The proxy advice industry and common owners' coordination

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Abstract

High levels of common ownership may reduce firms' incentives to compete. The empirical relevance of this concern is controversial, in part because there are no obvious mechanisms for common owners to coordinate their actions. I study a channel, proxy advisors, which may induce such coordination simply by satisfying their fiduciary duty. A single proxy advisor – Institutional Shareholder Services (ISS) – provides advice to 70% of all institutional investors on how to vote at shareholder meetings. I clarify in a theoretical framework how a proxy advisor maximizing client value will promote softer competition for commonly held firms. Combining data on ownership and shareholder meetings for all publicly listed U.S. firms (2003-2017), I find empirical support for the model's mechanism. In particular, for a firm with higher common ownership, ISS is more likely to i) support mergers, ii) oppose managerial incentive contracts that enhances performance-sensitivity, and iii) support director interlocks.

Keywords: Common Ownership, Institutional Investors, Proxy Advisors, Antitrust
JEL codes: G23, L13, G34, L40

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1 Introduction

Ownership today is concentrated to large institutional investors who often hold shares in competing firms. Does this weaken product market competition? Theoretical models have clarified the incentives of owners to promote softer competition between firms in which they have ownership stakes (Rotemberg, 1984; Bresnahan and Salop, 1986). The rise in common ownership is also well-documented (Backus et al., 2021b; Amel-Zadeh et al., 2022). Some studies find empirical support for that such common ownership is associated with softer product market competition (e.g. Azar et al., 2018, 2022; Aslan, 2019) but these claims have seen substantial push-back (e.g. O'Brien and Waehrer, 2017; Dennis et al., 2022).

The debate has focused on how common ownership could lead to lower competition, as institutional investors have few means to influence portfolio firms. The main tool investors have at their disposal is voting at shareholder meetings but institutional investors, holding minority stakes, can rarely affect voting outcomes. A central institutional feature has, however, escaped the literature. Most institutional investors effectively outsource voting to proxy advisors and 70% use the same advisor, Institutional Shareholder Services (ISS). Proxy advisors act as fiduciaries to their clients and play a key role in swaying voting outcomes in the interest of investors.

This paper shows how proxy advisors, by coordinating investors' interests, can lower competition for commonly held firms. Combining data on ownership and shareholder meetings for all publicly listed U.S. firms (2003-2017), I show how ISS supports proposals that lower competition for firms with higher levels of common ownership.

Proxy advisors play an increasingly important role in corporate governance. As private, independent third parties, proxy advisors provide institutional investors with recommendations on how to vote at shareholder meetings. ISS' market dominance is primarily a result of large economies of scale. Linking investors to proxy advisors, I show that ISS clients on average control 20% of firms' shares; in comparison, the largest owner typically holds around 5%. ISS' influence on how investors vote is considerable: a negative recommendation by ISS on a proposal leads to 20-25% lower support by investors (Malenko and Shen, 2016; Shu, 2023).

I demonstrate the coordinating role of proxy advisors using a theoretical framework. When a proxy advisor gives advice to investors on a firm's strategic actions, and the investors hold shares in rival firms, the advisor may take this into account when making recommendations. I derive profit weights which measure the weight placed on competing firms by the proxy advisor's clients. I show that the higher the level of common ownership between firms, the higher the weight is placed on competitors' profits, meaning that the proxy advisor will promote lower competition for commonly held firms. Notably, this is not a result of collusion. This happens when the proxy advisor fulfills its fiduciary obligation, i.e. the legal responsibility to act in the best interest of its clients.

To study this empirically, I combine data on ownership and shareholder meetings. I collect data to link investors to proxy advisors using the same approach as Matsusaka and Shu (2022) and Shu (2023). I use data on institutional investors' stock holdings from Backus et al. (2021b) and CRSP. Data on firms' shareholder meetings comes from ISS Voting Analytics. This data covers 90,000 shareholder meetings across 9,000 firms, and 100 million votes cast by institutional investors.

The empirical strategy is guided by the theoretical framework. I first measure the degree of common ownership for each firm using the profit weights derived in the framework. Using firm-level panel data, I then study whether ISS is more likely to support proposals that reduce competition for firms with higher levels of common ownership. I analyze ISS' recommendations for three distinct corporate governance decisions that are central to how firms compete: mergers, managerial incentives, and director interlocks.

First, I study mergers. Mergers are one of the major focus areas of antitrust authorities. While mergers can be motivated by different factors, a large empirical literature finds that consolidation generally reduces competition and raises prices (e.g. Barton and Sherman, 1984; Borenstein, 1990; Kim and Singal, 1993; Ashenfelter and Hosken, 2010; Ashenfelter et al., 2013; Kwoka, 2014; Blonigen and Pierce, 2016; Shapiro, 2019; Rickert et al., 2021). Kwoka (2023), for example, finds in a meta analysis that 83% of mergers resulted in price increases, with an average price increase of 7%. The mergers I study involve publicly traded companies and are deals that require shareholder approval. These are large deals, such as

when listed firms sell their entire operation or acquire a company and finance the deal by issuing more than 20% of new shares.[1]

Second, I analyze management incentives. Investors can influence how firms compete through the incentive contracts given to managers. Managers whose compensation is more tightly linked to firm performance have higher incentives to compete and equity compensation is commonly used to align managers' incentives with firm performance. Managerial incentives have been found to vary with common ownership, with managers of commonly held firms having less performance-sensitive compensation and, thus, lower incentives to compete (Antón et al., 2023).

Third, I examine director elections that result in board interlocks, which is when the same director is appointed to sit on two competing firms' boards. Director interlocks are prohibited by the Clayton Act,[2] because of the risk this poses that these directors engage in anticompetitive behavior. In practice, however, the law is rarely enforced and director interlocks are common across competitors (Cabezon and Hoberg, 2022). Firms with interlocking directors are found to compete less intensely - setting higher prices and being more likely to collude (Gopalan et al., 2023).

I focus on these three corporate governance decisions, which previous literature has shown soften competition on average. The novelty is that I show that common ownership makes these decisions more likely, through the advice given by ISS. For all three decisions, I find a positive and statistically significant effect of common ownership on the probability that ISS promotes the decision. Specifically, for firms with higher levels of common ownership, ISS is more likely to support mergers, oppose performance-sensitivity enhancing incentive contracts, and support director interlocks.

In terms of quantitative effects, an increase from the 10^{th} to the 90^{th} percentile in firm-level common ownership implies a 3 percentage point increase in the probability that ISS supports director interlocks, a 0.1 percentage point increase in the probability that ISS opposes equity stock plans, and a 0.02 percentage point increase in the probability that ISS

[1]Which mergers require shareholder approval vary depending on state laws and company bylaws. Shareholder approval of mergers and acquisitions for firms listed at the NYSE and NASDAQ is required when the acquirer intends to finance the deal by issuing more than 20% of new shares.

[2]Section 8 of the Clayton Antitrust Act of 1914.

supports mergers. The results have large economic implications as this affects competition between all publicly traded firms. ISS clients hold USD 22 trillion in assets and control 20% of the equity traded on U.S. stock markets. ISS has a global reach and while this paper uses data on U.S. firms, ISS' influence on less mature capital markets is growing and could be more consequential (see e.g. the debate on differential voting rights).[3]

The central contribution of this paper is to provide a mechanism for how common ownership leads to lower competition. To remain liquid and be able to freely trade stocks, investors are restricted from actively engaging with management, as this would put them at risk of trading on insider information (Bhide, 1993). Holding minority stakes, institutional investors also have limited ability to affect voting outcomes. Firms, on their part, are allowed to take many actions that reduce competition, but it is hard for firms to coordinate. Even if firms want to raise prices, each firm has an incentive to undercut its competitors. Firm managers may also not be informed about the structure of their investors' portfolios and whether or not they own shares in competing firms. I show, instead, how coordination can take place through proxy advisors.

This paper builds on three distinct literatures. First, Antón et al. (2023) show that managerial incentives are one way for commonly held firms to coordinate on competing less intensely. They find that managers of commonly held firms have incentive contracts that are less linked to firm performance and, thus, have lower incentives to compete. This is the main mechanism that has been proposed for how common ownership leads to lower competition. My results relate to this finding directly. Managerial incentive contracts are voted on at shareholder meetings and need approval by a large enough block of investors. I show how proxy advisors coordinate common owners' interests in implementing less performance-sensitive managerial incentive contracts.

A second strand of literature finds that diversified investors take account of shareholdings across portfolio firms when they vote. Matvos and Ostrovsky (2008) find that institutional investors consider holdings in both the target and the acquiring firm when they vote on mergers. Charoenwong et al. (2022) study actively managed equity funds and find that funds with higher levels of common ownership are more likely to vote for directors that create board

[3]See e.g. Financial Times, 28 February 2023 "Why Europe is the next battleground for investor control".

interlocks and to vote against performance-linked managerial incentives. Shareholder voting is the main tool investors have to influence how firms compete. Holding minority stakes, however, institutional investors need a way to coordinate to influence voting outcomes.

Third, my paper builds on the literature on the role of proxy advisors in corporate governance. ISS' influence on how investors vote is well-documented in the literature: Malenko and Shen (2016) and Shu (2023) estimate the causal impact of a negative recommendation by ISS to be a 20-25% decline in investor support. Shu (2023) establishes a feedback mechanism between investor preferences and ISS' recommendations. Studying how ISS updates its recommendations on proposals that reappear at shareholder meetings, he finds that ISS caters to clients' preferences. Ma and Xiong (2021) show theoretically how a profit-maximizing proxy advisor will cater its recommendations to clients' preferences. Hayne and Vance (2019) argue, based on a field study, that proxy advisors' recommendations can be seen as an aggregator of institutional investors' preferences.

The paper further contributes to the literature on common ownership and competitive incentives. Early theoretical examinations show how firms that share owners may internalize how their actions affect their rivals' profits (Rotemberg, 1984; Bresnahan and Salop, 1986; Hansen and Lott, 1996; O'Brien and Salop, 2000). Building on this literature, recent studies quantify the prevalence of common ownership and analyze its implications for firms' incentives to compete, see Backus et al. (2021b) and Amel-Zadeh et al. (2022) focusing on the U.S. (the S&P 500 firms) and Banal-Estañol et al. (2022) focusing on Europe (the S&P Europe 350 firms). Huse et al. (2022) study overlap in ownership more broadly and account for both common ownership and cross-ownership.

The rest of the paper is structured as follows. Section 2 discusses the institutional details on shareholder voting and proxy advisors. In Section 3, I present my theoretical framework. Section 4 describes the data. I outline my empirical strategy in Section 5 and present my results in Section 6. In Section 7, I discuss assumptions and provide supporting evidence. Section 8 concludes.

2 Institutional context

2.1 Proxy advisors and outsourcing of shareholder voting

Institutional investors own between 70-80% of U.S. corporate equity, up from 20% in the 1970s. This signifies a dramatic shift away from households directly holding equity, to indirect ownership, via institutional investors. The distinguishing feature of institutional investors is that they invest other people's money. The dominant types of institutional ownership are mutual funds, followed by exchange traded funds (ETFs) and pension funds.

In 2003, the Securities and Exchange Commission (SEC) passed a ruling[4] intended to ensure that mutual funds and ETFs vote in the best interest of shareholders. Similar regulation on pension funds had already been passed in 1988. Institutional investors often face conflicts of interests as they provide services to the firms that they invest in, such as underwriting of bonds or managing employees' pensions. Such business ties may lead investors to vote in a manner that favors firms and their managers, as opposed to shareholders, as managers can otherwise withhold business.

The SEC ruling instituted three main obligations. First, mutual funds and ETFs were required to develop voting policies designed to ensure that they vote in the best interest of shareholders. Second, they had to demonstrate that their votes were not a product of a conflict of interest. Third, they were to annually file their complete voting records with the SEC.

The ruling, however, stated that an investor could discharge its duty to vote and "demonstrate that the vote was not a product of a conflict of interest if it voted client securities, in accordance with a pre-determined policy, based upon the recommendations of an independent third party" (SEC, 2003), such as a proxy advisor.[5] The ruling became a watershed moment for the proxy advice industry, as relying on proxy advisors became the most cost-

[4]SEC (2003) Final Rule: Proxy Voting by Investment Advisers, 68 Fed. Reg. 6585

[5]This view was further reinforced in subsequent letters by SEC staff: "An independent [investment] adviser that votes client proxies in accordance with a pre-determined policy based on the recommendations of an independent third party will not necessarily breach its fiduciary duty of loyalty to its clients even though the recommendations may be consistent with the adviser's own interest. In essence, the recommendations of a third party that is in fact independent of an investment advisor may cleanse the vote of the adviser's conflict." SEC, Egan-Jones Proxy Services: No Action Letter, (May 27, 2004). See also, SEC, Institutional Shareholder Services, Inc.: No Action Letter, (Sep. 15, 2004).

effective way to fulfill the fiduciary and regulatory obligations of voting for most institutional investors.[6]

In addition to regulation, there have been economic drivers of the demand for proxy advisors. The increase in diversification means that investors today hold shares in a growing number of firms and are, thus, required to vote at an increasing number of shareholder meetings. Regulatory initiatives to promote shareholder engagement have also expanded the proposals that shareholders vote on, such as the financial crisis, with the Dodd-Frank Act of 2010 instituting an advisory vote on executive compensation at least every three years.

Proxy advisors' influence on how investors vote is well-documented in the literature. Studies have found that when proxy advisors oppose a proposal, investors are 20-25% more likely to vote against (Shu, 2023; Malenko and Shen, 2016).[7] In Section 7, I discuss outsourcing of voting and the influence of proxy advisors in more detail. In particular, I show how 40% of ISS' clients vote in near-perfect lockstep with ISS, including both active and passive investors. I also show how investors immediately change their voting behavior once they start subscribing to ISS, starting to vote more in line with ISS' recommendations.

Online Appendix D provides quotes from sample voting guidelines of institutional investors. Many investors explicitly write that they delegate voting to proxy advisors. These include also large asset managers, such as Blackstone, who describe how voting is delegated to ISS. (See also Alpine Woods Capital and Philadelphia International Advisors).

The big three asset managers - BlackRock, Vanguard, and State Street - invest considerably in independent corporate governance research and design their own voting policies. Still, they all subscribe to proxy advisors and use proxy advisors' recommendations as input in their research (for details, see Online Appendix D).

Candence Capital Management's voting guidelines exemplify how costly it can be to vote independent from proxy advisors. Their voting guidelines specify that "Investment professionals deviating from these recommendations must provide the CCO with a written

[6]As stated by SEC commissioner Daniel Gallagher, the SEC Ruling "[e]ffectively bless[ed] the practice of investment advisers simply voting the recommendations provided by proxy advisers."

[7]Shu (2023) studies voting behavior of funds that are acquired by a fund family that uses a different proxy advisor and finds that ISS sways votes by 20%. Malenko and Shen (2016) make use of a cutoff in ISS' voting guidelines on advisory votes on executive compensation, finding a similar impact of ISS swaying votes by 25%.

explanation of the reason for the deviation, as well as a representation that the Employee and Cadence are not conflicted in making the chosen voting decision."

In addition to giving voting advice, proxy advisors also provide voting execution services, assisting investors in casting and reporting votes. These are time consuming tasks that investors rarely perform themselves and the vast majority of investors subscribe to a proxy advisor.

Proxy advisors, in turn, have a fiduciary obligation towards their clients (i.e. subscribing investors). ISS is a registered investment adviser with the SEC under the Investment Advisers Act of 1940 and, as such, has a fiduciary duty to act in the best interest of its clients.

2.2 Institutional Shareholder Services

The proxy advice industry is characterized by large economies of scale and scope. A proxy advisor can sell voting recommendations for a shareholder meeting to potentially hundreds of investors, instead of each investor bearing the cost of independently conducting the research. These scale economies have resulted in high market concentration. 70% of institutional investors use ISS as an advisor. In 2020, the holdings of ISS clients corresponded to USD 22 trillion in assets and ISS clients control, on average, 20% of the shares of publicly traded U.S. firms.

ISS also benefited from a first-mover advantage; founded in 1985, ISS was the first proxy advisor and enjoyed a complete monopoly for nearly two decades, until the entry of Glass Lewis in 2003. Glass Lewis is the only substantial competitor of ISS and, together, ISS and Glass Lewis control 91% of the market (Shu, 2023).

ISS provides its services on a subscription basis. ISS' subscription model is confidential but some information is known: subscription fees are not flat - they vary across clients and larger clients generally pay higher fees.[8]

ISS is owned by the German stock exchange operator Deutsche Börse who bought ISS in 2020 from the U.S. private equity group Genstar Capital.

[8]Shu (2023) deduces some information about the fees charged based on a Freedom of Information Act (FOIA) to public pension funds.

ISS provides its clients with recommendations on how to vote at shareholder meetings. The voting recommendations are generally sent out two to four weeks before a meeting, depending on the complexity and contentiousness of the agenda items (ISS 2023 voting policy).[9] For contentious proposals, ISS' recommendations often leak to the public, by media or by the party that ISS supports. Through ISS' voting platform, ProxyExchange, investors can also cast their votes and report their voting records to the authorities.[10]

3 Theoretical framework

I provide a theoretical framework to formalize the mechanism for how common ownership leads to lower competition. The framework builds on Backus et al. (2021b) but I study a different setting. While Backus et al. show how firms' objectives differ under common ownership, I show how proxy advisors coordinate common owners' interests.

Consider the following setup. Firms, f, can take strategic actions, x_f. A firm's profits depend on actions taken by the firm, as well as actions taken by the firm's competitors, $\pi_f(x_f, x_{-f})$.[11]

As in Backus et al. (2021b), I model diversified investors. An investor, i, holding shares in a firm, $\beta_{fi} > 0$, is entitled to cash-flow rights to the firm's profits. An investor holding shares in two competing firms is defined as a common owner. Investors' returns are given by the sum of the cash-flow rights the investor holds to portfolio firms' profits,

$$v_i \equiv \sum_f \beta_{fi}\pi_f. \tag{1}$$

In what follows, I depart from the setup of Backus et al. (2021b). Strategic actions need to be approved by a firm's investors. Investors have voting rights corresponding to the cash-

[9] While ISS offers a standard voting recommendation, ISS also offers "specialty voting policies". These are, however, targeted to ESG-issues, and include a Climate Policy, a Sustainability Policy, a Socially Responsible Policy, and a Faith-based Policy.

[10] I.e. file the mandatory N-PX form.

[11] The model is agnostic about what the firm maximizes - its own profit as in standard economic theory and in Antón et al. (2023) or its owners' portfolio value as in (Rotemberg, 1984; O'Brien and Salop, 2000; Backus et al., 2021b).

flow rights they hold, β_{fi}. Investors generally hold minority stakes and proposals need to be approved by a majority of the investors.

Proxy advisors are independent third parties who advice investors on how to vote on proposals put forward by firms. Proxy advisors are only accountable to their clients (i.e. subscribing investors) and act as fiduciaries on their behalf. Reflecting these fiduciary obligations, I assume that a proxy advisor gives advice that maximizes client value.

A proxy advisor gives voting advice to many investors. For each proposal, the proxy advisor gives one recommendation to all clients. Investors hold diversified portfolios and there can potentially be disagreement on the preferred actions for firms. I assume that the proxy advisor resolves this by placing weight $\omega_{fi} > 0$ on investor i.

One could assume that the proxy advisor puts higher weight on larger and more profitable clients. Proxy advisors receive their income from fees paid by their clients and larger clients pay higher fees (for details, see Section 2). Empirical evidence suggests that proxy advisors cater more to larger clients by adapting their recommendations when large clients disagree (Shu, 2023). Weighing clients by size, measured as total net assets (TNA), implies weights $\omega_{fi} = \frac{TNA_{fi}}{\sum_{\forall i} TNA_{fi}}$.

Alternatively, one could assume that the proxy advisor treats all clients equally and puts equal weight on each client. This would imply a weight of $\omega_{fi} = 1/N$, where N represents the total number of a firm's investors.

In the empirical section, I weight clients by size in the main specification. In robustness tests, I also report results for equal weights as well as additional specifications, varying ω_{fi} further.

From this follows that the proxy advisor is assumed to give advise such that it maximizes an ω-weighted sum of subscribing investors' portfolios,

$$P = \sum_{\forall i} \omega_{fi} v_i. \tag{2}$$

I rewrite the proxy advisor's objective function as follows,

$$\begin{aligned} P &= \sum_{\forall i} \omega_{fi} \Bigg(\sum_{\forall f} \beta_{fi} \pi_f \Bigg) \\ &= \sum_{\forall i} \omega_{fi} \beta_{fi} \pi_f + \sum_{\forall i} \omega_{fi} \sum_{\forall g \neq f} \beta_{gi} \pi_g \\ &\propto \pi_f + \sum_{g \neq f} \Bigg(\underbrace{\frac{\sum_{\forall i} \omega_{fi} \beta_{gi}}{\sum_{\forall i} \omega_{fi} \beta_{fi}}}_{\kappa_{fg}} \Bigg) \pi_g \\ &= \pi_f + \sum_{g \neq f} \kappa_{fg} \pi_g. \end{aligned} \tag{3}$$

I first substitute in the expression for investors' portfolios (Equation 1). Second, I separate between the profit of firm f and the profit of competing firm g. In the third row, I normalize by $\sum_{\forall i} \omega_{fi} \beta_{fi}$, so that κ_{fg} can be interpreted as the relative value of a dollar of profits accruing to competing firm g, compared to firm f. In the final row, I define

$$\kappa_{fg} \equiv \frac{\sum_{\forall i} \omega_{fi} \beta_{gi}}{\sum_{\forall i} \omega_{fi} \beta_{fi}}. \tag{4}$$

κ_{fg} is referred to as profit weight and it is the weight placed on competing firm g's profits.

Equation 3 provides the mechanism for how common ownership leads to lower competition. The equation states that the proxy advisor will give advice that maximizes the profit of firm f plus some weighted sum of the profits of competing firms g. The more common ownership, the higher the weight will be placed on the competitors' profits. The proxy advisor will, thus, promote lower competition for firms with higher levels of common ownership, by supporting proposals that weaken competition.

Specifically, when two firms have at least one common owner, κ will be positive and the proxy advisor will put some weight on the competitor's profits. $\kappa = 1$ implies that equal weight will be put on the profit of the firm and its competitor and $\kappa > 1$ implies that higher weight will be put on the competitor's profit. Only when two firms have no common owners does κ equal zero and the proxy advisor will promote standard firm-level profit maximization.

The profit weights, κ, defined in Equation 4, is the measure I use to empirically estimate common ownership. They are characterized by investors' cash-flow rights (β) and the weight the proxy advisor places on investors (ω), and can be estimated from data on ownership, investor size, and proxy advisors' client bases.

Profit weights are the leading measure of common ownership used in empirical work (Backus et al., 2021a,b; Schmalz, 2021; Antón et al., 2023). The profit weights I derive measures the weight the proxy advisor places on competing firms that share common owners. They relate to the profit weights derived in Backus et al. (2021b), however, the weights they derive measure the weight *firms* place on competitors. The profit weights I derive differ in two ways. First, ω measures the weight the investor puts on each client, in contrasts to studies modeling the objective function of firms which assume that firms weight their investors based on how large a fraction they hold of the firm's shares. Second, the proxy advisor is assumed to only consider its clients' interests and not the interest of other investors.

4 Data

I combine data on firms' ownership structure and shareholder meetings for U.S publicly listed firms. I use data starting in 2003, as this is the first year voting data is reported. Ownership data is reported quarterly and the voting data specifies the date of the shareholder meeting.

4.1 Ownership data

Data on institutional investors' ownership comes from Backus et al. (2021b) and comprises investors' 13-F filings. Institutional investment managers with over USD 100 million in holdings in equity securities and certain equity options and warrants are required to file form 13-F. In the 13-F form, the investor reports all securities owned at the end of the quarter and the form is mandatory and filed quarterly. Backus et al. (2021b) scrape and parse the 13-F files from SEC filings and clean and address documented issues with these files (for more details, see Backus et al., 2021b). The data is available until 2017. Between

2003 and 2017, this data contains 41 million fund-firm (quarterly) observations, across 7,300 funds and 13,000 firms.

To estimate the percent of the shares an investor holds in each portfolio firm, I complement with data on firms' total number of shares outstanding from CRSP, which is reported quarterly. To match stock data from CRSP to ownership data at the firm level, I use firms' unique NCUSIP codes.

I also use the CRSP industry codes and define industries based on four-digit SIC codes.

4.2 Data on investor characteristics

I infer which investors are ISS clients by collecting data using the same approach as Shu (2023) and Matsusaka and Shu (2022). Investors' subscription to proxy advisors is not publicly disclosed, but which proxy advisor an investor uses can be identified from the style of the filed voting record (form N-PX). To report votes cast is a time consuming task that investors rarely perform themselves and instead outsource to proxy advisors. The filer has discretion in formatting the voting record it submits and voting records submitted by ISS, through its voting platform, are formatted in a unique style.[12]

This approach identifies investors that use ISS' voting platform to cast their votes and I define ISS' clients as investors that use ISS' platform. Investors using ISS' voting platform have access to ISS' voting recommendation and the majority of the investors using ISS as an advisor subscribe to both the voting platform and the voting recommendation. There are, however, investors that use other voting platforms to cast and report their votes, but still subscribe to ISS' voting recommendations.

I collect investors' filed voting records from SEC filings by looking up the name of each fund family. Votes are reported once a year[13] and I collect one form per fund family and

[12]Shu (2023) shows that investors submit their voting records in four main styles, each of which can be linked to a voting platform belonging to a proxy advisor or an independent voting service provider. ISS owns the voting platform ProxyExchange and users of ProxyExchange have access to ISS' voting recommendations. He further confirms that this method of linking investors to proxy advisors is accurate, by showing that there is a high correlation between an investor's use of a proxy advisor's voting platform and the investor specifying a contractual relationship with the proxy advisor in its statutory prospectuses.

[13]Votes are reported once a year, for the 12-month period ending June 30th. The voting records contain all votes cast by the fund for the period and are to be filed before August 31.

year, as some funds file their voting records at the fund family level and others at the fund level (SEC).

I get data on funds' and fund families' total net assets (TNA) from the CRSP Mutual Funds database. The data is available quarterly. Figure 1 shows the distribution of ISS' clients in terms of size. Clients are here defined at the fund-family level. As shown, the majority of ISS' clients are relatively small: 80% of ISS' clients have total net assets below $50 billion. ISS also has a few large clients.

[Figure 1 here]

From the CRSP Mutual Funds database, I also get data on data on whether the fund is actively managed or passive and whether the fund is an index fund. Following the literature (Charoenwong et al., 2022; Huang et al., 2011; Kacperczyk et al., 2005), I define active funds based on the fund's objectives and disclosed asset composition. Details are provided in the Data Appendix and summary statistics are shown in Table A1 and A2.

4.3 Data on shareholder meetings

Data on shareholder meetings comes from the ISS Voting Analytics database, which comprises mutual funds' voting records from 2003 onward. The data covers 643,406 proposals across 89,813 shareholder meetings for 13,474 U.S. publicly listed firms. The data also includes all votes cast by mutual funds, totaling 100 million fund votes cast by 22,425 funds, belonging to 763 fund families. The data contains detailed information on the proposals voted on, including ISS' recommendation, how funds voted, and the outcome of the vote. Summary statistics are provided in Table 1.

[Table 1 here]

I focus on proposals concerning mergers, managerial incentives and director interlocks.[14] Mergers are the subject of 2,855 proposals. Between 2003 and 2017, 2,300 mergers were voted on, out of which I have ownership data for 1,003.

[14]Details on classifications of the proposals are provided in the Data Appendix.

For managerial incentives, I focus on equity stock compensation, which amounts to 20,879 proposals. Between 2003 and 2017, the voting data contains 16,243 stock plan proposals, out of which I have ownership data on 9,729. To study how voting on stock plans affects firms' compensation structures more broadly, I complement with additional data on firms' wealth-performance sensitivity from Edmans et al. (2009). This data covers the 500 largest firms each year.

The majority of the proposals, 442,834, concern director elections. To identify whether a director that is voted on sits on a competing firm's board, I supplement with data on firms' board composition from the ISS Directors database, which is available from 2007. Between 2007-2017, I identify 1,456 elections of directors where the director sits on a competing firm's board, out of which I have ownership data for 964 of the firms.

In robustness tests, I study auditor proposals. Ratification of auditors were the subject of 63,118 proposals.

4.4 Constructing the data set

I construct the data for the main analysis by first combining data on firms' ownership structure and investor characteristics, to estimate the profit weight measures derived in Section 3. The databases do not have a common identifier for investors.[15] To achieve the most accurate match, I merge the databases manually by fund family name. I then combine this with data on firms' shareholder meetings. I match the ownership data to the shareholder meeting data the quarter that the meeting took place. If ownership data is missing for the current quarter, I match with data reported in the previous quarter, up to one year before the meeting.

In additional tests reported in the Online Appendix, I study ISS' influence on funds with different characteristics. For this, I construct an additional data set where I combine data on how funds voted with data on fund characteristics. I do this at the fund level, as fund families can include both active and passive funds. To match databases at the fund

[15]The ownership data from Backus et al. (2021b) uses funds' CIK numbers. Shareholder voting data in ISS Voting Analytics uses its own ID numbers (there are inconsistencies in this variable over time and I clean this variable). The CRSP Mutual Funds database has identification numbers for fund and fund manager.

level, I combine voting data for 23,467 funds from ISS Voting Analytics with data on fund characteristics for 20,903 funds from CRSP Mutual Funds. I match the databases based on names using a fuzzy match. I manage to match 40%: the matched data contains 40 million votes out of 100 million.

5 Empirical strategy

The empirical strategy is motivated based on the theoretical framework in Section 3. In the framework, I show that a proxy advisor that maximizes client value will promote lower competition for commonly held firms. To empirically test this, I first calculate common ownership for each firm using the measure I derive of the profit weights placed on competing firms' profits. Using firm-level panel data, I then test whether ISS promotes weaker competition for firms with higher levels of common ownership.

Specifically, I study whether ISS supports proposals that weaken competition and oppose proposals that incentivize competition. The three proposals I focus on are mergers, managerial incentives, and director interlocks, and I discuss each in turn. Summary statistics for the main outcome variables are provided in Table 2.

[Table 2 here]

First, I study mergers. A large empirical literature shows that mergers generally reduce competition (e.g. Barton and Sherman, 1984; Borenstein, 1990; Kim and Singal, 1993; Ashenfelter and Hosken, 2010; Ashenfelter et al., 2013; Kwoka, 2014; Blonigen and Pierce, 2016; Shapiro, 2019; Rickert et al., 2021; Kwoka, 2023). Mergers can lessen competition by creating or strengthening a dominant player and by making it easier for remaining firms to raise prices or coordinate in other dimensions. Beyond the direct effect on the merging firms, there can, thus, be positive externalities of mergers also for non-merging firms in the industry, in terms of lower competition. When investors hold shares in many firms in an industry, they can benefit from these externalities. I study whether ISS is more likely to support mergers for firms with higher levels of common ownership.

Notably, the mergers I study are deals that are voted on at shareholder meetings of publicly listed firms. Exactly which mergers require shareholder approval vary depending on

state laws and company bylaws. Generally, shareholder approval is required by the target firm when they sell their entire operation and by the acquiring firm when the deal is financed by issuing more than 20% of new shares.

Second, I analyze managerial incentives. Managers whose compensation is more linked to firm performance have higher incentives to compete. I focus on equity compensation, which gives managers and selected employees the right to acquire shares in the firm, thereby aligning their incentives with the performance of the firm. Stock option plans need approval of investors as they dilute the ownership interest of investors. I study whether ISS is more likely to oppose stock option plans for firms with higher levels of common ownership. In robustness tests further discussed below, I test that ISS' recommendations to vote against stock plans result in management compensation becoming less sensitive to firm-performance.

Third, I examine director interlocks, which is when a director is appointed to sit on two competing firms' boards. Despite being prohibited, director interlocks across competing firms are common in practice. Firms with interlocking directors have been found to compete less intensely - setting higher prices and being more likely to collude (Gopalan et al., 2023). I study whether ISS is more likely to support director interlocks for firms with higher levels of common ownership.

I use the following specification

$$\text{ISS recommendation}_{fpt} = \rho \cdot \text{Common ownership}_{ft} + \lambda_s + \alpha_t + \varepsilon_{fpst}. \tag{5}$$

$\text{ISS recommendation}_{fpt}$ is an indicator variable that takes the value 1 if ISS recommends investors to vote for a proposal, p, that weakens competition or against a proposal that increases competition. Specifically, $\text{ISS recommendation}_{fpt} = 1$ if ISS supports a merger, opposes a managerial incentive contract that incentivize competition, or support a director interlock. Estimation is done in a linear probability model. Data on ISS' recommendations comes from the ISS Voting Analytics database.

To measure firms' level of common ownership, I empirically calculate the profit weights that I derive in the theoretical framework,

$$\kappa_{fg} \equiv \frac{\sum_{\forall i} \omega_{fi}\beta_{gi}}{\sum_{\forall i} \omega_{fi}\beta_{fi}}.$$

To get a firm-level measure, I take the average profit weights across a firm's competitors,

$$\text{Common ownership}_f \equiv \bar{\kappa}_f = \frac{1}{n-1}\sum_{g \neq f} \kappa_{fg}. \tag{6}$$

The profit weights are characterized by β_{fi}, the percent of firm f's shares held by investor i, and ω_{fi}, the weight ISS places on firm f's investor i. I construct β_{fi} using data from Backus et al. (2021b) on investors' shareholdings and data from CRSP on firms' total number of shares outstanding. In the main specification, I assume that ISS weighs clients by size measured as total net assets (TNA), $\omega_{fi} = \frac{TNA_{fi}}{\sum_{\forall i} TNA_{fi}}$. In robustness tests I vary ω and I discuss this in detail below. I use data on investors' total net assets from the CRSP Mutual Funds database. I assume that ISS only considers current clients, which implies that ISS places zero weight on investors that use other proxy advisors. To identify investors that are clients of ISS, I use the data I collect that link investors to proxy advisors.

Figure 2 shows the distribution of the common ownership measure. The median level of common ownership of 0.96. The distribution is positively skewed and a common ownership level above 1 is common, which means that higher weight is placed on profits of the firms' competitors compared to the firm. 5% of the observations have a common ownership level of 0, i.e. these firms have no investor that hold shares in any of the competitors.

[Figure 2 here]

I expect that for firms with higher levels of common ownership, ISS will be more likely to support proposals that weaken competition and oppose proposals that increase competition. As such, I expect a positive relationship between common ownership and ISS' recommendations.

To get unbiased estimates, firms' level of common ownership needs to be exogenous to ISS' recommendations. Common ownership has increased over time and if there has been a

simultaneous change in ISS' support for specific proposals, this would risk biasing the results. To account for time-varying changes, I control for year and quarter fixed effects, α_t. I also cluster standard errors at the year-quarter level.

There are sectoral differences that could affect both a firm's level of common ownership and ISS' recommendations. The level of concentration in a sector might correlate with both the common ownership level and ISS' recommendations for mergers. In the test for mergers and managerial incentives, I control for sector fixed effects, λ_s, to account for sector characteristics.

In the specification for directors, I include firm fixed effects instead of sector fixed effects. Firms vote on several directors - sometimes the whole board - at the same meeting. This contrasts to mergers - few firms in my data vote on more than one merger - and managerial incentive contracts - stock option plans are generally voted on once every four to six years (Gow et al., 2020). The corporate governance quality of the firm could affect ISS' support for proposed directors and could, thus, correlate with the common ownership level, which is the same for all director elections for a given firm.

Additional tests. To provide further support and to test the robustness of the results, I conduct a number of additional tests.

As a placebo test, I study whether common ownership impacts ISS' recommendations on proposals which do not affect competition. Specifically, I study whether ISS is more likely to support proposals to ratify auditors and proposals to elect directors that do not create board interlocks, for firms with higher levels of common ownership. For these proposals, I do not expect to find any significant relationship between common ownership and ISS' recommendations.

In the main test, I estimate κ for ISS clients and test whether ISS promotes lower competition for firms with higher levels of common ownership. As a second placebo test, I instead estimate κ for investors that are not clients of ISS. I then test whether there is any relationship between higher levels of common ownership for non-ISS clients and ISS promoting lower competition. I expect to find no significant relationship.

I conduct an additional test on managerial incentives, to ensure that recommendations by ISS to oppose stock option plans indeed reduce managers' incentives to compete. I do this to address any concerns that there are other, simultaneous changes in firms' compensation programs. To study this, I use the wealth-performance sensitivity (WPS) measure by Edmans et al. (2009), which estimates the dollar change in CEO wealth for a 100 percentage point change in firm value, divided by annual flow compensation (details are provided in Online Appendix B.1). This is the measure used in Antón et al. (2023), who show that firms with higher levels of common ownership have lower wealth-performance sensitivity.

As it has been shown by de Chaisemartin and D'Haultfœuille (2020, 2021) that regressions with period and group fixed effects may yield biased estimates, I apply the flexible two-way fixed effects framework developed by the authors. This framework is robust to heterogeneous and dynamic treatment effects. Using the following specification, I study whether wealth-performance sensitivity falls after ISS opposes a stock plan,

$$\text{WPS}_{ft} = \xi_f + \alpha'_t + \sum_{k=-1}^{-2} \mu \cdot \text{ISS against}_{ft} + \sum_{k=1}^{6} \gamma \cdot \text{ISS against}_{ft} + \delta X_{ft} + \varepsilon_{ft}. \tag{7}$$

WPS_{ft} is the wealth-performance sensitivity measure and ISS against_{ft} is an indicator for whether ISS opposed a stock plan. I include eight lags, to analyze how wealth-performance sensitivity changes over time, and three leads to investigate pre-trends. I control for firm fixed effects, ξ_f, to account for both observable and unobservable firm characteristics. I also include year fixed effects, α'_t, to account for time-varying changes and control for the sector the firm operates in, X_{ft}.

In robustness tests, I vary the assumption on the weight ISS places on its clients, ω. In the main specification, I assume that ISS weighs clients based on size, $\omega_{fi} = \frac{TNA_{fi}}{\sum_{\forall i} TNA_{fi}}$. Larger clients pay higher fees (Shu, 2023), if the correlation between subscription fees and TNA is less than 1, however, ISS may cater its recommendations more towards smaller clients. To test this, I assume $\omega_{fi} = \sqrt{\frac{TNA_{fi}}{\sum_{\forall i} TNA_{fi}}}$. Alternatively, one could assume that ISS puts equal weight on all client, $\omega = 1/N$, where N represents the total number of investors.

6 Results

This section presents the results for the empirical tests of whether proxy advisors coordinate common owners' interests in lowering competition. Results for the main specification are shown in Table 3, where I test whether ISS promotes corporate governance decisions that reduce competition for firms with higher levels of common ownership. Studying three distinct proposals, I find a positive and statistically significant effect of common ownership on each.

[Table 3 here]

Results for mergers are presented in column (1), results for managerial incentives in column (2), and results for director interlocks in column (3). I find that for firms with higher levels of common ownership, ISS is more likely to support mergers, oppose managerial incentive contracts that incentivize competition, and support director interlocks. Results for mergers and managerial incentives are significant at the 5% level and results for director interlocks at the 1% level.

In terms of magnitude, an increase in common ownership from the 10^{th} to the 90^{th} percentile of the distribution implies a 3 percentage points increase in the probability that ISS supports director interlocks. The average probability that ISS supports director interlocks is 91%. For managerial incentives, an increase from the 10^{th} to the 90^{th} percentile is associated with a 0.1 percentage points increase in the probability that ISS opposes the stock plan, with an average probability of ISS opposing stock plans of 22%. Similarly, the effect on mergers is a 0.02 percentage points increase in the probability that ISS supports the deal and the average probability that ISS supports mergers is 96%.

I focus on shifts from the 10^{th} to the 90^{th} percentile, as the distribution of common ownership is highly skewed (see Figure 2). The effects of an interquartile range increase (25^{th} to 75^{th} percentile) of common ownership, however, are also non-trivial. An interquartile range increase implies a 1 percentage point increase in the probability that ISS supports director interlocks, a 0.01 percentage point increase in the probability that ISS opposes equity stock compensation, and a 0.01 percentage point increase in the probability that ISS supports mergers.

Board interlocks are prohibited because of the potential overlapping directors have to engage in anticompetitive behavior, and firms that share a director are found to set higher prices and are more likely to collude. While the effects on mergers and managers are lower they are still important: consolidation has large and long-lasting implications for industries and all firms regularly vote on management compensation.

The purpose of this paper is to evaluate a plausible mechanism of how common ownership can lead to lower competition. The results confirm the prediction of the theoretical framework, that proxy advisors coordinates common owners' interests. Studying three distinct corporate governance decisions, I find empirical support for all three. I, thus, show how coordination takes place through proxy advisors. ISS clients hold USD 22 trillion in assets and control, on average, 20% of the shares of publicly traded U.S. firms. Through this channel, competition could be reduced for publicly traded firms globally.

The economic effect of common ownership on competition ultimately depends on product market outcomes, such as prices, markups, and productivity. This is beyond the scope of this paper. The effects could differ for the three corporate governance decisions I study. Empirical studies have found that all three decisions generally raise prices. Antón et al. (2023) show that less performance-sensitive incentives lead to higher prices but not higher markups, driven by a fall in productivity.

In additional tests, I provide further support for the mechanism I propose. To show that the coordination by ISS is indeed linked to reduced competition, I run placebo tests where I study whether common ownership has an effect on proposals which do not affect competition. Specifically, I study whether ISS is more likely to support auditors and to support directors which do not create board interlocks for firms with higher levels of common ownership. Results are reported in Table 4 and column (1) reports results for directors and column (2) results for auditors. As expected, I find no statistically significant effect of common ownership on ISS' recommendations.

[Table 4 here]

I also show that the effect of common ownership on ISS' recommendations is driven by ISS catering to its clients - common ownership among other investors does not have an

impact on ISS' recommendations. For the same set of firms, I estimate the level of common ownership (defined in Equation 6) for investors that are not clients of ISS, as opposed to the main specification which estimates common ownership for ISS clients. As shown in Table 5, there is no statistically significant effect of common ownership for non-ISS clients on ISS' recommendations.

[Table 5 here]

When I study managerial incentives, I focus on stock option plans. To confirm that negative recommendations by ISS on stock option plans indeed lead to lower incentives for managers to compete, I study the impact on wealth-performance sensitivity, as specified in Equation 7. I use the measure developed by Edmans et al. (2009). Figure 3 reports results from the two-way fixed effects model and shows that when ISS opposes a stock plan, firms' wealth-performance sensitivity falls over time. The impact is statistically significant six years after ISS opposes the stock plan and the wealth-performance sensitivity is then 17 units lower, measured as the dollar change in CEO wealth for a 100 percentage point change in firm value, divided by annual flow compensation. This can be compared to the average level of WPS of 229. Stock plans give managers and selected employees the right to buy stocks in their company over a specified amount of years, and so it is natural that there is a delay in the decline. My results are thus consistent with Antón et al. (2023), who show that firms with higher levels of common ownership have lower wealth-performance sensitivity.

[Figure 3 here]

Results for robustness tests where I vary the assumption on how ISS weights clients, ω, are reported in Table 6 and 7. In the main specification (Table 3), ISS is assumed to weight clients by size, as measured in total net assets (TNA) ($\omega_{fi} = \frac{TNA_{fi}}{\sum_{\forall i} TNA_{fi}}$). Weighting clients by size is motivated by proxy advisors' profit incentives - larger clients pay higher fees (Shu, 2023). However, if the correlation between size and fees charged is lower than 1, ISS might cater its recommendations more towards smaller clients. Table 6 reports results where $\omega_{fi} = \sqrt{\frac{TNA_{fi}}{\sum_{\forall i} TNA_{fi}}}$. The results are similar to the main specification both in terms of magnitude and statistical significance.

[Table 6 here]

In Table 7, I report results for the specification where ISS is assumed to assign all clients equal weight ($\omega_{fi} = 1/N$). Results are similar in terms of magnitude and statistically significant at the 10% level. This suggests that the assumption on how ISS weights clients, ω, is not critical.

[Table 7 here]

Results for the main specification but with firm fixed effects for all three proposals are reported in Table 8. Compared to the main specification (reported in Table 3), I here control for firm fixed effects instead of sector fixed effects for mergers (column 1) and managerial incentives (column 2), while the specification for interlocking directors (column 3) is the same across Table 3 and 8. As discussed in Section 5, firm fixed effects are too restrictive for mergers and managerial incentives. For mergers, in particular, only 116 firms vote on more than one merger proposals and for managerial incentives more than a thousand observations are dropped. While the effects of common ownership are not statistically significant for mergers and managerial incentives, the coefficients remain positive.

[Table 8 here]

My results relate to Antón et al. (2023) who show that commonly held firms give managers incentive contracts that are less linked to firm performance and, thus, have lower incentives to compete. This is the main channel for how common ownership impacts competition that has been proposed thus far. Manager compensation is voted on by investors and needs to be approved by a majority. My results relate to this study directly, showing how ISS plays a role in opposing managerial incentives that incentivize competition for commonly held firms.

My results also provide a mechanism for the positive correlation empirical studies have found that mergers increasingly occur between firms with higher levels of common ownership (Brooks et al., 2018; Antón et al., 2023) and that interlocking directors are increasingly common for firms with more common ownership (Azar, 2021; Eldar et al., 2023).

Azar et al. (2018), Azar et al. (2022), and Aslan (2019) find positive empirical relationships between common ownership and higher prices, for banks, airlines, and consumer goods.

While I do not study prices and quantities directly, I provide a channel for how common ownership can lower product market competition.

My results further relate to the literature on why mergers that seem to lower stock market valuation are nevertheless implemented. Matvos and Ostrovsky (2008) show how investors who hold shares in both the target and the acquiring firm vote for mergers that have negative stock market reactions for the acquiring firms, when these losses are offset by gains to holdings in the target firm. Mergers change industry dynamics and often have positive externalities for non-merging firms in the industry, in terms of lower competition and higher prices. ISS' higher support for mergers in industries with higher levels of common ownership, suggests that ISS accounts for gains also for non-merging firms.

Finally, my results relate to the literature on the influence on proxy advisors. Shu (2023) shows how ISS caters to its clients' preferences, by updating recommendations on proposals that reappear when clients disagreed the first time the proposal was voted on. I contribute to this literature by showing how ISS coordinates investors' interests and how this leads to lower competition when investors are common owners.

7 Discussion of assumptions

This section provides additional details on outsourcing of shareholder voting and ISS' influence on how investors vote. I use data on shareholder voting and funds' subscription to proxy advisors. Voting policies differ and while some fund families cast all votes across funds unanimously, others let individual fund managers vote independently. In this section, I therefore carry out the analysis at fund level, in contrast to the main analysis which is carried out at the fund family level.

As a consequence of diversification and regulatory initiatives for increase shareholder engagement, funds are required to vote on a growing number of proposals. In 2021, the average fund voted on 1,497 proposals, with some large funds voting on more than 30,000 proposals (including Vanguard Total Stock Market Index Funds and Fidelity Series Total Market Index Funds).

As discussed in Section 2.1, for most institutional investors, the most cost-effective way to fulfill the fiduciary duty to vote is by outsourcing voting to proxy advisors. Many investors outsource voting to ISS by mechanically following ISS' recommendations. This practice is called robovoting and can, in practice, take two different forms. The investor can request pre-populated voting, which is when ISS fills in the investor's votes on the voting platform with its recommendations. The investor then has the option to submit the votes without independently reviewing the votes before they are executed. The investor can also apply automated voting, which is when ISS automatically casts the investor's votes.[16]

Figure 4 shows the prevalence of robovoting and how it has increased over time. Using data on all votes cast by funds 2003-2021, I display the share of funds that voted with ISS on 100%, 99%, and 97% of the proposals cast in a year.[17] In 2021, 40% of ISS' clients, 1,328 funds, voted with ISS on 97% of the proposals. One third of ISS' clients, 1,046 funds, voted with ISS on 99% of the proposals and a quarter, 800 funds, voted with ISS on 100% of the proposals.

[Figure 4 here]

This high prevalence of robovoting means that some decisions at shareholder meetings are almost completely determined by robovoting. For example, on director elections on Centric Brands in 2018, 44% of the votes were robovoted by ISS (Rose, 2021).

Details on robovoting for funds with different characteristics are provided in the Online Appendix. Robovoting is here defined as a fund voting with ISS on 99% of the proposals. Robovoting is widespread among both active and passive funds. In 2021, half of the funds that robovoted were actively managed (Figure A4).

Passive funds are particularly prone to robovote as they are more cost-sensitive and have lower incentives to invest in corporate governance research (Iliev and Lowry, 2015). Robovoting among passive funds has increased over time and in 2021, almost half of all passive funds robovoted (Figure A5). The increase in passive investing could thus lead to a further increase in robovoting.

[16]Supplement to Commission Guidance Regarding Proxy Voting Responsibilities of Investment Advisers, 85 FR 55155, Sept. 3, 2020

[17]A year is defined as the period for which funds file their annual voting records, which is the 12-month period ending June 30.

Robovoting is, however, also widespread among active funds. In 2020, 25% of active funds robovoted (Figure A6).

Robovoting is prevalent among both large and small funds (Figure A7) as well as funds belonging to both large and small fund families (Figure A8). However, few funds belonging to the Big 3, the three largest index funds - BlackRock, Vanguard, and State Street - robovote (Figure A9). While these funds have the capacity and internal resources to monitor and cast informed votes, they still subscribe to ISS and consider ISS' recommendation in their research process (see quotes from voting guidelines in Online Appendix D).

ISS' recommendations have real impact on how funds vote, in that they shift investors' votes away from how they would have voted otherwise. I show this in two empirical tests. First, I show how investors change their voting behavior once they become clients of ISS and start to vote more in line with ISS' recommendations. I use the following flexible two-way fixed effects framework (de Chaisemartin and D'Haultfœuille, 2020, 2021), making use of the fact that I have data on which year a fund starts subscribing to ISS. This framework is robust to heterogeneous and dynamic treatment effects and can handle settings where treatment can be turned on and off, i.e. funds can start and stop using ISS as an advisor,

$$\text{Follow ISS}_{ipt} = \eta_i + \alpha'_t + \sum_{k=-1}^{-3} \psi \cdot \text{ISS client}_{it} + \sum_{k=1}^{4} \phi \cdot \text{ISS client}_{it} + \nu X_{fpt} + \varepsilon_{ipt}. \quad (8)$$

Follow ISS_{fp} is an indicator for whether fund f votes in line with ISS' recommendation on proposal p and ISS client_{ft} is an indicator for whether the fund is a client of ISS in year t. I include three lags, to analyze how quickly funds change their voting behavior and three leads to investigate pre-trends. I control for fund fixed effects, η_i, to account for both observable and unobservable fund characteristics, as there might be differences across ISS-advised funds and other funds, such as the capacity of the fund to invest in independent corporate governance research and preferences for corporate governance. I also include year fixed effects, α'_t, to account for time-varying changes. X_{fpt} represents a vector of controls and includes the proposal voted on, the firm, and the sector the firm operates in.

[Figure 5 here]

As shown in Figure 5, once funds become clients of ISS, they immediately start voting more in line with ISS' recommendations. The year a fund starts subscribing, the fund becomes 10% more likely to follow ISS' recommendations and the effect increases to above 20% in four years. The average treatment effect across years is 14%. The effect is statistically significant at the 1% level. The pre-trends show that the parallel trends assumption is not violated.

Second, I show how ISS coordinates clients' votes away from management on contentious proposals. I study three proposals where the preferences of management and of investors can diverge: mergers, management incentives, and directors. I contrast this by comparing with a proposal that is more neutral - ratification of auditors - where the interests of managers and investors should not deviate.

I separate between funds that are clients of ISS and funds that use some other proxy advisor (non-clients). In panel regressions, controlling for fund fixed effects (η_i), as well as fixed effects for firm (ξ_f) and year (α'_t), I compare the probability that the fund votes against a proposal when ISS recommends voting against,

$$\text{Investor against}_{ip} = \sigma \cdot \text{ISS against}_{p} + \eta_i + \xi_f + \alpha'_t + \varepsilon_{fipt}. \tag{9}$$

$\text{Investor against}_{ip}$ is an indicator for whether the fund votes against the proposal and ISS against_{p} is an indicator for whether ISS recommends voting against the proposal.

[Figure 6 here]

Results are shown in Figure 6 (see also Table A3 in the Online Appendix). On controversial proposals, ISS' recommendations shift funds' votes away from management: on proposals concerning mergers, management incentives, and directors, ISS clients are 22, 16, and 17 percentage points more likely to vote against when ISS recommends voting against, compared to funds not using ISS. This contrasts to the neutral proposal, ratification of auditors. On this proposals I find no statistically significant difference between ISS clients and other funds.

8 Conclusion

The concentration of ownership to highly diversified institutional investors means that many competing firms today are held by the same owners. This paper shows how common ownership can lead to lower competition through coordination of investors' interests by proxy advisors. In a theoretical framework I show how a proxy advisor maximizing client value will promote lower competition for commonly held firms. Combining data on ownership and shareholder meetings for all publicly traded U.S. firms, I show how ISS promotes lower competition for firms with higher levels of common ownership, by supporting more mergers, lower incentives for managers to compete, and more director interlocks.

This paper adds to the concerns that have been raised about the proxy advice industry. In 2010, the SEC published a concept release discussing the high reliance of institutional investors on proxy advisors and a congressional hearing on "Examining the market power and impact of proxy advisory firms" was held in June 2013. The SEC has, since, held roundtables and there have been calls for increased regulation and oversight.

Related to the corporate governance decisions I study, antitrust authorities already have many tools at their disposal. The ban on interlocking directors could be enforced and more resources could be directed at merger reviews.

The focus of this paper is on the effect of coordination on competition. Coordination could however have other, potentially socially beneficial, effects too. Coordination may facilitate innovation if technological spillovers from common ownership are sufficiently large compared to product market spillovers (Antón et al., 2021).

The empirical part of this paper uses U.S. data. The coordinating effect of ISS on other markets could potentially differ. On less mature capital markets, ISS may exert even higher influence.

There are also regional differences in ownership. Institutional ownership has grown in Europe. Still, compared to the U.S., large non-institutional blockholders, including governments, families and foundations, are more prevalent as large-stake blockholders in European firms (Banal-Estañol et al., 2022).

Potential avenues for future research could be to study ISS' role as an agenda setter and how ISS' influence on compensation practices shapes contracts between owners and managers. Studying how investors deviate from proxy advisors' recommendations can shed further insights on investors' preferences and expectations of fund managers.

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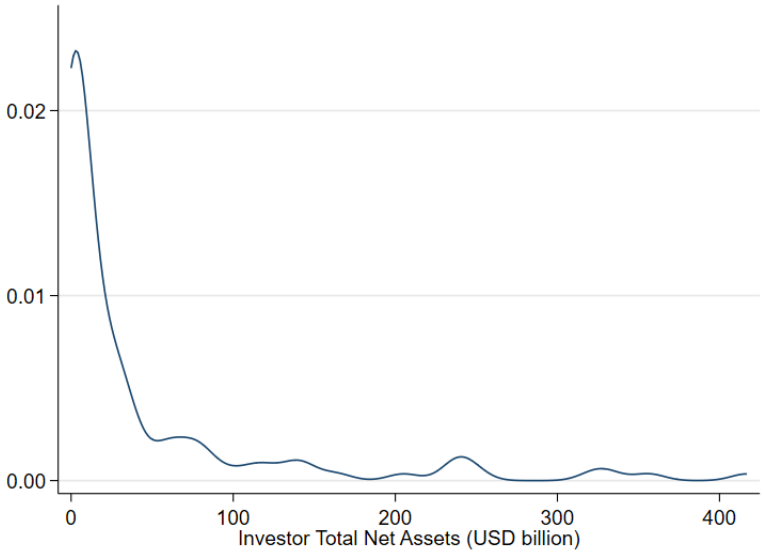
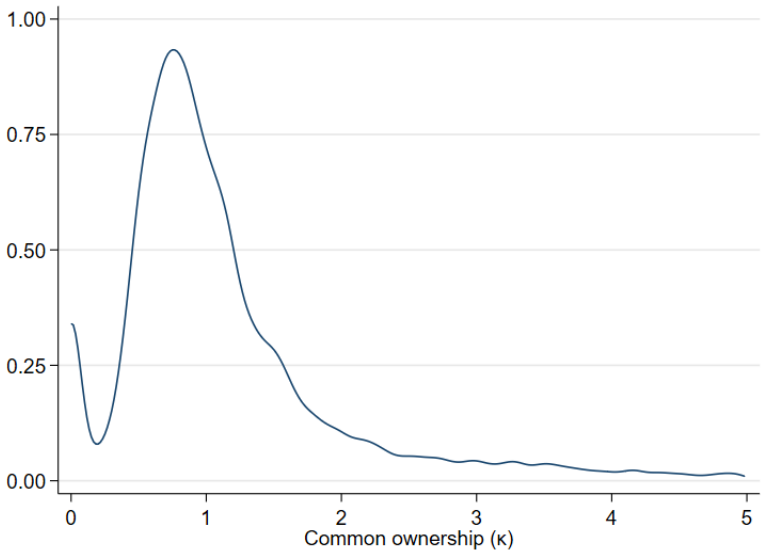
9 Tables and figures

Figure 1: Distribution of ISS clients in terms of size (total net assets)



Notes: Kernel density of ISS clients' size (total net assets). Data for first quarter, 2020. The graph is truncated at $500 billion and drops the five largest investors with assets above that. An observation represents a fund family that is a client of ISS.

Figure 2: Distribution of the common ownership measure



Notes: Kernel density of the firm-level common ownership measure ($\bar{\kappa}_i$), as defined in Equation 6. The graph is truncated at 5. Average level of common ownership is 6.18 and the median is 0.96. An observation represents a firm.

Table 1: Summary statistics - shareholder meetings

Variable	Obs	Mean	Sd
Proposal approved	643,406	0.828	0.378
Proposal rejected	643,406	0.019	0.137
ISS for	643,406	0.819	0.385
ISS against	643,406	0.146	0.354
Mgmt for	643,406	0.819	0.385
Mgmt against	643,406	0.146	0.354
Investor for	100,132,596	0.889	0.314
Investor against	100,132,596	0.085	0.279
Vote with ISS	100,132,596	0.919	0.272
Vote with mgmt	100,132,596	0.908	0.289

Notes: Summary statistics for data on shareholder meetings. The data covers all shareholder meetings of U.S. publicly listed firms (2003-2021) and includes 643,406 proposals across 89,813 shareholder meetings and 100 million votes cast by mutual funds.

Table 2: Summary statistics - main outcome variables

Variable	Obs	Mean	Sd
ISS for merger	1,169	0.965	0.184
ISS against managerial incentive	9,835	0.223	0.416
ISS for director interlock	1,050	0.910	0.286
Wealth-performance sensitivity	19,743	229.364	8582.265

Notes: Summary statistics for the main outcome variables. Details on the wealth-performance sensitivity measure is provided in Online Appendix B.1. The data covers proposals voted on at shareholder meetings for firms that I can match ownership data to (2003-2017).

Table 3: Effect of common ownership on ISS' recommendations

	(1) For merger	(2) Against managerial incentive	(3) For director interlock
Common ownership (/100)	0.00354**	0.0117**	1.965***
	(0.00163)	(0.00584)	(0.705)
Observations	1,003	9,729	964
R^2	0.216	0.117	0.481
Year-quarter fe	Yes	Yes	Yes
Sector fe	Yes	Yes	No
Firm fe	No	No	Yes

Notes: Impact of common ownership level on the probability that ISS provides recommendations that weakens competition, as specified in Equation 5. Investors weighted by size (total net assets). Standard errors are clustered at the year-quarter level. Statistical significance at the 1, 5, or 10% levels is reported as ***, **, *, respectively.

Table 4: Effect of common ownership on ISS' recommendation - placebo test: proposals not related to competition

	(1) For director (non-interlock)	(2) For auditor
Common ownership (/100)	-0.000194	0.0000527
	(0.000131)	(0.0000993)
Observations	117,553	27,839
R^2	0.300	0.213
Year-quarter fe	Yes	Yes
Sector fe	No	No
Firm fe	Yes	Yes

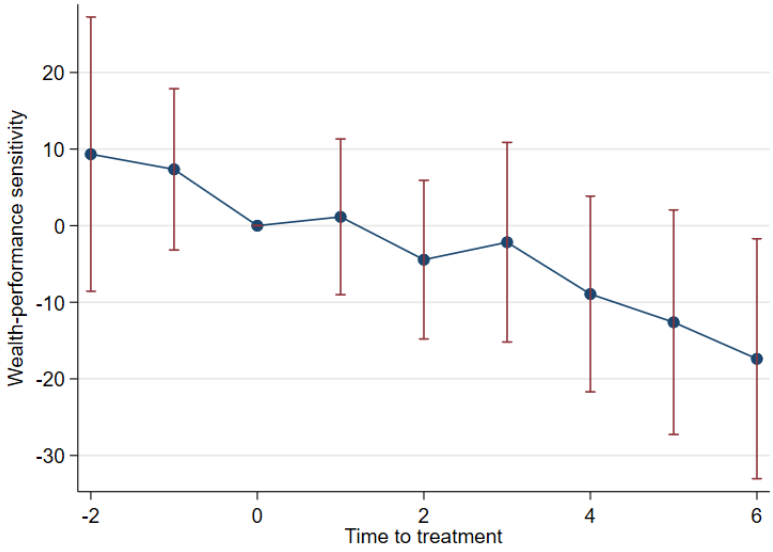
Notes: Impact of common ownership level on the probability that ISS provides recommendations that weakens competition, as specified in Equation 5. Standard errors are clustered at the year-quarter level. Statistical significance at the 1, 5, or 10% levels is reported as ***, **, *, respectively.

Table 5: Effect of common ownership on ISS' recommendation - placebo test: common ownership measured for non-ISS clients

	(1) For merger	(2) Against managerial incentive	(3) For director interlock
Common ownership (/100)	0.000752	0.000342	0.0262
	(0.00423)	(0.000964)	(0.0194)
Observations	988	9,605	962
R^2	0.220	0.115	0.479
Year-quarter fe	Yes	Yes	Yes
Sector fe	Yes	Yes	No
Firm fe	No	No	Yes

Notes: Impact of common ownership level on the probability that ISS provides recommendations that weakens competition, as specified in Equation 5. Standard errors are clustered at the year-quarter level. Statistical significance at the 1, 5, or 10% levels is reported as ***, **, *, respectively.

Figure 3: Impact of ISS opposing a stock plan on firms' wealth-performance sensitivity



Notes: Results from the two-way fixed effects regression (de Chaisemartin and D'Haultfœuille, 2020, 2021), as specified in Equation 7, measuring the impact of ISS opposing a stock option plan on the firm's wealth-performance sensitivity (WPS). WPS is measured for private sector firms and winsorized at the 1% level. I control for firm and year fixed effects and standard errors are clustered at the firm level. Details on the WPS measure are provided in Online Appendix B.1.

Table 6: Effect of common ownership on ISS' recommendation - robustness test: investors weighted by size, where $\omega_{fi} = \sqrt{\frac{TNA_{fi}}{\sum_{\forall i} TNA_{fi}}}$

	(1) For merger	(2) Against managerial incentive	(3) For director interlock
Common ownership (/100)	0.00290**	0.0121**	1.859***
	(0.00135)	(0.00600)	(0.648)
Observations	1,003	9,729	964
R^2	0.216	0.117	0.480
Year-quarter fe	Yes	Yes	Yes
Sector fe	Yes	Yes	No
Firm fe	No	No	Yes

Notes: Impact of common ownership level on the probability that ISS provides recommendations that weakens competition, as specified in Equation 5. Investors weighted by size, where $\omega_{fi} = \sqrt{\frac{TNA_{fi}}{\sum_{\forall i} TNA_{fi}}}$ Standard errors are clustered at the year-quarter level. Statistical significance at the 1, 5, or 10% levels is reported as ***, **, *, respectively.

Table 7: Effect of common ownership on ISS' recommendations - robustness test: investors weighted equally

	(1) For merger	(2) Against managerial incentive	(3) For director interlock
Common ownership (/100)	0.00255*	0.0126*	1.256*
	(0.00130)	(0.00641)	(0.660)
Observations	1,003	9,729	964
R^2	0.216	0.117	0.478
Year-quarter fe	Yes	Yes	Yes
Sector fe	Yes	Yes	No
Firm fe	No	No	Yes

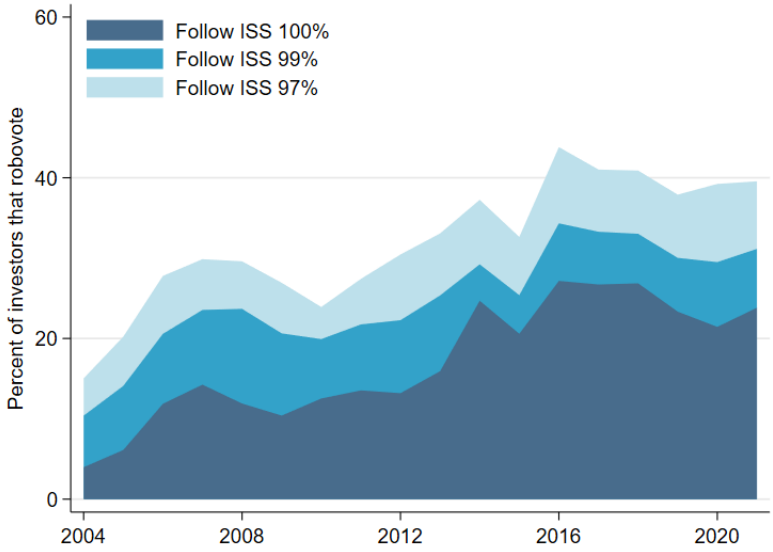
Notes: Impact of common ownership level on the probability that ISS provides recommendations that weakens competition, as specified in Equation 5. Investors are weighted equally ($\omega = 1/N$). Standard errors are clustered at the year-quarter level. Statistical significance at the 1, 5, or 10% levels is reported as ***, **, *, respectively.

Table 8: Effect of common ownership on ISS' recommendations, investors weighted by size (total net assets) - firm fixed effects

	(1) For merger	(2) Against managerial incentive	(3) For director interlock
Common ownership (/100)	1.424	0.00396	1.965***
	(1.181)	(0.00826)	(0.705)
Observations	116	8,679	964
R^2	0.613	0.496	0.481
Year-quarter fe	Yes	Yes	Yes
Sector fe	No	No	No
Firm fe	Yes	Yes	Yes

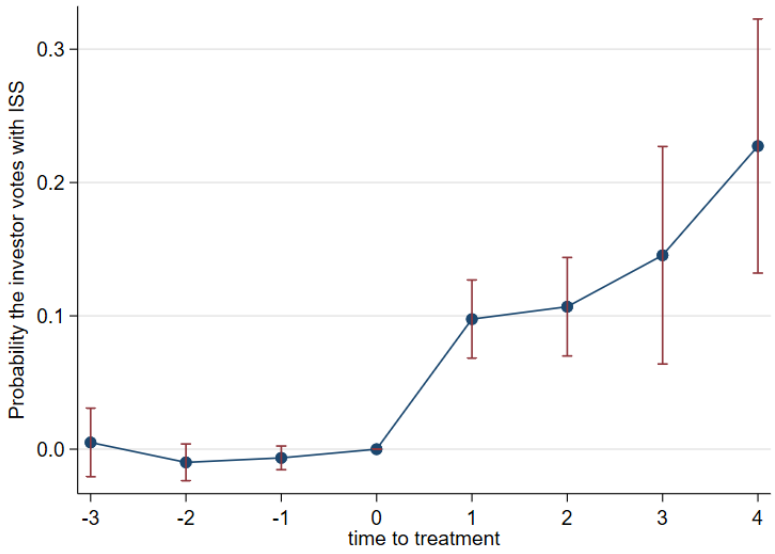
Notes: Impact of common ownership level on the probability that ISS provides recommendations that weakens competition, as specified in Equation 5. Standard errors are clustered at the year-quarter level. Statistical significance at the 1, 5, or 10% levels is reported as ***, **, *, respectively.

Figure 4: Outsourcing of voting to ISS



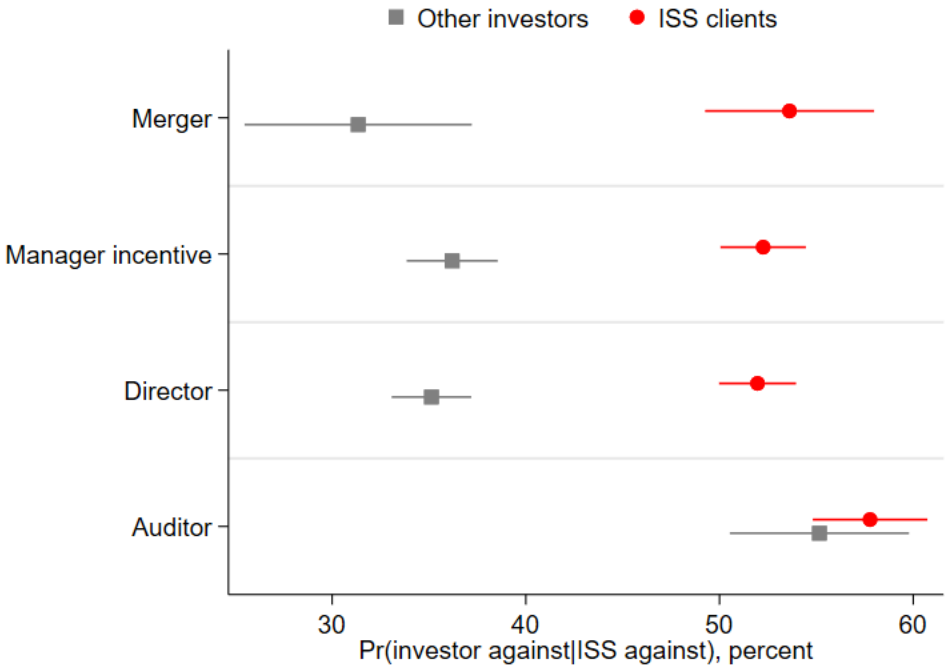
Notes: Percentage of ISS clients that voted in line with ISS on 100%, 99%, and 97% of the proposals in a given year. Observations corresponds to investor-year level. A year is defined as the 12-month period ending June 30 as this is the period for which investors file their annual voting records.

Figure 5: Change in voting behavior when funds start subscribing to ISS



Notes: Results from two-way fixed effects regression (de Chaisemartin and D'Haultfœuille, 2020, 2021), as specified in Equation 8. Probability that a fund votes in line with ISS' recommendations after becoming a client of ISS. Including fund and year fixed effects and controlling for the proposal voted on, firm, and sector. A year is defined based on the period for which investors file their annual voting records (the 12-month period ending June 30). Standard errors are clustered at the fund level.

Figure 6: ISS ability to coordinate investors against management



Notes: Results from panel regressions, as specified in Equation 9. Probability that the fund votes against when ISS recommends voting against, controlling for fund, firm, and year fixed effects. Results for investors that subscribe to ISS (ISS clients) and investors that subscribe to some other client (non-clients) are shown separately. Data includes all fund votes 2003-2021, for the listed proposals (mergers, managerial incentives=stock plans, directors, and auditors), sponsored by management. Standard errors are clustered at the fund level. Regression results are shown in Table A3.

Online appendix: Not for publication

A Appendix figures and tables

Table A1: Descriptive statistics - investor characteristics

Variable	Obs	Mean	Sd
ISS client	78,527	0.615	0.487
TNA fund (billion USD)	30,129	3.168	17.422
TNA fund family (billion USD)	30,129	1,705.416	2,072.413
Actively managed fund	30,129	0.701	0.458
Passive fund	30,129	0.254	0.435
Index fund	30,129	0.210	0.407

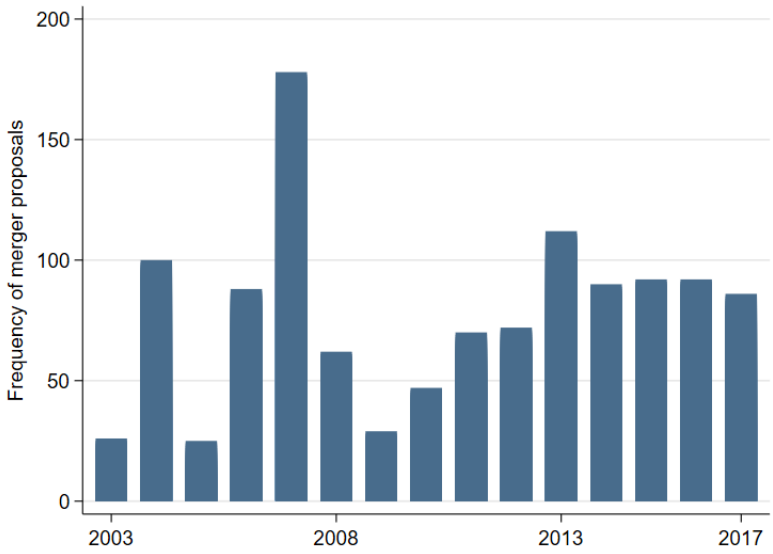
Notes: This table is based on the data set where I match voting data (ISS Voting Analytics) and investor characteristics (from CRSP Mutual Funds). Observations corresponds to investor-year level.

Table A2: Descriptive statistics - investor characteristics, ISS clients and non-ISS clients

	ISS clients	non-ISS clients
TNA fund (billion USD)	2.360	4.412
TNA fund family (billion USD)	1,183.164	2,508.964
Actively managed fund	0.695	0.709
Passive fund	0.266	0.235
Index fund	0.218	0.197

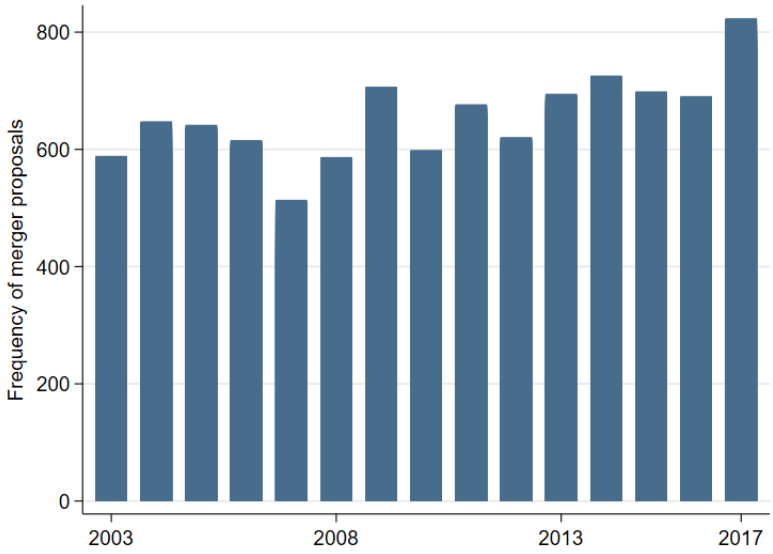
Notes: The table displays mean for different characteristics for ISS clients and investors that use other proxy advisors (non-ISS clients). This table is based on the data set where I match voting data (ISS Voting Analytics) and investor characteristics (from CRSP Mutual Funds). Observations correspond to investor-year level.

Figure A1: Merger proposals per year



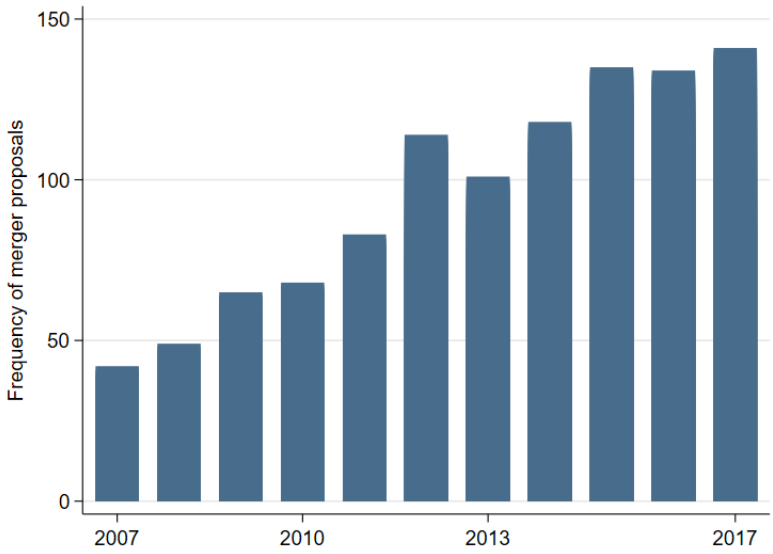
Notes: The sample of number of merger proposals voted on at shareholder meetings per year, for which I match ownership data.

Figure A2: Stock plan proposals per year



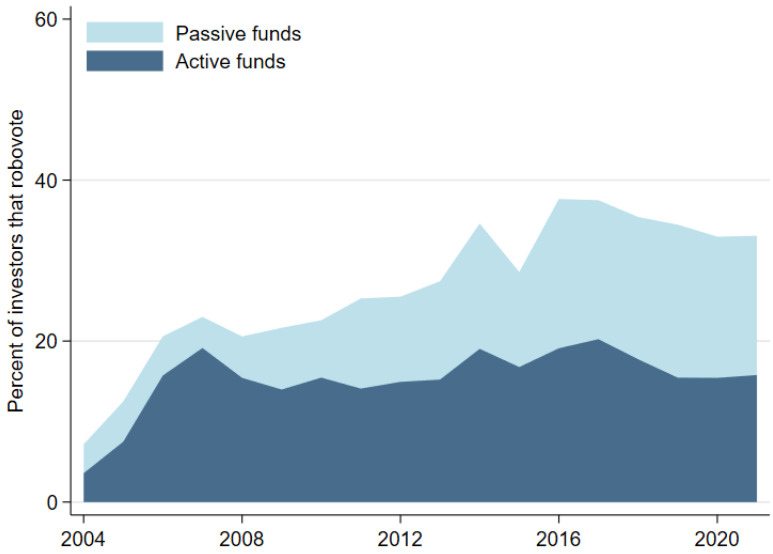
Notes: The sample of number of stock plan proposals voted on at shareholder meetings per year, for which I match ownership data.

Figure A3: Proposals to elect interlocking directors per year



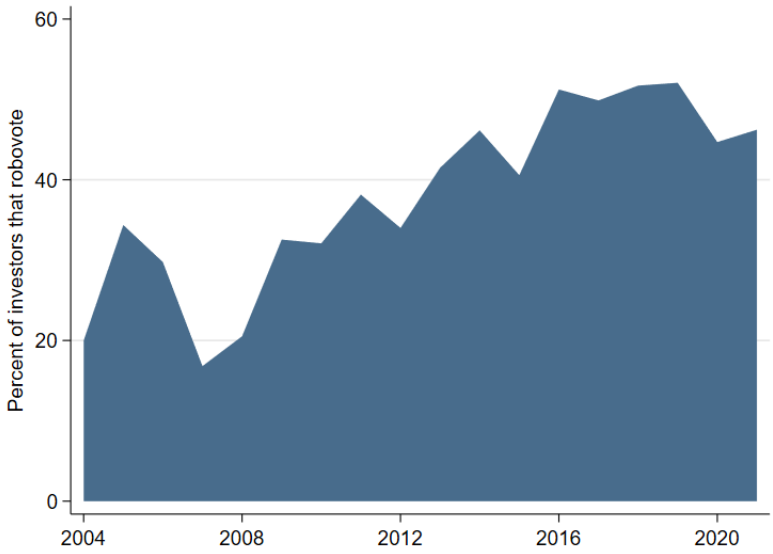
Notes: The sample of number of interlocking director proposals voted on at shareholder meetings per year, for which I match ownership data. The data on interlock directors starts in 2007 as this is the earliest year I have data on firms boards of directors.

Figure A4: Outsourcing of voting - active and passive funds



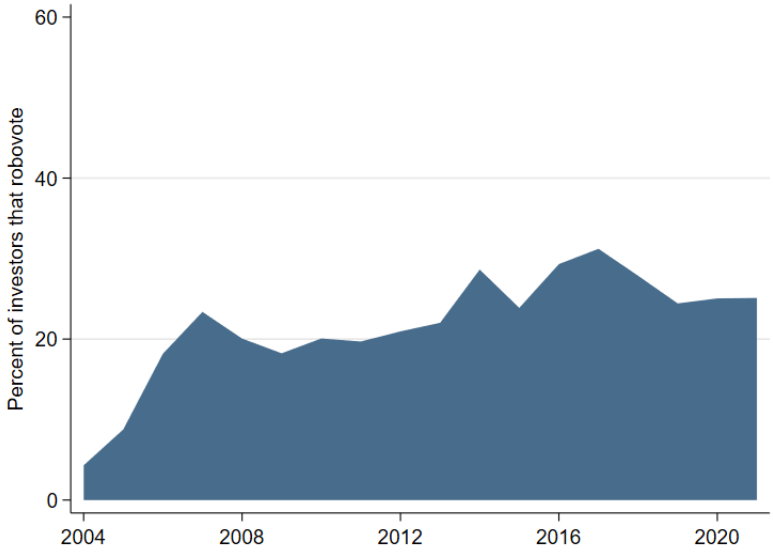
Notes: Percentage of ISS clients that voted in line with ISS on 99% of the proposals in a given year, split across active and passive funds. Observations correspond to fund-year level. A year is defined based on the period for which investors file their annual voting records (the 12-month period ending June 30). This graph is based on the data set where I match voting data (ISS Voting Analytics) and investor characteristics (from CRSP Mutual Funds).

Figure A5: Outsourcing of voting - passive funds



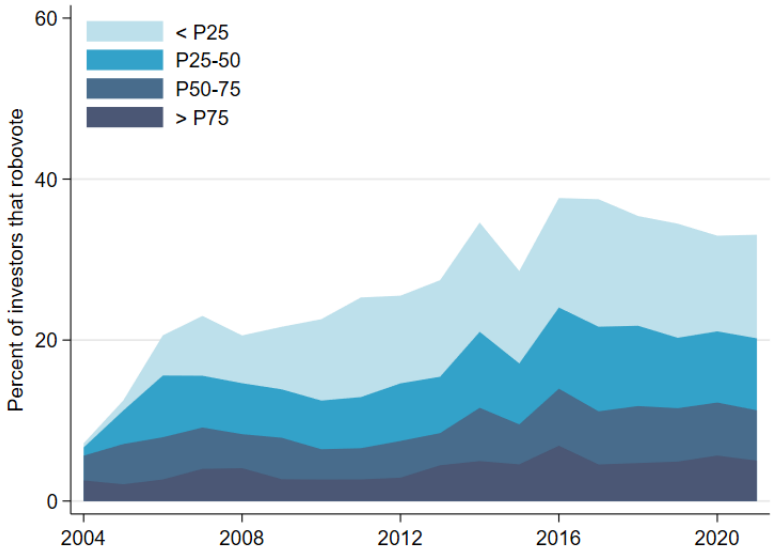
Notes: Percentage of passive ISS clients that voted in line with ISS on 99% of the proposals in a given year. Observations correspond to fund-year level. Observations correspond to fund-year level. A year is defined based on the period for which investors file their annual voting records (the 12-month period ending June 30). This graph is based on the data set where I match voting data (ISS Voting Analytics) and investor characteristics (from CRSP Mutual Funds).

Figure A6: Outsourcing of voting - active funds



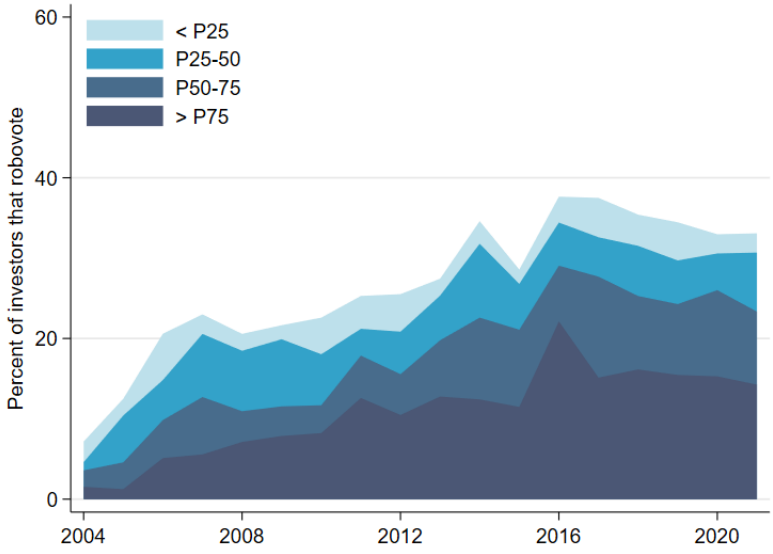
Notes: Percentage of active ISS clients that voted in line with ISS on 99% of the proposals in a given year. Observations correspond to fund-year level. A year is defined based on the period for which investors file their annual voting records (the 12-month period ending June 30). This graph is based on the data set where I match voting data (ISS Voting Analytics) and investor characteristics (from CRSP Mutual Funds).

Figure A7: Outsourcing of voting - fund size



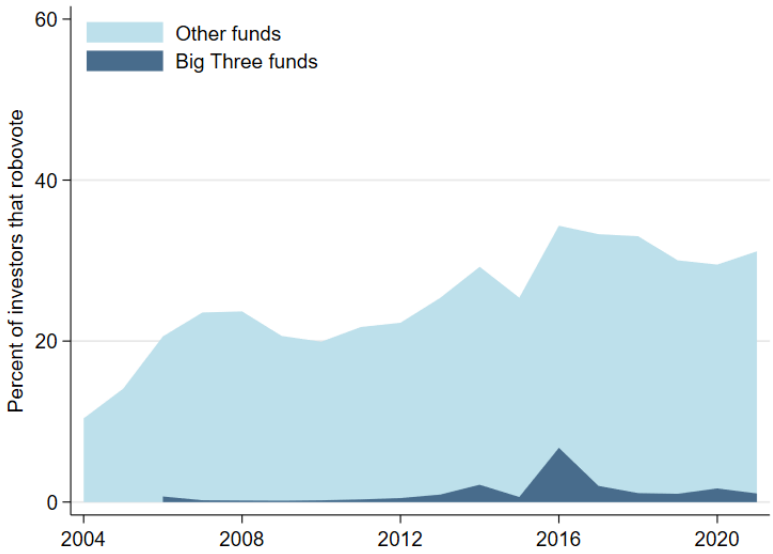
Notes: Percentage of ISS clients that voted in line with ISS on 99% of the proposals in a given year, split across funds of different size (total net assets). Observations correspond to fund-year level. A year is defined based on the period for which investors file their annual voting records (the 12-month period ending June 30). This graph is based on the data set where I match voting data (ISS Voting Analytics) and investor characteristics (from CRSP Mutual Funds).

Figure A8: Outsourcing of voting - fund family size



Notes: Percentage of ISS clients that voted in line with ISS on 99% of the proposals in a given year, split across funds of different size (total net assets). Observations correspond to fund-year level. A year is defined based on the period for which investors file their annual voting records (the 12-month period ending June 30). This graph is based on the data set where I match voting data (ISS Voting Analytics) and investor characteristics (from CRSP Mutual Funds).

Figure A9: Outsourcing of voting - Big Three



Notes: Percentage of ISS clients that voted in line with ISS on 99% of the proposals in a given year, for funds belonging yo the Big Three - BlackRock, Vanguard, and State Street. Observations correspond to fund-year level. A year is defined based on the period for which investors file their annual voting records (the 12-month period ending June 30). This graph is based on the full set of votes in ISS Voting Analytics.

Table A3: ISS' influence on funds

	Merger		Managerial incentive		Director		Auditor	
	(1) ISS clients	(2) non-clients	(3) ISS clients	(4) non-clients	(5) ISS clients	(6) non-clients	(7) ISS clients	(8) non-clients
ISS against	0.536***	0.313***	0.523***	0.362***	0.520***	0.351***	0.578***	0.552***
	(0.0223)	(0.0299)	(0.0113)	(0.0120)	(0.0101)	(0.0105)	(0.0151)	(0.0236)
Constant	0.00532***	0.0122***	0.0863***	0.103***	0.0257***	0.0320***	0.00537***	0.0118***
	(0.000345)	(0.000421)	(0.00170)	(0.00176)	(0.000691)	(0.000663)	(1.75e-05)	(3.13e-05)
Observations	194,938	105,381	1,852,836	1,009,110	45,068,631	24,859,723	6,154,938	3,350,322
R-squared	0.461	0.385	0.494	0.399	0.406	0.251	0.386	0.376
Year fe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fund fe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Notes: Results from panel regressions, as specified in Equation 9. Probability that the fund votes against when ISS recommends voting against, controlling for fund, firm, and year fixed effects. Results for investors that subscribe to ISS (ISS clients) and investors that subscribe to some other client (non-clients) are shown separately. Data includes all fund votes 2003-2021, for the listed proposals (mergers, managerial incentives=stock plans, directors, and auditors), sponsored by management. Standard errors are clustered at the fund level. Statistical significance at the 1, 5, or 10% levels is reported as ***, **, *, respectively.

B Data appendix

B.1 Measures and definitions

Classifications of proposals

Mergers: Approve merger agreement (ISSAgendaItemID = M405).

Management incentives: Approval of omnibus stock plan, restricted stock plan, stock option plan, omnibus stock plan, qualified employee stock purchase, restricted stock plan, stock option plan (ISSAgendaItemID = M0501, M0503, M0507, M0509, M0510, M0522, M0524).

Directors: Elect director (ISSAgendaItemID = M0201).

Auditor: Ratify auditors (ISSAgendaItemID = M0101).

Active funds: I define active funds based on the funds' objectives and disclosed asset compsition, following the literature (Charoenwong et al., 2022; Huang et al., 2011; Kacperczyk et al., 2005). I define active funds as funds with any of the following Lipper objectives: CA, CG, CS, EI, FS, G, GI, H, ID, LCCE, LCGE, LCVE, MC, MCCE, MCGE, MCVE, MLCE, MLGE, MLVE, MR, NR, S, SCCE, SCGE, SCVE, SG, SP, TK, TL, UT; any of the Strategic Insights objectives: AGG, ENV, FIN, GMC, GRI, GRO, HLT, ING, NTR, SCG, SEC, TEC, UTI, GLD, RLE; any of the Wiesenberger Fund Type Code G, G-I, G-S, GCI, IEQ, ENR, FIN, GRI, HLT, LTG, MCG, SCG, TCH, UTL, GPM; or funds with more than 80% of its value in common shares. I exclude index funds and ETFs.

Index funds: I define index funds as funds that are flagged by CRSP or if its name contains any of the following: "index, idx, indx, inds, russell, s & p, s and p, s&p, sandp, sp, dow, dj, msci, bloomberg, kbw, nasdaq, nyse, stoxx, ftse, wilshire, morningstar, 100, 400, 500, 600, 900, 1000, 1500, 2000, 5000 (Iliev and Lowry, 2015; Shu, 2023).

Wealth-Performance Sensitivity: I use the wealth-performance sensitivity (WPS) measure developed by Edmans et al. (2009) (equivalent to their measure B^I).

$$WPS = \frac{\partial W}{\partial r}\frac{1}{w} = \frac{\Delta \ln \$\text{Wealth}}{\Delta \ln \text{Firm Value}}\frac{1}{\$\text{Wage}} \tag{10}$$

W denotes the CEO wealth, w the expected flow pay, and r the firm's return. For the theoretical derivation of the measure, see Edmans et al. (2009).

B.2 Data cleaning

In the ownership data, following Backus et al. (2021b), I drop observations with $\beta > 0.5$, as they write that these are likely to be reporting mistakes. I drop firms where the total number of shares outstanding is missing.

C Appendix

BlackRock "The BIS team performs independent research and analysis, coming to vote conclusions that are consistent with our own voting guidelines and that we believe are in the best long-term economic interests of our clients. The team does not follow the recommendations of any single proxy advisor. While we subscribe to research from several proxy advisory firms, their research is one among many inputs into our vote analysis process. We do not blindly follow proxy advisors' recommendations on how to vote. We use proxy research firms primarily to synthesize corporate governance information and analysis into a concise, easily reviewable format so that our analysts can readily identify and prioritize those companies where our own additional research and engagement would be beneficial" (BlackRock Proxy Voting and Shareholder Engagement FAQ, March 2021).

Vanguard Trustees' Equity Fund. "In evaluating proxy proposals, we consider information from many sources, including, but not limited to, an investment advisor unaffiliated with Vanguard that has investment and proxy voting authority with respect to Vanguard funds that hold shares in the applicable company, the management or shareholders of a company presenting a proposal, and independent proxy research services. We will give substantial weight to the recommendations of the company's board, absent guidelines or other specific facts that would support a vote against management. The Investment Stewardship Team does not vote in lockstep with recommendations from proxy advisors (such as Institutional Shareholder Services or Glass Lewis) for voting on behalf of the Vanguard funds. Data from proxy advisors serve as one of many inputs into our research process" (Vanguard Trustees' Equity Fund, Supplement Dated October 1, 2019 to the Statement of Additional Information).

State Street Global Advisors. "In order to facilitate our proxy voting process, we retain Institutional Shareholder Services Inc. ("ISS"), a firm with expertise in proxy voting and corporate governance. We utilize ISS to: (1) act as our proxy voting agent (providing State Street Global Advisors with vote execution and administration services), (2) assist

in applying the Guidelines, (3) provide research and analysis relating to general corporate governance issues and specific proxy items, and (4) provide proxy voting guidelines in limited circumstances. The Asset Stewardship Team reviews with ISS its Guidelines and the services that ISS provides to State Street Global Advisors on an annual or case-by-case basis. As part of its role as proxy agent and prior to providing vote execution services, ISS pre-populates on an electronic platform certain preliminary proxy votes in accordance with the proxy voting guidelines identified by State Street Global Advisors. On most routine proxy voting items (e.g., ratification of auditors), ISS will shortly before applicable submission deadlines use an automated process to affect the pre-populated proxy votes. To the extent the Asset Stewardship Team becomes aware of material new information within a reasonable period of time before ISS affects such votes, the Asset Stewardship Team will assess whether the pre-populated votes should be updated" State Street Global Advisors, Global Proxy Voting and Engagement Principles, December 2022.

Blackstone Alternative Investment. "The Board of Trustees of Blackstone Alternative Investment Funds (the "Trust") has delegated proxy voting authority relating to portfolio holdings of Blackstone Alternative Multi-Strategy Fund (the "Fund") to Institutional Shareholder Services Inc. ("ISS") or, with respect to assets allocated to certain Sub-Advisers, to such Sub-Adviser., in accordance with the proxy voting policies and procedures adopted by the Fund and the applicable Sub-Advisers. To the extent proxy voting authority is delegated to a Sub-Adviser, the Sub-Adviser shall act in a fiduciary capacity and shall provide to the Adviser, at least annually, information about all such proxies, as necessary for the Fund to complete all required regulatory filings. The Sub-Adviser may apply its own proxy voting policies and procedures or retain an independent third-party proxy agent to recommend how to vote a proxy. The ISS SRI U.S. Proxy Voting Guidelines ("ISS Proxy Voting Guidelines"), as amended from time to time, as well as the applicable Sub-Adviser proxy voting policies, are attached hereto and the complete ISS Proxy Voting Guidelines is available on ISS's website at https://www.issgovernance.com/file/policy/active/specialty/SRI-US-Voting-Guidelines.pdf" Blackstone Alternative Investment Funds, Form N1-A (May 31,

2019).

Alpine Woods Capital. "The Adviser has delegated to Institutional Shareholder Services Inc. ("ISS"), an independent service provider, the administration of proxy voting for the Funds' portfolio securities directly managed by the Adviser, subject to oversight by the Adviser's Proxy Manager (in his or her absence the Director of Institutional Operations). ISS provides proxy-voting services to many asset managers on a global basis. The Adviser has reviewed, and will continue to review annually, the relationship with ISS and the quality and effectiveness of such services provided by ISS" (Alpine Funds, Prospectus, February 28, 2013).

Cadence Capital Management. "Cadence has adopted ISS's Voting Guidelines (the "Voting Guidelines"). The Voting Guidelines address routine as well as significant matters commonly encountered. The Voting Guidelines permit voting decisions to be made flexibly while taking into account all relevant facts and circumstances. Cadence may instruct ISS to vote in a manner that is inconsistent with the Voting Guidelines or ISS's recommendation upon a client's request. Investment professionals deviating from these recommendations must provide the CCO with a written explanation of the reason for the deviation, as well as a representation that the Employee and Cadence are not conflicted in making the chosen voting decision" (AMG Funds, Prospectus, October 1, 2020).

Philadelphia International Advisors, L.P. (PIA). "PIA has responsibility to see that proxies are appropriately voted. PIA votes all proxies in accordance with the firm's general proxy policy unless otherwise specifically instructed by the client in writing. PIA has retained Institutional Shareholder Services, Inc. ("ISS"), an independent third party proxy server, to provide fundamental research on proxies and subsequent recommendations. Proxies are voted by ISS in accordance with their proxy voting guidelines with the intent of serving the best interests of PIA's clients. ISS will inform PIA's proxy administrator of any proxies that do not fall within the adopted guidelines. PIA has developed a proxy policy to serve the collective interests of the firm's clients, and accordingly, will

generally vote pursuant to the policy when conflicts of interest arise. When there are proxy voting proposals that give rise to conflicts of interest, the proxy shall be voted consistent with the recommendations of ISS provided that PIA believes that such a vote is consistent with the best interests of clients" (Guidestone Funds, Form N-1A, May 9, 2009).