

Catering through transparency

Voluntary ESG disclosure by asset managers and fund flows

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Abstract

Voluntary ESG disclosure by institutional investors improves capital allocation efficiency by enabling clients to allocate responsible capital to institutions with better ESG incorporation. Institutional investors disclose on their ESG practices as part of their voluntary commitment to the Principles for Responsible Investing (PRI), the world's largest responsible investment network. After joining the PRI, investors annually file a detailed ESG report, which is assessed and scored by the PRI. Clients allocate more assets toward institutions that receive higher scores on their disclosure. The disclosure becomes more effective when it is corroborated by third-party ESG fund ratings. Importantly, investors that disclose better ESG practices exhibit more sustainable equity holdings, suggesting that the disclosure is not cheap talk.

JEL Classifications: G23, G4, M41.

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1 Introduction

Environmental, Social, and Governance (ESG) reporting is receiving attention from both policymakers (EU, 2019; SEC, 2022a) and practitioners (Krueger, Sautner, and Starks, 2020). The reasoning is that an effective disclosure regime enables financial markets to price risks and opportunities arising from sustainability concerns correctly. Recently, some progress has been made toward improving corporate ESG reporting, with more and more countries adopting mandatory disclosure rules.¹

While a growing strand of literature studies the effects of ESG disclosure of *corporations*, little is known about the ESG disclosure of *institutional investors*. This is surprising because the investor-client relation is subject to similar informational asymmetries as the corporation-shareholder relation (Bebchuk, Cohen, and Hirst, 2017). In the responsible investing landscape, such information asymmetries make it difficult to separate responsible asset managers with high levels of ESG incorporation from other managers. An effective investor disclosure regime could facilitate the allocation of responsible capital toward asset managers that invest responsibly. Following this argument, in May 2022, the SEC proposed to enhance the disclosure of investment companies and investment advisors regarding their ESG investment practices (SEC, 2022b).²

This paper examines how voluntary ESG disclosure by institutional investors can shape the capital allocation in the responsible investing landscape. To this end, we exploit a unique institutional setting, namely the commitment of mutual fund families from all around the world to be members of the Principles of Responsible Investing (PRI), the largest responsible investing initiative.³ In 2014, PRI introduced a disclosure framework to evaluate the ESG practices of its signatories. It required that all signatories fill-in an annual survey called the

¹For example, in the U.K., publicly listed companies have to disclose their CO₂ emissions, while many more do so voluntarily. For an overview of the ESG reporting instruments around the world see the Carrots & Sticks 2020 report, available at <https://www.carrotsandsticks.net>.

²The regulator mentioned our working paper in its statement about the proposal (SEC, 2022c).

³The PRI counted over 3,000 signatories with combined assets under management (AUM) of over \$100 trillion at the end of 2020. See <https://www.unpri.org/pri/about-the-pri>.

“Reporting & Assessment (R&A)” framework. The survey covers signatories’ approaches to integrate sustainability issues in their investment processes, including but not limited to stock selection and investor engagement, appointment of portfolio managers, and organizational ESG resources. The survey responses are then assessed by PRI, who gives higher scores to signatories with better ESG practices. While the scores are private, signatories generally advertise high scores publicly.

Ex ante, it is unclear if such disclosure will lead to a more efficient allocation of responsible capital. Accounting theory posits that the informativeness of voluntary disclosure depends on whether the disclosure is credible, that is, whether misrepresentation is costly (Beyer et al., 2010). In our setting, misrepresentation could result in reputational losses, delisting from the PRI (FT, 2018), or even lawsuits (Morningstar, 2022). Investors have incentives to file accurately, given that most of the survey is publicly accessible and that PRI receives substantial scrutiny due to its large signatory base. However, there is a growing concern that institutional investors overstate their ESG practices (Gibson Brandon et al., 2022; Kim and Yoon, 2022; Liang, Sun, and Teo, 2022). Market participants may therefore discount voluntary disclosure that is difficult to verify (Spence, 1973).

In addition to being credible, effective disclosure also needs to have low processing costs, i.e., it needs to be an easily accessible signal that is comparable across institutions (Blanke-spoor, deHaan, and Marinovic, 2020). ESG disclosure has traditionally been criticized for being incomparable due to the lack of disclosure standards (Christensen, Hail, and Leuz, 2021). The R&A framework, however, is standardized and provides assessments, allowing clients to directly compare institutions’ disclosure about their ESG practices in a comprehensive and objective way. Thus, it may be more effective than existing sustainability reports that cover different information for every institution.

Based on these theoretical considerations, we develop three testable hypotheses: Do fund families that voluntarily report superior ESG practices receive more inflows of assets, i.e., do clients view the disclosure as credible? Does the disclosure signal become more credible

when it can be verified by third-party fund ESG ratings? Finally, do fund families that disclose better ESG practices actually invest their assets more responsibly?

We start by asking if mutual fund investors allocate more assets toward institutions that disclose superior ESG practices in the R&A framework and receive high scores on their disclosure. Our findings support this, suggesting that the disclosure is seen as credible. After controlling for fund characteristics like size and performance, obtaining a R&A disclosure score of A or higher relates to monthly flows that are 23 basis points (bp) higher than those of funds of institutions with no score or that are not signatories. This is an economically important boost that translates in an average annual inflow of \$15 million per signatory. Crucially, this holds even when we control for the funds' portfolio ESG scores, suggesting that the better flows stem from the *disclosure* of better ESG practices rather than from differences in managers' portfolio holdings. This effect exists only for institutional but not for retail share classes, pointing out that only institutional clients value the additional disclosure. This is in line with prior research finding that retail investors are influenced by more easy-to-access information like the Morningstar ESG fund rating (Hartzmark and Sussman, 2019) or the classification as ESG funds (Riedl and Smeets, 2017).

One potential concern is that, while every PRI signatory must report on their ESG practices since 2014, joining and staying in the PRI is a voluntary decision. Our main specification is designed with this concern in mind and includes fund family fixed effects to account for time-invariant differences in the institutions' ESG practices. Technically, we compare the boost in flows that a fund receives after having obtained high R&A scores to the difference in flows that the control group (signatories with no R&A scores and non-PRI investors) receives over the same time period. To account for unobserved heterogeneity as much as possible, we further control for style-times-month fixed effects and time-varying fund-level controls.

For better identification, we exploit the fact that the R&A framework is required for all PRI signatories but was only introduced in 2014 and announced one year earlier. Funds that

joined before 2013 were not aware that joining the PRI would be related to extensive ESG reporting, which alleviates the selection problem. In this tighter specification, we restrict the sample to fund families that joined before the R&A framework was announced and compare these to investors that never joined the PRI in a difference-in-differences setting. The effect of obtaining a high R&A score is even stronger in this specification: Signatories that joined the PRI before 2013 experience a boost in flows of 40bp per month from their institutional share classes after receiving a R&A score of A or above.

Our second main result studies the interplay between the voluntarily disclosed ESG information contained in the R&A score and the sustainability rating (ESG “Globes”) that a mutual fund receives from Morningstar based on its portfolio holdings. After 2016, the year Morningstar introduced the Globes, investors might only reward funds that have a strong performance on both scales, treating the two ESG attributes as complements. This argument follows from the “confirmation hypothesis” (Ball, Jayaraman, and Shivakumar, 2012) that voluntary disclosure will become more credible once it is corroborated by audited or objective third-party information. Alternatively, investors may not recognize that the R&A score has a broader scope than the ESG Globes, which are based on equity asset allocation choices alone, and treat these two sets of ESG information as substitutes.

We find evidence supporting the confirmation hypothesis: Mutual funds of PRI signatories that have *both* a high R&A disclosure score and the highest number of Morningstar “Globes” receive a boost in flows of 58bp per month (6.3% of a standard deviation) from institutional share classes. This is more than twice the effect of receiving a high R&A score alone. Moreover, having a positive assessment from PRI does not mitigate the negative effect of receiving a poor Globe rating. As theory would predict, the more objective third-party information corroborates the voluntary disclosure.

In the last section of the paper, we examine if fund families that disclose better ESG practices actually implemented these practices. This is an important question because the disclosure-flow mechanism documented above will lead to a more efficient allocation of re-

sponsible capital only if better ESG disclosure implies higher actual ESG incorporation and not cheap talk. To answer this question, we examine if PRI signatories with better R&A scores allocate more capital toward companies with better ESG performance. This seems to be the case: Funds with a R&A score of A or better have a Morningstar portfolio ESG score that is 0.27 larger than that of the other funds (4% of the standard deviation of funds' ESG scores). Furthermore, we find that stocks held by these funds exhibit a lower exposure to negative ESG incidents. Lastly, we observe that fund families with a R&A score of A or higher are generally more dedicated toward ESG, as they manage relatively more of their assets in mutual funds with an explicit ESG mandate.

Taken together, our findings suggest that the ESG disclosure of investment managers enables a more efficient capital allocation in the sense that responsible capital is shifted toward fund managers with better ESG incorporation. As this disclosure is not readily available in the Morningstar web portal, only institutional investors react to it. Far from existing in a vacuum, the disclosure of holistic ESG information is particularly powerful in attracting fund inflows when combined with a strong and verifiable ESG portfolio rating from Morningstar. This speaks to the complementarity of both holistic, voluntary investor disclosure and specific, mandatory third-party ratings. Finally, we find no evidence that the disclosure is cheap talk, since signatories that disclose better ESG practices are associated with more sustainable equity holdings.

Our paper primarily contributes to the literature on the role of non-financial disclosure. A number of papers have already analyzed the implications of such disclosure *at the corporate level*. For instance, Dhaliwal et al. (2011) show that voluntary ESG corporate disclosure reduces firms' cost of capital. When looking at the financial market reaction, Matsumura, Prakash, and Vera-Munoz (2014) document that capital markets penalize companies for not disclosing their greenhouse-gas emissions, but Grewal, Riedl, and Serafeim (2019) and Griffin, Lont, and Sun (2017) find that there is a negative abnormal return following non-financial corporate disclosures, less so if the disclosure is better. Other papers show that

mandating ESG disclosure improves firms' informational environment (Krueger et al., 2021), firms' innovation output (Gibbons, 2020), and firms' environmental performance (Jouvenot and Krueger, 2021).⁴ More nuanced, Christensen et al. (2017) document that mandatory social disclosure reduces mining-related incidents but comes at the cost of lower employee productivity. There is also evidence that mandatory ESG disclosure increases the disagreement among ESG ratings (Christensen, Serafeim, and Sikochi, 2022). Our paper provides evidence on the ESG disclosure *at the institutional investor level*. We find that investor ESG disclosure is a viable signal for better ESG practices and helps to reduce ESG-related information asymmetries between responsible institutional investors and their clients.

Our paper is related to the work of Hartzmark and Sussman (2019) that shows how mutual fund clients' sustainability preferences can drive asset allocation choices. Specifically, they find that clients allocate more assets to funds with better Morningstar ESG fund ratings. Our paper focuses instead on ESG *disclosure* by asset managers themselves. We test the joint hypothesis that (a) the investor disclosure is credible, (b) it has low processing costs, and (c) clients value sustainability. Our evidence suggests that the disclosure is both credible and effective and, therefore, can help shift the capital of clients that value sustainability to asset managers with better ESG incorporation. Importantly, the investor disclosure and the Morningstar ESG fund ratings complement each other, as the disclosure is particularly effective when it is corroborated by a high Morningstar rating.

We further contribute to the growing number of papers that investigate signatories of the PRI. Gibson Brandon et al. (2022) ask whether PRI signatories engage in "greenwashing" and show that, at least outside of the US, signatories appear to have better ESG portfolio scores. Humphrey and Li (2021) argue that PRI signatories reduce the emissions of their portfolios, while Kim and Yoon (2022) find that funds by PRI signatories domiciled in the US do not exhibit better ESG performance. Liang, Sun, and Teo (2022) look at hedge funds that joined the PRI and find that these underperform non-signatories. In contrast to these

⁴Christensen, Hail, and Leuz (2021) provide a detailed discussion of the literature on mandatory corporate ESG disclosure in the United States.

papers, we have obtained access to the full Reporting & Assessment framework from PRI, enabling us to study how institutional investors' voluntary ESG disclosure can shape the asset management industry.

2 Institutional Setting and Hypotheses

2.1 PRI's Reporting & Assessment Survey

In 2006, a group of large institutional investors was invited by Kofi Annan, the then UN Secretary-General, to form the PRI. Institutions that sign the PRI commit to including environmental, social, and governance factors in their investment decisions and ownership processes (PRI, 2020b). In 2020, over 3,000 institutional investors representing over \$100 trillion were active signatories of the PRI.

Starting from 2014, signatories need to annually report on their “activities and progress toward implementing the Principles [of Responsible Investing]” (PRI, 2020b). Mandatory reporting is intended to ensure (1) accountability of the PRI and its signatories, (2) a standardized transparency tool for signatories' reporting, and (3) that signatories receive feedback from which to learn and develop.

Signatories have a one-year grace period to report on their ESG practices after they join the PRI. Signatories that fail to report two years after joining are delisted and no longer part of the PRI. The reporting framework opens on the 6th of January of each year, and signatories have until the 31st of March to complete the report. The report consists of several parts or “modules”, documenting the responsible investing practices of institutions across their organization. The main modules are (1) Strategy & Governance, (2) Listed Equity, (3) Active Ownership, and (4) Asset Manager Selection, Appointment and Monitoring. Within each module, there are several types of questions: Mandatory to report and disclose; mandatory to report and voluntary to disclose; and voluntary to report and disclose. The first type of questions are published as part of the investors' transparency reports on the PRI website,

the second type are published only with the signatory's consent, and the third type are both reported and published on a completely voluntary basis.

- Figure 1 -

PRI staff then rates all modules of the reporting framework. Depending on their answers in the survey, signatories receive a score that can take values from “A+” to “E”. The highest score is A+. It is given when the signatory discloses very good ESG practices in most survey questions, including those that are voluntary to answer and report. In July of each year, investors will receive their assessment reports. Figure 1 shows one such example. While these scores are private, PRI staff informed us that signatories often choose to publicly disclose their scorecards if they received high scores. In Section 3, we document that high-scoring entities indeed frequently publish their scores on their website.

We are granted full access from PRI to the Reporting & Assessment survey as well as the scores that the signatories received from 2014 to 2019.

2.2 Theoretical framework

The responsible investing landscape exhibits information asymmetries (Ross, 1973; Jensen and Meckling, 1976) in that fund managers have better information about their responsible investing efforts than their clients, who are the ultimate owners of the assets. This makes it difficult for clients to separate asset managers with a responsible investing approach from other managers. The result is a pooling equilibrium: Even if clients want to invest their funds responsibly, responsible asset managers will not receive more funds than less responsible peers because the two types of managers are indistinguishable.

ESG disclosure can help overcome such informational asymmetries and lead to a more efficient allocation of responsible capital.⁵ In the absence of mandatory investor disclosure,

⁵Prior literature on ESG disclosure focuses on corporate disclosure. Christensen, Hail, and Leuz (2021) summarize this literature and conclude that “more and better disclosure can lead to tangible capital-market benefits in the form of improved liquidity, lower cost of capital, higher asset prices (or firm value), and potentially better corporate decisions”.

responsible fund managers can voluntarily disclose about their ESG investing efforts to separate themselves from less responsible investors. This disclosure will result in a more efficient capital allocation if it enables funds' clients to allocate responsible capital toward fund managers that invest more responsibly. In this paper, we examine whether the ESG disclosure of PRI signatories achieves this goal.

Accounting theory emphasizes that the effectiveness of voluntary disclosure depends on its credibility, relevance, and processing costs (e.g., Sobel, 1985). Credible disclosure implies that misrepresentation is costly (Beyer et al., 2010). Ex ante, it is unclear whether asset managers can credibly disclose their ESG investing practices in our setting. On the one hand, investors have incentives to disclose truthfully because parts of the underlying survey are publicly accessible through the PRI's homepage. Because of this transparency, misrepresenting investors may face reputational losses, even more so when considering that the PRI receives substantial scrutiny due to its large signatory base. Furthermore, starting in 2020, the PRI has delisted members for not meeting minimum ESG investing practices (PRI, 2020a). Misrepresentation of ESG claims can also result in lawsuits and fines, as European and US authorities increasingly focus on ESG issues.⁶ On the other hand, there is evidence that institutional investors tend to overclaim their ESG activities (Gibson Brandon et al., 2022; Kim and Yoon, 2022; Liang, Sun, and Teo, 2022), which may cast doubt about the credibility of self-disclosed ESG information.

In addition to being credible, effective disclosure also needs to be relevant and have low processing costs. In other words, the information being disclosed needs to be both important enough to reduce information asymmetries and easily comparable across disclosing entities (Blankespoor, deHaan, and Marinovic, 2020). An important feature of the PRI survey is that it aggregates holistic ESG information about investors' responsible investing approaches into simple scores. These scores are readily comparable across institutions that are part of

⁶For example, in May 2022, DWS, the asset management subsidiary of the Deutsche Bank, was raided on suspicions of prospectus fraud related to greenwashing. In the same month, the SEC fined the Bank of New York Mellon US-\$ 1.5 million for misstatements regarding ESG integration. See Morningstar (2022).

the PRI initiative. We expect this information to be relevant given the growth of responsible assets over the last decade and prior evidence that end investors value sustainability in their investments (Hartzmark and Sussman, 2019; Riedl and Smeets, 2017).

Our empirical strategy unfolds in three hypotheses. We first examine whether clients allocate more assets to fund managers that disclose better ESG practices. In fact, this tests a joint hypothesis of (a) whether the ESG disclosure is perceived to be credible by mutual funds' clients; (b) whether the disclosure has processing costs low enough to be effective; (c) and whether clients value sustainable investments and find ESG disclosure relevant. The disclosure will lead to a different capital allocation if and only if all three parts of the hypothesis hold simultaneously. We evaluate this hypothesis against the null hypothesis that voluntary ESG disclosure is not perceived as credible, is ineffective, or that there is no demand for responsible investing. Our first testable hypothesis is:

Hypothesis 1: Fund managers that voluntarily disclose better ESG practices through the PRI receive higher fund flows from clients.

Voluntary disclosure becomes more credible if it can be verified because verification makes misrepresentation more costly (Spence, 1973). Ideally, the verification is done by regulated, external auditors. In their absence, it could also come through a third-party data provider that assesses the actions of the disclosing entity. In our setting, the ESG scores that mutual funds receive from Morningstar are one form of external verification of the ESG investing practices of institutional investors. Therefore, we formulate the following hypothesis:

Hypothesis 2: The disclosure-flow relation is stronger when the voluntary disclosure is corroborated by high ESG fund ratings from Morningstar.

Even if the investor disclosure leads to a different allocation of assets, it is unclear whether the resulting capital allocation is more efficient in the sense that responsible capital is managed by asset managers with better ESG incorporation. It could be that investors that

disclose better ESG practices do not invest their assets more responsibly. In this case, the voluntary disclosure would decrease the efficiency of responsible capital allocation. Therefore, we examine if investors that disclose better ESG practices actually implemented these. To test this empirically, we use third-party data to evaluate the sustainability of investors' equity holdings, namely their ESG scores and the likelihood of a portfolio firm experiencing an incident. Additionally, we ask if signatories manage relatively more assets in mutual funds with an explicit ESG mandate, a proxy for signatories' dedication toward ESG investing. Our final hypothesis is:

Hypothesis 3: Fund managers that disclose better ESG practices hold securities with better ESG ratings, exhibit fewer incidents at their investments, and manage more assets in funds with an explicit ESG mandate.

3 Data

3.1 Mutual fund information

We start our data collection with the full list of PRI signatories and the date when they joined the PRI. Next, we obtain survivorship-bias-free data from Morningstar for all open-end equity and fixed income mutual funds that are incorporated in countries with at least one signatory. Our sample spans from January 2011 to December 2019.

Mutual funds typically issue several share classes that target different types of investors (e.g., retail or institutional clients) or geographies. However, the underlying portfolios as well as the fund management are the same across share classes. For this reason, we conduct our tests at the fund level. When we aggregate data from the share-class level to the fund level, we compute the returns and volatilities as the value-weighted average across different share classes. The AUM of a fund are the sum of the assets in the different share classes. The fund age is retrieved from the largest share class (Ceccarelli, Ramelli, and Wagner, 2022).

We define funds as “Institutional” when more than 50% of assets stem from institutional share classes⁷ and otherwise as “Retail”. Following Sirri and Tufano (1998), we compute flows as the monthly growth of AUM net of reinvested returns. To limit the effect of outliers, we trim flows at the 1st and 99th percentiles. Moreover, to ensure that our findings are not driven by small funds, we use “normalized flows” as an alternative dependent variable (Hartzmark and Sussman, 2019).

We compute the return volatility as the standard deviation of returns using a 12-month rolling window. For each fund, we also collect information on the age, global category (capturing the investment style), Morningstar’s overall performance rating (the Morningstar “Stars”, on a 1-5 scale, with 5 indicating top financial performers), whether the fund is classified as an ESG fund (“socially conscious”),⁸ and its exposure to controversial firms as well as the overall portfolio sustainability score and ESG ratings (the Morningstar “Globes”, on a 1-5 scale, with 5 indicating top sustainability performers).

To account for the impact that Morningstar “Stars” have on fund flows (Del Guercio and Tkac, 2008), we define the indicators Stars upgrade and Stars downgrade. These variables take the value of one if the fund experienced an up- or downgrade in “Star” rating from the previous month. Similarly, to account for the impact of the Morningstar “Globes” (Ammann et al., 2019; Hartzmark and Sussman, 2019), we define the indicators $\Delta 1$ Globe and $\Delta 5$ Globes. These variables indicate funds that enter the two extreme sustainability categories (1 Globe and 5 Globes), considering the observations with continuing missing sustainability ratings as no change.⁹

– Table 1 –

⁷Morningstar classifies as institutional the share classes that meet one of the following criteria: have the word “institutional” in the name; have a minimum initial purchase of USD 100,000 or more; specifically address institutional investors or those purchasing on a fiduciary basis, as stated in the fund prospectus.

⁸Morningstar classifies as socially conscious any fund that identifies itself as investing according to some non-financial criteria, for instance, by excluding certain sectors from the investable universe or by selectively investing in good-performing companies in terms of ESG criteria.

⁹Using two indicators of Globes changes instead of the continuous Globe rating allows us to run our tests before March 2016, when Morningstar first introduced the sustainability globes. This is a crucial aspect since most fund families joined PRI well before that date.

Our sample consists of 4,300 fund families with more than 53,000 funds. Table 1 shows summary statistics for the sample at the fund-month level. Panels B and C focus respectively on institutional and retail funds. More than half of our sample eventually joins the PRI with 50% of the observations coming from the period after joining (“Post×PRI”). About 17% of funds are classified as institutional and 9% are classified as ESG funds. These figures are similar for both institutional and retail funds. Compared to retail, institutional funds have somewhat larger flows, are larger, and have a better financial performance.

3.2 PRI information

In the second step of our data collection, we match each fund family from Morningstar to the list of PRI members. For each fund family in our dataset, we manually check for a correspondence among PRI signatories.¹⁰ For each member, PRI provided us the date of joining and the R&A scores between 2014, the first year the scores were available, and 2019.¹¹ We aggregate the scores of the various modules and define $\bar{R\&A}$ as the average score across all available modules. Aggregation is an important step, since only signatories that receive an overall positive assessment are likely to disclose their scores.

Not all signatories fill out every module of the reporting framework, since they might not have enough exposure to a certain asset class like private equity or infrastructure investments. To account for this, we define an additional variable $\bar{R\&A}^{restr}$, which is restricted to the four modules filled out by approximately 90% of signatories: Strategy & Governance, Listed Equity Screening, Integration, and Active Ownership.

The Strategy & Governance module is the most holistic part of the framework and covers the signatories’ responsible investing policy. For example, one question asks how frequently objectives for responsible investments are set and reviewed. The Screening, Integration, and

¹⁰This approach is more labor-intensive than matching signatories to funds but ensures a high quality match. This is because the name of a fund does not always contain the name of the signatory. For example, the fund “SWuK Renten” is matched with the signatory “Universal-Investment”. Trying to match the latter to the list of funds, would have resulted in classifying “SWuK Renten” as a non-PRI fund.

¹¹We do not use R&A scores after 2019 because PRI revamped the R&A framework in 2020.

Active Ownership are more specific modules and provide detailed information on the signatory's investment process. For example, one question asks the percentage of AUM for which ESG incorporation strategies are applied or which type of engagements (individual, collaborative, or through service providers) the signatory undertakes. Internet Appendix A provides additional information about the survey's content, distribution of individual questions, and how PRI aggregates the disclosure into R&A scores.

– Table 2 –

Table 2 shows summary statistics of the PRI measures. The average R&A score is 4.22, corresponding to a score slightly above B. When we look at the restricted R&A score, this number increases slightly to 4.61, or a score close to an A. To make interpretation of our results simpler, we define several dummies that identify signatories with an average score of A or greater ($\emptyset R\&A \geq A$), one greater than B but smaller than A ($\emptyset R\&A \in [B; A)$), and one smaller than B ($\emptyset R\&A < B$). 27% of the sample falls in the top category, 34% is in the middle category, and 39% are in the worst category.

– Figure 2 –

Figure 2 shows how the R&A scores evolved over times. The number of low ($\emptyset R\&A < B$) and medium ($\emptyset R\&A \in [B; A)$) scoring signatories remains relatively constant over time. The number of high-scoring ($\emptyset R\&A \geq A$) signatories increases, highlighting the trend toward better sustainability disclosure.

– Table 3 –

To better describe the time-series characteristics of the R&A scores, Table 3 shows the transition matrix between scores. Most signatories retained their score year-over-year. On average, 20% improved their score while only 5% worsened their score. This further highlights the trend toward better scores.

While the PRI does not disclose the R&A scores of its signatories, PRI staff told us that many asset managers advertise their scores publicly or provide them on request, especially when the scores are high. To provide some intuition as to when investors disclose their R&A scores, we manually check the website and most recent annual reports of all signatories that filled out the R&A framework and compare their scores. Table 4 shows that higher scores are more frequently disclosed: The average R&A score of signatories that disclose their scores is almost a full grade higher than the scores of those that do not disclose. Moreover, signatories that receive a low score are significantly *less* likely to disclose their score.

4 Investor ESG disclosure and mutual fund flows

4.1 Baseline results

This section asks whether mutual fund investors take the disclosure of ESG information by asset managers into account when they allocate their assets. We look at the yearly scores received by signatories that fill out the R&A framework. We examine if mutual fund investors allocate more assets toward signatories that receive a high overall R&A disclosure score, i.e., an average score of “A” or higher. As described in the hypotheses development section, this is a joint test of whether (a) clients view the ESG disclosure as credible, (b) the disclosure has low enough processing costs to be effective, and (c) clients value sustainable investments and find ESG disclosure relevant. We do not expect investors to shun away from low-scoring signatories, as these signatories will likely not disclose their scorecards. We test *Hypothesis 1* formally by running Regression 1 below.

$$\begin{aligned} Flow_{i,t} = & \alpha + \beta_1 \mathbb{1}R\&A_{i,t-1} \geq A + \beta_2 \mathbb{1}R\&A_{i,t-1} \in [B; A) + \beta_3 \mathbb{1}R\&A_{i,t-1} < B + \\ & + \gamma' \mathbf{X}_{i,t-1} + \delta_t + \eta_i + \epsilon_{i,t} \end{aligned} \quad (1)$$

The coefficient of the main explanatory variable, $\mathcal{O}R\&A_{i,t-1} \geq A$, captures the differential inflow of funds that high-scoring signatories receive, compared to funds that have no score. Similarly, the coefficients of $\mathcal{O}R\&A_{i,t-1} \in [B; A)$ and $\mathcal{O}R\&A_{i,t-1} < B$ capture the differential inflow of funds with medium and low disclosure scores, respectively. $\mathbf{X}_{i,t-1}$ is a vector of time-varying lagged fund-level controls that, based on previous literature, may influence flows to funds of PRI signatories in a differential manner. These are monthly returns in the previous month, the previous year, and two years prior, the logarithm of AUM, return volatility, the logarithm of fund's age, the fund's entrance or exit in the two extreme sustainability rating (Globes) categories, and changes of Morningstar's overall assessment of the fund (Stars).¹² δ_t represents month fixed effects and η_i fund-family fixed effects. $\epsilon_{i,t}$ is the error term. Standard errors are double clustered along month and fund families to account for cross-sectional dependence between observations.

- Table 5 -

Table 5 shows the regression results. Our main finding in column 3 shows that institutional mutual fund investors allocate more assets toward mutual funds that receive high R&A scores. Compared to funds without a score, column 3 shows that having an average R&A score of A or larger correlates to flows that are 23bp, or 4% of a standard deviation, larger. This is an economically important effect, corresponding to about twice the effect from a one standard deviation increase in past month's returns.¹³ In column 4, we include category-by-month fixed effects to account for changing tastes for investment strategies over time. The positive flow effect of having a high R&A score remains robust, albeit slightly smaller. These results point out that institutional mutual fund investors attach a positive value to good ESG disclosure by asset managers.

¹²We use changes rather than the absolute values because, as also noted in Hartzmark and Sussman (2019), if these rating systems are in equilibrium – e.g., existing investors have already sorted in low and high-sustainability funds according to their preferences, after an initial phase of reallocation – there is no reason to expect a continued flows-effect of ratings without further changes.

¹³A one standard deviation increase in monthly returns yields $3.45 \times 0.03 = 0.10$ percentage points (or 10bp) increase in flows.

By contrast, we find no such effect among retail investors or in the full sample (columns 1, 2, 5, and 6). This points out that only institutional investors value the asset managers' disclosure contained in the R&A framework. This is consistent with prior literature that documents how institutional mutual fund investors perform better monitoring (Evans and Fahlenbrach, 2012). Moreover, since PRI is an initiative mainly organized for institutional investors, it is to be expected that the R&A framework will have higher visibility among these investors.

4.2 Robustness tests

Flows are measured as a percentage of AUM, meaning that fund size can introduce a systematic bias in the estimations. To make sure that neither differences in flows by fund size nor outliers are driving our results, we follow Hartzmark and Sussman (2019) and compute a measure of “normalized flows.” To this end, we first split the sample into deciles of fund size. We then rank funds according to their net flows within their size decile and compute percentiles of the net flow rankings. These percentiles correspond to the normalized flows variable. In Internet Appendix Table IA2, we confirm that our results are robust to using this alternative dependent variable.

Another concern could be that by taking into account modules filled out by a small fraction of signatories, we introduce a bias in the analysis. To make sure that this is not the case, in Internet Appendix Table IA3, we redefine the explanatory variables to cover only the modules that are available for approximately 90% of signatories. Again, our baseline findings remain unchanged.

We next examine whether our results are driven by an increase in ESG investing. Maybe, PRI signatories with high R&A scores receive more flows because they profit more from the trend toward ESG investing. One reason for this could be that these signatories offer more mutual funds with an explicit ESG mandate, as we document in Section 6. Internet Appendix Table IA4, however, shows that our baseline results remain unchanged when we include a

control variable for ESG funds. Consistent with prior literature, we find that ESG funds receive higher flows than conventional funds.

By comparing funds of PRI signatories to funds of asset managers that have not committed to the PRI, we may be subject to a selection bias if ESG leading institutions predominantly join the PRI in the first place. Therefore, investors might not react to the positive disclosure embedded in the R&A scores but to some underlying characteristic of the asset manager. We consider this to be unlikely, as our baseline specification includes fund family, month, and category fixed effects and a full set of controls. Nevertheless, we perform two tests with an even tighter specification to alleviate this concern: We include fund-level fixed effects in Internet Appendix Table IA5 and control for the continuous level of the funds' "Star" ratings in Internet Appendix Table IA6. The latter test is motivated by the work of Del Guercio and Tkac (2008). In both of these tests, our main result remains robust. Importantly, the magnitude of the coefficient of interest is very stable across the entire battery of robustness tests.

4.3 Identification

Despite our tight specification and robustness tests, we cannot rule out non-causal explanations such as an omitted variable bias. To help with identification, we exploit the introduction of the R&A framework in 2014. PRI announced in 2013 that it planned to introduce the survey in the following year and make it mandatory for all signatories. Thus, fund families that became PRI signatories *before 2013* did not know about the upcoming reporting requirement. This means that we can effectively treat the introduction of the R&A framework as an exogenous event for asset managers that became signatories in 2012 or earlier.

- Table 6 -

In Table 6, we make use of this by running Regression (1) on a restricted sample of mutual fund families that joined the PRI before 2013 and those that never join. The effect

of receiving a high R&A score is even stronger in this setting. We find a boost of 17bp in the overall sample (column 1). This effect is mainly concentrated in the institutional asset classes, where the boost is 40bp (column 3). The latter coefficient is economically significant, corresponding to 6.4% of a standard deviation. These findings remain robust when controlling for category-by-month fixed effects in columns 2 and 4. We find only a marginally significant effect of receiving a high \emptyset R&A score for retail share classes.

In Internet Appendix Table IA7, we confirm that this effect is robust to a battery of additional tests. First, following Hartzmark and Sussman (2019), we use normalized flows as the dependent variable to account for the effect of fund size on flows (Panel A). Second, we consider a subset of R&A modules to account for any misrepresentation of funds that submit more assessment modules (Panel B). Third, we include fund fixed effects to capture unobservable time invariant fund-level omitted variables (Panel C). Fourth, we control for the continuous measure of Morningstar’s performance “Stars” rating, an alternative metric for funds’ overall attractiveness (Panel D). Fifth, we control for ESG funds to make sure that our findings are not driven by these types of funds (Panel E).

Taken together, the results in this section suggest that mutual fund investors value the positive disclosure of ESG information by asset managers. Moreover, our tests support a causal interpretation.

4.4 Joining the PRI and mutual fund flows

In the Internet Appendix, we further examine if merely joining the PRI is a strong enough signal to elicit a response from investors. When joining the PRI, asset managers commit to applying several principles to “better align investors with [the] broader objectives of society” (PRI, 2020b). However, given that asset managers can easily become a PRI signatory, the signal emitted by joining might not be costly to the emitter and therefore not credible. To test this, we run the Difference-in-Differences regression below around the joining date of PRI signatories.

$$Flow_{i,t} = \alpha + \beta_1 Post_t \times PRI_i + \gamma' \mathbf{X}_{i,t-1} + \delta_t + \eta_i + \epsilon_{i,t} \quad (2)$$

The main explanatory variable is the difference-in-difference interaction term $Post_t \times PRI_i$. PRI_i identifies funds of asset managers that joined the PRI until the end of the sample. $Post_t$ is an indicator variable equal to 1 for the months after the asset manager became a signatory and 0 for all prior months. $\mathbf{X}_{i,t-1}$, δ_t , and η_i are the same fund-level controls and fixed effects from Regression (1). The $Post_t$ and PRI_i indicators are absorbed by the month and fund-family fixed effects respectively. $\epsilon_{i,t}$ is the error term and standard errors are double clustered along months and fund families.

The results are tabulated in Internet Appendix Table IA8. We find no significant effect of joining the PRI on fund flows, neither in the full sample, nor in the institutional or retail subsamples. These findings suggest that merely joining PRI is not a strong enough signal to warrant an investor response. One reason for this might be that investors are not able to distinguish between signatories that implement the PRI principles and signatories that merely join to obtain the PRI label. Therefore, they pool all signatories in the latter category.

5 The interplay between voluntary ESG disclosure and external ESG ratings

Ball, Jayaraman, and Shivakumar (2012) provide evidence that verified and voluntary disclosure are complements because, through the verification of outcomes, voluntarily disclosed information becomes more credible. The authors call this the “confirmation hypothesis.” In our setting, asset managers’ decision to disclose the R&A scores is voluntary and the disclosed information itself is not verified.¹⁴ Following the confirmation hypothesis, we test

¹⁴Once the voluntary decision to become a signatory is made, the decision to report is no longer voluntary. The fact that R&A scores are private deters delisting of poorly performing signatories. In the spirit of Verrecchia (1983), while there is no cost of disclosing information per se, filling out the survey is costly and can be a reason why some asset managers will choose not to become signatories in the first place.

whether an external ESG verification makes the voluntary investor disclosure more credible.

To our knowledge, there is no standardized and verified ESG disclosure framework for asset managers, with the exception of French institutional investors (Mésonnier and Nguyen, 2022). However, we can make use of the ESG portfolio ratings (“Globes”) that were introduced by Morningstar in March 2016 (Hartzmark and Sussman, 2019). Obtaining the maximum number of Globes is an external certification by Morningstar that a mutual fund’s ESG portfolio footprint is within the 10% of most sustainable funds in its investment strategy. Therefore, following *Hypothesis 2*, we expect funds of asset managers that obtain both a high R&A disclosure score and the highest number of ESG Globes will receive particularly high flows from end investors. In other words, we expect the PRI’s R&A score and Morningstar’s ESG Globes to be complements.

- Table 7 -

Table 7 tabulates the relative frequency of funds by R&A score and ESG Globes. Interestingly, it is not uncommon for funds of PRI signatories with a high R&A score to receive only one Morningstar ESG Globe: About 21% of 1 Globe funds had a high R&A fund family score. This figure is even higher (46%) when we consider only funds that receive a R&A score in the first place. Reassuringly, funds of signatories with a high R&A score are over-represented in the 5 Globes category: 27% of funds that receive the highest ESG rating also have an average R&A score of A or higher. This figure is between 10 and 15% for funds with a lower R&A score.

- Table 8 -

In Table 8, we formally test whether ESG Globes and R&A scores are complements or substitutes. To do this, we interact the main explanatory variable, $\mathbb{1}_{R\&A \geq A}$, with dummies for funds that receive 5 Globes and 1 Globe, respectively.¹⁵ The interaction between

¹⁵It could be the case that the by including only the extreme Globe categories (1 and 5) we are leaving out important variation that might explain our results. In Internet Appendix Table IA9, we include a model that is interacted with the full set of Globes. Our main finding remains unchanged.

$\emptyset R\&A \geq A$ and 5 Globes captures the additional boost in flows that funds of $\emptyset R\&A \geq A$ signatories receive when also having the highest portfolio ESG rating. We find a positive interaction effect in the full sample (columns 1 and 2): Funds having both a high ESG rating and a high R&A score receive an additional boost in flows of 20bp. The effect is even stronger for the institutional funds where the interaction coefficient measures 42bp, almost twice the effect of having only a high R&A score. This is an economically sizable effect corresponding to a monthly boost in flows of 63bp (21bp + 42bp) or 10% of a standard deviation.

We also observe that mutual funds with only 1 ESG Globe, the lowest Morningstar sustainability rating, exhibit significant outflows from retail investors.¹⁶ This raises the question as to whether the positive self-disclosure can serve as a substitute for negative verified disclosure. In other words, can funds that receive only 1 ESG Globe recover part of the outflows by having a good R&A score? Our findings suggest that this is not the case: Funds that receive only 1 Globe, and experience an outflow of about 16bp in the full sample, do not gain from receiving a high R&A score.

It is worth noting that columns 3 and 4 confirm our baseline result that institutional fund investors value positive ESG disclosure by asset managers. The coefficient of $\emptyset R\&A \geq A$ is significantly positive, suggesting that high-scoring funds receive significantly more inflows than funds that have no R&A score and have either no Morningstar Globe rating or one that is between 2 and 4 Globes. The economic magnitude of this result is very similar to our previous results.

Taken together, these findings support the confirmation hypothesis that verified information (here the ESG Globes) complements voluntarily disclosed information (the R&A scores) by making the latter more credible. The reverse does not hold, as positive, voluntary disclosure does not “make up” for negative, verified information.

¹⁶This result is in line with prior findings of Hartzmark and Sussman (2019).

6 Are PRI's Reporting & Assessment scores cheap talk?

This section examines whether asset managers that disclose better ESG practices in fact have better ESG practices. This is an important question because it determines whether the boost in flows that these funds receive are invested more responsibly and hence manifest a more efficient allocation of responsible capital. If disclosing investors were instead better at greenwashing, the resulting capital allocation would be less efficient.

Testing this question empirically is difficult because we can only observe investors' ESG outcomes to some degree but not how much effort asset managers dedicated toward ESG investing. Following *Hypothesis 3*, we examine how sustainable the equity holdings of disclosing fund families are (Gibson Brandon et al., 2022; Kim and Yoon, 2022; Liang, Sun, and Teo, 2022). In addition, we test whether these fund families manage more of their assets in mutual funds with an explicit ESG mandate. We conjecture that fund families that implemented better ESG practices manage more assets in ESG funds.

We start by analyzing the sustainability of funds' equity holdings using two portfolio-based measures. Our first measure is the portfolio ESG score from Morningstar. Morningstar calculates the portfolio ESG score of a fund by value-weighting the ESG ratings of the stocks that the fund held at the end of a quarter. We use portfolio ESG scores from 2012 to September 2019, when the methodology for computing them changed. Our second measure is the portfolio incident score, which quantifies the amount of ESG incidents that the stocks held by a mutual fund have. Different from the portfolio ESG score, this measure captures realized ESG-related business risks (Glossner, 2022). We calculate it by value-weighting the Peak RepRisk Index¹⁷ of the stocks held by a fund in a given quarter. We obtain the holdings of mutual funds from FactSet Global Fund Ownership.

- Table 9 -

Table 9 shows the results of regressing these fund ESG measures on the R&A score.

¹⁷The Peak RepRisk Index reflects a firm's history of incidents. It takes higher values when a firm had a higher number of incidents or more severe incidents in the past two years.

We include category-month but no fund family fixed effects to compare fund families in the cross section rather than over time as we did in our previous analyses. In column 1, we find a positive and significant relation between having a high or medium R&A score and the portfolio ESG score of funds. Economically, fund families that receive a high R&A score have an ESG portfolio score by Morningstar that is 3.3% of a standard deviation higher than the baseline group of non-PRI investors. Fund families with a low R&A score, by contrast, do not exhibit better portfolio ESG scores. In column 2, we find similar results using the RepRisk incident score as the dependent variable. Funds with high R&A scores are less exposed to firms that experience ESG incidents.

In column 3, we use a fund-family measure that captures the percentage of a family's assets managed in funds with an explicit ESG mandate. We use this as a proxy for signatories' dedication toward ESG investing. All PRI signatories that disclose on their ESG practices manage relatively more assets in ESG funds compared to non-PRI investors. Importantly, this difference is more than twice for signatories with a R&A score of A or above.

Taken together, these findings suggest that the disclosure of better ESG practices is not cheap talk and that the boost in flows that comes with the disclosure is consistent with a more efficient allocation of responsible capital.

7 Conclusion

This paper provides evidence that ESG disclosure by asset managers can mitigate information asymmetries in the responsible investing landscape by enabling clients to allocate responsible capital to asset managers with better ESG incorporation.

We exploit a unique setting, in which mutual fund families disclose about their ESG practices as part of their voluntary commitment to the PRI, the largest responsible investor initiative. We find that mutual funds that disclose superior ESG practices through the PRI's standardized reporting framework receive more assets from institutional clients, suggesting

that market participants are using this framework to guide their capital allocation decisions. This effect is more pronounced when the ESG disclosure is corroborated by high ESG fund ratings from Morningstar, consistent with the idea that voluntary disclosure is more credible when it is confirmed by externally verified information. Finally, we find evidence that the information contained in the R&A framework is not cheap talk: The disclosure correlates with more sustainable investment practices, such as holding more sustainable stocks and managing more assets in mutual funds with an explicit ESG mandate.

As investment managers and advisors continue developing their ESG integration practices, it remains to be seen how future disclosure will need to adapt to these changing investment landscapes. ESG factors and other content related to non-financial reporting are difficult to standardize and therefore are expected to continuously adjust as the market develops. Therefore, this will require a continuous re-evaluation of standards, frameworks, and client-level sophistication, which can change in along with investor preferences. All these developments can influence optimal disclosure frameworks.

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Figures

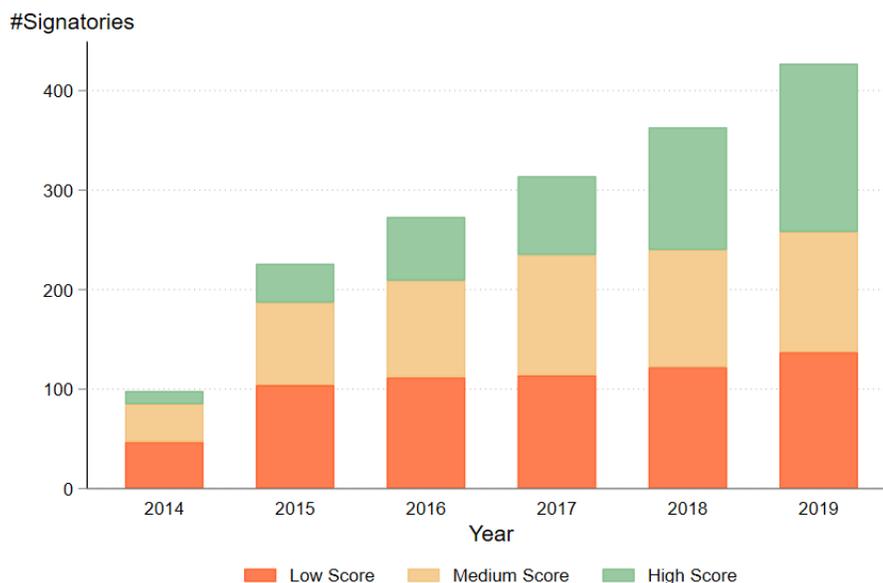
Figure 1: Example of a Reporting & Assessment scorecard

This figure shows the Reporting & Assessment scorecard of a PRI signatory. This exemplary signatory received the highest R&A score, A+, on all modules in the R&A Framework.



Figure 2: Reporting & Assessment scores over time

This figure shows the distribution over time of the number of signatories by R&A score. Low score corresponds to a R&A score below “B”, Medium score to a R&A score between B and A, and High score to a R&A score of A or higher. The sample is at the signatory-year level and covers the years from 2014 to 2019.



Tables

Table 1: Summary statistics of the fund sample

This table shows summary statistics of our sample consisting of PRI signatory mutual funds and non-PRI mutual funds. Panel A shows all funds, whereas Panels B and C restrict the sample to institutional and retail funds, respectively. Institutional funds have more than 50% of assets from institutional share classes. The sample is at the fund-month level and covers the period from 2011 to 2019. We include all funds from countries with at least one signatory as of 2019. Mutual fund data is from Morningstar. PRI membership comes from the PRI. PRI is an indicator for funds that (eventually) join the PRI. Post is an indicator for the period after a fund becomes signatory. All variables are defined in Internet Appendix Table IA1.

Panel A: Full sample

	N	min	p25	mean	p50	p75	max	sd
PRI	3,244,621	0.00	0.00	0.60	1.00	1.00	1.00	0.49
Post × PRI	3,244,621	0.00	0.00	0.49	0.00	1.00	1.00	0.50
Flows	3,244,621	-27.39	-1.55	0.22	-0.20	0.87	57.00	6.22
Log assets _{t-1}	3,244,621	1.20	16.78	18.10	18.16	19.50	27.33	2.12
%AUM Inst	3,244,621	0.00	0.00	0.18	0.00	0.12	1.00	0.34
Institutional fund	3,244,621	0.00	0.00	0.17	0.00	0.00	1.00	0.38
Return _{t-12;t-1}	2,948,106	-46.58	-2.65	5.52	4.42	13.32	92.31	12.33
Return _{t-24;t-13}	2,561,260	-46.58	-1.94	6.43	5.41	14.55	92.31	12.66
Stdev. ret _{t-1}	3,199,384	0.33	2.38	3.77	3.49	4.86	11.82	1.96
Log Fund age _{t-1}	3,177,669	0.04	1.47	2.06	2.16	2.72	3.53	0.82
Stars _{t-1}	2,193,257	1.00	2.00	3.10	3.00	4.00	5.00	1.07
Stars upgrade	2,168,377	0.00	0.00	0.07	0.00	0.00	1.00	0.25
Stars downgrade	2,168,377	0.00	0.00	0.07	0.00	0.00	1.00	0.25
ESG fund	3,244,621	0.00	0.00	0.09	0.00	0.00	1.00	0.29
ESG Globes	591,445	1.00	2.00	3.04	3.00	4.00	5.00	1.11
Δ5Globes	3,244,621	0.00	0.00	0.00	0.00	0.00	1.00	0.07
Δ1Globes	3,244,621	0.00	0.00	0.00	0.00	0.00	1.00	0.07

Panel B: Institutional funds

	N	min	p25	mean	p50	p75	max	sd
PRI	565,064	0.00	0.00	0.62	1.00	1.00	1.00	0.48
Post× PRI	565,064	0.00	0.00	0.51	1.00	1.00	1.00	0.50
Flows	565,064	-27.38	-1.15	0.51	-0.00	1.22	57.00	6.19
Log assets _{t-1}	565,064	3.09	17.50	18.78	18.85	20.16	26.40	2.00
%AUM Inst	565,064	0.50	0.76	0.87	0.96	1.00	1.00	0.16
Institutional fund	565,064	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Return _{t-12;t-1}	510,242	-44.92	-1.32	6.32	5.05	13.79	78.61	11.79
Return _{t-24;t-13}	443,233	-44.92	-0.63	7.29	5.97	15.01	78.61	12.13
Stdev. ret _{t-1}	555,307	0.33	2.09	3.44	3.19	4.56	11.81	1.90
Log Fund age _{t-1}	559,356	0.04	1.33	1.89	1.95	2.51	3.53	0.79
Stars _{t-1}	414,098	1.00	3.00	3.43	3.00	4.00	5.00	1.04
Stars upgrade	409,798	0.00	0.00	0.07	0.00	0.00	1.00	0.25
Stars downgrade	409,798	0.00	0.00	0.07	0.00	0.00	1.00	0.25
ESG fund	565,064	0.00	0.00	0.13	0.00	0.00	1.00	0.34
ESG Globes	131,647	1.00	2.00	3.03	3.00	4.00	5.00	1.08
Δ5Globes	565,064	0.00	0.00	0.01	0.00	0.00	1.00	0.08
Δ1Globes	565,064	0.00	0.00	0.01	0.00	0.00	1.00	0.08

Panel C: Retail funds

	N	min	p25	mean	p50	p75	max	sd
PRI	2,679,557	0.00	0.00	0.60	1.00	1.00	1.00	0.49
Post× PRI	2,679,557	0.00	0.00	0.49	0.00	1.00	1.00	0.50
Flows	2,679,557	-27.39	-1.62	0.16	-0.28	0.79	57.00	6.23
Log assets _{t-1}	2,679,557	1.20	16.64	17.95	18.02	19.34	27.33	2.11
%AUM Inst	2,679,557	0.00	0.00	0.03	0.00	0.00	0.50	0.09
Institutional fund	2,679,557	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Return _{t-12;t-1}	2,437,864	-46.58	-2.95	5.36	4.28	13.22	92.31	12.43
Return _{t-24;t-13}	2,118,027	-46.58	-2.24	6.25	5.28	14.45	92.31	12.76
Stdev. ret _{t-1}	2,644,077	0.33	2.44	3.84	3.55	4.92	11.82	1.97
Log Fund age _{t-1}	2,618,313	0.04	1.51	2.09	2.21	2.76	3.53	0.83
Stars _{t-1}	1,779,159	1.00	2.00	3.03	3.00	4.00	5.00	1.06
Stars upgrade	1,758,579	0.00	0.00	0.07	0.00	0.00	1.00	0.25
Stars downgrade	1,758,579	0.00	0.00	0.07	0.00	0.00	1.00	0.25
ESG fund	2,679,557	0.00	0.00	0.08	0.00	0.00	1.00	0.28
ESG Globes	459,798	1.00	2.00	3.04	3.00	4.00	5.00	1.12
Δ5Globes	2,679,557	0.00	0.00	0.00	0.00	0.00	1.00	0.07
Δ1Globes	2,679,557	0.00	0.00	0.00	0.00	0.00	1.00	0.07

Table 2: Summary statistics of the PRI Reporting & Assessment framework

This table shows summary statistics for PRI signatory funds that reported their ESG practices to the PRI and received a R&A score. Panel A shows all funds, whereas Panels B and C restrict the sample to institutional and retail funds, respectively. Institutional funds have more than 50% of assets from institutional share classes. The sample is at the fund-year level and covers the period from 2014, when the R&A framework was introduced, to 2019. R&A scores information comes from the PRI. The score variables take a value of 1 for the lowest score, E, and a value of 6 for the highest score, A+. The various modules that constitute the overall R&A scores are listed separately. SAM means “Selection, Appointment, and Monitoring processes”. All variables are defined in Internet Appendix Table IA1.

Panel A: Full sample

	N	min	p25	mean	p50	p75	max	sd
$\emptyset R\&A_Score_{t-1}$	106,185	1.25	3.50	4.22	4.25	5.00	6.00	0.95
$\emptyset R\&A_Score_restricted_{t-1}$	106,185	1.25	4.00	4.61	4.75	5.25	6.00	0.86
$\emptyset R\&A_{t-1} \geq A$	106,185	0.00	0.00	0.27	0.00	1.00	1.00	0.44
$\emptyset R\&A_{t-1} \in [B; A)$	106,185	0.00	0.00	0.34	0.00	1.00	1.00	0.47
$\emptyset R\&A_{t-1} < B$	106,185	0.00	0.00	0.39	0.00	1.00	1.00	0.49
Strategy & Governance	106,185	2.00	5.00	5.08	5.00	6.00	6.00	0.84
SAM - Listed Equity	41,332	1.00	1.00	2.74	2.00	4.00	6.00	1.52
SAM - Fixed Income	20,111	1.00	1.00	2.39	1.00	4.00	6.00	1.77
Listed Equity - Screening	89,726	1.00	4.00	4.64	5.00	5.00	6.00	1.06
Listed Equity - Integration	97,432	1.00	4.00	4.53	5.00	5.00	6.00	1.00
Active Ownership	103,063	1.00	4.00	4.22	4.00	5.00	6.00	1.09
Private Equity	19,680	1.00	1.00	2.07	2.00	2.00	6.00	1.21
Direct Property	31,753	1.00	1.00	3.18	4.00	5.00	6.00	1.68
Direct Infrastructure	14,830	1.00	2.00	3.17	2.00	5.00	6.00	1.78

Panel B: Institutional funds

	N	min	p25	mean	p50	p75	max	sd
$\emptyset R\&A_Score_{t-1}$	19,517	1.25	3.67	4.35	4.50	5.00	6.00	0.98
$\emptyset R\&A_Score_restricted_{t-1}$	19,517	1.25	4.25	4.66	4.75	5.25	6.00	0.86
$\emptyset R\&A_{t-1} \geq A$	19,517	0.00	0.00	0.33	0.00	1.00	1.00	0.47
$\emptyset R\&A_{t-1} \in [B; A)$	19,517	0.00	0.00	0.35	0.00	1.00	1.00	0.48
$\emptyset R\&A_{t-1} < B$	19,517	0.00	0.00	0.32	0.00	1.00	1.00	0.47
Strategy & Governance	19,517	2.00	5.00	5.09	5.00	6.00	6.00	0.84
SAM - Listed Equity	4,865	1.00	2.00	3.16	3.00	5.00	6.00	1.61
SAM - Fixed Income	2,428	1.00	1.00	2.99	3.00	5.00	6.00	1.92
Listed Equity - Screening	16,074	1.00	4.00	4.69	5.00	5.00	6.00	1.06
Listed Equity - Integration	17,184	1.00	4.00	4.60	5.00	5.00	6.00	0.99
Active Ownership	18,424	1.00	4.00	4.24	4.00	5.00	6.00	1.08
Private Equity	3,883	1.00	1.00	1.90	2.00	2.00	6.00	1.09
Direct Property	6,532	1.00	2.00	3.42	4.00	5.00	6.00	1.69
Direct Infrastructure	3,853	1.00	1.00	3.24	2.00	5.00	6.00	1.88

Panel C: Retail funds

	N	min	p25	mean	p50	p75	max	sd
$\emptyset R\&A_Score_{t-1}$	86,668	1.29	3.50	4.19	4.25	5.00	6.00	0.94
$\emptyset R\&A_Score_restricted_{t-1}$	86,668	1.33	4.00	4.60	4.75	5.25	6.00	0.86
$\emptyset R\&A_{t-1} \geq A$	86,668	0.00	0.00	0.26	0.00	1.00	1.00	0.44
$\emptyset R\&A_{t-1} \in [B; A)$	86,668	0.00	0.00	0.34	0.00	1.00	1.00	0.47
$\emptyset R\&A_{t-1} < B$	86,668	0.00	0.00	0.41	0.00	1.00	1.00	0.49
Strategy & Governance	86,668	2.00	5.00	5.08	5.00	6.00	6.00	0.84
SAM - Listed Equity	36,467	1.00	1.00	2.68	2.00	4.00	6.00	1.49
SAM - Fixed Income	17,683	1.00	1.00	2.30	1.00	4.00	6.00	1.73
Listed Equity - Screening	73,652	1.00	4.00	4.63	5.00	5.00	6.00	1.06
Listed Equity - Integration	80,248	1.00	4.00	4.52	5.00	5.00	6.00	1.01
Active Ownership	84,639	1.00	4.00	4.21	4.00	5.00	6.00	1.10
Private Equity	15,797	1.00	1.00	2.12	2.00	2.00	6.00	1.23
Direct Property	25,221	1.00	1.00	3.11	4.00	5.00	6.00	1.67
Direct Infrastructure	10,977	1.00	2.00	3.14	2.00	5.00	6.00	1.74

Table 3: Transition matrix between Reporting & Assessment scores

This table shows the number (and percent) of signatories that change their R&A score year-on-year. The sample is at the signatory-year level and spans from 2015 to 2019.

Year	Change in \emptyset R&A Score					Total
	-2	-1	0	+1	+2	
2015	0 (0.00%)	2 (2.06%)	74 (76.29%)	21 (21.65%)	0 (0.00%)	97
2016	0 (0.00%)	14 (6.36%)	159 (72.27%)	41 (18.64%)	6 (2.73%)	220
2017	1 (0.38%)	11 (4.18%)	209 (79.47%)	37 (14.07%)	5 (1.90%)	263
2018	1 (0.33%)	12 (3.97%)	223 (73.84%)	56 (18.54%)	10 (3.31%)	302
2019	2 (0.56%)	15 (4.20%)	264 (73.95%)	68 (19.05%)	8 (2.24%)	357
Total	4 (0.33%)	54 (4.36%)	929 (74.98%)	223 (18.00%)	29 (2.34%)	1,239 (100.00%)

Table 4: Reporting & Assessment scores - Disclosure of scores

This table provides statistics on whether signatories disclose their R&A scores on their homepage or in their annual report. The first row shows the R&A scores of the two groups. The remaining rows decompose the signatories of the two groups by their scores. This table also reports the difference between the two sub-samples and the p-values resulting from t-tests. Disclosure data was hand-collected from signatories' homepages and annual reports in 2021. The sample is at the signatory-year level and, in Panel A, spans from 2014 to 2019. Panel B shows only the most recent cross-section of 2019.

Panel A: Entire sample period of 2014 - 2019

	Disclosed	Not disclosed	Difference	p-Values	N
\emptyset R&A $_{t-1}$	4.617	3.879	0.738	0.000	1,665
\emptyset R&A $_{t-1} \geq A$	0.456	0.174	0.282	0.000	1,665
\emptyset R&A $_{t-1} \in [B; A)$	0.333	0.349	-0.016	0.504	1,665
\emptyset R&A $_{t-1} < B$	0.211	0.477	-0.266	0.000	1,665

Panel B: Cross-section of 2019

	Disclosed	Not disclosed	Difference	p-Values	N
\emptyset R&A $_{t-1}$	4.930	4.041	0.889	0.000	416
\emptyset R&A $_{t-1} \geq A$	0.616	0.279	0.337	0.000	416
\emptyset R&A $_{t-1} \in [B; A)$	0.272	0.291	-0.019	0.680	416
\emptyset R&A $_{t-1} < B$	0.113	0.430	-0.318	0.000	416

Table 5: R&A scores and fund flows

This table shows regressions of flows on indicator variables for several cutoffs of the R&A scores of PRI signatories. These are respectively an average score of A or greater; greater than B but less than A; and smaller than B. These indicators are set to zero for months when no scores are available or when the fund is not a PRI signatory. All regressions control for lagged fund characteristics, fund-family fixed effects, and either month or category-by-month fixed effects. The sample includes all funds from countries with a least one PRI signatory and spans from 2011 to 2019. Singleton observations are dropped. t-statistics, based on robust standard errors clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

Dep. variable:	All funds		Institutional		Retail	
	(1) Flows	(2) Flows	(3) Flows	(4) Flows	(5) Flows	(6) Flows
$\emptyset R\&A_{t-1} \geq A$	0.07 (1.30)	0.06 (1.12)	0.23** (2.50)	0.20** (2.31)	0.03 (0.64)	0.01 (0.34)
$\emptyset R\&A_{t-1} \in [B; A)$	0.01 (0.18)	-0.03 (-0.64)	0.03 (0.32)	0.01 (0.10)	-0.00 (-0.05)	-0.05 (-1.17)
$\emptyset R\&A_{t-1} < B$	0.00 (0.04)	-0.01 (-0.18)	0.03 (0.25)	0.04 (0.34)	-0.01 (-0.22)	-0.02 (-0.54)
Return _{t-1}	0.06*** (5.72)	0.11*** (10.08)	0.03** (2.46)	0.09*** (5.76)	0.06*** (6.77)	0.11*** (12.71)
Return _{t-12;t-1}	0.04*** (17.07)	0.06*** (20.55)	0.03*** (9.66)	0.06*** (11.42)	0.04*** (18.76)	0.06*** (22.04)
Return _{t-24;t-13}	0.01*** (6.02)	0.02*** (10.64)	0.01*** (4.29)	0.03*** (8.97)	0.01*** (6.13)	0.01*** (10.23)
Stdev. ret _{t-1}	-0.14*** (-8.97)	-0.10*** (-5.90)	-0.15*** (-7.82)	-0.09*** (-3.16)	-0.14*** (-9.54)	-0.10*** (-6.45)
Log assets _{t-1}	0.04*** (4.54)	0.04*** (4.84)	0.01 (0.87)	0.01 (0.68)	0.04*** (5.83)	0.04*** (6.28)
Log Fund age _{t-1}	-0.56*** (-19.43)	-0.56*** (-20.29)	-0.64*** (-11.88)	-0.62*** (-12.02)	-0.52*** (-20.56)	-0.53*** (-21.91)
Stars upgrade	0.02 (1.01)	-0.02 (-1.47)	0.00 (0.05)	-0.06 (-1.65)	0.02 (1.13)	-0.02 (-0.95)
Stars downgrade	-0.10*** (-5.10)	-0.04** (-2.07)	-0.11** (-2.61)	-0.03 (-0.80)	-0.09*** (-4.76)	-0.03* (-1.94)
$\Delta 5$ Globes	-0.01 (-0.12)	0.01 (0.26)	0.04 (0.29)	0.06 (0.42)	-0.02 (-0.36)	-0.01 (-0.16)
$\Delta 1$ Globes	-0.16** (-2.39)	-0.15** (-2.16)	-0.25 (-1.40)	-0.20 (-1.16)	-0.12* (-1.84)	-0.12* (-1.71)
Constant	0.56*** (3.32)	0.22 (1.34)	1.29*** (3.86)	0.75** (2.34)	0.46*** (3.57)	0.17 (1.26)
Observations	1,865,535	1,865,535	367,838	367,838	1,497,229	1,497,229
R-squared	0.03	0.05	0.04	0.06	0.03	0.05
Fund-Family FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No

Table 6: R&A scores and fund flows - Identification based on the introduction of the R&A framework in 2014

This table shows regressions of flows on an indicator variable for several cutoffs of the R&A scores of PRI signatories. The sample covers only signatories that join before 2013, when submitting a R&A report became mandatory, signatories that did not file such a report, and non-PRI investors. We set the indicator variables to zero for months when no scores are available or when the fund is not a PRI signatory. All regressions control for lagged fund characteristics, fund-family fixed effects, and either month or category-by-month fixed effects. The sample includes all funds from countries with a least one PRI signatory and spans from 2011 to 2019. Singleton observations are dropped. t-statistics, based on robust standard errors clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

Dep. variable:	Flows					
	All funds		Institutional		Retail	
	(1)	(2)	(3)	(4)	(5)	(6)
$\emptyset R\&A_{t-1} \geq A$	0.17*** (2.77)	0.15** (2.44)	0.40*** (3.47)	0.32*** (2.86)	0.12* (1.87)	0.11 (1.61)
$\emptyset R\&A_{t-1} \in [B; A)$	0.07 (1.14)	0.01 (0.20)	0.19 (1.61)	0.12 (1.05)	0.04 (0.67)	-0.02 (-0.25)
$\emptyset R\&A_{t-1} < B$	0.09 (1.18)	0.05 (0.78)	0.18 (1.03)	0.14 (0.83)	0.07 (0.97)	0.04 (0.55)
Observations	1,473,631	1,473,631	283,977	283,977	1,189,269	1,189,269
R-squared	0.03	0.05	0.04	0.07	0.03	0.05
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Family FE	Yes	Yes	Yes	No	Yes	No
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes

Table 7: R&A scores and Morningstar’s ESG globes – descriptive statistics

This table shows the absolute frequencies of funds along cutoffs of the R&A scores of PRI signatories. The frequencies are reported along the Morningstar sustainability “Globes” ratings.

Morningstar sustainability ratings (“Globes”)							
\emptyset R&A	0 (Missing)	1	2	3	4	5	Total
$\geq A$	205,548	10,964	31,688	57,696	36,561	17,345	359,802
$\in [B; A)$	243,922	6,641	20,208	33,354	20,953	9,869	334,947
$< B$	267,122	6,300	15,804	25,188	15,423	6,701	336,538
0 (Missing)	1,936,584	28,948	63,483	93,724	60,786	29,809	2,213,334
Total	2,653,176	52,853	131,183	209,962	133,723	63,724	3,244,621
% \emptyset R&A $\geq A$	7.75%	20.74%	24.16%	27.48%	27.34%	27.22 %	11.09%

Table 8: R&A scores and Morningstar's ESG globes

This table shows regressions of flows on an indicator variable for funds with a high R&A score of A or greater and its interaction with an indicator for funds with five and one Morningstar ESG Globes respectively. The regressions control for funds having a \emptyset R&A score greater than B but less than A and for funds with a score smaller than B. The \emptyset R&A and Globes indicators are set to zero for months when no scores are available or when the fund is not a PRI signatory. All regressions control for lagged fund characteristics, fund-family fixed effects, and either month or category-by-month fixed effects. The sample includes all funds from countries with a least one PRI signatory and spans from 2011 to 2019. Singleton observations are dropped. t-statistics, based on robust standard errors clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

Dep. variable:	All funds		Institutional		Retail	
	(1) Flows	(2) Flows	(3) Flows	(4) Flows	(5) Flows	(6) Flows
$\emptyset R\&A_{t-1} \geq A \times 5$ Globes	0.20** (2.35)	0.23*** (2.75)	0.42** (2.58)	0.39** (2.35)	0.15 (1.62)	0.20** (2.14)
5 Globes	-0.01 (-0.13)	0.02 (0.44)	0.05 (0.45)	0.11 (1.10)	-0.03 (-0.53)	-0.02 (-0.39)
$\emptyset R\&A_{t-1} \geq A \times 1$ Globe	-0.05 (-0.50)	-0.06 (-0.61)	-0.04 (-0.19)	-0.02 (-0.09)	-0.04 (-0.37)	-0.06 (-0.52)
1 Globe	-0.16*** (-2.82)	-0.11** (-2.04)	-0.21* (-1.71)	-0.10 (-0.80)	-0.14** (-2.39)	-0.11* (-1.94)
$\emptyset R\&A_{t-1} \geq A$	0.06 (1.16)	0.05 (0.95)	0.21** (2.30)	0.19** (2.10)	0.02 (0.33)	0.01 (0.09)
$\emptyset R\&A_{t-1} \in [B; A)$	0.01 (0.18)	-0.03 (-0.64)	0.03 (0.33)	0.01 (0.11)	-0.00 (-0.04)	-0.05 (-0.91)
$\emptyset R\&A_{t-1} < B$	0.00 (0.04)	-0.01 (-0.19)	0.03 (0.25)	0.04 (0.35)	-0.01 (-0.16)	-0.02 (-0.43)
Constant	0.56*** (3.34)	0.23 (1.34)	1.30*** (3.89)	0.75** (2.36)	0.46** (2.57)	0.17 (0.95)
Observations	1,865,535	1,865,535	367,838	367,838	1,497,229	1,497,229
R-squared	0.03	0.05	0.04	0.06	0.03	0.05
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Family FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No

Table 9: Are R&A scores cheap talk?

This table shows regressions of funds' ESG portfolio scores (column 1), incident portfolio scores (column 2), and the percentage of assets in ESG funds (column 3) on indicator variables for several cutoffs of the R&A scores of PRI signatories. These are respectively a score of A or greater; greater than B but less than A; and one smaller than B. These indicators are set to zero for months when no scores are available or when the fund is not a PRI signatory. Portfolio ESG Score is the weighted average of the Sustainalytics ESG ratings of a fund's holdings and is provided by Morningstar. The incident portfolio score is calculated based on the Peak RepRisk Index and is available only for US funds. The percentage of assets in ESG funds is computed based on the total assets at the fund family level. All regressions control for lagged fund characteristics and category-by-month fixed effects. The sample includes all funds from countries with a least one PRI signatory and spans from 2012 to September 2019. Singleton observations are dropped. t-statistics, based on robust standard errors clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

Dep. variable:	ESG Portfolio Score	Incident Portfolio Score	%AUM in ESG Funds
	(1)	(2)	(3)
$\emptyset R\&A_{t-1} \geq A$	0.27*** (3.22)	-0.46** (-2.07)	0.10*** (4.52)
$\emptyset R\&A_{t-1} \in [B; A)$	0.25*** (3.18)	-0.15 (-0.77)	0.06*** (3.39)
$\emptyset R\&A_{t-1} < B$	0.06 (0.81)	-0.23 (-1.26)	0.04*** (2.64)
Observations	704,274	464,355	1,865,571
R-squared	0.90	0.57	0.05
Controls	Yes	Yes	Yes
Category-Month FE	Yes	Yes	Yes

Internet Appendix

A Appendix - Institutional setting

Overall information

This appendix provides additional information about the PRI Reporting & Assessment framework. In 2019, the last year of our sample, the R&A consisted of 14 modules: Organizational Overview, Strategy and Governance, Climate Change Reporting, Manager Selection, Appointment and Monitoring, Listed Equity Incorporation, Listed Equity Active Ownership, Fixed Income, Private Equity, Property, Infrastructure, Direct Inclusive Finance, Indirect Inclusive Finance, Hedge Funds, and the Closing Module. Not every signatory needs to fill out all 14 modules. For example, only those signatories whose “total directly managed fixed income allocation is 10% or more of [their] total AUM” are required to fill out the Fixed Income module.¹⁸

Every signatory must fill out the Organizational Overview and Strategy and Governance modules. The former defines which of the modules are applicable on a signatory-by-signatory basis. The latter covers sustainability practices for the entire organization. An example question would be “Indicate if you have an investment policy that covers your responsible investment approach.” If the answer is yes, signatories are asked to provide more details about the type of the policy via multiple choice answers (e.g., if the policies cover formalized guidelines on environmental and/or social factors). The answer to this question is then assessed by PRI, who gives the signatory a number of points (PRI calls these “stars”) for its efforts on responsible investing. More points indicate better ESG practices. In the exemplary question above, PRI gives three points if the signatory implements at least three different policies that cover the majority of AUM, two points for implementing two policies, and one star for one policy. Most signatories received the maximum of three points in this question (the sample mean in 2019 is 2.6).

It is not as easy to score the maximum number of points for all survey items. For example,

¹⁸For more information on the survey than presented in this appendix, please consult <https://www.unpri.org/reporting-and-assessment/reporting-and-assessment-archive/6567.article>.

the next question asks about the specific investment policy documents that are available online. For example, if the signatory discloses its engagement or proxy voting policy or the formalized guidelines on environmental factors mentioned in the previous question. Here the maximum score is achieved only if the signatory discloses all the policies mentioned in the previous question. Of those that received three stars for the previous question, only about a fifth get the highest number of points for this question as well.

A signatory's R&A score – which is the focus of this study – is the sum of the points that a signatory receives for each question in the survey, averaged over the different modules of the survey. R&A scores can take values from A+ to E, where A+ is the highest score that signatories can get on their ESG disclosure.

Example questions

To provide the reader with an intuitive understanding of the R&A scores, we illustrate the correlation between signatories' R&A scores and their answers to exemplary questions about how responsible investing is implemented at the organizational level.

Internet Appendix Figure [IA1](#) shows summary statistics for institutions whose C-level suite has oversight or accountability for the responsible investing process as well as for institutions whose compensation structure is linked to responsible investing targets or KPIs. While 30% of all PRI signatories implemented RI objectives in their C-level compensation, less than 20% tie the variable compensation of their executives to responsible investing metrics. This number is three times larger for PRI signatories with a high R&A score than for signatories with a medium or low R&A score.

In Internet Appendix Figure [IA2](#), we plot the number of dedicated ESG staff that signatories employ in their organizations. Across signatories, about 50% of them employ between 1 and 5 ESG employees. However, as it becomes apparent from the lower panels, there is a substantial difference between high- and low-scoring signatories. About 50% of the signatories with high R&A scores employ 6 or more ESG employees compared to 20% of the

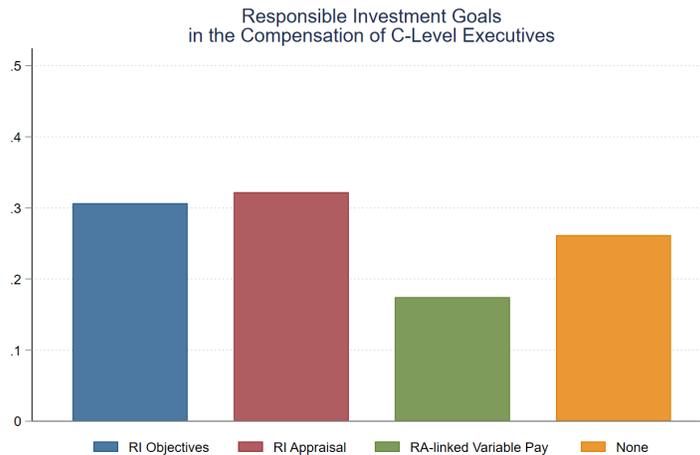
signatories with a medium or low score.

Internet Appendix Figure IA3 shows how signatories differ in their ESG incorporation practices. ESG incorporation strategies involve screening (which is altering the pool of possible investments based on positive, negative, or norms-based criteria), thematic (which is investing in responsible projects, such as renewables), and integration (which is considering ESG information in investment decisions). These strategies are not mutually exclusive, meaning that signatories can apply multiple incorporation strategy to the same assets. The figure shows that on average, signatories apply screening and integration strategies to 60% and 80% of their AUM, respectively. 40% of the signatories' AUM is not under an ESG incorporation strategy. Signatories with high R&A scores have only 20% of their assets without an ESG incorporation strategy, while signatories with medium or low R&A scores do not apply incorporation strategies to 50% of their AUM.

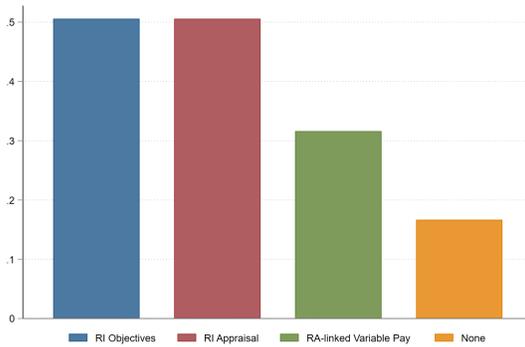
Internet Appendix Figure IA4 shows descriptive statistics for the engagement practices of PRI signatories. Signatories individually and collaboratively engage with 30% and 10% of their AUM, respectively. The lower panels show that signatories with high R&A do not engage more often than signatories with medium or low scores.

Figure IA1: C-Level compensation tied to responsible investing

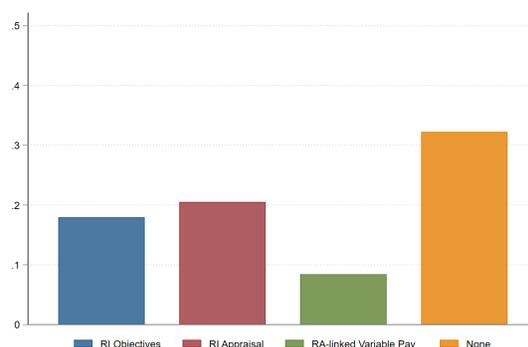
This figure shows the relative frequency of C-level compensation that is tied to responsible investing criteria. The first (blue) bar plots signatories that implement responsible KPIs or goals in their objectives. The second (red) line shows signatories that use responsible investing criteria in the appraisal processes of C-Level executives. The third (green) line shows signatories where the variable pay of C-level executives is linked to responsible investing performance. Panel (a) shows all signatories, Panel (b) shows only signatories with high R&A scores, and Panel (c) shows signatories with medium or low R&A scores. The graph shows results for the year 2019.



(a) All signatories



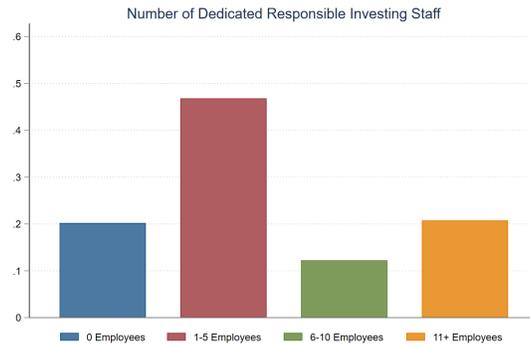
(b) High R&A-Scoring signatories



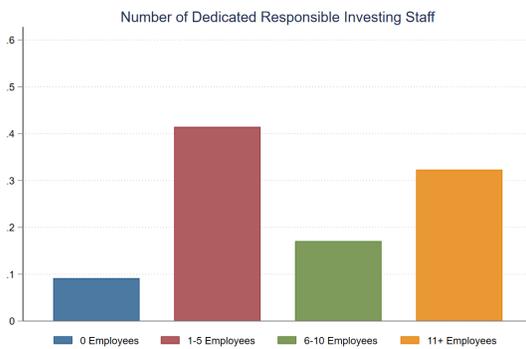
(c) Low and Medium R&A-Scoring signatories

Figure IA2: Dedicated responsible investing staff

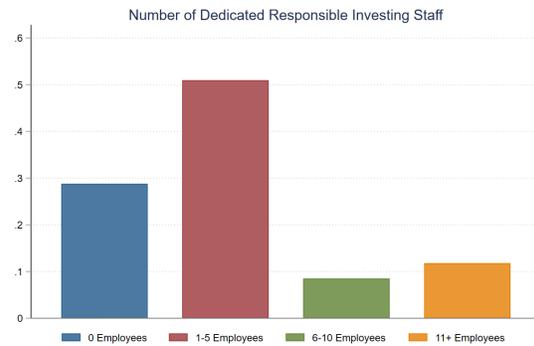
This figure plots the number of dedicated responsible investing staff that a signatory employs. Panel (a) shows all signatories, Panel (b) shows only signatories with high R&A scores, and Panel (c) shows signatories with medium or low R&A scores. The graph shows results for the year 2019.



(a) All signatories



(b) High R&A-Scoring signatories



(c) Low and Medium R&A-Scoring signatories

Figure IA3: ESG incorporation practices

This figure plots the distribution of ESG incorporation practices of signatories. The panels show the applied ESG incorporation criteria (i.e., screening, thematic, or integration) to the actively managed portion of signatories' assets. These strategies are not mutually exclusive: Signatories often apply more than one incorporation strategy to their AUM. Panel (a) shows all signatories, Panel (b) shows only signatories with high R&A scores, and Panel (c) shows signatories with medium or low R&A scores. The sample covers the year 2019 for all panels.



(a) All signatories



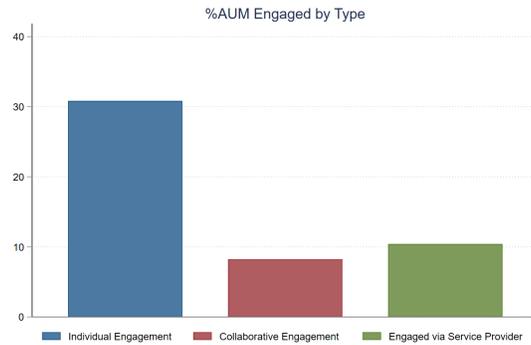
(b) High R&A-Scoring signatories



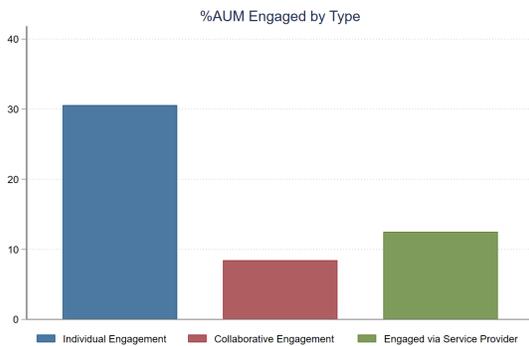
(c) Low and Medium R&A-Scoring signatories

Figure IA4: Engagement practices

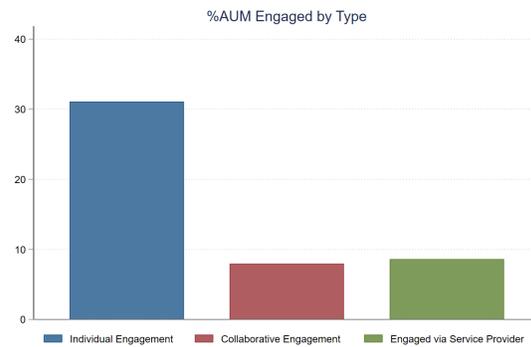
This figure plots the distribution of engagement practices of signatories. Panel (a) shows all signatories, Panel (b) shows only signatories with high R&A scores, and Panel (c) shows signatories with medium or low R&A scores. The sample covers the year 2019 for all panels.



(a) All signatories



(b) High R&A-Scoring signatories



(c) Low and Medium R&A-Scoring signatories

B Appendix - Additional Results

Table IA1: Variable definitions

Panel A: Fund-level variables

Flows	The inflow of funds, net of returns, that a mutual fund receives during a month measured in % of assets under management.
Normalized flows	Normalized flows are computed following Hartzmark and Sussman (2019): First, we split the sample into deciles of fund size. Second, we rank funds according to their net flows within their size decile and compute percentiles of the net flow rankings. These percentiles correspond to the normalized flows variable.
Institutional ESG Portfolio Score	Dummy for funds that have 50% or more of AUM from institutional asset classes. Morningstar's portfolio ESG score, which Morningstar calculates by value-weighting the Sustainalytics ESG scores of the stocks held by a mutual fund in a quarter.
Incident Portfolio Score	The value-weighted Peak RepRisk Index of the stocks held by a fund in a quarter. We calculate this variable using fund holding data from FactSet.
%AUM in ESG Funds	Percentage of a fund families' AUM that are held in mutual funds with a explicit ESG mandate.
Return _{t-1}	Return in the previous month.
Return _{t-12;t-1}	Return in the previous year.
Return _{t-24;t-13}	Return two years ago.
Stdev. ret	Standard deviation of monthly returns over the past twelve months.
Log assets	The natural logarithm of the AUM of a fund.
Log fund age	The natural logarithm of the number of years that passed from the incorporation date of the fund.
Stars	Morningstar's fund performance stars.
Stars upgrade	Indicator for the month when a fund receives one additional star.
Stars downgrade	Indicator for the month when a fund loses one star.
Δ5Globes	Indicator for the month when a fund switches in the five sustainability globes category.
Δ1Globe	Indicator for the month when a fund switches in the one sustainability globe category.
5 Globes	Indicator for funds that have five sustainability globes.
1 Globe	Indicator for funds that have one sustainability globe.
ESG Fund	Indicator variable for funds that are classified by Morningstar as "socially conscious".

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Panel B: PRI Reporting and Assessment Variables

PRI	Indicator for funds that eventually join the PRI.
Post \times PRI	Indicator for the time period after a fund becomes a PRI signatory.
\emptyset R&A_Score	Average of the scores received by a fund across all Reporting and Assessment modules.
\emptyset R&A_Score_restricted	Average of the scores received by a fund across a subset of Reporting and Assessment modules: Strategy and Governance, Listed Equity - Screening, Listed Equity - Integration, and Active Ownership.
\emptyset R&A _{<i>t</i>-1} \geq A	Indicator variable for funds that have a score of A or greater across all modules.
\emptyset R&A _{<i>t</i>-1} \in [B; A)	Indicator variable for funds that have a score of B or greater, but smaller than A across all modules.
\emptyset R&A _{<i>t</i>-1} $<$ B	Indicator variable for funds that have a score smaller than B across all modules.

Table IA2: Robustness test for R&A scores and fund flows - Alternative fund flow definition

This table shows regressions of flows on an indicator variable for several cutoffs of the R&A scores of PRI signatories. These are respectively a score of A or greater; greater than B but less than A; and one smaller than B. All regressions control for lagged fund characteristics and fund-family fixed effects. The odd columns also include month fixed effects. The even ones control for category-by-month fixed effects instead. The sample includes only PRI signatories and spans from 2014 to 2019. Singleton observations are dropped. t-statistics, based on robust standard errors clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

Dep. variable:	Normalized flows					
	All funds		Institutional		Retail	
	(1)	(2)	(3)	(4)	(5)	(6)
$\emptyset R\&A_{t-1} \geq A$	1.22*** (2.96)	0.94** (2.44)	1.56** (2.11)	1.19* (1.74)	1.11** (2.48)	0.82* (1.96)
$\emptyset R\&A_{t-1} \in [B; A)$	0.55 (1.48)	0.13 (0.37)	0.39 (0.61)	0.22 (0.39)	0.49 (1.23)	0.01 (0.02)
$\emptyset R\&A_{t-1} < B$	0.31 (0.79)	0.12 (0.30)	0.07 (0.09)	0.16 (0.21)	0.28 (0.71)	0.06 (0.16)
Observations	1,906,244	1,865,535	373,919	367,838	1,532,309	1,497,229
R-squared	0.08	0.11	0.07	0.11	0.08	0.12
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Family FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No

Table IA3: Robustness test for R&A scores and fund flows - Subset of R&A modules

This table shows regressions of flows on an indicator variable for several cutoffs of the restricted R&A scores ($\emptyset R\&A^{restr.}$) of PRI signatories, using only a subset of modules (Strategy & Governance, Listed Equity Screening, Listed Equity Integration, and Active Ownership). These are respectively a score of A or greater; greater than B but less than A; and one smaller than B. These indicators are set to zero for months when no scores are available or the fund is not a PRI signatory. All regressions control for lagged fund characteristics and fund-family fixed effects. The odd columns also include month fixed effects. The even ones control for category-by-month fixed effects instead. The sample includes all funds from countries with a least one PRI signatory and spans from 2011 to 2019. Singleton observations are dropped. t-statistics, based on robust standard errors clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

Dep. variable:	All funds		Institutional		Retail	
	(1) Flows	(2) Flows	(3) Flows	(4) Flows	(5) Flows	(6) Flows
$\emptyset R\&A_{t-1}^{restr.} \geq A$	0.06 (1.17)	0.05 (0.93)	0.24** (2.48)	0.22** (2.43)	0.02 (0.32)	-0.00 (-0.06)
$\emptyset R\&A_{t-1}^{restr.} \in [B; A)$	0.01 (0.18)	-0.02 (-0.38)	-0.05 (-0.54)	-0.03 (-0.40)	0.03 (0.59)	-0.01 (-0.26)
$\emptyset R\&A_{t-1}^{restr.} < B$	-0.04 (-0.66)	-0.06 (-1.02)	-0.01 (-0.08)	-0.03 (-0.18)	-0.03 (-0.54)	-0.07 (-1.18)
Observations	1,865,535	1,865,535	367,838	367,838	1,497,229	1,497,229
R-squared	0.03	0.05	0.04	0.06	0.03	0.05
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Family FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No

Table IA4: Robustness test for R&A scores and fund flows - Controlling for ESG Funds

This table shows regressions of flows on an indicator variable for several cutoffs of the average Reporting & Assessment (\emptyset R&A) scores of PRI signatories. These are respectively a score of A or greater; greater than B but less than A; and one smaller than B. These indicators are set to zero for months when no scores are available or the fund is not a PRI signatory. All regressions control for lagged fund characteristics – including an indicator variable equal to one for ESG funds (“socially conscious funds”) – and fund-family fixed effects. The odd columns also include month fixed effects. The even ones control for category-by-month fixed effects instead. The sample includes all funds from countries with a least one PRI signatory and spans from 2011 to 2019. Singleton observations are dropped. t-statistics, based on robust standard errors clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

Dep. variable:	All funds		Institutional		Retail	
	(1) Flows	(2) Flows	(3) Flows	(4) Flows	(5) Flows	(6) Flows
\emptyset R&A $_{t-1} \geq A$	0.07 (1.24)	0.06 (1.07)	0.23** (2.46)	0.20** (2.27)	0.02 (0.40)	0.01 (0.21)
\emptyset R&A $_{t-1} \in [B; A)$	0.01 (0.12)	-0.03 (-0.70)	0.02 (0.29)	0.01 (0.07)	-0.00 (-0.09)	-0.05 (-0.97)
\emptyset R&A $_{t-1} < B$	0.00 (0.01)	-0.01 (-0.21)	0.03 (0.24)	0.04 (0.34)	-0.01 (-0.19)	-0.02 (-0.45)
ESG Fund	0.27*** (5.98)	0.28*** (6.14)	0.24** (2.56)	0.25*** (2.82)	0.28*** (5.92)	0.29*** (6.12)
Observations	1,865,535	1,865,535	367,838	367,838	1,497,229	1,497,229
R-squared	0.03	0.05	0.04	0.06	0.03	0.05
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Family FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No

Table IA5: Robustness test for R&A scores and fund flows - Fund FEs

This table shows regressions of flows on an indicator variable for several cutoffs of the R&A scores of PRI signatories. These are respectively a score of A or greater; greater than B but less than A; and one smaller than B. These indicators are set to zero for months when no scores are available or the fund is not a PRI signatory. All regressions control for lagged fund characteristics, and fund fixed effects. The odd columns also include month fixed effects. The even ones control for category-by-month fixed effects instead. The sample includes all funds from countries with a least one PRI signatory and spans from 2011 to 2019. Singleton observations are dropped. t-statistics, based on robust standard errors clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

	All funds		Institutional		Retail	
	(1)	(2)	(3)	(4)	(5)	(6)
Dep. variable:	Flows	Flows	Flows	Flows	Flows	Flows
$\emptyset R\&A_{t-1} \geq A$	0.10*	0.09*	0.29***	0.25***	0.06	0.05
	(1.80)	(1.68)	(2.90)	(2.67)	(0.99)	(0.91)
$\emptyset R\&A_{t-1} \in [B; A)$	0.01	-0.02	0.07	0.06	0.01	-0.03
	(0.31)	(-0.47)	(0.77)	(0.67)	(0.13)	(-0.66)
$\emptyset R\&A_{t-1} < B$	0.03	0.02	0.08	0.07	0.02	0.01
	(0.51)	(0.35)	(0.63)	(0.62)	(0.33)	(0.17)
Observations	1,865,112	1,865,112	367,696	367,696	1,496,802	1,496,802
R-squared	0.10	0.11	0.11	0.13	0.11	0.12
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes

Table IA6: Robustness test for R&A scores and fund flows - Controlling for performance “Stars”

This table shows regressions of flows on an indicator variable for several cutoffs of the R&A scores of PRI signatories. These are respectively a score of A or greater; greater than B but less than A; and one smaller than B. These indicators are set to zero for months when no scores are available or the fund is not a PRI signatory. All regressions control for lagged fund characteristics – including Morningstar’s performance “Stars” – and fund-family fixed effects. The odd columns also include month fixed effects. The even ones control for category-by-month fixed effects instead. The sample includes all funds from countries with a least one PRI signatory and spans from 2011 to 2019. Singleton observations are dropped. t-statistics, based on robust standard errors clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

Dep. variable:	All funds		Institutional		Retail	
	(1) Flows	(2) Flows	(3) Flows	(4) Flows	(5) Flows	(6) Flows
$\emptyset R\&A_{t-1} \geq A$	0.05 (0.89)	0.04 (0.75)	0.22** (2.51)	0.20** (2.41)	0.00 (0.08)	-0.00 (-0.08)
$\emptyset R\&A_{t-1} \in [B; A)$	-0.01 (-0.15)	-0.04 (-0.97)	0.01 (0.18)	0.00 (0.04)	-0.02 (-0.31)	-0.06 (-1.20)
$\emptyset R\&A_{t-1} < B$	-0.00 (-0.10)	-0.02 (-0.34)	0.02 (0.16)	0.03 (0.27)	-0.01 (-0.26)	-0.03 (-0.54)
Stars _{t-1}	0.41*** (25.76)	0.40*** (25.29)	0.57*** (14.72)	0.55*** (14.89)	0.38*** (24.97)	0.37*** (24.61)
Observations	1,883,481	1,883,481	371,101	371,101	1,511,919	1,511,919
R-squared	0.04	0.05	0.05	0.07	0.04	0.06
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Family FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes

Table IA7: Robustness test for R&A scores - Identification test

This table shows regressions of flows on an indicator variable for several cutoffs of the R&A scores of PRI signatories. These are respectively a score of A or greater; greater than B but less than A; and one smaller than B. The sample covers only signatories that either join before 2013, when submitting a R&A report became mandatory, or funds that do *not* file such report. These indicators are set to zero for months when no scores are available or the fund is not a PRI signatory. All regressions control for lagged fund characteristics. Panel A uses normalized flows as a dependent variable. Panel B computes the cutoffs of the R&A framework using the restricted sample of modules. Panel C adds fund fixed effects instead of fund-family fixed effects. Panel D controls for the performance “Stars”. Panel E controls for ESG funds. The odd columns also include month fixed effects. The even ones control for category-by-month fixed effects instead. The sample includes all funds from countries with a least one PRI signatory and spans from 2011 to 2019. Singleton observations are dropped. t-statistics, based on robust standard errors clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

Panel A: Normalized flows

Dep. variable:	Normalized flows					
	All funds		Institutional		Retail	
	(1)	(2)	(3)	(4)	(5)	(6)
$\emptyset R\&A_{t-1} \geq A$	1.99*** (3.94)	1.57*** (3.43)	2.84*** (3.08)	1.98** (2.29)	1.85*** (3.42)	1.47*** (2.98)
$\emptyset R\&A_{t-1} \in [B; A)$	1.12** (2.37)	0.52 (1.21)	1.66* (1.98)	0.99 (1.26)	0.98* (1.92)	0.36 (0.76)
$\emptyset R\&A_{t-1} < B$	1.11** (2.09)	0.67 (1.39)	1.62 (1.40)	1.18 (1.07)	1.00* (1.92)	0.57 (1.22)
Observations	1,473,631	1,473,631	283,977	283,977	1,189,269	1,189,269
R-squared	0.08	0.11	0.07	0.11	0.08	0.12
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Family FE	Yes	Yes	Yes	No	Yes	No
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No

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Panel B: Subset of R&A modules

Dep. variable:	All funds		Institutional		Retail	
	(1) Flows	(2) Flows	(3) Flows	(4) Flows	(5) Flows	(6) Flows
$\emptyset R\&A_{t-1}^{restr.} \geq A$	0.15** (2.49)	0.12** (2.06)	0.39*** (3.37)	0.32*** (2.85)	0.10 (1.50)	0.07 (1.15)
$\emptyset R\&A_{t-1}^{restr.} \in [B; A)$	0.08 (1.32)	0.03 (0.50)	0.09 (0.73)	0.05 (0.46)	0.09 (1.39)	0.03 (0.48)
$\emptyset R\&A_{t-1}^{restr.} < B$	-0.02 (-0.17)	-0.05 (-0.64)	0.12 (0.46)	-0.01 (-0.04)	-0.04 (-0.49)	-0.06 (-0.84)
Observations	1,473,631	1,473,631	283,977	283,977	1,189,269	1,189,269
R-squared	0.03	0.05	0.04	0.07	0.03	0.05
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Family FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No

Panel C: Fund FEs

Dep. variable:	All funds		Institutional		Retail	
	(1) Flows	(2) Flows	(3) Flows	(4) Flows	(5) Flows	(6) Flows
$\emptyset R\&A_{t-1} \geq A$	0.21*** (3.26)	0.19*** (3.11)	0.53*** (4.08)	0.45*** (3.77)	0.17** (2.46)	0.15** (2.33)
$\emptyset R\&A_{t-1} \in [B; A)$	0.11* (1.74)	0.05 (0.95)	0.30** (2.44)	0.25** (2.21)	0.08 (1.27)	0.03 (0.48)
$\emptyset R\&A_{t-1} < B$	0.13* (1.73)	0.10 (1.51)	0.32* (1.73)	0.28 (1.62)	0.10 (1.43)	0.08 (1.19)
Observations	1,473,279	1,473,279	283,864	283,864	1,188,916	1,188,916
R-squared	0.10	0.11	0.10	0.13	0.10	0.12
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No

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Panel D: Controlling for performance Stars

Dep. variable:	All funds		Institutional		Retail	
	(1) Flows	(2) Flows	(3) Flows	(4) Flows	(5) Flows	(6) Flows
$\emptyset R\&A_{t-1} \geq A$	0.15** (2.41)	0.13** (2.15)	0.36*** (3.40)	0.30*** (2.85)	0.10 (1.56)	0.09 (1.37)
$\emptyset R\&A_{t-1} \in [B; A)$	0.05 (0.78)	-0.01 (-0.11)	0.14 (1.30)	0.09 (0.84)	0.03 (0.42)	-0.03 (-0.48)
$\emptyset R\&A_{t-1} < B$	0.06 (0.83)	0.03 (0.46)	0.11 (0.68)	0.08 (0.50)	0.05 (0.70)	0.02 (0.34)
Stars _{t-1}	0.40*** (23.92)	0.38*** (23.64)	0.57*** (14.11)	0.54*** (14.08)	0.36*** (23.24)	0.35*** (23.13)
Observations	1,488,055	1,488,055	286,543	286,543	1,201,138	1,201,138
R-squared	0.04	0.05	0.04	0.07	0.04	0.06
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Family FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No

Panel E: Controlling for ESG Funds

Dep. variable:	All funds		Institutional		Retail	
	(1) Flows	(2) Flows	(3) Flows	(4) Flows	(5) Flows	(6) Flows
$\emptyset R\&A_{t-1} \geq A$	0.17*** (2.69)	0.14** (2.37)	0.39*** (3.44)	0.31*** (2.84)	0.12* (1.81)	0.10 (1.56)
$\emptyset R\&A_{t-1} \in [B; A)$	0.06 (1.08)	0.01 (0.13)	0.18 (1.60)	0.11 (1.04)	0.04 (0.61)	-0.02 (-0.32)
$\emptyset R\&A_{t-1} < B$	0.08 (1.15)	0.05 (0.75)	0.18 (1.02)	0.14 (0.83)	0.07 (0.93)	0.04 (0.52)
ESG Fund	0.28*** (5.55)	0.30*** (5.78)	0.20** (2.01)	0.19* (1.98)	0.30*** (5.55)	0.31*** (5.90)
Observations	1,473,631	1,473,631	283,977	283,977	1,189,269	1,189,269
R-squared	0.03	0.05	0.04	0.07	0.03	0.05
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Family FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No

Table IA8: Joining the PRI and fund flows

This table shows difference-in-differences regressions of flows on an indicator for funds that join the PRI interacted with a dummy for the period after the fund became a signatory (Post). All regressions control for lagged fund characteristics, fund-family fixed effects, and either month or category-by-month fixed effects. The direct effect of the dummy Post is absorbed by the time fixed effects. The sample includes all funds from countries with a least one PRI signatory and spans from 2011 to 2019. Singleton observations are dropped. t-statistics, based on robust standard errors double clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

Dep. variable:	All funds		Institutional		Retail	
	(1) Flows	(2) Flows	(3) Flows	(4) Flows	(5) Flows	(6) Flows
Post × PRI	-0.05 (-0.88)	-0.02 (-0.32)	0.02 (0.17)	0.06 (0.57)	-0.08 (-1.15)	-0.03 (-0.56)
Return _{t-1}	0.06*** (5.72)	0.11*** (10.09)	0.03** (2.46)	0.09*** (5.76)	0.06*** (6.09)	0.11*** (9.99)
Return _{t-12;t-1}	0.04*** (17.07)	0.06*** (20.55)	0.03*** (9.69)	0.06*** (11.46)	0.04*** (16.80)	0.06*** (20.12)
Return _{t-24;t-13}	0.01*** (6.00)	0.02*** (10.62)	0.01*** (4.30)	0.03*** (8.97)	0.01*** (5.78)	0.01*** (8.75)
Stdev. ret _{t-1}	-0.14*** (-8.99)	-0.10*** (-5.91)	-0.15*** (-7.84)	-0.09*** (-3.18)	-0.14*** (-8.18)	-0.10*** (-5.50)
Log assets _{t-1}	0.04*** (4.55)	0.04*** (4.85)	0.01 (0.87)	0.01 (0.68)	0.04*** (4.16)	0.04*** (4.52)
Log Fund age _{t-1}	-0.56*** (-19.44)	-0.56*** (-20.30)	-0.65*** (-11.91)	-0.62*** (-12.09)	-0.52*** (-16.84)	-0.53*** (-17.76)
Stars upgrade	0.02 (1.01)	-0.02 (-1.47)	0.00 (0.03)	-0.06 (-1.65)	0.02 (1.10)	-0.02 (-0.95)
Stars downgrade	-0.10*** (-5.10)	-0.04** (-2.07)	-0.11*** (-2.62)	-0.03 (-0.81)	-0.09*** (-4.79)	-0.03* (-1.95)
Δ5Globes	-0.01 (-0.13)	0.01 (0.26)	0.04 (0.29)	0.06 (0.42)	-0.02 (-0.36)	-0.01 (-0.17)
Δ1Globes	-0.17** (-2.41)	-0.15** (-2.17)	-0.25 (-1.42)	-0.21 (-1.17)	-0.13* (-1.91)	-0.12* (-1.77)
Constant	0.60*** (3.48)	0.24 (1.40)	1.33*** (3.82)	0.76** (2.28)	0.50*** (2.76)	0.18 (1.01)
Observations	1,865,535	1,865,535	367,838	367,838	1,497,229	1,497,229
R-squared	0.03	0.05	0.04	0.06	0.03	0.05
Fund-Family FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No

Table IA9: Robustness test for R&A scores and Morningstar's ESG globes

This table shows regressions of flows on an indicator variable for funds with a high average R&A score of A or greater and its interactions with indicators for the number of Morningstar ESG Globes. The \emptyset R&A and Globes indicators are set to zero for months when no scores are available or the fund is not a PRI signatory. The reference category is missing Globes. All regressions control for lagged fund characteristics, and fund-family fixed effects. The odd columns also include month fixed effects. The even ones control for category-by-month fixed effects instead. The sample includes all funds from countries with a least one PRI signatory and spans from 2011 to 2019. Singleton observations are dropped. t-statistics, based on robust standard errors clustered at the fund-family and month level, are reported in parentheses. ***, **, and * indicate that the parameter estimate is significantly different from zero at the 1%, 5%, and 10% level, respectively. All variables are defined as in Internet Appendix Table IA1.

Dep. variable:	All funds		Institutional		Retail	
	(1) Flows	(2) Flows	(3) Flows	(4) Flows	(5) Flows	(6) Flows
\emptyset R&A _{t-1} ≥ A × 5 Globes	0.16* (1.68)	0.21** (2.21)	0.41** (2.33)	0.42** (2.31)	0.11 (1.05)	0.17 (1.63)
\emptyset R&A _{t-1} ≥ A × 4 Globes	0.01 (0.19)	0.04 (0.60)	0.18 (1.40)	0.22* (1.73)	-0.04 (-0.55)	-0.01 (-0.22)
\emptyset R&A _{t-1} ≥ A × 3 Globes	-0.04 (-0.64)	-0.01 (-0.19)	-0.01 (-0.09)	0.02 (0.18)	-0.05 (-0.78)	-0.02 (-0.34)
\emptyset R&A _{t-1} ≥ A × 2 Globes	-0.17*** (-2.64)	-0.12** (-2.02)	-0.09 (-0.70)	-0.01 (-0.09)	-0.18*** (-2.63)	-0.15** (-2.21)
\emptyset R&A _{t-1} ≥ A × 1 Globe	-0.09 (-0.86)	-0.08 (-0.78)	-0.04 (-0.22)	0.01 (0.04)	-0.08 (-0.75)	-0.09 (-0.77)
5 Globes	-0.09 (-1.39)	-0.04 (-0.80)	-0.13 (-1.04)	0.03 (0.20)	-0.08 (-1.29)	-0.08 (-1.41)
4 Globes	-0.12** (-2.16)	-0.06 (-1.37)	-0.30*** (-3.58)	-0.10 (-1.17)	-0.07 (-1.21)	-0.05 (-1.17)
3 Globes	-0.18*** (-4.08)	-0.12*** (-3.53)	-0.36*** (-5.35)	-0.15* (-1.93)	-0.13*** (-2.67)	-0.12*** (-3.25)
2 Globes	-0.15*** (-2.93)	-0.10*** (-2.63)	-0.32*** (-3.86)	-0.12 (-1.34)	-0.10* (-1.79)	-0.10** (-2.41)
1 Globe	-0.25*** (-3.87)	-0.18*** (-3.03)	-0.39*** (-3.08)	-0.18 (-1.43)	-0.19*** (-2.97)	-0.17*** (-2.83)
\emptyset R&A _{t-1} ≥ A	0.10* (1.70)	0.07 (1.23)	0.22** (2.40)	0.17* (1.89)	0.06 (0.97)	0.03 (0.56)
\emptyset R&A _{t-1} ∈ [B; A)	0.01 (0.32)	-0.02 (-0.53)	0.04 (0.51)	0.02 (0.20)	0.00 (0.04)	-0.04 (-0.82)
\emptyset R&A _{t-1} < B	0.01 (0.15)	-0.01 (-0.11)	0.04 (0.37)	0.05 (0.39)	-0.00 (-0.09)	-0.02 (-0.35)
Observations	1,865,535	1,865,535	367,838	367,838	1,497,229	1,497,229
R-squared	0.03	0.05	0.04	0.06	0.03	0.05
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Family FE	Yes	Yes	Yes	Yes	Yes	Yes
Category-Month FE	No	Yes	No	Yes	No	Yes
Month FE	Yes	No	Yes	No	Yes	No