The Economics of Investor Engagement

Finance Working Paper N° 1075/2025
April 2026

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Abstract

Investors engage with portfolio companies to communicate information and preferences. Using a discrete choice model and hand-collected data from stewardship reports, we show engagement is primarily driven by financial rather than reputational or marketing considerations. Investors behave as if $10,000 spent on engagement increases firm value by 0.35 basis points. Passive investors engage less because their lower fees reduce the value they capture. Counterfactual simulations show the impact of rising passive investment depends on how passive assets grow: when passive investors grow through flows from active investors, engagement-driven value creation increases, whereas growth through consolidation reduces engagement and value creation.

Keywords: Corporate Governance, Engagement, Institutional Investors, Monitoring

JEL Classifications: G12, G14

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ABSTRACT

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I. Introduction

Institutional investors can influence their portfolio firms through three main channels: voting, exiting, and directly engaging with management. Direct engagement with management has become an important governance tool, with large asset managers devoting substantial resources to meetings with executives and boards.[1] For example, in 2022 Vanguard engaged with more than 1,300 portfolio companies and BlackRock with over 2,500 firms worldwide. Yet despite the scale of these activities, the economics of investor engagement remain poorly understood because engagement actions are rarely observable. As a result, a number of fundamental questions remain unanswered: what determines when institutional investors engage with portfolio companies? Do passive and active investors differ in their engagement incentives and impact? And how do economies of scale and scope shape engagement decisions?

In this paper, we provide the first evidence on these questions by estimating a discrete choice model using newly available data on institutional investor engagement. Our results show that engagement decisions are primarily motivated by financial considerations, not reputational or marketing considerations. Investors engage with portfolio firms because they expect it to create value: across a wide range of settings, we show investors engage in ways that maximize the value they capture from improving firm performance relative to the cost of engaging.

Investor engagement occurs through phone calls, emails, or meetings between institutional investors and corporate executives. While these interactions have historically been unobservable, many asset managers now disclose engagement activities in annual steward-

[1]McCahery, Sautner, and Starks (2016) show that engagement with management is used by 63% of institutional investors, voting against management is used by 53%, and nearly half of the investors surveyed use exit strategies.

ship reports. We hand-collect these reports to construct a dataset of engagement activities from 2019-2023 covering eleven major institutional investors, including four predominantly passive families (BlackRock, Vanguard, State Street, and Northern Trust) and seven predominantly active families such as Dimensional Fund Advisors and T. Rowe Price.

On average, each institution engages with 318 firms per year, approximately 12% of their portfolio. Consistent with the key insight in Lewellen and Lewellen (2022), we find that the dollar value of an investor's position is the primary determinant of engagement. In fact, the probability that a portfolio company is engaged increases monotonically in the dollar value of an institution's holdings. The economic magnitude is striking: institutional investors engage with only 3% of firms in which they hold $10 million or less, but with 86% of firms in which they hold $10 billion or more. We then show this result holds even after controlling for closely related measures such as portfolio weight and the fraction of a firm's equity owned by the investor, as well as time-varying firm characteristics such as ESG performance and stock visibility. This pattern closely aligns with fund managers' incentives, as fees are proportional to assets under management (AUM). Engagement therefore appears to be driven primarily by financial incentives rather than reputational or marketing considerations.

To understand more about why investors choose to engage, we develop a discrete choice model that estimates the costs and benefits of engagement. Our model builds on the framework developed by Lewellen and Lewellen (2022), which examines whether institutional investors have an economic incentive to conduct engagement activities. The framework assesses the returns to engagement based on the flow-performance sensitivity of each investor's AUM and each investor's fees. Motivated by this insight, we model engagement as a decision that trades off its costs relative to two possible benefits. First, raising the value of a firm via engagement will raise an investor's AUM and therefore fee income. Second, improved

investor performance may also attract additional inflows, further increasing fee revenue.

Identification in our setting comes from variation in fund fees, flow–performance sensitivity, and the dollar value of institutional investors' holdings across firms and over time. Because fund fees are proportional to AUM, the benefits investors capture from improving firm value scale with the dollar size of their position. We exploit this variation in incentives, together with observed engagement decisions, to estimate the costs and benefits of engagement. A potential concern is that active investors may choose their holdings in anticipation of engaging with particular firms. To address this, in our main analyses we instrument each institution's holding size in a firm-year with the holdings of that institution's passive funds, whose portfolio weights are determined mechanically by benchmark indices rather than engagement incentives.

Our discrete choice model is parsimonious yet flexible. The model allows the benefits and costs to have a positive or negative value and to be small or large for any investor or firm. Formally, by engaging at a cost c, the investor expects to raise the firm's value by the fraction b. Motivated by the fact that the dollar-value of holdings is the primary determinant of engagement activity, we assume that investors engage when the expected dollar benefit to the investor (which explicitly scales with position size) exceeds the expected cost.[2]

We find that, on average, investors act as if a \$10,000 investment in engagement yields a 0.35 basis point expected increase in firm value. While the Big Three passive families (BlackRock, State Street, and Vanguard) engage with more firms annually than active fund families, they engage less once we control for other factors, particularly position size. Our model explains this: passive and active investors are similarly effective at engagement, but

[2]The model's parameters are identified up to a common scaling parameter. Following Gantchev (2013); Dickstein and Morales (2018), we fix the value of one parameter and estimate the others. Specifically, we set the average cost per engagement to \$10,000. Our estimates can also be interpreted as the expected return per \$10,000 spent on engagement. We discuss this assumption in greater detail in Section III.

even though passive investors hold larger positions, their lower fees mean they capture less of the value they create. As a result, passive investors engage relatively less.

When we examine firm-level heterogeneity in the costs and benefits of engagement, we see that the expected benefits are significantly higher for smaller firms. Here, investors behave as though $11,913 spent on engagement leads to a 7.4 basis point increase in firm value. Yet, institutional investors are significantly less likely to engage with small capitalization firms because they hold smaller dollar positions in them. We also find that the expected benefit of engagement is lower for more profitable firms (while the costs remain unchanged), suggesting they have less room for improvement. Conversely, firms with entrenched management face a higher cost of engagement and no difference in benefits. As a result, engagement appears to be less appealing when management is entrenched due to the higher costs involved.

We also explore how the costs and benefits of engagement vary with institutional investor scale (total AUM) and scope (number of firms held), estimating models separately for passive and active investors. Our analyses reveal that passive investors exhibit small positive economies of scope in that costs are lower when they own more stocks, while the benefits remain constant. Moreover, passive investors exhibit flat economies of scale. In contrast, for active investors we find that a one standard deviation increase in log AUM is associated with a 0.72 basis point decrease in value creation. As a result, active investors exhibit significant diseconomies of scale, likely due to a finite supply of positive net present value opportunities (Berk & Green, 2004).

Finally, we conduct counterfactual simulations to study how engagement and value creation change as passive investing grows. We consider two relevant scenarios: growth through flows from active investors and growth through consolidation among large asset managers. Both scenarios reflect observed developments in the asset management industry and are of

direct interest to regulators, including the U.S. Securities and Exchange Commission (SEC).[3] We then examine whether, and how, these scenarios affect engagement and value creation.

In the first scenario, we find that a continued rise in passive investing results in more engagement and more value creation. Because passive investors do not exhibit diseconomies of scale, the continued rise of passive leads to more engagement and increases value creation for passive investors. Conversely, active institutions engage less as they shrink because lower AUM results in lower fee income and a weaker incentive to engage. However, active investors actually create more *total* value as they shrink due to their diseconomies of scale.

In contrast, in the second scenario, the increase in the largest investor's AUM through the acquisition of a small investor raises its engagement slightly but it also eliminates the small investor's engagement (which was highly correlated). As a result, total engagement decreases and because the economies of scale of passive institutions are flat, the net effect on value creation is negative.[4] Overall, the results highlight that the impact of rising passive investment depends on how passive investors grow.

Our paper contributes to the literature on the monitoring role of institutional investors. Since the foundational work of Admati, Pfleiderer, and Zechner (1994), this literature has focused primarily on voting and exit as mechanisms of governance (Edmans & Holderness, 2017). In contrast, empirical evidence on investor engagement has been limited, largely because engagement activities are difficult to observe. While Kakhbod, Loginova, Malenko, and Malenko (2023) develop a theoretical framework for engagement and Krueger, Sautner, and Starks (2020) survey institutional practices, most empirical studies focus on a single

[3]See Commissioner Allison Herren Lee's Statement "Every Vote Counts: The Importance of Fund Voting and Disclosure" as well as a recent stance by the White House.

[4]It is important to note that our counterfactual simulations focus on shareholder value and do not capture potential externalities such as anticompetitive effects related to common ownership (e.g., Azar, Tecu, and Schmalz (2018)). If engagement raises firm value through channels that reduce product market competition or suppress innovation, then overall social welfare could decline even if shareholder wealth increases.

fund (Becht, Franks, Mayer, & Rossi, 2009; Becht, Franks, & Wagner, 2026; Carleton, Nelson, & Weisbach, 1998; Dimson, Karakaş, & Li, 2015; Bauer, Derwall, & Tissen, 2023), a specific issue (Azar, Duro, Kadach, & Ormazabal, 2021; Dimson, Karakaş, & Li, 2021; Dey, Starkweather, & White, 2024; Hoepner, Oikonomou, Sautner, Starks, & Zhou, 2024), or an individual portfolio company (Solomon & Soltes, 2015). Using hand-collected engagement data from eleven major fund families, both passive and active, we provide the first large-sample estimates of the costs and benefits of engagement and show how economies of scale and scope shape engagement decisions. Closely related is Aggarwal, Litov, and Rajgopal (2023), who study returns around the announcement of engagement actions by the Big Three fund families and find small abnormal returns. Our approach complements their evidence by using a revealed-preference framework to quantify the economic incentives underlying engagement decisions of both passive and active institutions.

Second, our study adds to the literature on the role of passive investors in two ways. First, prior studies suggest that passive investors have less incentives and resources to monitor than active investors do (Bebchuk, Cohen, & Hirst, 2017), and devolve more power to firm management (Heath, Macciocchi, Michaely, & Ringgenberg, 2022), thereby impacting governance (Schmidt & Fahlenbrach, 2017). Our paper expands this literature by providing direct evidence that *ceteris paribus*, passive investors engage less than active investors. Our estimates show that, compared to active investors, passive investors have similar engagement costs and produce similar expected improvements to firm value, but fund managers receive less of the value they create because of lower fund fees, and therefore are less likely to engage. Second, over the last 20 years, there has been a shift away from actively managed investing into passively managed index funds, along with consolidation that has concentrated assets within the largest passive families. Our counterfactual simulations speak to

these trends and show that the way through which passive investors grow matters: when passive investors grow through flows from active investors, engagement-driven value creation increases, whereas growth through consolidation reduces engagement and value creation.

Finally, our paper relates to the literature on shareholder monitoring and activism (e.g., Brav, Jiang, Partnoy, and Thomas (2008), Bebchuk, Brav, Jiang, and Keusch (2020), Wahal (1996), Denes, Karpoff, and McWilliams (2017), among others). Similar to our study, Gantchev (2013) develops a sequential choice model of activist campaigns and shows that the high cost of pursuing proxy contests substantially reduces the returns to activism. We build on this literature by examining a large sample of engagements combined with a discrete choice model that estimates a revealed-preference measure of the costs and benefits of engagement.

II. Data and Stylized Facts about Engagement

A. Engagement Practices and Regulations

In the 2023 stewardship report, BlackRock states that "BlackRock Investment Stewardship (BIS) views engagement as a key mechanism for providing feedback or signaling concerns to companies about factors that affect long-term financial performance." As previously discussed, there are several ways institutional investors such as BlackRock can engage: they can write letters or emails to a company's management team;[5] they can communicate with corporate managers via phone calls; or, they can meet with corporate managers in person or virtually. Figure 1 shows an example of engagement reporting from Dimensional Fund

[5]BlackRock's CEO Larry Fink is known for writing public letters that are the same for all companies held in BlackRock's portfolio. Because such letters do not address firm-specific issues, they are not counted as engagement in our sample.

Advisors' 2023 stewardship report.

Our sample includes all such activities as reported by institutional investors in their stewardship reports. These reports define engagement as any direct interaction between the institutional investor and a portfolio company where meaningful dialogue occurred (BlackRock (2023)). Institutional investors typically identify specific issues that are important to them and often engage with companies that operate in ways inconsistent with their values. In such cases, the engagement process involves a dialogue between the investor and a firm's management team to learn more about the reasons behind the identified issues.[6]

Commonly, fund managers engage with companies around quarterly earnings calls. Stewardship teams may accompany fund managers or act independently, and the people involved may depend on whether the investor is passive or active. A significant portion of engagement activities relate to proxy voting issues, particularly when an issue might lead to a vote against a director or, more broadly, against management recommendations. Other engagement activities occur off-season or are non-ballot related, covering a range of topics from discussions on corporate governance practices that could create long-term value to requests for the disclosure of environmental or social policies.[7]

While existing regulations do not directly address engagement *per se*, both companies and institutional investors are constrained in what they can communicate to each other. Much of the regulation governing communication between firms and investors consists of rules that restrict what corporate managers can disclose privately, without public disclosure. In particular, Regulation Fair Disclosure (Reg FD) constrains companies from selectively releasing material non-public information to investors unless the information is publicly

[6]SEC Chair Mary Schapiro (2010) stated corporate directors should have "conversations with investors about how the company is governed – and why and how decisions are made."

[7]See Gatti, Strampelli, and Tonello (2024) for results from a survey on engagement practices.

released to everyone. If a company does reveal material non-public information to a subset of investors, then they are required to file a form 8-K. Similarly, institutional investors are constrained from trading on material non-public information according to Rule 10b5-1. Thus, even if an engagement activity led to the transfer of material non-public information from corporate managers to investors, the investors would be precluded from trading on it.[8]

Engagement activities could also be constrained by rules governing proxy materials, in particular Rule 14a-6. If a company creates information for their investors about their actions related to an upcoming proxy vote, they are required to file that information with their proxy statement and publicly disclose the information. Finally, several companies have adopted bylaws that directly constrain their conduct when engaging with shareholders.

In general, while engagement between investors and corporate managers might initially appear to give investors an unfair advantage, existing regulation is designed to prevent any such advantage from occurring. Instead, engagement activities are intended to allow investors to communicate information and their preferences to corporate managers in a manner that benefits all investors in the firm. Indeed, the United Nations Principles for Responsible Investment (UN PRI) (2023) defines investor stewardship as "the use of influence by institutional investors to maximise overall long-term value including the value of common economic, social and environmental assets, on which returns and clients' and beneficiaries' interests depend."

Of course, it remains unknown whether and how much the value of firms can be impacted by engagement activities. However, since engagement activities are costly, it is rational to expect that institutional investors would undertake them only if the expected benefits

[8]It is possible that engagement meetings generate valuable information even if no insider information has been exchanged. Becht et al. (2009) find that meetings between a large active asset manager and its portfolio firms are associated with better fund performance. However, they do not find evidence of insider trading.

outweigh the costs. Accordingly, we first use our hand-collected engagement data to examine stylized facts about engagement, including the factors that determine it. We then use our discrete choice model to provide the first general estimates of the costs and benefits of engagement.

B. Data

To examine the costs and benefits of engagement by institutional investors, we combine standard financial databases with newly released data on the engagement activities of investors that, to date, has not been extensively studied by academic research. As previously discussed, engagement activities by institutional investors were typically unobservable, making it difficult to study the economics of engagement. However, around 2019, several large asset managers started including detailed information about their engagement activities in their annual stewardship reports. Moreover, starting in 2021 the UN PRI required signatories to release an annual stewardship report. These reports are typically released annually or quarterly and, among other things, include a list of firms with which the fund-family engaged each period. Importantly, the engagement data contains information at the fund-family level because stewardship teams typically oversee all engagement actions for all funds within a fund-family. As a consequence, our analyses occur at the fund-family level.

We hand-collect engagement data for eleven large institutional investors, including four passive institutions (BlackRock, Vanguard, State Street, and Northern Trust) and seven active institutions (Allianz, Axa, Dimensional, Robeco, T. Rowe Price, UBS, and Wellington).[9] We then combine these data with data from the Center for Research in Security Prices (CRSP) and financial data from Compustat. Our sample covers all publicly traded US firms

[9]Some institutions have engagement data available for a subset of years. See Table I for more details.

in the CRSP-Compustat merged data from 2019 to 2023 (i.e., CRSP share codes 10 and 11), including small, medium, and large capitalization firms across all industries. We then obtain data on institutional investor holdings from the Thomson-Reuters 13F database, and data on individual funds and their holdings from the Thomson-Reuters S12 dataset and the CRSP mutual fund dataset. We first merge the S12 and CRSP MFDB holdings by taking the larger of the two holdings recorded for each fund-firm pair in December of each year. We then sum the holding of all funds offered in each year by each institution in our sample. We take the larger of the total holdings recorded for each institution-firm between the merged S12-MFDB (i.e., holdings of funds that disclose via Form S12) versus the institution-level 13F data, as of December of each year. In this way, we construct a comprehensive list of recorded holdings of US public firms for each institution in our sample.

We calculate the yearly weighted average fee for each institution as the average management fee across all funds offered by that institution, weighted by the total AUM in each fund, dropping any fund-years that report a negative or missing fee. We get data on the cost of capital for asset management companies, which we use to capitalize expected fees in future years, from Aswath Damodaran's website.[10] Finally, we gather data on firms' governance practices from the ISS governance database. Our final panel dataset comprises 102,499 observations at the institutional investor-firm-year level.

C. Stylized Facts about Engagement

Table I, Panel A, shows that the average institution in our sample holds approximately 2,700 firms, but there is substantial heterogeneity across different institutions. At the high end, passive investors each hold more than 3,000 firms, effectively encompassing the universe

[10] `https://pages.stern.nyu.edu/~adamodar/New_Home_Page/home.htm`

of US publicly listed equities, while at the low end one active investor, Robeco, holds an average of 1,145 US stocks. Moreover, we see that institutional investors differ significantly in the size of their holdings. On the one hand, passive investors such as BlackRock and Vanguard report the highest average holding sizes, which are $697 million and $847 million, respectively. On the other hand, active investors like Allianz and Axa hold smaller average positions of $54 million and $80 million, respectively.

Institutional investors in our sample engage with an average of 318 firms per year, or approximately 12% of their portfolio. Also here there is substantial heterogeneity within both active and passive families. For instance, among active investors, Wellington engages with 47% of its portfolio firms whereas Axa engages with only 2%. This suggests that the costs and benefits of engagement vary substantially.

In Panel B, we report institutional investors' summary statistics regarding their AUM, their fraction of AUM in passive funds, their average fees charged, as well as our measure of investor's incentives to engage, denoted by κ, which is the present value of all expected fees from increasing firm value (we formally define κ in Section III). We find that there is a clear division between the four passive institutions in our sample—BlackRock, Vanguard, State Street, and Northern Trust—and the seven active institutions. First, the passive institutions are larger, with an average 13F AUM of 2.3 trillion US dollars compared to an average of 354 billion US dollars for the active institutions. Second, the passive institutions have between 55% (Northern Trust) and 96% (State Street) of their S12 fund assets in passively managed index funds. In contrast, among the seven active institutions, UBS has the highest fraction of passive AUM, with an average of only 7% of its S12 fund assets in index funds. For four of the seven active families, the fraction of passive AUM is zero.

For each institution-year, we compute the fee as the average management fees across

all funds offered by the institution that year, weighted by the AUM in each fund at the beginning of the year. As expected, the four passive families tend to have significantly lower fees compared to active families. Importantly, as a result, they also tend to have significantly lower incentives to engage. For the four passive institutions the average κ across all years is 0.063, while for the seven active institutions the average κ is 0.207, over three times higher. Put simply, due to their lower fees, passive investors capture less of the benefit that active investors do from increasing firm value through engagement.

D. What determines engagement?

Our data show that institutional investors engage with approximately 12% of their portfolio firms each year. However, what determines when institutional investors engage with portfolio companies? Relatively little is known about the determinants of their decision to engage (Aggarwal et al., 2023). There are several possibilities.

One possibility is that engagement is driven by the financial incentives of fund managers. McCahery et al. (2016) survey institutional investors and find that when it comes to engagement, *"... the [factors] that are identified as important are related to incentives."* Consistent with this, Lewellen and Lewellen (2022) argue that investors benefit from engagement through two channels. First, if engagement increases firm value, it raises the fund's assets under management and therefore fee income. Second, improved performance may attract investor inflows, further increasing fees. Importantly, both channels are driven by the dollar value of the fund's position in the firm.

However, engagement may also reflect non-financial motives. Institutions may engage for marketing reasons; for example, to increase visibility in order to attract inflows. Institutions may also engage for reputational or social reasons, such as encouraging firms to adopt

environmental practices even when these actions do not maximize firm value.

D.1. Engaging due to Financial Incentives

To examine when and why investors engage, we first examine the relation between engagement and the dollar value of an institutional investor's position in each firm. If engagement is driven by the financial incentives of fund managers, then engagement should be strongly increasing in the dollar value of the fund's positions.

Figure 2 provides some of the first evidence on this point. Panel A shows a strong positive relation between engagement activities and the dollar value of institutional investor holdings. For small holdings of $10 million or less, the average probability of engagement is just 3%. For large holdings of $10 billion or more, the probability of engagement is 86%. For the 43 largest holdings in our sample, institutional investors engage 100% of the time.

In Panel B of Figure 2, we examine whether the relation between dollar holdings and engagement differs between passive and active institutions. At the extremes, we see a pattern similar to that observed in Panel A: The frequency of engagement is low (around 4%) for small dollar holdings and high (around 100%) for very large dollar holdings for both types of investors. However, for all intermediate holding sizes, the frequency is lower for passive investors. In other words, conditional on holding size, passive investors engage less.

D.2. Engaging due to Non-Financial Incentives

We then examine the importance of both financial and non-financial incentives. To do this, we examine the relation between engagement and the possible financial and non-

financial incentives using a linear probability model of the form:

$$\begin{aligned}\mathbb{1}_{[Engage_{ijt}]} = \beta_1 log(\$Holding) + \beta_2 FractionFirm + \beta_3 FractionAUM + \beta_4 Ret \\ + \beta_5 SearchVol + \beta_6 ESGScore + \beta_7 E\text{-}Index + \epsilon_{ijt},\end{aligned} \tag{1}$$

where $\mathbb{1}_{[Engage_{ijt}]}$ is an indicator variable that equals 1 if investor j engaged with firm i during calendar year t, $log(\$Holding)$ is the log dollar value of an investor's holdings, $FractionFirm$ is fraction of the firm's market capitalization owned by the investor, $FractionAUM$ is the firm's weight in the investor's portfolio, Ret is the log of the firm's stock return over the past year, $SearchVol$ is the firm's total Google Search Volume over the last year, $ESGScore$ is the firm's MSCI social responsibility score, and *E-Index* is the Bebchuk, Cohen, and Ferrell (2009) Entrenchment Index. We include institution-by-year fixed effects to examine engagement decisions within each institution's portfolio at each point in time, thereby absorbing all time-varying investor traits (e.g., preferences).

The results are shown in Table II. In column 1, we find that the dollar value of the holding is a strong determinant of the decision to engage: a one standard deviation increase in *log($Holding)* increases the probability of engagement by 12.1 percentage points (pp).

Column 2 adds several alternate measures of financial incentives: the fraction of firm equity held (*Fraction Firm Equity*) and the position's portfolio weight (*Fraction AUM*). Including both measures yields a negative coefficient on *Fraction Firm Equity* and a positive coefficient on *Fraction AUM*, both statistically significant. However, the coefficient on *log($Holding)* remains statistically significant and economically large, indicating it is the primary driver of engagement (as predicted in Lewellen and Lewellen (2022)). Because *Fraction Firm Equity* scales dollar holdings by firm market capitalization, its coefficient is identified from variation in market capitalization conditional on position size and portfolio weight.

The negative estimate therefore implies that, holding dollar exposure and portfolio weight constant, engagement is less likely for smaller firms.[11]

In addition, firm performance may also influence the decision to engage. Accordingly, in column 2 we add the log of the firm's prior-year stock return as an explanatory variable (*log(EquityRtn)*). The negative and statistically significant coefficient indicates that institutions are less likely to engage with better performing firms: a one standard deviation increase in returns is associated with a 4.1% lower chance of being engaged.

Finally, we examine measures of non-financial motives for engagement. If institutions engage to attract investor flows, they may concentrate activity in more visible or widely followed firms. To test this, we include the firm's annual Google search volume for its ticker.[12] Column 2 of Table II shows that firms with higher search volume are more likely to be engaged. However, the economic magnitude is modest: a one standard deviation increase in search volume is associated with only a 0.8% increase in the probability of engagement over the following year.

It is also possible institutions engage for reputational or social reasons, such as encouraging firms to adopt environmental practices even when these actions do not maximize firm value.[13] To examine this, we add the MSCI social responsibility score which is a weighted average of 20 socially responsible ESG pillars.[14] On the governance side, we consider the E-index of Bebchuk, Cohen, and Ferrell (2008), which is a composite of six indicator vari-

[11]This is consistent with Fich, Harford, and Tran (2015), who show that portfolio weight, rather than ownership share, drives monitoring behavior.

[12]We append the word "stock" to each ticker (e.g., "AAPL stock") to avoid capturing unrelated search activity.

[13]In survey responses, even dedicated ESG funds indicate that they would not sacrifice a *single basis point* of expected returns for socially beneficial aims (Edmans, Gosling, & Jenter, 2024). Additionally, Lowry, Wang, and Wei (2026) find strong support for the hypothesis that ESG engagement is value-driven.

[14]Evidence suggests it is the most reliable and stable over time among the major ESG ratings (Berg, Fabisik, & Sautner, 2025).

ables for signs of entrenched corporate management. Table II column 2 shows that indeed, firms with lower ESG scores are more likely to be engaged. However, the relation is small in magnitude and statistically insignificant. Moreover, the negative and significant coefficient on *E-Index* indicates that firms with more entrenched management are actually *less* likely to be engaged. Yet the economic magnitude of the association is also modest: a one standard deviation higher E-index decreases the probability of engagement by 1.3%.

Overall, the results show that engagement is primarily motivated by financial incentives. While we find some evidence that non-financial incentives do matter for engagement, including firm visibility and governance quality, these factors explain a smaller proportion of engagement activity. Moreover, including them does not attenuate the association between engagement and the dollar value of holdings.

As one final test, in column 3 we add firm-by-year fixed effects. Since the individual measures in column 2 are potentially noisy proxies for the true firm-level factors that motivate engagement, variation in other unobserved firm characteristics may influence how much a fund holds and whether it chooses to engage. The firm-by-year fixed effects absorb time-varying firm-level factors such as performance, governance quality, visibility, or need for oversight, ensuring that identification comes solely from differences in fund holdings of the same firm within the same year.

The results continue to indicate that engagement is primarily driven by financial incentives. Although the coefficient on the dollar value of holdings declines from 13.7pp to 7.4pp after adding firm-by-year fixed effects, which suggests that firm characteristics also influence engagement, it remains the single largest determinant. In addition, the association between engagement and the fraction of firm equity held shifts from negative to positive (consistent with Cronqvist and Fahlenbrach (2008)), while the relation with portfolio weight becomes

insignificant. Overall, these findings reinforce that engagement decisions are driven primarily by the incentives to increase firm value, with non-financial factors playing a secondary role.

III. A Discrete Choice Model of Engagement

Next, we develop a discrete choice model that estimates the costs and benefits of engagement. In our setting, the choice is discrete and observable: each investor j chooses to engage ($engage$=1) or not engage ($engage$=0) with each firm i in their portfolio during year t.

We model this choice based on Lewellen and Lewellen (2022) and the stylized facts we document above. Consider an institutional investor (j) who holds the dollar value $\$DV$ in firm i's traded equity, has total assets under management of AUM, and charges yearly management fees m as a percent of AUM. By engaging at a cost c, the investor expects to raise the value of firm i by the fraction b. Without loss of generality, we set the payoff of not engaging to zero.

If the institutional investor chooses to engage with a firm, it could benefit in two different ways. First, because funds fees m are calculated as a fraction of AUM, increasing the value of the firm via engagement will increase the fund's AUM, thereby increasing their fees. Formally, increasing firm value by b will lead to higher fees in the amount $b \times \$DV \times m$. Second, increasing the value of firm i in the fund's portfolio might also attract more capital into the fund. Formally, flows into the fund $= \eta \times (b \times \$DV/AUM)$ where η is the elasticity of flows to fund performance and $\$DV/AUM$ is the weight the fund has in a particular stock. Thus, inflows yield a benefit to the fund of (η × b × DV / AUM) × AUM × m = η × b × DV × m. We assume that the higher AUM from both channels and therefore the higher fee income is persistent; accordingly, the present value of higher fee income can be capitalized

using the investor's cost of capital r_{jt}.

In addition, the institution receives a private signal about the expected value of engaging with each firm, which is drawn from some distribution centered at zero and with standard deviation σ, consistent with standard models of private information (e.g., Malenko and Malenko (2023)). Let this signal be represented by $\sigma\epsilon_{ijt}$, where ϵ_{ijt} is a standard normal random variable. In total, the expected net benefits (ENB) from engaging are given by:

$$ENB = E[(b_{ijt} \cdot DV_{ijt} \cdot m_{jt}) \cdot (1+\eta) \cdot \frac{1}{r_{jt}} - c_{ijt} + \sigma\epsilon_{ijt}] \tag{2}$$

$$ENB = \kappa \cdot b \cdot DV - c + \sigma\epsilon, \tag{3}$$

where $\kappa = m(1+\eta)/r$, is the present value to the institution of increasing the value of their stake in the firm by one dollar.

We compute the average fee across all funds, weighted by AUM, for each family-year. For the discount rate r, we use the yearly cost of capital for asset management firms from Aswath Damodaran's website. Our values of η come from Dannhauser and Pontiff (2026) who estimate flow-to-performance elasticities of 1.162 for active funds and 1.025 for passive funds.[15] These elasticities mean that the indirect flow-based incentive is slightly larger than the direct incentive, for both active and passive families. For active (passive) families, the direct incentive is 46% (49%) of the total incentive.

Motivated by Admati et al. (1994), we then assume a break-even condition: investors will engage with a firm if the expected net benefit is positive (i.e., $ENB_{ijt} > 0$). For the

[15]These indicate that for active (passive) funds a 1% higher return is followed by higher inflows equal to 1.162% (1.025%) of the fund's AUM. In unreported results, we use the elasticity of 1.39 across all funds estimated by Lewellen and Lewellen (2022); all conclusions are similar.

simplest case in which κ, b, c, σ are the same for all funds and firms, this yields:

$$0 < \kappa \cdot b \cdot DV_{ijt} - c + \sigma\epsilon_{ijt} \tag{4}$$

and the fund engages with the firm with probability:

$$Pr\left(\epsilon_{ijt} > -\frac{1}{\sigma}[\kappa \cdot b \cdot DV_{ijt} - c]\right) = \Phi\left(\frac{1}{\sigma}[\kappa \cdot b \cdot DV_{ijt} - c]\right) \tag{5}$$

where Φ is the standard normal cumulative distribution function.

A. Identifying Assumptions

Identification of the costs and benefits is possible because the benefit of engaging varies directly with the dollar value of the holding. If some part of the cost of engaging varies with the portfolio weight, then we include that in b which captures the "net variable benefits" of engaging. The cost per engagement can vary by fund and firm, as well as over time. If there is any fixed benefit of engaging with a firm that does not depend on its portfolio weight, then we include that in c which captures the "net cost" per engagement action.[16]

In this model, parameters are identified only up to a common scale. Following the literature (e.g., Gantchev (2013); Dickstein and Morales (2018)), we fix one parameter and estimate the others. We calibrate the scale so that the average cost of engagement equals \$10,000. To motivate this choice, we use data on stewardship staffing and compensation. Institutions in our sample employ an average of 36 stewardship personnel. Using the Bureau of Labor Statistics' average salary for financial analysts (\$101,910), this implies annual

[16]In other words, c measures the net cost per engagement (i.e., costs less benefits) and the flexibility of our model allows the resulting estimates to be positive or negative.

stewardship labor costs of approximately $3.7 million per institution. These investors hold an average of 2,696 firms but engage with 318. Assuming two-thirds of stewardship time is devoted to engaged firms and one-third to screening, this implies a cost of roughly $8,000 per engagement. Discussions with one institution in our sample indicated a cost closer to $10,000, which we adopt as a conservative benchmark. This normalization allows costs and benefits to vary across funds and firms, and our conclusions are robust to alternate scalings.

Our analysis assumes that engagement decisions are made at the firm level, so that the decision to engage a given firm depends only on its expected costs and benefits. This assumption is supported by our empirical results in Table II, which show that the dollar value of holdings is the primary determinant of engagement, with other factors playing a smaller role.[17] A potential concern is that institutions face bandwidth constraints that limit engagement across portfolio firms. In that case, our framework implicitly assumes that investors can expand engagement capacity by hiring additional staff whenever the expected benefits exceed the costs. Given that the institutions in our sample are profit-maximizing, this assumption is plausible.

B. Instrumenting for Holding Size

Our estimates are based on the revealed preferences of institutional investors. As such, they capture equilibrium engagement behavior given expected costs and benefits across a fund family's portfolio, rather than isolating exogenous causal effects.

Identification of the model relies on the standard assumption that no unobserved factors jointly determine both holdings and engagement decisions, and that engagement incentives do not themselves drive holdings. These assumptions may be violated if, for example, in-

[17]For example, non-financial motives such as "warm-glow" preferences for ESG actions would not generate a strong relation between dollar holdings and engagement decisions.

stitutions choose their holdings in anticipation of engaging (reverse causality), or if both decisions are driven by unobservable firm-level characteristics (an omitted variable).

To address these concerns, we instrument each institution's holdings in a firm-year with the holdings of that institution's passive funds. Because the holdings of passive funds are determined by benchmark index weights and fund flows, it is unlikely that omitted variables jointly drive both holdings and engagement decisions.[18]

To implement the instrumental variables (IV) strategy, we use a two-stage maximum likelihood estimator that first regresses each institution's total holdings on the instrument. This allows us to isolate the portion that can be attributed to exogenous factors unrelated to the institution's engagement strategy. The identifying assumption is that passive ownership affects engagement only through its impact on the costs and benefits of engaging.

For all four of the passive fund families in our sample, the instrument is strong because the majority of their holdings come from their passive funds. However, for the active families in our sample, only two families (Dimensional and T. Rowe Price) hold enough passive assets to implement the IV strategy. Accordingly, in our main analyses we report the results with and without the IV strategy. The results are similar, suggesting that neither reverse causality or omitted variable bias are driving our results.

IV. Results

We begin by estimating our discrete choice model of the following form:

$$PrEngage_{ijt} = \Phi(b_j \cdot \kappa_{jt} \cdot DV_{ijt} - c_j) \tag{6}$$

[18] "The unique feature of passive funds is that they are required to hold most public stocks regardless of whether their fund managers agree or disagree with the firms' policies" (Kakhbod et al., 2023).

Recall that for each institution-year $\kappa_{jt} = m_{jt} \cdot (1 + \eta_j)/r_{jt}$. Table I shows the sample average of κ for each institution, as well as the sample average of fees (m) for each institution. With κ, DV, and the observed engagement choices in hand, we estimate model (6) with a probit link function. The choice of model distribution does not drive our estimates; all estimates are similar if we use a logit link function (see Internet Appendix Section A2).

We report the baseline estimates, by institution, in Table III. The estimated effect of engagement on firm value, averaged across institutions, is 0.35 basis points (bps). That is, the institutions in our data behave as if they expect engaging with a portfolio firm to raise the firm's value by 0.35 bps on average. This effect is slightly larger for passive institutions (0.41 bps) than for active institutions (0.32 bps). There is also substantial variation among institutions in the expected effect on firm value, ranging from 0.10 bps for T. Rowe Price to 0.81 bps for Vanguard. Overall, all of the expected benefit coefficients are strictly positive and are estimated with high precision.

On the costs side, the average cost of engagement for active institutions is \$10,050, compared to an average cost of \$9,912 for passive institutions. Active institutions have a higher average cost per engagement, with costs reaching \$13,748 for Axa. Wellington is an outlier with a very low estimated cost of engagement (\$1,492). In other words, relative to the dollar value of their holdings, Wellington engages much more frequently than the other institutions. This may be because Wellington sub-advises funds at other institutions.

Of course, it is possible that institutions change their holdings in anticipation of engaging. To address this, Table IV presents results using the holdings of each institution's passive funds as an instrumental variable (IV). For the six institutions in our IV analysis, the estimated costs and benefits are similar to the baseline estimates reported in Table III.[19]

[19]We find similar results when we lag the instrumental passive holdings by one or more years, further distancing the holding size from the engagement decision. Results are reported in the Internet Appendix.

The similarity of the estimates suggests that our main findings are robust and unlikely to be driven by reverse causality or omitted variables. These results provide additional support for the interpretation that the association between institutions' dollar holdings and engagement decisions reflects economically meaningful incentives rather than endogeneity.

A. Do passive and active funds differ?

The findings above raise a natural question: why do passive investors engage relatively less frequently than active investors? After all, the expected benefits of engagement to firm value are larger for passive institutions (41 bps) compared to active institutions (32 bps) and passive institutions' costs are slightly lower on average.

Column 3 of Table III provides the answer. We multiply each institution's estimated effect on firm value b by the expected fraction of value creation that the institution captures, κ, to produce the expected benefit of engagement to the institution itself. The results show that passive institutions expect to receive approximately one-third of the benefit from engagement (0.02 bps) that active institutions receive (0.05 bps). This result is driven by their lower fees (Table I, Panel B).

Once again, the results highlight that engagement is driven by financial incentives. Because passive funds charge lower fees, they capture less of the gains from increasing firm value. As a consequence, they engage less than active managers despite having comparable effects on firm value.

B. Firm Characteristics and the Costs and Benefits of Engagement

Next, we examine heterogeneity in the expected benefits and costs of engagement across firms. If the relative costs and benefits of engagement are heterogeneous across firms, then

our estimate so far is a weighted average of the underlying values weighted by how marginal the engagement decision is. Put differently, if some firms have zero expected benefits of engagement they will never be engaged and their true benefit will not enter into the probit estimate. If some firms have large benefits of engagement, they will always be engaged and similarly their true benefit will not enter into the probit estimate. It follows that our model estimates are an average of the institution-firm-year expected benefits, weighted by how much they are on the margin of the engagement decision.[20]

Thus, in this section we examine how the costs and benefits of engagement vary with firm characteristics. We focus on three firm fundamentals: firm size measured by market capitalization, profitability measured by the return on assets (ROA), and corporate governance quality measured by the E-Index of Bebchuk et al. (2008). We report the results in Table V.

In columns (1) and (2), we find that, on average across all institutions, the cost of engagement is substantially higher for small firms compared to large firms ($11,913 compared to $6,878, respectively). However, engaging with small firms yields expected benefits of 7.4 bps, while engaging with large firms results in a benefit of only 0.28 bps. Columns (3) and (4), report the IV estimates and document similar patterns. Hence, while engaging with smaller firms is more costly, the benefits of engaging with small firms are more than an order of magnitude larger. But even though the benefits are significantly higher, the small dollar value of positions in these firms make them less likely to be engaged.

We also explore the interaction between corporate governance, firm performance, and the costs and benefits of engagement. The marginal effects in Table V, both for the probit estimates and for the IV estimates, highlight that poorly governed firms with a higher E-

[20]Numerical simulations confirm that in the presence of heterogeneous expected benefits, our estimates are not an upper or lower bound on those benefits, but a weighted average as described above.

index incur slightly higher engagement costs, without a significant increase in benefits. In other words, engagement is less effective when dealing with management that is entrenched. Additionally, we find that engaging with more profitable firms yields slightly lower expected benefits compared to engaging with less profitable firms, suggesting profitable firms have limited room for improvement.

C. Economies of Scale and Scope in Investor Engagement

We then examine investor-level heterogeneity. Specifically, we examine how the costs and benefits of engagement vary with the scale and the scope of an investor's portfolio. Kahan and Rock (2020) argue that large passive fund families have strong incentives to become informed because they have both economies of scale and scope. We empirically test this by examining the total AUM of the institution (scale), as well as the number of firms in the institution's portfolio (scope). We estimate the model parameters separately for passive and active investors, and report the results in Table VI.

In Panel A, we report the estimates for the four passive institutions in our sample. The probit results in columns (1) and (2) show that a one standard deviation increase in the number of firms held (corresponding to an additional 920 firms) is associated with a \$2,044 lower cost and no change in the benefit of engagement. Conversely, a one standard deviation increase in total AUM (corresponding to an additional 55 log points) is associated with a \$109 higher cost and a 0.16 bps increase in the benefit of engagement, although both are statistically insignificant. The IV results in columns (3) and (4) indicate a similar overall pattern; however, the estimated benefits of engagement now increase with the number of firms in the portfolio. We conclude that, broadly, passive institutions have positive economies of scope and flat economies of scale.

In Panel B, we report the estimate for the seven active institutions in our sample. The probit results in columns (1) and (2) show that a one standard deviation increase in the number of firms held (corresponding to an additional 920 firms) is associated with a 0.21 bps higher benefit and no change in the cost of engagement. Further, a one standard deviation increase in total AUM (corresponding to an additional 55 log points) is associated with a \$4,362 lower cost but also with a 0.72 bps lower benefit of engagement. The IV results in columns (3) and (4) are consistent with the probit patterns and, if anything, suggest even stronger diseconomies of scale since even the cost is now increasing in AUM.

These findings suggest that as active institutions grow in AUM, their marginal engagement decision becomes significantly less valuable. That is, for active institutions there are diseconomies of scale. This finding is intuitive, as there is a finite supply of positive net present value investments for active funds to take (Berk & Green, 2004). As a result, a larger fund will struggle to generate the same value as a smaller fund.

V. Counterfactual Scenarios

In our final set of analyses, we use our model estimates to examine how institutional size affects engagement and value creation for the mutual fund industry. A prevailing concern is that the Big Three passive institutions (BlackRock, State Street, and Vanguard) wield too much power by virtue of the fact that they control more than 20% of voting shares in most U.S. public firms (Coates, 2024). The SEC has long expressed concerns about the rise of passive funds and the implications for monitoring (A. H. Lee (2021)),[21] and the rise of passive is ongoing: as of 2024 passive funds held just over 50% of all mutual fund assets (see link here). To speak to this issue, we use our estimates to examine two counterfactual

[21] Even the White House is exploring new measures to curb the influence of index-fund managers (link).

scenarios for the continued growth of passive investing: growth through flows and growth through consolidation.

A. Growth through Flows

In 2025, approximately $1 trillion in flows left active mutual funds, while passive funds grew by approximately $600 billion; it was the 11th consecutive year of net outflows from active funds (I. Lee & Semenova, 2025). Accordingly, we first analyze a counterfactual scenario in which passive funds continue to grow at the expense of active funds. Specifically, we assume that passive investing increases until it is 90% of all mutual fund assets. To do this, we take the holdings of each of our eleven families in our sample as of 2022. We then take 80% of each holding by each active family and allocate those shares proportionally among the four passive families.[22] This simulates the effect of a continued rise of passive investing to the point where 90% of mutual fund assets are held by passive institutions.

We then use the estimates from our discrete choice model to examine how this shift would impact engagement and value creation. These changes have multiple effects on the economics of engagement with portfolio firms. First, the holding sizes of active funds decrease, which decreases their incentive to engage. Meanwhile, the holding sizes of passive funds increase, which increases their incentive to engage (Figure 2). Second, the benefits and costs of engaging at each institution change, especially for active funds because the benefits and costs vary with institutional characteristics, in particular scale (total AUM) as shown in Table VI.

Table VII displays the results. The first three columns show the actual engagement frequency for each institution using real-world data for 2022. Columns 4, 5, and 6 show

[22]Because we find that passive funds have little to no diseconomies or economies of scale, proportionally allocating this capital to the four passive fund families does not significantly impact our estimates.

results from the counterfactual simulation. Column 4 shows the fraction of firms engaged by each institutions in a baseline scenario that assumes no change in passive ownership. In other words, it shows that in a baseline model, our simulated data closely matches the actual engagement frequencies (column 3) for each institution. Column 5 (Counterfactual #1) show what happens when we move 80% of active families' assets into passive families, while column 6 shows the incremental difference between the counterfactual (column 5) and the baseline (column 4).

Column 6 shows that passive families are more likely to engage with their portfolio firms when they grow larger. This is because they have larger dollar holdings in each firm, which provides a greater incentive to engage. By contrast, active families experience large outflows in our simulation and their dollar holdings shrink. As a result, the active families all become less prone to engage with their portfolio firms. Here, there are opposing effects because active families have significant diseconomies of scale (Table VI). Thus, shrinking their holdings increases their expected benefits to engagement and thus their incentive to engage. However, this effect is dominated by the direct incentive effect from shrinking their holding size. As a result, as their holdings shrink, active families become less prone to engage.

The simulation allow us to estimate the costs and benefits of fund engagement in a world in which passive investing increases to 90% of the industry. Importantly, is also allows us to provide novel evidence on how this impacts value creation both for fund investors and for society as a whole.

Table VIII presents the results. Overall, our estimates imply that the mutual fund industry spent $27.8 million on engagement activities in 2022 and this engagement activity was estimated to produce $9.8 billion in additional firm value in total. Since each family

holds a fraction of each firm, the value created for the investors of those families was $437 million.

In this first counterfactual simulation, the *total* value created by engagement from passive institutions increases by $0.6 billion (from $5.8 billion to $6.4 billion) and the value created for the investors of passive funds increases by $125 million while the cost for passive funds increase only by $1.0 million.

At the same time, the total value created by active families' engagement increases even more, by $6.3 billion (from $4 billion to $10.3 billion). This surprising prediction occurs because although active funds' holdings and engagement probability both decrease as they shrink, the expected benefits of their engagement increase. Due to their diseconomies of scale, reducing their size enhances their expected value creation across all firms and investors. Consequently, the spillovers generated by shrinking active funds are greater than if the funds were larger, making the reduction of the active fund industry beneficial overall. However, the value generated for active fund investors by the fund engagement actually decreases by $16 million (from $41.2 to $25.5 million) while the costs decrease by only $5 million. This suggests that it is not in the interests of active fund investors, nor in the interests of the fund's management (which collects a fixed fraction of that value creation) for active funds to shrink.

B. Growth through Consolidation

The first counterfactual assumes that passive funds grow, and active funds shrink proportionally. In reality, it is possible that the largest passive funds grow fastest, while the smallest active funds go out of business. To account for this, our second counterfactual scenario assumes passive investing grows by consolidation. Specifically, we assume that the active fund

family with the smallest number of holdings (Robeco) is acquired by BlackRock and becomes part of the BlackRock fund family. This scenario echoes BlackRock's acquisition of Barclays Global Investors in 2009.

In Table VII column 8, we see that the increase in BlackRock's AUM means their propensity to engage grows slightly (+ 0.3%) because of the increase in holding sizes, whereas Robeco's propensity to engage, by construction, drops to zero (-6.5%). Importantly, in Table IX, we find that the overall effect is that BlackRock's value creation increases from $854 to $880 million, and BlackRock's total costs paid, value created for fund investors, and value captured by management all slightly increase as well. However, these increases, in particular value creation, are not sufficient to offset the loss in value related to the disappearance of Robeco. As a result, value creation by all funds decreases by over $200 million.[23]

Taken together, the data show clearly that passive funds engage less than active funds *ceteris paribus*, consistent with the findings in Heath et al. (2022) that passive funds are less active monitors. However, our model estimates and counterfactual scenarios suggest that the picture is more nuanced. Passive and active funds differ not only in their tendency to engage, but also in their economies of scale and in the fraction of value creation that they capture. In particular, we find a wedge between passive and active funds with respect to scale: unlike passive funds, active funds become less effective at improving firm value through engagement as their AUM increases. It is important to note, however, that our counterfactual simulations focus on shareholder value and do not capture potential externalities such as anticompetitive effects related to common ownership (Azar et al., 2018).

Our results also add nuance to the prediction in Corum, Malenko, and Malenko (2024)

[23]At the same time, we see that the total value captured by fund investors and fund management both increase slightly, suggesting that such consolidation could be incentive compatible for investors and fund managers while being detrimental to the market as a whole.

that the rise of passive investing leads to better monitoring if passive funds replace retail investment, but worse monitoring if passive funds replace active funds. Our first counterfactual scenario shows that this conclusion depends critically on an assumption that passive and active funds have similar economies of scale. If active funds have diseconomies of scale, as our estimates suggest, then investor flows out of active and into passive funds could still result in improved monitoring and value creation. By contrast, our second scenario shows that growth through consolidation reduces aggregate value creation, but may benefit passive fund families. These results highlight the very large wedges between the socially optimal and privately optimal engagement decisions for large institutional investors. Overall, the results highlight that the impact of rising passive investment depends on precise details about *how* passive assets grow.

VI. Conclusion

Institutional investors can monitor and influence their portfolio firms by voting, exiting their positions, or engaging with management. Using a discrete choice model and novel data on the engagement activities of eleven large institutional investors, we show that engagement with management is a commonly used tool: both active and passive fund families engage with an average of 12% of their portfolio firms each year. Moreover, we provide the first estimate of the costs and benefits of engagement. On average, we find that institutional investors behave as if $10,000 spent on engagement will increase firm value by 0.35 bps.

Our results shed new light on the economics of investor engagement. We find that engagement actions are primarily driven by financial rather than reputational or marketing considerations. Investors engage because they expect it to increase firm value. Both active

and passive fund families behave as if they expect engagement to have a modest but positive impact on firm value. Yet, we find passive institutions are less prone to engage because they capture less of the gains from increasing firm value due to their low fees. As a result, we show there are significant wedges between the privately optimal and socially optimal level of engagement.

Using two counterfactual scenarios, we examine the implications of the continued rise of passive investing. While many academics, practitioners, and commentators argue that the rise of passive investing generates negative externalities, our findings show that its effects are more nuanced and depend on how passive funds grow and active funds shrink. When passive funds grow from flows that proportionally shrink active funds, value creation increases due to diseconomies of scale in active funds. However, when growth occurs through consolidation, value creation declines.

Our analysis focuses solely on value creation for firms and investors. However, if the rise of passive investing leads to greater collusion among firms (Azar et al., 2018), then the overall welfare impact could be negative even if the impact on individual firm value is positive. Future research should continue to explore whether engagement is associated with free-riding behavior or collusion between investors (Dimson et al., 2021). Overall, our results confirm that institutional investors engage with their portfolio firms to increase value in a manner that maximizes the benefits they capture.

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DIMENSIONAL FUND ADVISORS

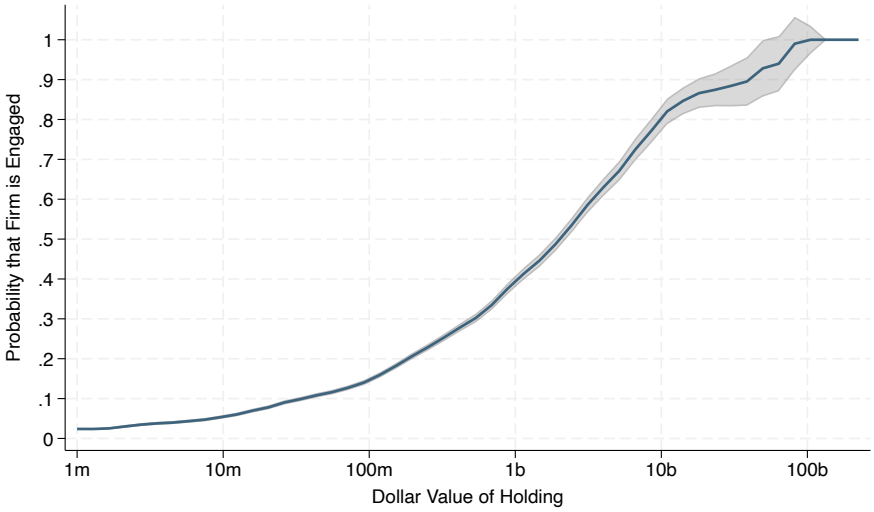
Appendix: Portfolio Companies Engaged in 2023

Dimensional conducted at least one engagement[11] with each of the following global portfolio companies during proxy year 2023.

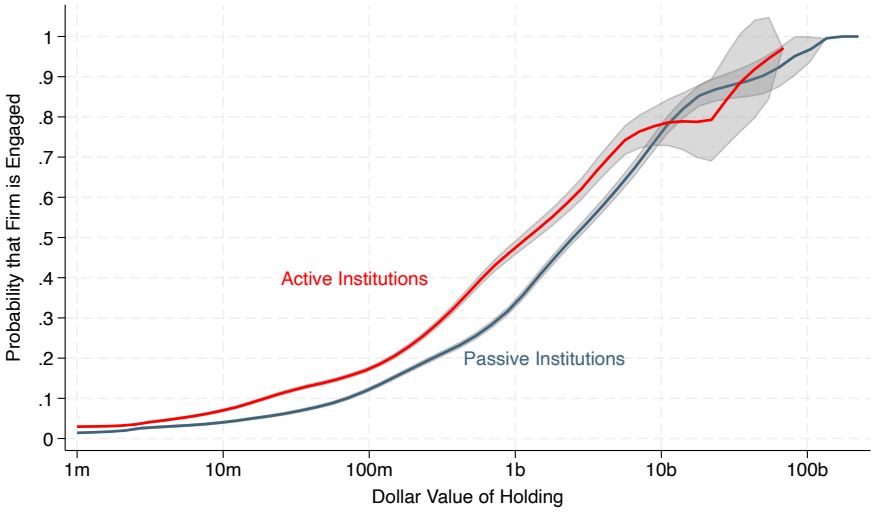
Company Name

2U Inc.
888 Holdings plc
A.G. BARR plc
AAR Corp.
Aareal Bank Group
Abbott Laboratories
ABM Industries Inc.
Acciona SA
Accor SA
Acer Inc.
Acerinox SA
Activision Blizzard Inc.
Alkermes plc
Allegiant Travel Co.
Alliance Pharma plc
Alphabet Inc.
Alto Ingredients Inc.
Altria Group Inc.
Amazon.com Inc.
Ambac Financial Group Inc.
Ambarella Inc.
AMC Networks Inc.
Amcor plc
Amerant Bancorp Inc.
APA Group
Apartment Investment and Management Co. (Maryland Incorporation)
Apogee Enterprises Inc.
Apple Inc.
Applied Materials Inc.
ARATA Corp.
ArcBest Corp.
Arcosa Inc.
Argan Inc.
Argo Group International Holdings Ltd.

Figure 1. Engagement Reporting. The figure shows a sample from the 2023 Stewardship Report for Dimensional Fund Advisors.



(a) Panel A: All Institutions



(b) Panel B: Active Institutions (Red) vs. Passive Institutions (Blue)

Figure 2. Engagement and Dollar Value Held. The figure plots the relation between the dollar value of an institutional investor's holding of a given firm (horizontal axis) and the probability that the firm is engaged by the institutional investor (vertical axis). Panel A shows the relation across all institutions in our sample, while Panel B splits the results into active institutions (Red) and passive institutions (Blue). Gray shaded areas represent 95% confidence intervals.

Table I
Summary Statistics

The table displays summary statistics of our sample. Panel A displays the average holding and engagement statistics for each institution. Panel B provides statistics for each institutions' AUM, fraction of passive AUM, the average annual management fee weighted by the AUM for each fund offered by the institution, as well as the average κ, which measures the present value of all expected fees collected by the fund manager from increasing firm value.

Panel A: Holdings and Engagement					
	(1) # Firms held	(2) Holding size ($m)	(3) # Firms engaged	(4) Fraction Engaged	(5) Sample period
BlackRock	3710.8	696.9	764.25	0.21	2019-2022
Vanguard	3776.0	847.0	615.0	0.16	2019-2023
State Street	3776.0	529.8	329.0	0.09	2022-2022
Northern Trust	3493.0	131.6	70.3	0.02	2020-2022
Axa	2583.2	79.5	63.6	0.02	2019-2023
Allianz	1387.0	54.2	55.3	0.04	2021-2023
Robeco	1145.0	91.8	71.3	0.06	2021-2023
Dimensional	2972.3	88.8	326.5	0.11	2020-2023
T Rowe Price	2803.7	309.2	313.0	0.11	2021-2023
UBS	2330.7	88.1	95.7	0.04	2021-2023
Wellington	1679.3	291.0	794.0	0.47	2020-2023
Average - All	2696.1	291.6	318.0	0.12	
Average - Passive	3688.9	551.3	444.6	0.12	
Average - Active	2128.7	143.2	245.6	0.12	

Panel B: Fund Characteristics				
	13F AUM ($B)	Fraction Passive	Weighted Fee (bps)	κ
BlackRock	3,148	0.87	21.1	0.080
Vanguard	3,782	0.78	5.1	0.019
State Street	1,689	0.96	9.8	0.038
Northern Trust	535	0.55	27.7	0.114
Axa	256	0.00	31.7	0.127
Allianz	78	0.00	75.4	0.317
Robeco	124	0.00	102.1	0.430
Dimensional	307	0.02	21.2	0.088
T Rowe Price	917	0.03	46.7	0.203
UBS	248	0.07	47.3	0.200
Wellington	548	0.00	20.8	0.086
Average - All	1,058	0.30	37.2	0.155
Average - Passive	2,289	0.79	15.9	0.063
Average - Active	354	0.02	49.3	0.207

Table II
The Financial and Non-Financial Determinants of Engagement

The table displays linear probability model estimates of the determinants of engagement according to the model:

$$\mathbb{1}_{[Engage_{ijt}]} = \beta_1 log(\$Holding) + \beta_2 FractionFirm + \beta_3 FractionAUM + \beta_4 Ret + \beta_5 SearchVol + \beta_6 ESGScore + \beta_7 E\text{-}Index + \epsilon_{ijt},$$

where $\mathbb{1}_{[Engage_{ijt}]}$ is an indicator variable that equals 1 if institution j engaged with firm i during calendar year t, *log($Holding)* is the log dollar value of the holding, $FractionFirm$ is fraction of the firm's market capitalization owned by the institution, $FractionAUM$ is the firm's weight in the institution's portfolio, *Ret* is the log of the firm's stock return over the past year, $SearchVol$ is the firm's total Google Search Volume over the last year, $ESGScore$ is the firm's MSCI social responsibility score, and *E-Index* is the (Bebchuk et al., 2008) Entrenchment Index. All independent variables have been standardized to have a mean of zero and unit standard deviation. Robust standard errors clustered by firm are in parentheses. ***, **, * indicates statistical significance at the 1%, 5%, and 10% levels.

	Dependent Variable = $\mathbb{1}_{[Engage_{ijt}]}$		
	(1)	(2)	(3)
log($Holding)$_{ijt}$	0.121***	0.137***	0.074***
	(0.003)	(0.005)	(0.004)
Fraction Firm Equity$_{ijt}$		-0.029***	0.044***
		(0.006)	(0.003)
Fraction AUM$_{ijt}$		0.021***	0.004
		(0.005)	(0.004)
log(EquityRtn)$_{i,t-1}$		-0.041***	
		(0.006)	
Google Search Volume$_{i,t-1}$		0.008***	
		(0.003)	
ESG Score$_{i,t-1}$		-0.004	
		(0.003)	
E-index$_{i,t-1}$		-0.013***	
		(0.003)	
Observations	102,499	47,420	101,556
Adjusted R-squared	0.256	0.284	0.320
Institution × Year FE	Yes	Yes	Yes
Firm × Year FE	No	No	Yes

Table III
Costs and Benefits of Engagement

The table displays estimates of the expected costs and benefits of engagement for institutional investors using the discrete choice model:

$$PrEngage_{ijt} = \Phi(b_j \cdot \kappa_{jt} \cdot DV_{ijt} - c_j),$$

where the dependent variable is the probability that a fund engages, b is the benefit of engaging, DV_{ijt} is the dollar value of fund $j's$ holdings in firm i in year t, c is the cost of engaging, κ measures the present value of all expected fees collected by the fund manager from increasing firm value, and Φ is the standard normal cumulative distribution function. The cost per engagement is in dollars. The expected change in firm value and benefit to the institution are expressed in basis points (bps). Robust standard errors clustered by firm are shown in parentheses.

	(1)	(2)	(3)
	Cost	ΔFirm Value	Benefit to Fund Mgmt
Institution	c ($)	b (bps)	$b \cdot \kappa$ (bps)
BlackRock	$6,582 ($156)	0.18 (0.03)	0.01
Vanguard	$8,021 ($133)	0.81 (0.08)	0.02
State Street	$10,626 ($289)	0.50 (0.10)	0.02
Northern Trust	$14,418 ($258)	0.14 (0.04)	0.02
Axa	$13,748 ($229)	0.19 (0.06)	0.02
Allianz	$12,552 ($316)	0.20 (0.05)	0.06
Robeco	$12,170 ($381)	0.28 (0.03)	0.12
Dimensional	$9,009 ($158)	0.75 (0.11)	0.07
T. Rowe Price	$9,140 ($195)	0.10 (0.02)	0.02
UBS	$12,242 ($264)	0.14 (0.05)	0.03
Wellington	$1,492 ($169)	0.58 (0.10)	0.05
Average - All	$10,000	0.35	0.04
Average - Passive	$9,912	0.41	0.02
Average - Active	$10,050	0.32	0.05
Estimator	Probit	Probit	
# Obs.	102,499	102,499	
Pseudo R^2	0.208	0.208	

Table IV

Instrumental Variables Analysis of the Costs and Benefits of Engagement

The table displays estimates of the expected costs (c) and benefits (b) of engagement for institutional investors after instrumenting each institution's total holdings of a given stock in a given year with the holdings from its passive fund offerings.

Institution	(1) Cost c ($)	(2) ΔFirm Value b (bps)	(3) First Stage F-Statistic
BlackRock	$6,586 ($151)	0.17 (0.03)	19,618
Vanguard	$7,928 ($144)	0.78 (0.09)	71,401
State Street	$10,591 ($289)	0.51 (0.10)	4,526
Northern Trust	$14,349 ($271)	0.16 (0.05)	16.8
Dimensional	$8,835 ($149)	0.54 (0.08)	580.4
T. Rowe Price	$9,153 ($242)	0.12 (0.03)	41.2
Average - All	$9,573	0.38	
Average - Passive	$9,863	0.41	
Average - Active	$8,994	0.33	
Estimator	IV	IV	
# Obs.	68,278	68,278	

Table V
Costs and Benefits of Engagement by Firm Characteristics

The table displays the average estimated costs and benefits across the eleven institutions in the data, when the costs and benefits of engagement are allowed to depend on firm characteristics using the discrete choice model:

$$PrEngage_{ijt} = \Phi(b_{ij} \cdot \kappa_{jt} \cdot DV_{ijt} - c_{ij}),$$

where the dependent variable is the probability that a fund engages, b is the benefit of engaging, DV_{ijt} is the dollar value of fund $j's$ holdings in firm i in year t, c is the cost of engaging, κ measures the present value of all expected fees collected by the fund manager from increasing firm value, and Φ is the standard normal cumulative distribution function. The results are estimated by market capitalization terciles (Small, Mid, and Large) and then marginal effects are computed for entrenchment (E-Index) and return on assets (ROA), both of which are standardized to have a zero mean and unit standard deviation. The cost per engagement is in dollars. The expected change in firm value is expressed in basis points (bps). Robust standard errors clustered by firm are shown in parentheses. Models (1) and (2) are estimated using a probit model while models (3) and (4) use each institution's passive ownership as an instrumental variable.

	(1) Cost c ($)	(2) ΔFirm Value b (bps)	(3) Cost c ($)	(4) ΔFirm Value b (bps)
Average:				
Small Cap	\$11,913 (\$815)	7.40 (2.55)	\$10,351 (\$863)	4.69 (3.17)
Mid Cap	\$10,626 (\$200)	1.54 (0.15)	\$8,518 (\$277)	0.50 (0.24)
Large Cap	\$6,878 (\$182)	0.28 (0.03)	\$5,616 (\$279)	0.28 (0.05)
Marginal Effect:				
E-Index	\$712 (\$107)	0.01 (0.01)	\$705 (\$140)	0.01 (0.02)
ROA	\$-242 (\$233)	-0.08 (0.02)	\$155 (\$335)	-0.07 (0.04)
Estimator	Probit	Probit	IV	IV
#Obs.	47,641	47,641	27,554	27,554
Pseudo R^2	0.242	0.242		

Table VI
Costs and Benefits of Engagement: Economies of Scale and Scope

The table displays the average estimated costs and benefits across the four majority-passive institutions (Panel A) and the seven majority-active institutions (Panel B), when the costs and benefits of engagement are allowed to depend on institutional characteristics using the discrete choice model:

$$PrEngage_{ijt} = \Phi(b_{ij} \cdot \kappa_{jt} \cdot DV_{ijt} - c_{ij}),$$

where the dependent variable is the probability that a fund engages, b is the benefit of engaging, DV_{ijt} is the dollar value of fund $j's$ holdings in firm i in year t, c is the cost of engaging, κ measures the present value of all expected fees collected by the fund manager from increasing firm value, and Φ is the standard normal cumulative distribution function. We examine how costs and benefits vary as a function of the number of stocks held (scope) and by the log of total assets under management (scale), both standardized to have a zero mean and unit standard deviation. The cost per engagement is in dollars. The expected change in firm value is expressed in basis points (bps). Robust standard errors clustered by firm are shown in parentheses. Models (1) and (2) are estimated using a probit model while models (3) and (4) use each institution's passive ownership as an instrumental variable.

Panel A: Passive Institutions				
	(1) Cost c ($)	(2) ΔFirm Value b (bps)	(3) Cost c ($)	(4) ΔFirm Value b (bps)
Average - Passive	$12,099	0.24	$11,715	0.19
Marginal Effect:				
# Stocks Held	$-2,044 ($481)	0.01 (0.08)	-$1,190 ($502)	0.29 (0.13)
log(AUM)	$109 ($673)	0.16 (0.14)	-$613 ($631)	-0.09 (0.18)
Estimator	Probit	Probit	IV	IV
# Obs	47,978	47,978	47,978	47,978
Pseudo R^2	0.167	0.167		
Panel B: Active Institutions				
	(1) Cost c ($)	(2) ΔFirm Value b (bps)	(3) Cost c ($)	(4) ΔFirm Value b (bps)
Average - Active	$7,822	0.08	$9,044	0.34
Marginal Effect:				
# Stocks Held	$225 ($436)	0.21 (0.05)	$809 ($471)	0.32 (0.05)
log(AUM)	-$4,362 ($498)	-0.72 (0.14)	$1375 ($842)	-1.42 (0.20)
Estimator	Probit	Probit	IV	IV
# Obs	54,521	54,521	20,300	20,300
Pseudo R^2	0.254	0.254		

Table VII
Probability of Engagement: Actual vs. Counterfactuals

The table compares the results of two counterfactual simulations using the estimates from our discrete choice model. The first counterfactual assumes passive funds grow by taking flows proportionally from active funds until passive investing represents 90% of total AUM in the U.S. fund industry. The second counterfactual assumes passive funds grow by consolidation (the smallest active fund disappears). The first three columns show statistics for our actual sample in 2022, the last year in which we have complete data for all eleven fund families. Columns (4) through (8) show results using simulated data. Column (4) shows the model's fitted estimates of propensity to engage if passive does not grow, while column (5) shows the propensity to engage if passive grows via flows from active funds. Column (6) shows the change in percentage points between column (5) and (4). Column (7) shows the propensity to engage if passive grows via consolidation of active funds. Column (8) shows the change in percentage points between column (7) and (4).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Actual Data			Simulated Data				
	Held	Engaged		Baseline	Counterfactual 1	Δ	Counterfactual 2	Δ
Institution	#	#	%	%	%	%	%	%
BlackRock	4,044	931	23.0%	24.5%	25.8%	+1.3%	24.7%	+0.3%
Vanguard	4,052	754	18.6%	19.5%	20.6%	+1.1%	19.5%	0.0%
State Street	3,776	329	8.7%	8.4%	9.1%	+0.6%	8.4%	0.0%
Northern Trust	3,801	52	1.4%	2.5%	2.6%	+0.1%	2.5%	0.0%
Axa	2,635	120	4.6%	3.2%	0.6%	-2.6%	3.2%	0.0%
Allianz	1,515	51	3.4%	5.1%	1.1%	-4.0%	5.1%	0.0%
Robeco	1,168	61	5.2%	6.5%	1.5%	-5.0%	0.0%	-6.5%
Dimensional	3,029	310	10.2%	12.1%	2.2%	-9.9%	12.1%	0.0%
T. Rowe Price	3,103	296	9.5%	12.5%	4.4%	-8.1%	12.5%	0.0%
UBS	2,426	103	4.2%	4.6%	0.9%	-3.6%	4.6%	0.0%
Wellington	1,763	862	48.9%	51.3%	21.8%	-29.5%	51.3%	0.0%

Table VIII
Counterfactual #1: Value Creation if Passive Assets Grow through Flows

The table displays our model estimates for 2022, the last year in which we have complete data for all eleven fund families, and a counterfactual simulation assuming active funds shrink and passive funds grow until passive investing represents 90% of total AUM in the U.S. mutual fund industry. The analysis shows the total fixed costs incurred (columns (1) and (2)), value created (columns (3) and (4)), value that accrues to fund investors (columns (5) and (6)), and value that accrues to fund management (columns (7) and (8)).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Costs ($M)		Value Created ($M)		Value to Fund ($M)		Value to Fund Mgmt ($M)	
Institution	Estimated	Counterfactual	Estimated	Counterfactual	Estimated	Counterfactual	Estimated	Counterfactual
BlackRock	5.8	6.1	853.8	996.8	58.3	82.1	4.5	6.3
Vanguard	5.9	6.3	3328.7	3574.7	276.0	356.8	6.0	7.7
State Street	3.4	3.6	1418.7	1590.9	59.2	78.3	2.3	3.0
Northern Trust	1.3	1.4	209.7	273.1	2.3	3.6	0.2	0.3
Axa	1.1	0.3	78.6	885.3	0.5	1.1	0.1	0.1
Allianz	0.9	0.3	113.5	944.8	0.2	0.4	0.1	0.1
Robeco	0.9	0.3	231.6	712.5	0.5	0.3	0.2	0.1
Dimensional	3.1	0.9	1310.9	1191.5	5.8	0.8	0.5	0.1
T. Rowe Price	3.4	2.0	350.0	2156.2	9.6	12.7	2.2	2.8
UBS	1.3	0.4	60.6	1000.3	0.3	1.0	0.1	0.2
Wellington	0.7	2.4	1807.4	3364.1	24.2	9.2	2.2	0.8
Total – Passive	16.4	17.4	5811.0	6435.4	395.9	520.8	12.9	17.4
Total – Active	11.4	6.5	3952.5	10254.6	41.2	25.5	5.3	4.3
Total – All	27.8	23.9	9763.5	16690.1	437.1	546.3	18.2	21.7

Table IX
Counterfactual #2: Value Creation if Passive Assets Grow through Consolidation

The table displays our model estimates for 2022, the last year in which we have complete data for all eleven fund families, and a counterfactual simulation assuming that Robeco (the active manager with the fewest holdings) is acquired by BlackRock (a large passive manager). The analysis shows the total fixed costs incurred (columns (1) and (2)), value created (columns (3) and (4)), value that accrues to fund investors (columns (5) and (6)), and value that accrues to fund management (columns (7) and (8)).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Costs ($M)		Value Created ($M)		Value to Fund ($M)		Value to Fund Mgmt ($M)	
Institution	Estimated	Counterfactual	Estimated	Counterfactual	Estimated	Counterfactual	Estimated	Counterfactual
BlackRock	5.8	5.9	853.8	880.2	58.3	62.0	4.5	4.7
Robeco	0.9		231.6		0.5		0.2	
Total – Passive	16.4	16.5	5811.0	5837.4	395.9	399.6	12.9	13.2
Total – Active	11.4	10.5	3952.5	3720.8	41.2	40.7	5.3	5.1
Total – All	27.8	27.0	9763.5	9558.2	437.1	440.2	18.2	18.3

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