CNMV
Comisión Nacional del Mercado de Valores

Defining Greenwashing

Ariadna Dumitrescu
Javier Gil-Bazo
Feng Zhou

Working paper
No. 84

Defining Greenwashing*

Ariadna Dumitrescu
Javier Gil-Bazo
Feng Zhou

Abstract

We propose a definition of greenwashing in asset management that combines ESG self-labels, ESG ratings, and funds' voting support for ESG proposals. Using this definition, we estimate that 29% of ESG funds in the US engaged in greenwashing during the 2016-2022 period. This proportion has decreased in more recent periods. Greenwashers are more likely to underperform, tend to belong to larger and younger fund families, and are less likely to be offered by signatories of the United Nations Principles for Responsible Investment. Investors, especially within the institutional segment of the market, appear to be able to discern true-ESG funds.

Keywords: Greenwashing; ESG labels; ESG ratings; ESG voting; Names rule; UNPRI.

JEL classification: G11; G12; G17; G32; Q54.

Working paper
No. 84
December 20, 2023

* Dumitrescu, ESADE Business School, Universitat Ramon Llull, e-mail: ariadna.dumitrescu@esade.edu; Gil-Bazo, Universitat Pompeu Fabra, Barcelona School of Economics and UPF Barcelona School of Management, e-mail: javier.gil-bazo@upf.edu; Zhou, Toulouse Business School, e-mail: f.zhou@tbs-education.fr. We are grateful for comments from Pat Akey, Swati Chauhan, Hang Dong, Ruben Enikolopov, Alexandre Garel, Juan Imbet, José Martín Flores, Tony Klein, Julian K¨olbel, Cesario Mateus, Pedro Matos, Charles McClure, Miguel Oliveira, Pablo Ruíz-Verdú, Laura Starks, Florian Weigert, Xiaoyun Yu, Mohammed Zakriya, as well as seminar participants at CNMV, Universitat Pompeu Fabra, ESADE Alumni and conference participants at 2022 Sustainability and Finance Conference, KU Leuven, 2023 FMA Consortium on Asset Management, 2023 Midwest Finance Association Annual Meeting, 2023 Annual Meeting of the Swiss Society for Financial Market Research, 2023 Financial Markets and Corporate Governance Conference, 2023 Northeastern University Finance Conference, 30th Finance Forum, 12th Portuguese Finance Conference, 3rd Catalan Economic Society Conference, EFMA 2023 Annual Meeting and 2023 European Economic Association Meeting. Javier Gil-Bazo acknowledges financial support from the Spanish Government, Ministry of Science and Innovation's grant PID2020-118541GB-I00, and the Severo Ochoa Programme for Centres of Excellence in R&D (Barcelona School of Economics CEX2019-000915-S), funded by MCIN/AEI/10.13039/501100011033. Ariadna Dumitrescu acknowledges financial support from the Spanish Government, Ministry of Science and Innovation's grant PID2021-123748NB-I00, and Banc Sabadell.

The CNMV publishes this Working Paper Series to spread research in order to contribute towards greater knowledge of the stock markets and their regulation.

The opinions in this Working Paper are the sole responsibility of the author and they do not necessarily coincide with those of the CNMV.

The CNMV distributes its reports and publications via the Internet at www.cnmv.es

ISSN (digital edition): 1988-2025

Layout: Cálamo y Cran

Content

1 Introduction

If it's easy to tell if milk is fat-free by just looking at the nutrition label, it might be time to make it easier to tell if "green" or "sustainable" funds are really what they say they are.

— Gary Gensler, March 1, 2022

In 2022, an estimated USD 30.3 trillion, accounting for a quarter of worldwide assets under management, was invested according to Environmental, Social and Governance (ESG) criteria.[1] Surprisingly, despite the strong interest displayed by investors in sustainable investing, the industry still lacks clear standards on what sustainable investment means. This lack of clarity gives rise to the possibility that asset managers opportunistically label themselves as ESG for the purpose of attracting investors' money without actually committing to sustainable investing, a practice known as *greenwashing*. Indeed, industry commentators often claim that sustainable finance is "rife with greenwash" (Economist, 2021; Fletcher and Oliver, 2022). However, without a definition of what sustainable investing means, it is impossible to calibrate the prevalence of greenwashing or understand the circumstances that enable or deter this practice. In this paper, we propose a definition of greenwashing in asset management that combines mutual funds' ESG disclosures with portfolios' ESG ratings and funds' voting behavior on ESG proposals. We then apply this definition to data on US mutual funds during the period from 2016 to 2022 and ask three important questions: How prevalent is greenwashing among mutual funds? Which fund and fund-family characteristics are associated with greenwashing? Can investors discriminate between greenwashers and true-ESG funds?

To address greenwashing concerns, in September 2023 the US Securities and Exchange Commission (SEC) approved an amendment to Rule 35d-1 ("Names Rule"), which requires that at least 80% of the value of a fund's assets be invested consistently with the fund's name. The amendment broadens the rule's scope to include ESG-related terms in fund names, as the SEC considers that the use of ESG terminology could be "materially deceptive and misleading."[2] In the European Union, the European Securities and Markets Authority (ESMA) proposed a similar rule in November 2022.[2] Since March 2021 the Sustainable Finance Disclosure Regulation (SFDR) of the European Union asks asset managers to categorize investment products as sustainable and non-sustainable and justify their choice. While these regulatory efforts may enhance transparency, they still lack a consistent and comprehensive definition of ESG investing that includes its multiple dimensions. In the amendment to the Names Rule, the SEC does not provide any guidance regarding

1 Global Sustainable Investment Review 2022 (https://www.gsi-alliance.org/wp-content/uploads/2023/12/GSIA-Report-2022.pdf).

2 See ESMA Consultation Paper (https://www.esma.europa.eu/press-news/consultations/consultation-guidelines-funds%E2%80%99-names-using-esg-or-sustainability-related).

the criteria that would help funds align with the new rule. In Europe, the application of SFDR does not establish standardized requirements and criteria for a fund to be recognized as an ESG fund.[3]

A fund's commitment to sustainable investing is typically judged by the ESG scores of the securities it holds in its portfolio (Liang et al., 2022; Gibson et al., 2022). For instance, Morningstar aggregates security-level ESG scores at the portfolio level to produce five sustainability ratings for mutual funds: "low;" "below average;" "average;" "above average;" and "high." Hence, asset managers that claim to invest according to ESG principles but invest in firms with low ESG scores are often accused of greenwashing. However, a managed portfolio is more than just a collection of securities. Imposing negative screens on firms with poor ESG scores is not the only way in which a fund manager can exert her commitment to sustainable investing. Moreover, divestment from *brown* firms may even be counterproductive for addressing the climate crisis, as sold assets often end up in the hands of opaque private-equity firms (Economist, 2022). Also, if divestment leads to firm liquidation, this will result in layoffs and a reduction in the supply of energy and other products, both of which have negative social consequences. Instead, funds can act as activist investors and attempt to improve firms' practices.

Naturally, ESG activist investors will often hold securities issued by firms with poor ESG ratings precisely because improving those ratings is their goal. Labelling such funds as greenwashers is wrong.

Our definition of greenwashing considers both ESG ratings and ESG activism. To measure the ESG activism of mutual funds, we examine their voting support for ESG resolutions proposed by shareholders. Although shareholder proposals are not binding in the US, the implementation rate of proposals that pass is very high, as lack of implementation carries negative consequences for managers and board members through future votes and elections (Bach and Metzger, 2015; BlackRock, 2020). In practice, only a small fraction of shareholder proposals pertaining to ESG issues receive a majority vote from shareholders (Cuñat et al., 2012; Flammer, 2015). However, voting in favor of a shareholder proposal even when the proposal is unlikely to pass can be an effective way for shareholders to express their dissatisfaction with the company's management, raise awareness of corporate issues, and make future dissenting votes appear as a credible threat. In fact, 67% of Environmental and Social proposals that are rejected by a low margin (between 30% and 50% support) are implemented at least partially (BlackRock, 2020). Also, the submission of shareholder ESG proposals, regardless of voting outcome, has a positive impact on firms' disclosure of climate change risks and subsequent ESG scores (Flammer et al., 2021; Busch et al., 2023). Consistently with this perception, voting is the second most common intervention used by institutional investors to influence the governance of their portfolio companies right after discussions with top management (McCahery et al., 2016).[4]

---

3 Proof of this lack of clarity is the downgrade of over 300 funds to Article 8 ("light green") from Article 9 ("dark green") ahead of the implementation of the Sustainable Finance Disclosure Regulation (SFDR) Level 2's regulatory technical standards in January 2023 due to concerns that they may be accused of greenwashing. The downgrade could be reverted following clarifications from the European Commission that there won't be minimum requirements for sustainable investments.

4 Other forms of engagement include discussions with management and boards of directors outside of management, divestment, public criticism of management and the board, and submission of shareholder proposals.

Another challenge in measuring greenwashing is determining which funds market themselves as ESG investment products, especially if regulation does not require that asset management companies declare funds as ESG. Prior research identifies as ESG funds those that are managed by signatories of the United Nations Principles of Responsible Investments (UNPRI) (Liang et al., 2022; Kim and Yoon, 2023; Gibson et al., 2022). While these studies are informative about the level of commitment of signatory asset management firms, not all funds within an asset management firm are marketed as ESG. Other studies use third-party classifications, such as Morningstar's sustainability label (Dikolli et al., 2022; Raghunandan and Rajgopal, 2022). The problem with such classifications is that they may conflate funds' own claims with third-party judgements of funds' ESG commitment. To determine whether a fund claims to invest according to ESG principles, we verify whether either its name or its investment objective, as stated in the fund's prospectus, contains terms that clearly denote an ESG-related orientation based on a dictionary. A mutual fund's name and investment objective are the most salient pieces of information to investors and therefore, it is reasonable to regard them as promises about the fund's investment goals. Indeed, the question of whether mutual fund names and investment objectives are misleading about the fund's true investment style has received considerable attention in the mutual fund literature (Cooper et al., 2005; Espenlaub et al., 2017; DiBartolomeo and Witkowski, 1997; Kim et al., 2000). Throughout the paper, we refer to funds whose names or stated investment objectives contains ESG-related terms as self-labeled ESG funds or simply, ESG funds.

Our definition of greenwashing is built on the notion of financial misselling, that is, the practice of providing customers of financial products or services with misleading information or recommending that they purchase unsuitable products (National Audit Office, 2016). As such, greenwashing involves deception and therefore, requires that: i) the asset management company explicitly claims that a fund is ESG-oriented; and ii) the claim is not substantiated by the fund's actions. To assess the ESG commitment of a fund, we combine funds' Morningstar sustainability ratings with data on funds' voting support for ESG proposals. More specifically, we define a greenwasher as a self-labeled ESG fund that receives low, below average or average Morningstar sustainability ratings, and whose voting support for ESG proposals in a given year is below the median voting support among ESG funds in our data: 70% of all ESG votes. We believe that investors can reasonably expect a fund that claims to invest according to ESG principles to demonstrate this commitment either by exhibiting higher than average ESG ratings or by providing at least as much support for ESG proposals as the median ESG fund. However, we also check the robustness of our conclusions to other thresholds for voting support: 60% and 80%. In essence, according to our definition, a greenwasher is a mutual fund that claims to invest according to ESG investment principles, but whose claim is not backed by the ESG practices of the firms it invests in or by its voting support for ESG proposals relative to its peers.

The Morningstar sustainability ratings are particularly useful for our purposes. These ratings are computed at the fund level based on the ratings of the fund's holdings and are provided free of charge to investors through Morningstar's website.[5] Hartzmark and Sussman (2019) find that mutual fund investors strongly responded to the introduction of the Morningstar ratings in 2016 by rebalancing their portfolios towards the highly rated funds. At the firm level, Chatterji et al. (2016) and Berg et al. (2022)

5 https://www.morningstar.com/

show that ESG ratings from different providers for the same firm can diverge substantially from each other due to the use of different approaches. To check the robustness of our main conclusions to different methodologies in computing ESG ratings, in Section 7, we repeat our main tests using the fund-level ESG ratings from another major provider, MSCI. Like Morningstar, MSCI also provides fund ESG ratings through a free search tool.[6]

It could be argued that ESG funds that fail to meet the 70% voting support threshold resort to other forms of engagement with management. For instance, BlackRock (2020) explains why in some cases it votes against ESG proposals and describes the actions it takes to influence management in those cases. In this sense, our estimated number of greenwashers should be interpreted as an *upper bound* on the actual number of greenwashers as it is based only on funds' observable actions. We believe that in the current debate on greenwashing, even an upper bound is a substantial improvement with respect to priors that are not based on the data. More generally, we view our proposal as a flexible framework that can be modified and adapted to evaluate the level of commitment of ESG funds.

To illustrate our definition, consider a large mutual fund that claims to have an ESG orientation: Calvert US Large-Cap Value Responsible Index Fund. This fund is part of the Calvert Research and Management family, a pioneer of socially responsible investment, which uses engagement to improve companies' performance on ESG issues (Norton, 2021). Although Calvert US Large-Cap Value Responsible Index Fund fund received a below-average Morningstar sustainability rating in February and March 2020, the fund supported 80.2% of ESG-related resolutions proposed by shareholders in 2020. Such level of voting support for ESG initiatives is above the median support from ESG funds in our dataset (70%) and well above the median support from all funds (42%). It does not seem sensible to conclude that this fund is a greenwasher simply because it holds in its portfolio stocks of firms with low sustainability ratings.

Using data on US mutual funds, we study the prevalence of greenwashing among US mutual funds in the period from 2016 to 2022. We first show that self-labeled ESG funds have higher ESG ratings than non-ESG funds. Such difference in ratings is not explained by fund characteristics and holds for all broad asset classes (fixed-income and allocation funds, domestic equity funds, and international funds) and for each one of the three ESG dimensions. We also show that ESG-labeled funds vote more frequently than non-ESG funds in favor of ESG proposals.

Although 45.52% of ESG funds have low, below average or average sustainability ratings, not all of them are greenwashers. Our definition classifies 29% of all ESG funds as greenwashers. The remaining 16.52% meet the 70% minimum voting support for ESG proposals. Even with the stricter 80% threshold, less than one third of ESG funds are greenwashers. Interestingly, while the number of greenwashers has remained relative stable throughout the 2016-2022, the number of true-ESG funds has more than tripled. As a consequence, the fraction of greenwashers in our most recent period has reduced to less than 15%.

Our finding that almost one third of self-labeled ESG funds do not manage assets in a manner consistent with ESG principles justifies concerns by regulators and

6 https://www.msci.com/our-solutions/esg-investing/esg-fund-ratings-climate-search-tool

market commentators. However, the fact that a majority of funds are not greenwashers according to our definition, particularly in most recent years, seems at odds with claims of ubiquitous greenwashing in the asset management industry.

To provide investors and policy makers with hints on where to look for greenwashing, we study how the likelihood of greenwashing depends on fund and fund-family characteristics. We find that underperforming funds are more likely to be greenwashers. Greenwashers are also more frequently found in larger and younger asset management companies. Importantly, ESG funds in fund families that are UNPRI signatories are less likely to greenwash.

Finally, we ask whether investors are able to distinguish between greenwashers and true-ESG funds. In monthly flow regressions where we control for fund performance and other characteristics, we find that true-ESG funds receive 0.79% larger net inflows of investors' money per month than otherwise similar non-ESG funds, which is statistically significant. In contrast, flows to greenwashers are statistically indistinguishable from flows to non-ESG funds. The difference in flows between non-ESG and true-ESG funds is more pronounced for institutional funds than for retail funds, consistently with more sophisticated investors being able to see through ESG labels.

Our results carry important implications for the debate on the costs and benefits of mandatory ESG disclosures. Compliance with detailed disclosure requirements is costly and this burden is particularly heavy for smaller asset management companies (which we find less likely to engage in greenwashing). Our findings suggest that even without strictly regulated ESG disclosures, a majority of ESG funds appear to fulfill their commitment with their investors either by holding securities with good ESG performance or by attempting to influence firms' policies through voting. This is especially true in the most recent part of our sample period. Our flow regression results suggest that market discipline seems to act as a safeguard against greenwashing, at least for more sophisticated investors. Therefore, regulatory efforts aimed at curtailing greenwashing should concentrate where they are most needed, i.e., in the retail segment of the market.

Our paper contributes to an emerging literature that studies whether institutional investors that have signed the UNPRI pledge "walk the talk," i.e., they invest according to ESG principles. Gibson et al. (2022) show that UNPRI signatories outside the US have better aggregate portfolio ESG scores than those of non-signatories. However, they also find that UNPRI signatories in the US do not have better ESG scores than non-UNPRI institutions, and signatories that do not report any form of ESG incorporation have even *worse* scores than non-signatories, which the authors interpret as evidence of greenwashing. Kim and Yoon (2023) find that UNPRI signatories do not improve fund-level weighted average ESG scores after endorsement. Liang et al. (2022) find that hedge fund signatories with low ESG scores underperform non-signatories in terms of risk-adjusted returns. The authors interpret this evidence as consistent with agency problems leading some hedge funds to both underperform and engage in greenwashing. Consistently with those studies, we find that US mutual funds managed by UNPRI and non-UNPRI signatories receive similar ESG ratings and provide similar voting support to ESG initiatives. However, we show that mutual funds managed by UNPRI signatories are *less* likely to manage greenwashers than non-signatories. Therefore, while the mere fact of signing UNPRI does not lead to more ESG-oriented investment by US asset manag-

ers, it does appear to deter asset managers from offering funds that falsely claim to be ESG in their prospectuses.

Our paper also contributes to a recent literature that attempts to understand whether ESG funds vote according to their advertised goal and fiduciary responsibility. Dikolli et al. (2022) show that ESG funds vote in support of shareholders proposals more frequently than non-ESG funds during the 2012-2018 period, and that the type of proposal is determinant (ES proposals receive less support than G proposals from ESG and non-ESG funds). Our results on voting support by ESG funds are qualitatively consistent with their findings, although we document substantially larger differences in voting support between both groups of funds. Such differences may be explained by the fact that in their main analysis, the authors identify ESG funds through Morningstar's sustainability label from 2018, while we use our own designation of ESG funds based on both funds' names and investment objectives in each period of time, as stated in the funds' prospectuses.[7]

Like Dikolli et al. (2022), Michaely et al. (2022) report that ESG funds support ESG proposals more frequently than non-ESG funds. These authors also document that ESG funds that belong to families that are less committed to sustainability exhibit strategic voting behavior. Those funds tend to vote with the majority on ESG proposals that fail or pass by large margins, and vote against when the proposal is close to the majority threshold. Such strategic voting behavior may cast doubt on the use of voting support to measure fund engagement. However, we believe this is not a source of concern for our results. Since strategic voters tend to vote in favor of ESG proposals only when they pass by a wide margin and this happens very rarely, it follows that strategic voters vote against ESG proposals most of the time. Consequently, it is very unlikely that such strategic voters will meet the 70% minimum voting support threshold of our definition and consequently, they will not be considered as true-ESG funds unless they invest in highly rated securities.

It is important to note that our definition of greenwashing attempts to detect deception, that is, a misalignment between asset managers' promises to investors and their observable actions. The definition does not judge the appropriateness of ESG scores as a measure of firms' ESG performance or the effectiveness of asset managers' actions. Recent studies address these important questions. Raghunandan and Rajgopal (2022) report that self-labeled ESG mutual funds hold in their portfolios firms with *more* violations of labor and environmental laws than non-ESG funds managed by the same investment adviser, which are not reflected in firms' ratings. Heath et al. (2023) document that funds that identify as socially responsible hold firms with lower pollution, more work place safety, and higher board diversity and employee satisfaction, all of which are highly correlated with firm ESG scores. These authors also find that an exogenous increase in investment from SRI funds does not improve firm behavior. In contrast, Akey and Appel (2019) report that hedge fund activist campaigns are followed by large reductions in target firms' emissions of polluting chemicals.

---

7 The Morningstar sustainability label was released in 2018 and was removed in January 2022 for 20% of all funds previously classified as sustainable. In Subsection 3.2, we show that self-labeled ESG funds that lost the label were indistinguishable from non-ESG funds in terms of ratings but exhibited lower voting support for ESG proposals than funds that kept the label, which can explain why Dikolli et al. (2022) find smaller differences in voting support than us. In Section 5.2 of their paper, Dikolli et al. (2022) manually identify a small number of ESG funds based on their name and find larger differences in voting support with respect to non-ESG funds, consistently with our results.

Finally, our paper contributes to a broad literature concerned with the effect of Corporate Social Responsibility (CSR)/ESG on shareholder value and risk (Fatemi et al., 2015; Ferrell et al., 2016; Fernando et al., 2017; Dumitrescu and Zakriya, 2021), expected returns (Pedersen et al., 2021; Pástor et al., 2021) and the performance of CSR/ESG mutual funds (Renneboog et al., 2008; Gil-Bazo et al., 2010; Nofsinger and Varma, 2014; El Ghoul and Karoui, 2017).

2 Data

2.1 Morningstar Mutual Fund Sustainability Ratings, Scores and Proxy Voting Records

On March 1, 2016, Morningstar introduced the Morningstar Sustainability Ratings for mutual fund portfolios.[8] The objective is to help investors gauge how well the companies held in a fund perform on environmental, social, and governance issues relative to the portfolio's peer group. Morningstar sustainability ratings have been used in academic research by Hartzmark and Sussman (2019) and Gantchev et al. (2021), among others.

To compute sustainability ratings, Morningstar first calculates a portfolio sustainability score as an asset-weighted average of company-level ESG scores, as provided by Sustainalytics. Initially, Sustainalytics gave each company a score in terms of a number of indicators measuring the firm's preparedness, disclosure, and performance in each of the three ESG pillars. Based on their Morningstar portfolio sustainability score, funds are assigned percent ranks within their Morningstar category and a sustainability rating is assigned depending on this rank. More specifically, Morningstar assigns 1, 2, 3, 4, or 5 globes, to funds ranking in the 0-10, 10-32.5, 32.5-67.5, 67.5-90, or 90-100 percentile buckets, respectively. Throughout the paper, we follow Morningstar's nomenclature and refer to 1, 2, 3, 4, and 5 globes as "low,""below average,""average,""above average," and "high," respectively.

Since August 2018, Morningstar computes a fund's sustainability rating using its historical portfolio sustainability score, defined as the 12-month weighted moving average of the fund's portfolio sustainability scores. Also, the Morningstar global category is used to determine the fund's peer group.[9] Although old Morningstar sustainability ratings before August 2018 became unavailable after the methodology change in 2018, Morningstar portfolio sustainability scores are still provided for each portfolio and pillar. We use these portfolio sustainability scores to recover portfolio sustainability ratings for the missing period following the methodology described in Morningstar (2016).

8 Complete details and methodology of the initial launch can be found at https://newsroom.morningstar.com/newsroom/news-archive/press-release-details/2016/Morningstar-Introduces-Industrys-First-Sustainability-Rating-for-20000-Funds-Globally-Giving-Investors-New-Way-to-Evaluate-Investments-Based-on-Environmen tal-Social-and-Governance-ESG-Factors/default.aspx

9 Complete documentation can be found at https://www.morningstar.com/content/dam/marketing/shared/Compa ny/Trends/Sustainability/Detail/Documents/Morningstar-Sustainability-Rating-Methodology-0916.pdf?con=10356

In September 2019, company-level ESG scores were replaced with Sustainalytics new ESG Risk Ratings (Pelizzon et al., 2021).[10] Sustainalytics ESG Risk Ratings measure the degree to which a company's economic value is at risk driven by ESG factors. Since that change, a higher number of globes is interpreted as lower portfolio sustainability risk.

To obtain funds' voting records, Morningstar collects data from the SEC N-PX filings, and standardizes votes in all shareholder-initiated resolutions and all management-initiated resolutions for a given fund and year under the following classification: % support, % against and % abstained. Morningstar also categorizes resolutions depending on their nature. Table 1 reports the different types of resolutions according to Morningstar's classification.

2.2 MSCI Fund ESG Scores and Ratings

Launched on March 8, 2016, the MSCI Fund ESG Quality Score and Fund ESG Rating is assessed on a rating scale from 0 to 10, with 0 and 10 being the lowest and highest possible fund scores, respectively. The fund ESG quality scores and ratings are derived from the asset-weighted average of MSCI ESG ratings of a funds underlying holdings.[11] Similarly to Morningstar sustainability ratings, the MSCI fund ESG quality scores and ratings aim to provide fund-level transparency to help investors better understand the ESG characteristics of a fund and screen funds based on a diverse set of ESG exposure categories.

We collect MSCI fund ESG quality scores of all US-domiciled mutual funds, and merge it with fund-level information by ticker or CUSIP. To make ESG ratings from MSCI comparable with Morningstar sustainability ratings, we follow the same methodology as Morningstar (2016; 2018; 2019) and generate "synthetic" MSCI fund ESG ratings. More specifically, we assign 1, 2, 3, 4 or 5 "globes" to funds with MSCI ESG quality scores ranking in the 0-10, 10-32.5, 32.5-67.5, 67.5-90, or 90-100 percentile buckets, respectively.

2.3 Mutual Fund Prospectus Risk/Return Summary

We retrieve historical fund names and investment objectives of US domiciled open-end funds from the US SEC Mutual Fund Prospectus Risk/Return Summary Data Sets, which provide text and numeric information extracted from the risk/return summary section of mutual fund prospectuses at the quarterly frequency for the period 2011:Q1 - 2022:Q4. To determine disclosure of an ESG-related name or investment objective, we create a dictionary of ESG-related terms and examine the presence of these terms in fund names and investment objectives. To avoid false positives, we manually verify that all ESG-related strings extracted from prospectuses convey valid ESG information. Table 2 reports our dictionary of ESG-related strings with exclusion of ambiguous interpretations. In addition to the terms presented in the table, we have also considered abbreviations. Figure 1 shows the fre-

10 Complete documentation can be found at https://www.morningstar.co.uk/static/UploadManager/Assets/Sust ainabilityRatingMethodology_2019_Final.pdf

11 Complete documentation can be found at https://www.msci.com/documents/1296102/34424357/MSCI+ESG+Fund+ Ratings+Methodology.pdf/

quency of ESG terms used in the fund names and investment objectives. The most frequent terms involve general ESG words such as "sustainable/sustainability" and "ESG", but also pillar-specific words, such as "environment," "social," and "governance," which are among the seven most frequent words.

2.4 UNPRI Signatories

We download the list of asset management companies who have become signatories of the United Nations Principals of Responsible Investment (UNPRI) as well as the dates when they signed the pledge. As first explored by Gibson et al. (2022), UNPRI signatories commit to following six ESG-related principles and disclosing their responsible investment policies annually.[12]

2.5 Fund Information and Sample Construction

Fund and asset management company characteristics come from Morningstar Direct. The data include information on total net assets (TNA) under management, fund's inception date, investment category, returns, expense ratios, and Morningstar "star" ratings for performance (see Evans and Sun, 2021, for a recent analysis of this variable).

Our sample period starts in March 2016, when Morningstar first published fund sustainability scores and ratings, and ends in December 2022. We restrict the sample to US domiciled open-end mutual funds. We further restrict the sample to funds with non-missing historical names and investment objectives. We use tickers and CUSIPs to match the Morningstar data to the Prospectus Risk/Return Summary dataset.[13] We also match PRI signatory data to asset management companies in the Morningstar database.

We conduct the analysis at the fund level. Fund size is computed as the sum of total net assets of share classes of the same fund. Net expense ratio and returns are weighted-averages across share classes. Fund institutional ratio is defined as the fraction of the fund's assets held in institutional share classes. Morningstar star fund ratings and Morningstar category are those of the largest share class, and fund age (in months) is calculated from the inception date of the fund's oldest share class. Following the literature, we compute flows of new money for fund f in month t as

12 https://www.unpri.org/

13 Since tickers are assigned at the share-class level and prospectuses are updated quarterly, the matching process is divided into three steps. First, as long as one share class within a fund in the Morningstar database is matched with a prospectus by the ticker in a given month, we extend the prospectus names and investment objectives to all share classes within this fund in that month because all share-classes within a fund have the same fund names and investment objectives. Second, for funds in the Morningstar database not matched by tickers for any of their share classes, we link Morningstar and prospectus via CUSIP to CRSP (crsp fundno) and then use the CRSP FUNDNO CIK MAP file to link CRSP to prospectus. Third, in the months without prospectus we use names and investment objectives reported in the most recent month. From March 2016 to December 2022, we have 772,115 fund-month observations before merging with prospectus data and applying other filters. Merging with prospectus data via tickers yields 145,302 fund-month observations, and via CUSIP and CRSP FUNDNO CIK MAP yields 543,794 fund-month observations with valid fund names and investment objectives, before other filters are applied. We prioritize the information from results merged from tickers, in case there is any contradictory information.

$Flow_{f,t} = \frac{TNA_{f,t} - TNA_{f,t-1}(1+R_{f,t})}{TNA_{f,t-1}}$, where $R_{f,t}$ denotes fund f's return in month t. We winsorize expense ratios and monthly fund flows at 1% of each tail.

We estimate fund's risk-adjusted returns using global stock and bond market factors to account for the fact that mutual funds in our sample hold domestic as well as international equity and fixed income assets. In particular, we use the five equity factors of Fama and French (2015) (market, size, value, investment and profitability) augmented with momentum. We also add a term factor and a default factor to account for exposure to bond risk. The term factor is the difference between monthly returns of long-term and short-term government bond index and the default factor is the difference between monthly returns of mid-term defaultable and default-free bond index. Regional stock market factors are downloaded from Professor Kenneth French's data library.[14] Bond indices used to compute the bond risk factors are obtained from Morningstar, as explained in Table 3. Following Ferreira et al. (2012), we compute global factors as value-weighted averages of the corresponding regional market capitalization. To estimate funds' monthly risk-adjusted returns (alpha), we first regress the previous 36 months of fund excess returns on the factors and store the estimated factor loadings (betas). We require at least 24 months of non-missing returns. Monthly alpha is the difference between the fund's excess return and the product of factor realizations and betas estimated over the previous 36 months.

Management company age (in months) is calculated from the oldest share class of the management company. Management company size is the sum of TNA across all open-end funds managed by the company. Morningstar environmental, social and governance scores are in percentage points.[15]

Our sample of fixed income, allocation and equity open-end funds includes 8,935 unique funds and 547,546 fund-month observations. We have Morningstar sustainability ratings for 7,266 unique funds and 382,476 fund-month observations. We are able to obtain prospectus data for 6,997 different funds and 373,839 fund-month observations. Out of those funds, only 284 (10,691 fund-month observations) have names or investment objectives that contain an ESG string at some point in time.[16] We further restrict the sample to funds with valid data on voting support for shareholder resolutions. Our final sample has 3,227 funds and 165,731 fund-month observations with valid Morningstar sustainability ratings and voting support for shareholder resolutions, including 155 funds (6,003 observations) with ESG strings in their names or investment objectives in the prospectus. Throughout the paper, we perform the analysis on this final sample.

Table 4 provides summary statistics of fund and asset management company characteristics for ESG funds and non-ESG funds at the fund-month level. ESG funds tend to be smaller and younger than non-ESG funds. However, ESG funds also exhibit similar unconditional performance, institutional ownership, and expense ra-

14 https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

15 Since Morningstar adopted ESG risk score instead of old ESG score in September 2019, we rescale new environmental, social or governance risk scores published after September 2019 by 100 minus it to form consistent environmental/social/governance scores. After rescaling, higher scores indicate better performance.

16 Note that a fund can be an ESG fund and a non-ESG fund at different time periods because of changes in names and investment objectives.

tios as non-ESG funds. There seem to be no apparent unconditional differences in the size and age of families offering ESG with respect to those offering non-ESG funds, either. The largest differences emerge in sustainability ratings from both Morningstar and MSCI, which we explore in next section.

3 Ratings and voting behavior of ESG funds

3.1 ESG ratings of ESG funds

In this section, we first compare the sustainability ratings of ESG funds with those of non-ESG funds. We then explore differences in the voting activity of ESG and non-ESG funds in terms of support of ESG proposals initiated by shareholders.

Panel A of Table 5 displays the distribution of Morningstar sustainability ratings in globes for fund-month observations of ESG and non-ESG funds.[17] The table shows that 54.48% of ESG funds have above average or high sustainability ratings (4 or 5 globes) and only 21.54% have below average or low sustainability ratings (1 or 2 globes). In contrast, 28.32% of non-ESG funds receive above average or high ratings while 34.82% have below average or low sustainability ratings. Therefore, self-labeled ESG funds have better ESG ratings than non-ESG funds.

As mentioned in the introduction, previous studies have used UNPRI pledge to identify asset managers commitment to ESG goals (Gibson et al., 2022). Panel B of Table 5 compares ESG ratings of funds in signatory fund families with those of non-signatory families. Although funds in UNPRI signatories are more (less) likely to receive higher (lower) ratings than funds managed by non-signatory asset management companies, differences are much smaller than those between ESG and non-ESG funds. For instance, 30.3% of funds in signatory families receive above average or high ratings, as opposed to 27.51% of non-signatories.[18]

Having established that self-labeled ESG funds have higher sustainability ratings than non-ESG funds, it is also useful to know whether our ESG label is informative about a fund's ESG rating beyond and above the information that investors can already infer from other fund traits. To answer this question, we investigate differences in the distribution of sustainability ratings between ESG and non-ESG funds controlling for fund and asset management company characteristics.

17 Note that the distribution of ratings for the whole sample differs from the theoretical distribution. For instance, by construction 10% of funds receive 1 globe and 10% of funds receive 5 globes. This is due to the fact that our sample excludes funds not meeting the filtering criteria (funds that cannot be matched with data on fund prospectuses, ratings and voting support, funds domiciled outside the US, ETFs, closed-end funds, and small funds).

18 Gibson et al. (2022) show that the aggregate portfolios of UNPRI signatories in the US have *worse* ESG ratings than non-signatories. Note that we focus on mutual funds while Gibson et al. (2022) investigate the aggregate portfolios of all types of institutional investors. Also, our sample covers a more recent period than the period studied by those authors (2016-2022 vs. 2003-2017).

In particular, we estimate the following multinomial logit model:

$$Pr(Rating_{f,t,k}) = Pr(Rating_{f,t} = k|\mathbf{ESG}_{f,t-1}, \mathbf{X}_{f,t-1}; \boldsymbol{\beta}_k, \boldsymbol{\delta}_k) = \frac{\exp\{a_k + \boldsymbol{\beta}_k \mathbf{ESG}_{f,t-1} + \boldsymbol{\delta}_k \mathbf{X}_{f,t-1}\}}{\sum_{j=1}^{5} \exp\{a_j + \boldsymbol{\beta}_j \mathbf{ESG}_{f,t-1} + \boldsymbol{\delta}_j \mathbf{X}_{f,t-1}\}}, \quad \text{with } k \in \{1, 2, 3, 4, 5\}, \tag{1}$$

where $Pr(Rating_{f,t,k})$ denotes probability of Morningstar sustainability rating of fund f in month t equal to k, and $\mathbf{ESG}_{f,t-1}$ is an indicator variable that takes the value of 1 if mutual fund f has an ESG label in month $t-1$ and zero otherwise. $\mathbf{X}_{f,t-1}$ is a vector of control variables in the previous period that includes fund f's size (log of assets under management), fund age (log of the number of months), number of Morningstar stars for mutual fund performance, expense ratio, flow in the previous 12 months (computed as the sum of monthly flows during that period), fund risk-adjusted returns estimated as described in Section 2, as well as size and age of the fund's asset management company.

Table 6 reports the estimated coefficients in equation (1). In Panel A, the sample contains all funds. Consistent with the unconditional analysis, a fund's ESG label, as inferred from the fund's prospectus, is positively associated with higher sustainability ratings. In particular, ESG funds are significantly more likely to receive above average and high ratings than non-ESG funds with similar observable characteristics. In Panel B, we split the sample into three subsamples by broad investment category: fixed income and allocation funds, domestic equity funds, and international equity funds. In all cases, there is a positive association between a fund claiming to be ESG and its sustainability ratings.

Table 7 reports the fitted probabilities and marginal effects of the ESG label on Morningstar sustainability ratings. Consistently with the unconditional analysis of Table 5, a mutual fund with average values of its characteristics has a 51.7% (25.1% + 26.6%) predicted probability of receiving above average or high ratings if it is ESG according to its prospectus and only a 27.5% (19.9% + 7.6%) probability, otherwise. For all ratings, differences in probability between both groups are statistically significant. The predictive ability of ESG labels with respect to ratings also holds across all broad investment categories and differences in probability are significant in most cases.

While funds that we identify as ESG have superior sustainability ratings, it is unclear whether they outperform in all the pillars: E, S, and G. To answer this question, we regress the portfolio sustainability score in each dimension separately on the ESG indicator and on fund and fund family characteristics. In particular, we estimate the equation:

$$Z\_Score_{i,f,t} = a_i + \beta_i ESG_{f,t-1} + \boldsymbol{\delta_i} \mathbf{X}_{f,t-1} + \gamma_{t,cat} + \varepsilon_i, \tag{2}$$

where $Z\_Score_{f,t}$ denotes the Morningstar disaggregated sustainability score in pillar $i \in \{E, S, G\}$ of fund f in month t standardized with respect to all funds in the same month and in the same category as fund f, $\mathbf{X}_{f,t-1}$ is a vector of fund and asset management company controls, and $\gamma_{t,cat}$ captures month×Morningstar category fixed effects. Table 8 reports estimation results. In the full sample, ESG funds have a significantly higher score in each of the three pillars than otherwise

similar non-ESG funds. In particular, the environmental, social, and governance scores of ESG funds are 0.214, 0.301 and 0.261 standard deviations higher than those of non-ESG funds.

If we perform the analysis separately for different asset classes, the superiority of ESG funds manifests itself in all scores. However, differences are only statistically significant for all three pillars in the subsample of equity funds. One possible explanation is that the equity fund subsample is much larger than the other two, so by splitting the full sample in subsamples, we may be losing statistical power to reject the null hypothesis.[19]

3.2 How do ESG funds vote on ESG proposals?

Asset managers who want to make an impact will often invest in firms where they believe there is room for improvement. Consequently, sustainability ratings alone are insufficient to detect greenwashing and we need to look also at the the actions that asset managers take in order to influence firms' ESG policies. While many of those actions are unobservable to researchers, how each mutual fund votes on ESG issues is public information.

In Table 9 we compare the average voting support for ESG-related initiatives from ESG and non-ESG funds. More specifically, the table shows the average percentage of annual votes in favor of all shareholder-initiated proposals, manager-initiated proposals, and shareholder-initiated proposals classified as either "environmmental and social" or "governance." On average, ESG funds support all shareholder-initiated proposals 58.4% of the times they vote, while non-ESG funds' support for shareholder-initiated proposals is 41.4%. This difference is statistically significant. Conversely, ESG funds are less likely than non-ESG funds to support manager-initiated proposals (70% vs. 80.5% support). The difference in average support for environmental and social resolutions between ESG and non-ESG funds is much more striking. While ESG funds support E&S initiatives in 61.8% of their votes on average, non-ESG funds vote in favor of E&S initatives only 36.8% of the time. ESG funds also tend to vote more in favor of governance proposals initiated by shareholders than non-ESG funds (60.8% vs. 45.4%).

To provide more detail into funds' voting behavior, in Figure 2, we plot the histogram of supporting votes for the different types of resolutions disaggregated by ESG and non-ESG funds. When looking at all shareholder resolutions, there is a large amount of dispersion in voting support across funds both within ESG and non-ESG funds, although the distribution for ESG funds is skewed towards high levels of support for ESG resolutions while the opposite is true for non-ESG funds. In contrast, support for management resolutions looks bimodal. These resolutions receive a high degree of support from non-ESG funds and, to a slightly lower extent, also from ESG funds. But in both subsamples, there is a non-negligible group of investors that almost never supports them. In contrast, the distribution of voting support for both E&S and G shareholder proposals is very different between ESG and non-ESG funds. Half of all ESG funds support E&S at least 70% of the time

19 Consistently with this conjecture, in unreported results, we repeat the analysis using all funds with ratings data, regardless of whether voting data are available for those funds, and find that the coefficient on the ESG label is positive and significant in all subsamples.

while half of all non-ESG funds support E&S resolutions 30% of the times or less. The median voting support for G proposals is also close to 70% for ESG funds and close to 50% for non-ESG funds.

Our conclusion that ESG funds vote in support of ESG proposals more frequently than non-ESG funds is consistent with the findings of Dikolli et al. (2022) for the 2012-2018 period. However, we document substantially larger support for ESG proposals, particularly from ESG funds. More specifically, those authors report that ESG funds support ES and G proposals in 32.03% and 46.56% of cases, respectively, while our corresponding estimates are 61.8% and 60.8%, respectively. The differences between both papers can be partially explained by a positive trend in the support for ESG proposals: Dikolli et al. (2022) study the period from 2012 to 2018, while we investigate the period from 2016 to 2022. But more important is the fact that those authors use the Morningstar sustainability label from 2018 while we use our own classification based on names and investment objectives in each period. The sustainability label was introduced by Morningstar in 2018 to identify funds that incorporate ESG criteria throughout the investment process. A total of 339 unique funds in our sample receive the Morningstar ESG label. This number is substantially larger than our estimate of 155 ESG funds based on names and disclosed investment objectives in the restricted sample. However, in January 2020, Morningstar decided to strip many funds off their ESG labels upon suspicions of widespread greenwashing. According to Morningstar, sustainability tags were taken off from "funds that say they consider ESG factors in the investment process, but that don't integrate them in a determinative way for their investment selection" (Schwartzkopff and Kishan, 2022). In our sample, 149 funds lost their Morningstar ESG label, resulting in only 190 funds with a Morningstar sustainability label. Panel C of Table 5 displays the rating distribution for funds labeled as ESG by Morningstar in December 2019 split in two subsamples: those that kept their label in the January 2020 revision and those that lost it. We restrict the sample to the year 2019. The table suggests that poor ratings are a strong predictor of a fund being stripped off its ESG label. For instance, 46.08% of funds that kept their label had above average or high ratings, as opposed to just 27.51% of funds. In Table 10, we compare the 1st, 2nd, and 3rd quartiles of the distribution of voting support for ESG resolutions in 2019 of funds with 1-3 globes that kept their label with that of funds with 1-3 globes that lost theirs. Similarly, we compare funds with 4 and 5 globes that lost the label to those with 4 and 5 globes that kept it. For each rating bucket, funds that lost their label exhibited substantially lower voting support than those that kept it. The evidence is thus consistent with a shift in Morningstar's ESG classification towards considering *both* Morningstar sustainability ratings and voting support for ESG resolutions. Consistently with this view, Dikolli et al. (2022) repeat part of their analysis for 71 funds that they manually classify as ESG based on their name and also find larger differences in voting support for these funds with respect to non-ESG funds.

In sum, our ESG labels are associated not just with higher ratings but also with higher voting support for ESG proposals. For comparison purposes, in Figure 3 we repeat the analysis for UNPRI vs. non-UNPRI funds. The distribution of voting support looks very similar for both groups of funds.

4 How many greenwashers are there?

Our definition of greenwashing takes into account both the sustainability ratings of portfolio holdings and the voting behavior exhibited by the fund, and is based on two premises. First, an ESG fund that invests in securities with *good* (above average and high) sustainability ratings, which places it in top 32.57% of all funds in its category, cannot reasonably be characterized as a greenwasher. Second, if an ESG fund invests in securities with average, below average, or low sustainability ratings, the fund is either trying to make an impact or is a greenwasher. To disentangle between the two possibilities, we check whether the fund demonstrates its commitment to ESG by voting *frequently* in favor of ESG initiatives proposed by shareholders.

More specifically, we define a fund as a greenwasher if it meets the three following conditions:

1. The fund claims to invest according to ESG considerations in either its name or investment objective;

2. The fund's Morningstar sustainability rating is strictly below 4 globes (low, below average and average fund rating); and

3. The fund votes in favor of shareholder ESG proposals less frequently than the median ESG fund, i.e., 70% of the times in a given calendar year.

To check the robustness of our conclusions to the 70% voting support threshold, we also consider the 60% and 80% thresholds.

In section 3.1, we show that almost half of all ESG funds (45.5%) have average, below average, or low sustainability ratings. Are all those funds greenwashers? To answer this question, we take our definition to the data and compute the number of monthly observations that correspond to greenwashers and non-grenwashers (true-ESG funds). Since ESG funds can switch between greenwashers and true-ESG funds throughout their life, we also compute the number of funds that: i) are always greenwashers; ii) are always true-ESG; and iii) switch between both types.

The results are reported in Table 11. According to our definition, greenwashers account for 29% of all ESG monthly observations in our sample. This means that out of the 45.5% of ESG funds with mediocre ratings, 36% of them ((45.5-29)/45.5) are above the median voting support of ESG proposals among all ESG funds (70% threshold), while the rest are below the median. If we lower the minimum voting support threshold to 60%, the fraction of greenwashers decreases to 26%. If we increase the threshold to 80%, the fraction of greenwashers increases to 32.7%. Therefore, even when we require a very high level of voting support for ESG resolutions, the fraction of greenwashers is less than one third of all ESG funds.

As mentioned above, ESG funds also engage with management through a variety of different means, so this figure is an upper bound.

If we count funds that are always classified as greenwashers, the number is only 19 out of 155 ESG funds. A larger group of ESG funds, 54, is classified as greenwashers at least once in our sample period. A majority of ESG funds, 82, are always true-ESG funds according to our definition. Even when we raise the voting support threshold to 80%, only 20 funds are always greenwashers and the largest group corresponds to funds that are always true-ESG funds, 77.

An important question is whether the proportion of greenwashers has increased or decreased during our sample period. To answer this question, in Figure 4, Panel A, we plot the number of greenwashers and true-ESG funds in each month between March 2016 and December 2022 using a 70% threshold for voting support. The graph shows that while the number of true-ESG funds has grown from 25 to 96 during this period, the number of greenwashers has remained stable around 20, with a noticeable decline in the last two years of our sample period. Consequently, the proportion of greenwashers has diminished substantially during this period, from 34% in March 2016 to 13.5% in December 2022. Note that this decline has taken place despite the absence of a strict regulation of ESG-related names during our sample period.

The evidence in this section suggests that greenwashing indeed takes place in the US mutual fund industry: The ESG claims of ESG funds are hard to justify as often as one third of the times in our sample period on the basis of the securities they hold or their voting decisions on firms' ESG policies. On the other hand, the accusation of ubiquitous greenwashing that is often found in the press seems an exaggeration: A majority of ESG funds are not greenwashers and moreover, the proportion of greenwashers is decreasing with time.

5 Who are the greenwashers?

The results in the previous section suggest that a non-negligible group of ESG funds appear to engage in deceptive behavior that goes against their investors' preferences. In this section, we investigate whether greenwashers differ from true-ESG funds in terms of their observable characteristics. This is a useful exercise not only for understanding the potential motives for this behavior, but also from a practical perspective, as any patterns in the data can help both investors and regulators allocate their monitoring efforts more efficiently.

To identify the characteristics of greenwashers, we estimate the following logit regression:

$$\begin{aligned} &Pr(Greenwasher_{f,t}) \\ &= Pr(ESG_{f,t} = 1 \cap Rating_{f,t} \leq 3 \cap ESG\_Support_{f,t} \leq 70\% | UNPRI_{f,t-1}, \mathbf{X}_{f,t-1}; \beta, \boldsymbol{\delta}) \\ &= \frac{\exp\{a + \beta UNPRI_{f,t-1} + \boldsymbol{\delta}\mathbf{X}_{f,t-1}\}}{1 + \exp\{a + \beta UNPRI_{f,t-1} + \boldsymbol{\delta}\mathbf{X}_{f,t-1}\}}, \end{aligned} \tag{3}$$

where $Pr(Greenwasher_{f,t})$ denotes probability of an ESG fund f in month t being a greenwasher according to our definition, that is, an ESG fund with one, two or three globes in sustainability ratings, and less than 70% support for shareholder-proposed ESG initiatives. We also report results for the 60% and 80% support thresholds. $UNPRI_{f,t-1}$ is an indicator variable that takes the value of 1 if mutual fund f is managed by a UNPRI signatory in month $t-1$ and zero otherwise. $\mathbf{X}_{f,t-1}$ is a vector of control variables that includes fund characteristics as well as asset management company characteristics. The sample is restricted to funds that self-label as ESG in each period.

Table 12 reports estimation results. Both fund size and fund age are positively associated with greenwashing, but only at the 10% significance level. Morningstar star ratings are negatively and significantly associated with greenwashing at the 1% significance level. Estimated abnormal returns are also negatively associated with the greenwashing, but the association is not statistically significant. Asset management characteristics are all strongly and significantly associated with greenwashing, which is consistent with greenwashing being decided at the asset management company level. More specifically, asset management firms that are UNPRI signatories are significantly less likely to engage in greenwashing. Also, greenwashing is more prevalent among larger and younger asset management firms. Our conclusions are robust to using different voting support thresholds for defining greenwashers.

To gauge the economic significance of these associations, Table 13 reports marginal effects. If we focus on the 70% threshold definition for greenwashing, an additional Morningstar star decreases the probability of greenwashing by 10.6%.

A mutual fund that belongs to a UNPRI signatory is 13.5% less likely to greenwash than funds in non-signatory fund families. A one standard deviation increase in the (log of) management company's AUM for ESG funds in our sample (2.41) increases the probability of an ESG fund being a greenwasher by 14.94% (=2.41×0.062). Finally, a one standard deviation increase in the log of the management company's age in months (0.4) decreases the probability of an ESG fund being a greenwasher by 26.8% (=0.4×0.670).

Our finding that UNPRI signatories are less likely to greenwash is important because, as mentioned in the Introduction, previous studies have failed to provide evidence supporting the commitment of UNPRI signatories in the US with ESG investing (Gibson et al., 2022; Kim and Yoon, 2023; Liang et al., 2022). While it is true that funds managed by UNPRI signatories are not better than those managed by non-UNPRI signatories in terms of ratings or voting support also in our sample, individual mutual funds that claim to invest according to ESG principles are more likely to live up to this claim if they are managed by an UNPRI signatory. In other words, the mere fact that an asset management firm pledges to the sustainable investment principles does not guarantee that its funds will invest more in accordance with those principles. However, it does increase the probability that its individual funds will truthfully claim to invest according to ESG considerations.

6 Can investors spot greenwashers?

Results in Section 4 suggest that one third of mutual funds' ESG claims are not justified by their portfolio choices or their actions. This observation raises the question of why not more asset managers engage in greenwashing given investors' growing appetite for sustainable investing and the fact that market supervisors still have limited ability to punish such behavior. In this section, we explore the possibility that investors are able to spot greenwashers.

To test our hypothesis, we study the net inflows of investors' money to mutual funds. In doing so, we distinguish between three types of mutual funds: (1) non-ESG mutual funds; (2) greenwashers; and (3) true-ESG funds. Importantly, to ensure that funds' voting behavior and sustainability ratings are observable to investors, we define grenwashers and true-ESG funds using fund ratings *in the previous month* and voting support for ESG initiatives *in the previous year*, instead of contemporaneous ratings and voting support. In this analysis, we focus on the 70% voting support threshold.

We then regress monthly mutual fund flows on indicator variables for each type of fund:

$$Flow_{f,t} = a + \beta_1 \text{True ESG}_{f,t} + \beta_2 \text{Greenwasher}_{f,t} + \boldsymbol{\delta} \mathbf{X}_{f,t-1} + \gamma_{t,cat} + \varepsilon_{f,t}, \quad (4)$$

where $Flow_{f,t}$ denotes the (relative) flow to fund f in month t. Greenwasher and True ESG are indicator variables for greenwashers and true-ESG funds, as defined above. The omitted indicator variable corresponds to non-ESG funds. $\mathbf{X}_{f,t-1}$ includes fund and fund-family characteristics as explanatory variables of fund f in month $t-1$. Given the evidence in Evans and Sun (2021) that mutual fund investors strongly rely on Morningstar star ratings, we include star ratings as the only determinant of fund performance. We also include flows in the previous month to account for short-term persistence. Finally, we include year-month×Morningstar category fixed effects $\gamma_{t,cat}$. Standard errors are clustered at both the fund and year-month levels.

Column (1) of Table 14 reports estimation results for all funds. The estimated coefficient on True ESG is positive and statistically significant at the 1% level. More specifically, true-ESG funds receive on average 0.794% higher flows per month than otherwise similar non-ESG funds during our sample period. This extra flow to true-ESG funds is economically significant. Given the median size of ESG funds in our sample (USD 263.6 million), such growth corresponds to USD 25.1 million per year more flows than non-ESG funds. In contrast, the estimated coefficient on the indicator variable for Greenwasher is negative, although smaller in absolute value (–0.092%) and statistically insignificant.

Although information on ratings and voting support is publicly available, collecting and processing information may be difficult for retail investors. In column (2) we repeat the regression for the subsample of retail funds. We again estimate a positive coefficient on the True ESG dummy and a negative coefficient on the Greenwasher dummy. However, neither of those coefficients is statistically significant. In column (3), we restrict the sample to include only institutional funds and estimate again equation (4). In this case, the estimated coefficient on the True ESG dummy is 1.194%, which is statistically significant at the 1% significance level. The estimated coefficient on the Greenwasher dummy is –0.072% and statistically insignificant. These results are consistent with institutional investors being able to see through ESG labels and therefore discriminating between true-ESG funds and greenwashers. However, this conclusion should be taken with care. When we test the hypothesis that the coefficient on the True ESG dummy is the same for retail and institutional funds in a nested model, we are unable to reject the null hypothesis.

These results suggest that even in a mutual fund market where sustainability reporting lacks a specific regulation, funds that claim to invest according to ESG principles must fulfill their promise if they wish to attract money from investors. In other words, market discipline acts as a form of external governance that limits the effects of misleading claims about ESG investing. This conclusion appears to be particularly true for funds that cater to institutional investors.

The fact that greenwashers do not attract higher flows than otherwise similar non-ESG funds raises the question of why asset management companies engage in greenwashing in the first place. We consider and test three potential explanations. First, it is possible that ESG funds have a positive spillover on non-ESG funds in the family due to increased visibility or reputation effects. In unreported results, we test whether flows to non-ESG funds increase with the number of ESG funds in the same fund family, with assets in ESG funds in the family and with the number of recently launched ESG funds in the family. We find no evidence that the presence of ESG funds brings additional flows to non-ESG funds in the same fund family.

Another possible explanation is that ESG funds are able to charge higher fees than otherwise similar non-ESG funds since their investors value sustainability, consistently with the findings of Baker et al. (2022) for indexed equity funds. To test whether this is the case in our sample, which includes actively managed and indexed funds in all asset classes, we regress expense ratios on the same fund characteristics as in equation 4 except for lagged expense ratios. However, we find no differences in expense ratios between ESG and non-ESG funds (unreported).

Third, our finding in the previous section that funds with poor Morningstar performance ratings are more likely to engage in greenwashing is consistent with underperforming funds attempting to benefit from the lower sensitivity of CSR-conscious investors to financial performance documented by Renneboog et al. (2008). In unreportetests, we find that the flow-performance sensitivity is lower for ESG funds than for non-ESG funds, consistently with Renneboog et al. (2008). However, such difference in performance sensitivity is not statistically significant.

In sum, we find no evident motives why asset managers offer ESG funds without a discernible commitment to sustainability. This lack of apparent benefits associated with greenwashing could explain why the proportion of greenwashers has declined dramatically during our sample period.

7 Robustness to using MSCI ESG fund ratings

As mentioned in the introduction, Chatterji et al. (2016) and Berg et al. (2022) document that ESG scores at the firm level exhibit substantial divergence across raters. This observation raises the question of whether our results, and particularly, our estimate of the number of greenwashers is robust to using ratings from a different provider. In this section, we show that our main conclusions do not change if we use the fund-level ratings of another major mutual fund ESG rating company, MSCI.

To make results directly comparable, we assign "globes" to funds following the methodology of Mornigstar but using the continuous MSCI score. In Table 15, we repeat the analysis of Table 5 replacing MS globes with our synthetic globes based on MSCI ratings. Just like with Morningstar ratings, Panel A shows that ESG funds exhibit clearly higher MSCI ratings than non-ESG funds. However, MSCI ratings of ESG funds are slightly better than Morningstar ratings. More specifically, 66.37% of ESG funds achieve high or above average ratings based on MSCI scores as opposed to 54.48% when using Morningstar ratings. This implies that using MSCI ratings instead of Morningstar ratings may result in a smaller estimate of the number of greenwashers. The distribution of MSCI ratings for UNPRI signatories (Panel B) is very similar to that of Morningstar ratings. The largest differences between Table 15 and Table 5 are found in Panel C, where we compare the ratings of funds that kept their Morningstar sustainability label in 2020 with those that lost it. Half of all funds that kept the label had high MSCI ratings as opposed to only 22.85% that had high Morninsgtar rating. Paradoxically, MSCI ratings were a better predictor of funds retaining the Morningstar sustainability label than the Morningstar ratings.

In unreported results, we also find that ESG funds have higher MSCI ratings after controlling for fund and fund family characteristics, which is fully consistent with the results for Morningstar ratings. These results hold for funds investing in each asset class and for all three pillars.[20]

In Table 16, we report the number of greenwashers and true-ESG funds using MSCI ratings. As expected, we find a slightly lower proportion of grenwashers when using MSCI ratings. For a 70% minimum voting threshold, 20.9% of fund-month observations are defined as greenwashers using MSCI ratings, as opposed to 29% when using Morningstar ratings (Table 11). For the more demanding 80% threshold, MSCI ratings combined with voting result in 24% of all observations being classified as greenwashers, as opposed to 32.7% when using Morningstar ratings. Importantly, MSCI ratings do not just yield similar proportions of greenwashers and true-ESG funds than using Morningstar ratings, but they also seem to classify the same funds as true ESG and greenwashers as Morningstar. More specifically,

20 These results are available from the authors upon request.

75% of funds that are identified as greenwashers with MSCI ratings and a 70% voting threshold (883 out of 1,178) are also classified as greenwashers using Morningstar ratings.

Panel B of Figure 4 is also consistent with our results for Morningstar ratings, shown in Panel A.[21] While the number of greenwashers has remained stable throughout the sample period, the number of true-ESG funds has experienced a sharp increase.

Finally, in Table 17 we rerun the flow regressions using MSCI ratings to define greenwashers and ESG funds. Consistently with the results in Table 14, we find that true-ESG funds capture significantly larger flows from investors than non-ESG funds (0.688%). Also, just as in Table 14, this result is largely driven by institutional investors, who direct a significantly larger amount of money to true-ESG funds.

21 Although the MSCI ratings were launched in March 2016, we do not have ESG funds with MSCI ratings in our filtered sample until July 2016.

8 Conclusions

Despite frequent accusations of widespread greenwashing in the asset management industry, the lack of a precise definition makes it impossible to evaluate whether such complaints are justified. Our proposed definition considers a mutual fund's claim to invest according to ESG criteria contained in either its name or stated investment objective and evaluates the truthfulness of the fund's claim based not only on the sustainability scores of the securities held in the fund's portfolio but also on the fund's proven commitment to ESG investment through its voting record.

Using this definition, we ask: How many mutual funds engage in greenwashing in the US? We conclude that less than one third of US funds that claim to invest according to ESG considerations fail to deliver on this promise to their investors. While the number of greenwashers has remained stable in the 2016-2022 period, the number of true-ESG funds has raised steadily. Greenwashers tend to underperform and are more frequently found in larger and younger fund families. Although asset management companies that have signed the UNPRI pledge do not seem to invest according to those principles more than non-signatories, they are less likely to offer funds that falsely claim to be ESG. Despite the fact that no strict regulation of ESG-related terms in fund names was in place during our sample period, true-ESG funds attracted more flows from investors than otherwise similar greenwashers, particularly in the institutional segment of the market. Our conclusions are robust to using fund-level ratings from a different provider.

Taken together, our findings imply that concerns about greenwashing and attempts to fight it through regulation are justified. However, regulation should take into account the broad set of actions taken by ESG investors, and not just focus on portfolio holdings. Moreover, regulation would be most effective if targeted at funds that cater to retail investors.

References

Akey, P. and I. Appel (2019). Environmental externalities of activism. *Available at SSRN 3508808* .

Bach, L. and D. Metzger (2015). Why do shareholder votes matter. *Swedish House of Finance Research Paper* (13-01).

Baker, M., M. L. Egan, and S. K. Sarkar (2022). How do investors value ESG? Technical report, National Bureau of Economic Research.

Berg, F., J. F. Koelbel, and R. Rigobon (2022). Aggregate confusion: The divergence of ESG ratings. *Review of Finance 26* (6), 1315–1344.

BlackRock (2020). Our 2021 stewardship expectations. https://web.archive.org/web/20230421085338/ https://www.blackrock.com/corporate/literature/publication/our-2021-stewardship-expectations.pdf.

Busch, T., L. Scheitza, T. Bauckloh, and C. Klein (2023). ESG and firm value effects of shareholder proposals. In *Academy of Management Proceedings*, Volume 2023, pp. 10182. Academy of Management Briarcliff Manor, NY 10510.

Chatterji, A. K., R. Durand, D. I. Levine, and S. Touboul (2016). Do ratings of firms converge? Implications for managers, investors and strategy researchers. *Strategic Management Journal 37* (8), 1597–1614.

Cooper, M. J., H. Gulen, and P. R. Rau (2005). Changing names with style: Mutual fund name changes and their effects on fund flows. *The Journal of Finance 60* (6), 2825–2858.

Cuñat, V., M. Gine, and M. Guadalupe (2012). The vote is cast: The effect of corporate governance on shareholder value. *Journal of Finance 67* (5), 1943–1977.

DiBartolomeo, D. and E. Witkowski (1997). Mutual fund misclassification: Evidence based on style analysis. *Financial Analysts Journal 53* (5), 32–43.

Dikolli, S. S., M. M. Frank, Z. M. Guo, and L. J. Lynch (2022). Walk the talk: ESG mutual fund voting on shareholder proposals. *Review of Accounting Studies 27* (3), 864–896.

Dumitrescu, A. and M. Zakriya (2021). Stakeholders and the stock price crash risk: What matters in corporate social performance? *Journal of Corporate Finance 67*, 101871.

Economist (2021). Sustainable finance is rife with greenwash. Time for more disclosure. May 22. https://www.economist.com/leaders/2021/05/22/sustainable-finance-is-rife-with-greenwash-time-for-more-disclosure.

Economist (2022). Fossil hunters. February 12. https://www.economist.com/finance-and-economics/who-buys-the-dirty-energy-assets-public-companies-no-longer-want/21807594.

El Ghoul, S. and A. Karoui (2017). Does corporate social responsibility affect mutual fund performance and flows? *Journal of Banking & Finance 77*, 53–63.

Espenlaub, S., I. ul Haq, and A. Khurshed (2017). It's all in the name: Mutual fund name changes after sec rule 35d-1. *Journal of Banking & Finance 84*, 123–134.

Evans, R. B. and Y. Sun (2021). Models or stars: The role of asset pricing models and heuristics in investor risk adjustment. *Review of Financial Studies 34* (1), 67–107.

Fama, E. F. and K. R. French (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics 33* (1), 3–56.

Fama, E. F. and K. R. French (2015). A five-factor asset pricing model. *Journal of Financial Economics 116* (1), 1–22.

Fatemi, A., I. Fooladi, and H. Tehranian (2015). Valuation effects of corporate social responsibility. *Journal of Banking & Finance 59*, 182–192.

Fernando, C. S., M. P. Sharfman, and V. B. Uysal (2017). Corporate environmental policy and shareholder value: Following the smart money. *Journal of Financial and Quantitative Analysis 52* (5), 2023–2051.

Ferreira, M. A., A. Keswani, A. F. Miguel, and S. B. Ramos (2012). The flow-performance relationship around the world. *Journal of Banking & Finance 36* (6), 1759–1780.

Ferrell, A., H. Liang, and L. Renneboog (2016). Socially responsible firms. *Journal of Financial Economics 122* (3), 585–606.

Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management Science 61* (11), 2549–2568.

Flammer, C., M. W. Toffel, and K. Viswanathan (2021). Shareholder activism and firms' voluntary disclosure of climate change risks. *Strategic Management Journal 42* (10), 1850–1879.

Fletcher, L. and J. Oliver (2022). Green investing: The risk of a new mis-selling scandal. *Financial Times*, February 20. https://www.ft.com/content/ae78c05a-0481-4774-8f9b-d3f02e4f2c6f.

Gantchev, N., M. Giannetti, and R. Li (2021). Sustainability or performance? Ratings and fund managers incentives. *Working Paper Available at SSRN 3731006* .

Gibson, R., S. Glossner, P. Krueger, P. Matos, and T. Steffen (2022). Do responsible investors invest responsibly? *Review of Finance 26* (6), 1389–1432.

Gil-Bazo, J., P. Ruiz-Verdú, and A. A. Santos (2010). The performance of socially responsible mutual funds: The role of fees and management companies. *Journal of Business Ethics 94* (2), 243–263.

Hartzmark, S. and A. Sussman (2019). Do investors value sustainability? A natural experiment examining ranking and fund flows. *Journal of Finance 74* (6), 2789–2837.

Heath, D., D. Macciocchi, R. Michaely, and M. C. Ringgenberg (2023). Does socially responsible investing change firm behavior? *Review of Finance 27* (6), 2057–2083.

Kim, M., R. Shukla, and M. Tomas (2000). Mutual fund objective misclassification. *Journal of Economics and Business 52* (4), 309–323.

Kim, S. and A. Yoon (2023). Analyzing active fund managers commitment to ESG: Evidence from the United Nations Principles for Responsible Investment. *Management Science 69* (2), 741–758.

Liang, H., L. Sun, and M. Teo (2022). Responsible hedge funds. *Review of Finance 26* (6), 1585–1633.

McCahery, J. A., Z. Sautner, and L. T. Starks (2016). Behind the scenes: The corporate governance preferences of institutional investors. *Journal of Finance 71* (6), 2905–2932.

Michaely, R., G. Ordonez-Calafi, and S. Rubio (2022). Mutual funds strategic voting on environmental and social issues. *Available at SSRN 3884917* .

Morningstar (2016). Morningstar sustainability rating methodology. September 22. https://s21.q4cdn.com/198919461/files/doc_downloads/press_kits/2016/Morningstar-Sustainability-Rating-Methodology.pdf.

Morningstar (2018). Morningstar sustainability rating methodology. October 31.

Morningstar (2019). Morningstar sustainability rating methodology. October 31. https://www.morningstar.co.uk/static/UploadManager/Assets/SustainabilityRatingMethodology_2019_Final.pdf.

National Audit Office (2016). Financial services mis-selling: Regulation and redress.

Nofsinger, J. and A. Varma (2014). Socially responsible funds and market crises. *Journal of Banking & Finance 48*, 180–193.

Norton, L. (2021). Barrons top-performing sustainable funds. *Barrons*. https://www.barrons.com/arti cles/barrons-100-top-sustainable-funds-51611309600.

Pástor, L., R. F. Stambaugh, and L. A. Taylor (2021). Sustainable investing in equilibrium. *Journal of Financial Economics 142* (2), 550–571.

Pedersen, L. H., S. Fitzgibbons, and L. Pomorski (2021). Responsible investing: The ESG-efficient frontier. *Journal of Financial Economics 142* (2), 572–597.

Pelizzon, L., A. Rzeznik, and K. W. Hanley (2021). The salience of ESG ratings for stock pricing: Evidence from (potentially) confused investors. *Working Paper Available at SSRN 3886820* .

Raghunandan, A. and S. Rajgopal (2022). Do ESG funds make stakeholder-friendly investments? *Review of Accounting Studies 27* (3), 822–863.

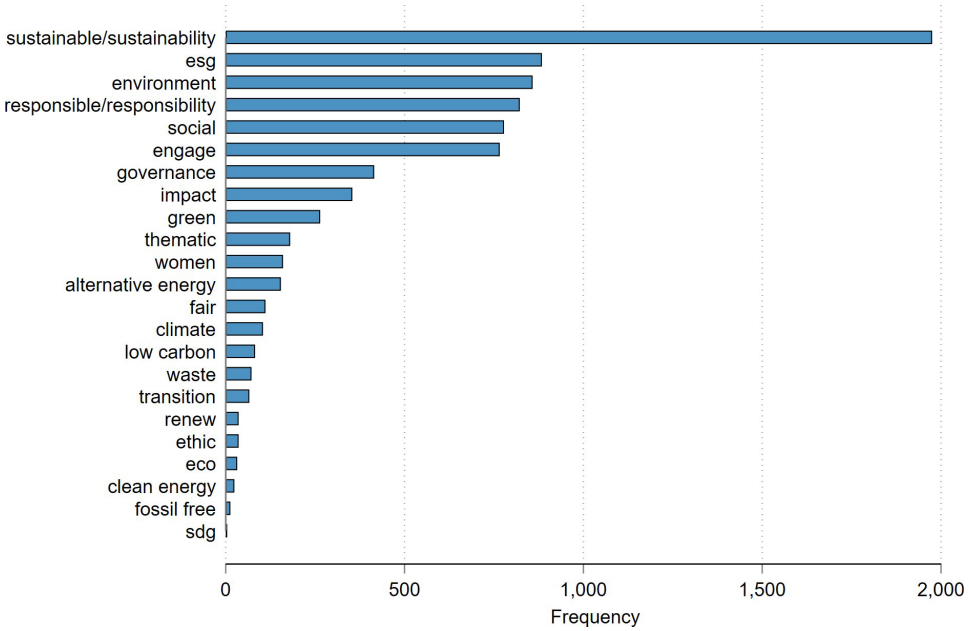
Renneboog, L., J. Ter Horst, and C. Zhang (2008). Socially responsible investments: Institutional aspects, performance, and investor behavior. *Journal of Banking & Finance 32* (9), 1723–1742.

Schwartzkopff, F. and S. Kishan (2022). ESG funds managing $1 trillion are stripped of sustainable tag by Morningstar. *Bloomberg*. https://www.bloomberg.com/news/articles/2022-02-10/funds-managing-1-trillion-stripped-of-esg-tag-by-morningstar.

Figures and Tables

Frequency of Keywords Related to ESG FIGURE 1

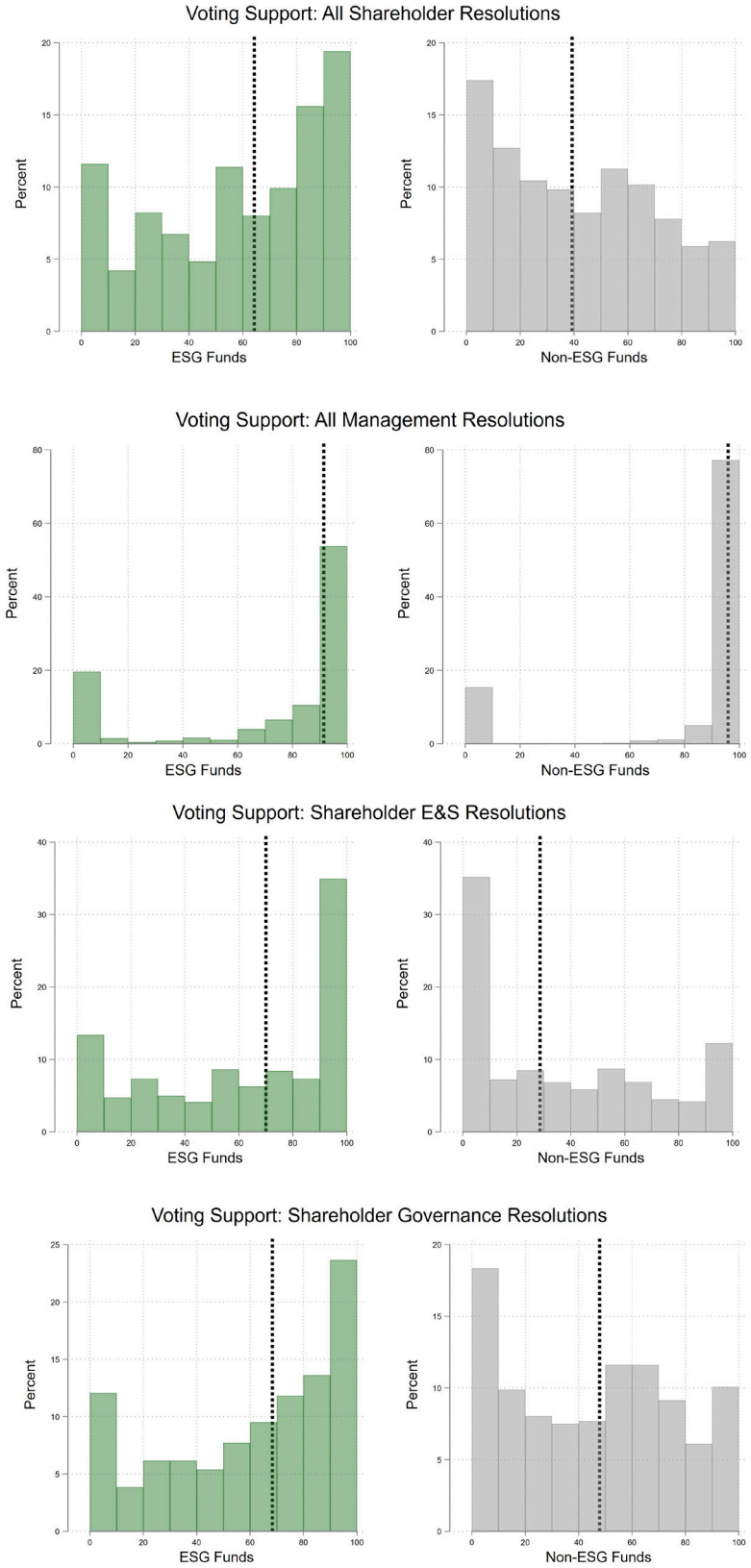
This figure shows the frequency of the terms from our dictionary that appear most frequently in the names and investment objectives of funds that we classify as ESG.



Distribution of Annual Voting Support for Shareholder and Management Resolutions: ESG vs. Non-ESG Funds

FIGURE 2

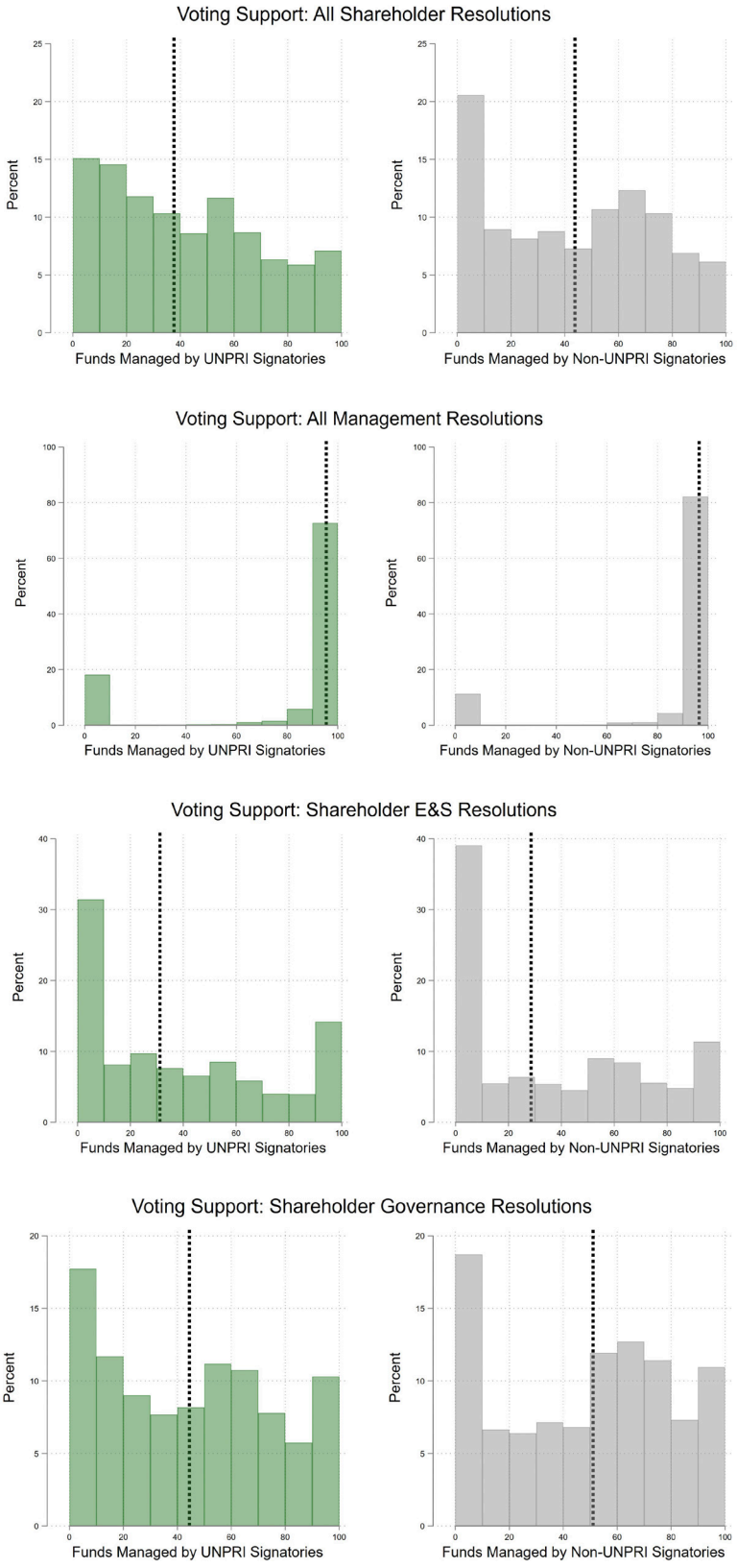
This figure compares ESG and non-ESG funds in terms of annual voting support for all shareholder resolutions, all management resolutions, environmental & social related resolutions and shareholder-proposed governance resolutions. Observations are at the fund-year level. The dashed vertical line marks the median value of the distribution.



Distribution of Annual Voting Support for Shareholder and Management Resolutions: Funds Managed by UNPRI vs. Non-UNPRI Signatories

FIGURE 3

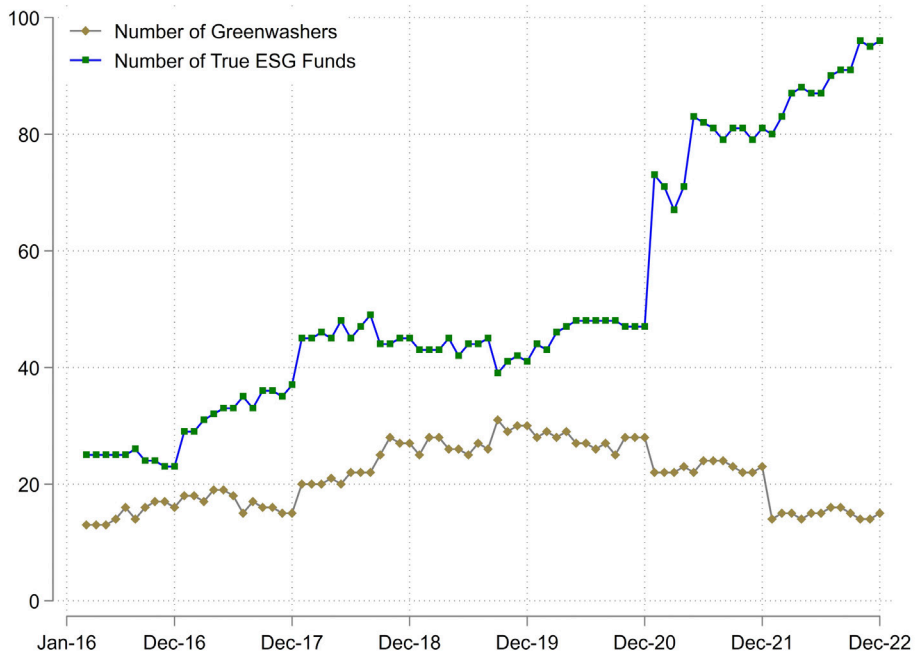
This figure compares funds managed by UNPRI and Non-UNPRI management companies in terms of annual voting support for all shareholder resolutions, all management resolutions, environmental & social related resolutions and shareholder-proposed governance resolutions. Observations are at the fund-year level. The dashed vertical line marks the median value of the distribution.



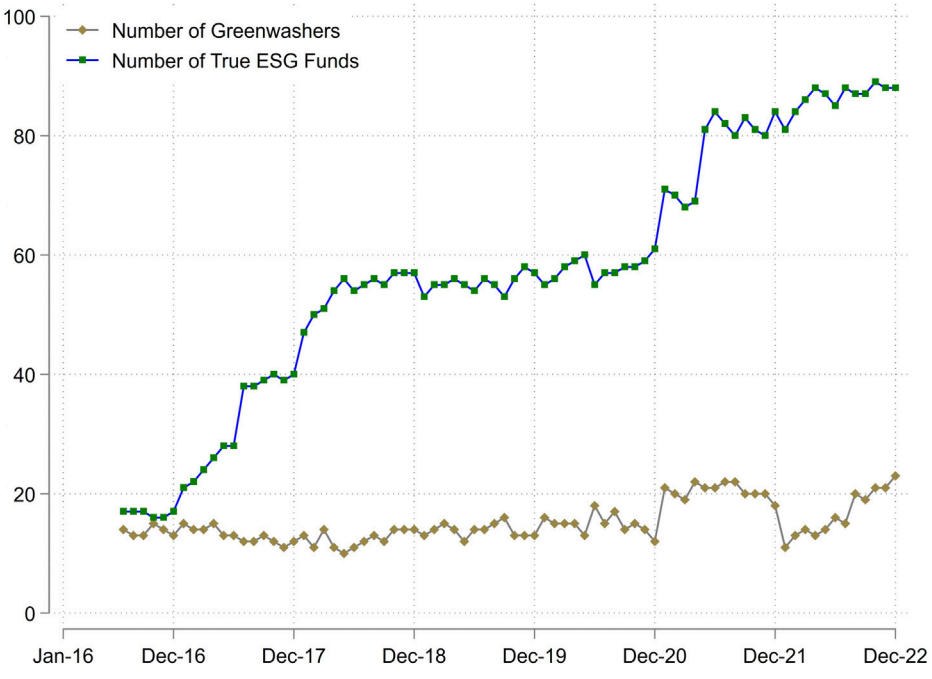
Number of Greenwashers vs True-ESG funds Over Time FIGURE 4

This figure plots number of greenwashers and true-ESG funds each month of our sample period. In Panel A, we combine Morningstar sustainability ratings with voting support for ESG proposals (70% threshold) to define greenwashers and true-ESG funds. In Panel B, we use MSCI sustainability ratings instead of Morningstar ratings.

Panel A: Morningstar Sustainability Ratings



Panel B: MSCI Sustainability Ratings



Proxy Voting: Types of Resolutions

TABLE 1

This table overviews types of resolutions proposed by either shareholders or management in the voting results of mutual funds categorized in Morningstar. Shareholder resolutions are divided into environmental and social, governance and non-ESG resolutions.

Shareholder Resolutions	
Environmental & Social	Climate Change, Environment, Human & Workers' Rights, Humane Treatment of Animals, Militarism and Aggression, Political Influence, Public Health/Product Safety, Other E&S
Governance	Director Elections, ESG Governance Arrangements, Board Governance, Executive Compensation, Other Governance
Non-ESG	Shareholder Rights, Shareholder Meetings and Proxy Process, Strategy & Business
Management Resolutions	
	Governance & Director Election, 1/2/3 years Advisory Vote Frequency ("Say on Pay"), Advisory Vote on Executive Compensation, Compensation (Approve new or amended equity-based compensation plans), Auditor Ratification (Ratify the selection of the company's auditor for the forthcoming fiscal year)

Dictionary of ESG-related terms

TABLE 2

This table reports the dictionary of ESG-related strings that we search for in funds' prospectuses. We also identify strings in fund names or investment objectives that may appear as ESG-related but do not convey ESG information.

ESG Words			
alternative energy	biosphere	carbon offset	carbon transformation
circular economy	clean energy	cleaner	climate
conscious	corporate responsibility	CSR	decarbonisation
diversity	ecology	engage	environment
environmental	ESG	ethic	ethical
ethics	fair	footprint	fossil free
fuel screened	gender	governance	green
impact	low carbon	lower carbon	peace
planet	recycling	renewable	responsibility
responsible	SDG	smart energy	smart food
social	socially	solar energy	SRI
sustainability	sustainable	thematic	transition
values	warming	waste	well-being
wind energy			
Exceptions			
Asset Managers: Green Owl, Green Square, Green Century			
Investment Objectives: Sustainable growth of income, Low interest rate environment			

Term and Default Factors: Selection of Bond Indices TABLE 3

This table shows the bond indexes that we use to construct term and default factors following Fama and French (1993), which include long-term and short-term government bond indices as well as mid-term defaultable or default-free bond indices. Return data for indexes are retrieved from Morningstar.

Region	Long-term Goverment Bond Index	Short-term Goverment Bond Index	Mid-term Defautable Bond Index	Mid-term Default-free Bond Index
North America	FTSE US GBI 10+ Yr USD	FTSE US GBI 1-3 Yr USD	Morningstar US 1-5Y Corp Bd TR USD	Markit iBoxx USD Treasuries 3-7 TR
Europe	FTSE EMU GBI 10+ Year USD	FTSE EMU GBI 1-3 Year USD	ICE BofA 5-10Y BBB EUR Corp TR USD	ICE BofA 5-10Y AAA EUR Corp TR USD
Asia	FTSE Asian GBI 10+ Yr USD	FTSE Asian GBI 1-3 Yr USD	ICE BofA Asian Dollar Corp TR USD	Bloomberg Barclays Asian Pacific Aggregate Global Aggregate Eligible TR USD
Latin America	FTSE EMUSDGBI 10+ Year USD	FTSE EMUSDGBI 1-5 Year USD	BBgBarc EM Americas Corp TR USD	BBgBarc EM Americas Sovereign TR USD
Middle East	FTSE EMUSDGBI 10+ Year USD	FTSE EMUSDGBI 1-5 Year USD	BBgBarc EM Middle East Corp TR USD	BBgBarc EM Middle East Sovereign TR USD
Africa	FTSE EMUSDGBI 10+ Year USD	FTSE EMUSDGBI 1-5 Year USD	BBgBarc EM Africa Corp TR USD	BBgBarc EM Africa Sovereign TR USD

Summary Statistics TABLE 4

This table reports summary statistics of our data set at the fund-month level. We keep observations of funds with valid Morningstar sustainability ratings, voting support information and prospectus names and objectives. Fund AUM is in million dollars and AUM of the asset management company is in billion dollars. Fund age and management company age are in months. Both Morningstar star ratings and sustainability ratings take values between one and five. Environmental, social and governance risk scores are standardized by mean and standard deviation of raw E, S or G scores of all mutual funds in our sample, in which higher scores denote better performance. Synthetic MSCI ratings are constructed using Morningstar's methodology based on MSCI scores. Past 36-month abnormal returns, monthly flows and past 12-month cumulative flows are in percentage points. UNPRI Signatory is an indicator variable that takes the value of one if the asset management company is a UNPRI signatory in that month and zero otherwise.

	ESG Funds				Non-ESG Funds				All Funds			
	Mean	SD	Median	N	Mean	SD	Median	N	Mean	SD	Median	N
Log (Fund AUM)	19.13	2.26	19.39	6,003	19.92	2.30	20.08	159,728	19.89	2.30	20.05	165,731
Log (Fund Age)	4.68	1.13	4.97	6,003	5.19	0.87	5.40	159,728	5.17	0.89	5.40	165,731
Institutional Ratio	0.41	0.41	0.31	6,003	0.37	0.39	0.21	159,728	0.37	0.39	0.21	165,731
Net Expense Ratio (%)	0.87	0.41	0.86	6,003	0.93	0.42	0.95	159,728	0.93	0.42	0.95	165,731
Star Rating	2.93	1.10	3.00	5,072	2.88	1.04	3.00	150,406	2.88	1.04	3.00	155,478
Abnormal Return - Past 36 months	0.26	0.36	0.24	5,175	0.26	0.40	0.25	150,957	0.26	0.40	0.25	156,132
Monthly Flows (%)	0.99	9.54	-0.02	5,949	0.02	7.14	-0.54	157,522	0.05	7.25	-0.53	163,471
Past 12-Month Cumulative Flows	0.77	4.33	0.03	5,120	0.95	5.58	-0.06	132,324	0.94	5.54	-0.06	137,444
Log (Management Company AUM - Billion)	2.69	2.41	2.90	5,994	3.59	2.63	3.94	159,465	3.56	2.63	3.90	165,459
Log (Management Company Age - Months)	5.80	0.40	5.88	5,994	5.82	0.25	5.86	159,465	5.82	0.26	5.86	165,459
Morningstar Sustainability Rating	3.59	1.20	4.00	6,003	2.93	1.07	3.00	159,728	2.95	1.08	3.00	165,731
Morningstar Environmental Score (Standardized)	0.18	0.93	0.36	5,109	-0.01	1.03	0.17	127,806	0.00	1.03	0.19	132,915
Morningstar Social Score (Standardized)	0.14	0.75	-0.01	5,109	-0.10	0.94	-0.23	127,806	-0.09	0.93	-0.22	132,915
Morningstar Governance Score (Standardized)	0.21	0.70	0.08	5,109	-0.03	0.88	-0.18	127,806	-0.02	0.87	-0.17	132,915
Synthetic MSCI ESG Rating	3.83	1.23	4.00	5,637	2.99	1.07	3.00	145,386	3.02	1.09	3.00	151,023
MSCI Environmental Score (Standardized)	0.77	0.87	0.87	5,637	0.05	0.98	0.21	145,386	0.07	0.99	0.23	151,023
MSCI Social Score (Standardized)	0.09	0.62	0.17	5,637	-0.27	0.57	-0.30	145,386	-0.26	0.58	-0.28	151,023
MSCI Governance Score (Standardized)	0.28	0.61	0.33	5,637	-0.05	0.66	-0.02	145,386	-0.04	0.66	-0.01	151,023

Monthly Fund Morningstar Sustainability Ratings TABLE 5

This table shows frequencies of monthly Morningstar sustainability ratings in our sample for different subsamples. In Panel A, the sample is divided into funds with non-ESG and ESG label. In Panel B, the sample is divided into funds managed by non-UNPRI and UNPRI signatory asset management companies. In Panel C, the sample is restricted to the year 2019 and divided into funds that kept their Morningstar ESG label in January 2020 and those that lost it.

Panel A: ESG vs. non-ESG Funds

	ESG Funds		Non-ESG Funds	
	Number of Obs.	Percentage	Number of Obs.	Percentage
Low	252	4.20	14,560	9.12
Below Average	1,041	17.34	41,047	25.70
Average	1,439	23.97	58,886	36.87
Above Average	1,459	24.30	32,243	20.19
High	1,812	30.18	12,992	8.13
Total	**6,003**	**100.00**	**159,728**	**100.00**

Panel B: UNPRI vs. Non-UNPRI Signatory Fund Families

	UNPRI		Non-UNPRI Funds	
	Number of Obs.	Percentage	Number of Obs.	Percentage
Low	8,677	8.30	6,101	10.02
Below Average	25,988	24.85	16,029	26.34
Average	38,241	36.56	21,988	36.13
Above Average	21,675	20.72	11,995	19.71
High	10,018	9.58	4,747	7.80
Total	**104,599**	**100.00**	**60,860**	**100.00**

Panel C: Morningstar ESG Label Removal in January 2020

	Kept ESG Label		Lost ESG Label	
	Number of Obs.	Percentage	Number of Obs.	Percentage
Low	99	7.62	95	5.34
Below Average	216	16.62	515	28.95
Average	386	29.69	694	39.01
Above Average	302	23.23	365	20.52
High	297	22.85	110	6.18
Total	**1,300**	**100.00**	**1,779**	**100.00**

Do ESG Labels Indicate Better ESG Ratings? TABLE 6

This table reports the estimated coefficients and standard errors from a multinomial logit model for fund Morningstar sustainability ratings. In Panel B, the sample is separated into fixed-income & allocation funds, domestic equity funds, and international equity funds. In all the regressions we control for both fund and management company characteristics. Fund controls include log of fund size (USD million), log of fund age (months), Morningstar star ratings, net expense ratio, past 12-month cumulative flows and past 36-month abnormal return. Management company controls include log of total assets under management (USD billion) and log of age (months). Standard errors are clustered at the fund and year-month levels. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

Panel A: All Funds

	All Funds			
	Low	**Below Average**	**Above Average**	**High**
ESG Label=1	-0.374	0.021	0.621***	1.657***
	(0.305)	(0.177)	(0.177)	(0.194)
Log (Fund AUM)	0.009	0.028*	-0.036**	-0.034
	(0.027)	(0.016)	(0.016)	(0.026)
Log (Fund Age)	-0.192***	-0.059	-0.003	-0.169**
	(0.073)	(0.046)	(0.046)	(0.078)
Star Rating	-0.285***	-0.128***	0.063**	0.187***
	(0.050)	(0.027)	(0.026)	(0.046)
Expense Ratio (%)	0.352***	0.043	0.084	0.083
	(0.129)	(0.079)	(0.079)	(0.131)
Past 12-Month Flow	-0.007	-0.003	-0.003	-0.001
	(0.007)	(0.004)	(0.004)	(0.006)
Past 36-Month Abnormal Return (%)	0.306***	0.126*	0.192***	0.151
	(0.107)	(0.066)	(0.070)	(0.112)
Log (Management Company AUM)	-0.004	0.016	-0.019	-0.086***
	(0.024)	(0.014)	(0.014)	(0.022)
Log (Management Company Age)	-0.640***	-0.476***	-0.125	0.031
	(0.216)	(0.165)	(0.192)	(0.262)
Pseudo R-squared	0.0152			
Observations	126,377			

Panel B: Subsamples by Broad Investment Category

	FI & Allocation Funds				Domestic Equity Funds				International Equity Funds			
	Low	Below Average	Above Average	High	Low	Below Average	Above Average	High	Low	Below Average	Above Average	High
ESG Label=1	-0.682	0.662	1.309***	2.445***	-0.305	0.165	0.436**	1.470***	-0.346	-0.588	0.828**	1.865***
	(1.063)	(0.822)	(0.461)	(0.635)	(0.325)	(0.165)	(0.211)	(0.243)	(0.680)	(0.441)	(0.344)	(0.354)
Log (Fund AUM)	0.156	0.102*	-0.093	-0.257**	-0.010	0.011	-0.052***	-0.026	0.031	0.045	0.093**	0.116
	(0.100)	(0.058)	(0.076)	(0.122)	(0.029)	(0.018)	(0.018)	(0.029)	(0.085)	(0.044)	(0.042)	(0.076)
Log (Fund Age)	-0.536**	-0.199	-0.035	-0.369	-0.163*	-0.059	-0.006	-0.109	-0.169	-0.006	-0.014	-0.328*
	(0.218)	(0.139)	(0.145)	(0.242)	(0.085)	(0.053)	(0.053)	(0.089)	(0.225)	(0.110)	(0.124)	(0.193)
Star Rating	-0.365***	-0.058	0.185**	0.502***	-0.290***	-0.148***	0.089***	0.130**	-0.152	-0.128**	0.030	0.310***
	(0.122)	(0.075)	(0.080)	(0.130)	(0.056)	(0.032)	(0.032)	(0.055)	(0.129)	(0.059)	(0.056)	(0.102)
Expense Ratio (%)	0.434	-0.091	-0.151	-0.576	0.446***	0.138	0.095	0.209	-0.100	-0.338	0.396*	0.476
	(0.448)	(0.271)	(0.334)	(0.513)	(0.142)	(0.088)	(0.088)	(0.143)	(0.473)	(0.260)	(0.220)	(0.394)
Past 12-Month Flow	-0.180	-0.151	0.047***	0.034**	-0.006	-0.001	-0.005	-0.002	-0.055	0.033*	0.019	-0.157
	(0.197)	(0.148)	(0.015)	(0.017)	(0.007)	(0.004)	(0.004)	(0.007)	(0.086)	(0.019)	(0.031)	(0.134)
Past 36-Month Abnormal Return (%)	0.433	0.042	-0.896**	-0.621	0.227*	0.116	0.171**	0.057	0.400*	0.179	0.188	0.164
	(0.479)	(0.345)	(0.400)	(0.576)	(0.125)	(0.075)	(0.082)	(0.132)	(0.215)	(0.142)	(0.116)	(0.200)
Log (Management Company AUM)	-0.146*	-0.045	-0.100	-0.117	0.023	0.025	0.008	-0.050*	-0.047	-0.002	-0.087**	-0.132**
	(0.084)	(0.049)	(0.062)	(0.090)	(0.026)	(0.017)	(0.016)	(0.026)	(0.067)	(0.033)	(0.037)	(0.052)
Log (Management Company Age)	0.058	-0.658**	0.100	0.293	-0.957**	-0.300	-0.270	-0.720**	-0.537	-0.206	0.200	1.519***
	(0.411)	(0.330)	(0.470)	(0.745)	(0.375)	(0.248)	(0.337)	(0.338)	(0.420)	(0.300)	(0.308)	(0.528)
Pseudo R-squared		0.0651				0.0122				0.0268		
Observations		13,762				87,769				24,846		

Fitted Probabilities and Marginal Effects of ESG Label on Morningstar Sustainability Ratings TABLE 7

This table reports fitted probabilities and marginal effects (differences) for the ESG label on Morningstar sustainability ratings as estimated from the multinomial logit regressions of Table 6. Our sample is separated into fixed-income & allocation funds, domestic equity funds, and international equity funds. In all the regressions we control for both fund and management company characteristics. Fund controls include log of fund size (USD million), log of fund age (months), Morningstar star ratings, net expense ratio, past 12-month cumulative flows and past 36-month abnormal return. Management company controls include log of total assets under management (USD billion) and log of age (months). Standard errors are clustered at the fund and year-month levels. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

	Fitted Probabilities and Marginal Effects				
	Low	Below Average	Average	Above Average	High
All Funds					
No ESG Label	0.086	0.260	0.378	0.199	0.076
ESG Label	0.041	0.183	0.258	0.251	0.266
Differences	-0.045***	-0.077**	-0.119***	0.052*	0.190***
	(0.011)	(0.025)	(0.028)	(0.025)	(0.028)
FI & Allocation Funds					
No ESG Label	0.089	0.285	0.387	0.157	0.082
ESG Label	0.021	0.249	0.173	0.237	0.321
Differences	-0.068**	-0.036	-0.214**	0.080	0.238*
	(0.021)	(0.105)	(0.082)	(0.058)	(0.094)
Domestic Equity Funds					
No ESG Label	0.088	0.253	0.374	0.206	0.079
ESG Label	0.047	0.215	0.268	0.228	0.242
Differences	-0.041**	-0.038	-0.105***	0.021	0.163***
	(0.014)	(0.030)	(0.032)	(0.028)	(0.034)
International Equity Funds					
No ESG Label	0.077	0.273	0.387	0.197	0.066
ESG Label	0.038	0.107	0.270	0.307	0.278
Differences	-0.039	-0.165***	-0.117*	0.110*	0.212***
	(0.025)	(0.041)	(0.057)	(0.056)	(0.051)

Do ESG Labels Indicate Better ESG performance? Disaggregated by Investment Region and Pillar

TABLE 8

This table reports results of OLS regressions of standardized fund-level Morningstar environmental, social or governance scores on fund ESG label dummy and controls. Our sample is separated into equity funds, fixed-income & allocation funds, domestic equity funds and international equity funds. In all regressions we control for both fund and management company characteristics. Fund controls include log of fund size (USD million), log of fund age (months), Morningstar star ratings, net expense ratio, past 12-month cumulative flows and past 36-month abnormal return. Management company controls include log of total assets under management (USD billion) and log of age (months). We also include month Morningstar category fixed effects. Standard errors are clustered at the fund and year-month levels. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

	Environmental Score	Social Score	Governance Score
All Funds			
ESG Label	0.214***	0.301***	0.261***
	(0.048)	(0.043)	(0.046)
R-squared	0.792	0.761	0.688
Observations		104,002	
Fund and Management Company Controls	Yes	Yes	Yes
Month × Morningstar Category FE	Yes	Yes	Yes
FI & Allocation Funds			
ESG Label	0.226	0.241*	0.139
	(0.166)	(0.142)	(0.096)
R-squared	0.372	0.443	0.316
Observations		9,459	
Fund and Management Company Controls	Yes	Yes	Yes
Month × Morningstar Category FE	Yes	Yes	Yes
Domestic Equity Funds			
ESG Label	0.245***	0.318***	0.271***
	(0.045)	(0.053)	(0.058)
R-squared	0.792	0.775	0.716
Observations		73,088	
Fund and Management Company Controls	Yes	Yes	Yes
Month × Morningstar Category FE	Yes	Yes	Yes
International Equity Funds			
ESG Label	0.134	0.321***	0.295***
	(0.116)	(0.078)	(0.085)
R-squared	0.839	0.773	0.658
Observations		21,455	
Fund and Management Company Controls	Yes	Yes	Yes
Month × Morningstar Category FE	Yes	Yes	Yes

Annual Voting Support to ESG Initiatives: ESG vs. Non-ESG Funds

TABLE 9

This table reports average annual voting support (in %) for ESG initiatives by ESG and non-ESG Funds. We report group mean and results of a *t*-test for differences in mean. Observations are at the fund-year level. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

	Non-ESG Funds (%)	ESG Funds (%)	ESG - Non-ESG (%)
% Support - All Shareholder Resolutions	41.4	58.4	17.0***
% Support - All Management Resolutions	80.5	70.0	-10.5***
% Support - Environmental & Social	36.8	61.8	25.0***
% Support - Governance (Shareholder)	45.4	60.8	15.4***

ESG Voting Support of Funds Losing/Keeping Morningstar ESG Label

TABLE 10

This table summarizes the voting support for ESG resolutions proposed by shareholders from funds that either kept or lost their Morningstar ESG label in January 2020. The sample is further divided into funds with 1-3 globes and 4-5 globes of Morningstar sustainability ratings in December 2019.

	Kept Morningstar ESG Label			Lost Morningstar ESG Label		
	25% Quantile	Median	75% Quantile	25% Quantile	Median	75% Quantile
1-3 Globes in Dec 2019	7.1%	57.7%	93.1%	18.9%	41.8%	66.7%
4-5 Globes in Dec 2019	51.9%	88.8%	94.7%	26.1%	57.1%	63.8%

Number and AUM of Greenwashers with Morningstar Sustainability Ratings

TABLE 11

This table reports the number of fund-year observations and assets under management (USD billion) for greenwashers and true-ESG funds. We define greenwashers as ESG funds with low, below average or average Morningstar Sustainability Ratings (1, 2, or 3 globes) and low support (less than 60%, 70% and 80%, respectively) for ESG resolutions initiated by shareholders. True-ESG funds are defined as ESG funds with either above average or high Morningstar Sustainability Ratings (4 or 5 globes) or high support (more than 60%, 70% and 80%, respectively) for ESG resolutions initiated by shareholders. We also report the number of unique funds that are greenwashers always in our sample, true ESG always in our sample, and both greenwashers and true ESG in different periods.

	Fund-month observations	Number of Funds
Threshold: 70% Support for ESG Resolutions		
Greenwashers	1,738	19
	(29.0%)	(12.3%)
True ESG	4,265	82
	(71.0%)	(52.9%)
Both		54
		(34.8%)
Threshold: 60% Support for ESG Resolutions		
Greenwashers	1,558	16
	(26.0%)	(10.3%)
True ESG	4,445	86
	(74.0%)	(55.5%)
Both		53
		(34.2%)
Threshold: 80% Support for ESG Resolutions		
Greenwashers	1,964	20
	(32.7%)	(12.9%)
True ESG	4,039	77
	(67.3%)	(49.7%)
Both		58
		(37.4%)

Determinants of Greenwashers with Morningstar Sustainability Ratings TABLE 12

This table reports estimated coefficients and standard errors of a logit model for the Greenwasher dummy, which equals 1 if the fund is a greenwasher according to our definition, and 0 otherwise. The sample is restricted to ESG funds. In all the regressions we control for both fund and management company characteristics. Fund controls include log of fund size (USD million), log of fund age (months), Morningstar star ratings, net expense ratio, past 12-month cumulative flows and past 36-month abnormal return. Management company controls include log of total assets under management (USD billion) and log of age (months). Standard errors are clustered at the fund and year-month levels. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

	Dependent Variable Dummy of Greenwasher		
Minimum % Support for ESG Initiatives	**60%**	**70%**	**80%**
Log (Fund AUM)	0.214*	0.203*	0.194*
	(0.116)	(0.107)	(0.099)
Log (Fund Age)	0.435*	0.452*	0.384*
	(0.240)	(0.235)	(0.203)
Star Rating	-0.661***	-0.673***	-0.601***
	(0.144)	(0.136)	(0.123)
Expense Ratio (%)	-0.786	-0.552	-0.081
	(0.662)	(0.560)	(0.464)
Past 12-Month Flow	-0.003	-0.007	-0.011
	(0.019)	(0.019)	(0.019)
Past 36-Month Abnormal Return (%)	-0.237	-0.200	-0.408
	(0.384)	(0.357)	(0.357)
UNPRI Signatory	-0.810**	-0.863**	-1.239***
	(0.402)	(0.384)	(0.353)
Log (Management Company AUM)	0.402***	0.394***	0.380***
	(0.111)	(0.106)	(0.101)
Log (Management Company Age)	-5.011***	-4.265***	-3.114**
	(1.703)	(1.528)	(1.432)
Pseudo R-squared	0.210	0.200	0.195
Observations	4,366	4,366	4,366

Fitted Probabilities and Marginal Effects of Greenwashers Determinants TABLE 13

This table reports fitted probabilities and marginal effects of the logit model in Table 12. Fund controls include log of fund assets under management (USD million), log of fund age (months), Morningstar star ratings, net expense ratio, past 12-month cumulative flows and past 36-month abnormal return. Management company controls include log of total assets under management (USD billion) and log of age (months). Standard errors are clustered at the fund and year-month levels. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

Minimum % Support for ESG Initiatives	**60%**	**70%**	**80%**
Log (Fund AUM)	0.031*	0.032*	0.033**
	(0.017)	(0.017)	(0.016)
Log (Fund Age)	0.062*	0.071**	0.065*
	(0.034)	(0.036)	(0.034)
Star Rating	-0.094***	-0.106***	-0.102***
	(0.019)	(0.020)	(0.020)
Expense Ratio (%)	-0.112	-0.087	-0.014
	(0.092)	(0.087)	(0.079)
Past 12-Month Flow	-0.000	-0.001	-0.002
	(0.003)	(0.003)	(0.003)
Past 36-Month Abnormal Return (%)	-0.034	-0.031	-0.069
	(0.054)	(0.056)	(0.060)
UNPRI Signatory	-0.116**	-0.135**	-0.211***
	(0.056)	(0.058)	(0.054)
Log (Management Company AUM)	0.057***	0.062***	0.065***
	(0.015)	(0.015)	(0.016)
Log (Management Company Age)	-0.716***	-0.670***	-0.530**
	(0.239)	(0.235)	(0.243)

Flows to Greenwashers vs. True-ESG Funds TABLE 14

This table reports the estimated coefficients and standard errors from regressions of monthly flows (in %) on indicator variables for true-ESG funds and greenwashers defined using Morningstar ratings and a voting support threshold of 70%. The regression is run separately for all funds, column (1), retail funds (institutional ratio < 50%), column (2), and institutional funds (institutional ratio ≥ 50%), column (3). In all the regressions, fund controls include log of fund assets under management (USD million), log of fund age (months), net expense ratio, Morningstar star ratings and past 12-month cumulative flows. Management company controls include log of total assets under management (USD billion) and log of age (months). We also include month × Morningstar category fixed effects. Standard errors are clustered at the fund and year-month levels. *, ** and *** indicate statistical significance at the 10%, 5% and 1% levels, respectively.

	Dependent Variable: Monthly Flows (%)		
	All Funds	**Retail**	**Institutional**
	(1)	**(2)**	**(3)**
True ESG	0.794***	0.435	1.194***
	(0.236)	(0.315)	(0.381)
Greenwasher	-0.092	-0.304	-0.072
	(0.428)	(0.447)	(0.793)
Star Rating	0.542***	0.460***	0.665***
	(0.042)	(0.047)	(0.063)
Log (Fund AUM)	-0.259**	-0.228**	-0.318**
	(0.109)	(0.109)	(0.121)
Log (Fund Age)	-0.001	0.027	-0.076
	(0.152)	(0.141)	(0.195)
Expense Ratio (%)	0.095	-0.009	0.239
	(0.318)	(0.342)	(0.396)
Log (Management Company AUM)	0.122***	0.096***	0.159***
	(0.028)	(0.031)	(0.036)
Log (Management Company Age)	-0.503**	-0.344	-0.657**
	(0.250)	(0.349)	(0.328)
Past 12-Month Flow	0.013**	0.012*	0.018**
	(0.006)	(0.006)	(0.008)
R-squared	0.282	0.280	0.317
Observations	109,997	71,734	37,708

Monthly Fund Synthetic MSCI ESG Ratings

TABLE 15

This table shows frequencies of monthly synthetic MSCI ESG ratings computed with Morningstar methodologies in our sample for different subsamples. In Panel A, the sample is divided into funds with non-ESG and ESG label. In Panel B, the sample is divided into funds managed by non-UNPRI and UNPRI signatory asset management companies. In Panel C, the sample is restricted to the year 2019 and divided into funds that kept their Morningstar ESG label in January 2020 and those that lost it.

Panel A: ESG vs. non-ESG Funds

	ESG Funds		Non-ESG Funds	
	Number of Obs.	Percentage	Number of Obs.	Percentage
Low	366	6.49	12,888	8.86
Below Average	538	9.54	33,944	23.35
Average	992	17.60	53,168	36.57
Above Average	1,511	26.81	33,096	22.76
High	2,230	39.56	12,290	8.45
Total	**5,637**	**100.00**	**145,386**	**100.00**

Panel B: UNPRI vs. Non-UNPRI Signatory Fund Families

	UNPRI		Non-UNPRI Funds	
	Number of Obs.	Percentage	Number of Obs.	Percentage
Low	7,406	7.64	5,840	10.83
Below Average	22,164	22.85	12,284	22.79
Average	35,294	36.39	18,788	34.85
Above Average	22,505	23.20	12,091	22.43
High	9,617	9.92	4,902	9.09
Total	**96,986**	**100.00**	**53,905**	**100.00**

Panel C: Morningstar ESG Label Removal in January 2020

	Kept ESG Label		Lost ESG Label	
	Number of Obs.	Percentage	Number of Obs.	Percentage
Low	37	3.09	165	9.60
Below Average	71	5.94	389	22.63
Average	138	11.54	574	33.39
Above Average	351	29.35	410	23.85
High	599	50.08	181	10.53
Total	**1,196**	**100.00**	**1,719**	**100.00**

Number and AUM of Greenwashers (with Synthetic MSCI ESG Ratings) TABLE 16

This table reports the number of fund-year observations and assets under management (USD billion) for greenwashers and true-ESG funds. We define greenwashers as ESG funds with low, below average or average synthetic MSCI ESG Ratings (1, 2, or 3 globes) and low support (less than 60%, 70% and 80%, respectively) for ESG resolutions initiated by shareholders. True-ESG funds are defined as ESG funds with either above average or high synthetic MSCI ESG Ratings (4 or 5 globes) or high support (more than 60%, 70% and 80%, respectively) for ESG resolutions initiated by shareholders. We also report the number of unique funds that are greenwashers always in our sample, true ESG always in our sample, and both greenwashers and true ESG in different periods.

	Fund-month observations	Number of Funds
Threshold: 70% Support for ESG Resolutions		
Greenwashers	1,178	13
	(20.9%)	(8.6%)
True ESG	4,459	85
	(79.1%)	(55.9%)
Both		54
		(35.5%)
Threshold: 60% Support for ESG Resolutions		
Greenwashers	1,000	12
	(17.7%)	(7.9%)
True ESG	4,637	92
	(82.3%)	(60.5%)
Both		48
		(31.6%)
Threshold: 80% Support for ESG Resolutions		
Greenwashers	1,354	13
	(24.0%)	(8.6%)
True ESG	4,283	78
	(76.0%)	(51.3%)
Both		61
		(40.1%)