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Coordinated Engagements

Finance Working Paper N° 721/2021
May 2023

Elroy Dimson
University of Cambridge, FTSE Russell, London Business School and ECGI

Oğuzhan Karakaş
University of Cambridge and ECGI

Xi Li
London School of Economics and Political Science, Ohio State University, Cambridge University and ECGI

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Keywords: Engagement, dialogue, collaboration, coordination, leadership, corporate social responsibility (CSR), environmental, social, and governance (ESG), socially responsible investing (SRI)

JEL Classifications: G15, G23, G32, G34, G39

Elroy Dimson*
Professor of Finance and Research Director
University of Cambridge
Trumpington Street,
Cambridge CB2 1AG,, United Kingdom
phone: +44 (0)1223 339700
e-mail: ed351@cam.ac.uk

Oğuzhan Karakaş
University Associate Professor in Finance
University of Cambridge
Trumpington Street,
Cambridge CB2 1AG,, United Kingdom
phone: +44 (0)1223 339701
e-mail: o.karakas@jbs.cam.ac.uk.

Xi Li
Associate Professor of Accounting
London School of Economics and Political Science
Houghton Street
London WC2A 2AE,, United Kingdom
phone: +44 (0)20 7405 7686
e-mail: xi.li@lse.ac.uk

*Corresponding Author

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Elroy Dimson [a], Oğuzhan Karakaş [b] and Xi Li [c]

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[a] Centre for Endowment Asset Management, Judge Business School, University of Cambridge, Trumpington Street, Cambridge CB2 1AG, UK; telephone +44 (0)1223 339700; email e.dimson@jbs.cam.ac.uk *(Submitting author).*

[b] Centre for Endowment Asset Management, Judge Business School, University of Cambridge, Trumpington Street, Cambridge CB2 1AG, UK; telephone +44 (0)1223 766449; email o.karakas@jbs.cam.ac.uk.

[c] London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK; telephone +44 (0)20 7405 7686; email xi.li@lse.ac.uk. Li is a Research Fellow at the Centre for Endowment Asset Management, Judge Business School, University of Cambridge, UK.

Conflict of interest disclosure statement

Elroy Dimson

I have nothing to disclose.

Oğuzhan Karakaş

I have nothing to disclose.

Xi Li

I have nothing to disclose.

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Kissamos in Crete, Invesco Lecture at the Dorchester, Invesco Summit at Cambridge Judge Business School, Invesco Thanksgiving Conference in Vienna, Invesco Workshop in Atlanta, IWFSAS Conference at Cass Business School, Jesus College Conference on Climate Change and the Endowment, Koç University Finance Day, London Business School Asset Management Conference, the 2019 London Private Equity Research Symposium, London Quant Group 2018 Autumn Seminar, London Stock Exchange Forum, Luxembourg Asset Management Summit, Newton Charity Seminar in London, Newton Responsible Investment Dinner in New York, NFF Seminar on Sustainable Finance in Oslo, Norsif Active Ownership Seminar in Oslo, PRI-CEAM Conference on Strategy and Tactics for Effective Engagement in Cambridge, Q Group Fall Seminar in La Jolla, RIETI Seminar–Frontiers in Corporate Governance Analysis, Sabancı University Hakan Orbay Research Award Seminar, Securities Finance Forum 2022, Sparrows Capital Conference on ESG Integration in London, CJBS Speaker Series on Critical Issues in Corporate Social Responsibility, Sustainable Finance Research Seminar at the University of Zurich, Sustainable Investing UK-India Partnership Forum 2019, Swedish House of Finance Conference on Sustainable Finance, Universität Hamburg–PRI Academic Network Conference, Universal Ownership and Systemic Risks Summit in Cambridge, the 11th Taiwan Symposium on Innovation Economics and Entrepreneurship, Trends Investment Summit Benelux in Brussels, Turkish Capital Markets Summit in Istanbul, University of Geneva ESG Seminar, Weinberg Center–ECGI Corporate Governance Symposium, Women in Governance Week in New York, Workshop in Corporate Finance and Governance in Madrid, and the World Investment Forum in Utah. Finally, we are grateful for support from the Brandes Institute Award, Cambridge Endowment for Research in Finance, Centre for Endowment Asset Management, FTSE Russell, Hakan Orbay Young Researcher Award, ICPM Research Award, Inquire Europe, Invesco Asset Management, JM Keynes Fellowship, London School of Economics, Newton Investment Management, Principles for Responsible Investment, Risk Institute at Ohio State, Sandra Dawson Research Impact Award, and the Vice-Chancellor's Impact Award. We take full responsibility for any errors in this study.

Coordinated Engagements

The importance of environmental and social (E&S) issues has become elevated in the investment world and the pressures are increasingly global (Bowley and Hill (2022); Dimson, Karakaş, and Li (2015); Krüger, Sautner, and Starks (2020)). A new agenda for business has evolved, emphasizing that the long-term health of business depends on delivering profit with purpose. There has been a proliferation of initiatives by market participants in the pursuit of E&S goals, since the tasks are too onerous for a single organization to address. Broccardo, Hart, and Zingales (2022) and Berk and van Binsbergen (2022) argue that voice (engagement) is more effective than exit (divestment) in pushing firms to act in a socially responsible manner. Cooperative activities on E&S issues by investors, activists and non-governmental organizations (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. Indeed, E&S engagements are considered as a powerful driver towards investor-led sustainability in capital markets, more advantageous than regulatory approaches (Ringe (2022)). Despite their prevalence, there is still insufficient rigorous evidence on the effectiveness of collaborative activities on E&S.

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 social engagements (see Section 1 for further discussions).

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 different 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 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 typically 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. 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 a 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., through "leading by example"). This model provides an empirically testable prediction: coalitions with leaders are more effective. We test this prediction exploiting our setting, where the engagement structure (whether to have a leader or not) was imposed by a third party (i.e., PRI) and thus is exogenous to the all the engaging investors in the coalition.

All PRI-coordinated projects initiated before 2010 had a "single-tier" engagement structure, where the coalition does not have any designated leaders (**Figure 1**). In 2010, PRI started to experiment with a two-tier structure in some of its engagement projects, where lead investors head the dialogue and supporting investors collaborated with the lead. From June 2012 onwards, all newly initiated engagement projects had a two-tier structure. Among the 31 PRI-coordinated engagement projects in our sample, 15 had a two-tier engagement structure. We hypothesize that two-tier engagements on average achieve higher success rate than single-tier engagements. Consistent with this conjecture, we document that leadership is decisive in collaborative engagements: 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 consider alternative explanations for the apparent positive effect of a two-tier structure. First, we check whether target firm composition might have driven up the success rate in the later period. To do this, we match target characteristics in the single-tier subsample with those in the two-tier subsample. Second, we address the concern that different objectives might explain the variation in success rates, and we match the two subsamples on engagement topics. Our results continue to hold in both analyses. Third, we conduct a counterfactual analysis to examine whether lead investors are inherently more effective at engagement. Among all participating investors in a single-tier engagement, we identify one or more "pseudo" leads who have the attributes of actual leads in two-tier engagements, but do not themselves play a leading role. We do not find the presence of pseudo leads influences the success of single-tier engagements. Fourth, we conduct a placebo test on a group of non-engaged peers who are

matched on the basis of characteristics and prior performance. We do not find a similar pattern in peer firms' performance following pseudo engagements. Last, we investigate whether the higher success rate among two-tier engagements is driven by investor learning over time. We limit our analysis to engagements initiated during a short window (i.e., the experimental period), within which investor learning is less likely to occur. Our results continue to hold, suggesting that investor learning is unlikely to be driving our findings.

To further evaluate the engagement outcomes, we analyze target firms' financial and accounting performance. We find that firms targeted through two-tier engagements experience an average increase of 4.7% in annual abnormal buy-and-hold stock returns (ABHRs) and 0.9% in annual return on assets (ROAs) in the first two years following engagement initiation, relative to the pre-engagement levels. In the third year, the increases widen to 9.4% and 2.3%, respectively. The increases are further elevated when we limit the sample to successful two-tier engagements. In contrast, firms targeted in single-tier engagements experience no change in ABHRs or ROAs. The superior performance cannot be attributed to superior stock-picking skills by PRI or by the investor group: not all engagements lead to outperformance, and outperformance is only apparent in targets where a lead was present and/or success was achieved. Further robustness checks suggest it is unlikely that lead investors' superior stock-picking skills or possible target performance mean reversion are driving our findings (see Section 3.3.3 for further discussion). Collectively, our findings indicate that coordinated engagements are value-enhancing for shareholders and target firms, especially when engagements are headed by a lead investor and/or are successful.

The collaborative engagements in our sample have some parallels with "wolf-pack activism," the alleged coalition of institutional blockholders (typically hedge funds) who *implicitly* coordinate their interventions with target firms. In the model of Brav, Dasgupta, and Mathews (2019), wolf-pack members, as delegated portfolio managers, are incentivized to engage and to lead to showcase their skills. This enhances reputation and attracts investment flows, which in turn alleviates their free-riding concerns. Although E&S engagements differ from hedge fund activism in objectives and tactics (Dimson, Karakaş, and Li (2015)), and engagements in our sample are *explicitly*

coordinated by a third party, we expect reputational incentives to play a similar, if not more important, role in addressing the free-rider problems in our setting: demonstrating voice/leadership in E&S issues helps attract E&S conscious clients. 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 collaborative engagement are 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 funds. 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 in and strong influence over 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. We interpret this as local investors having 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), and 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 responsibilities of meeting target firms, reporting back to the PRI, and coordinating within the group. Among 224 collaborating signatories in our sample, only 90 have experience of leading. They comprise 24 asset owners, 61 investment managers, and 5 service providers. Compared to collaborating signatories without such experience, leading signatories are less likely to be asset owners and more likely to be investment managers. This could be due to asset owners having fewer 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 to participate in more collaborative initiatives besides PRI, again indicating stronger infrastructure for dialogue and interest in cooperative initiatives. Such traits send credible signals about their ability to lead E&S engagements, in line with Hermalin's (1998) prediction 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 an investor with more incentive to exert effort. 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 the target firm diminish the likelihood to lead. These findings lend further support to the local preference argument where, due to the high costs and extra effort required for leading a collaborating engagement, engaging with a target that is geographically/culturally close enhances potential benefits (e.g., reputational gains in the local community and superior local knowledge) while mitigating 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 the economic incentives behind a signatory's decision to join a two-tier engagement as a supporting investor. All coalition members, including supporting investors, are expected to actively contribute to an engagement, although the expectations for supporting investors are abridged. 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 even for a supporting role. Congruous with supporting investors' abridged role, we find that neither the location of the target, nor the holdings in the target matters. Instead, cultural similarity with the leader increases the likelihood of a signatory joining the coalition as a supporting investor. This is in line with Bolton, Brunnermeier, and Veldkamp (2013) who argue that matching the leader with coalition culture improves coordination.

We turn now to the association between the characteristics of a coalition group and engagement outcomes. We find that the composition of the coalition plays an important role in determining

success. Participation by investors from high social norm countries substantially increases the engagement success rates in both the single-tier and two-tier engagements. Focusing on two-tier engagements, we find that having foreign supporting investors increases the likelihood of success. We also find that the characteristics of the lead investors is important in determining engagement success: having a domestic lead increases the success rate by 24%–29%, while having a public pension fund 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 in the target firm. These findings resonate 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 contribute to shareholder value. 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 extends the substantial literature on shareholder activism and corporate governance, and it makes new contributions in two ways. First, to our knowledge, this is the first research study examining the nature and impact of internationally coordinated engagements on E&S issues. In a closely related paper, analyzing a UK-based 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 theirs 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 attributes affect engagement decisions and outcomes, this paper highlights engaging investors' characteristics, especially their reputational incentives and E&S interests. 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 (2023)).

Second, to our knowledge, this is the first empirical study examining coalition dynamics in the context of (E&S) shareholder engagements. 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 engagements, and do not explore the team dynamics within the investor coalition. In contrast, we only analyze coordinated engagements, and our focus lies on the comparison between single-tier and two-tier engagement structures. This helps us illustrate the significant role of leadership in collaborative 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)). More specifically, they 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 target companies' boards and the expected benefits of engagements increase with holding size. In contrast, in our setting of E&S engagements, in addition to holdings, investors' reputational considerations, engagement infrastructure, and intrinsic interest in collaboration and E&S issues also play a prominent role in incentivizing collective activity.

1. Institutional Background and Data

1.1 Principles for Responsible Investment (PRI) and the Collaboration Platform

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. 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 2023 PRI reported they had 5,435 signatories from 88 countries, representing over $121 trillion in 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)).

The organization'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"*.

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. The annual fee is scaled according to each signatory's category, type and assets under management. For instance, the 2022/23 fee for asset owners with AUM above $10 billion is £9,396, for investment managers with AUM above $50 billion it is £15,218, and for service providers with above 200 staff it is £9,396. The fees are lower for smaller asset owners, investment managers, and service providers, and are discounted for owners headquartered in emerging markets or developing economies. All the information about the PRI is obtained from unpri.org.

Shortly after PRI was founded in 2006, the PRI Collaboration Platform (then known as the PRI

Clearinghouse) was initiated as a forum for shareholder engagements and a vehicle for alliances among institutional investors and their advisors. This facility rapidly became the world's largest platform for collaborative engagement activities. The PRI Collaboration Platform exists to help PRI signatories work together on engagements with target companies, and potentially with regulators and other actors on ESG issues across the world. Engagement begins after one or several signatories identify an issue relating to a company or sector and determine that there is a case for change (Piani (2013, p.8)). The signatories may then talk with peers and with PRI to explore the scope for engaging collaboratively. The projects are then interactively posted on the Collaboration Platform.

1.2 PRI-coordinated projects and engagement structures

For selected collaborative engagements, the PRI Secretariat plays an active role in governing and coordinating them (labelled as PRI-coordinated projects). These projects are conducted by PRI signatories, but 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 an agreed timeline. The PRI Secretariat is also responsible for monitoring engaging investors' contributions in line with their agreed roles throughout the engagement process and helping develop or commission third parties to develop the evaluation framework for engagement outcomes. Although the Platform can also be used for direct signatory collaboration without the involvement of PRI Secretariat, for this study, we focus on those explicitly coordinated by PRI, where the detailed records of the entire engagement process and outcome were made accessible to us.

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. Such efforts also face challenges and are costly. First, there is potentially the free-rider problem: costs may be borne by a small group of committed and resourceful organizations, while benefits can be shared by all. Relatedly, competition between institutions makes

collaboration difficult and requires incentives to be set carefully.[1] Coordination among many investors from diverse geographic and cultural backgrounds is especially difficult and time-consuming. And in some locations, notably the US, there is a regulatory barrier that can dissuade investors from behaving as a "concert party".[2]

Having the PRI Secretariat as an explicit third-party coordinator can help investors exploit the advantages and overcome the challenges of jointly pursuing shared objectives. PRI has a team of experts with deep knowledge of environmental and social issues. They proactively identify issues and invite signatories to collaborate. PRI's active involvement in the engagement process mitigates free-rider problems as the research, coordination and monitoring costs are borne by PRI. PRI also works with local supervisors and policymakers to facilitate effective action. For example, although anti-trust legislation does not primarily target collaborative engagement on ESG issues, there is some regulatory ambiguity and uncertainty. PRI and its signatories have worked towards seeking clarification on such issues.

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).[3] 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

[1] Shared/congruent objectives may help multiple collaborating shareholders rule out extreme/divergent E&S views (Ringe (2022)), and facilitate effective engagement (Kakhbod, Loginova, Malenko, and Malenko (2023)).

[2] In the UK, the Financial Conduct Authority has clarified in its code of conduct that conversations between investors do not constitute "acting in concert". Similarly, the European Securities and Markets Authority (ESMA) has a "White List", which includes activities that would not be counted as acting in concert. ESMA is contemplating explicit reference to coordination activities among institutions on ESG issues. Legal scholars regard the White List as a promising initiative to alleviate obstacles to effective collaboration. In contrast, in the US, investors informally acting on an issue without disclosure may be regarded as violating Regulation Fair Disclosure (Reg FD). Therefore, the UK and EU are regarded as having a more permissive regime for inter-shareholder dialogue regarding investee companies. Consistent with this view, Black and Coffee (1994) 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. For further discussions about acting in concert in the EU/UK and the US contexts, see McCahery, Sautner, and Starks (2016), Ringe (2022) and Mülbert and Sajnovits (2022).

[3] PRI as an institution helps bringing the SDGs, which are at the country-level, into practice at the firm-level, through the collaboration of major investors.

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 the early years of our sample period, between January 2007 and December 2009, all participating investors had equal responsibilities in all PRI-coordinated projects. We label this period as the "single-tier period". After several years' experience of working together, in early 2010, PRI started experimenting with 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. Such an engagement structure can further alleviate the free-rider and coordination problems. Three projects initiated in early 2010, including Anti-corruption (Phase 1), Indigenous Rights, and Senior Gender Equality with Global Companies, had a two-tier structure. Although these projects had 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 or supporting investors. In mid-2012, PRI started to implement two-tier engagement structure in a more systematic way. All projects except one initiated in or after June 2012 had a two-tier engagement structure, with lead and supporting investors' respective responsibilities being clearly defined in a "Terms of Reference" document.[4] 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 period". Figure 1 illustrates the timeline of the three engagement periods. In all three periods, the engagement structure was chosen by PRI Secretariat and then exogenously imposed to the engaging team. Overall, 16 projects in our sample had a single-tier engagement structure and 15 had a two-tier engagement structure.

[4] The exception is COP6, which was initiated in March 2014. In this project, engagements were in the form of congratulatory letters sent to target companies, and therefore did not need a two-tier structure. This project was excluded from most of our subsequent analyses, due to unavailable success data.

Appendix A includes two examples of engagement projects. 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 and 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.

1.3 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 mean of 53 and a median of 32. The target firms are 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.

Success criteria vary across projects and across target firms 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 from 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 increase in the score during the post-engagement period relative to the pre-engagement period. In the only ongoing project, Palm Oil Growers, success was judged 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. Success was not assessed for three projects (COP2, COP6, and Palm Oil Buyers), and consequently we have success records for 28 projects comprising 1,077 engagements. The success rate (untabulated) ranges from 0% (Forest Footprint Disclosure 2012) to 100% (Corporate Climate Lobbying). A reason for the 0% success rates in the former is that target firms lacked the data and information required by the reporting framework; a reason for the 100% success rate in the latter is the worldwide support for setting a limit of 2ºC for the temperature rise by 2030 (see sdgs.un.org). Our sample has an average success rate of 52.7% (untabulated). This is comparable to the success rate in Dimson, Karakaş and Li (2015, Table 4) of 45.2% for those E&S engagements that were undertaken collaboratively; it is far above the success rate of 2.8% for E&S engagements that were undertaken individually (ibid.).

For each engagement, we are also provided with the information on 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, AUM, and type (asset owner, investment manager, or service provider). This information is self-reported by institutions when they pledge to become signatories on PRI's website; it is 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 are absent from the signatory list because of delisting or acquisition by other institutions. For these 18 firms, we acquire missing information through internet search. The information on their headquarter location, category, and AUM has thus been collected at the time when such firms were delisted or acquired. The number of signatories in our final signatory list has consequently expanded to 1,733. We supplement the engagement data using information from PRI Reporting Framework surveys. These 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 investment institutions, 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 impact of location and culture. Fifth, the projects have differing organizational structures, which enables us to explore the impact of appointing a leader, the value of having a local investor, and the influence of group dynamics. Finally, the dataset is granular. There is a detailed record for every engagement, including the start and completion date, the identity of the target firm, the identity and role of each investor, and the engagement outcome. We do not rely on scores or ratings from ESG advisory businesses. To our 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. 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. 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. In the Internet Appendix, we provide summary statistics on the location of engaged companies and their industrial classification (Table IA.1).

To understand which firms are likely to be targeted by coordinated engagements, we compare target companies with their country and industry peers.[5] **Table 2** reports the marginal effects of probit regression results on the likelihood of a firm being targeted using the whole sample and two-tier engagement subsample, respectively. We control for industry and year fixed effects, and cluster standard errors at the project level. All firm-level accounting variables are calculated at the fiscal year before engagement start date. The information on institutional ownership is obtained from FactSet (matched by target firm ISIN) for the calendar quarter before engagement start date. The detailed variable definitions are included in Appendix C. In Columns (1) and (2) of 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 suggests that investors engage with firms where they have enough voice and "skin in the game".

In Columns (3) to (6) of Table 2, we repeat the analysis after additionally including Refinitiv (formerly Thomson Reuters Asset4) overall ESG rating and component ratings in the regressions.[6] The sample size drops considerably due to data availability, but the coefficients on most firm-level

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

[6] We are aware that some of the historical ESG ratings data provided by Refinitiv might have been rewritten in April 2020 when Refinitiv changed its methodology (Berg, Fabisik, and Sautner (2021)). Our ESG rating data were downloaded from Refinitiv in September 2021, i.e., after the methodological change. We have an older version of the data downloaded from Thomson Reuters Asset4 in November 2017, i.e., before the methodological change. Our results are similar using the older Asset4 data (untabulated).

variables remain qualitatively similar. Interestingly, we find that target firms have better ESG performance relative to their peers, in terms of both the overall ESG rating, and the 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 reactively addressing problems as they arise, and a belief that firms with better governance (higher G ratings) are more likely to be receptive to requests for E&S changes. Strategic leadership theory (Albuquerque and Cabral (2023)) indicates that having a leader committing to CSR is persuasive to other industry participants. 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 regarding the effect of ESG performance on engagement success.

2.2 Determinants of decision to collaborate

2.2.1 Signatory-level analysis

We next analyze the determinants of a PRI signatory becoming a collaborating investor. In **Table 3**, Panel A, we report the marginal effects of signatory-level probit regression results on the likelihood of becoming a collaborating investor (Columns 1–3). 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 are more likely to be collaborating investors when they are: (i) founding members of PRI, (ii) asset owners, especially 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. 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 collaborate is consistent with the notion that public pension funds tend to be more involved in E&S engagements and impact investing due to political incentives (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). In unreported analysis, we

find very similar results by using the number of staff as an alternative measure for signatory size. 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 signatories. 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 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 a coalition. This is partially due to signatories located in Japan (with a German origin) having a distaste for shareholder activism (Buchanan, Chai, and Deakin (2012)). 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).

Columns (4) and (5) of Table 3, Panel A report the probit regression results on the determinants of a PRI signatory becoming a lead conditioning on being a collaborating investor. 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). Asset owners' low interest in leading an E&S engagement is potentially due to them facing lower pressure in attracting outside fund flows and having lower capacity to handle the responsibility to lead an engagement. Indeed, asset owners are much less likely to have internal staff dedicated to engagements compared with investment managers (68% vs. 89% in our sample; untabulated). 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 (which will be discussed below).

2.2.2 Signatory-engagement-level analysis

We next analyze a signatory's decision to join a particular engagement, i.e., to engage with a particular target firm in a project, after controlling for signatory characteristics analyzed above. Our purpose 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 collaborated at least once during our sample period. We therefore limit the pool to these collaborating signatories, again excluding service providers from this analysis due to the lack of information on their shareholdings in 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 a signatory's likelihood in joining an engagement using the full sample. 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.

We find that when the target firm is domestic (located in the same country as the signatory), the likelihood of the signatory joining the engagement is 2.7% higher, relative to the sample mean of

12% (Column 1). To explore whether this result is driven by geographic proximity or cultural similarity, we replace the domestic target indicator with two variables capturing geographic distance and cultural distance between the target and the signatory, respectively (Column 2). 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, and two when they are located in different regions. Cultural distance is the Euclidean distance in two dimensions of culture (traditional versus secular/rational and survival versus self-expression orientations), obtained from WVS and measured the year 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 indicates that signatories have a home bias when making engagement decisions, reflecting a stronger interest in local E&S issues and/or lower costs associated with engaging locally. This aligns with the home bias observed in ESG engagements (Groen-Xu and Zeume (2021)) and in impact investing (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%.[7] 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 its likelihood to join a new engagement. We interpret the former finding as a signatory's past engagement experience having "checked the box" of being active, thus reducing its need to engage more.[8] The latter finding is likely due to high costs and

[7] 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.

[8] 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 are less motivated to engage more. 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).

effort required for ongoing engagements.

We also examine whether financial incentives play a role in a signatory's decision to engage by analyzing its stake in and exposure to the target. A larger stake in the target increases the credibility and strength of the engaging investor's voice and the potential benefits of engagement (Dimson, Karakaş, and Li (2015)). A larger exposure to the target increases an investor's willingness to expend time and effort (Fich, Harford, and Tran (2015); Kempf, Manconi, and Spalt (2017)). We collect information on equity holdings by manually matching the identity of investors with institutions in FactSet using the investor's name, headquarter country, and AUM. We measure a signatory's stake in a target using the percentage shareholdings, and its exposure to a target using the weight of holdings in its portfolio. We do not find a signatory's stake in or exposure to the target has any impact on its engagement decision. This suggests that financial incentives do not drive a signatory's decision to participate in an engagement, likely due to the relatively low costs associated with being part of the collaboration without playing the lead role (discussed below).

We repeat the analysis using the subsample of single-tier engagements (Columns (3) and (4) of Table 3, Panel B). The results resemble those using the full sample, 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 the likelihood that a collaborating investor takes a lead role in an engagement. In this analysis, only the participating investors are considered as potential candidates. 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 a higher stake in and higher exposure to 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%. These findings are consistent with those in Lewellen and Lewellen (2022) that an institutional investor's financial incentive to engage depends on the size of its investment in the target firm, as well as the weight of the investment in its portfolio.

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 leading 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 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. For example, an investor located in a different region from the target is 8.8% less likely to lead the engagement than one located in the same country. A foreign investor located in a country with a cultural distance of one (the distance between Netherlands and Sweden or twice 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 domestic investor. 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 the efficiency of leading an engagement.

In Columns (7) and (8) of Table 3, Panel B, we analyze the incentives for a signatory to join the coalition as a supporting investor after knowing who leads the engagement. In each engagement, every collaborating investor, except the lead investor(s) of this particular engagement, is a potential candidate. Similar to the results reported in Columns (1) and (2), 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's location is no longer an important consideration. This suggests that supporting investors do not necessarily prefer local targets: they can rely on lead investors for local expertise. We further explore whether the distance from the lead investor(s)

plays a role. We find that having a lead from the same country (as the supporting signatory) significantly increases a signatory's likelihood to join the coalition (Column 7). A further analysis suggests that this is mostly driven by the cultural similarity between the lead and the supporting signatory (Column 8). This is probably because cultural similarity between the coalition members makes communication easier and collaboration more efficient (Bolton, Brunnermeier, and Veldkamp (2013)). Finally, we provide additional statistical analyses in the Internet Appendix (Section IA.2).

3. Engagement Outcomes

3.1 Determinants of engagement outcome

We assess the outcome of an 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 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 target firm characteristics across the two-tier and the single-tier engagement subsamples. We find that target firms in the two-tier engagement subsample tend to have lower stock returns, return volatility, sales growth, R&D expenditures, and insider holdings, and have higher dividend payouts, capital expenditures, long-term institutional holdings, and foreign sales. They also tend to have better ESG scores in all dimensions and come from countries with stronger social norms. Overall, these findings suggest that target firms in these two subsamples exhibit distinctive 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 two-tier engagement subsample is 72.6%, more than twice of that in the single-tier engagement subsample (32.8%), even though the investor group size (in terms of both the number of investors and the total the AUM) is larger for the latter and the collective equity holdings in target companies are comparable across these two (1.4% vs. 1.3%).[9] We next explore the variation in team composition. We find that the investor groups in two-tier engagements tend to consist of investors with more means, stronger interests in E&S issues, and higher motivations to drive E&S changes (e.g., a higher proportion of investment managers, domestic investors, PRI founding signatories, and investors from high social norm countries). Overall, these statistics suggest that with clearly defined roles, an engaging team with fewer but more motivated members could be more successful at driving the desired changes.

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 one. 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 have either a public or a private pension fund 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 the likelihood of success. 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 sets of 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 as discussed earlier. We also

[9] The dollar value of equity holdings is higher in the two-tier engagement subsample, due to the larger target firm size. 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%.

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 that having a two-tier engagement structure increases the success rate by 22–25% (Columns 1, 3 and 5). This finding is consistent with a tiered structure where engaging investors commit to clearly defined roles and responsibilities is more effective in collaborative engagements.[10] 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 fund 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 finding is consistent with the view that public pension funds, unlike hedge funds, do not have to compete for investment capital and are subject to political constraints and conflicts of interest, which in turn might decrease their incentive/effectiveness to lead (Kahan and Rock (2007)).[11]

In terms of engaging team characteristics, we have some interesting observations. We find that

[10] 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, they do not explore the team dynamics within collaborative engagements, nor the incentives behind the collaboration.

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

investors from high social norm countries substantially improve the success rate for both single-tier and two-tier engagements, while having a lead from high social norm country does not affect success rate. These findings are in line with those in Table 3, Panel A that signatories from high social norm countries are more likely to participate in 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 funds. This suggests that, compared to private pension funds, public pensions funds demonstrate more effective stewardship on E&S issues, particularly in less structured coalitions. The positive impact of public pension funds on success rate resonates with the finding in Table 3, Panel A that public pension funds are more likely to engage. The negative impact of private pension funds 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 (untabulated).

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 is in line with the finding in Table 3, Panel B that a signatory's equity holdings 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. We also find that the presence of other asset owners 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 to engage.

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 likely when the target firm has: (i) higher dividend payout, (ii) lower stock return volatility, (iii) a larger proportion of equity held by long-term institutional investors, and (iv) a higher ESG rating. These findings suggest that success is more likely among target firms that are leaders in the ESG space and with a shareholder base that are more receptive to ESG changes. Considering that our findings are correlated with good governance practices, they are in line with Ferrell, Liang, and Renneboog (2016) who do not find that CSR is associated with ex-ante agency concerns. These findings are also in line with those in Dyck et al. (2023) that board renewal mechanisms, an aspect of G, are significantly associated with higher future environmental performance. 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, Karakaş, 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.

In summary, 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 for 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 and two-tier engagements, which might drive the differences in success rate. We address this concern by matching target firms in these two types of engagements. 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 along all target firm characteristics (with and without ESG ratings) as listed in Table 4, Panel A. **Table 5**, Panel A reports the results on success using the matched sample. All the regression variables are the same as those used in Columns (1) and (3) of Table 4, Panel C. We continue to find the coefficient on the two-tier engagement indicator positive and significant, with magnitudes comparable to those reported in Columns (1) and (3) of Table 4, Panel C.

The second concern is that higher success rate in the two-tier engagements is driven by the presence of lead investors who are inherently more effective at engagement. To address this concern, we conduct a counterfactual analysis using the single-tier engagements. Among all participating investors in a single-tier engagement, we identify one or multiple "pseudo" leads, who have the attributes of actual leads in two-tier engagements, but do not play the leading role in an engagement. We examine whether the presence of pseudo leads is associated with higher success rate among single-tier engagements.

We use two approaches to identify the pseudo lead(s) 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 predictions 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.[12] 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(s) 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 40.6% of single-tier engagements as "pseudo-two-tier" engagements. We then repeat the regression analysis in Columns (1) and (3) of Table 4, Panel C, 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, if such leaders are not officially appointed with corresponding title and responsibility in an engagement.

The third 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 (mostly via e-mail correspondence with target firms) have a single-tier engagement structure, and the majority of engagements on social issues have a two-tier engagement structure. We thus repeat the success analysis using subsamples with comparable engagement topics. We use two separate subsamples, one excluding all UNGC projects, and another including only projects on environmental themes.[13] We continue to find a positive and significant coefficient on the two-tier engagement indicator (untabulated).

[12] Using this threshold, only the investors in the top 95 percentile of the predicted probability are identified as pseudo leads. This ensures that the percentage of pseudo leads in the single-tier engagement subsample is comparable to the percentage of actual leads in the two-tier engagement subsample. Our results are not sensitive to the choice of threshold.

[13] There are 14 environmental projects with success data, including carbon disclosure leadership index 2011 and 2012, CDP carbon action, CDP engagement on emission reduction plans, CDP water disclosure 2011 and 2012, CEO water mandate, corporate climate lobbying, forest footprint disclosure 2011 and 2012, fracking, palm oil growers, sustainable fisheries, and water risks in agricultural supply chains.

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.[14] We address this concern in two 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 include this measure in the regression on success, but do not find it to be positively associated with the likelihood of success (untabulated). Second, as discussed in Section 1.2 and illustrated in Figure 1, our sample period could be divided into three subperiods: the single-tier period, the experimental period, and the two-tier period. During the experimental period, three two-tier engagement projects and ten single-tier engagement projects were initiated. We are thus able to repeat the success analysis for the experimental period. Using a shorter event window reduces the likelihood of the results being driven by investor learning. Furthermore, all two-tier engagement projects were initiated at the beginning of the experimental period and hence less likely to benefit from learning relative to single-tier engagements initiated during the same period. Columns (1) and (3) of Table 5, Panel C report the results using engagements initiated during the experimental period and have success data, and Columns (2) and (4) report the results for other periods (i.e., excluding the experimental period). We find that the coefficient on two-tier engagement indicator is positive and significant in all columns, although the magnitude of coefficient is lower using the experimental period subsample. These findings suggest that the result of two-tier engagement structure leading to higher success rate cannot be entirely driven by investor learning, although we cannot completely rule out 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).

[14] 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.

3.2 Signatory future fund flows

As discussed earlier, 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. In a nutshell, 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 fund flow data is available for 503 signatories (including 470 investment managers and 33 asset owners) or 5,360 signatory-years between 2007 and 2019.[15] 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.[16] 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 prior to the current year end).

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

[15] 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.

[16] 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.

signatory fixed 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 compare collaborating signatories with non-collaborating signatories and 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 signed up at the PRI.[17] In Column (2) of Table 6, Panel B, we additionally include the indicator for successful engagement experience. We find that 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. This finding suggests that fund clients recognize successful engagements, and value them more than the unsuccessful ones.

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 become 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 lead experience and successful lead experience using the sample of collaborating signatories only. This analysis essentially captures whether having lead experience further improves future fund flows, among signatories with engagement experience. We find that having lead experience increases collaborating signatory's future fund flows by 8.9%. Interestingly, in Column (6), the coefficient on successful lead experience is not significant, while the coefficient on lead experience remains positive and significant. This suggests that successful leadership does not have any incremental effect on future fund flows over lead experience: it seems that clients view the experience of leading an engagement as a strong signal for ability, even if the engagement turns out to be unsuccessful. We continue to find slightly stronger results when limiting the sample to investment manager only in

[17] Gibson-Brandon et al. (2022, Table 9) document an increase of 9% in annual fund flow and Kim and Yoon (2023, Table 5) document an increase of 5% in quarterly fund flow after funds signed up as PRI signatories.

Columns (7) and (8) of Table 6, Panel B. Although leading an engagement is costly, it provides the benefit of attracting additional fund flows irrespective of the engagement outcome. Such benefits could be especially rewarding for investment managers, who are able to showcase their leadership in E&S engagements. Overall, results in this section provide direct support to the reputation and fund flow argument proposed by Brav, Dasgupta, and Mathews (2019).

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.[18] 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 –24 to Month –1. We control for target firm characteristics at 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 the two-tier and single-tier engagements and compare the coefficients across these two. We find that target firms in two-tier engagements experience a 4.7% increase in annual abnormal returns within the first two years after the engagement initiation, relative to the pre-engagement level. This increase

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

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 regressions. In Columns (3) and (4) of Table 7, Panel A, we analyze stock performance conditioning on engagement outcome. We find a larger increase in annual abnormal return among two-tier engagements that concluded successfully: a 6.3% increase within the first two years, and a 12.6% increase in the third year. There is again no change in target firms' stock performance among unsuccessful single-tier engagements. The coefficients on post-engagement indicators are again statistically different across these two regressions.

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 project outcomes.

3.3.2 Target accounting performance

We also examine the changes in the accounting performance of targets 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 examine two fiscal years before and three fiscal years after the engagement start date. $Post\text{-}engagement_{Year+1\&+2}$ is the defined as one for the first two fiscal year ends after engagement start date. $Post\text{-}engagement_{Year+3}$ is defined as one for the third fiscal year end after engagement start date. We control for the targets' characteristics (firm size and market-to-book ratio), 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 2.1. 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 regressions for the two-tier and single-tier engagements and compare the coefficients across these two. We find that target firms in two-tier engagements experience a 0.9% increase in ROA within the first two years after the engagement initiation, relative to the pre-engagement level. This increase 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 regressions. In Columns (3) and (4) of Table 7, Panel B, we find a larger increase in ROA for the two-tier engagements that concluded successfully: a 1.4% increase within the first two years, and a 3.2% increase in the third year. There is again no change in target firms' ROA among unsuccessful single-tier engagements and the coefficients on post-engagement indicators are statistically different across these two regressions. 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 for 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 engagements: superior stock-picking should have resulted in target firms outperforming in both types of engagements. Then could the outperformance observed in the two-tier engagements 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 with better future performance. We address this concern using the "pseudo-lead" method described in Section 3.1.3. As before, we conduct the counterfactual analysis on target performance using the subsample of "pseudo-two-tier" engagements, i.e., single-tier engagements with at least one pseudo lead. The results are tabulated in Table IA.6. The

coefficients on post-engagement indicators are mostly insignificant.[19] This suggests that the superior target firm performance observed after two-tier engagements is unlikely driven by lead investors' superior stock-picking.

Another alternative explanation 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 engagements. 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 by their pre-engagement performance.[20] We run similar regressions as those in Table 7, Panels A and B using the placebo group of targets in two-tier engagements. 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. 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.

[19] The only exception is in Column (3) of Table IA.6, when we use the prediction method to identify pseudo lead(s): target's ROA increases by 0.5% in the first two years after engagement initiation. However, the magnitude is much smaller than the 0.9% increase observed in the two-tier engagement subsample (Column 1 of Table 7, Panel B). Further, in Column (3) of Table IA.6, the ROA change in the third year (compared to pre-engagement period) is statistically insignificant. This finding is consistent with the finding in Albuquerque, Fos, and Schroth (2022) that 75% of the value creation by activist investors who focus on governance issues are achieved through treatment, rather than stock picking or sample selection.

[20] We use Entropy Balancing and Propensity Score Matching methods to match target and peer groups 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).

4. Conclusion

Coordinated engagements on E&S issues are increasingly prevalent 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, and 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 the institutions achieve their stated objectives, increases their future fund flows, and contributes to improving the performance of investee companies. Institutions with more 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.

Our evidence indicates that, for maximum effect, coordinated engagements on E&S issues should 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 should ideally be from foreign countries, and from countries with high social norms.

Appendix A: Illustrative Engagement Projects

A.1 An example of single-tier engagement: 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 Collaboration 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 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 on employee relations, aiming to enhance company disclosure on human capital management and improve employee practices among global retail 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. Committee members were appointed under the mutual agreement between PRI Secretariat and themselves. 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 Collaboration 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, 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 investors, 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. Key performance indicators (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 used to evaluate the success of each project in our sample. 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 some COP projects, 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 by the time the data were provided to us.

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*)	
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*)	
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. A signatory's overall equity portfolio value is calculated as the sum of all holdings in a quarter as recorded by FactSet.
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 firm score based on the reported information in the E, S, and G 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/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 fund. 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 fund. 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 fund 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.

Variable Name	Definition
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.
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 (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 (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 funds in investor group%	The number of public pension funds in the investor group divided by the total number of investors in the group.
Private pension funds in investor group%	The number of private pension funds 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 funds 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 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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Figure 1: Timeline of PRI engagement structure change

This figure illustrates the timeline of PRI engagement structure change. All PRI-coordinated projects initiated before January 2010 had a single-tier engagement structure. We thus label this period as "single-tier period", which includes four single-tier engagement projects with success data. Between January 2010 and May 2012, PRI started to experiment two-tier structure in some of its engagement projects. We label this period as "experimental period", which includes three two-tier engagement projects, and ten single-tier engagement projects with success data. From June 2012 onwards, all newly initiated engagement projects (except one without success data) had a two-tier structure. We label this period as "two-tier period", which includes 11 two-tier engagement projects with success data.

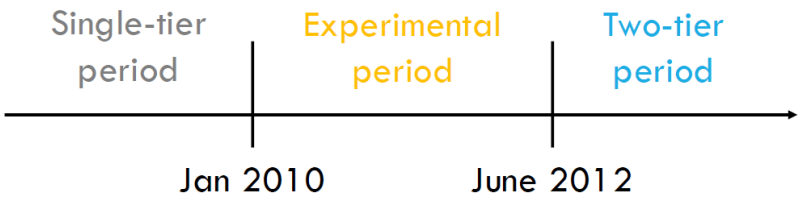

Table 1: List of coordinated engagement projects

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 is set 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. 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 1st and 99th 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
Num. of targets / controls	1,495 / 9,364	366 / 2,331	1,106 / 2,811	319 / 898	1,105 / 2,802	318 / 896
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. Panel A, Columns (1) to (3) report marginal effects of signatory-level probit regression results on a signatory becoming a 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 marginal effects of signatory-level probit regression results on a signatory becoming a 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 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 took the lead role, and zero otherwise. Only the collaborating investors participated in an engagement is considered as a potential candidate for the 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 1st and 99th 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 the marginal effects of engagement-level probit regression results on engagement success. 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 1st and 99th 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 funds in investor group%	328	**17.6%**	17.9%	11.2%	749	19.3%	18.2%	14.1%
Private pension funds 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 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 fund as lead(s)	328	0.13	0.00	0.34				
Engagement has private pension fund 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 engage-ments	Two-tier engagements	All engage-ments	Two-tier engagements	All engage-ments	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 fund 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 funds 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 funds 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 reports marginal effects of engagement-level probit regression results on engagement success using alternative model specifications. In Panel A, we match observations in single-tier and two-tier engagements along 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) approaches. 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 a single-tier 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 predictions 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, a threshold chosen to ensure that the percentage of pseudo leads in the single-tier subsample is comparable to the percentage of actual leads in the two-tier engagement subsample. 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 run the regressions separately for the experimental period and other period. The subperiods are defined in Figure 1. In all panels, additional engagement-level attributes and target firm characteristics as those used in Table 4, Panel C, Columns (1) and (3) 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 1st and 99th 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

Panel B: Regression analysis on future fund flows

	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. Both panels report target-engagement-year level OLS regression results. In Panel A, the dependent variable is abnormal annual buy-and hold returns, defined as target firm's 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 1st and 99th 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: Regression analysis on 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

Internet Appendix (Not for publication)

Coordinated Engagements

This is an addendum to our paper 'Coordinated Engagements'. In Section IA.1, we include a more detailed literature review in this addendum. In Section IA.2, we discuss the characteristics of engaging investors in detail. We report in the internet appendix tables 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. They 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 then, and this is the challenge that we address in our 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 the 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 successfully induced 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 it 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 (2021) 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, the 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 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. Fifth, collaboration promotes the production and sharing of partial and complementary private information held separately by corporate insiders and outsiders (Fisch and Sepe (2020)).

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 section that having a third-party coordinator, such as the PRI with its Collaboration Platform team, can substantially reduce these challenges.

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.[21]

Empirical evidence supports the formation of implicit coordination among activist investors. Brav, Jiang, and Li (2021) analyze mutual fund voting in proxy contests and find evidence that dissident shareholders "pick friends": 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 which each have more than 5% of the same firm, Crane, Koch, and Michenaud (2019) find that such connected institutions act as a 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

[21] In a recent work, Liang, Sun, and Teo (2022) find that PRI signatory hedge funds attract an economically and statistically meaningful 19.7% more flows per annum than do non-signatories.

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.

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). Aragon, Jiang, Joenväärä, and Tiu (2022) report that adoption of socially responsible policies imposes a performance drag on endowment funds. Dimson, Marsh, and Staunton (2020) report that over a period of 120 years, sin sectors (alcohol and tobacco) in the largest 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.

IA.2. Characteristics of engaging investors

In this section, we discuss the characteristics of engaging investors in more detail. 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.

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—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,[22] and the world's "Big Three" investment managers (Blackrock, Vanguard, and State Street) had never participated in PRI engagements.[23]

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.[24] 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 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%), to have formal process of engagements by internal staff (96% vs. 80%), and to participate in more non-PRI collaborative initiatives (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

[22] 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.

[23] 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.

[24] 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.

distaste for shareholder activism (e.g., 52 located in Japan), as well as those without holdings in public equity.[25] 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 (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. 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.

For completeness, **Table IA.5** presents the coefficients on the additional target firm characteristics included in the regressions on engagement success, which were abbreviated in Table 4, Panel C. **Table IA.6** presents results from robustness analysis on target firm performance, which are discussed in detail in Section 3.3.3.

[25] 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).

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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 Réserve 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	**Number**	**Num leads**	**Number**	**Avg. AUM**	**Top 3 owners by AUM**	**Number**	**Avg. AUM**	**Top 3 managers by AUM**	**Number**	**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, Von-tobel 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	

Table IA.3: Characteristics of investors

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 funds, 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 funds, 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 funds, 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 top 10 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 1st and 99th 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

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