european corporate governance institute

The Economics of Investor Engagement

Finance Working Paper N° 1075/2025
Revised August 2026

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This paper can be downloaded without charge from:
https://doi.org/10.67929/ecgi-fin-1075-2025

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ECGI Working Paper Series in Finance

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The authors thank Ian Appel, John Barry, Hank Bessembinder, Alex Edmans, Yonca Ertimur, R udiger Fahlenbrach, Nick Gantchev, Zoran Ivkovich, Katharina Lewellen, Tao Li, Martin Schmalz, Sean Shin, Sunil Wahal, Fei Xie, and conference, seminar, and brown bag participants at the 2026 American Finance Association Annual Meeting, 2025 Four Corners Acade...

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Abstract

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Keywords: Corporate Governance, Engagement, Institutional Investors, Monitoring, Own-

JEL Classification: D21, G23, G32, G34, L22

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ABSTRACT

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I. Introduction

The separation of ownership and control is a defining feature of the modern corporation (Berle & Means, 1932), raising a basic question: who monitors management, and why? Institutional investors can monitor their portfolio firms through three channels: voting, exiting, and directly engaging with management (e.g., Edmans and Holderness (2017)). Direct engagement, in which investors communicate information and preferences to the managers of their portfolio companies, is the most widely used tool.[1] In 2024 alone, Vanguard and BlackRock together engaged with more than 3,900 portfolio companies worldwide. Yet despite its widespread use, the economics of investor engagement remain poorly understood because engagement actions are rarely observable.

In this paper, we provide the first evidence on the costs and benefits of engagement by estimating a discrete choice model using newly available data on institutional investor engagement. The model is a revealed-preference device: it recovers the costs and benefits investors act on from their observed engagement choices. 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 stewardship reports. We hand-collect these reports to construct a dataset of engagement activities

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

from 2019-2023 covering eleven major institutional investors, four predominantly passive and seven predominantly active.

On average, each institution engages with 318 firms per year, approximately 12% of its portfolio, but engagement varies widely among institutions. 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 sharply 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, stock visibility, and governance quality, or firm-by-year fixed effects. 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 why investors choose to engage, we develop a discrete choice model that recovers the costs and benefits of engagement from observed engagement decisions. Investors benefit from engagement through two channels tied to fund fees and to the flow-performance sensitivity of AUM: raising firm value directly increases AUM and fee income, and improved performance may attract additional inflows that increase fees further. Identification comes from how an institution's probability of engaging with a firm varies with its fee-weighted incentive to raise that firm's value, holding its dollar holdings fixed. A potential concern is that investors choose holdings in anticipation of engaging; we address this by instrumenting holding size with the holdings of an institution's passive funds, whose portfolio weights are

set mechanically by benchmark indices rather than engagement incentives.

Formally, the model assumes investors engage with a firm when the expected dollar benefit (b) of engaging exceeds that cost (c); both b and c are free to vary in sign and magnitude across investors and firms.[2]

We find that, on average, investors act as if a $10,000 investment in engagement yields a 0.3 to 0.4 basis point expected increase in firm value. While the largest passive families 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 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.

Because investors capture only a fraction of the value they create through engagement, our estimates imply that engagement is provided below the level that would maximize the collective value of shareholders' stake in each firm, echoing the classic free-rider logic of dispersed monitoring (Grossman and Hart (1980); Shleifer and Vishny (1986)). Investors engage only up to the point where their private benefit equals their cost, not the point where total value created equals total cost. Consistent with this, engagement tracks private capture rather than total value creation: passive investors engage less despite generating effects on firm value similar to or larger than active investors. We do not observe the shareholder-value-maximizing level of engagement directly; rather, our estimates establish that private incentives to engage are systematically smaller than total value created, so the wedge we

[2]The model's parameters are identified up to a common scaling parameter. Following 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. This normalization is disciplined by observed stewardship costs: data on staffing and compensation at institutions in our sample imply an average engagement cost of approximately $8,000–$10,000, consistent with the value we adopt. 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.

identify reflects underprovision relative to that benchmark.[3]

To examine firm-level heterogeneity in the costs and benefits of engagement, we allow costs and benefits to vary across firms rather than fixing them at their sample averages. We find that investors engage less with small firms even though the expected effect on firm value is more than an order of magnitude larger there: investors behave as though $11,879 spent on engagement at small firms raises firm value by 7 bps (about 3 bps under an alternative specification), yet small positions still make these firms less likely to be engaged. Engagement is similarly less appealing for more profitable firms, which have less room for improvement, and for firms with entrenched management, which face higher engagement costs.

We also explore how the costs and benefits of engagement vary with institutional investor scale (total AUM) and scope (number of firms held). We find that passive investors exhibit modest economies of scope and flat economies of scale, while active investors exhibit significant diseconomies of scale — a one standard deviation increase in log AUM is associated with a 0.72 bps decrease in value creation — consistent with 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 different 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. They ask how the private provision of monitoring responds as ownership concentrates, a question of direct interest to regulators including the U.S. Securities and Exchange Commission (SEC).[4] We then examine whether, and how, these scenarios affect engagement and value creation.

[3]We discuss this wedge in greater detail, and its distinction from social welfare, in the conclusion.

[4]See the written record of SEC Commissioner Allison Herren Lee's speech "Every Vote Counts: The Importance of Fund Voting and Disclosure" (A. H. Lee, 2021) as well as statements made by the Trump Administration regarding the voting of index-fund managers (Pitcher & Glazer, 2025).

When passive assets grow through flows from active funds, engagement and value creation both rise: passive investors, who exhibit no diseconomies of scale, engage more as their holdings grow, and although shrinking active investors engage less, their diseconomies of scale mean they create more value per dollar as they shrink, raising total value creation. When passive assets instead grow through consolidation — the acquisition of a small active investor by a large passive one — the acquirer's engagement rises only slightly while the acquired investor's engagement is eliminated entirely, and because passive economies of scale are flat, total value creation falls.[5] The impact of rising passive investment therefore depends on how passive investors grow.

Our paper contributes to a long line of work on the economics of monitoring by a firm's owners. The separation of ownership and control creates a demand for monitoring that dispersed shareholders underprovide (Jensen & Meckling, 1976; Shleifer & Vishny, 1997). Prior work on shareholder governance has focused mostly on voting and exit (Admati, Pfleiderer, & Zechner, 1994; Edmans, 2009; Edmans & Holderness, 2017; Krueger, Sautner, & Starks, 2020), because direct engagement is rarely observable. 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.

Second, our study speaks to how the identity of a firm's owners shapes its governance (Demsetz, 1983; Hart & Zingales, 2017; Azar et al., 2018), in two ways. First, prior studies

[5]It is important to note that our counterfactual simulations focus on shareholder value and do not capture potential externalities, such as anticompetitive effects of common ownership (e.g., Azar, Tecu, and Schmalz (2018); Antón, Ederer, Giné, and Schmalz (2023)). If large, diversified owners raise portfolio firm value partly by softening product market competition or reducing innovation, then engagement could exceed the socially optimal level even where it falls short of the level that maximizes shareholder value. Our revealed-preference estimates measure the expected value that different classes of investors capture, so they do not speak to total welfare.

suggest that passive investors have less incentives and resources to monitor than active investors do (Bebchuk, Cohen, & Hirst, 2017), and cede more power to firm management (Heath, Macciocchi, Michaely, & Ringgenberg, 2022; Antón et al., 2023). Our paper expands this literature by adding direct evidence for this: passive investors have similar engagement costs and effects on firm value as active investors, but engage less because their lower fees mean they capture less of the value created. Second, over the last 20 years, investors have shifted from actively managed funds into passively managed index funds, and consolidation has concentrated assets within the largest passive families (Lewellen & Lewellen, 2025). Our counterfactual simulations speak to these trends and show that the source of passive growth matters: flows from active investors raise engagement-driven value creation, while consolidation lowers it.

Third, our results speak to the industrial organization of the asset-management industry, which prior work has studied through the lens of fees, skill, and returns to scale (Hortaçsu & Syverson, 2004; Berk & Green, 2004; Pástor & Stambaugh, 2012). We add a new margin to that analysis: while prior work examines the value a fund creates in security selection and information processing (Kacperczyk, Van Nieuwerburgh, & Veldkamp, 2016), we show that engagement is a further, previously unmeasured channel through which institutions create value, and that the technology of engagement is similar across active and passive funds. Where the two diverge is in returns to scale. Active funds exhibit decreasing returns, consistent with models in which a larger manager has less room to create value per dollar (Berk & Green, 2004; Pástor & Stambaugh, 2012); these diseconomies cap the efficient size of an active fund and favor fragmentation and competition. Passive funds show no such diseconomies; their returns to scale are flat, and they enjoy economies of scope which, by the standard logic linking scale and scope economies to market structure (Panzar & Willig,

1977; Sutton, 1991), favors further consolidation and concentration.

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;[6] they can communicate with corporate managers via phone calls; or, they can meet with corporate managers in person or virtually.

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.[7]

Commonly, fund managers engage with companies around quarterly earnings calls. Stewardship teams may accompany fund managers or act independently, and the people involved

[6]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 with a portfolio firm in our sample.

[7]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."

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.[8]

While no regulation directly governs engagement itself, several rules constrain what firms and investors can communicate to each other during these interactions. Regulation Fair Disclosure prohibits companies from selectively sharing material non-public information with investors, and firms that do so must file an 8-K; investors, in turn, are barred from trading on any material non-public information they receive under Rule 10b5-1. Proxy-related engagement is separately constrained by Rule 14a-6, which requires firms to publicly disclose proxy-relevant information they share with investors, and many firms have adopted bylaws further restricting engagement conduct. Together, this regulatory framework is designed to prevent engagement from conferring an information advantage on any particular investor, consistent with the UN PRI's (2023) framing of stewardship as the use of investor influence to benefit "clients' and beneficiaries' interests" collectively.

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

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

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 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). Some institutions have engagement data available for a subset of years. Our sample includes every large institution that, at the start of data collection in 2024, publicly disclosed engagement at the firm level in its annual stewardship reports. Some institutions report only aggregate engagement data; the eleven in our sample are those that name the specific firms they engaged. The maximum common granularity across our eleven families is a binary indicator for engagement by family-firm-year, which is our key outcome of interest.

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 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.[9] 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 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, and passive and active families do so at essentially the same rate (12% each), which indicates that the two groups disclose engagement comparably.[10] 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

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

[10] A residual concern is that passive families, which run larger stewardship teams and publish more detailed reports, disclose engagement more completely than active families. Any such over-disclosure would work against us: it would only reinforce our finding that passive families engage less conditional on holding size (Table I, Panel A), and it would attenuate rather than inflate our estimated benefits of engagement, since spurious marginal engagements weaken the measured relation between holding size and engagement.

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, Litov, & Rajgopal, 2026). 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 1 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 1, 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 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:

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

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

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

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 et al. (2009), which is a composite of six indicator variables 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, the dollar-holdings association does not weaken when these

[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).

non-financial measures are included; in column 2, which adds them alongside the alternative financial controls, the coefficient on *log($Holding)* is if anything slightly larger than in column 1 (13.7pp versus 12.1pp).

As one final test, in column 3 we add firm-by-year fixed effects. Firm-by-year fixed effects offer a more flexible test of this non-financial story, since they absorb governance, visibility, and ESG performance simultaneously, along with any other time-varying firm characteristic that might drive engagement, rather than relying on the specific controls in column 2. Reassuringly, the coefficient on log($Holding) remains large and highly significant once these fixed effects are included, indicating that financial incentives, not observable or unobservable non-financial firm characteristics, are the primary driver of engagement decisions.

Although the coefficient on the dollar value of holdings declines from 13.7pp to 7.4pp after adding firm-by-year fixed effects, 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:

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

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

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 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.

The probit treats the shock's dispersion σ as constant across firms (additive errors). Letting σ instead scale with firm size (i.e. multiplicative errors) shrinks the benefit we later

[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.

estimate for small firms, but does not change any of our conclusions (see Internet Appendix Section A3).

A. Identifying Assumptions

Identification of the costs and benefits rests on one source of variation: how an institution's probability of engaging a firm moves with the incentive term $\kappa \cdot DV$, the present value to the institution of a one-dollar increase in the firm's value. The probit recovers the slope on $\kappa \cdot DV$, equal to b/σ, and the intercept, equal to $-c/\sigma$, so the data identify the benefit and cost only relative to the scale σ, which we fix below to express b and c in dollars. Because κ scales the holding into the value the investor captures, b is the benefit per dollar of value created, identified separately from the raw holdings coefficient in the reduced form (Table II); both b and c may be positive or negative.[16] One caveat is that κ is built from a family-average fee, an estimated flow–performance elasticity, and an assumed discount rate, so $\kappa \cdot DV$ is measured with error; classical measurement error attenuates b/σ toward zero and makes our benefit estimates conservative.

Identifying (b, c) requires that the shock ϵ be independent of $\kappa \cdot DV$ and standard normal with constant variance, an assumption we probe by letting σ scale with firm size in Internet Appendix Section A3. Because the probit, unlike a linear model, cannot carry firm-by-year fixed effects, this independence must hold conditional only on the firm and fund characteristics we interact with $\kappa \cdot DV$. Put plainly, no non-incentive driver of engagement may co-vary with $\kappa \cdot DV$. Three such drivers are the leading concerns: firm-initiated outreach that scales with an investor's stake, so that engagement reflects the firm's choice rather than the investor's; a reputational or marketing motive, including the retention of client man-

[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.

dates, that makes engagement more likely where positions are larger rather than where the expected value created is larger; and reverse causality, in which institutions choose holdings in anticipation of engaging.

We bound these concerns but cannot eliminate them. The holdings–engagement relation does not weaken when we add non-financial controls such as ESG performance and visibility, and firm-by-year fixed effects, available only in the linear model, leave it large and significant (Table II, column 3), which rules out firm characteristics common to all of a firm's holders, such as visibility or the need for oversight. That linear specification tests whether the relation survives within-firm-year variation; it does not recover b and c. Engagement also tracks the fee-capture term κ, not position size alone: families that hold similar dollar amounts but charge different fees engage at different rates, a pattern that a reputational or marketing motive tied to the size of a position does not predict. Instrumenting holdings with an institution's passive ownership addresses reverse causality. What we cannot separate, and so assume away, is a non-incentive driver such as firm-initiated outreach that scales with the full incentive term $\kappa \cdot DV$ rather than with position size alone.

Another concern is that our findings reflect the idiosyncrasies of a small number of institutions, or that institutions self-select into disclosing engagement in ways correlated with the costs and benefits we estimate. We cannot test the second concern directly, since we do not observe engagement decisions for institutions that disclose only in aggregate or not at all. However, the evidence below speaks to the first concern and indirectly suggests the second concern is unlikely to bias our estimates. Specifically, our model estimates each institution's cost and benefit separately, and because the likelihood is additively separable across institutions (Internet Appendix A5), no single institution's estimated parameters affect those of any other institution. The sign of the incentive effect is positive for all eleven institutions

(Table III), and dropping any one institution and re-estimating the model on the rest leaves our conclusions unchanged (Internet Appendix A9). This stability across institutions that differ sharply in size, fee structure, and passive versus active style is more consistent with a general economic relation between financial incentives and engagement than with an artifact of a few idiosyncratic disclosers.

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 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

[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.

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.

We address reverse causality, the concern that institutions choose their holdings in anticipation of engaging, with an instrument. We instrument each institution's holdings in a firm-year with the holdings of its passive funds. Because passive holdings track benchmark index weights and fund flows rather than engagement plans, neither reverse causality nor an omitted firm variable is likely to drive both holdings and engagement.[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

[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, Loginova, Malenko, & Malenko, 2023).

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:

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

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). Each institution j has its own benefit b_j, cost c_j, and loading on $\kappa_{jt}DV_{ijt}$. As a result the log-likelihood is additively separable across institutions, so estimating the parameters for all families jointly is numerically identical to estimating them individually (see Internet Appendix Section A5).

We report the baseline estimates, by institution, in Table III. The estimated effect of engagement on firm value, averaged across institutions, is 0.3 to 0.4 basis points (bps), and reaches 3 to 7 bps at small firms (Table V). That is, the institutions in our data behave as if they expect engaging with a portfolio firm to raise its value by a few tenths of a basis point on average, several times more at small firms. This effect is slightly larger for passive institutions (0.44 bps) than for active institutions (0.32 bps). There is also substantial variation among institutions in the expected effect on firm value, ranging from 0.11 bps for T. Rowe Price to

0.82 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 $10,031, compared to an average cost of $9,945 for passive institutions. Active institutions have a higher average cost per engagement, with costs reaching $13,710 for Axa. Wellington is an outlier with a very low estimated cost of engagement ($1,488). 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. Because Wellington is such an outlier, we verify that it does not drive our results: dropping it and re-estimating leaves all of our conclusions unchanged (Internet Appendix Section A9, Tables A10 to A12).

Of course, it is possible that institutions change their holdings in anticipation of engaging. To address this, Table IV presents IV estimates for the six institutions where the instrument is strong (Section IV.B); the results are similar to the baseline estimates in Table III.[19] The similarity of the estimates suggests that our main findings are robust and unlikely to be driven by reverse causality or omitted variables. Our conclusions are also robust to absorbing firm size, flexibly and nonparametrically, via market-capitalization-decile-by-year fixed effects in both stages; see Internet Appendix Section A8. 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.

[19]We find similar results when we instead instrument with the institution's prior-year passive holdings valued at prior-year prices, so that no component of the instrument is contemporaneous. Results are reported in the Internet Appendix.

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 (0.44 bps) compared to active institutions (0.32 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 two-fifths 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 at least as large an effect on firm value. A natural concern is that the predominantly passive and predominantly active families differ along dimensions, such as scale, that make combining them inappropriate. In Internet Appendix Section A4 we show that the estimated benefit of engagement is unrelated to a family's passive share or its total assets under management, so the finding that passive families are at least as effective as active families is not an artifact of combining families that differ in type or size, and Internet Appendix Section A5 shows the estimates are separable across families: the passive and active estimates do not influence one another; the active–passive gap in engagement operates through fees (κ) rather than through the technology of engagement.

B. Heterogeneity in 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. (2009). 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 ($11,879 compared to $6,858, 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

[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.

value of positions in these firms make them less likely to be engaged.

A potential concern is that the large estimated benefit for small firms partly reflects heteroskedasticity in the engagement decision — a smaller dispersion of the latent shock at small firms — rather than a genuinely larger effect on firm value.[21] As a check, in Internet Appendix Section A3 we relax the assumption that this dispersion is constant across firms and instead allow the shock's standard deviation to scale with firm size. Under this alternative specification, the estimated small-firm benefit falls to about 3 basis points (from 7 basis points) but remains positive and larger than the benefit for large firms, leaving all of our conclusions unchanged.

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-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

[21] Formally, our main specification assumes an additive shock, so that σ is constant across firms. In the Internet Appendix, we instead let σ scale multiplicatively with firm size.

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 \$2,038 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 \$4,349 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 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)) 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 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 1). 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 results from the counterfactual simulation. Column 4 shows the fraction of firms engaged by each institution 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 as they grow larger 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 become less prone

[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.

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, it also allows us to provide novel evidence on how this impacts value creation both for fund investors and for society as a whole. We measure value creation as the firm value investors *expect* their engagement to produce, summed across their holdings. These are the model's revealed benefits, not the realized causal effect of engagement on firm value, which is far harder to identify and which we do not claim to estimate here.

Table VIII, Panel A, presents the results. Overall, our estimates imply that the investment industry spent $27.7 million on engagement in 2022 and this activity was estimated to produce $9.7 billion in additional firm value. Since each family holds a fraction of each firm, the value created for the investors of those families was $436 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 $0.9 million.

At the same time, the total value created by active families' engagement increases even more, by $6.3 billion (from $3.9 billion to $10.2 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 $41.1 to $25.4 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 Panel B of Table VIII, we find that the overall effect is that BlackRock's value creation increases from $851 to $878 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).

These counterfactuals illustrate mechanisms, rather than deliver forecasts. They extrapolate from our eleven large families to a 90%-passive fund industry. They also hold each family's cost and benefit schedule fixed, and abstract from strategic responses. The qualitative lesson survives these caveats: whether passive growth raises or lowers engagement-driven value creation depends on *how* passive assets grow.

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

[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.

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 privately optimal engagement decisions for large institutional investors and the value-maximizing decisions.

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. We then estimate the costs and benefits of engagement: investors behave as if $10,000 spent on engagement will increase firm value by 0.3 to 0.4 bps, and by 3 to 7 bps at small firms.

Our results shed light on the economics of investor engagement. We find that engagement actions are primarily driven by financial rather than reputational or marketing considerations. Investors, both active and passive, behave as if they expect engagement to have a modest but positive impact on firm value. Yet, 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 document a wedge between an investor's privately optimal level of engagement and the level that would be optimal for a firm's shareholders.

Using two counterfactual scenarios, we examine how the continued rise of passive ownership would reshape the supply of monitoring implied by our estimates. While many aca-

demics, 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, and cannot speak to social welfare. The wedge we identify is between an investor's private incentive and the interest of shareholders as a group. Future research should investigate whether engagement is socially excessive or deficient. In particular, if large, diversified owners raise portfolio firm value partly by softening product market competition, as the common-ownership literature argues (Azar et al., 2018; Antón et al., 2023), then engagement, and especially co-engagement by the largest investors, could exceed the socially optimal level, and our revealed-preference estimates cannot separate this channel from genuine value creation. 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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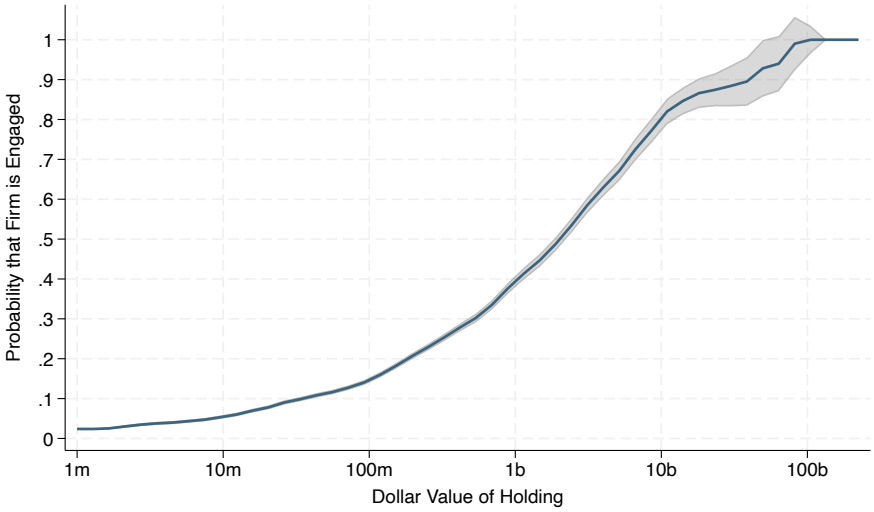
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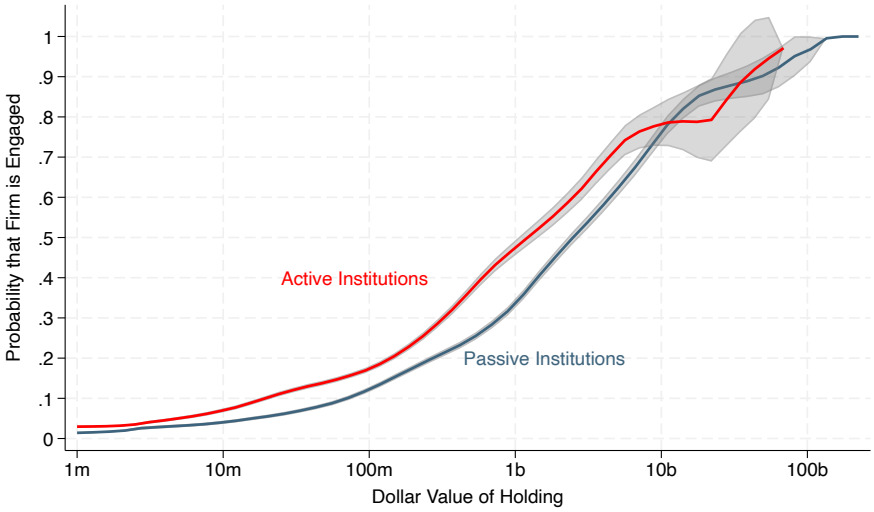
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(a) Panel A: All Institutions



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

Figure 1. 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., 2009) 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	$6,568 ($157)	0.18 (0.03)	0.01
Vanguard	$7,927 ($132)	0.82 (0.08)	0.02
State Street	$10,579 ($289)	0.51 (0.10)	0.02
Northern Trust	$14,706 ($304)	0.24 (0.06)	0.03
Axa	$13,710 ($228)	0.19 (0.06)	0.02
Allianz	$12,517 ($316)	0.20 (0.05)	0.06
Robeco	$12,136 ($380)	0.28 (0.03)	0.12
Dimensional	$8,983 ($157)	0.75 (0.11)	0.07
T. Rowe Price	$9,177 ($198)	0.11 (0.02)	0.02
UBS	$12,208 ($264)	0.14 (0.05)	0.03
Wellington	$1,488 ($169)	0.58 (0.10)	0.05
Average - All	$10,000	0.36	0.04
Average - Passive	$9,945	0.44	0.02
Average - Active	$10,031	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	\$11,879 (\$813)	7.37 (2.54)	\$10,351 (\$863)	4.69 (3.17)
Mid Cap	\$10,596 (\$199)	1.53 (0.15)	\$8,518 (\$277)	0.50 (0.24)
Large Cap	\$6,858 (\$182)	0.28 (0.03)	\$5,616 (\$279)	0.28 (0.05)
Marginal Effect:				
E-Index	\$710 (\$107)	0.01 (0.01)	\$705 (\$140)	0.01 (0.02)
ROA	\$-241 (\$232)	-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	$12,064	0.24	$11,715	0.19
Marginal Effect:				
# Stocks Held	$-2,038 ($479)	0.01 (0.08)	-$1,190 ($502)	0.29 (0.13)
log(AUM)	$109 ($671)	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	$7,799	0.08	$9,044	0.34
Marginal Effect:				
# Stocks Held	$225 ($435)	0.21 (0.05)	$809 ($471)	0.32 (0.05)
log(AUM)	-$4,349 ($497)	-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: Value Creation

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. Panel A assumes passive assets grow through flows, while Panel B assumes passive assets grow through consolidation. Specifically, it assumes 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
Panel A: Scenario #1 (passive assets grow through flows)								
BlackRock	5.8	6.1	851.3	993.9	58.1	81.9	4.5	6.3
Vanguard	5.9	6.3	3319.0	3564.3	275.2	355.8	6.0	7.7
State Street	3.4	3.6	1414.6	1586.3	59.0	78.1	2.3	3.0
Northern Trust	1.3	1.4	209.1	272.3	2.3	3.6	0.2	0.3
Axa	1.1	0.3	78.4	882.7	0.5	1.1	0.1	0.1
Allianz	0.9	0.3	113.2	942.1	0.2	0.4	0.1	0.1
Robeco	0.9	0.3	230.9	710.4	0.5	0.3	0.2	0.1
Dimensional	3.1	0.9	1307.1	1188.0	5.8	0.8	0.5	0.1
T. Rowe Price	3.4	2.0	349.0	2149.9	9.6	12.7	2.2	2.8
UBS	1.3	0.4	60.4	997.4	0.3	1.0	0.1	0.2
Wellington	0.7	2.4	1802.2	3354.3	24.1	9.2	2.2	0.8
Total – Passive	16.4	17.3	5794.1	6416.7	394.8	519.3	12.9	17.3
Total – Active	11.4	6.5	3941.0	10224.8	41.1	25.4	5.3	4.3
Total – All	27.7	23.8	9735.2	16641.7	435.8	544.7	18.1	21.6
Panel B: Scenario #2 (passive assets grow through consolidation)								
BlackRock	5.8	5.9	851.3	877.6	58.1	61.8	4.5	4.7
Robeco	0.9		230.9		0.5		0.2	
Total – Passive	16.4	16.5	5794.1	5820.5	394.8	398.4	12.9	13.2
Total – Active	11.4	10.5	3941.0	3710.0	41.1	40.6	5.3	5.1
Total – All	27.7	26.9	9735.2	9530.5	435.8	438.9	18.1	18.2

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