote more resources to monitoring, then they should implement a longer-term investment strategy, on average across all stocks in their portfolio, as they work with management to achieve change. Results indicate that this is the case. Committed funds are less likely to sell a stock after poor stock or operating performance, as compared to other ESG funds or non-ESG funds.

Second, we find that committed funds hold more concentrated positions within the high ESG stocks in their portfolio, compared to other stocks. Given that larger investments are both costlier to divest and have higher benefits to engagement, this difference provides preliminary evidence that the committed ESG funds are particularly focused on long-term investments in high ESG stocks. We do not find a similar difference among other ESG funds. Third, we show

that our committed versus other ESG fund classification matches well with the newly introduced Morningstar ESG Commitment Level measure. Based on the 2020 Morningstar ESG Commitment report, committed (other) ESG funds are more likely to have a Morningstar ESG Commitment Level of Leader or Advanced (Basic or Low).

Turning to our main empirical tests of the hypotheses, we first analyze funds' information acquisition. Funds striving to impact firms' ESG policies must devote resources to become informed on such issues. We find that committed ESG funds are significantly more likely to view a firm's regulatory filings when it is exposed to heightened ESG risk, suggesting that such funds view these issues as financially relevant. In contrast, other ESG funds' viewing activities are significantly less intensive around these risk events and do not vary with their severity.

Our second set of tests is based on the premise that a fund's investment strategy relates to its engagement and therefore to its ultimate impact. We find that committed ESG funds have a longer-term strategy toward the high ESG stocks versus other stocks in their portfolio, as evidenced by less negative net trades following poor performance. In contrast, other ESG funds trade these two groups of stocks similarly. In a similar vein, we find that committed funds are more likely than other ESG funds to maintain their investment positions following negative ESG news. The longer-term investment strategy of committed funds is consistent with them viewing ESG as a long-term value driver.

The difference in trading behavior between ESG funds significantly affects the composition of firms' owners. Following severe negative ESG news, the portion of a firm's shares owned by committed ESG funds increases, while that of other ESG funds decreases. If committed funds are striving to impact the firms, this shift in ownership should contribute toward real changes in the firm. Indeed, we find that this is the case. 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 funds neither intensely buy nor intensely sell.

Additional tests provide added evidence that this relation represents the effects of committed funds' engagement as opposed to the 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), thereby increasing funds' incentives to engage with these firms. 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 their carbon footprint after the shock.

Our findings suggest that committed funds actively employ one or more channels to influence firms. While we cannot observe all channels of engagement, we test this conjecture using voting data. Following Iliev and Lowry (2015), we measure funds' active engagement on ESG issues via voting in two alternative ways: 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, providing further evidence that they view ESG issues as a value driver and strive to impact firms' policies.

Can funds do well by doing good? In the last part of the paper, we investigate the relation between ESG funds' incentives to engage and fund performance. We find that committed ESG funds have outperformed both the market and other ESG funds on their ESG investments. This is

consistent with committed funds' engagement contributing not only to better ESG-related outcomes but also to better firm performance, as one would expect if ESG is a value driver. It is also consistent with committed funds being more informed investors in sustainable investments, as one would expect given their engagement on ESG issues.

In sum, our results indicate that ESG funds can be characterized by heterogeneous objectives. Committed funds' information acquisition, investment strategy, observed impacts on portfolio firms' risk and carbon emissions, and voting strategy are all consistent with the impact hypothesis. In contrast, other ESG funds' behavior is better explained by greenwashing.

Our paper contributes to several streams of literature. First, it contributes to the literature on mutual funds' engagement on ESG issues. While Broccardo, Hart and Zingales (2021) conclude that voice is an effective mechanism to achieve socially desirable outcomes when the majority of investors are socially responsible, our findings indicate that this is only the case if the socially responsible investors have sufficiently high incentives to engage. He, Kahraman and Lowry (2021) and Li, Naaraayanan, and Sachdeva (2021) analyze mutual funds' voting on ES shareholder proposals and show that mutual funds are informed regarding firms' ESG risks, but voting in shareholder proposals rarely succeeds in pressuring firms to change. Relative to their findings, our paper highlights the influence of funds' incentives to engage and adopts an intuitive approach to examine such incentives for a large sample of ESG funds. In this sense, our findings relate to Hoepner et al. (2022) and Dimson, Karakas and Li (2015), 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. The identification of

which entities are more socially responsible is often not clear. Cohen, Gurun and Nguyen (2021) find that firms with low ESG scores, for example oil and gas firms, produce more green innovation than firms typically identified as 'green'. Kim and Yoon (2021) and Gibson et al. (2021) find that mutual funds that sign the United Nations Principles for Responsible Investment (PRI) attract large fund inflows, but do not significantly change their ESG investments. Our evidence suggests a new form of greenwashing: conditional on the aggregate dollars invested in high ESG firms, the distribution of these dollars and the associated effects on funds' incentives to engage play a critical role. Our findings call for greater attention to this form of greenwashing.

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., Cohen, Gurun and Nguyen, 2021; Berk and van Binsbergen, 2021). There is no clear evidence that firms receiving more capital from ESG funds have a lower cost of capital or better ESG performance (e.g., Heath et al., 2021). 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

Our firm-level and fund-level data are compiled from several sources. First, 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 et al., (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 then normalizes this score relative to industry peers

to achieve the overall company ESG rating.[7] ESG scores range from zero to ten and are updated at least once a year. Each quarter stocks are placed into deciles by their ESG score, and stocks within the top three deciles are classified as high ESG stocks.

We use the Center for Research in Security Prices (CRSP) monthly stock files and Compustat for data on stock returns and financial characteristics. These data are merged with MSCI ESG Ratings data using CUSIP, ticker, and company name. As noted by Pastor et al. (2021), MSCI did not start covering small U.S. stocks until late 2012. Thus, our sample period is from January 2013 to December 2020.

For fund-level data, we rely primarily on the CRSP Survivor-Bias-Free Mutual Fund Database to extract monthly net-of-fees fund returns and fund characteristics and Morningstar Direct for information on fund styles.[8] Our analyses of funds' sustainable investments focus on actively managed U.S. domestic equity mutual funds. To examine funds' portfolio composition, we extract quarterly equity holdings of mutual funds from the Thomson/Refinitive s12 database. We merge the CRSP Mutual Fund data and fund holding data using the MFLINKS tables available via WRDS (Wermers, 2000). For analyses involving fund prospectuses, we download all Form 497K filings from SEC EDGAR. For analyses involving an exogenous shock to ESG funds' investments, we extract the Morningstar Sustainability Ratings of our sample funds.

We employ the EDGAR server log data 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), we identify an asset management firm's views by matching the IP addresses from EDGAR to the institution that holds a block of corresponding IP

[7] See, https://www.msci.com/documents/1296102/19165268/ESG+Ratings+Transcript.pdf
[8] We match CRSP with Morningstar fund data by fund ticker and cusip.

addresses.[9]

To examine ESG funds' engagement activities, we extract records of mutual fund voting on portfolio firms from the Institutional Shareholder Services (ISS) Voting Analytics database. This database includes fund voting records on all agenda items of each portfolio firm as well as the specific category of each proposal. It also provides ISS recommendations for each proposal. We match ISS fund IDs to the CRSP mutual fund database by tickers with the help of the N-PX header. Given our focus on mutual funds' engagement on ESG related issues, we follow He, Kahraman and Lowry (2021) to identify the subset of proposals related to environmental and social (ES) issues. We additionally identify the subset of proposals related to governance (G) issues. During our sample period, there are 732 firm-years with 973 ES proposals, and xx firm-years with xx G proposals. All ES and G proposals are shareholder sponsored proposals.

We use several proxies to measure firms' ESG risk exposure. First, to proxy for real environmental activities we use each firm's annual on-site waste release from the Toxics Release Inventory (TRI) dataset, as provided by EPA. These data have been used in several studies to measure firms' environmental risk (see, e.g., Naaraayanan, Sachdeva and Sharma, 2021; Lyu, Shan and Tang, 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., He, Kahraman and Lowry; 2021 and Gantchev, Mariassunta and Li, 2022). Finally, we use the Ravenpack News Analytics dataset to quantify individual firms' non-ESG related news coverage.[10] This enables us to contrast funds' trading reactions to ESG risk events with reactions to other news.

[9] Detailed descriptions can be found in Wang (2019).
[10] 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 classify all actively managed equity funds into ESG versus non-ESG funds according to the asset weighted MSCI ESG scores of their holdings. This approach resembles the fund-level ESG rating methodologies employed by rating agencies such as Morningstar and academic work such as Gibson et al. (2021) and Gantchev et al. (2022). Similar to the Morningstar Sustainability Rating (which was introduced in 2016), we calculate a fund's quarterly ESG rating as the weighted average of the trailing four quarters' ESG scores of the fund, with more-recent quarters weighted more heavily.[11] 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.[12]

Within this set of ESG funds, we further classify them into two groups according to the benefits and costs of engaging with portfolios firms. We first classify funds based on the benefit of engagement using the Lewellen and Lewellen (LL) (2022) "Incentive to Engage" measure. Specifically, for each stock in a fund's portfolio, the incentive to engage can be decomposed into two parts: 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, whereas the flow component captures the indirect impact from performance-related fund flows. A fund's incentive to engage with portfolio firms is the weighted sum of both direct and flow components across its

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

[12] Because MSCI's ESG ratings represent industry-adjusted metrics, high ESG funds do not necessarily exclude firms in brown industries.

holdings. That is,

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

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 sensitivity of the fund. Flow-to-performance sensitivity is estimated following Lewellen and Lewellen (2022) 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 style category as the fund's benchmark portfolio.[13]

Our second proxy of funds' incentives to engage 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 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 liquidating concentrated holdings. Such funds are more likely to engage with portfolio firms.

Our classification of committed versus other ESG funds is based on the four-quarter moving average of the two fund-level incentive to engage measures.[14] We rank all ESG funds

[13] We employ a similar procedure to calculate funds' incentives to engage on high ESG stocks versus all other stocks. For tests that use both measures, we rescale each, i.e., incentive to engage on high ESG stocks and incentive to engage on other stocks, to make them comparable. Specifically, we divide each measure by the percent of the portfolio held in analogous set of stocks. To provide an example, for a fund that holds 40% of their portfolio in ESG stocks and 60% in other stocks, we would divide the incentive to engage on ESG stocks by 0.40 and the incentive to engage on non-ESG stocks by 0.60.

[14] The use of a four-quarter moving average is analogous to the approach used to calculate the fund-level ESG score.

into terciles by their ESG scores, and we classify each ESG fund as a committed (other) if its incentive to engage, based on the LL (2021) and the PST (2020) measures, respectively, is above (below) the median within the tercile. By ranking funds within their ESG score terciles, we ensure that a fund's incentive to engage is not correlated with the weight of high ESG stocks within its portfolio.[15]

The correlation between the LL and PST measures equals 78%. Moreover, 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 commitment group, i.e., either committed or other, in the subsequent year is 94% under the LL measure and 93% under the PST measure.

2.3. Summary Statistics

Table 1 tabulates the summary statistics for committed and other ESG funds. Panel A is based on the LL measure and Panel B on the PST measure. Several points are worth highlighting. First, across both panels, committed ESG funds have significantly higher incentives to engage on both high-ESG and other stocks, compared to other ESG funds. This includes both higher direct incentives and higher flow incentives (not tabulated). Second, committed funds have significantly stronger incentives to engage on their high ESG holdings than on other holdings.[16] We do not observe a similar difference among other ESG funds. In sum, even though the two groups of ESG funds, by construction, invest a similar portion of their assets in firms with high ESG performance, committed funds have even greater incentives to monitor and

[15] The correlation between a fund's incentive measure and the weight of high ESG stocks in the fund is only 0.07.
[16] By construction, there are fewer high ESG holdings than other holdings in a fund's portfolio. When constructing the PST incentive measure among a fund's high ESG versus other holdings, we adjust for the effect of the number of stocks in each sub portfolio on its Herfindahl index.

engage with their high ESG holdings.

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.

We find that both groups of ESG funds outperform non-ESG funds during our sample period. This is consistent with the price run-ups experienced by high ESG stocks during the most recent decade, which Pastor, Stambaugh, and Taylor (2021) conclude stemmed from unexpectedly strong preferences by ESG investors. In addition, ESG funds tend to have lower turnover than non-ESG funds, potentially reflecting their greater asset allocation to high ESG stocks that are typically associated with longer payout periods (Starks, Venkat and Zhu, 2021). On the other hand, there is no evidence that committed funds, which exhibit the lowest turnover among the three groups of funds, are more passive investors. In fact, committed funds appear to be more active funds 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

Data on institutional investors' engagement activities have been mostly limited to information on a single or a very small set of asset managers (e.g., Dimson, Karakaş, and Li, 2015; Barko et al., 2021; Becht, Franks, and Wagner, 2021; Hoepner et al., 2021, and Azar et al., 2021). To verify that the LL and PST measures provide an effective way to identify institutional investors with greater incentives to engage on portfolio firms' ESG conduct, we cross validate

our committed versus other ESG fund classification.

First, we assess funds' dedication to sustainable investments according to the Morningstar ESG Commitment Level measure, which was introduced in 2020. Unlike the quantitative Morningstar Sustainability Rating, which measures the extent to which a fund invests in firms with low ESG risk, the Morningstar ESG Commitment Level is based on the investment process and the extent of active engagement on ESG issues (Morningstar, 2020).[17] We find that 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 indeed classified as committed ESG fund families under our classification (i.e., families with more assets held by committed ESG funds). Moreover, 10 out of the 12 US asset managers that are rated as having Commitment Level of Basic or Low are not classified as committed ESG families (i.e., families with fewer assets held by committed ESG funds).

Second, as an additional metric of ESG funds' level of dedication, we conduct a textual analysis on the Principal Investment Strategies (PIS section) of each fund prospectus. Following prior studies (see, e.g., Li et al., 2021, Heath et al., 2021), we compile a list of ESG keywords and their synonyms and examine their occurrence in the PIS. Our findings provide further evidence of committed funds being more likely to consider sustainable investments as a main pillar of their investment strategies. In untabulated results, we find that committed funds have a significantly higher average likelihood of mentioning ESG keywords across our sample period, compared to either other ESG funds or non-ESG funds.

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

3. Comparing Investment Strategies across Different Types of ESG Funds

Section 2 shows that both committed ESG funds and other ESG funds invest heavily in high ESG stocks, but committed funds have significantly higher incentives to engage with their portfolio firms and in particular with their high ESG firms. We conjecture that the differing incentives lead to different investment strategies. In subsection 3.1, we verify this difference in overall investment strategy. In subsections 3.2 and 3.3, we focus on funds' investment strategy across high ESG stocks and around severe ESG incidents.

3.1 Are ESG funds more patient investors?

Higher incentives to engage should correlate with longer investment duration and with more patient investment. 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 to be less sensitive to recent performance when making trading decisions.

We verify this conjecture in Table 3. 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 interacted with *Committed ESG Fund* and *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, and zero otherwise. Earnings surprise represents the difference between the firm's actual earnings and the median analyst forecast during the quarter.[18] We include fund-by-quarter fixed effects, thereby controlling for any

[18] 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.

differences in funds' investment horizon, for example as may arise from differences in investment style.

Findings confirm that committed ESG funds have significantly different investment strategies than other ESG funds, on average across all firms in their portfolios. Committed funds pursue a longer-term investment strategy, consistent with them having higher incentives to engage with their portfolio firms. In contrast, other ESG funds behave more like momentum traders, selling stocks with poor performance in the past quarter.

3.2 ESG funds' investment strategy in high ESG firms

Having established a difference in overall investment strategy, we turn to funds' strategy regarding ESG issues. Under the impact hypothesis, committed funds view ESG issues as a value driver, analogous with other determinants of firm value, meaning their long-term investment strategy should extend to the high ESG firms in their portfolios. Two factors suggest these funds may adopt a longer-term investment strategy among ESG stocks than other stocks. First, as discussed by Starks, Venkat and Zhu (2021), ESG-related investments can take time to pay off, and in some cases the required investments can contribute to short-term underperformance. Second, as shown in Table 1, committed funds' investment positions generate significantly higher incentives to engage on their ESG stocks than on other stocks.

We test these predictions in Table 4. Similar to Table 3, the sample consists of a mutual fund × portfolio firm × quarter panel. We regress *Net Trades* of each fund in each firm on *Poor Firm Performance* and the interaction between *Poor Firm Performance* and *High ESG Stock,* where *High ESG Stock* represents an indicator variable. Poor performance is measured as prior quarter earnings surprise in Panel A, and as prior poor stock returns in Panel B, as defined earlier. The analysis is done separately for committed ESG funds (columns 1 and 3), other ESG

funds (columns 2 and 4), and non-ESG funds (column 5).

As expected, funds tend to sell loser stocks, as indicated by the significantly negative coefficient on *Poor Firm Performance* in all columns. However, as shown in Columns 1 and 3 of both panels, committed funds do not exhibit this tendency among their high ESG stocks (the sum of the coefficients on *Poor Firm Performance* and *High ESG Stock* × *Poor Firm Performance* is positive). Relative to both other ESG funds and non-ESG funds, committed funds are significantly less likely to sell a poor performing stock if the stock has a high ESG rating.[19]

Results in Table 4 are distinct from the finding in Starks, Venkat and Zhu (2021) that ESG funds tend to have longer investment horizons in general due to the endogenous match between investor horizons and portfolio firms' horizons. Even among ESG funds, we find that committed funds exhibit differential investment behavior towards portfolio firms with high ESG profiles, relative to other firms. The finding that committed funds maintain their investments in high ESG firms even during periods of poor short-term performance is consistent with these funds viewing ESG as a long-term value driver. Moreover, if engagement is an effective way to impact firms, then these findings suggests that these funds will also be more likely to impact portfolio firms' policies.

3.3 ESG funds' investment strategy following ESG risk incidents?

If committed funds view ESG-related issues as a value driver, then they should monitor portfolio firms' ESG risks. To examine fund reactions to portfolio firms' ESG risk events, we rely on RepRisk ESG news. RepRisk systematically identifies and assesses material ESG risks by screening and analyzing information daily from a wide range of public sources. In addition to

[19] The difference in the interaction term between *Poor Performance* and *High ESG Stock* is significant between committed and other ESG funds as well as between committed and non-ESG funds at 5% (1%) when performance is measured by earnings surprise (stock returns).

providing a regularly updated ESG risk index for their approximately 155,000 covered firms, RepRisk News provides time-stamped data on ESG risk incidents concerning individual firms.

First, we examine the extent of research that ESG funds conduct on firms around negative ESG incidents. This sheds light on the attention funds devote to the firms, in the days immediately surrounding these events. Second, we examine funds' trading activities during these times, which offers more direct evidence on investment choices, albeit at a lower frequency since we can only infer fund trades from quarterly changes in fund holdings.

3.3.1 Evidence on funds' research of portfolio firms

Following evidence by Crane, Crotty and Umar (2021) and Wang (2019) that sophisticated investors collect information from financial filings to improve performance, we examine ESG funds' information acquisition around ESG risk incidents. Since the identity of downloading institutions can only be determined at the fund family level (as discussed in Section 2), we compare the views of SEC financial filings by committed versus other ESG fund families.

First, we classify a fund family as an ESG family if the fraction of assets accounted for by ESG funds is ranked in the top tercile in a given quarter. Second, within ESG families, we classify a family as committed If the fraction of family TNA held by committed ESG funds is above median, and we classify it as other ESG firms otherwise. Internet Appendix Figure A1 shows the histogram of the fraction of committed ESG funds within individual ESG families. There exists pronounced clustering of families in both tails of the distribution, suggesting that the composition of committed and other ESG funds within an ESG family is not random.[20] That is, a common level of incentives to engage is likely to be shared across funds within a family.

[20] The clustering of families in each tail is not driven by families with only one ESG fund. Only 10% of families have one ESG fund. We also try imposing the restriction that a family's number of ESG funds is greater than three and find the figure to be very similar.

Figure 1 illustrates the probability of each family type viewing firm financial statements on the EDGAR platform, during the ten days around the negative ESG news announcement day. The left-hand panel focuses 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 (where quintiles are defined each quarter). All other ESG news events are considered non-severe, and these are shown in the right-hand panel.

Consistent with existing evidence on institutional investors' views of SEC filings, both types of ESG fund families exhibit elevated attention to a firm when it is exposed to an ESG risk event. This provides some indication that all types of ESG funds view ESG as a value driver. However, 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 before it is covered widely by the news media. In sum, committed ESG funds pay more attention to firms' ESG risks, consistent with them viewing ESG as a value driver.

3.3.2 Evidence from trading activities

Following evidence in Figure 1 regarding ESG funds' research around firm ESG risk events, in this subsection we examine how they trade on these events. Severe ESG risk events, by definition, are accompanied by significant negative market reactions, and they can result in the downgrading of a firm's ESG rating. To the extent that committed funds have both a better understanding of the value-effects of these events and greater incentives to engage with portfolio firms, as suggested by Figure 1 and Table 1 respectively, then they 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 a firm is exposed to ESG risk events, classifying these events as either severe or non-severe. We also control for non-ESG news, as captured by Ravenpack News Analytics, which we classify as severe or non-severe using the same algorithm. Specifically, we classify it as 'Severe Non-ESG Negative News' if the three-day announcement CAR ranks in the bottom quintile across all news events in a quarter, and as 'Other Non-ESG News' otherwise. Importantly, while RepRisk focuses exclusively on adverse ESG incidents and as such represents negative news, the 'Other Non-ESG News' category includes both small negative and positive 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. Panel A estimates fund-security level regressions where the dependent variable is the fund's *NetTrade*. 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. 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. Within the set of ESG funds, committed funds exhibit no tendency to have lower net trades following severe ESG events. 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 will change during these times. Panel B provides support for this conjecture. When we estimate regressions at the security level, we observe that the ownership of committed ESG funds significantly increases following these events, whereas the ownership of other ESG funds significantly decreases.

To the extent that selling has relatively small effects on firms' cost of capital, as suggested by Berk and van Binsbergen (2021), committed funds' longer-term investment strategy would be more likely to impact portfolio firms' policies. They can pressure firms through behind-the-scenes engagement, through voting, or even through the threat of ultimately divesting a sufficiently large position to influence the firm's cost of capital. Alternatively, if small share sales lead firms to significantly improve their ESG profiles, as suggested by Gantchev et al. (2022), then other ESG funds will be more likely to impact firms. We examine these issues in the next section.

4. Real Impacts on Firms' ESG performance?

Having established heterogeneity across ESG funds in information acquisition and investment strategy, in this section we examine how these different types of ESG funds impact portfolio firms. We begin in section 4.1 with an OLS analysis, and in Section 4.2 we use a two-stage regression framework that addresses endogeneity concerns.

4.1. Changes in ESG performance following trades by ESG funds

We begin by examining how changes in firm ownership by different types of ESG funds relates to firms' subsequent ESG risk profiles. We focus on the same RepRisk ESG risk incidents as examined in Section 3.3. For firms subject to severe ESG risk exposure in quarter *t*, we examine changes in their RepRisk ESG risk index (RRI) during quarters *t+1* through *t+4*, separately for firms bought or sold by each type of ESG fund. Since the RepRisk ESG risk index dynamically captures and quantifies reputational risk exposure related to ESG issues, a reduction in the index suggests improved ESG.

To quantify funds' trading in each stock, 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 buy' and 'Committed sell', respectively. 'Other ESG buy' and 'Other ESG sell' are defined analogously. Results are shown in Table 6. In columns 1 – 4, we define committed and other ESG funds using the LL classification, and in columns 5 – 8 we employ the PST classification. The baseline case represents stocks not intensively traded by any ESG funds; this soaks up changes in firms' ESG risk over time that are unrelated to intensive trades by ESG funds. 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 a risk incident. Specifically, the dependent variables in columns 1 – 4 (and similarly 5 – 8) of Table 6 represent $\Delta RRI_{t, t+1}$, $\Delta RRI_{t, t+2}$, $\Delta RRI_{t, t+3}$, and $\Delta RRI_{t, t+4}$, respectively. Control variables include firm size and book-to-market as of the end of quarter t, and stock returns during quarter t.

Using both the LL and the PST classification, Committed 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 bought nor sold, this represents a 31% reduction.[21]

Although other ESG funds tend to sell firms experiencing severe ESG risk incidents (as shown in Table 5), this exit strategy does not appear to have any significant disciplinary effects on firms' ESG performance. This finding echoes the view that investor divestiture is unlikely the most effective way to influence corporate ESG conduct (see, e.g., Cohen, Gurun and Nguyen, 2021; Berk and van Binsbergen, 2021). Instead, continued investments by committed funds that tend to engage firm management are associated with more persistent improvements in portfolio firms' ESG conduct.

4.2. The causal impact of investments by committed funds

While findings in the prior section provide suggestive evidence regarding the influence of committed funds on portfolio firms' ESG policies, endogeneity is a potential concern. The positive relation between fund buying and changes 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 their risk (engagement channel), or the fund predicting changes in risk and buying on that information (selection channel). In this subsection, we utilize a natural experiment to isolate the effects of 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. Importantly, the additional inflows are unrelated to fund performance and the fundamentals of fund holdings. As such, these

[21] 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%,

inflows represent an exogenous shock to ESG funds' TNA, which will, on average, lead to increased positions within the portfolio firms.

Consistent with Hartzmark and Sussman (2019), Figure 2 shows that around the introduction of the Morningstar Sustainability Rating, ESG funds experience significant inflows relative to non-ESG funds. Time 0 represents the end of the quarter in which Morningstar introduced this rating, March 2016. Flows into funds are tracked from 15 months prior to this date through 15 months after. To clearly contrast flows into ESG funds before and after the rating introduction, cumulative flows are set to zero both in month -15 (to track the flows prior to the rating introduction) and in month 0 (to track flows after the rating introduction).[22]

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.

We estimate regressions at the annual level, which provides two advantages over the quarterly interval employed in Table 6. First, effective engagement often requires substantial time, which can be better captured at the annual level. Second, we can examine outcome measures that are not available at the quarterly interval. We employ two measures of firms' ESG performance: 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. Environmental Protection Agency (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, the surface water,

[22] See, e.g., the following blog that discusses the introduction of Morningstar Sustainability Rating in August 2015. http://www.justmeans.com/blogs/sustainalytics-and-morningstar-partner-to-launch-first-esg-scores-for-funds

the land, and underground (Lyu, Shan and Tang, 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. The impact hypothesis predicts a significant negative coefficient on these interaction terms, whereas the greenwashing hypothesis predicts no significant relation.

Results from this specification are shown in columns 1, 3, 5, and 7 of Table 7; columns 1 and 3 (2 and 4) are based on the RepRisk Index (TRI), using either the LL or PST classification. Across all specifications, results indicate that committed ESG funds can be best explained by the impact hypothesis, whereas other ESG funds are more consistent with greenwashing. Committed funds' higher incentives to engage, combined with their 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.

In columns 2, 4, 6, and 8, we examine in more detail the years in which these changes occur. We substitute year dummies for the Post dummy. That is, we separately interact *High Committed Overweight* with individual year dummies for 2013 to 2018. Consistent with predictions, we observe strong positive effects in years 2016 – 2018. We also observe some effects in 2015, consistent with the run-up in flows that coincided with early Morningstar discussions (as similarly documented by Hartzmark and Sussman).

Table 8 explores these findings in more depth, by examining heterogeneity across firm types. We predict that the observed changes in firms following the Morningstar shock, as shown in Table 7, will be concentrated within high ESG firms. Several factors underlie this prediction. First, as reported in Table 1, committed funds' incentives to engage are significantly higher on ESG stocks than on non-ESG stocks. Second, high ESG firms should be more affected by the exogenous capital infusion following the introduction of the Morningstar Sustainability rating if funds respond to increased inflows by maintaining similar percentage allocations across portfolio stocks.[23] That is, high ESG firms should be more affected by the exogenous capital infusion from committed funds since these funds allocate more concentrated portfolio weights to these firms. Third, prior literature suggests that ESG engagement may be more likely to succeed when targets have relatively high ESG ratings. Such firms have already demonstrated that they care

[23] This assumption is consistent with the fact that individual firms' portfolio weight 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.

about ESG issues, and Barko et al (2021) find that firms with high ex ante ESG ratings experience ratings downgrades following the revelation of their ESG problems. These firms likely have strong incentives to respond to engagements, to avoid such negative outcomes.

Results are consistent with predictions. Columns 1 and 3 of Table 8 indicate that 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, particularly with respect to future emissions. Finally, consistent with other ESG funds participating in less engagement, we do not find similar effects among these funds.

Overall, results to this point illustrate that committed ESG funds employ very different sustainable investment strategies, compared to other ESG funds. Compared to committed ESG funds, other ESG funds have more dispersed investments towards ESG compliant firms and as a result face fewer incentives to engage with their portfolio companies on ESG related issues. Therefore, they are more likely to walk away from firms exposed to severe ESG risk. We find no evidence that this exit strategy leads to real impacts at underlying firms. In contrast, committed ESG funds adopt ESG integrated investment strategies that are more sophisticated and rely more on independent research. Committed funds' continued investments and associated engagement are more effective in improving firms' ESG performance.

5. Fund voting activities

Findings to this point suggest that committed funds are actively engaging with portfolio firms on ESG-related issues. In this section, we provide more direct evidence on this conclusion, by examining funds' voting behavior.

Mutual funds have a fiduciary duty to vote their shares on all items on the proxy

statement. We focus our analysis on shareholder proposals related to ESG issues. While ESG funds are more likely than other funds to vote for such proposals, some studies find that they are strategic in their voting.[24] 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 or non-ESG funds.

Committed funds' incentives to engage with portfolio firms are based on fund managers' perceived financial gains from engagement, as highlighted by Lewellen and Lewellen (2022). If funds view ESG issues as a value driver and adopt a strategy of engaging with portfolio firms on ESG issues, then they will 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, rather than adopting a one-size-fits-all strategy of always supporting or rejecting certain agenda items, committed ESG funds will assess the effects of an agenda item within the specific portfolio firm.[25] In contrast, other ESG funds would be more likely to follow ISS and more likely to adopt one-size-fits-all strategies.

Looking first at Table 9, we estimate regressions where the dependent variable is an indicator equal to one if the fund's vote was different than ISS's recommendation, zero otherwise. Independent variables of interest include committed ESG fund and other ESG fund indicator variables. To account for other known determinants of active voting, we control for firm characteristics and fund characteristics, including ownership of the firm by the fund, the

[24] For example, Michaely, Ordonez-Calafi and Rubio (2022), Dikolli, Frank, Guo and Lynch (2021) and Li, Naaraayanan and Sachdeva (2021) 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 issues or G issues all influence voting.

[25] There is no clear prediction regarding the relative support rate of committed versus other ESG funds. Many ESG proposals are brought based on ethical grounds rather than shareholder value maximization. As shown by Gantchev and Giannetti (2020), many ESG proposals represent gadfly proposals that are unlikely to receive majority support and would likely destroy shareholder value.

firm's portfolio weight in the fund, agenda item fixed effects, industry fixed effects, and year fixed effects. Since many ESG proposals have zero passing rate throughout our sample period, we focus on a subsample of ESG proposals that have non-zero historical passing rate to increase the power of our tests.

Columns 1 – 4 focus on ES proposals, and columns 5 – 8 focus on G proposals. Within each set, the first two columns employ the LL classification and the second two employ the PST classification. Finally, 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 every column. We find that 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 columns and the even-numbered columns, respectively). Results are similar among G proposals, though a bit weaker. In sum, results are consistent with our prediction that committed ESG funds take a more active role in voting, rather than indiscriminately following the recommendations of ISS. This is consistent with them viewing ESG as a value driver and actively engaging on these issues as they work to impact the firms.

In Table 10, we examine funds' propensity to take a blanket approach towards voting. We construct a one-size-fits-all measure of voting for each fund-agenda pair. Specifically, 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 9, we focus on those proposals with a non-zero historical passing rate.

Because funds' incentives to actively engage in voting depend on the potential benefits and costs, we control for the logarithm of fund size and fund turnover; large funds and funds with longer investment horizons benefit more from active voting (Iliev and Lowry, 2015).

The format of Table 10 is similar to that of Table 9, where the eight columns include specifications using all funds and just ESG funds, using the LL measure and the PST measure, and using ES proposals versus G proposals. In aggregate, results provide further support for committed funds being more active voters. Six of the eight specifications indicate that committed ESG funds are significantly less likely to follow one-size-fits-all strategies. That is, for the same ES agenda item, they are more likely to vote yes for some firms and no for others.

In sum, results in this section provide further support for the impact hypothesis characterizing committed funds. These funds take a more active voting strategy on ESG issues, which is consistent with their higher incentives to engage and with their greater impacts on portfolio firms' ESG performance. In contrast, other ESG funds seem to be better described by the greenwashing hypothesis. Their more passive voting strategy is consistent with their lower incentives to engage and with the lack of any impact on portfolio firms.

6. Performance and Flows of ESG Funds

6.1 Performance of ESG funds

Prior studies find mixed evidence regarding the performance of institutional investors engaging in sustainable investments. There is no consensus on whether funds can "do well by doing good." On the one hand, evidence that good ESG practices help reduce firms' downside risk and increase their long-term value suggests that high sustainability funds could outperform (see, e.g., Hoepner et al., 2021; Chen et al., 2021). On the other hand, several studies suggest that

high sustainability funds may underperform due to the constraints imposed on their portfolios, and financial losses may even be the necessary condition for them to achieve impacts (Renneboog, Ter Horst, and Zhang, 2008; Riedl and Smeets, 2017; Barber, Morse, and Yasuda, 2021; Liang, Sun, and Teo, 2020; Oehmke and Opp, 2020).

We examine in Table 11 whether committed funds' greater focus on ES-related issues comes at the expense of financial performance. We employ three alternative measures of performance. In Columns 1 and 2, the dependent variable, fund performance, is measured as the DGTW (1997) characteristics-adjusted returns of fund holdings over a 12-month horizon. In columns 3 and 4, the dependent variable similarly represents DGTW (1997) characteristics-adjusted returns; however, these returns are measured only across the subset of the fund's holdings that represent ESG stocks in column 3, and only across all other stocks in column 4. We regress these measures of fund performance on *Committed ESG fund*, *Other ESG fund*, and a battery of fund characteristics that have been shown to affect fund performance.

Looking first at column 1, the sample includes all funds, meaning the benchmark category is non-ESG funds. The significantly positive coefficients on both *Committed ESG fund* and *Other ESG fund* indicate that both types of ESG funds outperform non-ESG funds during our sample period. This may reflect 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 over the most recent decade (Pastor, Stambaugh, and Taylor, 2021). Column 1 also shows that committed and other ESG funds perform roughly equally. Column 2 shows that this conclusion is robust to restricting the sample to just ESG funds, as evidenced by the insignificant coefficient on the *Committed* dummy in this specification.

To examine in more depth attention to ESG-related issues affects returns, in columns 3

and 4 we separately examine returns on high ESG stocks and all other stocks, respectively. Evidence throughout the paper indicates that committed funds devote more resources to their ESG holdings, in terms of both attention and engagement. Does this give them an information advantage that contributes positively to returns on their ESG stocks, or does it constrain their investments in ways that have a negative influence on this portion of their portfolio?

Results in column 3 of Table 11 indicate that attention to ESG stocks has given committed ESG funds an advantage, at least during our sample period. Committed funds significantly outperform other ESG funds on their ESG investments, with an economic magnitude of approximately 50 bps per year. In contrast, column 4 indicates that these two groups of ESG funds have not performed significantly differently on their non-ESG stocks.

The finding that committed funds outperform other ESG funds only on the subset of ESG stocks is striking along several dimensions. First, given that both sets of ESG funds invest a similar percent of AUM in ESG stocks (as shown in Table 2), committed funds' outperformance cannot be explained by greater holdings in ESG stocks, as the conclusions of Pastor et al. (2021) might suggest. Second, committed funds' outperformance cannot be attributed to having higher active share or industry concentration index— attributes that could be related to managerial skill in general (Kacperczyk, Sialm and Zheng, 2005; Cremers and Petajisto, 2009). This is because committed and other ESG funds perform similarly on other holdings (as shown in column 4).

6.2 Flows of ESG funds

In this subsection, we pose two questions related to whether committed funds are rewarded for their greater impact. First, are investors aware of these differences among ESG funds? Second, are committed funds rewarded for their more sophisticated ESG integration? We

address these questions through an examination of 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 a *Other ESG fund*. We control for fund performance, measured by either three-year net-of-fee returns or the Carhart (1997) four-factor alpha estimated using monthly fund returns over the past 36 months. In addition to fund performance, we also control for fund characteristics such as expense ratio, turnover, the logarithm of fund TNA, the logarithm of fund age, prior-quarter fund flows, and flows of the fund's investment style. Since investor awareness of sustainable investments increases significantly in recent years, particularly after Morningstar introduced its Morningstar Sustainability Rating, we examine flows into committed versus other ESG funds separately for the pre-2016 and post-2016 periods. Results are presented in Table 12.

The first takeaway is that has been a shift during our sample period, which coincides with the introduction of the Morningstar Sustainability Index. While columns 1 and 2 show no effect during the pre-2016 period, columns 3 and 4 indicate that both committed and other ESG funds have attracted significantly positive abnormal flows over the post-2016 period.

A comparison of the coefficients on *Committed ESG fund* and *Other ESG fund* provides no evidence that committed funds are rewarded for their greater engagement with and influence on ESG firms. Despite their recent preferences for sustainable investments, average mutual fund investors are not sophisticated enough to differentiate between sustainable investments that are better 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 different types of ESG funds.

7. Conclusion

Regulatory authorities 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 (see, e.g., Berk and van Binsbergen, 2021 and Heath et al., 2021). We hypothesize that investors will only have an impact if they perceive ESG issues to be a value driver and if they have incentives to engage with portfolio firms.

We find that committed ESG funds, which have higher incentives to engage, monitor ESG-related issues more intensely and have a longer-term investment strategy toward ESG firms and firms exposed to ESG risks. This strategy is effective: firms intensively bought by committed funds subsequently experience a significant decrease in ESG risk, relative to other firms. In sum, committed funds have a significant impact on portfolio firms' ESG policies.

In contrast, other ESG funds' strategy of exiting following negative ESG incidents has no observable impact on firms' ESG policies. It is possible that their divestments following negative firm ESG incidents are motivated by a desire to exit firms facing a downgrade in ESG ratings, and thereby preserve the fund's ESG status. 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.

Consistent with committed ESG funds viewing ESG as a value driver and engaging with firms along these dimensions, we find that committed funds more actively vote on ESG proposals. both outperform other ESG funds on their high ESG investments. However, 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.

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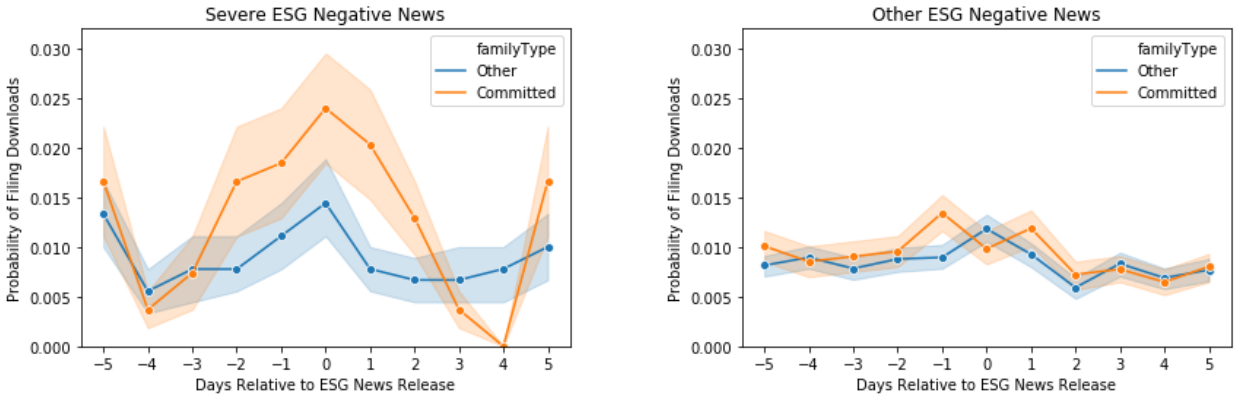
Figure 1
Filing downloads around ESG negative news

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 news release, we calculate the three-day cumulative market-adjusted abnormal return (CAR) of the firm around the 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.



(a) **(b)**

Figure 2
Flows to ESG funds around the introduction of Morningstar Sustainability Ratings
This figure plots the cumulative flows to funds 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.

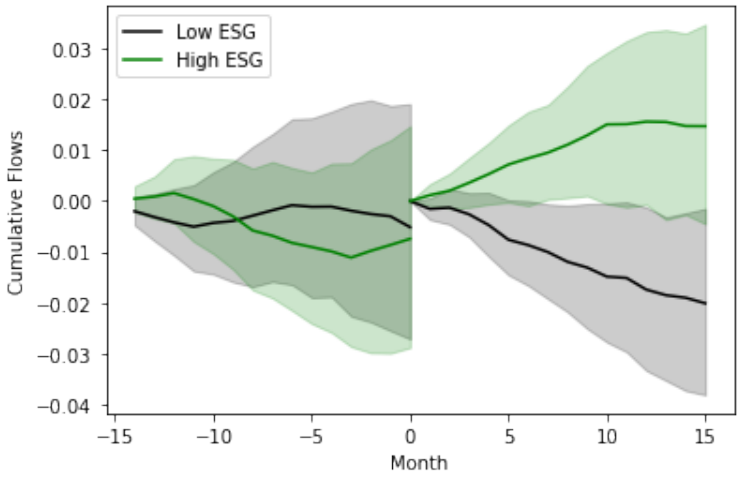


Table 1
Incentive to engage and portfolio illiquidity

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, separated for high ESG and other holdings. High ESG holdings are firms ranked within the top three deciles according to their MSCI ESG scores. 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, in the last row.

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 reports 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 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 the sum of the squared deviations of portfolio weights for each of the 10 different industries held by the fund relative to their market portfolio weights, following Kacperczyk et al. (2005). *Active Share* is the share of a fund's portfolio holdings that differ from the benchmark portfolio holdings, following Cremers and Petajisto (2009). The last two columns report differences in fund characteristics between committed and other 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 *NetTrade*, and independent variables include *Poor Firm Perf*, fund type dummies, and their interaction terms. 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 = NetTrade			
	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 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 *NetTrade* 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: Poor firm performance measured as prior quarter earnings surprise

	Dept Var = NetTrade				
	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: Poor firm performance measured as 3-month lagged return

	Dept Var = NetTrade				
	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 5
Fund trading following ESG risk incidents

This table examines how funds trade stocks experiencing negative ESG news. 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. Negative ESG 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. 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 = NetTrade				
	ESG Funds: LL Measure		ESG Funds: PST Measure		Non-ESG
	Committed	Other	Committed	Other	Funds
	(1)	(2)	(3)	(4)	(5)
Severe ESG Negative News	0.002	-0.013**	-0.003	-0.011*	-0.004
	(0.13)	(-2.22)	(-0.23)	(-1.83)	(-1.15)
Other ESG Negative News	0.013	0.003	0.015	0.000	-0.005**
	(0.63)	(0.77)	(0.90)	(0.00)	(-2.29)
Severe Non-ESG Negative News	0.018	-0.008	0.029***	-0.017***	-0.008***
	(1.30)	(-1.29)	(3.75)	(-3.97)	(-3.19)
Other Non-ESG News	-0.015	0.007	-0.013	0.009*	0.013***
	(-0.87)	(1.45)	(-1.13)	(1.91)	(5.30)
Severe ESG - Severe Non-ESG	-0.016	-0.005	-0.032***	0.006	0.003
FE	Fund-Time	Fund-Time	Fund-Time	Fund-Time	Fund-Time
Controls	Y	Y	Y	Y	Y
N	118535	368318	158391	328462	1257162
Adjusted R-squared	0.090	0.033	0.079	0.038	0.040

Panel B: Security level regressions

	Dept Var = Δshares by fund type / shares outstanding				
	ESG Funds: LL Measure		ESG Funds: PST Measure		Non-ESG
	Committed	Other	Committed	Other	Funds
	(1)	(2)	(3)	(4)	(5)
Severe ESG Negative News	3.655**	-4.532**	3.133*	-3.944*	-0.370
	(1.96)	(-1.96)	(1.65)	(-1.84)	(-0.32)
Other ESG Negative News	-0.029	1.208	-0.255	1.475	-0.135
	(-0.03)	(1.01)	(-0.26)	(1.35)	(-0.22)
Severe Non-ESG Negative News	0.252	-2.549***	1.035	-3.370***	-2.306***
	(0.35)	(-2.89)	(1.31)	(-4.15)	(-4.96)
Other Non-ESG News	0.692	4.032***	0.789	3.805***	2.580***
	(1.01)	(4.78)	(1.06)	(5.05)	(5.82)
Severe ESG - Severe Non-ESG	3.403*	-1.983	2.098	-0.574	1.936
FE	Time	Time	Time	Time	Time
Controls	Y	Y	Y	Y	Y
N	21902	21902	22091	22091	22091
Adjusted R-squared	0.173	0.179	0.165	0.186	0.166

t-statistics in parentheses

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

Table 6
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*. 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 ESG funds' trading of all stocks during quarter t. *Other ESG Buy* and *Other ESG Sell* are defined analogously. Control variables include the logarithm of market capitalization, book-to-market, and stock returns during quarter t. All regressions include quarter fixed effects. Standard errors are clustered at the stock level.

	LL Classification				PST Classification			
	$\Delta RRI_{t,t+1}$	$\Delta RRI_{t,t+2}$	$\Delta RRI_{t,t+3}$	$\Delta RRI_{t,t+4}$	$\Delta RRI_{t,t+1}$	$\Delta RRI_{t,t+2}$	$\Delta RRI_{t,t+3}$	$\Delta RRI_{t,t+4}$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Committed ESG Buy	-2.109*	-4.045***	-3.631**	-1.554	-4.841***	-3.610**	-4.021**	-2.314
	(-1.67)	(-3.01)	(-2.17)	(-0.86)	(-3.97)	(-2.55)	(-2.16)	(-1.16)
Committed ESG Sell	-1.312	-2.342*	-3.366*	-2.289	-3.727***	-2.584*	-1.867	-1.435
	(-1.13)	(-1.67)	(-1.95)	(-1.16)	(-3.29)	(-1.77)	(-1.06)	(-0.74)
Other ESG Buy	-2.171*	-0.807	-0.493	2.051	-0.654	-1.685	0.389	1.936
	(-1.75)	(-0.61)	(-0.30)	(1.07)	(-0.46)	(-1.20)	(0.25)	(1.03)
Other ESG Sell	-1.547	1.080	1.882	3.709*	-0.240	0.864	2.565	3.458*
	(-1.35)	(0.73)	(1.13)	(1.86)	(-0.19)	(0.58)	(1.46)	(1.77)
Firm Size	2.910***	4.886***	7.484***	8.523***	2.789***	4.732***	7.263***	8.412***
	(12.28)	(16.77)	(19.86)	(18.54)	(12.03)	(16.42)	(19.54)	(18.66)
Book-to-Market	0.083	-1.266	-0.235	-0.110	-0.180	-1.405	-0.332	-0.533
	(0.07)	(-0.89)	(-0.13)	(-0.05)	(-0.15)	(-1.02)	(-0.18)	(-0.26)
Stock Returns	-1.783	-5.284*	-3.691	-4.374	-1.896	-4.817	-3.714	-4.678
	(-0.70)	(-1.69)	(-0.88)	(-0.89)	(-0.76)	(-1.55)	(-0.89)	(-0.97)
Constant	-51.37***	-88.22***	-134.6***	-156.4***	-48.92***	-85.77***	-132.1***	-154.8***
	(-13.67)	(-18.00)	(-21.11)	(-20.08)	(-13.23)	(-17.87)	(-21.05)	(-20.23)
N	2215	2075	1998	1895	2236	2095	2018	1915
Adjusted R-squared	0.089	0.138	0.202	0.215	0.097	0.145	0.209	0.225

t-statistics in parentheses

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

Table 7
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 as an exogenous flow shock to ESG funds. The unit of observation is at the stock-year level. The dependent variables include the natural logarithm of the RepRisk Risk Index (columns 1-4) and the natural logarithm of a firm's on-site release from EPA emission data (column 5-8). For each stock held by ESG funds as of the last quarter of 2015, we calculate *Committed (Other) ESG Overweight* as the 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. We also include a set of year dummies to examine the pre-trend. 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.

	Dept var = log(Annual RRI)				Dept var = log(Emissions)			
	LL Classification		PST Classification		LL Classification		PST Classification	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High Committed ESG Overweight X Post	-0.206*		-0.243**		-0.195*		-0.182*	
	(-1.81)		(-2.18)		(-1.94)		(-1.88)	
High Other ESG Overweight X Post	-0.113		-0.0513		-0.001		0.003	
	(-1.08)		(-0.51)		(-0.01)		(0.03)	
High Committed ESG Overweight X Year 2013		0.019		-0.0534		-0.161		-0.120
		(0.19)		(-0.54)		(-0.90)		(-0.74)
High Committed ESG Overweight X Year 2014		-0.095		-0.204		-0.160		-0.105
		(-0.70)		(-1.57)		(-0.90)		(-0.65)
High Committed ESG Overweight X Year 2015		-0.278*		-0.381**		-0.331*		-0.265
		(-1.75)		(-2.56)		(-1.86)		(-1.63)
High Committed ESG Overweight X Year 2016		-0.353**		-0.426***		-0.458**		-0.478***
		(-2.20)		(-2.80)		(-2.56)		(-2.94)
High Committed ESG Overweight X Year 2017		-0.334**		-0.453***		-0.153		-0.210
		(-2.05)		(-2.87)		(-0.85)		(-1.27)
High Committed ESG Overweight X Year 2018		-0.268		-0.376**		-0.470***		-0.214
		(-1.60)		(-2.36)		(-2.58)		(-1.29)
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y	Y	Y
N	5113	5113	5778	5778	2311	2311	2524	2524
Adjusted R-squared	0.493	0.493	0.489	0.490	0.961	0.961	0.960	0.960

t-statistics in parentheses

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

Table 8
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 8 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 *Committed (Other) ESG Overweight* as the 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 9
Voting against ISS recommendations

This table examines the likelihood of fund voting against ISS recommendation. The sample includes ESG agenda items with a positive historical passing rate. The dependent variable is a dummy variable that equals one if a fund votes against ISS recommendation. The independent variables include ESG fund type dummies, a set of firm characteristics and fund characteristics, agenda item fixed effects, firm's industry fixed effects, and year fixed effects. Columns (1) to (4) examine E&S proposals, and columns (5) to (8) examine governance proposals. Standard errors are clustered at the fund level.

	Dept Variable = $\mathbf{1}_{\text{fund vote against ISS}}$							
	E&S Proposals				Governance Proposals			
	LL Classification		PST Classification		LL Classification		PST Classification	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Committed ESG Fund	0.031*	0.059***	0.025*	0.048**	0.014	0.042*	0.004	0.021
	(1.88)	(2.75)	(1.77)	(2.46)	(0.89)	(1.95)	(0.21)	(0.89)
Other ESG Fund	-0.032**		-0.032**		-0.022		-0.020	
	(-2.07)		(-1.98)		(-1.25)		(-1.08)	
Log(Firm Size)	-0.002	0.014	-0.002	0.015	0.008**	0.010	0.008**	0.010*
	(-0.36)	(1.23)	(-0.31)	(1.35)	(2.55)	(1.64)	(2.56)	(1.67)
Firm Book-to-market	-0.036*	-0.012	-0.036*	-0.009	-0.027***	-0.029**	-0.026***	-0.028**
	(-1.83)	(-0.25)	(-1.81)	(-0.21)	(-3.87)	(-2.17)	(-3.84)	(-2.12)
Firm Leverage	-0.001	-0.002	-0.001	-0.002	0.002***	0.003*	0.002***	0.003*
	(-0.53)	(-0.43)	(-0.58)	(-0.54)	(2.84)	(1.86)	(2.76)	(1.69)
Firm ROA	0.708***	0.646***	0.703***	0.627***	0.011	-0.037	0.011	-0.040
	(13.39)	(6.43)	(13.26)	(6.19)	(0.65)	(-1.04)	(0.61)	(-1.10)
Firm Past Returns	0.102***	0.071**	0.102***	0.072**	-0.018***	-0.001	-0.019***	-0.002
	(6.90)	(2.50)	(6.92)	(2.55)	(-2.79)	(-0.09)	(-2.82)	(-0.15)
Log(Fund Size)	0.019***	0.006	0.019***	0.007	0.029***	0.018*	0.029***	0.018*
	(3.92)	(0.93)	(3.93)	(1.03)	(5.12)	(1.84)	(5.06)	(1.80)
Fund Expense Ratio	-1.488	-0.631	-1.423	-0.250	-1.102	-4.102	-1.051	-3.750
	(-0.49)	(-0.17)	(-0.47)	(-0.07)	(-0.37)	(-0.96)	(-0.36)	(-0.89)
Fund Turnover Ratio	-0.005	0.007	-0.005	0.007	0.027***	0.028*	0.026***	0.027*
	(-0.61)	(0.59)	(-0.65)	(0.57)	(2.62)	(1.90)	(2.61)	(1.90)
Fund Ownership of Firm	0.025**	0.049***	0.024**	0.048***	0.013	0.045**	0.014	0.045**
	(2.15)	(2.68)	(2.14)	(2.66)	(1.26)	(2.32)	(1.31)	(2.33)
Firm Weight of Fund	-0.192	-0.736**	-0.115	-0.445	0.353	-0.262	0.431	0.015
	(-0.84)	(-1.99)	(-0.50)	(-1.18)	(1.25)	(-0.72)	(1.46)	(0.04)
Sample	All Funds	ESG Funds	All Funds	ESG Funds	All Funds	ESG Funds	All Funds	ESG Funds
AgendaItem FE	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
N	26043	8202	26043	8202	149449	47638	149449	47638
Adjusted R-squared	0.224	0.185	0.224	0.184	0.116	0.089	0.116	0.088

t-statistics in parentheses

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

Table 10
One-size-fits-all voting

This table examines funds' tendency to vote in a one-size-fits-all manner. The sample includes ESG agenda items with a positive historical passing rate. For each fund, agenda item, and 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) to (4) examine E&S proposals, and columns (5) to (8) examine governance proposals.

Dept Var = $\left\lvert \frac{\#\text{Vote For}-\#\text{Vote Against}}{\#Proposals} \right\rvert$								
	E&S Proposals				Governance Proposals			
	LL Classification		PST Classification		LL Classification		PST Classification	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Committed ESG Fund	-0.034***	-0.032***	-0.010	0.006	-0.021***	-0.015**	-0.022***	-0.017**
	(-3.14)	(-2.60)	(-0.82)	(0.42)	(-3.48)	(-2.16)	(-3.72)	(-2.47)
Other ESG Fund	-0.009		-0.023***		-0.010**		-0.010**	
	(-1.26)		(-2.99)		(-2.32)		(-2.12)	
Expense Ratio	-0.802	6.595***	-2.014*	5.153**	-5.532***	-5.019***	-5.515***	-4.954***
	(-0.78)	(3.21)	(-1.90)	(2.42)	(-8.91)	(-4.52)	(-8.88)	(-4.46)
Turnover Ratio	0.003	-0.005	0.007	-0.000	0.016***	0.016***	0.016***	0.016***
	(0.65)	(-0.68)	(1.54)	(-0.00)	(5.78)	(3.17)	(5.78)	(3.20)
Log(TNA)	0.023***	0.025***	0.025***	0.029***	0.000	-0.007***	0.000	-0.007***
	(12.70)	(7.91)	(13.32)	(8.20)	(0.27)	(-3.66)	(0.26)	(-3.67)
Sample	All Funds	ESG Funds	All Funds	ESG Funds	All Funds	ESG Funds	All Funds	ESG Funds
N	10362	3450	10362	3450	25984	8682	25984	8682
Adjusted R-squared	0.021	0.020	0.025	0.022	0.005	0.004	0.006	0.005

t-statistics in parentheses

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

Table 11
DGTW characteristic-adjusted abnormal returns of ESG funds

This table analyzes the DGTW (1997) characteristic-adjusted abnormal returns of fund portfolios. In columns (1), (2), (5) and (6), the dependent variables are fund-level weighted DGTW (1997) characteristic-adjusted abnormal returns over the next year. In columns (3) and (7), the dependent variables are weighted abnormal returns of high ESG holdings. In columns (4) and (8), the dependent variables are weighted abnormal returns of other holdings. The independent variables are ESG fund type dummies (other or committed funds), expense ratio, turnover ratio, the natural logarithm of total net assets, industry-concentration index (ICI), active share, past-year return and flow volatility, and past-year performance during the current quarter. All regressions include time fixed effects. Standard errors are clustered at the fund level.

	LL Classification				PST Classification			
	All Stocks	All Stocks	High ESG Stocks	Others Stocks	All Stocks	All Stocks	High ESG Stocks	Others Stocks
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Committed ESG Fund	0.769***	0.084	0.306**	0.038	0.826***	0.263**	0.297*	0.115
	(4.58)	(0.74)	(2.00)	(0.29)	(5.16)	(2.32)	(1.95)	(0.89)
Other ESG Fund	0.682***				0.625***			
	(5.80)				(4.83)			
Expense Ratio	-0.001	-0.158	-0.611**	0.029	0.011	-0.136	-0.553**	0.032
	(-0.00)	(-0.74)	(-2.22)	(0.11)	(0.04)	(-0.64)	(-2.00)	(0.12)
Turnover Ratio	0.229*	0.585***	0.284	0.667***	0.216*	0.583***	0.254	0.669***
	(1.82)	(4.07)	(1.64)	(3.61)	(1.68)	(4.09)	(1.48)	(3.64)
Log(TNA)	0.134***	0.142***	0.088**	0.179***	0.133***	0.150***	0.088**	0.184***
	(3.37)	(4.38)	(2.01)	(4.76)	(3.33)	(4.54)	(1.98)	(4.81)
ICI	0.105	1.015	2.788***	0.241	0.148	1.043	3.092***	0.230
	(0.12)	(1.31)	(3.09)	(0.27)	(0.16)	(1.38)	(3.50)	(0.26)
Active Share	-1.324**	-2.020***	-6.411***	0.482	-1.519***	-2.550***	-7.147***	0.375
	(-2.38)	(-4.40)	(-10.30)	(0.94)	(-2.62)	(-5.07)	(-10.43)	(0.67)
Flow Volatility	0.392	-1.556	-2.669	0.083	0.411	-1.401	-2.274	0.126
	(0.26)	(-0.99)	(-1.40)	(0.04)	(0.27)	(-0.89)	(-1.19)	(0.07)
Return Volatility	0.226*	29.64**	-2.835	50.52***	22.58*	31.05***	-1.524	50.79***
	(1.92)	(2.58)	(-0.21)	(4.01)	(1.92)	(2.71)	(-0.11)	(4.05)
Past Year Return	8.026***	3.578***	-0.021	5.277***	7.946***	3.548***	-0.090	5.286***
	(7.77)	(2.95)	(-0.01)	(3.92)	(7.64)	(2.92)	(-0.06)	(3.92)
Sample	All Funds	ESG Funds	ESG Funds	ESG Funds	All Funds	ESG Funds	ESG Funds	ESG Funds
Time FE	Y	Y	Y	Y	Y	Y	Y	Y
N	29055	9866	9866	9866	29055	9866	9866	9866
Adjusted R-squared	0.039	0.042	0.059	0.082	0.039	0.043	0.083	0.059

t-statistics in parentheses

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

Table 12
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 funds, respectively. Regressions are estimated separately for two subperiods, before and after year 2016. The independent variables include fund performance measured by past three-year 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 the fund's total net assets, the natural logarithm of fund age, total quarterly flows into a fund's 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}							
	LL Classification				PST Classification			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Other ESG Fund	0.356	0.199	0.572*	0.575**	-0.0966	-0.199	0.643**	0.749**
	(0.77)	(0.43)	(1.94)	(1.98)	(-0.44)	(-0.92)	(2.00)	(2.50)
Committed ESG Fund	-0.0620	-0.261	0.554*	0.604**	0.398	0.138	0.489*	0.437*
	(-0.26)	(-1.12)	(1.94)	(2.10)	(0.85)	(0.29)	(1.74)	(1.80)
Performance	7.771***	14.05***	8.376***	11.95***	7.905***	13.98***	8.706***	12.52***
	(7.45)	(6.25)	(9.35)	(4.87)	(7.56)	(6.02)	(9.50)	(5.67)
Expense Ratio	-0.787*	-0.692*	-1.429***	-1.226***	-0.849**	-0.743*	-1.475***	-1.253***
	(-1.92)	(-1.70)	(-4.20)	(-3.57)	(-2.05)	(-1.80)	(-4.26)	(-4.17)
Turnover Ratio	1.521**	1.702**	0.810*	0.891*	1.565**	1.746**	0.830*	0.912*
	(2.15)	(2.38)	(1.79)	(1.90)	(2.20)	(2.43)	(1.84)	(1.70)
Log(TNA)	-0.524***	-0.567***	-0.377***	-0.375***	-0.515***	-0.560***	-0.382***	-0.383***
	(-4.36)	(-4.78)	(-4.99)	(-5.04)	(-4.55)	(-5.05)	(-4.94)	(-5.82)
Log(Fund Age)	-0.847***	-0.368**	-1.157***	-0.485**	-0.870***	-0.383**	-1.228***	-0.531***
	(-4.55)	(-2.20)	(-5.38)	(-2.35)	(-4.65)	(-2.28)	(-5.56)	(-2.84)
Style Flow	-0.117**	-0.128**	0.000	0.000	-0.115**	-0.127**	0.000	0.000
	(-2.09)	(-2.29)	(0.11)	(0.33)	(-2.04)	(-2.24)	(0.22)	(0.46)
Flow	0.418***	0.399***	0.374***	0.364***	0.404***	0.385***	0.343***	0.334***
	(15.82)	(14.91)	(12.99)	(12.68)	(15.03)	(14.16)	(11.19)	(12.93)
Sample	Pre-2016	Pre-2016	Post-2016	Post-2016	Pre-2016	Pre-2016	Post-2016	Post-2016
Performance measure	Return	FF4	Return	FF4	Return	FF4	Return	FF4
Style FE	Y	Y	Y	Y	Y	Y	Y	Y
Time FE	Y	Y	Y	Y	Y	Y	Y	Y
N	16903	16903	17735	17735	16903	16903	17735	17735
Adjusted R-squared	0.083	0.087	0.091	0.093	0.081	0.085	0.086	0.089

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. Within 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 committed ESG funds relative to all ESG funds based on total net assets and plot the histogram.

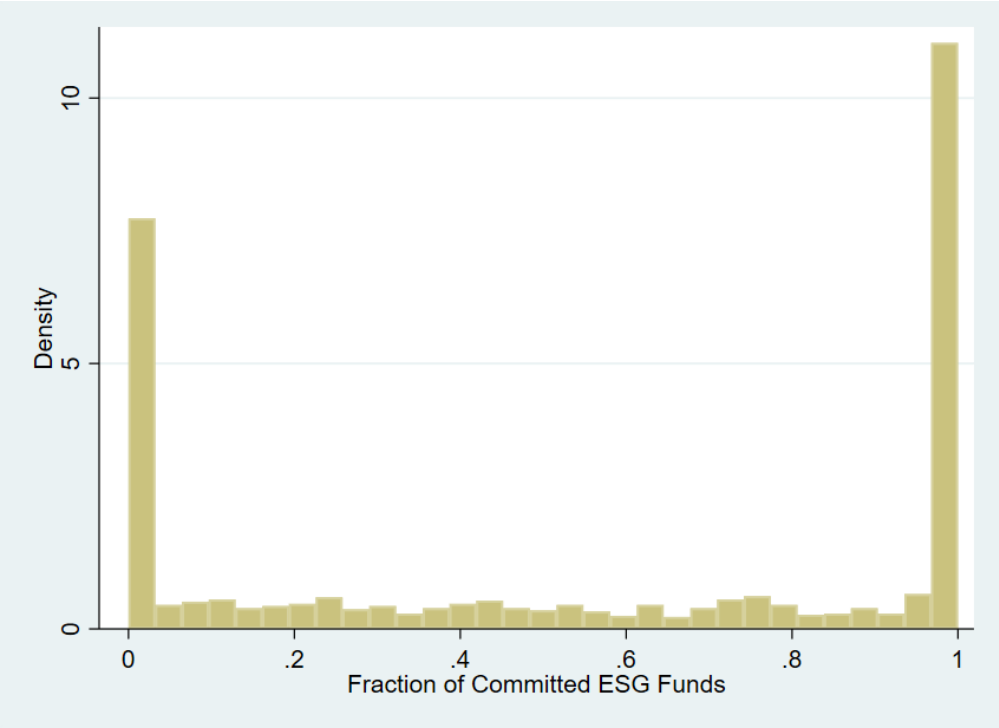
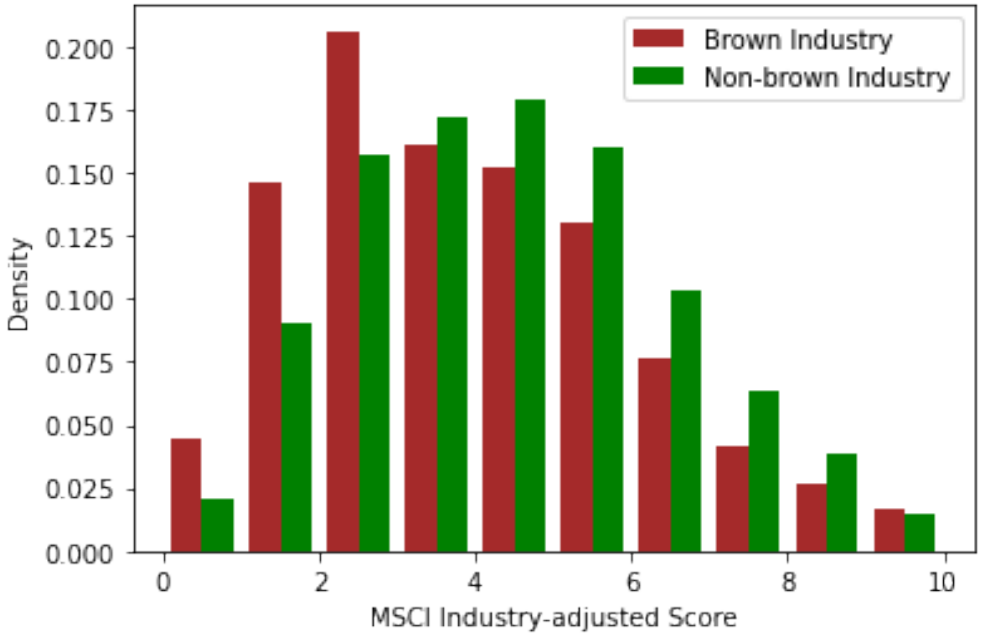


Figure A2
ESG score distribution across brown and non-brown industries
This figure plots the MSCI ESG score distribution across brown and non-brown industries. Brown industries are defined as the ten lowest-ranked industries according to the MSCI environmental scores of individual firms within an industry as in Pastor et al. (2021).



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