# Coordinated Engagements

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**Abstract**: We study coordinated engagements by a prominent international network of long-term shareholders cooperating to influence firms on environmental and social issues. A two-tier engagement strategy, combining lead investors with supporting investors, is effective in successfully achieving the stated engagement goals, and is followed by improved target performance and increased investor fund flows. An investor is more likely to lead the collaborative dialogue when the investor has more skin in the game, and when the target is geographically and/or culturally closer. Success rates are elevated when lead investors are domestic, and when more coalition investors are from high social norm countries.

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The importance of environmental and social (E&S) issues has become elevated in the investment world and the pressures are increasingly global (Dimson, Karakaş, and Li (2015); Krüger, Sautner, and Starks (2020)). Thought leaders such as Henderson (2020), Elkington (2020) and Mazzucato (2021) have demanded a "reset" in capitalism and promoted a new agenda for business emphasizing that the long-term health of business depends on delivering profit with purpose. This profound shift in perspectives represents a reorganization of responsibilities for markets and governments. Benchmark providers and regulators are now shouldering increased responsibility for addressing negative externalities related to E&S issues. At the same time, there has been a proliferation of initiatives in the pursuit of E&S goals, since the tasks are too onerous for a single organization to address. Cooperative activities on E&S issues by investors, activists and NGOs have emerged from efforts to engage business, government, and civil society leaders in making capitalism more sustainable and inclusive, and to encourage responsible behavior in a community that includes leading investment managers, asset owners, corporations and advisors. Broccardo, Hart, and Zingales (2022) argue that in a competitive world, voice (engagement) is more effective than exit (divestment) in pushing firms to act in a socially responsible manner. Indeed, E&S engagements are considered a powerful driver towards investor-led sustainability in capital markets, more advantageous than regulatory approaches (Ringe (2021)). However, the need for a "reset" is controversial (Foss, Klein, and Murtinu (2022)), and there is still insufficient rigorous evidence on the effectiveness of different approaches to investor responsibility.

This paper responds to this call by examining coordinated engagements on corporate social responsibility (CSR). It is the first to study the nature and benefits of coordinated, collaborative and international efforts to influence investee companies on E&S issues. Focusing particularly on the structure of the engagement strategy, we examine the targeting approach, coalition formation, success rates and financial outcomes of engagements by institutional investors who have coordinated their engagements through the Collaboration Platform provided by the Principles for Responsible Investment (PRI). Founded in 2006 and supported by the United Nations (the UN), PRI has become the leading network and the largest initiative worldwide for investors with a commitment to responsible ownership and long-term, sustainable returns. The PRI Collaboration Platform provides objectively collected, carefully logged, and accurately dated records on environmental and E&S engagements (see Section 1 for additional discussion).

Our dataset is granular and comprehensive, including 31 PRI-coordinated engagement projects initiated

between 2007 and 2015. Each project is originated and coordinated by PRI but is carried out by a group of investment organizations, including investment managers, asset owners and service providers. Projects in our sample involve a total of 224 unique investment organizations from 24 countries, with the majority headquartered in the UK, the US, the Netherlands, and Canada. These organizations represent aggregate assets under management (AUM) of $23 trillion and an average AUM of $112 billion in 2017. Each project involves engagements with numerous targets, and each target may be engaged by a different investor group, whom we refer to collectively as 'investors', or PRI 'signatories'. We define an engagement as a sequence of dialogues and interactions with a specific target firm in relation to a particular project. After a project concludes, PRI evaluates each target firm and records success when the engagement objective is met. Our sample includes a total of 1,654 engagements targeting 960 unique publicly listed firms located in 63 countries and success records are available for 1,077 engagements. An average engagement comprises 26 investors (2 domestic and 24 foreign). Most engagements are conducted privately. The average and median elapsed time from the initiation to completion of these projects is around two years. Companies targeted for engagement are large firms, most frequently in the manufacturing sector, and are most commonly located in developed countries.

The focus of this study is to explore the organizational structure of the coalition (e.g., team dynamics within collaborative engagements, and incentives behind the collaboration) and its effectiveness in achieving the stated engagement goals. There is little theoretical literature on the dynamics of coordinated shareholder engagements.[1] We thus develop our hypothesis based on the economics of leadership framework established by the seminal work of Hermalin (1998), where coalition (team) dynamics are modeled in two scenarios: with and without a leader. In both models, each coalition member decides how much effort to invest in a common endeavor, which generates returns to be distributed among coalition members. Hermalin (1998) finds that only second-best outcome can be achieved in the scenario without a leader, even with symmetric information among coalition members, due to the well-known free-riding problem endemic to teams as formulated by Holmstrom (1982). However, in the scenario where the coalition has a leader with superior information, a first-best outcome can be achieved when the leader credibly signals her information to the rest of the coalition (e.g.,

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[1] Collaborative engagements aim to exploit the cooperating partners' resources, skills and expertise to gain advantage, by pooling resources and influence, and sharing research costs and risks among active owners. Collaborative efforts also face challenges and are costly. First, there is the free-rider problem: costs may be borne by a small group of committed and resourceful investors, while benefits are shared by all investors in the group. Relatedly, competition between institutions makes collaboration difficult and requires incentives in the coalition to be set carefully. Additionally, coordination among many investors from diverse geographic and cultural backgrounds is difficult and time-consuming. Lastly, there is a potential regulatory barrier in certain markets that can dissuade investors from behaving as a "concert party". PRI Collaboration Platform, as an explicit third-party coordinator, and carefully designed engagement structures can help investors to exploit the advantages and overcome the challenges of jointly pursuing shared objectives.

through "leading by example"). This model provides an empirically testable prediction: coalitions with leaders are more effective. We can directly test this prediction in our setting, because the engagement structure (whether to have a leader or not) was exogenously imposed by a third party, i.e. PRI, for about half of the projects in our sample.[2] We thus hypothesize that a "two-tier engagement strategy", where there are lead investors heading the dialogue and supporting investors collaborating with the lead, will on average achieve better success/impact outcomes in engagements, compared to a "single-tier engagement strategy", where the coalition does not have a designated leader. Consistent with our conjecture, we document that leadership is decisive in collaborative engagements: Success rates are substantially elevated, and financial and accounting performance are improved through engagements with a two-tier structure.[3]

Exploiting our plausibly exogenous setting, we find that having a two-tier engagement structure increases the success rate by 22%-25%, after controlling for characteristics of the target firm and the coalition. This is an economically significant finding, considering that the average success rate of the engagements is 52.7% in our sample. We conduct several additional analyses to corroborate the positive relation between two-tier structure and engagement success. First, we match target firm characteristics in the single-tier engagement subsample and the two-tier engagement subsample, to address the concern that certain target firm composition might drive up the success rate in the latter sample. Second, we match the two subsamples on engagement topics, to address the concern that different topics might explain the variation in success rates. Our results continue to hold in both the above analyses. Third, to address the concern that higher success rate at two-tier engagements could be due to leading investors' inherently being more effective at engagement rather than by the two-tier engagement structure itself, we conduct a counterfactual analysis on the single-tier engagement subsample by identifying "pseudo" leads, who have the attributes of actual leads, but do not play the leading role in engagement. We do not find having pseudo leads in an engagement to affect success, inconsistent with the argument that higher success rate among two-tier engagements is driven by the superior attributes of lead investors on board per se. Lastly, we address the concern that higher success rate among two-tier engagement is driven by investor learning over

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[2] All PRI projects initiated before 2010 had a single-tier engagement structure. In 2010, PRI started to experiment a two-tier structure in some of its engagement projects. From June 2012 onwards, all newly initiated engagement projects had a two-tier structure. Among the 31 PRI-coordinated engagement projects, 15 have a two-tier engagement structure in our sample.

[3] Similar structures are also observed in other shareholder initiatives such as Climate Action 100+, as well as other segments of capital markets such as syndicated loans. Climate Action 100+ initiative, aligned with the Paris Agreement, involves engaging with firms to improve governance on climate change, curb emissions and strengthen climate-related financial disclosures. Coordination is provided by PRI and four partner organizations: Asia Investor Group on Climate Change (AIGCC), Ceres, Investor Group on Climate Change (IGCC), and Institutional Investors Group on Climate Change (IIGCC). In syndicated loan markets, the lead arranger establishes a lending relation with a borrower and heads the contract negotiation. The lead arranger then looks for participant lenders to fund part of the loan (Sufi (2007)).

time. We limit our analysis to a short window when PRI just started experimenting two-tier structure in some engagement projects, in which case investor learning is unlikely. We continue to find a positive association between two-tier structure and engagement success exploiting this experimental period, inconsistent with investor learning.

Analyzing target firms' financial and accounting performance to further evaluate the engagement outcomes, we find that firms targeted in the two-tier engagements experience an average increase of (i) 4.7% and 9.4% in annual abnormal buy-and-hold stock returns (ABHRs), and (ii) 0.9% and 2.3% in annual return on assets (ROAs), in the first two years and third year following engagement initiation relative to the pre-engagement levels, respectively. These numbers are even larger for the successful two-tier engagements. In contrast, firms targeted in single-tier engagements experience no change in ABHRs or ROAs. We conduct several additional analyses to strengthen the link between two-tier engagement and subsequent improvements in target firm performance. First, to address the concern that target firms' outperformance following two-tier engagement could be driven by the lead investors' superior stock-picking, we conduct a placebo test using pseudo lead on the single tier engagements. We do not find any improvement in target performance following these engagements. Second, to address the concern of possible target performance mean-reversion, we conduct a placebo test on a group of peer firms matched with target firms along the pre-engagement performance. We do not find a similar pattern in the peer group. Collectively, our findings suggest that coordinated engagements are value-enhancing for shareholders and firms, especially when engagements are headed by a lead investor and/or are successful.

The collaborative engagements in our sample has also some parallels with "wolf-pack activism," the alleged coalition of institutional blockholders (typically hedge funds) who implicitly coordinate their interventions with target firms.[4] In the model of Brav, Dasgupta, and Mathews (2019), wolf-pack members, as delegated portfolio managers, are incentivized to engage and lead to showcase skills, thus gaining reputation and investment flows—the primary incentive mechanism helping reduce the free-rider problem in the wolf-pack activism setting. Although the objectives and methods of E&S engagements differ from hedge fund activism (Dimson, Karakaş, and Li (2015)), we expect the reputational incentives to play a similar, if not more important role, in coordinated E&S engagements – demonstrating voice in E&S issues helps reduce the free-rider

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[4] In wolf-pack activism, one or more sizeable blockholders act as "lead" activist, with other smaller blockholders serving as supporting "wolf-pack" members (Brav, Dasgupta, and Mathews (2019)). The implicit, rather than explicit, coordination among the hedge fund activists orchestrated by lead activists in the US helps to avoid the regulatory costs of acting in concert (Wong (2020)). Doidge, Dyck, Mahmudi, and Virani (2019) discuss how explicit coordination mechanisms for institutional investors in engaging target firms for governance issues may help overcome the free-rider problem. The PRI Collaboration Platform facilitates explicit coordination of E&S activities.

problem in engagements by attracting flows from E&S conscious investors.[5] Consistent with this assertion, we find that signatories that participate in successful engagements experience subsequent increases in fund flows. Among all the participating signatories, those with lead experience enjoy a further increase in annual fund flows.

Although the engagement structure is exogenously imposed by PRI, the decisions to participate in a coalition is made by individual investors. To understand the economic incentives behind the formation of a coalition, we analyze the determinants of a signatory becoming a collaborating investor in E&S engagements. Among 1,733 PRI signatories in our sample, only 224 have joined a coalition at least once during our sample period. We thus label them as "collaborating signatories" or "collaborating investors" and the remaining as "non-collaborating signatories/investors". These collaborating signatories include 87 asset owners, 121 investment managers, and 16 service providers. Compared with the non-collaborating signatories, the collaborating signatories are less likely to be investment managers, and more likely to be asset owners such as public pension plans. This is consistent with the view that public pension funds tend to be more involved in E&S engagements and impact investing due to strong political incentives (Kim, Wan, Wang, and Yang (2019); Barber, Morse, and Yasuda (2021)). Collaborating signatories are also more likely to have signed up with PRI early, with many being PRI's founding signatories, and are headquartered in countries with high social norms (based on World Values Survey (WVS)), likely due to their intrinsic interest and role in E&S issues (Dyck, Lins, Roth, and Wagner (2019)). We also find that collaborating signatories are more likely to have a formal process of engagements by internal staff and participate in more collaborative initiatives besides PRI, indicating an infrastructure for engagement and genuine interest in collaboration. We observe an inverse U-shaped relation between signatory size (measured by AUM) and the likelihood of joining a coalition. We attribute this to two contrasting aspects of investor influence on engagements. On the one hand, large signatories may prefer to engage alone if they have sufficient resources and substantial influence over target firms. On the other hand, engagements also require commitment, resources and a certain clout over the target firm, and when the signatory is too small it may not have the means to contribute adequately to the coalition. These opposing forces make collaboration particularly appealing for mid-sized signatories.

Holding the signatory's characteristics constant, we find that a signatory is more likely to engage when the target is geographically closer, such as being domestic. This is consistent with the local preference and home

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[5] In a recent survey, Krüger, Sautner, and Starks (2020) find that investment managers incorporate ESG factors in their investment strategy to protect their reputation and to attract fund flows. Gibson-Brandon, Glossner, Krueger, Matos, and Steffen (2022) and Kim and Yoon (2022) document that signing up to PRI helps attract fund flows.

bias arguments in Kim et al. (2019) and Groen-Xu and Zeume (2021): Local investors have more incentives to engage on E&S issues, because they internalize to a greater degree the harms from poor E&S practices and the benefits from reputational gains among local communities. Local investors also incur lower transaction costs during engagements (e.g., easier communication and information gathering), but at the same time exert stronger influence over target firms thanks to their local connections and social ties.

Once a two-tier engagement structure is determined, the decision about leading an engagement is mutually agreed between PRI and the contemplating signatory. Engagement costs are substantially higher for lead investors relative to supporting ones, as the former bear the major responsibility for meetings with target firms, reporting back to PRI, and coordinating with supporting organizations. Among 224 collaborating signatories in our sample, only 90 have had leading experience. These leading signatories include 24 asset owners, 61 investment managers, and 5 service providers. We compare the characteristics of the leading signatories with other collaborating signatories who never led. Leading signatories are less likely to be asset owners and more likely to be investment managers. This could be due to asset owners having less resources to expend and/or being less sensitive to fund flows (hence facing lower pressure to showcase leadership to their clients). In terms of organizational features, leading signatories are more likely to have a formal process of engagements by internal staff and participate in more collaborative initiatives besides PRI than non-leading signatories, again indicating stronger infrastructure for engagement and interest in collaboration. Such traits send credible signals about their ability to lead E&S engagements, in line with Hermalin (1998) where a first-best outcome in coalition efforts can be achieved with credible leaders.

We next explore the economic incentives behind a collaborating signatory's decision to lead an engagement, holding the signatory's characteristics constant. To begin with, our evidence confirms that leading a coordinated engagement is costly and time consuming: An investor is less likely to lead if it is already busy with leading other ongoing PRI projects. While the lead investor incurs most of the engagement costs, the potential benefits of the engagement efforts are shared among all collaborating investors. To overcome the free-riding concerns within the coalition, lead investors need to be sufficiently incentivized. Consistent with this conjecture, we find that an investor is more likely to lead the collaboration when its stakes in and exposure to the target firm is higher. In other words, having more "skin in the game" provides the investor more incentive to exert effort (Fich, Harford, and Tran (2015)). In addition, we find an investor is more likely to lead when the target firm is domestic. Further investigating this finding, we find that both the geographic distance and the cultural distance between the investor and target firm affect the decision to lead. These findings lend further support to the local preference argument (Kim et al. (2019)) where, due to the high costs and extra effort required for leading a collaborating engagement, engaging with a target that is geographically/culturally close

improves the benefits (e.g., reputational gains in (local) community, superior (local) knowledge) while mitigating the logistical costs (e.g., transaction costs and information acquisition costs).

Conditional on knowing the identities of lead investor(s) in the coalition, we next analyze economic incentives behind a PRI signatory's decision to join a two-tier engagement as a supporting investor. PRI expects supporting organizations to contribute actively to the engagement, although in an abridged way relative to the lead. We find that past and ongoing engagement experience decreases the likelihood of being a supporting investor. This is consistent with the costly nature of engagements and with PRI's expectation that supporting investors will be actively involved in each engagement. Congruous with supporting investors' abridged role, we find that neither the location of the target, nor the holdings of the signatory matters in determining the choice of supporting signatory. Instead, we find that cultural similarity with the lead increases the chances of a signatory joining the coalition as a supporting investor. This is in line with Bolton, Brunnermeier, and Veldkamp (2013) arguing that matching leader with coalition culture improves coordination.

We now turn to the association between coalition group characteristics and engagement outcomes. We find that the composition of coalition group plays an important role in determining success. Participation rate by investors from high social norm countries substantially increases the engagement success rates in both the single-tier and two-tier engagements. Focusing on the single-tier engagements, higher participation rate by public pension plans increases the success rate, while the participation by private pension plans decreases the success rate. These findings resonate with the earlier findings that public pensions and signatories from high social norm countries are more likely to participate in the coalition due to their strong incentive and interest in E&S issues (Kim et al. (2019); Dyck, Lins, Roth, and Wagner (2019)). The negative effect of private pension participation on the engagement success could be driven by their lack of incentive and resources for engagement. Focusing on two-tier engagements, we find that having foreign supporting investors increase the success. We also find that the characteristics of the lead investors play an important role in determining engagement success: Having a domestic lead increases the success rate by 24%-29%, while having a public pension plan as lead reduces the success rate by 21%-24%. The success rate is further improved by the influence of the lead investors, as proxied by their holdings of the target firm. These findings resonate and corroborate with the earlier findings on the decision to lead: Local preference, skin in the game, and incentive to attract clients provide the necessary means and motives for the lead to be effective.

The objectives of PRI-coordinated engagements are achieved in a substantial proportion of cases. Since firm performance is improved when engagements are successful, we infer that the activities coordinated by PRI are

value-enhancing.[6] Our evidence indicates that, for maximum effect, coordinated engagements should preferably be headed by a credible leader that is well suited geographically, linguistically, culturally and socially to influencing target companies. Supporting investors are also crucial, and they should ideally be from foreign countries, and from countries with high social norms.

Our paper makes new contributions in four ways. First, to our knowledge this is the first research study examining the nature and impact of internationally coordinated engagements on E&S issues. We analyze the effects of these engagements for both the targeted companies and the engaging investors. In a closely related paper, analyzing an individual investor's E&S engagements with US public firms, Dimson, Karakaş, and Li (2015) document that when the investor collaborates with other stakeholders, especially shareholders, success is more likely. This study differs from Dimson, Karakaş, and Li (2015) by focusing on the collaborative engagements only and the economics behind different collaboration structures. In addition, while Dimson, Karakaş, and Li (2015) emphasize how target firm characteristics, especially their reputational concerns, affect engagement decisions and outcomes, this paper highlights engaging investors' characteristics, especially their reputational incentives for fund flows, in engagement decisions and outcomes. Our finding that participating in and leading engagements increase an investor's future fund flows also extends the literature documenting positive fund flow reactions to ESG branding, either via obtaining external sustainability ratings, or signing up to ESG networks such as PRI (Hartzmark and Sussman (2019); Gibson-Brandon, Glossner, Krueger, Matos, and Steffen (2022); Kim and Yoon (2022)).

Second, this is the first empirical study examining coalition dynamics in the context of shareholder engagements. We analyze the dynamics of coordination and highlight the economic incentives within the collaboration. Our evidence provides strong support to the theoretical works on leadership established by Hermalin (1998). In another related study, Doidge, Dyck, Mahmudi, and Virani (2019) study shareholder engagements on governance issues coordinated by Canadian Coalition for Good Governance (CCGG). Our study differs from theirs in three aspects. First and foremost, Doidge et al. (2019) focus on the comparison between coordinated engagements and single shareholder engagement, and do not explore the team dynamics within the investor coalition. In contrast, we only analyze coordinated engagements, and our focus is on the comparison between single-tier and two-tier engagement structures. This helps us illustrate the significant role

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[6] An alternative explanation is that PRI or collaborating investors are good at picking target firms who would outperform even in the absence of coordinated engagement. This is unlikely because not all engagements end with success and outperformance is only present in targets where success was achieved and/or a lead was present. Consistent with our analysis, though focusing more on "G" issues rather than E&S issues, Albuquerque, Fos, and Schroth (2022) find that 75% of the value creation by activist investors are achieved through treatment, rather than stock picking or sample selection effects. See Section 3.3.3 for more discussion.

of leadership in coordinated engagements. Second, in their sample, the target firms and most of the investors are from a single country, namely Canada; however, both sides of the engagements are international in our setting. This enables us to explore the effects of country-level determinants, such as social norms of, and cultural and geographic distances between the target firms and investors (and among the investors as well), on the engagement process and outcomes. Third, they analyze governance engagements while we analyze E&S engagements, which differ in objectives, tactics, and outcomes (Dimson, Karakaş, and Li (2015)). In particular, Doidge et al. (2019) examine CCGG's engagements on process governance reforms, such as majority voting, say-on-pay, and compensation policies. They find that the aggregate dollar holdings by the investor coalition in the target firms is a primary determinant of investors' incentive to engage. This is because in governance (G) engagements, investors' voting power affects their access to targets' boards and the expected benefits of engagements increase with holdings. In contrast, in our setting of E&S engagements, in addition to ownership, reputational considerations and intrinsic interest in E&S issues play (a much more prominent) role in incentivizing investors to engage collectively.

Third, by avoiding the data and methodological limitations that afflict many CSR studies, we add reliable additional evidence of the link between responsible investing and financial performance. We exploit detailed records for each engagement, including the beginning and completion date, the identity of the target firm, the identity and role of each investor, and engagement outcome, which does not rely on scores or ratings from ESG advisory businesses. Recently, many studies criticize ESG ratings, for significant inaccuracies within the ratings and disparities between rating agencies (see, e.g., Doyle (2018), Diebecker, Rose, and Sommer (2019), Yang (2019), Berg, Kölbel, and Rigobon (2022), Dimson, Marsh, and Staunton (2020), Gibson-Brandon, Krueger, and Schmidt (2021)).

Finally, our paper extends the substantial literature on shareholder activism and corporate governance. Interestingly, we find that target firms have better ESG performance relative to their peers, in terms of both overall ESG rating, and individual E, S, and G ratings. This is consistent with PRI's proactive approach of identifying potential issues in an industry or region rather than to reactively fix E&S problems as they arise, and that firms with better governance are more likely to be receptive to requests for E&S changes. We find that success is more probable when the target has a higher ESG rating, consistent with PRI's targeting strategy. However, this result does not hold for the two-tier engagement subsample, suggesting that once a structured engagement strategy is established, target firm characteristics do not drive success.

# 1. Institutional Background and Data

## 1.1 Principles for Responsible Investment (**PRI**)

A large proportion of asset owners and investment managers have now expressed commitment to investment responsibility by signing up to the UN-sponsored Principles for Responsible Investment (UNPRI.org). By signing up as signatories, institutions pledge to follow PRI's six principles, one of which is to become active owners and incorporate ESG issues into their ownership policies and practices. By 2021 PRI had 4,375 signatories from 88 countries, representing over $121 trillion in assets under management (AUM). Our dataset is drawn from PRI's initiative to support investor engagements on ESG issues with corporations. PRI aims to be "*an enabling organization that may help to overcome barriers to collective action by providing an infrastructure for investors to work with one another, and through maintaining time-continuity of investors' engagement, thus resulting in continued pressure on targeted firms*" (Gond and Piani (2013)). Shortly after the Principles were launched in 2006, the PRI Collaboration Platform (then known as the PRI Clearinghouse) was initiated as a forum for shareholder engagement and as a vehicle for alliances among institutional investors and their advisors. This facility rapidly became the world's largest platform for coordinated engagement activities.

PRI's governance and incentive structures are likely to uphold the objectivity of the data it collects. PRI states that it is "*truly independent. It encourages investors to use responsible investment to enhance returns and better manage risks, but does not operate for its own profit; it engages with global policymakers but is not associated with any government; it is supported by, but not part of, the United Nations*" (unpri.org/pri/about-the-pri). The board of PRI is composed of one independent chair, confirmed by a signatory vote, and ten directors: seven elected by asset owner signatories, two elected by investment manager signatories, and one elected by service provider signatories. The Chair and all elected Directors are the Statutory Members of the Company. There are two Permanent UN Advisors to the Board, representing the PRI's founding partners, the UN Global Compact and the UNEP Finance Initiative (https://www.unpri.org/pri/governance).

PRI's funding is provided primarily via the annual membership fee payable by all signatories, with additional funding via grants from governments, foundations and international organizations. PRI does not receive any financial support from the UN. The annual signatory fee is scaled according to each signatory's category, type and assets under management. For instance, the 2021/22 fee for asset owners with AUM above $10 billion, investment managers with AUM above $50 billion, and service providers with staff number above 200, is £8,781, £14,222, and £8,781, respectively. The PRI Board increases fees in line with UK inflation. The fees are lower for smaller asset owners, investment managers, and service providers, and are discounted for asset owners headquartered in emerging markets or developing economies (https://www.unpri.org/pri/about-the-

pri/financial-information).

## 1.2 The Collaboration Platform

The PRI Collaboration Platform exists to facilitate PRI signatories to collaborate on engagements with target companies, and potentially with regulators and other actors on ESG issues across the world. For most of our research period, engagement begins after one or several investors identify an issue relating to a company or sector and determine that there is a case for change (Piani (2013, p.8)). The investor(s) may then talk with peers and with PRI to explore the scope for engaging collaboratively.

Posts to the Collaboration Platform vary in their intensity and resource requirements. Some are demanding, such as proposals for in-depth research, opportunities to participate in investor-company engagements, and requests to join in policy and regulatory dialogue. Other posts may be simpler, such as requests to co-sign letters to companies or to support imminent shareholder resolutions. For a number of collaborative engagement projects, the PRI Secretariat plays an active role in governing and coordinating them (labelled as PRI-coordinated projects). These projects are led by PRI signatories, but the PRI Secretariat plays an active role in supporting and coordinating the engagement group. The PRI Secretariat's roles include providing strategic, organizational and administrative support to the engaging group, using expertise and topical knowledge to assist the group in reaching agreement, and ensuring the engagement adheres to agreed timeline. The PRI Secretariat is also responsible for monitoring engaging investors' contributions in line with they agreed roles throughout the engagement process and helping develop or commission third parties to develop the evaluation framework for engagement outcomes. The Platform can also be used for direct signatory collaboration bypassing the PRI Secretariat. For this study, we focus on PRI-coordinated projects hosted on the Collaboration Platform.

## 1.3 PRI-coordinated projects

PRI maintains the Collaboration Platform database and monitors the progress of each initiative. We have been provided with detailed records on every initiative, together with a record of whether each engagement was successful.

Our dataset covers 31 PRI-coordinated engagement projects in four broad areas as defined by PRI: Environmental, Social, Governance, and (reflecting the UN origins of PRI) work related to the UN Global Compact (UNGC) and its sustainable development goals (SDGs). However, engagement projects on Governance and the UNGC are inherently related to Environmental and Social issues, and hence the underlying engagement areas in our dataset are all related to E&S issues. Projects have a limited life, and if the issues

raised by a sequence of engagements persist or expand, a "Phase 1" project can be followed by a "Phase 2" continuation addressing related matters. **Table 1** summarizes these projects, which started as early as January 2007 and only one of which was still ongoing when PRI last updated the data (May 2019). The mean (median) project duration is 795 (798) days.

In early years of our sample period, over January 2007 and December 2009, all participating investors had equal responsibilities in all PRI-coordinated projects. We label this period as the "single-tier engagement period". After several years' experience of working together, in early 2010, PRI started to experiment a new engagement strategy that identifies one or more lead investors to drive forward an initiative, with a larger number of supporting investors providing more limited (but diverse) resources, i.e., a two-tier structure. Three projects initiated in 2010, including Anti-corruption (Phase 1), Indigenous rights, and Senior gender equity with global companies, had a two-tier structure. Although these projects have a two-tier structure, lead investors were identified in an ad-hoc way and there were no clearly stated guidelines defining the responsibilities of lead investors and supporting investors. In mid-2012, PRI started to implement two-tier engagement structure in a more systematic way. All projects (with success data) initiated in or after June 2012 had a two-tier engagement structure, with lead and supporting investors' respective responsibilities being clearly defined in the "Terms of Reference" document. We label the period between January 2010 and May 2012 as the "experimental period", and the period from June 2012 onwards as the "two-tier engagement period". It is clear that the two-tier engagement structure is a strategic choice by PRI, and has been exogenously imposed to the engaging team. Overall, 16 projects in our sample have a single-tier engagement structure and 15 projects have a two-tier engagement structure.

Appendix A includes two examples. The first example of "Carbon Disclosure Leadership Index: CDLI 2011" illustrates the process of a single-tier engagement. During the engagement process, there was no clear division of roles within the engaging investor group. The responsibilities of participating investors were mostly assumed in a voluntary basis and an ad hoc manner. The second example of "Employee relations" illustrates the process of a two-tier engagement. The division of roles between lead and supporting investors was clearly stated from the beginning of the engagement.

## 1.4 The engagement data

The 31 projects in our sample consist of 1,654 unique engagements. We define an engagement as a sequence of dialogues and interactions with a specific target firm in relation to a particular project. Engagement starting and ending dates are defined as project starting and ending dates. The number of target firms or engagements in each project ranges from 7 (Sudan engagement) to 163 (COP6) with a sample mean (median) of 53 (32).

The target firms are located in a variety of geographic regions. An average project engages with targets from 18 different countries. Investors could choose to engage with different target firms within the same project. Therefore, the number of investors might differ across engagements within the same project. Table 1 also reports the average number of investors involved in each project; on average there are 26 investors participating in each engagement.

The evaluation of success varies from project to project and from target firm to target firm within each project. PRI keeps a record of objective targets for the measurement of success. For each project, the PRI Secretariat and the engaging investors developed an evaluation framework to assess the engagement outcome. The evaluation methodology varies across projects and is often based on research commissioned by third-party consultants. For many projects, success is evaluated by comparing scorecards prepared for each target firm in the pre- and post-engagement periods. The scorecards cover areas from policy and strategy, implementation, disclosure and other material objectives. Success is recorded when there is an increased post-engagement score relative to the pre-engagement score. In the only ongoing project, Palm Oil Growers, success has been judged by PRI using interim reports in mid-2016, and these evaluations are included in the dataset. Appendix B lists the success measures used for all engagement projects when they are available. We have access to success records for 28 projects including 1,077 engagements.[7]

The success rate, for those engagements where success has been evaluated ranges from 0% (Forest Footprint Disclosure 2012) to 100% (Corporate Climate Lobbying) (untabulated). A reason for the low success rates in Forest Footprint Disclosure projects is that target firms lack the data and information to form the reporting frame at the time of project completion. For Corporate Climate Lobbying, a reason for the high success rate is the substantial global investor support for a measurable target of limiting the rise in global temperatures to less than 2 degrees centigrade by 2030, called to action at the United Nations Summit in 2015 as part of the 17 Sustainable Development Goals in the 2030 Agenda for Sustainable Development (sustainabledevelopment.un.org). Our sample has an average success rate of 52.7% (untabulated). This number is comparable to the success rate of 45.2% documented by Dimson, Karakaş and Li (2015, Table 4) for the subsample of the E&S engagements that were undertaken in collaboration with other shareholders.

For each engagement, we are also provided with data on the identities of all the investors and their roles within the coalition. We are additionally provided by PRI with a separate list of 1,715 signatories in 2017 with information on their name, signature date, headquarter country, assets under management, and type (asset

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[7] Success was not assessed for COP2 and COP6 projects. By the time when PRI provided us the data, project "Palm oil buyers" was still ongoing, so the success was not evaluated.

owner, investment manager, or service provider). Such information is self-reported by institutions when they pledge to become signatories on PRI's website and is subsequently updated regularly when there are changes (e.g., in AUM). We manually match investors in each engagement with the signatory list by name. In total, we have 224 unique engaging investors in our sample of which 18 do not show up on the signatory list, due to delisting or being acquired by other institutions in recent years. For these 18 firms, we manually fill in the missing information via internet search. The information on their headquarter location, category, and AUM has thus been collected at the time such firms were delisted or acquired. The number of signatories in our final signatory list has consequently been expanded to 1,733. We supplement the engagement data using information from PRI Reporting Framework surveys. The surveys are submitted by PRI signatories annually via PRI's on-line reporting tools and contain detailed information on signatories' ESG incorporation strategies.

The dataset used in this study has been assembled by us in careful and painstaking collaboration with PRI and has not been academically analyzed previously. The dataset has at least six desirable attributes for research. First, engagements are logged on a platform provided by and under the control of a third party. Second, each engagement involves a substantial number of independent organizations, which extends the potential insights from the research compared to a study focusing on a single investor. Third, each engagement draws on contributions from multiple types of institutions including asset owners, investment managers, and service providers. Fourth, the dataset is truly global, embracing investors from many countries and cultural backgrounds, which allows us to examine the effect on location and see whether previous findings—based mostly on US and UK data—are applicable in other environments (Edmans, Li and Zhang's 2020). Our methodology recognizes that E&S-challenged sectors may cluster in particular geographic locations (Atta-Darkua and Dimson (2018)). Fifth, the engagement projects have differing organizational structures: half are cooperative with investors volunteering on an ad hoc basis, whereas half are headed by a small number of leaders who initiate and proactively coordinate the activity. We are thus able to explore the impact of appointing a lead investor, the value of having a local investor, and the influence of group dynamics on engagement success. Finally, the dataset is granular. There is a detailed record for each engagement, including the beginning and completion date, the identity of the target firm, the identity and role of each investor, and engagement outcome, which does not rely on scores or ratings from ESG advisory businesses.[8] To our

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[8] Recently, many studies criticize ESG ratings, for significant inaccuracies within the ratings and disparities between rating agencies (see, e.g., Doyle (2018), Diebecker, Rose, and Sommer (2019), Yang (2019), Berg, Kölbel, and Rigobon (2022), Dimson, Marsh, and Staunton (2020), Gibson-Brandon, Krueger, and Schmidt (2021)).Our dataset does not rely on static and delimited measures for CSR performance, such as the third-party ESG scores considered by Ferrell, Liang, and Renneboog (2016). As advocated by Margolis, Elfenbein and Walsh (2009, p.28), our engagement dataset avoids "*ratings of admired companies and company insiders' self-reported impressions*."

knowledge, the PRI Collaboration Platform is the only source of global data that meets these criteria.

## 2. Engagement Processes

### 2.1 Attributes of target companies

To understand the characteristics of the target companies, we merge our dataset with WorldScope/Compustat Global and North America using the ISINs and company names. We require non-missing market capitalization information in the fiscal year before the start date of an engagement. This reduces our sample size from 1,729 engagements to 1,654. In **Table IA.1** we provide summary statistics on the location of engaged companies (Panel A) and their industrial classification (Panel B). Our target firms are domiciled in 63 countries across different regions of the world, highlighting a large geographic dispersion of collaborative engagements. More than three-quarters of engagements involve countries other than the US and the UK. There are over 100 engagement sequences in each of the US, France, and UK, followed by Japan, Germany, Canada, and India. PRI coordinated engagements are heavily concentrated in the manufacturing sector, followed by infrastructure and wholesale/retail trade. This resembles the distribution across industries reported in Dimson, Karakaş, and Li (2015) for a single investor's ESG engagements with US firms which were most frequently in manufacturing, followed by financials and then wholesale/retail trade. Consistent with our observations, Flammer, Hong, and Minor (2019) demonstrate that CSR contracting in executive compensation is more prevalent in emissions-intensive industries and is becoming more prevalent over time.

To understand which firms are likely to be targeted by coordinated engagements, we compare target companies with their country and industry peers.[9] We conduct a multivariate analysis using a probit regression model, where the dependent variable *D_Target* is defined as one for a target firm and zero for a firm in the peer group. **Table 2,** Columns (1) and (2) report the marginal effects of the probit regression coefficients for the sample of all engagements and the subsample of two-tier engagements, respectively. In both regressions, we control for industry and year fixed effects, and cluster standard errors at the project level. The accounting measures are calculated using data from WorldScope/Compustat for the fiscal year end immediately before engagement

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[9] We create the pool of peer firms using WorldScope/Compustat universe. Following Dimson, Karakaş, and Li (2015), we remove all the target companies from the pool and require both the target and the control firms to have data on the country of incorporation, industry, and market capitalization. The peer firms are drawn from the same country-year and industry (3-digit SIC); if there are fewer than three peer firms from the same country-year and 3-digit SIC, we relax the industry classification to 2-digit SIC. If there are more than 10 peer firms for a particular target, we keep only the 10 with the closest market capitalizations.

starting date. The information on institutional ownership is obtained from FactSet (matched by target firm ISIN) for the calendar quarter immediately before engagement starting date. The detailed variable definitions are included in Appendix C.

In Table 2, we find that compared with their peers, target firms tend to have a higher market capitalization and a higher percentage of foreign sales in their revenues, suggesting PRI-coordinated engagements target large firms in their respective country and industry, who face greater scrutiny on a global scale. Target firms tend to have lower stock returns and lower sales growth in the preceding year, indicating poorer performance than peers before being targeted. Target firms also have lower cash holdings and lower R&D expenses. This is consistent with the strategy of targeting industry leaders, who might have already invested in ESG, and have less capacity for discretionary spending. In terms of shareholdings, target firms have higher total holdings by the engaging team and by lead investors. The high holdings in target firms suggest that investors engage with firms where they have enough voice and "skin in the game".[10]

We also assess target companies' ESG performance using the Refinitiv (formerly Thomson Reuters Asset4) overall ESG rating and individual environment, social, and governance ratings.[11] In Table 2, Columns (3) to (6), we repeat the analysis after adding Refinitiv overall ESG rating and component ratings in the regressions. The sample size drops considerably due to data availability, but the coefficients on most firm-level variables remain qualitatively similar. Interestingly, we find that target firms have better ESG performance relative to their peers, in terms of both overall ESG rating, and individual E, S, and G ratings. This is consistent with PRI's proactive approach of identifying potential issues in an industry or region rather than to reactively fix ESG problems as they arise. This is also consistent with a strategy of targeting industry leaders who already have a reputation for being responsible and (on balance) would wish to avoid a downgrade. In untabulated analysis, we replace the Refinitiv overall ESG rating with the MSCI IVA score (Intangible Value Assessment weighted average key issue score) and find very similar results.

## 2.2 Characteristics of engaging investors

We next turn to the characteristics of engaging investors. Block A of **Table IA.2** shows that the 224 investment institutions are headquartered in 24 different countries, though—as with the location of target companies—

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[10] Since we match all target firms and peer firms are matched within each country, we do not include country-level variables in this analysis.

[11] We are aware that some of the historical ESG ratings data provided by Refinitiv might have been rewritten (Berg, Fabisik, and Sautner (2021)). Our ESG rating data were downloaded from Refinitiv in September 2021. We have an old version of the data downloaded from Thomson Reuters Asset4 in November 2017. Our results are quite similar using the old Asset4 data.

their location is relatively concentrated. Half are located in just 3–4 countries (the UK, US, and Netherlands, with Canada taking the proportion to over half). Half of all lead investors are shown (in the column headed "Num leads") to be located in the same 3–4 countries. Regarding the category of investors, Blocks B and C report on who are asset owners and investment managers respectively, while Block D looks at service providers.

For each group, we report on a country-by-country basis the number of investors in each category and their average AUM. As Table IA.2 shows, the US and UK have the largest number of engaging investors in our sample. For every country, we list the three asset owners and investment managers with the largest AUM and all service providers (for whom AUM is unavailable). For example, for the US, the three largest asset owners are CalPERS, CalSTRS, and the New York State Local Retirement System; the three largest investment managers are T. Rowe Price, TIAA-CREF, and AllianceBernstein; and the service providers are As You Sow, ICCF, ISS, Bloomberg, and First Affirmative Financial Network. There is a broad spread of investors across countries, although some absences are perhaps surprising. For example, at the time of our study Japan had never had an asset owner participate in any PRI coordinated engagement,[12] and the world's "Big Three" investment managers (Blackrock, Vanguard, and State Street) had never participated in PRI engagements.[13]

Panel A of **Table IA.3** reports selected characteristics of the 224 investors who participated in collaborative engagements at least once. Among these collaborating investors, 87 are asset owners, 121 are investment managers and 16 are service providers. Among the asset owners, we further identify 53 as public pensions and 11 as private pensions.[14] An average investor in our sample participated in 194 engagements or 4 unique projects. The average AUM of an asset owner or investment manager in our sample is $112 billion, with the median being $23 billion. An average investor has been a signatory for eight years until the end of 2017. Panel B of Table IA.3 reports characteristics of 90 investors who led at least one collaborative engagement. Among

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[12] Analyzing hedge fund activism in Japan, Buchanan, Chai, and Deakin (2012) concluded that activism was not received favorably and was generally resisted in Japanese public firms. Our conversations with PRI confirmed this finding.

[13] The lack of participation in PRI-coordinated engagements by ultra-large investment managers is apparent even on PRI's website. The largest investment managers prefer to engage with investee companies by themselves, and they can anyway afford a substantial in-house engagement team. It has been suggested that their preference to forego collaborative engagement may reflect "concert party" concerns, as well as the influence of the managers' already large holdings in target firms. Bebchuk and Hirst (2019) point that the Big Three dominate the index fund sector in the US owning more than 20% of US public companies and steadily growing. They assert that index funds have strong incentives to underinvest in stewardship and to be excessively deferential to corporate managers.

[14] We use signatories' self-reported type, the Top 1000 European Pension Funds 2016 list and The World's 300 Largest Pension Funds 2016 list to identify pensions. Among all the pensions, we further classify those self-reported as "non-corporate pension" or "sovereign wealth fund or government controlled fund" as public pensions. The remaining types, including insurance pensions, corporate pensions, and others, are classified as private pensions.

these investors, 24 are asset owners, 61 are investment managers, and 5 are service providers. We observe that the average AUM of the lead investors ($136 billion) is higher than that of the overall collaborating investor sample. Compared to other collaborating investors, lead investors are also more likely to be PRI's founding signatories (24% vs. 17%), more likely to have formal process of engagements by internal staff (96% vs. 80%), and participate in more collaborative initiatives outside the PRI (9.1 vs. 7.5), despite joining PRI at the similar time as the other investors. These suggest that lead investors exhibit both stronger interest in E&S engagements and collaboration, and at the same time are equipped with the stronger means to engage.

1,509 out of the 1,733 PRI signatories in our sample never participated in any coordinated engagements. We thus label them as non-collaborating signatories and report their characteristics at Panel C of Table IA.3. As mentioned before, these non-collaborating signatories include the large institutions who prefer not to engage via PRI's Collaborative Platform (e.g., 95 with AUM at or higher than $100 billion), the small institutions who could not afford to engagement even in a collaborative way (e.g., 384 with AUM at or below $100 million), those located in regions with distaste for shareholder activism (e.g., 52 located in Japan), as well as those without holdings in public equity.[15] On average, these non-collaborating signatories have lower AUM ($45 billion). Not surprisingly, compared to collaborating investors, these non-collaborating ones have been a PRI signatory for a shorter period of time (four years until 2017), are less likely to be PRI founding signatories (1%), are less likely to have formal process of engagements by internal staff (26%), and participate in fewer collaborative initiatives outside the PRI (2.2).

**Table IA.4**, Panel A reports the top 10 investors by number of engagements participated, and the selected characteristics of these investors. The top 10 organizations by number of engagements are Aviva Investors (UK), Boston Common Asset Management (US), Robeco (Netherlands), Amundi (France), Northern Ireland Local Government Officers' Superannuation Committee (UK), Candriam Investors Group (Luxembourg), Canada Pension Plan Investment Boards (Canada), MN (Netherlands), The Cooperative Asset Management (UK), and New Zealand Superannuation Fund (New Zealand). Out of the top 10 participants by number of engagements, seven are investment managers and three are asset owners. This table also reports the date when the organization became a PRI signatory. Among them, four joined PRI since its inception in April 2006, and four are PRI's founding signatories, i.e., Aviva Investors, Candriam Investors Group, Canada Pension Plan Investment Board, and New Zealand Superannuation Fund. Panel B of Table IA.4 reports the top 10 lead investors by the number of engagements they led and the selected characteristics of these group members.

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[15] Based on conversations with PRI, around 860 out of more than 1,700 signatories in 2017 did not have publicly listed equity in their portfolios. In 2017, PRI signatories had 38% of their AUM invested in listed equity (https://tinyurl.com/PRIReportingFramework2017).

Nine out of 10 leads are investment managers, and one is a service provider. This is consistent with the view that an important incentive for investors to join or lead a coalition is to enhance reputation by demonstrating proactivity and responsiveness to the concerns of E&S conscious investors. Among them, Boston Common Asset Management, Robeco and MN are also listed as top 10 investors in Panel A of Table IA.4. Hermes Investment Management, PGGM Investments and BMO Global Asset Management (through F&C Asset Management) are among PRI's founding signatories.

## 2.3 Determinants of decision to collaborate

In this section, we first analyze the determinants of a PRI signatory becoming a collaborating organization. Columns (1) to (3) of **Table 3**, Panel A report the signatory-level probit regression results on the likelihood of becoming a collaborating investor. This analysis essentially compares signatory characteristics between collaborating investors with non-collaborating signatories. Since signatory size information is not available for service providers, we exclude them from this analysis. We find that signatories that are (i) founding members of PRI, (ii) asset owners, mostly public pension funds, (iii) early signatories of PRI, (iv) with formal process to engage by internal staff, and (v) active at collaborative initiatives besides PRI, are more likely to be collaborating investors. These findings suggest that strong interest in E&S issues and having internal resources dedicated to engagement are important determinants for collaborating. The finding that public pension funds are more likely to be collaborating investors is consistent with the notion that public pension funds tend to be more involved in E&S engagements and impact investing due to their strong political incentive (Kim, Wan, Wang and Yang (2019); Barber, Morse, and Yasuda (2021)).

Interestingly, we also find an inverse U-shaped relation between signatory size measured by AUM and the likelihood of collaborating (Column 1 of Table 3, Panel A).[16] This result could be due to two opposing effects of investor influence on engagements: On the one hand, large signatories may prefer to engage alone if they have enough resources and their sole influence over target firm is already substantial. On the other hand, since engagements require commitment, resources, and certain clout over the target firm, if the signatory is too small, it may not have the means to engage. These opposing forces make collaboration particularly appealing for mid-sized investors. However, signatory size no longer matters after we control for the presence of a formal process to engage by internal staff and the number of collaborative initiatives besides PRI (Column 2 of Table 3, Panel A). This finding confirms the view that signatory size captures both the signatory's ability to engage

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[16] In unreported analysis, we find very similar results by using the number of staff as an alternative measure for signatory size.

and its willingness to collaborate.

We also explore country-level determinants. Liang and Renneboog (2017) find that legal origin plays an important role in explaining firms' CSR activities, while Dyck et al. (2019) find that social norms in institutional investors' home countries affect investee firms' ESG performance. We find that compared with signatories with an English origin, those with German origin are less likely to participate in the coalition.[17] This is partially due to signatories located in Japan (with a German origin) having a distaste for shareholder activism. We also find a strong positive association between signatory home country's social norm scores and the likelihood to participate, consistent with the findings in Dyck et al. (2019).

We also analyze the determinants of a PRI signatory becoming a lead investor conditioning on being a collaborating investor. Columns (4) and (5) of Table 3, Panel A report the probit regression results. Again, we exclude service providers from this analysis. Similar to the decision to collaborate, we find that collaborating investors that are active at collaborative initiatives outside the PRI and with formal process to engage by internal staff are more likely to lead. This finding suggests that having strong interests in and internal resources dedicated to E&S engagements is particularly important for leading E&S engagements. Interestingly, we find that the coefficient on asset owner indicator is negative and significant in Column (4) of Table 3, Panel A. A further breakdown of asset owner type into public pension, private pension, and other asset owner suggests that all three types are similarly less likely to lead compared with investment manager (Column 5 of Table 3, Panel A).[18] Contrasting with the finding in Columns (1) and (2) of Table 3, Panel A, this finding suggests that although asset owners show strong interest in E&S engagements, they are less likely lead. This is potentially due to lower pressure for asset owners to establish the reputation to attract outside fund flows and to asset owners' relatively lower capacity to handle the responsibilities of the lead investors.[19] We no longer find signatory size or signatories' home country legal origin or social norm plays a role in the decision to lead, probably because given the higher costs associated with leading an engagement, economic considerations outweigh intrinsic interest in the decision-making.

We next analyze a signatory's decision to join a particular engagement, i.e., to engage with a particular target

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[17] Among the 224 active investors, 58%, 21.4%, 8%, 12.5% have English, French, German and Scandinavian legal origin, respectively. Among the 90 lead investors, 53.3%, 23.3%, 8.9%, and 14.4% have English, French, German and Scandinavian legal origin, respectively.

[18] Kahan and Rock (2007) argue that public pension funds, unlike hedge funds, do not have to compete intensively for investment capital, and are subject to political constraints and conflicts of interest, which in turn shape how they engage in shareholder activism.

[19] On average, asset owners are much less likely to have internal staff dedicated to engagements compared with investment managers (68% vs. 89% in our sample).

firm in a project, after controlling for signatory characteristics analyzed above. The purpose of this exercise is to understand the economic incentives behind each engagement after holding signatory-level organizational structure constant. For this purpose, we create a pool of candidates for each engagement. Although, in principle, all PRI signatories could join these engagements via the Collaboration Platform, as discussed above, only 224 have used the platform at least once during our sample period due to their arguably fundamentally different characteristics from the remaining 1,509 non-collaborating signatories. We thus limit the pool to these 224 collaborating signatories. Again, we exclude service providers from this analysis due to the lack of information on their shareholdings of the target. In sum, each engagement has 208 signatories as potential engaging investors.

Columns (1) to (2) of Table 3, Panel B report the signatory-engagement-level regression results on *D_Investor*, defined as one if a signatory participated in an engagement, and zero otherwise. All regressions include signatory fixed effects and engagement fixed effects (target firm fixed effects and time fixed effects are subsumed by engagement fixed effects). We use an OLS model to avoid the incidental parameters problem arising in non-linear models with multi-dimensional fixed effects (Greene (2004)). Since the dependent variable is a decision made by individual signatories, we use two-way clustering at both the signatory level and the project level to adjust the standard errors.

In Column (1) of Table 3, Panel B, we find that when the target firm is located in the same country as the signatory, i.e., being domestic, the likelihood of the signatory to join the engagement is 2.7% higher, relative to the sample mean of 12%. To explore whether this result is driven by cultural similarity or geographic proximity, in Column (2) of Table 3, Panel B, we replace the domestic target indicator with two variables capturing geographic distance and cultural distance between the target and the signatory, respectively. Geographic distance is a discrete variable defined as zero when the target and signatory are located in the same country, one when they are located in different countries within the same region (Europe, Asia, Africa, Middle East, Latin America, North America, and Oceania), and two when they are located in different regions. Cultural distance is the Euclidean distance in two dimensions of culture, i.e., traditional versus secular/rational and survival versus self-expression orientations, obtained from WVS at measured at the year immediately before engagement start date. Detailed variable definitions are included in Appendix C. We find that geographic (cultural) distance plays a dominant (limited) role. A signatory located in a different region from the target firm (with geographic distance being two) is 3.4% less likely to join the engagement than a signatory located in the same country as the target firm. This suggests that signatories have a home bias when making engagement decisions, likely due to stronger interest in local issues and/or lower costs associated with engaging with a local firm. This finding is in line with home bias observed in impact investing (Chowdhry,

Davies, and Waters (2019); Barber, Morse, and Yasuda (2021)).

We also find that having joined PRI as a signatory before project initiation increases the likelihood of joining an engagement by 7.3-9.5%.[20] This suggests that information sharing and processing between the PRI and the signatory is an important motivation for joining a coalition. A signatory's past and ongoing engagements reduce the probability of joining a new engagement. The former could be due to the pressure of staying active, as a PRI signatory, being lower once the investor is involved and has "checked the box". The latter is likely due to the fact that staying active in an ongoing engagement requires commitment and signatories often face limited resources.[21]

We also examine whether financial incentives play a role in a signatory's decision to engage with a particular target by analyzing the signatory's stake in and exposure to the target. We collect information on engaging investors' equity holdings in target companies by manually matching the identity of investors with institutions in FactSet using the investor's name, headquarter country, and AUM. A larger stake in the target increases the credibility and strength of the investor's voice and the potential benefits of the engagement. An investor is more likely to expend more resources on a particular target to which it has a larger exposure (Fich, Harford, and Tran (2015)). We use the percentage shareholdings in a target to quantify the signatory's stake. We measure a signatory's exposure to a target by calculating the weight of the signatory's holding value in the target relative to its overall equity portfolio value. Both variables are multiplied by 100 to ease the reporting of the coefficients. A signatory's overall equity portfolio value is calculated as the sum of all holdings in a quarter as recorded by FactSet. We do not find a signatory's stake in or exposure to the target firm has any impact on its engagement decision. This suggests that financial incentives do not drive a signatory's decision to participate in an engagement after controlling for other economic incentives. This is likely due to the relatively low costs associated with being part of the collaboration without playing the lead role (discussed below).

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[20] PRI may send engagement invitations to institutions who have not yet pledged as PRI signatories. In these cases, an institution may decide to join an engagement first and later become a signatory. However, this practice is uncommon. Only in 5% of our sample did an institution join an engagement before becoming a signatory.

[21] Some institutions may join coordinated engagements to appear active in front of their clients. Once they participate in a number of engagements within a certain period, they do not have the same incentive to contribute to an engagement. In 2018 PRI strengthened its signatory accountability, and implemented minimum requirements for maintaining membership and showcasing leadership activity on responsible investment (RI) for its existing and future signatories. Requirements include: (i) investment policy that covers the firm's RI approach, embracing >50% of AUM, (ii) internal/external staff responsible for implementing RI policy, and (iii) senior-level commitment and accountability mechanisms for RI implementation. Existing and future signatories not meeting the criteria will first be informed privately and then delisted following unsuccessful engagement over the two-year period (unpri.org/signatories).

In Columns (3) and (4) of Table 3, Panel B, we repeat the analysis using the subsample of single-tier engagements. The results are mostly similar to those using the full sample in Columns (1) and (2) of Table 3, Panel B, though the coefficients on a signatory's past and ongoing engagements become insignificant, potentially due to the reduced sample size.

In Columns (5) and (6) of Table 3, Panel B, we analyze a collaborating investor's decision to become a lead investor in an engagement. To play the lead role, the investor needs to be the point of contact, to post the invitation, to report back to PRI periodically, and to commit significant time and resources to the engagement. Some engagements require face-to-face meetings with target firm management. While the lead investor arguably incurs considerable costs, the potential benefits of the engagement efforts such as improved firm performance and stock price are shared among all stakeholders. Free-rider problems thus may disincentivize an investor from playing a lead role. Consistent with this conjecture, we find that a collaborating investor is more likely to lead an engagement if it has higher exposure to and a higher stake in the target, i.e., has more "skin in the game". In terms of economic significance, we find in Column (5) that a one-standard-deviation increase in a signatory's holding in target (0.232) increases its likelihood to lead the engagement by 2.4%, relative to the sample mean of 6.1%. Similarly, a one-standard-deviation increase in a signatory's exposure to the target (0.209) increases its likelihood to lead by 1.6%. Consistent with the argument that being a lead is costly and time-consuming, we find that leading other ongoing projects reduces the likelihood of a signatory to lead another engagement by 3.5%. Target's location plays a much more prominent role in the decision to lead. A signatory is 22% more likely to lead an engagement when the target firm is located in the same country. A further analysis suggests that both geographic proximity and cultural similarity play a role, likely due to lower engagement costs and/or higher familiarity with or interest in the matter. A signatory located in a different region from the target is 8.8% less likely to lead the engagement than a signatory located in the same country as the target. A signatory located in a country with a cultural distance of one (the distance between Netherlands and Sweden or double the distance between the UK and the US) from the target's home country is 9.2% less likely to lead the engagement than a signatory located in the same country as the target. This finding again supports the view that being a lead is not only costly and time-consuming, but also requires local knowledge. Geographic proximity and cultural similarity to the target could substantially reduce the costs and improve efficiency of leading an engagement.

Columns (7) and (8) of Table 3, Panel B analyze the incentives for a signatory to become a supporting investor after knowing who leads the engagement. Similar to the analysis in Columns (1) and (2), in each engagement, every collaborating investor except the lead investor(s) of this engagement is a potential candidate for supporting investor. Similar to results in Columns (1) and (2) of Table 3, Panel B, we find that a signatory is

less likely to join a coalition as a supporting investor if it already has past engagement experience or is busy with other projects. However, target firm being domestic is no longer a determinant for the supporting investors. This suggests that supporting investors do not necessarily prefer local targets, probably because they rely on lead investors for local expertise.

We further explore whether the distance from the lead investor plays a role for the supporting signatories. We find that having a lead from the same country significantly increases a signatory's likelihood to join the coalition as a supporting investor (1.4%). A further analysis suggests that this is mostly driven by the cultural similarity between the lead and the signatory: A signatory located in a country with a cultural distance of one from the lead investor's country reduces the former's likelihood to join the engagement by 1.6%, relative to the sample mean of 9.7%. This is probably because cultural similarity makes communication easier and collaboration more efficient. This is in line with Bolton, Brunnermeier, and Veldkamp (2013) arguing that matching leader with coalition culture improves coordination.

# 3. Engagement Outcomes

## 3.1 Determinants of engagement outcome

We assess the outcome of engagement using the success indicator provided by PRI. We conduct the analysis at the engagement level and success information is available for 1,077 engagements from 28 projects. We model engagement success rate as a function of target firm characteristics, target country characteristics, engagement structure, and engaging team characteristics.

### 3.1.1 Univariate analysis

In **Table 4**, Panel A, we compare the target firm characteristics in the two-tier engagement subsample and single-tier engagement subsample. We find that target firms in the two-tier engagement subsample tend to have lower stock returns, return volatility, sales growth, R&D expenditure, and insider holdings, and have higher dividend payout, capital expenditure, long-term institutional holdings, and foreign sales. We also analyze the legal origin and social norms of target firms' home countries, as prior studies find that country legal origin and social norms play a role in firms' ESG performance (Liang and Renneboog (2017); Dyck et al. (2019)). We observe that the home countries of the target firms in the two-tier-engagement subsample are less likely to have a German legal origin and score higher in social norms. We observe that target firms in the two-tier engagement subsample have better ESG scores in all dimensions. Overall, these findings suggest that target firms in these two subsamples exhibit quite different characteristics, highlighting the importance of controlling for firm and country characteristics when analyzing the effect of two-tier engagement structure on

engagement outcomes. We later also match target firms in two subsamples on all firm- and country-level covariates.

In Table 4, Panel B, we compare the engagement-level attributes across these two subsamples. The success rate in the subsample with two-tier engagement structure is 72.6%, more than twice of that in the single-tier engagement subsample (32.8%). Interestingly, almost all the engagement-level attributes are also significantly different across these two subsamples. Relative to the investor groups in single-tier engagements, those in two-tier engagements tend to consist of fewer members (23 vs. 25), smaller percentages of public pension plans (17.6% vs. 19.3%), private pension plans (2.7% vs. 5.2%), and service providers (4.7% vs. 6.0%), and higher percentages of non-pension asset owners (5.9% vs. 3.9%), investment managers (68.9% vs. 65.6%), and PRI founding signatories (29.1% vs. 24.5%). Two-tier engagements also have higher percentages of investors located in the same country as the target firm, i.e. domestic investors (15.8% vs. 7.7%), and investors located in high social norm countries (41.0% vs. 35.0%).[22] We also find that the collective equity holdings in target companies by the investor groups are comparable in percentages across two subsamples (1.4% vs. 1.3%), but higher in dollar values in the two-tier-engagement subsample, due to the target firms being larger in size.[23] The total investor group AUM is larger for the single-tier engagement subsample. As discussed above, although the two-tier engagement structure is exogenously imposed by PRI, the decision to participate in an engagement is decided by individual investors. Overall, the team composition seems to resonate with the organizational structure of engagement. Compared to single-tier engagement teams, a two-tier engagement team consists of fewer investors, lower proportion of pension plans and service providers, higher proportion of investment managers, and higher proportion of domestic investors and investors from high social norm countries. This suggests that two-tier engagement teams have stronger interest in E&S issues, and their members often have the means and the motivation to drive success. In our multivariate analysis on engagement success, we further analyze the effects of engagement team composition.

Table 4, Panel B also reports some engagement-level attributes unique to the two-tier engagements. An average two-tier engagement has 1.49 leads with the median number of leads being 1. The total holdings in the target firms are 0.3% for the leads and 1.1% for the supporting investors. 53% of two-tier engagements have domestic leads and 47% have lead investors based in high social norm countries. Only 14% of two-tier engagements

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[22] We define a country as having high social norm if its WVS value is above the sample median of 0.53.

[23] An aggregate shareholding of 1.4% in target firms by the investor group corresponds to an average 0.06% holdings by an individual investor. This number is comparable to the findings in prior literature examining ESG engagements. For example, in Dimson, Karakaş, and Li (2015, Table 5), the average shareholding by the single asset manager in the target firms is 0.06%.

have either a public or a private pension plan as lead, and 42% have a PRI founding signatory as lead.

*3.1.2 Multivariate analysis*

Table 4, Panel C reports the marginal effects of engagement-level probit regression results on *D_Success*, defined as one if PRI recorded success for the engagement, and zero otherwise. We include target industry fixed effects to control for industry-specific factors. We conduct the analysis separately for all engagements and for two-tier engagements – the results for the single-tier engagements could be inferred by contrasting these two results. For the subsample analysis using two-tier engagements, we additionally include year fixed effects, which cannot be included in the full sample, since our main variable of interest, the indicator for two-tier engagement , is highly correlated with year indicators: All projects initiated before 2010 have single-tier structure, and all projects (with success data) initiated on or after June 2012 have two-tier structure. We also separately report the results with and without controlling for Refinitiv overall ESG rating and component ratings, since the inclusion of ratings reduces our sample size considerably. We cluster the standard errors at the project level.

Consistent with the hypothesis that a two-tier engagement structure leads to higher success rate, we find a positive and statistically significant coefficient on the indicator for two-tier engagement (*Engagement has lead*) in Columns (1), (3), and (5) of Table 4, Panel C. In terms of economic significance, having a two-tier engagement structure increases the success rate by 22-25%. This finding is consistent with a tiered structure where engaging investors commit to clearly defined roles and responsibilities is more effective in collaborative engagements.[24] In Columns (2), (4), and (6) of Table 4, Panel C, we further explore whether the characteristics of the lead investors play a role in engagement success within two-tier engagements. We find that having a domestic lead further increases the success rate of two-tier engagements by 24–29%. Geographic and cultural proximity of the lead investor to the target firm provides lead investors with local expertise and knowledge (and hence arguably higher credibility) and reduces engagement costs, thus leading to better engagement outcomes. This finding provides a rationale for the results reported in Table 3, Panel B that home bias drives signatories' decision to lead an engagement. We also find the equity holdings in target firms by lead investors improve success rate, while having a public pension funds as lead decreases success rate. The former finding suggests that having more "skin in the game" incentivizes lead investors to engage more effectively. The latter

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[24] A contemporaneous study by Ceccarelli, Glossner, Homanen, and Schmidt (2022) examine the role of leaders in explaining the association between institutional ownership and firms' E&S scores. They identify leaders as PRI signatories that lead and also support collaborative engagements in a given year, showcasing a credible commitment. Their finding of leaders being primarily accountable for the positive relation between institutional ownership and firms' E&S performance corroborates our findings. However, their study does not explore the team dynamics within collaborative engagements, nor analyzes incentives behind the collaboration.

finding again resonates with the finding in Table 3, Panel A that public pension plans have a disincentive to become lead.[25] This is probably because public pension plans face less reputational pressure to stay active and attract fund flows and are subject to political constraints and conflicts of interest, as discussed in Kahan and Rock (2007).

In terms of engaging team characteristics, we have some interesting observations. We find that investors from high social norm countries substantially improve the success rate for both single-tier engagements and two-tier engagements, while having a lead from high social norm country does not affect success rate. These findings resonate with those in Table 3, Panel A that signatories from high social norm countries are more likely to participate in an engagement, but are not more likely to lead an engagement. In terms of economic significance, increasing the percentage of high-social-norm investors in the team by 15% (roughly one standard deviation corresponding to 3-4 investors) could boost the success rate by 10-19%. We also find that success among single-tier engagements is more (less) likely when the engaging team consists of a larger percentage of public (private) pension plans. This suggests that, compared to private pension plans, public pensions plans demonstrate more effective stewardship about E&S issues, particularly in less structured coalitions. The positive impact of public pension plans on success rate resonates with the finding in Table 3, Panel A that public pension plans are more likely to engagements, likely due to their strong political motive for E&S issues. The negative impact of private pension plans on success rate is probably driven by their lack of resources for engagement: only 45% of private pensions in our sample have internal staff dedicated to engagement, while this number is 75% for public pensions.

Unlike the lead investors, the holdings in the target firms by non-lead investors (i.e., investors in single-tier engagements and supporting investors in two-tier engagements) play a limited role in affecting engagement success. This resonates with the finding in Table 3, Panel B that a signatory's equity holding in the target firm does not affect its decision to join the coalition, unless the signatory leads the engagement. The percentage of domestic investors in the coalition also plays a limited role. In fact, among two-tier engagements, the presence of domestic supporting investors even reduces the success rate (Columns (4) and (6) of Table 4, Panel C). This resonates with the finding in Table 3, Panel B that supporting investors do not particularly prefer local targets. Based on our conversations with PRI, supporting investors are often sought after for their global appearance with the purpose of broadening the impact of coordinated engagements. Indeed, engagements are more successful when fewer supporting investors are domestic. We also find that the presence of other asset owners

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[25] We are unable to examine the effect of lead being a private pension fund, due to a lack of observations. Only one private pension plan in our sample has ever led an engagement. Only four engagements in our sample have the private pension plan as lead and all of them have a public pension plan as co-lead.

in the coalition diminishes the success rate among two-tier engagements. This is probably because most of the non-pension asset owners are either insurance firms or small trust and foundations, who arguably lack the motivation and/or resources for engagement.

In terms of target firm characteristics, overall, we find them playing a limited role in affecting engagement success and their effects are quite sensitive to model specification. For brevity, coefficients on some firm level (control) variables are omitted in this table and tabulated in the Internet Appendix (Table IA.5). We find that success is more probable when there is (i) more dividend payout, (ii) lower stock return volatility, and (iii) larger long-term institutional holding in the target company, which enhances receptivity to long-term value-enhancing changes, and (iv) a higher ESG rating, consistent with PRI's targeting strategy observed in Table 2. However, these results do not hold for the two-tier engagement subsample, suggesting that once a structured engagement strategy is established, target firm characteristics do not drive success. We also find that firm size increases success rate, but only for single-tier engagements and when ESG ratings are not included in the regression, potentially due to high correlation between ESG ratings and firm size. A positive association between target firm size and engagement success is consistent with the finding in Dimson, Karakas, and Li (2015). For the two-tier engagement subsample, R&D spending and capital expenditures seem to be positively associated with success rate. We find the social norm and legal origin of target firms' home countries play a limited role. Success seems less likely when target firms are located in Scandinavian countries (relative to English-origin countries), but only when ESG ratings are controlled and only among two-tier engagements.

To sum up, findings in this section suggest that the most effective structure of a coordinated E&S engagement involves appointing domestic non-pension investors with large holdings at the target as leads and including foreign supporting investors, especially those from high social norm countries, in the coalition. Such a structure has a clear division of roles and at the same time broadens the resources and influence that can be utilized by the engaging group.

### 3.1.3 Alternative explanations on engagement outcomes

In this section, we address the endogeneity concerns around the two-tier engagement structure. The first concern is that target firms are inherently different in the single-tier engagement subsample and two-tier engagement subsample. We address this concern by matching target firms in these two subsamples. We use both the Entropy Balancing (in the first two moments) and the Propensity Score Matching (with replacement and 0.01 caliper) methods to match engagements in single-tier and two-tier subsamples along all target firm characteristics (with and without ESG ratings) as listed in Table 4, Panel A. **Table 5**, Panel A, Columns (1) to (4) report the results for determinants of engagement success. All the regression variables are the same as those

used in Table 4, Panel C. For brevity, we only tabulate the coefficients on the two-tier engagement indicator. We continue to find the coefficient on two-tier engagement indicator positive and significant, with magnitudes comparable to those reported in Table 4, Panel C

The second concern is that single tier and two-tier engagements focus on different E&S topics, which might lead to different success rate. For example, all UNGC engagements have a single-tier engagement structure (mostly involving engagements through e-mail correspondence with target firms), and the majority of engagements on social issues have a two-tier engagement structure. We thus repeat the analysis in Table 4, Panel C by using subsamples where engagement topics are more comparable. We run regressions using two separate subsamples, with one excluding all UNGC projects, and another including only projects on environmental themes (14 projects in total). We continue to find coefficient on two-tier engagement indicator positive and significant, with magnitudes larger than those reported in Table 4, Panel C (untabulated).

The third concern is that single tier and two-tier engagements are also quite different in terms of engagement-level attributes (as observed in Table 4, Panel B). We are unable to match engagements in these two subsamples along engagement-level attributes due to the large differences across these two samples and a small sample size.[26] To mitigate the concern that a higher success rate among two-tier engagements could be due to leading investors' inherently being more effective at engagement rather than by the two-tier engagement structure itself, we conduct a counterfactual analysis on the subsample of single-tier engagements by identifying "pseudo" leads, who have the attributes of real leads, but do not play the leading role in an engagement. We use two approaches to identify the pseudo lead in an engagement. In the first approach, we use the determinant model of becoming a lead investor as used in Column (5) of Table 3, Panel B. In other words, two-tier engagements are used as the estimation sample. We then use the estimated coefficients to make out-of-sample prediction on the probability of an investor being a lead in a single-tier engagement. We identify an investor as a pseudo lead if its predicted probability of being a lead in an engagement is above 0.25385. This threshold is chosen so that the percentage of pseudo leads in the estimation sample is comparable to the percentage of actual leads. Under this approach, 41.0% of single-tier engagements have at least one pseudo lead. We label them as "pseudo-two-tier" engagements. In the second approach, we use a naïve method to identify the pseudo lead in an engagement. We identify an investor as a pseudo lead if it is domestic, an investment manager, and has internal staff dedicated for engagements, because these three factors are the most prominent determinants of an investor being a lead according to findings in Table 3, Panels A and B. Under this approach, we identify

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[26] The algorithm does not converge when we try to entropy balance along engagement-level attributes across these two subsamples. Although propensity-score-matching does produce results, two subsamples are poorly matched along all the engagement-level covariates.

40.6% of single-tier engagements as "pseudo-two-tier" engagements. We then repeat the regression analysis in Table 4, Panel C, Columns (1) and (3), using pseudo-two-tier engagement indicator to replace two-tier engagement indicator and using the subsample of single-tier engagements. The results are reported in Table 5, Panel B. The coefficient on the pseudo-two-tier engagement indicator is insignificant across all model specifications. This finding suggests that having investors with leaders' attributes on the engaging team does not improve success rate. It is the clear division of responsibility and labor among investors in the two-tier engagements that drives up the success rate.

Fourth, although the two-tier engagement structure is exogenously imposed by PRI to the engaging team, higher success rate could be driven by learning, i.e., the engaging team gets better over time, as most of the two-tier engagements took place in later years.[27] We address this concern in several ways. First, if investor learning drives up success rate, we would expect more experienced engaging teams to have higher success rate. We measure the experience of the engaging team by using the percentage of investors with past engagement experience. We also measure a leader's experience by using two indicators capturing the leader's past engagement experience and past leading experience. We include these measures in the regressions on success, but do not find them to be positively associated with the likelihood of success (untabulated). Second, as discussed in Section 1.2, our sample period could be divided into three subperiods: the single-tier engagement period (between January 2007 and December 2009), the experimental period (between January 2010 and May 2012), and the two-tier engagement period (between June 2012 and 2017). During the experimental period, three two-tier engagement projects and seven single-tier engagement projects were initiated. We thus repeat the analysis for the experimental period only. Using a short event window alleviates the concern that the results are driven by learning. Furthermore, during the experimental period, both two-tier engagement projects were initiated earlier than single-tier engagement project, thus inconsistent with the learning argument. However, a further concern is that the project choice may not be random. That is, during the experimental period, PRI might have chosen easy-to-succeed projects to implement two-tier structure. We thus also conduct the analysis using the single-tier engagement period and two-tier engagement period combined (i.e., the experimental period excluded), when the two-tier engagement structure is not a choice. Table 5, Panel C, Columns (1) and (3) report the results for the experimental period, and Columns (2) and (4) report the results for other periods. We find that the coefficient on two-tier engagement indicator is positive and significant in all columns. The magnitude of the coefficient on two-tier engagement indicator in Columns (1) and (3) is slightly lower and that in Columns (2) and (4) is higher than that reported in Table 4, Panel C,

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[27] Another related alternative explanation is an upward time trend of success. However, the notion that "low-hanging fruits" in E&S engagements are first depleted would bias against such a trend.

Columns (1) and (3). This finding suggests that although we cannot completely exclude learning, the results that two-tier engagement leading to higher success rate cannot be entirely driven by investor learning.

Overall, results in this section suggest a likely causal effect of two-tier engagement structure on engagement success, consistent with the prediction of economics of leadership framework by Hermalin (1998).

### 3.2 Signatory future fund flows

As discussed above, a major incentive for signatories to engage is to enhance reputation and attract future fund flows. We thus conduct analysis to investigate whether participating in or leading an engagement improves a signatory's future fund flows. We follow Gibson-Brandon et al. (2022) and measure signatory fund flow using imputed data on disclosed holdings from FactSet. Intuitively, a signatory's annual fund flow is calculated as the year-over-year percentage change in total equity holding value after adjusting for stock price changes during the year. The detailed definition is included in Appendix C. The data to calculate signatory fund flow is obtained from FactSet and are available for 503 signatories (including 470 investment managers and 33 asset owners) or 5,360 signatory-years between 2007 and 2019.[28] To analyze the incremental effect of lead experience on future fund flows, we further limit our sample to collaborating signatories and for the sample period between 2013 and 2019.[29] To isolate the impact of engagement and lead experience on future fund flows, we control for signatory size (portfolio value and the number of funds), signatory past performance (annual return and fund flow), and signatory activities (churn ratio).

**Table 6**, Panel A reports the summary statistics of our regression variables. The unit of analysis is signatory-year. The variables of interest are indicators for whether a signatory has any engagement experience (defined as one if the signatory has ever participated in any engagement that was initiated before the current year end), successful engagement experience (defined as one if the signatory has ever participated in any successful engagement that concluded before the current year end), lead experience (defined as one if the signatory has ever led any engagement that was initiated before the current year end), and successful lead experience (defined as one if the signatory has ever led any successful engagement that concluded before the current year end). The detailed variable definitions are included in Appendix C.

Table 6, Panel B reports the OLS regression results on signatory annual fund flows. We include signatory fixed

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[28] Many signatories do not have holdings in public equity or do not publicly report their holdings. We choose 2007 as the starting year for fund flow analysis, as the first engagement project was initiated in 2007. We choose 2019 as the ending year, because the last engagement project concluded in 2018.

[29] We choose 2013 as the starting year because: (i) the first two-tier engagement project concluded in late 2012, and (ii) the majority of two-tier engagement projects were initiated in and after June 2012.

effects and year fixed effects to control for unobservable signatory characteristics and time effects and cluster the standard errors at the signatory level. In Column (1) of Table 6, Panel B, we find that having past engagement experience significantly increases a signatory's future fund flows by 12.5%. This number is comparable to the increase in fund flows observed after US mutual funds sign the PRI (Gibson-Brandon et al. 2022; Kim and Yoon 2022).[30] In Column (2) of Table 6, Panel B, we additionally include the indicator for successful engagement experience. The coefficient on successful engagement experience indicator is positive and significant: having successful engagement experience increase a signatory's future fund flows by 18.3%. The coefficient on engagement experience itself becomes insignificant, suggesting that unsuccessful engagement experience does not attract future fund flows. Our fund flow findings provide evidence against greenwashing concerns. Gibson-Brandon et al. (2022) and Kim and Yoon (2022) who analyze ESG scores (as opposed to E&S engagements in our analyses) and find evidence suggestive of greenwashing.

In Columns (3) and (4) of Table 6, Panel B, we repeat the analysis for investment managers only, as they are likely more motivated by future fund flows than asset owners. Indeed, we find the magnitudes of coefficients on both engagement experience and successful engagement experience are larger, albeit slightly, for the investment manager subsample. In Columns (5) and (6) of Table 6, Panel B, we regress future fund flows on indicators for lad experience and success lead experience using the sample of collaborating signatories only. This analysis essentially captures among those with engagement experience, whether having lead experience further improves future fund flows. We find that having lead experience further increases collaborating signatory's future fund flows by 8.9%. Interestingly, in Column (6) of Table 6, Panel B, the coefficient on successful lead experience is not significantly, while the coefficient on lead experience remains positive and significant. This suggests that successful lead experience does not have any incremental effect on future fund flows over lead experience, probably because clients view the experience of leading an engagement as a strong signal for ability, even if the engagement turns out to be unsuccessful later. We continue to find slightly stronger results when limiting the sample to investment manager only in Columns (7) and (8) of Table 6, Panel B.

Overall, results in this section provide supporting evidence that one mechanism for PRI signatories to participate in, or to lead coordinated engagements, is to enhance reputation and attract future fund flows, consistent with the predictions of Brav, Dasgupta, and Mathews (2019). Although leading an engagement is costly, it has the benefit of attracting additional fund flows irrespective of the engagement outcome. Such

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[30] Gibson-Brandon et al. (2022, Table 9) document an increase of 9% in annual fund flow and Kim and Yoon (2022, Table 3) document an increase of 4% in quarterly fund flow, for PRI signatories.

benefits could be especially rewarding for investment managers.

## 3.3 Target firm financial performance

### 3.3.1 Target long-term stock performance

We examine the changes in target firms' annual stock returns around the engagement initiation. **Table 7**, Panel A reports the regression results on target firms' abnormal annual buy-and hold returns, defined as target's 12-month buy-and-hold return minus market 12-month buy-and-hold return. We use MSCI country return index of the target's home country to measure market return.[31] For each target firm in an engagement, we keep 24 months before and 36 months after the engagement start date, as the average and median engagements in our sample take two years to conclude. Month 0 is the calendar month when the engagement started. We create a *Post-engagement$_{Year+1\&+2}$* indicator, defined as one for Month 0 to Month 23 and a *Post-engagement$_{Year+3}$* indicator, defined as one for Month 24 to Month 35. The benchmark period is thus Month –1 to Month –24. We control for target firm characteristics of the corresponding fiscal year (firm size, market-to-book ratio, leverage, and return volatility), target firm fixed effects, and calendar year fixed effects in the regressions. The unit of analysis is target-engagement-year and we cluster standard errors at the target firm level.

In Columns (1) and (2) of Table 7, Panel A, we separately run the regression for target firms in the two-tier engagement subsample and single tier subsample and compare the regression coefficients across these two. We find that target firms in two-tier engagement subsample experience a 4.7% increase in annual abnormal return within the first two years after the engagement initiation, relative to the pre-engagement level. This increase in annual abnormal stock return widens to 9.4% in the third year. This finding further supports the conjecture that leadership in engagement coalitions is associated with a positive shareholder outcome. In contrast, we observe no change in target firms' stock performance among single-tier engagements. The coefficients on both post-engagement indicators are statistically different across these two subsamples. In Columns (3) and (4) of Table 7, Panel A, we analyze stock performance conditioning on engagement outcome. In particular, we compare the subsample of successful two-tier engagements with the subsample of unsuccessful single-tier engagements. We find a larger increase in annual abnormal return for the former subsample: a 6.3% increase within the first two years, and a 12.6% increase in the third year after the engagement initiation relative to the pre-engagement level. There is again no change in target firms' stock

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[31] In unreported analysis, we also use target firms' annual cumulative abnormal returns (CARs), defined as target firm monthly return minus MSCI monthly return cumulated over 12 months, to measure stock performance and find very similar results.

performance among unsuccessful single-tier engagements.

Overall, we find engagements concluding successfully to be rewarded by the stock market in the first three years of the engagement initiation. Our results chime with the findings in Dimson, Karakaş, and Li (2015) who report 7–8% abnormal returns to successful ESG engagements and zero returns to unsuccessful ESG engagements in their sample. Our results also suggest that the market, on average, can distinguish and reward the successful engagements. This finding yields support to the objectivity of the success measures that PRI uses in evaluating projects.

### 3.3.2 Target accounting performance

We also examine the changes in target firms' accounting returns around the engagement initiation. Table 7, Panel B reports the regression results on target firms' annual return on assets (ROA), defined as earnings before interest, tax, depreciation and amortization (EBITDA) divided by total assets. For each target firm in an engagement, we keep two fiscal years before and three fiscal years after the engagement start date. *Post-engagement$_{Year+1\&+2}$* is the defined as one for the first two fiscal year ends after engagement start date. *Post-engagement$_{Year+3}$* is defined as one for the third fiscal yar end after engagement start date. We control for target firm characteristics (firm size and market-to-book ratio), target firm fixed effects and year fixed effects. We also include peer group ROA to control for potential industry trends. The peer group is defined in the same way as that in Section 3.1. The unit of analysis is target-engagement-year and we cluster standard errors at the target firm level. In Columns (1) and (2) of Table 7, Panel B, we separately run the regression for target firms in the two-tier engagement subsample and single-tier engagement subsample and compare the regression coefficients across these two. We find that target firms in two-tier subsample experience 0.9% increase in ROA within the first two years after the engagement initiation, relative to the pre-engagement level. This increase in ROA widens to 2.3% in the third year. In contrast, we observe no change in target firms' ROA among single-tier engagements. The coefficients on both post-engagement indicators are statistically different across these two subsamples. In Columns (3) and (4) of Table 7, Panel B, we find a larger increase in ROA for the successful two-tier engagement subsample: a 1.4% increase within the first two years, and a 3.2% increase in the third year after the engagement initiation relative to the pre-engagement level. There is again no change in target firms' ROA among unsuccessful single-tier engagements. These results are in line with those in Dimson, Karakaş, and Li (2015) who find a 1.4% increase in ROA following successful E&S engagements, compared to unsuccessful ones.

### 3.3.3 Alternative explanations on target performance

An alternative explanation that permeates the shareholder activism literature is that target firms'

outperformance is driven by the engaging teams' superior stock-picking skills and/or the anticipation of positive changes in target firms rather than the engagement itself (e.g., Brav, Jiang, and Kim (2015)). However, such argument is inconsistent with the contrasting results documented across the two-tier and single-tier engagement subsamples: Superior stock-picking should result in target firms outperforming in both subsamples. Then could the outperformance observed in the two-tier engagement subsample be driven by lead investors' superior stock-picking skills? That is, since the lead investors are often more resourceful and knowledgeable about the targets, they are better able to identify target firms which will have improvements in performance in the future. We address this concern using "pseudo-lead" method described in Section 3.1.3. In particular, we identify the pseudo lead, who has similar attributes as a real lead, in a single-tier engagement. If our results were driven by lead investors' superior stock-picking sills, these pseudo leads would also be expected to have such skills. We conduct the placebo test on target performance using the subsample of single-tier engagements with pseudo leads (or pseudo-two-tier engagements). The results are tabulated in **Table IA.6**. The coefficients on post-engagement indicators are mostly insignificant.[32] This suggests that the superior target firm performance observed after engagements are unlikely driven by lead investors' superior stock-picking.

Another alternative explanation for our performance results is the mean reversion or self-cure. That is, target firms had deteriorating performance before engagements and mean-reversion drove up their performance after engagement (see Brav, Jiang, and Kim (2015) for detailed discussions). Again, such argument is inconsistent with the contrasting results documented across the two-tier and single-tier engagement subsamples. Nevertheless, we conduct two additional analyses to address this concern (untabulated). In the first analysis, we include an additional time indicator to capture the pre-engagement trend. We do not find any evidence suggesting that target performance was deteriorating before engagement, thus inconsistent with the mean reversion story. In the second analysis, we conduct a placebo test on the matched non-target firms (labelled as the placebo group). The firms in the placebo group are chosen from the target's peer group as described in Section 2.1. We further match targets and peers in their pre-engagement performance.[33] We run similar regressions as those in Table 7, Panels A and B using the placebo group of targets in two-tier engagements.

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[32] The only exception is in Column (3) of Table IA.6, when we use the prediction method to identify pseudo lead, we find that target's ROA increased by 0.5% in the first two years after engagement. However, the magnitude is much smaller than the 0.9% increase observed in the two-tier engagement subsample (Table 7, Panel B, Column 1). Further, in Column (3) of Table IA.6, the ROA change in the third year (compared to pre-engagement period) is statistically insignificant, while the corresponding magnitude is much higher (2.3%) in the two-tier engagement subsample (Table 7, Panel B, Column 1).

[33] We use Entropy Balancing (on the first two moments) and Propensity Score Matching (with replacement and 0.01 caliper) methods to match target and peer group along three dimensions, firm size at Year –1, firm performance at Year –1, and firm performance at Year –2. This approach is similar to the one used in Brav, Jiang, and Kim (2015, Section 6.2.1).

Since the target and placebo firms are matched along the pre-engagement performance, if targets' outperformance after two-tier engagement is driven by mean reversion, we should observe a similar pattern among the placebo group of two-tier engagements. Inconsistent with this prediction, we do not observe any changes in placebo firms' performance (either stock return or ROA) after engagement. Results from these two analyses suggest that the improvement in firm performance observed after two-tier engagements is unlikely driven by mean reversion or self-cure.

## 4. Conclusion and Discussion

Coordinated engagements on E&S issues are surging in the institutional investment world and our study provides the first detailed evidence of the nature and impact of such engagements in a global setting. We show that leadership is decisive in collaborative engagements. Engagements with lead investors are effective in successfully achieving the stated engagement goals, and are followed by improved target performance and increased investor fund flows.

Success rates are elevated substantially when there is a lead investor who heads the dialogue. The increase in success rates is higher especially when the lead investor is based in the same country as the targeted firm. An investor is more likely to lead the collaborative dialogue when the investor has more skin in the game, and when the target is geographically and/or culturally closer. Our evidence indicates that, for maximum effect, coordinated engagements on E&S issues would preferably have a credible lead investor who is well suited geographically, linguistically, culturally and socially to influencing target companies. Supporting investors are also vital, and they would ideally be from foreign countries, and from countries with high social norms.

Our findings suggest that coordinating activity through a third party can significantly reduce the costs associated with active engagement. Importantly, it can alleviate the free-rider problem that is a deterrent to active ownership. Institutions' incentives to become leaders are shaped by their expertise and interest, alongside their resource base and the extent to which they behave like universal owners. Having a structured engagement strategy helps them achieve their stated objectives and contributes to improving the performance of investee companies. Institutions with skin in the game relative to other investors are more likely to bear the engagement costs and to play the lead role. In addition, local preference, and incentive to attract clients provide the necessary means and motives for the lead to be effective

Two main findings in our paper are subject to potential endogeneity concerns. First, the positive association between a two-tier engagement structure and a successful outcome might be a result of reverse causality. That is, investors select a two-tier approach when they perceive engagement success or performance improvements

to be more probable. We argue this is unlikely, because the two-tier engagement structure has been exogenously imposed by PRI on 15 out of the 31 engagement projects, and the presence of an engagement structure with lead(s) is neither a choice by the target firm nor by investors. There is also no indication that PRI imposed the two-tier engagement structure on easy-to-succeed projects. To the contrary, depletion of "low-hanging fruits" may bias against achieving success. In fact, based on our discussions with PRI staff, the two-tier engagement system reflects a structural change in PRI's engagement strategy over time. Second, the improvements in targets' performance could be attributed to superior stock-picking skill by PRI or by engaging investors – a tendency to target firms that are expected to outperform in the future. We argue this is also unlikely, because not all engagements end with success and outperformance is only present in targets where success was achieved and/or a lead was present.

# Appendix A: Illustrative Engagement Projects

## A.1 An example of single-tier engagement: Carbon Disclosure Leadership Index (CDLI) 2011

In March 2011, PRI Secretariat and a group of investors initiated a collaborative engagement on the Carbon Disclosure Leadership Index (CDLI) aiming to improve the quality of carbon disclosure project (CDP) responses. The post of this collaborative engagement was subsequently listed on PRI Clearing House Platform and interested investors were invited to join.

By the end of March 2011, a total of 13 PRI signatories joined the collaborative engagement (labelled as participating investors). The engaging team (PRI and participating investors) identified 91 public companies included in major stock indexes across 19 countries whose Carbon Disclosure Leadership Index (CDLI) scores were in the bottom quartile among respondents to the 2010 CDP questionnaire as engagement targets. The CDLI scores intended to rank the quality of companies' CDP disclosure and the scoring methodology was developed by CDP and PwC.

In April 2011, the PRI Secretariat, on behalf of the participating investors, sent a joint letter to these target companies requesting them to improve their responses to the CDP questionnaire by the deadline of May 31, 2011. The letter emphasized the importance of climate change reporting via CDP questionnaire and provided guidance for the best disclosure practices. The letter was undersigned by representatives from all the participating investors. Both PRI Secretariat and participating investors then followed up through phone calls and/or meetings with target companies to discuss strengths and weaknesses in their climate disclosure, and to encourage them to improve the quality of information provided in the next questionnaire, reiterating the value of this information for investors.

In June 2011, PRI Secretariat organized a call with the participating investors, discussing interactions with individual targets and updating outcomes so far. During the call, the engaging team also set up the evaluation framework for the final engagement outcome. All participating investors were encouraged to continue following up with target companies and requested to send summaries of their interactions with the target companies to PRI. These summaries were later compiled centrally and shared with the whole team.

On December 31, 2011, the engagement project concluded. Success was recorded when a target company was no longer in the lowest quartile of the CDLI score based on its 2011 CDP disclosure.

## A.2 An example of two-tier engagement: Employee relations

In October 2012, PRI Secretariat initiated a collaborative engagement under Clearinghouse on employee relations, aiming to enhance company disclosure on human capital management and improve employee practices among global retain firms.

In December 2012, the Human Capital Steering Committee (HCSC) was established. The committee consisted of 11 signatories, the majority of whom became the lead investors in one or more engagements under this project. The committee members were appointed under the mutual agreement between PRI Secretariat and themselves. The members agreed to commit sufficient time to support the development of the engagement project. HCSC held regular meetings to define the focus of the engagement, commission research from a service provider or consultant, identify target companies, develop a letter and scorecard to track company engagement, and agree on the guidelines for the engagement group. Meanwhile, the post of this collaborative engagement was listed on PRI Clearing House Platform and interested investors were invited to join as either lead or supporting investors by 11 December 2013. The post clearly stated the responsibilities of lead investors and supporting investors. While lead investors were requested to lead the dialogues with target companies on behalf of the group and conduct research and assessment of target companies they lead, supporting investors were only asked to actively contribute by providing feedbacks, sharing knowledge and experience, and lending support to the initiative. Signatories were encouraged to choose their roles based on their internal capacity and priorities.

Between January and April 2014, lead investor(s), on behalf of all the supporting investors (who also undersigned), sent letters to a total of 25 target companies located in 14 countries, requesting for more information on management of employee relations issues. The lead investors then followed up through phone calls, meetings, or letters with target companies throughout the remaining 2014 and 2015. During these follow ups, the engaging team (mostly lead investors) communicated with the target companies the importance of human capital management, listened to their current strategy, and provided guidance for future improvement. The lead investors also developed interim evaluations to feedback to target companies.

The engagement project concluded on December 31, 2015. Success was evaluated based on target companies' scorecards developed by a third-party consultant. KPIs were used to assess various aspects of a company's human capital management, including training and development, employee engagement, remuneration and recognition, recruitment, retention and staff management. Success was recorded if a target company's performance on core indicators increased between 2013 and 2015 relative to 2011 and 2012.

# Appendix B: Success Measures

This appendix lists the criteria PRI uses to evaluate the success of each project. CDLI denotes Carbon Disclosure Leadership Index. CDP denotes the Carbon Disclosure Project. COP denotes Communication on Progress. UNGC denotes the United Nations Global Compact. Success is evaluated for each target firm individually for each project. For COP projects, some engagements were in the form of congratulatory letters sent to target companies, for which success cannot be evaluated. For palm oil buyers, success was not evaluated by PRI.

| Project name | Success measure |
| --- | --- |
| Anti-corruption (Phase 1) | Scorecards |
| Anti-corruption (Phase 2) | Scorecards |
| CDLI 2011 | Whether target's leadership index improved |
| CDLI 2012 | Whether target's leadership index improved |
| CDP Carbon Action | Whether target sets an objective or demonstrated progress on this |
| CDP Engagement on Emissions Reduction Plans | Whether emission reduction program started in year after engagement |
| CDP Water Disclosure 2011 | Whether the target disclosed to CDP Water in year after engagement |
| CDP Water Disclosure 2012 | Whether the target disclosed to CDP Water in year after engagement |
| CEO Water Mandate | Whether the target signed up in the initiative |
| COP1 - First annual UNGC engagement | Whether the UNGC target company became active |
| COP2 - Second annual UNGC engagement | N/A |
| COP3 - Third annual UNGC engagement | Whether the UNGC target company became active |
| COP4 - Fourth annual UNGC engagement | Whether the UNGC target company became active |
| COP5 - Fifth annual UNGC engagement | Whether the UNGC target company became active |
| COP6 - Sixth annual UNGC engagement | N/A |
| Corporate climate lobbying | Scorecards |
| Director nominations | Scorecards |
| Employee relations | Scorecards |
| Forest Footprint Disclosure 2011 | Whether the target disclosed forest footprint |
| Forest Footprint Disclosure 2012 | Whether the target disclosed forest footprint |
| Fracking | Scorecards |
| Human rights in extractives | Scorecards |
| Indigenous rights | Scorecards |
| Labor standards in agricultural supply chain: phase 1 | Scorecards |
| Palm oil buyers | N/A |
| Palm oil growers | Scorecards (based on interim evaluation) |
| Conflict minerals | Scorecards |
| Senior gender equity with global companies | Scorecards |
| Sudan engagement | Scorecards |
| Sustainable fisheries | Whether the target provided a response addressing requested areas |
| Water risks in agricultural supply chains | Scorecards |

# Appendix C: Variable Definitions

| Variable Name | Definition |
|---|---|
| *Target firm characteristics* (*Data source: WorldScope and Compustat, downloaded in March 2018*) | |
| Market cap ($b or $m) | Market capitalization in $billions or $millions. Converted from local currencies to US dollars using fiscal year-end exchange rate. |
| Market-to-book | Market value of equity / Book value of equity |
| Stock return | Annual buy-and-hold stock return. |
| Stock return volatility | Standard deviation of monthly stock returns during the fiscal year |
| Sales growth | (Current year sales - Previous year sales) / Previous year sales |
| Return on assets (ROA) | Earnings before interest, tax, depreciation and amortization (EBITDA) / Total assets |
| Cash/Assets | Cash / Total assets |
| Capex/Assets | Capital expenditures / Total assets |
| R&D/Assets | R&D expenditures / Total assets |
| Leverage | (Short-term debt + Long-term Debt) / Total assets |
| Dividend payout | Common dividends in cash / Net income before extraordinary items |
| Foreign sales% | Foreign sales/Total sales |
| Insider holdings | The number of closely held shares divided by common shares outstanding |
| Peer group ROA | Sample median ROA among all peer firms. |
| *Shareholdings in target firms* (*Data source: FactSet, downloaded in March 2018*) | |
| Long-term institutional holdings | % of shareholdings by long-term institutions, whose portfolio churn ratio is below the sample median (Gaspar, Massa, and Matos (2005)). |
| Investor group holdings | % of shareholdings by all involved investors. |
| Investor group holdings $m | % of shareholdings by all involved investors multiplied by target firm's market cap in $millions. |
| Lead investor holdings | % of shareholdings by all lead investors. |
| Lead investor holdings ($m) | % of shareholdings by all lead investors multiplied by target's market cap in $millions. |
| Supporting investor holdings | % of shareholdings by all supporting investors. |
| Supporting investor holdings ($m) | % of shareholdings by all supporting investors multiplied by target's market cap in $millions. |
| Signatory exposure to target | The value of a signatory's shareholdings in target divided by the signatory's total portfolio value, measured at the end of calendar quarter immediately before engagement start-date. |
| Signatory holdings in target | % of shareholdings in target by a signatory, measured at the end of calendar quarter immediately before engagement start date. |
| *Target firm ESG ratings* (*Data sources: Refinitiv*) | |
| Refinitiv overall ESG rating | Refinitiv's ESG Combined Score. It is an overall company score based on the reported information in the environmental, social and corporate governance pillars (ESG Score) with an ESG Controversies overlay. All Refinitiv ratings are reported on a scale of 0 to 100. |
| Refinitiv governance rating | Refinitiv's Governance Pillar Score. It is the weighted average relative rating of a company based on the reported governance information and the resulting three governance category scores. |
| Refinitiv social rating | Refinitiv's Social Pillar Score. It is the weighted average relative rating of a company based on the reported social information and the resulting four social category scores. |
| Refinitiv environment rating | Refinitiv's Environment Pillar Score. It is the weighted average relative rating of a company based on the reported environmental information and the resulting three environmental category scores. |
| *Target firm/Investor country-level variables* (*Data sources: Literature*) | |
| Legal origin | Legal origin is one of four categories: English, French, Scandinavian, or German, based on the commercial law legal origin of a target firm's home country or a signatory's headquarter country. We reclassify Russia as having German rather than socialist origin. The data are obtained from Djankov, McLiesh, and Shleifer (2007). |
| Social norm | We measure a country's aggregate E&S social norm using the World Values Survey (WVS). We obtain the data on social norms for our sample countries using the World Value E&S Index from Dyck et al. (2019, Table 5). This variable is averaged for years 1999-2010. |

| Variable Name | Definition |
|---|---|
| **Signatory/Investor-level variables** (*Data source: PRI and FactSet*) | |
| AUM ($tr) | Signatories' self-reported AUM as of 2017 in $trillions. AUMs are unavailable for service providers. |
| PRI's founding signatory | Indicator of whether the signatory is identified on PRI website (unpri.org/pri/about-the-pri) as founding signatory. |
| Years of being a signatory | Year 2017 minus the year when the investor signed up as a PRI signatory. It is missing for four signatories. |
| Formal process of engagements by internal staff | Indicator of whether the signatory self-reports a formal process for identifying and organizing engagement activities by internal staff. We take the maximum value in PRI's annual reporting surveys during 2014–2018. Data is missing for a few signatories. (Source: PRI Reporting Framework) |
| Number of collaborative initiatives participated besides PRI | Non-PRI participations include UN Global Compact, CDP Climate Change, CDP Forest, CFP Water, Asian Corporate Governance Association, Association for Sustainable & Responsible Investment in Asia, Global Real Estate Sustainability Benchmark (GRESB), Institutional Investors Group on Climate Change (IIGCC), International Corporate Governance Network (ICGN), etc. We take the maximum number in PRI's annual reporting surveys for 2014–2018. Data is missing for a few signatories. (Source: PRI Reporting Framework) |
| Signatory is asset owner | Indicator of whether the signatory is self-reported as an Asset Owner when signing up at PRI. |
| Signatory is pension fund | Indicator of whether the signatory is a pension plan. We use signatories' self-reported type, the Top 1000 European Pension Funds 2016 list and The World's 300 Largest Pension Funds 2016 list to identify pensions. |
| Signatory is public/private pension | Indicator of whether the signatory is a public/private pension plan. Among all the pensions, we classify those self-reported as "non-corporate pension" or "sovereign wealth fund or government-controlled fund" as public pensions. The remaining types, including insurance pensions, corporate pensions, and others, are classified as private pensions. |
| Signatory is other asset owner | Indicator whether the signatory is other asset owner. An asset owner that is not a pension plan is classified as other asset owner. |
| Signatory annual flow | We first calculate quarterly fund flow as the total equity portfolio value at quarter end divided by the total equity portfolio value at the previous quarter end. We then subtract the portfolio return, computed as stock price changes during the quarter multiplied with equity holdings at the previous quarter end, and then divided by the total equity portfolio value at the previous quarter end. If a signatory has multiple funds under FactSet, we calculate the weighted average fund flow, using total equity portfolio value as weight. Lastly, we compute annual flows by cumulating the quarterly flows. This approach assumes no interim trading between reported quarter ends. |
| Signatory annual return | We first calculate quarterly fund return as stock price changes during the quarter multiplied with equity holdings at the previous quarter end, and then divided by the total equity portfolio value at the previous quarter end. If a signatory has multiple funds under FactSet, we calculate the weighted average fund return, using total equity portfolio value as weight. Lastly, we compute annual returns by cumulating the quarterly returns. |
| Signatory churn ratio | It is the average portfolio churn ratio over the last four consecutive quarters. See Gaspar, Massa, and Matos (2005) for the calculation of portfolio churn ratio. If a signatory has multiple funds under FactSet, we calculate the weighted average churn ratio, using total equity portfolio value as weight. |
| Number of funds under signatory | The total number of funds a signatory has under FactSet. |
| Signatory portfolio value | The aggregate value of equity holdings a signatory has at a year end. |
| Signatory has engagement experience | An indicator variable defined as one if the signatory joined an engagement initiated during the calendar year and it remains as one for the signatory for all future years. It is set as zero for non-collaborating signatories (those never participated in any engagement) and for a collaborating signatory before it joined any engagement. |
| Signatory has successful engagement experience | An indicator variable defined as one during the year when a successful engagement the signatory joined ended and it remains as one for the signatory for all future years. It is set as zero for non-collaborating signatories (those never participated in any engagement). |
| Signatory has lead experience | An indicator variable defined as one if the signatory led an engagement initiated during the calendar year and it remains as one for the signatory for all future years. |
| Signatory has successful lead experience | An indicator variable defined as one during the year when a successful engagement the signatory led ended, and it remains as one for the signatory for all future years. |
| **Signatory-engagement level variables** (*Data source: Authors' calculations*) | |
| Target is Domestic | An indicator variable defined as one if the target firm and signatory/investor are located in the same country. |

| Variable Name | Definition |
|---|---|
| Geographic distance between target and signatory | It is defined as zero if the target firm and signatory are located in the same country, one if they are from the same geographic region (Europe, Asia, Africa, Middle East, Latin America, North America, and Oceania) but different countries, and two if they are from different regions. |
| Cultural distance between target and signatory | The Euclidean distance in two dimensions of culture, i.e., traditional versus secular/rational and survival versus self-expression orientations. Culture values are obtained from WVS and measured at the year immediately before engagement starting date (https://www.worldvaluessurvey.org/WVSEventsShow.jsp?ID=428&ID=428). |
| Joined PRI before project start | An indicator variable defined as one if the signatories signed up at PRI before the project started, and zero otherwise. |
| Signatory has past projects | An indicator variable defined as one if the signatory participated in at least one PRI-coordinated engagement project that concluded before the current project started, and zero otherwise. |
| Signatory has other ongoing projects | An indicator variable defined as one if the signatory participated in at least one PRI-coordinated engagement project that started before the current project and was still ongoing, and zero otherwise. |
| Signatory has past projects as lead | An indicator variable defined as one if the signatory led at least one PRI-coordinated engagement project that concluded before the current project started, and zero otherwise. |
| Signatory has Other Ongoing Projects as Lead | An indicator variable defined as one if the signatory led at least one PRI-coordinated engagement project that started before the current project and was still ongoing, and zero otherwise. |
| Lead and signatory from the same country | An indicator variable defined as one if the lead investor is headquartered in the same country as the signatory, and zero otherwise. If there are multiple lead investors in the engagement, the maximum value is used. |
| Geographic distance between lead and signatory | It is defined as zero if the lead investor and signatory are headquartered in the same country, one if in the same geographic region (Europe, Asia, Africa, Middle East, Latin America, North America, and Oceania) but different countries, and two if in different regions. If there are multiple lead investors in the engagement, the minimum distance value is used. |
| Cultural distance between lead and signatory | The Euclidean distance in two dimensions of culture, i.e., traditional versus secular/rational and survival versus self-expression orientations. Culture values are obtained from WVS and measured at the year immediately before engagement starting date (https://www.worldvaluessurvey.org/WVSEventsShow.jsp?ID=428&ID=428). If there are multiple lead investors in the engagement, the minimum distance value is used. |

***Engagement level variables*** (*Data source: Authors' calculations*)

| | |
|---|---|
| Num. of investors | The total number of investors involved in the engagement. |
| Public pension plans in investor group% | The number of public pension plans in the investor group divided by the total number of investors in the group. |
| Private pension plans in investor group% | The number of private pension plans in the investor group divided by the total number of investors in the group. |
| Other asset owners in investor group% | The number of other asset owners which are not pension plans in the investor group divided by the total number of investors in the group. |
| Founding signatories in investor group% | The number of PRI founding signatories in the investor group divided by the total number of investors in the group. |
| Domestic signatories in investor group% | The number of investors headquartered in the same country as the target firm divided by the total number of investors in the group. |
| Investors from in high social norm countries% | The number of investors headquartered in high social norm countries divided by the total number of investors in the group. We define a country as having high social norm if its WVS value is above the sample median of 0.53. |
| Investor group AUM ($b) | The aggregate AUM of all investors involved in the engagement. |
| Service providers in investor group% | The number of service providers in the investor group divided by the total number of investors in the group. |
| Investment managers in investor group% | The number of investment managers in the investor group divided by the total number of investors in the group. |
| Num. of lead investors | The number of lead investors in a two-tier engagement. |
| Two-tier engagement | An indicator defined as one if the engagement has a two-tier engagement structure, and zero otherwise. |

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## Table 1: List of coordinated engagement projects

This table lists 31 PRI-coordinated projects used in our analysis. An engagement is defined as a sequence of dialogues and interactions with a target firm in a project. This table reports the starting and ending date, the number of engagements, the number of countries that target firms domicile in, and the average number of investors involved for each project. This table also lists whether the project has a two-tier engagement structure. CDP denotes the former Carbon Disclosure Project. COP denotes Communication on Progress. UNGC denotes the United Nations Global Compact. All projects have concluded at the time of this draft, except Palm Oil Growers, which is still ongoing.

| Project name | Project duration | Number of Engagements | Number of Countries | Avg. Number of Investors | Two-tier engagement |
|---|---|---|---|---|---|
| Anti-corruption (Phase 1) | 01 Mar 10 - 31 Mar 13 | 20 | 14 | 25 | Yes |
| Anti-corruption (Phase 2) | 01 Apr 13 - 15 Jun 15 | 32 | 13 | 37 | Yes |
| Carbon Disclosure Leadership Index: CDLI 2011 | 01 Mar 11 - 31 Dec 11 | 91 | 19 | 13 | No |
| Carbon Disclosure Leadership Index: CDLI 2012 | 01 Mar 12 - 31 Jan 13 | 69 | 20 | 21 | No |
| CDP Carbon Action | 16 Nov 12 - 19 Dec 14 | 25 | 12 | 2 | Yes |
| CDP Engagement on Emissions Reduction Plans | 01 Sep 09 - 31 Dec 11 | 81 | 19 | 34 | No |
| CDP Water Disclosure 2011 | 01 Feb 11 - 30 Sep 11 | 123 | 30 | 33 | No |
| CDP Water Disclosure 2012 | 01 Mar 12 - 31 Oct 12 | 40 | 21 | 30 | No |
| CEO Water Mandate | 01 Aug 08 - 30 Sep 10 | 94 | 25 | 15 | No |
| COP1 - First Annual UNGC Engagement | 01 Jan 07 - 31 Dec 08 | 78 | 28 | 20 | No |
| COP2 - Second Annual UNGC Engagement | 01 Dec 08 - 31 Dec 09 | 102 | 35 | 35 | No |
| COP3 - Third Annual UNGC Engagement | 01 Jan 10 - 31 Dec 10 | 109 | 37 | 36 | No |
| COP4 - Fourth Annual UNGC Engagement | 01 Jan 11 - 31 Dec 11 | 103 | 39 | 39 | No |
| COP5 - Fifth Annual UNGC Engagement | 01 Feb 12 - 28 Feb 13 | 115 | 41 | 35 | No |
| COP6 - Sixth Annual UNGC Engagement | 10 Mar 14 - 16 Apr 14 | 163 | 41 | 22 | No |
| Corporate Climate Lobbying | 03 Mar 15 - 31 Dec 18 | 19 | 3 | 5 | Yes |
| Director Nominations | 19 Oct 12 - 30 Sep 16 | 23 | 3 | 18 | Yes |
| Employee Relations | 19 Oct 12 - 31 Dec 15 | 25 | 14 | 24 | Yes |
| Forest Footprint Disclosure 2011 | 01 Aug 11 - 31 Mar 12 | 25 | 11 | 21 | No |
| Forest Footprint Disclosure 2012 | 01 Jun 12 - 31 Oct 12 | 8 | 2 | 31 | Yes |
| Fracking | 19 Oct 12 - 23 Dec 16 | 29 | 8 | 8 | Yes |
| Human Rights in Extractives | 03 Feb 14 - 01 Nov 17 | 32 | 17 | 51 | Yes |
| Indigenous Rights | 01 Jun 10 - 31 Dec 12 | 10 | 5 | 16 | Yes |
| Labor Standards in the Agr Supply Chain: phase 1 | 19 Oct 12 - 31 Dec 15 | 32 | 14 | 39 | Yes |
| Palm Oil Buyers | 25 Jan 13 - 31 Dec 15 | 45 | 15 | 25 | Yes |
| Palm Oil Growers | 26 Mar 14 - | 13 | 4 | 10 | Yes |
| Conflict Minerals | 01 Nov 10 - 30 Sep 13 | 15 | 4 | 16 | No |
| Senior Gender Equality with Global Companies | 01 Feb 10 - 30 Sep 12 | 55 | 9 | 10 | Yes |
| Sudan Engagement | 01 Jan 08 - 31 Dec 12 | 7 | 6 | 28 | No |
| Sustainable Fisheries | 01 Jun 11 - 31 Jan 13 | 41 | 18 | 20 | No |
| Water Risks in Agricultural Supply Chains | 01 Jan 15 - 30 Sep 17 | 30 | 13 | 23 | Yes |
| Sample Mean | 795 days | 53 | 18 | 26 | |
| Sample Median | 798 days | 32 | 14 | 25 | |

## Table 2: Determinants of targeting

This table examines the determinants of targeting by comparing target firms with their peers in the fiscal year immediately before the engagement start date, using probit regressions. For each target, the peer firms are drawn from the same country and industry (3-digit SIC). When fewer than three peer firms are found for a particular target, we relax the industry to 2-digit SIC. When more than 10 peers are found, we keep 10 with the closest market capitalization to that of the target. The dependent variable *D_Target* is defined as one for the target, and zero for the peer. Coefficients are presented as marginal effects. Columns (1), (3) and (5) include all engagements with data on regression variables, and Columns (2), (4) and (6) include two-tier engagements only. Regressions in Columns (3) and (4) include Refinitiv overall ESG score, and regressions in Columns (5) and (6) include individual ESG component ratings as control variables. All variables are defined in Appendix C. All regressions incorporate industry (2-digit SIC) and year fixed effects. Standard errors are clustered at the project level. All continuous variables are winsorized at 1$^{st}$ and 99$^{th}$ percentile levels. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

| | No ESG ratings | | Refinitiv overall ESG rating | | Refinitiv ESG components ratings | |
| --- | --- | --- | --- | --- | --- | --- |
| | All engagements | Two-tier engagements | All engagements | Two-tier engagements | All engagements | Two-tier engagements |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Market cap (log, $m) | 0.050*** | 0.035*** | 0.135*** | 0.130*** | 0.134*** | 0.130*** |
| | (9.43) | (6.27) | (8.88) | (7.67) | (8.81) | (7.17) |
| Market-to-book | −0.002** | −0.002** | 0.001 | 0.002 | 0.001 | 0.003 |
| | (−2.26) | (−2.02) | (0.21) | (0.23) | (0.13) | (0.43) |
| Stock return | −0.027*** | −0.023*** | −0.040 | −0.080** | −0.040 | −0.076** |
| | (−5.91) | (−2.75) | (−1.52) | (−2.29) | (−1.52) | (−2.19) |
| Stock return volatility | 0.054 | 0.041 | 0.011 | −0.774 | 0.008 | −0.845 |
| | (1.01) | (0.50) | (0.03) | (−1.36) | (0.02) | (−1.44) |
| Return on assets | 0.073** | 0.045 | 0.026 | −0.191 | 0.038 | −0.221 |
| | (2.45) | (1.20) | (0.21) | (−0.85) | (0.30) | (−0.96) |
| Leverage | 0.009 | −0.003 | 0.007 | −0.194 | −0.003 | −0.198 |
| | (0.43) | (−0.12) | (0.09) | (−1.44) | (−0.04) | (−1.50) |
| Dividend payout | 0.004 | 0.004 | 0.026 | 0.052* | 0.026 | 0.050* |
| | (1.22) | (1.13) | (1.58) | (1.73) | (1.56) | (1.69) |
| Sales growth | −0.039*** | −0.029*** | −0.143*** | −0.062* | −0.146*** | −0.053 |
| | (−3.76) | (−2.64) | (−3.65) | (−1.68) | (−3.71) | (−1.48) |
| Cash/Assets | −0.125*** | −0.093*** | −0.220* | −0.290 | −0.216* | −0.327* |
| | (−3.34) | (−2.91) | (−1.72) | (−1.59) | (−1.66) | (−1.95) |
| Capex/Assets | −0.023 | 0.098 | 0.051 | 0.629* | 0.057 | 0.589* |
| | (−0.43) | (1.44) | (0.24) | (1.89) | (0.26) | (1.78) |
| R&D/Assets | −0.808*** | −0.350** | −2.999*** | −3.234*** | −3.015*** | −3.240*** |
| | (−5.73) | (−2.50) | (−5.64) | (−6.57) | (−5.64) | (−6.97) |
| Long-term inst. holdings | −0.006 | 0.010 | −0.073* | −0.056 | −0.069* | −0.069 |
| | (−0.61) | (0.93) | (−1.84) | (−1.10) | (−1.66) | (−1.26) |
| Insider holdings | 0.009 | −0.009 | 0.077** | 0.076 | 0.069* | 0.105 |
| | (0.98) | (−0.88) | (2.04) | (1.16) | (1.79) | (1.50) |
| Foreign sales% | 0.067*** | 0.046*** | 0.129*** | 0.080 | 0.128*** | 0.085 |
| | (6.80) | (4.42) | (4.27) | (1.52) | (4.10) | (1.56) |
| Investor group holdings | 0.746*** | | 1.330*** | | 1.330*** | |
| | (5.51) | | (3.45) | | (3.39) | |
| Lead investor holdings | | 2.588*** | | 8.331*** | | 8.283*** |
| | | (4.67) | | (3.95) | | (3.78) |
| Supporting investor holdings | | 0.027 | | −0.494 | | −0.523 |
| | | (0.15) | | (−0.55) | | (−0.59) |
| Refinitiv overall ESG rating | | | 0.005*** | 0.006*** | | |
| | | | (5.95) | (9.05) | | |
| Refinitiv governance rating | | | | | 0.001 | 0.003*** |
| | | | | | (1.58) | (3.84) |
| Refinitiv social rating | | | | | 0.002*** | 0.002** |
| | | | | | (3.85) | (2.39) |
| Refinitiv environment rating | | | | | 0.002*** | 0.002** |
| | | | | | (5.20) | (1.97) |
| Observations | 10,859 | 2,697 | 3,917 | 1,217 | 3,907 | 1,214 |
| Pseudo R-squared | 0.285 | 0.437 | 0.321 | 0.436 | 0.321 | 0.439 |
| Year Fixed Effects | Y | Y | Y | Y | Y | Y |
| Industry Fixed Effects | Y | Y | Y | Y | Y | Y |

**Table 3: Determinants of decision to collaborate**

This table presents the analyses of the signatories' decision to collaborate, reporting marginal effects. Panel A, Columns (1) to (3) report probit regression results on the signatory-level determinants of a signatory becoming collaborating investor (i.e., participated in at least one engagement). The sample includes all PRI signatories that are either asset owners or investment managers with available information on regression variables. Panel A, Columns (4) to (5) report probit regression results on the signatory-level determinants of a signatory becoming lead investor (i.e., led at least one engagement). The sample includes all collaborating investors that are either asset owners or investment managers with available information on regression variables. $AUM^2$ is the square of AUM. Panel B reports signatory-engagement level OLS regression results on the determinants of a signatory participating in an engagement (Columns 1 to 4), leading an engagement (Columns 5 to 6), and supporting an engagement (Columns 7 to 8), incorporating signatory fixed effects and engagement fixed effects. Standard errors are clustered at the signatory level and the project level. In Columns (1) to (4), the dependent variable is defined as one if a signatory participated in a particular engagement, and zero otherwise. For each engagement, all 208 collaborating investors (excluding service providers) in our sample are potential candidates. We conduct the analysis separately for all engagements (Columns 1 and 2) and for single-tier engagements (Columns 3 and 4). In Columns (5) and (6), the dependent variable is defined as one if a collaborating investor in a particular engagement takes the lead role, and zero otherwise. Only the collaborating investors participated in an engagement is considered as a potential candidate for lead role. In Columns (7) and (8), the dependent variable is defined as one if a collaborating investor in a particular engagement takes the supporting role, and zero otherwise. All 208 collaborating investors other than the lead(s) in the engagement are considered as candidate for the supporting role. Only two-tier engagements are included in the analyses reported in Columns (5) to (8). In both panels, all variables are defined in Appendix C. *Signatory exposure to target* and *Signatory holdings in target* are multiplied by 100 to ease interpretation. All continuous variables are winsorized at $1^{st}$ and $99^{th}$ percentile levels. ∗∗∗, ∗∗, and ∗ denote significance at the 1%, 5%, and 10% level, respectively.

**Panel A: Signatory-level determinants**

| | Becoming a collaborating investor | | | Becoming a lead investor | |
|---|---|---|---|---|---|
| | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** |
| PRI's founding signatory | 0.143*** | 0.082* | 0.137*** | 0.166 | 0.166 |
| | (2.87) | (1.89) | (2.75) | (1.43) | (1.43) |
| Signatory is asset owner | 0.032* | 0.039** | | –0.237*** | |
| | (1.88) | (2.36) | | (–2.75) | |
| Signatory is private pension | | | –0.011 | | –0.360** |
| | | | (–0.39) | | (–2.09) |
| Signatory is public pension | | | 0.061** | | –0.196** |
| | | | (2.35) | | (–2.10) |
| Signatory is other asset owner | | | 0.018 | | –0.218* |
| | | | (0.72) | | (–1.75) |
| Signatory has French legal origin | –0.011 | –0.010 | –0.006 | 0.135 | 0.140 |
| | (–0.62) | (–0.61) | (–0.32) | (1.33) | (1.38) |
| Signatory has Scandinavian legal origin | –0.041* | –0.022 | –0.039 | 0.016 | 0.042 |
| | (–1.67) | (–0.87) | (–1.54) | (0.09) | (0.24) |
| Signatory has German legal origin | –0.055*** | –0.032* | –0.052*** | 0.149 | 0.150 |
| | (–2.85) | (–1.67) | (–2.65) | (0.90) | (0.91) |
| Signatory country social norm | 0.636*** | 0.368** | 0.628*** | 1.380 | 1.323 |
| | (4.00) | (2.45) | (3.90) | (1.53) | (1.47) |
| Years of being a signatory | 0.031*** | 0.017*** | 0.031*** | –0.001 | –0.005 |
| | (11.51) | (6.57) | (11.27) | (–0.05) | (–0.27) |
| AUM ($tr) | 0.433*** | –0.110 | 0.432*** | –0.465 | –0.458 |
| | (3.32) | (–0.83) | (3.29) | (–0.88) | (–0.88) |
| $AUM^2$ | –0.374** | 0.064 | –0.372** | 0.238 | 0.224 |
| | (–2.30) | (0.41) | (–2.27) | (0.45) | (0.42) |
| Signatory has formal process of engagements by internal staff | | 0.106*** | | 0.330*** | 0.324*** |
| | | (5.73) | | (2.85) | (2.80) |
| Num. of collaborative initiatives participated besides PRI | | 0.016*** | | 0.027** | 0.028** |
| | | (7.21) | | (2.23) | (2.30) |
| Observations | 1,443 | 1,354 | 1,443 | 199 | 199 |
| Adj R-squared | 0.297 | 0.417 | 0.299 | 0.190 | 0.197 |

## Panel B: Signatory-engagement-level determinants

| | All engagements | | Single-tier engagements | | Two-tier engagements | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Becoming a collaborating investor | | Becoming a collaborating investor | | Becoming a lead investor | | Becoming a supporting investor | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Target is domestic | 0.027*** | | 0.026** | | 0.220*** | | −0.003 | −0.008 |
| | (3.09) | | (2.39) | | (3.81) | | (−0.30) | (−0.78) |
| Geographic distance between target and signatory | | −0.017*** | | −0.018** | | −0.044*** | | |
| | | (−2.91) | | (−2.57) | | (−4.21) | | |
| Cultural distance between target and signatory | | 0.008 | | 0.009 | | −0.092*** | | |
| | | (1.58) | | (1.55) | | (−3.07) | | |
| Joined PRI before project start | 0.095*** | 0.095*** | 0.073** | 0.073*** | 0.008 | −0.001 | 0.090** | 0.091*** |
| | (4.64) | (4.71) | (2.93) | (2.98) | (0.27) | (−0.02) | (2.91) | (2.99) |
| Signatory has past projects | −0.110* | −0.110* | −0.112 | −0.113 | | | −0.075** | −0.074** |
| | (−1.92) | (−1.93) | (−1.46) | (−1.47) | | | (−2.62) | (−2.58) |
| Signatory has other ongoing projects | −0.053* | −0.053* | −0.059 | −0.060 | | | −0.066** | −0.066** |
| | (−1.88) | (−1.92) | (−1.41) | (−1.44) | | | (−2.52) | (−2.53) |
| Signatory has past projects as lead | | | | | 0.011 | 0.009 | | |
| | | | | | (0.55) | (0.46) | | |
| Signatory has other ongoing projects as lead | | | | | −0.035** | −0.036** | | |
| | | | | | (−2.80) | (−2.95) | | |
| Signatory exposure to target | 0.000 | 0.002 | −0.021 | −0.019 | 0.078** | 0.083*** | 0.017 | 0.017 |
| | (0.02) | (0.11) | (−1.08) | (−1.03) | (2.76) | (3.43) | (1.34) | (1.34) |
| Signatory holdings in target | −0.005 | −0.003 | −0.001 | 0.001 | 0.104** | 0.093** | −0.010 | −0.011 |
| | (−0.42) | (−0.22) | (−0.09) | (0.04) | (2.51) | (2.84) | (−0.82) | (−0.93) |
| Lead and signatory from the same country | | | | | | | 0.014** | |
| | | | | | | | (2.84) | |
| Geographic distance between lead and signatory | | | | | | | | −0.005 |
| | | | | | | | | (−1.13) |
| Cultural distance between lead and signatory | | | | | | | | −0.016* |
| | | | | | | | | (−1.88) |
| Observations | 342,857 | 333,974 | 260,596 | 252,935 | 8,412 | 8,272 | 80,707 | 80,314 |
| Adj. R-squared | 0.242 | 0.241 | 0.327 | 0.326 | 0.156 | 0.158 | 0.174 | 0.176 |
| Engagement fixed effects | Y | Y | Y | Y | Y | Y | Y | Y |
| Signatory fixed effects | Y | Y | Y | Y | Y | Y | Y | Y |

## Table 4: Determinants of engagement success

This table analyzes the determinants of engagement success. Panel A compares characteristics of target firms in the two-tier engagement subsample with those in the single-tier engagement subsample. Firm characteristics are measured at the fiscal year end immediately before the engagement start date. Panel B compares the engagement-level attributes between the two-tier engagement subsample and those in the single-tier engagement subsample. Investor shareholdings are measured at the calendar quarter immediately before the engagement start date. In both panels, bold numbers indicate that the sample means are significantly different from each other at 10% level using *t-test*. Panel C reports probit regression results on *D_Success*, defined as one for the successful engagements, and zero for unsuccessful engagements. Coefficients on engagement-level attributes and selected target firm characteristics are presented as marginal effects. Abbreviated coefficients on target firm characteristics are tabulated in Table IA.5. We use natural logarithm transformation of one plus holdings when calculating holdings by investor group, lead investors, and supporting investors. Columns (1), (3) and (5) include all engagements with data on regression variables and Columns (2), (4) and (6) include two-tier engagements only. Regressions in Columns (3) and (4) include Refinitiv overall ESG score, and regressions in Columns (5) and (6) include individual ESG component ratings as control variables. All regressions incorporate industry (2-digit SIC) fixed effects, and Columns (2), (4) and (6) also include year fixed effects. Standard errors are clustered at the project level. All variables are defined in Appendix C. All continuous variables are winsorized at $1^{st}$ and $99^{th}$ percentile levels. ∗∗∗, ∗∗, and ∗ denote significance at the 1%, 5%, and 10% level, respectively.

### Panel A: Summary statistics of target firm characteristics

| | Two-tier engagements | | | | Single-tier engagements | | | |
|---|---|---|---|---|---|---|---|---|
| | Obs | Mean | Median | StDev | Obs | Mean | Median | StDev |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Market cap ($b) | 328 | 59.077 | 19.859 | 138.714 | 749 | 44.212 | 7.052 | 151.433 |
| Market-to-book | 328 | 2.613 | 1.894 | 2.289 | 740 | 2.559 | 1.863 | 2.372 |
| Stock return | 327 | **0.094** | 0.053 | 0.391 | 738 | 0.161 | 0.112 | 0.474 |
| Stock return volatility | 323 | **0.078** | 0.067 | 0.041 | 732 | 0.093 | 0.084 | 0.048 |
| Return on assets | 328 | 0.134 | 0.130 | 0.083 | 746 | 0.134 | 0.119 | 0.084 |
| Leverage | 328 | 0.242 | 0.229 | 0.129 | 749 | 0.244 | 0.236 | 0.157 |
| Dividend payout | 328 | **0.415** | 0.355 | 0.589 | 749 | 0.321 | 0.295 | 0.586 |
| Sales growth | 327 | **0.053** | 0.049 | 0.196 | 744 | 0.118 | 0.092 | 0.230 |
| Cash/Assets | 328 | 0.060 | 0.039 | 0.061 | 740 | 0.063 | 0.042 | 0.066 |
| R&D/Assets | 328 | **0.008** | 0.000 | 0.021 | 749 | 0.011 | 0.000 | 0.023 |
| Capex/Assets | 328 | **0.076** | 0.062 | 0.059 | 749 | 0.059 | 0.047 | 0.049 |
| Long-term institutional holdings | 328 | **0.472** | 0.530 | 0.224 | 749 | 0.295 | 0.291 | 0.237 |
| Insider holdings | 328 | **0.201** | 0.051 | 0.259 | 749 | 0.294 | 0.224 | 0.288 |
| Foreign sales | 328 | **0.455** | 0.487 | 0.310 | 749 | 0.404 | 0.407 | 0.337 |
| French Legal Origin | 328 | 0.192 | 0.000 | 0.395 | 749 | 0.202 | 0.000 | 0.401 |
| Scandinavian Legal Origin | 328 | 0.064 | 0.000 | 0.245 | 749 | 0.053 | 0.000 | 0.225 |
| German Legal Origin | 328 | **0.098** | 0.000 | 0.297 | 749 | 0.250 | 0.000 | 0.433 |
| Country Social Norm | 314 | **0.530** | 0.530 | 0.071 | 676 | 0.508 | 0.530 | 0.080 |
| Refinitiv overall ESG rating | 295 | **61.622** | 65.320 | 19.123 | 505 | 53.261 | 54.810 | 20.483 |
| Refinitiv governance rating | 295 | **61.940** | 63.170 | 21.430 | 505 | 54.740 | 56.830 | 23.044 |
| Refinitiv social rating | 295 | **62.127** | 65.990 | 22.529 | 505 | 52.157 | 51.310 | 23.719 |
| Refinitiv environment rating | 295 | **61.451** | 67.920 | 25.080 | 505 | 52.906 | 55.560 | 25.903 |

## Panel B: Summary statistics of engagement-level attributes

| | Two-tier engagements | | | | Single-tier engagements | | | |
|---|---|---|---|---|---|---|---|---|
| | Obs | Mean | Median | StDev | Obs | Mean | Median | StDev |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Success rate | 328 | **72.6%** | 100.0% | 44.7% | 749 | 32.8% | 0.0% | 47.0% |
| Num. of investors | 328 | **22.63** | 21.00 | 15.19 | 749 | 25.10 | 21.00 | 8.71 |
| Public pension plans in investor group% | 328 | **17.6%** | 17.9% | 11.2% | 749 | 19.3% | 18.2% | 14.1% |
| Private pension plans in investor group% | 328 | **2.7%** | 2.6% | 2.9% | 749 | 5.2% | 4.8% | 4.6% |
| Other asset owners in investor group% | 328 | **5.9%** | 5.4% | 4.9% | 749 | 3.9% | 3.0% | 2.8% |
| Founding signatories in investor group% | 328 | **29.1%** | 28.0% | 12.9% | 749 | 24.5% | 22.2% | 10.8% |
| Domestic signatories in investor group% | 328 | **15.8%** | 10.0% | 17.1% | 749 | 7.7% | 0.0% | 11.1% |
| Investors from in high social norm countries% | 328 | **41.0%** | 41.0% | 18.7% | 749 | 37.4% | 35.0% | 14.4% |
| Investor group holdings | 328 | 1.4% | 0.5% | 2.1% | 749 | 1.3% | 0.4% | 2.1% |
| Investor group holdings ($m) | 328 | **544.67** | 120.05 | 1,088.73 | 749 | 298.04 | 39.75 | 760.19 |
| Investor group AUM ($b) | 328 | **2,046.27** | 1,845.69 | 1,964.86 | 749 | 2,660.03 | 2,517.59 | 1,007.59 |
| Service providers in investor group% | 328 | **4.7%** | 2.0% | 7% | 749 | 6.0% | 6.7% | 4.2% |
| Investment managers in investor group% | 328 | **68.9%** | 66.7% | 15% | 749 | 65.6% | 67.6% | 12.9% |
| Num. of lead investors | 328 | 1.49 | 1.00 | 1.03 | | | | |
| Lead investor holdings | 328 | 0.3% | 0.0% | 0.8% | | | | |
| Lead investor holdings ($m) | 328 | 57.29 | 0.23 | 139.93 | | | | |
| Supporting investor holdings | 328 | 1.1% | 0.4% | 1.8% | | | | |
| Supporting investors holdings ($m) | 328 | 510.13 | 71.44 | 1,172.71 | | | | |
| Engagement has public pension plan as lead(s) | 328 | 0.13 | 0.00 | 0.34 | | | | |
| Engagement has private pension plan as lead(s) | 328 | 0.01 | 0.00 | 0.11 | | | | |
| Engagement has founding signatory as lead(s) | 328 | 0.42 | 0.00 | 0.49 | | | | |
| Engagement has domestic lead(s) | 328 | 0.53 | 1.00 | 0.50 | | | | |
| Engagement has high social norm lead(s) | 328 | 0.47 | 0.00 | 0.50 | | | | |

**Panel C: Regression analysis on engagement success**

| | No ESG rating | | Refinitiv overall ESG rating | | Refinitiv ESG components ratings | |
|---|---|---|---|---|---|---|
| | All engagements | Two-tier engagements | All engagements | Two-tier engagements | All engagements | Two-tier engagements |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *Engagement-level attributes:* | | | | | | |
| Two-tier engagement | 0.251*** | | 0.222*** | | 0.222*** | |
| | (3.11) | | (2.66) | | (2.68) | |
| Lead investor holdings (log, $m) | | 0.032*** | | 0.043*** | | 0.044*** |
| | | (3.80) | | (3.77) | | (3.92) |
| Supporting investor holdings (log, $m) | | 0.010 | | 0.020 | | 0.022 |
| | | (0.44) | | (0.89) | | (0.95) |
| Engagement has public pension plan as lead(s) | | –0.205*** | | –0.240*** | | –0.244** |
| | | (–2.62) | | (–2.94) | | (–2.51) |
| Engagement has founding signatory as lead(s) | | –0.136* | | –0.103 | | –0.099 |
| | | (–1.81) | | (–1.33) | | (–1.23) |
| Engagement has domestic lead(s) | | 0.236*** | | 0.285*** | | 0.280*** |
| | | (4.43) | | (5.42) | | (5.12) |
| Engagement has high social norm lead(s) | | 0.108 | | 0.110 | | 0.108 |
| | | (1.62) | | (1.46) | | (1.48) |
| Investor group holdings (log, $m) | 0.011 | | 0.006 | | 0.006 | |
| | (0.91) | | (0.48) | | (0.45) | |
| Public pension plans in investor group% | 0.445** | 0.552 | 0.626* | 0.076 | 0.643** | 0.145 |
| | (2.50) | (1.23) | (1.96) | (0.13) | (1.98) | (0.27) |
| Private pension plans in investor group% | –2.910*** | 1.167 | –2.714** | 0.306 | –2.725** | 1.132 |
| | (–2.92) | (1.15) | (–2.48) | (0.23) | (–2.45) | (0.68) |
| Other asset owners in investor group% | –0.927 | –2.612*** | –0.917 | –3.905*** | –0.947 | –4.063*** |
| | (–0.77) | (–2.96) | (–0.64) | (–2.75) | (–0.67) | (–2.84) |
| Founding signatories in investor group% | –0.130 | 0.124 | 0.079 | 0.117 | 0.079 | 0.168 |
| | (–0.56) | (0.65) | (0.28) | (0.75) | (0.29) | (1.11) |
| Domestic signatories in investor group% | 0.241 | –0.120 | 0.238 | –0.368** | 0.217 | –0.374** |
| | (1.32) | (–0.81) | (1.21) | (–2.55) | (1.12) | (–2.56) |
| Investors from high social norm countries% | 0.892*** | 0.690*** | 0.875*** | 1.274*** | 0.875*** | 1.273*** |
| | (4.25) | (4.10) | (3.06) | (2.75) | (3.08) | (2.90) |
| | | | | | | |
| *Target firm characteristics (abbreviated):* | | | | | | |
| Market cap (log, $m) | 0.057*** | 0.019 | –0.008 | –0.058 | –0.012 | –0.069 |
| | (3.62) | (0.60) | (–0.32) | (–1.13) | (–0.45) | (–1.30) |
| Stock return volatility | –1.003* | 1.136 | –1.267* | 0.902 | –1.302* | 0.976 |
| | (–1.87) | (1.15) | (–1.80) | (0.66) | (–1.82) | (0.73) |
| Dividend payout | 0.047* | 0.058 | 0.057* | 0.121 | 0.060* | 0.129* |
| | (1.68) | (1.00) | (1.95) | (1.58) | (1.92) | (1.69) |
| Long-term institutional holdings | 0.178* | 0.025 | 0.175* | 0.006 | 0.175 | –0.003 |
| | (1.66) | (0.11) | (1.68) | (0.03) | (1.59) | (–0.02) |
| French legal origin | 0.177** | 0.063 | 0.101 | 0.064 | 0.091 | 0.038 |
| | (2.54) | (0.59) | (1.15) | (0.56) | (1.11) | (0.40) |
| Scandinavian legal origin | 0.073 | –0.250 | –0.039 | –0.765** | –0.047 | –0.786*** |
| | (0.64) | (–0.77) | (–0.36) | (–2.48) | (–0.46) | (–2.71) |
| German legal origin | –0.003 | 0.038 | –0.012 | 0.009 | –0.011 | 0.019 |
| | (–0.04) | (0.29) | (–0.16) | (0.06) | (–0.15) | (0.15) |
| Country social norm | 0.433 | 0.250 | 0.533 | 0.828 | 0.542 | 0.872 |
| | (1.34) | (0.36) | (1.49) | (1.42) | (1.51) | (1.58) |
| Refinitiv overall ESG rating | | | 0.007*** | 0.001 | | |
| | | | (4.88) | (0.49) | | |
| Refinitiv governance rating | | | | | 0.001 | 0.001 |
| | | | | | (1.05) | (0.62) |
| Refinitiv social rating | | | | | 0.004* | 0.005 |
| | | | | | (1.70) | (1.32) |
| Refinitiv environment rating | | | | | 0.002 | –0.003 |
| | | | | | (1.48) | (–1.27) |
| | | | | | | |
| Observations | 911 | 267 | 717 | 235 | 717 | 235 |
| Pseudo R-squared | 0.222 | 0.324 | 0.235 | 0.368 | 0.236 | 0.378 |
| Year Fixed Effects | N | Y | N | Y | N | Y |
| Industry Fixed Effects | Y | Y | Y | Y | Y | Y |

**Table 5: Determinants of engagements success: Robustness analysis**

This table probit regression results on engagement success using alternative model specifications. In Panel A, we match observations in single-tier engagement subsample and two-tier engagement subsample, using all target firm characteristics as listed in Table 4, Panel A. We use both Entropy Balancing (at the first two moments), and Propensity-Score-Matching (with replacement and caliper of 0.01). In Panel B, we replace two-tier engagement indicator with an indicator for pseudo lead. We regress the pseudo-two-tier engagement indicator on success using single-tier engagements only. An engagement is classified as a pseudo-two-tier engagement if it has at least one pseudo lead investor. We use two approaches to identify the pseudo lead in an engagement. In the first approach, we use the determinant model of becoming a lead investor as used in Column (5) of Table 3, Panel B. We then use the estimated coefficients to make out-of-sample prediction on the probability of an investor being a lead in a single-tier engagement. We identify an investor as a pseudo lead if its predicted probability of being a lead in an engagement is above 0.25385. In the second approach, we use a naïve method to identify the pseudo lead in an engagement. We identify an investor as a pseudo lead if it is domestic, an investment manager, and has internal staff dedicated for engagements. In Panel C, we divide the sample into two subperiods. The experimental period includes projects initiated between January 2010 and May 2012. Projects initiated outside this window are included in other periods. In all panels, additional engagement-level attributes and target firm characteristics as those used in Table 4, Panel C, are included in all regressions (for brevity, their coefficients are abbreviated). Coefficients are presented as marginal effects. Variables are defined in Appendix C. All continuous variables are winsorized at $1^{st}$ and $99^{th}$ percentile levels. ∗∗∗, ∗∗, and ∗ denote significance at the 1%, 5%, and 10% level, respectively.

**Panel A: Regression using matched sample**

| | All engagements | | | |
| --- | --- | --- | --- | --- |
| | Matching without ESG ratings | | Matching with Refinitiv overall ESG rating | |
| | Entropy balanced | PSM | Entropy balanced | PSM |
| | (1) | (2) | (3) | (4) |
| Two-tier engagement | 0.232*** | 0.216** | 0.185* | 0.213* |
| | (2.66) | (2.13) | (1.94) | (1.79) |
| | | | | |
| Observations | 911 | 561 | 717 | 498 |
| Pseudo R-squared | 0.233 | 0.264 | 0.239 | 0.239 |
| Target firm characteristics | Y | Y | Y | Y |
| Engagement-level attributes | Y | Y | Y | Y |
| Year fixed effects | N | N | N | N |
| Industry fixed effects | Y | Y | Y | Y |

**Panel B: Regression using pseudo lead**

| | Single-Tier Engagements | | | |
|---|---|---|---|---|
| | No ESG rating | | Refinitiv overall ESG rating | |
| | Pseudo lead using predicted value | Pseudo lead using naïve method | Pseudo lead using predicted value | Pseudo lead using naïve method |
| | (1) | (2) | (3) | (4) |
| Pseudo-two-tier engagement | 0.012 | –0.101 | –0.008 | –0.022 |
| | (0.17) | (–1.27) | (–0.12) | (–0.19) |
| Observations | 593 | 593 | 432 | 432 |
| Pseudo R-squared | 0.186 | 0.188 | 0.254 | 0.254 |
| Target firm characteristics | Y | Y | Y | Y |
| Engagement-level attributes | Y | Y | Y | Y |
| Year fixed effects | N | N | N | N |
| Industry fixed effects | Y | Y | Y | Y |


**Panel C: Regression using sub-sample periods**

| | All engagements | | | |
|---|---|---|---|---|
| | No ESG rating | | Refinitiv overall ESG rating | |
| | Experimental period | Other periods | Experimental period | Other periods |
| | (1) | (2) | (3) | (4) |
| Two-tier engagement | 0.238*** | 0.497*** | 0.187** | 0.511*** |
| | (2.96) | (4.83) | (2.05) | (4.37) |
| Observations | 448 | 438 | 349 | 338 |
| Pseudo R-squared | 0.240 | 0.304 | 0.281 | 0.287 |
| Target firm characteristics | Y | Y | Y | Y |
| Engagement-level attributes | Y | Y | Y | Y |
| Year fixed effects | N | N | N | N |
| Industry fixed effects | Y | Y | Y | Y |

# Table 6: Engagement and future fund flows

This table examines the effect of signatory engagement experience on future fund flows. Panel A reports summary statistics of regression variables. Panel B reports OLS regression results. All regressions are conducted at signatory-year level. The dependent variables are signatory annual flows. In Columns (3) and (4), and (7) and (8) of Panel B, we repeat the analysis in Columns (1) and (2), and in Columns (5) and (6), for investment managers only, respectively. Variables are defined in Appendix C. All regressions incorporate signatory fixed effects and calendar year fixed effects. Standard errors are clustered at signatory level and t-statistics are reported in parentheses. All continuous variables are winsorized at 1st and 99th percentile levels. ∗∗∗, ∗∗, and ∗ denote significance at the 1%, 5%, and 10% level, respectively.

## Panel A: Summary Statistics

| | Collaborating and non-collaborating signatories | | | | Collaborating signatories | | | |
|---|---|---|---|---|---|---|---|---|
| | 2007-2019 | | | | 2013-2019 | | | |
| | Obs | Mean | Median | Std. | Obs | Mean | Median | Std. |
| Signatory annual flow | 5,360 | 1.281 | 1.064 | 1.004 | 705 | 1.086 | 1.056 | 0.252 |
| Signatory annual return$_{Year-1}$ | 5,360 | 0.060 | 0.083 | 0.235 | 705 | 0.068 | 0.053 | 0.141 |
| Signatory annual flow$_{Year-1}$ | 5,360 | 1.425 | 1.078 | 1.666 | 705 | 1.135 | 1.059 | 0.466 |
| Signatory churn ratio$_{Year-1}$ | 5,360 | 0.217 | 0.191 | 0.133 | 705 | 0.176 | 0.170 | 0.089 |
| Num. of funds under signatory | 5,360 | 1.756 | 1.000 | 1.924 | 705 | 2.278 | 1.000 | 2.230 |
| Signatory portfolio value$_{Year-1}$ ($b) | 5,360 | 19.241 | 2.283 | 51.698 | 705 | 27.211 | 7.475 | 42.650 |
| Signatory has engagement experience | 5,360 | 0.172 | 0.000 | 0.377 | 705 | 0.973 | 1.000 | 0.162 |
| Signatory has successful engagement experience | 5,360 | 0.128 | 0.000 | 0.334 | 705 | 0.796 | 1.000 | 0.403 |
| Signatory has lead experience | | | | | 705 | 0.496 | 0.000 | 0.500 |
| Signatory has successful lead experience | | | | | 705 | 0.316 | 0.000 | 0.465 |

| | Collaborating and non-collaborating signatories | | Collaborating and non-collaborating signatories (investment managers only) | | Collaborating signatories | | Collaborating signatories (investment managers only) | |
|---|---|---|---|---|---|---|---|---|
| | **2007-2019** | | **2007-2019** | | **2013-2019** | | **2013-2019** | |
| | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** | **(6)** | **(7)** | **(8)** |
| Signatory annual return$_{Year-1}$ | 0.635*** | 0.632*** | 0.666*** | 0.664*** | 0.339 | 0.339 | 0.416 | 0.417 |
| | (3.09) | (3.07) | (2.98) | (2.97) | (1.49) | (1.47) | (1.63) | (1.61) |
| Signatory annual flow$_{Year-1}$ | 0.018 | 0.017 | 0.02 | 0.019 | 0.077 | 0.077 | 0.061 | 0.061 |
| | (0.63) | (0.60) | (0.70) | (0.68) | (1.45) | (1.44) | (1.02) | (1.01) |
| Signatory churn ratio$_{Year-1}$ | −0.004 | 0.000 | −0.033 | −0.029 | 0.169 | 0.168 | 0.178 | 0.182 |
| | (−0.01) | (0.00) | (−0.11) | (−0.10) | (0.61) | (0.59) | (0.59) | (0.59) |
| Num. of funds under signatory (log) | −0.118 | −0.115 | −0.135 | −0.132 | 0.007 | 0.006 | −0.023 | −0.021 |
| | (−1.05) | (−1.03) | (−1.11) | (−1.09) | (0.13) | (0.13) | (−0.46) | (−0.44) |
| Signatory portfolio value$_{Year-1}$ ($b) | −0.001 | −0.001* | −0.001 | −0.001 | −0.002** | −0.002** | −0.002* | −0.002** |
| | (−1.55) | (−1.67) | (−1.46) | (−1.58) | (−2.56) | (−2.62) | (−1.93) | (−2.01) |
| Signatory has engagement experience | 0.125*** | 0.018 | 0.138*** | 0.028 | | | | |
| | (2.95) | (0.36) | (2.99) | (0.49) | | | | |
| Signatory has successful engagement experience | | 0.183*** | | 0.191*** | | | | |
| | | (2.93) | | (2.65) | | | | |
| Signatory has lead experience | | | | | 0.089* | 0.090** | 0.109** | 0.107** |
| | | | | | (1.92) | (2.05) | (2.08) | (2.20) |
| Signatory has successful lead experience | | | | | | −0.001 | | 0.007 |
| | | | | | | (−0.02) | | (0.18) |
| Observations | 5,360 | 5,360 | 5,065 | 5,065 | 705 | 705 | 610 | 610 |
| Number of signatories | 503 | 503 | 470 | 470 | 107 | 107 | 91 | 91 |
| Adj R-squared | 0.250 | 0.251 | 0.252 | 0.253 | 0.242 | 0.241 | 0.230 | 0.228 |
| Signatory fixed effects | Y | Y | Y | Y | Y | Y | Y | Y |
| Year fixed effects | Y | Y | Y | Y | Y | Y | Y | Y |

## Table 7: Target firm performance

This table examines the changes in target firm performance following engagements. In Panel A, the dependent variable is abnormal annual buy-and hold returns, defined as target firm 12-month buy-and-hold return minus market 12-month buy-and-hold return, calculated using MSCI return index. We keep 24 months before and 36 months after the engagement start date. Year+1 includes month 0 to month 11. Year+2 includes month 12 to month 23. Year+3 includes month 24 to month 35. Month 0 is the monthly return at the same month when the engagement started. In Panel B, the dependent variable is target firm return on assets (ROA). We keep two fiscal years before and three fiscal years after the engagement start date. Post-engagment$_{Year+1\&+2}$ is defined as one for event window Year+1 and Year+2. Post-engagment$_{Year+3}$ is defined as one for event window Year+3. Target firm characteristics are obtained from the corresponding fiscal year end. All variables are defined in Appendix C. Bold numbers in Column (1) indicate the coefficients are statistically different across the subsamples of two-tier engagements and single tier engagements. Bold numbers in Column (3) indicate the coefficients are statistically different across the subsamples of successful two-tier engagements and unsuccessful single tier engagements. All regressions incorporate target firm fixed effects and calendar year fixed effects. Standard errors are clustered at the target firm level and are used to calculate $t$-statistics reported in parentheses. All continuous variables are winsorized at $1^{st}$ and $99^{th}$ percentile levels. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

### Panel A: Regression analysis on target stock performance

|  | Two-tier engagements | Single-tier engagements | Successful two-tier engagements | Unsuccessful single-tier engagements |
|---|---|---|---|---|
|  | (1) | (2) | (3) | (4) |
| Post-engagement$_{Year+1\&+2}$ | **0.047*** | −0.010 | **0.063*** | −0.036 |
|  | **(3.03)** | (−0.92) | **(3.07)** | (−1.55) |
| Post-engagement$_{Year+3}$ | **0.094*** | 0.010 | **0.126*** | 0.037 |
|  | **(3.51)** | (0.72) | **(3.38)** | (1.16) |
| Market cap (log, $m) | 0.091*** | 0.039** | 0.065 | 0.031 |
|  | (2.84) | (1.97) | (1.65) | (1.06) |
| Market-to-book | 0.020** | 0.031*** | 0.018 | 0.049*** |
|  | (2.57) | (3.35) | (1.57) | (3.40) |
| Leverage | −0.403** | −0.400** | −0.335 | −0.763*** |
|  | (−2.57) | (−2.47) | (−1.63) | (−2.88) |
| Stock return volatility | 1.689*** | 2.034*** | 1.523*** | 1.993*** |
|  | (4.27) | (7.60) | (2.81) | (5.48) |
|  |  |  |  |  |
| Target firm fixed effects | Y | Y | Y | Y |
| Year fixed effects | Y | Y | Y | Y |
| Observations | 1,830 | 5,569 | 1,104 | 2,236 |
| Adj R-squared | 0.194 | 0.126 | 0.153 | 0.160 |

### Panel B: Target accounting performance

|  | Two-tier engagements | Single tier engagements | Successful two-tier engagements | Unsuccessful single tier engagements |
|---|---|---|---|---|
|  | (1) | (2) | (3) | (4) |
| Post-engagement$_{Year+1\&+2}$ | **0.009** | 0.001 | **0.014*** | −0.003 |
|  | **(2.46)** | (0.74) | **(2.66)** | (−1.03) |
| Post-engagement$_{Year+3}$ | **0.023*** | 0.002 | **0.032*** | 0.001 |
|  | **(3.80)** | (0.70) | **(3.59)** | (0.13) |
| Market cap (log, $m) | 0.041*** | 0.024*** | 0.041*** | 0.020*** |
|  | (4.19) | (6.10) | (3.35) | (3.00) |
| Market-to-book | −0.000 | 0.002 | −0.001 | 0.005** |
|  | (−0.19) | (1.46) | (−0.40) | (2.50) |
| Peer group ROA | 0.095** | 0.078** | 0.091* | 0.120*** |
|  | (2.04) | (2.43) | (1.67) | (2.88) |
|  |  |  |  |  |
| Target firm fixed effects | Y | Y | Y | Y |
| Year fixed effects | Y | Y | Y | Y |
| Observations | 1,816 | 5,714 | 1,117 | 2,286 |
| Adj R-squared | 0.730 | 0.766 | 0.701 | 0.754 |

## Coordinated Engagements

This is an addendum to our paper 'Coordinated Engagements'. We include a more detailed literature review in this addendum in Section IA.1.

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**IA. Conclusion**

We report in this Internet Appendix detailed results that are omitted from our paper. The findings reported here are consistent with the conclusions drawn in our paper.

# IA.1. Literature Review

Academic work on active ownership and investor engagement on ESG/CSR issues has extended recently in both breadth and depth. However, there are still major gaps in the literature. More than a decade ago, Peloza and Falkenberg (2009, p.95) reported that "*The lack of a conclusive business case for corporate social responsibility (CSR) is at the heart of the ongoing debate over the role of business in solving social and environmental problems.*" The absence of a business case reflects not only a lack of convincing examples, but also the fact that we do not know which interventions are more likely to be effective. The authors continued, "*Although the link between CSR activities and firm financial performance is still debated, research suggests that the relationship depends, at least in part, on how the CSR initiative is executed*" (ibid). The knowledge gap about how to intervene with a target company is almost as large today as it was a decade ago, and this is the challenge that we address in this paper.

## IA.1.1 Shareholder action on ESG

Although there have been several thousand published studies on ESG investing (Friede, Busch, and Bassen (2015)), the research fails even to indicate whether investors who pursue a responsible E&S approach can anticipate an enhanced or impaired portfolio return, including over the very long term. An exception is Dimson, Karakaş, and Li (2015), an investigation of an investment company's 2,152 engagements with US target companies. In that study, successful engagements were followed by positive abnormal returns, improved performance and governance, and increased institutional ownership, while unsuccessful engagements generated zero abnormal returns.

Many scholars, and practitioners, also perceive a conflict between shareholder activism and social activism. Shareholder activism generally addresses conflicts between managers and shareholders and seeks to create value for shareholders. Barber (2007, p.66) asserts that "*portfolio managers… can also abuse their position by pursuing actions that advance their own moral values or political interests at the expense of investors (social activism)*" (parentheses in original). Using CSR performance as a proxy for social capital (i.e., for trust between shareholders and managers), and shareholder governance proposals as a proxy for shareholder activism, Dimitrov and Gao (2017) argue that shareholders of firms with higher CSR scores play a constructive role in efforts on corporate governance. Homanen (2018) finds that depositors withdraw funds from banks found to be financing firms involved with non-financial scandals and interprets this as the disciplining and monitoring role of the depositors. In a theoretical framework, Pastor, Stambaugh, Taylor (2021) model the investor's tradeoff between favorable CSR attributes and financial rewards.

The private nature of certain engagements makes it more challenging for researchers to analyze them. A detailed clinical study was undertaken by Carleton, Nelson, and Weisbach (1998). They gained access to a collection of engagement correspondence from 1992–1996 between the Teachers Insurance Annuity

Association–College Retirement Equities Fund (TIAA-CREF) and various target companies. The correspondence provided the first "large sample" (45 firms) of private negotiations; in most cases TIAA-CREF was able to reach an agreement with their targets to implement the requested changes. The fact that TIAA-CREF negotiated with the target almost never became public knowledge, and it seems that these solo negotiations were successful in inducing change. While some initiatives may best be conducted privately by a single asset owner, this raises the question of whether broader collaborative engagement may be superior. Although other papers such as Smith's (1996) study of engagements by the California Public Employees' Retirement System (CalPERS) included negotiated agreements, they are less informative about the nature of these private agreements. Becht, Franks, Mayer, and Rossi (2009) analyze the private engagements of a UK activist fund and find that the fund outperformed its benchmarks, largely through its value-enhancing engagements rather than stock picking.

## IA.1.2 Collaborative engagements

There appear to be significant benefits associated with collaborative engagements. Indeed, the common rationale for inter-organizational collaboration is to exploit the collaborating partners' resources, skills and expertise to gain *collaborative advantage* (Huxham and Vangen (2005)). First and foremost, by pooling resources and influence, investors can achieve greater success via increased voting power and an amplified voice (Hirschman (1970)). Building upon this, Broccardo, Hart, and Zingales (2022) argue that in a competitive world, voice (engagement) is more effective than exit (divestment) in pushing firms to act in a socially responsible manner. Gillan and Starks (2000) find that shareholder proposals on corporate governance issues sponsored by coordinated groups gain substantially more support than those sponsored by individuals. Black and Coffee (1994) discuss the institutional coalition formation in the UK, by conducting a series of interviews with senior officers in major British institutions and providing anecdotal evidence. They observe that communication and coalition formation among institutional investors has for a long time been more acceptable in the UK than in the US, and coordination costs are lower in the UK. Giannetti and Laeven (2009) also mention some anecdotal evidence that public pension funds tend to coordinate their activities on corporate governance of target firms in episodes of activism. Dimson, Karakaş, and Li (2015) find that collaboration with other shareholders and/or stakeholders significantly improves the success rate of engagements, especially those on environmental and social topics.

Second, engaging as a coordinated group also improves engagement efficiency by borrowing expertise from group members who are more knowledgeable about an issue or target company, and by sharing research costs. This is especially efficient for smaller investors who are too resource-constrained to afford an in-house engagement team. It is informative to make a comparison with hedge fund activists whose holdings in target companies are typically smaller than institutional ownership in investee companies. Kedia, Starks and Wang (2020) find that cooperation between hedge funds and like-minded institutions increases the likelihood of

success in engagements with investee companies.

Third, collaboration in ESG engagements facilitates risk-sharing among active owners. For instance, an active owner may be reluctant to engage a target firm on a solo basis due to the risk of impairing existing business relations; engaging as part of a larger coalition can enable active owners to mitigate this risk. Fourth, many E&S issues, such as climate change and labor standards in supply chains, are borderless by nature. A successful resolution of these issues thus requires cross-border collaborations from various parties.

However, collaborative engagements also face many challenges, which may lead to *collaborative inertia* rather than *collaborative advantage* (Huxham and Vangen (2005)). The first challenge is the free-rider problem: costs may be borne by a small group of committed and resourceful participants, while benefits are shared with a wider group of investors inside (or even outside) the coalition. Relatedly, competition between institutions (through reputation and superior performance) makes collaboration difficult and requires incentives in the coalition to be set carefully. Second, coordination is difficult and time-consuming: investors may have different objectives and interests, so achieving agreement within a group from diverse geographic and cultural backgrounds may prolong the process. The delayed action may also reduce the effectiveness of engagements on time-sensitive issues. Third, potential regulatory barriers in certain markets could dissuade investors from behaving as a "concert party". We argue in the next section that having a third-party coordinator, such as the PRI with its Collaboration Platform team, can substantially reduce these challenges.

In a recent theoretical work, Oehmke and Opp (2022) argue that coordination is one of the necessary conditions for socially responsible investors to have impact on firm behavior. Focusing on wolf-pack activism, Brav, Dasgupta, and Mathews (2019) highlight the implicit coordination among heterogeneous block investors. In this form of activism, it is asserted that a coalition of institutional blockholders (typically hedge funds) implicitly coordinate their interventions with the target firms where one blockholder acts as a "lead" activist, with the other blockholders as supporting "wolf-pack" members. In their theoretical model, wolf-pack members are delegated portfolio managers who compete for capital from clients. The wolf-pack members are incentivized via the reputational gains from being recognized as skilled institutions, which in turn attracts investment flows and helps overcome the free-rider problem of collective action.[34]

Empirical evidence supports the formation of implicit coordination among activist investors. Brav, Jiang, and Li (2019) analyze mutual fund voting in proxy contests and find evidence that dissident shareholders with small block holdings (e.g., 5–10% of the target firm) "pick friends". That is, in their decision to engage in a proxy fight, they select a target firm with a pro-activist shareholder base. Such collaboration is crucial particularly in contested elections during proxy fights. Defining the connected institutions as those each of

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[34] In a recent work, Liang, Sun, and Teo (2020) find that PRI signatory hedge funds attract an economically and statistically meaningful 20.2% more flows per annum than do non-signatories.

which have more than 5% of the same firm, Crane, Koch, and Michenaud (2019) find that such connected institution act as coordinated group by voting together, particularly against low quality management proposals. Examining the trading patterns prior to 13D filings, Wong (2020) finds evidence consistent with coordinated effort among activist hedge funds, that is, lead activists orchestrate the "wolf packs" in hedge fund activism.

The evidence on the effectiveness of implicit coordination is mostly positive. Studying a sample of international hedge fund activists, Becht, Franks, Grant, Wagner (2017) report that engagements by multiple investors perform better than those by a single organization. Wong (2020) finds that the presence of a wolf pack is positively associated with the success of hedge fund campaigns. Crane, Koch, and Michenaud (2019) find that coordination strengthens governance via voice. An exception is Song and Szewczyk (2003), who study the effectiveness of implicit coordination among institutional investors via the Focus List released by the Council of Institutional investors (CII), an organization of public and private pension funds. The Focus List encourages institutional investors to direct activism to certain underperforming target firms without requiring explicit consultation among investors. They find very little evidence supporting the efficacy of shareholder activism coordinated via the Focus List.

Doidge, Dyck, Mahmudi, and Virani (2019) study explicit coordination via an investor collective action organization (ICAO). They analyze private engagements on corporate governance issues by Canadian Coalition for Good Governance (CCGG). They find that CCGG is more likely to target firms in which their collective voting power is higher. Firms engaged by CCGG are more likely to adopt corporate governance reforms on majority voting, say-on-pay, and compensation structure relative to those not engaged. Our study differs from theirs in several ways. First and foremost, we study the coordinated engagements on E&S issues while they study those on corporate governance topics. Second, whereas Doidge et al. examine targets and investors from a single country, we research a global collaboration with international targets and investors, and investigate the impact of location. Third, in contrast to Doidge et al. whose investor coalition is static, our investor group composition changes from project to project and from target to target, allowing us to explore the dynamics in engagement structure within the coalition and their effect on engagement outcome.

### IA.1.3 Role of institutional investors

Collaboration among investors requires effective commitment. A coordinated group of institutional investors, potentially including both index investors and active managers, can provide the necessary mechanism. Long-horizon investors can be motivated by their role as universal owners (Hawley and Williams (1997)). It is in their interest to reduce negative externalities and to exploit positive externalities in the firms that they hold. This can transform competition between investment managers and asset owners into collaboration, and can alleviate the free-rider dilemma that might otherwise impede coordinated engagements with investee companies.

The engagements studied in our paper are conducted by a large number of major institutional investors whose size and breadth of shareholdings should incentivize them to behave as universal owners. They are members of a global association (the PRI) that elevates the importance of taking a broad, social view, so smaller asset owners are likely to be favorably inclined to a universal-owner approach to investing. Evidence supports the claim that long-horizon investors prefer firms with better ESG practices; see, for example, Starks, Venkat, and Zhu (2018). In a similar vein, Dyck, Lins, Roth, and Wagner (2019) report that institutional investors demand stronger E&S performance from the firms in which they invest worldwide. This is in line with Hart and Zingales (2017), who argue that asset managers should invest according to the preferences of their investors.

If responsible investors are willing to pay more for the shares of companies that adhere to social values, subsequent investment returns can be expected to be impaired, at least marginally. This is confirmed in a comparison of PRI signatories relative to non-signatories which reports that signatories have slightly lower returns; see Gibson-Brandon, Glossner, Krueger, Matos, and Steffen (2022). Consistent with this finding, Aragon, Jiang, Joenväärä, and Tiu (2019) report that adoption of socially responsible policies imposes a drag on the performance of endowment funds. Dimson, Marsh and Staunton (2020) report that over a period of 120 years, sin sectors (alcohol and tobacco) in the largest stock markets (the US and UK) have on average sold at a lower price-to-dividend ratio than other sectors and consequently performed better than any other sector with a complete history. There is thus some evidence that investors seek a larger return from stocks that are non-compliant with ESG values, and are willing to accept a modest reduction in investment returns as the price to be paid for a higher standard of investment behavior.

Bebchuk, Brav, Jiang, and Keusch (2020) analyze the cooperation between activists and target firms and find that a settlement is more likely when an activist has a credible chance of obtaining a board seat in a proxy fight. These findings resonate with ours, illustrating that the chances of success in E&S engagements increase with investor influence which, in our study, is proxied by activist holdings in the target, and the quantum of the activist's assets under management.

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## Table IA.1: Attributes of targets

Panel A lists the countries where targets are domiciled and the number of engagements and of unique target firms within each country. Panel B lists the industries (one-digit SIC code) of target firms and number of engagements. Infrastructure & Utilities industries include transportation, communications, electric, gas, and sanitary services. The sample includes 960 unique target firms from 63 countries, involved in 1,654 engagement sequences.

### Panel A: Country of targets

| Target country | Number of engagements | Number of targets | Target country | Number of engagements | Number of targets |
|---|---|---|---|---|---|
| United States | 286 | 161 | Portugal | 9 | 4 |
| France | 122 | 61 | Taiwan | 8 | 7 |
| United Kingdom | 110 | 67 | Israel | 7 | 5 |
| Japan | 95 | 62 | Bermuda | 7 | 4 |
| Germany | 83 | 44 | Luxembourg | 6 | 2 |
| Canada | 79 | 50 | Turkey | 5 | 5 |
| India | 78 | 57 | Thailand | 5 | 5 |
| Spain | 58 | 28 | Colombia | 5 | 4 |
| Brazil | 55 | 30 | Croatia | 5 | 4 |
| Italy | 54 | 27 | Egypt | 5 | 4 |
| Australia | 45 | 29 | Sri Lanka | 5 | 4 |
| South Korea | 44 | 24 | Ireland | 5 | 3 |
| Sweden | 41 | 23 | Nigeria | 4 | 4 |
| Switzerland | 41 | 21 | Greece | 4 | 3 |
| China | 34 | 20 | Peru | 4 | 3 |
| South Africa | 34 | 19 | Bulgaria | 4 | 2 |
| Pakistan | 32 | 17 | Poland | 4 | 2 |
| Netherlands | 32 | 13 | Tunisia | 3 | 3 |
| Finland | 29 | 13 | New Zealand | 3 | 3 |
| Norway | 23 | 13 | Czech Republic | 2 | 2 |
| Singapore | 23 | 9 | Macedonia | 2 | 2 |
| Denmark | 20 | 10 | Bosnia-Herzegovina | 2 | 1 |
| Mexico | 15 | 11 | Czech Republic | 2 | 1 |
| Hong Kong | 15 | 9 | Hungary | 2 | 1 |
| Russia | 15 | 9 | Bangladesh | 1 | 1 |
| Chile | 13 | 9 | Cyprus | 1 | 1 |
| Indonesia | 12 | 8 | Kenya | 1 | 1 |
| Belgium | 11 | 7 | Latvia | 1 | 1 |
| Malaysia | 10 | 7 | Oman | 1 | 1 |
| Argentina | 10 | 6 | UAE | 1 | 1 |
| Lithuania | 10 | 6 | Zambia | 1 | 1 |
| Austria | 10 | 5 | Total | 1,654 | 960 |

### Panel B: Industry of targets

| Target industry (One-digit SIC) | Number of engagements | Number of targets | Number of countries |
|---|---|---|---|
| Manufacturing | 799 | 758 | 52 |
| Infrastructure and Utilities | 233 | 142 | 35 |
| Wholesale or Retail Trade | 204 | 97 | 32 |
| Mining | 188 | 96 | 23 |
| Finance, Insurance and Real Estate | 121 | 80 | 34 |
| Services | 73 | 61 | 21 |
| Construction | 34 | 24 | 12 |
| Agriculture, Forestry and Fishing | 2 | 2 | 2 |
| Total | 1,654 | 960 | 63 |

**Table IA.2: Location of investors**

Our sample includes 224 unique investors from 24 countries, 90 of whom served at least once as lead investor. An investor is self-identified as one of three categories, asset owner, investment manager, or service provider when signing up as PRI signatory. This table also reports for each country the average AUM (in $billion), as self-reported by asset owners and investment managers on PRI's website. We list the top three investors (by AUM) for asset owners and investment managers, and all service providers. "Number" denotes the number of investors, "Num leads" denotes the number of lead investors. In the names, AM abbreviates for Asset Management, CM for Capital Management, GI for Global Investors, IM for Investment Management, IMs for Investment Managers, PF for Pension Fund, and SF for Superannuation Fund.

The following abbreviated names are used below: ATP Arbejdsmarkedets Tillægspension, CalPERS California Public Employees' Retirement System, CalSTERS California State Teachers' Retirement System, CDPQ Caisse de dépôt et placement du Québec, CPPIB Canada Pension Plan Investment Board, CSC Commonwealth Superannuation Corporation, EOS Hermes Equity Ownership Services, ERAFP French public service additional pension scheme, FAFN First Affirmative Financial Network, FRR Fonds de 67eserve pour les retraites, GPFG Norwegian Government PF Global, ICCF Interfaith Center on Corporate Responsibility, ISS Institutional Shareholder Services, LGIM Legal & General IM, PME Pensionfund Metalektro, RRSE Regroupement pour la Responsabilité Sociale des Entreprises, SEB Skandinaviska Enskilda Banken, SHARE Shareholder Association for Research & Education, and USS Universities Superannuation Scheme.

| A: All Investors | | | B: Asset Owners | | | C: Investment Managers | | | D: Service Providers | |
|---|---|---|---|---|---|---|---|---|---|---|
| Investor location | Num-ber | Num leads | Num-ber | Avg. AUM | Top 3 owners by AUM | Num-ber | Avg. AUM | Top 3 managers by AUM | Num-ber | Service providers |
| UK | 42 | 17 | 14 | 49 | Old Mutual, USS, Railways Pension Trustee | 24 | 183 | LGIM, Insight Investment, Schroders | 4 | LAPFF, EOS, PIRC, Inflection Point CM |
| USA | 40 | 15 | 14 | 64 | CalPERS, CalSTRS, New York State Local Retirement System | 21 | 119 | T. Rowe Price, TIAA – CREF, AllianceBernstein | 5 | As You Sow, ICCF, ISS, Bloomberg, FAFN |
| Netherlands | 21 | 10 | 5 | 69 | Stichting Pensioenfonds Zorg en Welzijn, PME, Achmea | 15 | 125 | APG AM, AEGON AM, PGGM Investments | 1 | Sustainalytics |
| Canada | 20 | 11 | 7 | 72 | CDPQ, CPPIB, British Columbia Municipal Pension Plan | 11 | 57 | BMO Global AM, TD AM, British Columbia IM Corp. | 2 | RRSE, SHARE |
| Sweden | 17 | 11 | 11 | 36 | SEB Life and Pension, AMF, Skandia | 6 | 79 | Nordea, SEB, Swedbank Robur | 0 | |
| Australia | 15 | 3 | 8 | 22 | AustralianSuper, Victorian Funds Management Corp., CSC | 6 | 27 | Colonial First State Global AM, Alphinity IM, Solaris IM | 1 | Australian Council of Superannuation Investors |
| France | 14 | 8 | 4 | 439 | AXA Group, FRR, ERAFP | 10 | 313 | Amundi, AXA Ims, BNP Paribas Investment Partners | 0 | |
| Germany | 8 | 3 | 3 | 1 | VERKA VK Kirchliche Vorsorge VvaG, Steyler Bank | 4 | 595 | Deutsche AM, Allianz GI, Union Investment | 1 | VIP eV |
| Norway | 6 | 2 | 6 | 191 | NGPFG, KLP, Storebrand AM | 0 | | | 0 | |
| South Africa | 6 | 1 | 1 | 119 | Government Employees PF of South Africa | 5 | 24 | Investec AM, Momentum Outcome Based Solutions, 27Four Ims | 0 | |
| Switzerland | 5 | 2 | 1 | | PeaceNexus Foundation | 3 | 102 | Bank J. Safra Sarasin, Vontobel Holding, RobecoSAM | 1 | Fondation Guilé |
| Brazil | 4 | 1 | 1 | | Mongeral Aegon Seguros e Previdência | 2 | | FIR Capital, Santa Fé Portfolios | 1 | KEY Associados |

| A: All Investors | | | B: Asset Owners | | | C: Investment Managers | | | D: Service Providers | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Investor location** | **Num -ber** | **Num leads** | **Num -ber** | **Avg. AUM** | **Top 3 owners by AUM** | **Num -ber** | **Avg. AUM** | **Top 3 managers by AUM** | **Num -ber** | **Service providers** |
| Finland | 4 | 0 | 3 | 31 | Keva, Ilmarinen Mutual Pension Insurance Co., Church PF | 1 | 10 | LocalTapiola AM | 0 | |
| New Zealand | 4 | 0 | 4 | 13 | Accident Compensation Corp., New Zealand SF, Government SF Authority | 0 | | | 0 | |
| Spain | 4 | 0 | 3 | 3 | Pensions Caixa 30 FP, BBVA Fondo de Empleo, Repsol II Fondo de Pensiones | 1 | 5 | Ibercaja Pensión EGFP, SA | 0 | |
| Austria | 3 | 2 | 0 | | | 3 | 28 | Erste AM GmbH, Raiffeisen CM, C-QUADRAT AM | 0 | |
| Ireland | 2 | 0 | 1 | 9 | Ireland Strategic Investment Fund | 1 | 10 | KBI GI | 0 | |
| Japan | 2 | 1 | 0 | | | 2 | 358 | Sumitomo Mitsui Trust Bank, T&D AM Co | 0 | |
| Luxem-bourg | 2 | 1 | 0 | | | 2 | 60 | Candriam Investors Group, Sparinvest Group | 0 | |
| Belgium | 1 | 0 | 0 | | | 1 | 31 | Degroof Petercam AM | 0 | |
| Denmark | 1 | | 1 | 109 | ATP | 0 | | | 0 | |
| Italy | 1 | 1 | 0 | | | 1 | 3 | Etica SGR | 0 | |
| Mauritius | 1 | 0 | 0 | | | 1 | 0 | Sustainable Capital | 0 | |
| Singapore | 1 | 1 | 0 | | | 1 | 4 | Arisaig Partners (Asia) Pte | 0 | |
| Total | 224 | 90 | 87 | | | 121 | | | 16 | |

This table presents selected characteristics of the collaborating investors, i.e., those participate in at least one collaborative engagements (Panel A), lead investors, i.e., those lead at least one engagement (Panel B), and non-collaborating signatories, i.e., PRI signatories that never participate in any collaborative engagements (Panel C).

**Panel A: Collaborating investors:** *All 224 investors, including 87 Asset Owners (including 64 pension plans, of which 53 are public pensions), 121 Investment Managers, and 16 Service Providers*

|  | N | Mean | Q1 | Median | Q3 | StDev |
|---|---|---|---|---|---|---|
| Num. of engagements participated | 224 | 193.66 | 32 | 87 | 257 | 239 |
| Num. of projects participated | 224 | 3.79 | 1 | 2 | 5 | 4 |
| AUM ($b) | 208 | 111.82 | 3 | 23 | 97 | 235 |
| Years of being a signatory | 220 | 8.30 | 7.00 | 9.00 | 11.00 | 2.51 |
| PRI's Founding signatory | 224 | 0.17 | 0.00 | 0.00 | 0.00 | 0.38 |
| Signatory has formal process of engagements by internal staff | 200 | 0.80 | 1.00 | 1.00 | 1.00 | 0.40 |
| Num. of collaborative initiatives participated besides PRI | 200 | 7.54 | 4.50 | 7.00 | 10.00 | 4.34 |

**Panel B: Lead investors:** *All 90 lead investors, including 24 Asset Owners (including 19 pension plans, of which 18 are public pensions), 61 Investment Managers, and 5 Service Providers*

|  | N | Mean | Q1 | Median | Q3 | StDev |
|---|---|---|---|---|---|---|
| Num. of engagements participated | 90 | 283.02 | 55 | 149 | 502 | 281 |
| Num. of projects participated | 90 | 6.04 | 3 | 4 | 9 | 5 |
| Num. of engagements led | 90 | 6.17 | 2 | 4 | 9 | 6 |
| Num. of projects led | 90 | 2.42 | 1 | 2 | 3 | 2 |
| AUM ($b) | 85 | 136.34 | 8 | 36 | 146 | 244 |
| Years of being a signatory | 90 | 8.68 | 7.00 | 9.50 | 11.00 | 2.42 |
| PRI's founding signatory | 90 | 0.24 | 0.00 | 0.00 | 0.00 | 0.43 |
| Signatory has formal process of engagements by internal staff | 84 | 0.96 | 1.00 | 1.00 | 1.00 | 0.19 |
| Num. of collaborative initiatives participated besides PRI | 84 | 9.11 | 6.00 | 9.00 | 12.00 | 4.21 |

**Panel C: Non-collaborating signatories:** *All 1,509 non-collaborating investors, including 264 Asset Owners (including 151 pension plans, of which 84 are public pensions), 1,033 Investment Managers, and 212 Service Providers*

|  | N | Mean | Q1 | Median | Q3 | StDev |
|---|---|---|---|---|---|---|
| AUM ($b) | 1,297 | 45.20 | 0 | 2 | 15 | 235 |
| Years of being a signatory | 1,509 | 4.29 | 2.00 | 4.00 | 7.00 | 3.02 |
| PRI's founding signatory | 1,509 | 0.01 | 0.00 | 0.00 | 0.00 | 0.11 |
| Signatory has formal process of engagements by internal staff | 1,205 | 0.26 | 0.00 | 0.00 | 1.00 | 0.44 |
| Num. of collaborative initiatives participated besides PRI | 1,205 | 2.16 | 0.00 | 1.00 | 3.00 | 2.53 |

## Table IA.4: Characteristics of investors

Panel A lists the top 10 investors by the number of engagements in which they participated. CPPIB is the Canada Pension Plan Investment Board, and NI LGO denotes the Northern Ireland Local Government Officers' Superannuation Committee. Panel B lists the top 10 lead investors by the number of engagements they led. IM denotes Investment Manager, AO denotes Asset Owner, and SP denotes Service Provider. PRI's founding signatories are highlighted in bold.

### Panel A: Top 10 investors by engagements

| Investor name | Headquarter country | Category | AUM ($b) | Number of engagements participated | Number of engagements led | Number of projects participated | Signature date |
|---|---|---|---|---|---|---|---|
| **Aviva Investors** | **UK** | **IM** | **438.2** | **1,001** | **2** | **16** | **27 Apr 06** |
| Boston Common Asset Mgt. | USA | IM | 2.2 | 975 | 21 | 21 | 17 Dec 08 |
| Robeco | Netherlands | IM | 146.2 | 908 | 13 | 14 | 4 Dec 06 |
| Amundi | France | IM | 1,158.7 | 898 | 3 | 11 | 27 Apr 06 |
| NI LGO | UK | AO | 7.4 | 864 | 0 | 10 | 18 Sep 07 |
| **Candriam Investors Group** | **Luxembourg** | **IM** | **109.1** | **857** | **0** | **11** | **26 Jun 06** |
| **CPPIB** | **Canada** | **AO** | **210.1** | **832** | **2** | **9** | **27 Apr 06** |
| MN | Netherlands | IM | 131.9 | 806 | 15 | 16 | 2 Mar 09 |
| The Cooperative Asset Mgt. | UK | IM | 2.6 | 803 | 8 | 13 | 13 Dec 07 |
| **NZ Superannuation Fund** | **New Zealand** | **AO** | **23.2** | **799** | **0** | **14** | **27 Apr 06** |

### Panel B: Top 10 lead investors by engagements

| Investor Name | Headquarter country | Category | AUM ($b) | Number of engagements participated | Number of engagements led | Number of projects led | Signature date |
|---|---|---|---|---|---|---|---|
| APG Asset Mgt. | Netherlands | IM | 523.1 | 315 | 26 | 4 | 25 Sep 09 |
| **Hermes Investment Mgt.** | **UK** | **IM** | **34.3** | **305** | **25** | **8** | **27 Apr 06** |
| Hermes Equity Ownership Services | UK | SP | | 211 | 25 | 8 | 4 Jul 13 |
| Boston Common Asset Mgt. | USA | IM | 2.2 | 975 | 21 | 9 | 17 Dec 08 |
| MN | Netherlands | IM | 131.9 | 806 | 15 | 6 | 3 Feb 09 |
| ACTIAM | Netherlands | IM | 58.6 | 716 | 15 | 7 | 7 May 06 |
| **PGGM Investments** | **Netherlands** | **IM** | **220.3** | **607** | **14** | **5** | **1 Jan 08** |
| Robeco | Netherlands | IM | 146.2 | 908 | 13 | 6 | 12 Apr 06 |
| **BMO Global Asset Management** | **Canada** | **IM** | **237.0** | **525** | **13** | **7** | **27 Apr 06** |
| Boston Trust & Investment Mgt. | USA | IM | 7.9 | 391 | 13 | 4 | 7 Jul 07 |

## Table IA.5: Regression analysis on engagement success (additional details)

This table presents the coefficients on the additional target firm characteristics included in the regressions on engagement success, which were abbreviated in Table 4, Panel C. All variables are defined in Appendix C.

| Sample with: | No ESG rating | | Refinitiv overall ESG rating | | Refinitiv ESG components ratings | |
|---|---|---|---|---|---|---|
| | All engagements | Two-tier engagements | All engagements | Two-tier engagements | All engagements | Two-tier engagements |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *Target firm characteristics:* | | | | | | |
| Market-to-book | –0.013 | –0.002 | –0.008 | 0.009 | –0.007 | 0.009 |
| | (–1.37) | (–0.21) | (–0.63) | (0.81) | (–0.58) | (0.68) |
| Stock return | –0.005 | –0.057 | 0.032 | –0.008 | 0.034 | 0.017 |
| | (–0.10) | (–0.76) | (0.50) | (–0.10) | (0.53) | (0.23) |
| Return on assets | 0.004 | –0.316 | 0.077 | –0.468 | 0.057 | –0.659 |
| | (0.01) | (–0.58) | (0.16) | (–0.68) | (0.12) | (–0.89) |
| Leverage | –0.049 | 0.264 | –0.162 | 0.402 | –0.172 | 0.280 |
| | (–0.25) | (0.80) | (–0.77) | (1.33) | (–0.81) | (1.00) |
| Sales growth | –0.137 | –0.103 | –0.142 | 0.131 | –0.132 | 0.165 |
| | (–1.48) | (–0.68) | (–1.52) | (0.91) | (–1.42) | (1.12) |
| Cash/Assets | –0.018 | 0.088 | 0.077 | 0.282 | 0.063 | 0.479 |
| | (–0.06) | (0.15) | (0.25) | (0.52) | (0.21) | (0.87) |
| Capex/Assets | –0.055 | 1.100** | –0.233 | 1.501*** | –0.258 | 1.382*** |
| | (–0.11) | (2.26) | (–0.36) | (3.08) | (–0.40) | (2.78) |
| R&D/Assets | 1.485 | 9.555*** | 0.488 | 4.761 | 0.468 | 4.835* |
| | (1.37) | (2.89) | (0.54) | (1.47) | (0.52) | (1.87) |
| Insider holdings | 0.112 | –0.037 | 0.355*** | 0.163 | 0.354*** | 0.224 |
| | (1.23) | (–0.19) | (2.74) | (0.78) | (2.71) | (1.12) |
| Foreign sales% | –0.063 | –0.111 | –0.102 | –0.101 | –0.105 | –0.091 |
| | (–0.81) | (–1.13) | (–1.00) | (–1.05) | (–1.03) | (–0.83) |
| | | | | | | |
| Observations | 911 | 267 | 717 | 235 | 717 | 235 |
| Pseudo R-squared | 0.222 | 0.324 | 0.235 | 0.368 | 0.236 | 0.378 |
| Year fixed effects | N | Y | N | Y | N | Y |
| Industry fixed effects | Y | Y | Y | Y | Y | Y |

## Table IA.6: Target firm performance: Robustness analysis

This table examines the changes in target firm performance following single-tier engagements only. We further limit the sample to those with pseudo leads (or pseudo-two-tier engagements). We use the same methodologies as described in Table 5, Panel B to identify the pseudo lead in an engagement, i.e., a prediction model and a naïve method. The dependent variables are abnormal annual buy-and hold returns and target firm return on assets (ROA). All variables are defined in the same way as those in Table 7. All regressions incorporate target firm fixed effects and calendar year fixed effects. Standard errors are clustered at the target firm level and are used to calculate $t$-statistics reported in parentheses. All continuous variables are winsorized at $1^{st}$ and $99^{th}$ percentile levels. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

| | Single-tier engagements | | | |
|---|---|---|---|---|
| | Target Abnormal Annual Buy-and-Hold Return (MSCI) | | Target ROA | |
| | Pseudo two-tier engagements (Prediction Model) | Pseudo two-tier engagements (Naïve Method) | Pseudo two-tier engagements (Prediction Model) | Pseudo two-tier engagements (Naïve Method) |
| | (1) | (2) | (3) | (4) |
| Post-engagement$_{Year+1\&+2}$ | 0.003 | 0.004 | 0.005** | 0.003 |
| | (0.21) | (0.25) | (2.00) | (0.88) |
| Post-engagement$_{Year+3}$ | 0.004 | 0.011 | 0.006 | 0.003 |
| | (0.20) | (0.43) | (1.46) | (0.66) |
| Controls | Y | Y | Y | Y |
| Firm fixed effects | Y | Y | Y | Y |
| Year fixed effects | Y | Y | Y | Y |
| Observations | 2,301 | 1,915 | 2,331 | 1,969 |
| Adj R-squared | 0.16 | 0.184 | 0.764 | 0.759 |