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The Party Structure of Mutual Funds

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December 2020

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We are grateful to Alon Brav, Martijn Cremers, Andrew Eggers, Jeff Gordon, Rob Jackson, Wei Jiang, Marcel Kahan, Louis Kaplow, Lewis Kornhauser, Ed Rock, Holger Spamann, Gerald Rosenfeld, Jonathon Zytnick, and seminar participants at Oxford University, New York University, the NYU-Penn Law and Finance Conference, the University of Michigan, Columbia University, the University of California Berkeley, Harvard Law School, Goethe-University Frankfurt, the Conference on Empirical Legal Studies, the American Law and Economics Association, and the American Finance Association for helpful comments and discussions. We thank Nicolas Duque Franco and Stephanie Thomas for very able research assistance.

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Abstract

We investigate the structure of mutual funds' corporate governance preferences as revealed by how they vote their shares in portfolio companies. We apply unsupervised learning tools from the machine learning literature to analyze a comprehensive dataset of mutual funds' votes and find that a parsimonious two-dimensional model can explain the bulk of mutual fund voting. The two dimensions capture competing visions of corporate governance and are closely related to the recommendations of the leading proxy advisors. Model-based cluster analysis shows that mutual funds are organized into three 'parties'—the Traditional Governance Party, the Shareholder Reform Party, and the Shareholder Protest Party—that follow distinctive philosophies of corporate governance and shareholders' role. Our preference measures for mutual funds generate a range of insights about the broader system of corporate governance.

Keywords: mutual funds, proxy voting, spatial models, corporate governance

JEL Classifications: G30, G23

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The Party Structure of Mutual Funds*

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1. Introduction

To understand corporate governance in the United States, one must understand the voting behavior of mutual funds. Mutual funds have grown to hold about one-third of publicly traded stock and are subject to legal duties to vote that stock in the interest of their investors.[1] In tandem with the growth of mutual funds as corporate shareholders, corporate law and practice have evolved to elevate the role of the shareholder franchise. Shareholder votes today play an important role in setting issuer-level corporate governance policies, including through the use of shareholder proposals to spur governance reforms, and have become an important tool used by institutional investors to discipline corporate management.

But despite these trends that have made mutual funds central players in corporate governance, we know relatively little about their behavior as company owners. In this paper we develop the first systematic account of the structure of mutual fund preferences over corporate governance. We focus on two basic questions. First, what are the main ways in which mutual funds differ in their corporate governance preferences, as reflected in how they vote? Second, given that variation in voting behavior, what are the characteristic "types" of mutual funds in terms of their corporate governance philosophies? As a theoretical matter, it is not obvious why mutual funds' voting behavior would vary systematically. Mutual funds are merely financial intermediaries that face broadly similar financial incentives and legal duties with respect to voting the shares in their portfolio companies. One might expect that they would generally vote their shares in a way that would maximize the value of their portfolios and would generally agree on how to do so. But we document substantial heterogeneity in mutual funds' voting behavior and investigate its determinants.

We use a comprehensive sample of mutual funds' votes on 181,951 proposals from 5,774 portfolio companies by 4,656 mutual funds. The full data matrix of mutual fund votes, composed of funds as rows and proposals as columns, is massive, with 847,163,856 cells. But

[1] See SEC, Proxy Voting by Investment Advisers, Release No. IA-2106 (Jan. 31, 2003); 17 CFR 275.206(4)-6.

because most mutual funds own only several hundred portfolio companies, and hence vote on only a small fraction of all public companies' proposals, 96.7% of the cells in the data matrix are empty. This type of data analysis task—uncovering the underlying structure of a large but sparsely populated dataset—is referred to as an "unsupervised learning" problem in the machine learning literature. We apply tools from that literature to develop a new window into the structure of mutual funds' corporate governance preferences that generates a range of insights into the broader system of corporate governance.

First, we hypothesize that mutual funds' corporate governance preferences can be organized or represented as positions along a small number of latent dimensions. To investigate this hypothesis, we use a type of iterative expectation maximization algorithm to both impute the missing data and to extract the principal components of the completed data matrix in order to approximate our high dimensional data matrix using a rank-two matrix. We find that this parsimonious two-dimensional model of mutual fund preferences can indeed explain the bulk of mutual fund voting. The explanatory power of a relatively low dimensional model reflects linkages between issues in the high-dimensional proposal space.

The first dimension of our estimated preference space primarily captures the tendency of funds to oppose (support) management when the leading proxy advisor, ISS, recommends against (in favor of) management but its main competitor, Glass Lewis, does not. It thus captures fund voting behavior for proposals on which the two proxy advisors *disagree*. In contrast, dimension 2 primarily captures funds' tendency to vote in line with Glass Lewis's recommendations, irrespective of ISS's recommendations. These findings show that the corporate governance philosophies tracked by the recommendations of the two leading proxy advisors underlie the main ways mutual funds differ in their voting behavior. We also characterize the substantive approaches to corporate governance these two dimensions measure. Dimension 1 measures a strong preference to vote against management on range of proposal types, including those that implicate fundamental shareholder rights, shareholder proposals on compensation, CSR proposals, and proxy contests. In contrast, the most distinctive as-

pect of dimension 2 is that it captures a strong tendency to oppose management on the two most numerous proposal categories: uncontested director elections and say-on-pay proposals.

The dramatic reduction in the dimensionality of the data we achieve in turn helps us to characterize the typology of mutual fund corporate governance preferences. We use model-based cluster analysis to identify three main groups of mutual funds in terms of their preference scores. We conceptualize these groups as mutual fund "parties" and show that they are a fundamental feature of mutual fund voting. For example, for most proposals with at least a minimal amount of disagreement among mutual funds, the majority of one party was opposed to the majority of the other two parties. Driving these disagreements between the parties are distinctive patterns in their voting behavior, on the basis of which we label them the Traditional Governance Party, the Shareholder Reform Party, and the Shareholder Protest Party.

Funds in the Traditional Governance Party—which is by far the largest party in terms of assets under management and includes the "Big Three" passive managers, i.e., BlackRock, Vanguard, and State Street—are distinctly deferential to management on issues that are traditionally understood as matter for the board, and not shareholders, to decide. But members of the Traditional Governance Party are most likely to break with management over proposals that implicate fundamental shareholder rights and proxy contests, reflecting assertions of shareholder power in their traditional domain.

The Shareholder Reform Party, in contrast, opposes management at much higher rates than the other two parties over a range of proposal categories involving targeted requests for reforms to corporate governance. These include proposals on fundamental shareholder rights related to voting, CSR proposals, shareholder proposals on compensation, and proxy contests. The Shareholder Reform Party also casts withhold votes on uncontested director elections in a targeted manner in order to advance concrete governance reforms.

Finally, the Shareholder Protest Party opposes management at much greater rates than the other two parties on uncontested director elections and on say-on-pay votes. These votes

amount to symbolic "protest" votes—they are effectively nonbinding—that voice general displeasure with management rather than request specific reforms, hence our label for this party.

We then investigate the factors that shape mutual funds' party membership. We find that funds that have stronger incentives to do their own research for voting are more likely to be members of the Traditional Governance Party and less likely to be members of the Shareholder Reform Party. A proxy for whether the investment advisor takes a "compliance approach" to voting, based on the titles of the executives in charge of voting at the advisor, strongly predicts party membership, particularly for passive advisors. Most strikingly, almost all of the funds advised by the passive advisors in our three mutual fund parties that our proxy indicates follow a compliance approach are members of either the Shareholder Reform Party or Shareholder Protest Party. In contrast, almost all funds advised by passive advisors that do not use compliance language in their proxy executives' titles are members of the Traditional Governance Party. This suggests that party membership among passive advisors in large part reflects advisors' decisions whether to outsource to proxy advisors in order to economize on the costs of voting.

Our characterization of the party structure of mutual funds provides a new perspective on institutional investors' voting behavior that sheds light on important corporate governance issues. Consider, for example, two key trends in the asset management industry that have raised concerns about corporate governance in recent years. First, the ongoing shift away from active management and toward passive management has led to concerns that passive managers are likely to do a poor job monitoring corporate management (Bebchuk and Hirst, 2019; Brav, Jiang, Li, and Pinnington, 2020). In one recent paper, for example, Heath, Macciocchi, Michaely, and Ringgenberg (2020) find that index funds "are more likely to cede power to a firm's management" by voting with management at greater rates. Concerns about the incentives of passive managers has led to calls by some scholars to strip passive managers of their right to vote corporate shares (Lund, 2018). Second, there is growing concern about

the influence of the proxy advisors on corporate governance, including with respect to the informational basis for their recommendations and to potential conflicts of interest (Larcker, McCall, and Ormazabal, 2015; Li, 2018). The SEC recently finalized major reforms to the regulation of proxy advice intended to address these concerns.[2]

Our findings on the party structure of mutual funds provides a useful lens through which to view these controversies. Consider first the concern that passive advisors support management at greater rates than active advisors. Our framework provides a richer and more nuanced account of this phenomenon: large passive advisors are more likely to be members of the Traditional Governance Party. While it is true that the Traditional Governance Party supports management at greater rates than the other two mutual fund parties, we characterize more specifically the corporate governance philosophy and voting behavior of the party. We show that the Traditional Governance Party is distinctly deferential to management on operational matters that are traditionally understood as within the province of the board, rather than shareholders. In contrast, the Traditional Governance Party commonly breaks with management on proposals related to fundamental shareholder rights—entailing efforts to change the company's basic corporate governance rules (e.g., proposals to declassify the board or to adopt dual-class structures)—and proxy contests. This suggests that the shift toward passive management does not portend a new era of managerial entrenchment through shifts in fundamental governance rules or unreflective opposition to shareholder dissidents' efforts to challenge corporate management.

In a similar way, we provide a much clearer account of the substantive views of corporate governance that the two leading proxy advisors represent. Our characterization is based on a comprehensive analysis of the actual patterns in voting behavior of mutual funds in each of the two mutual fund parties that correspond to the recommendations of the proxy advisors—the Shareholder Reform Party and the Shareholder Protest Party. Examination of the stated policies of the proxy advisors reveals little by way of major differences. And

[2]Securities and Exchange Commission, *Exemptions From the Proxy Rules for Proxy Voting Advice*, Release No. 34-89372 (Sept. 3, 2020).

yet we show that their apparently similar stated corporate governance policies are belied by large differences in voting behavior of these two groups of mutual funds.

We show moreover that there is a link between the shift toward passive investment management on the one hand and concern about the influence of the proxy advisors on the other. Our results show that the growth of the largest passive managers—like the Big Three—can be expected to *weaken* the influence of the proxy advisors, since these managers are typically members of the Traditional Governance Party. On the other hand, if smaller passive managers proliferate in response to shifts in investor preference toward passive management, then our results show that these are the types of institutional investors most likely to simply take a compliance approach to voting and outsource it to the proxy advisors.

Our main contribution is in using machine learning techniques to establish a set of key descriptive facts about institutional investors' voting behavior and corporate governance preferences. We build on a substantial literature on shareholder voting. One strand in this literature examines the substantive content of institutional investors' corporate governance preferences. Choi, Fisch, and Kahan (2013) shows that three of the very largest mutual fund investment advisors vote quite differently on director elections both from each other and from the recommendations of ISS, showing substantial heterogeneity in mutual fund voting behavior. Choi, Fisch, and Kahan (2008) and Ertimur, Ferri, and Oesch (2018) identify a range of firm- and director-level characteristics that shape the votes of mutual funds and the recommendations of proxy advisors. Our methodology advances this literature by characterizing systematically and comprehensively the main ways mutual funds vary in their voting behavior. We show that institutional investors are grouped into three main parties in terms of their voting behavior and we characterize the substantive corporate governance preferences underlying the three groups.

Another strand of this literature focuses on the influence of the proxy advisors. Choi, Fisch, and Kahan (2010) estimate that an ISS recommendation can shift the vote of 6 to

10% of shares in uncontested director elections. Ertimur, Ferri, and Oesch (2013), Larcker, McCall, and Ormazabal (2015), and Malenko and Shen (2016) focus on say-on-pay votes and find that the proxy advisors' recommendations affect both voting outcomes as well as companies' compensation practices. Our finding that the first two principal components of the voting matrix are closely associated with the recommendations of ISS and Glass Lewis, each of which are located in one of the three mutual fund parties, provides more evidence for how profoundly the proxy advisors shape the "politics" of shareholder voting. Importantly, our methodology is completely data driven. That is, rather than come to the data with any specific hypothesis in mind, we use unsupervised learning techniques to uncover the main ways funds differ in their voting behavior, revealing a latent structure to their preferences that it turns out is closely related to the recommendations of the proxy advisors.

A related set of papers look at the role of funds' incentives to invest in information. Morgan, Poulsen, Wolf, and Yang (2011) find that large funds and funds with greater ownership stakes in the underlying issuer are less likely to support shareholder proposals. Iliev and Lowry (2014) focus on actively managed mutual funds and find that active funds that have higher benefits and lower costs from conducting their own research tend to vote more independently from ISS. We build on those findings by showing that investment advisors' incentives influence their funds' party membership, especially for passive advisors. We show that much of the variation in party membership of passive advisors stems from whether they approach voting as a compliance matter to be a performed at minimum cost.

The paper most closely related to ours is Bolton, Li, Ravina, and Rosenthal (2020), which also estimates a spatial model of voting by institutional investors. Our paper differs from that paper in multiple ways. Most fundamentally, Bolton et al. (2020) interprets their first dimension of institutional investors' preferences as reflecting the extent to which investors weigh social responsibility when casting their votes. But as we discuss in Section 2.6.4 below, the dimensions of the preference spaces estimated in both papers track voting preferences on a wide range of corporate governance issues, not just proposals that implicate

corporate social responsibility, which make up only a tiny fraction of the sample. Second, while Bolton et al. (2020) aggregate their voting data to the fund family level, it is the investment advisor, not the fund family, to which fund voting is generally delegated, and the two organizations are often not the same. Aggregating data to the fund family level discards important heterogeneity in voting behavior and moreover results in misestimation of the preferences of some fund organizations. Accordingly, we hand-code from fund disclosures the investment advisor to which voting authority is delegated at each fund, which is often the sub-advisor, and use those investment advisors as the aggregate fund organization of interest. Finally, our paper differs from Bolton et al. (2020) in that we perform cluster analysis to identify the main parties into which funds can be divided and characterize the way in which those parties vote, and we study which advisor-level characteristics are systematically associated with membership in each mutual fund party.

The plan of the paper is as follows. In Section 2 we estimate a low-dimensional model of mutual fund corporate governance preferences and characterize the main dimensions on which funds' preferences vary. In Section 3 we classify mutual funds into three distinct parties and characterize the parties' voting behavior. In Section 4 we use our preference measures to investigate the determinants of mutal funds' party membership. Section 5 concludes.

2. The Dimensions of Mutual Fund Preference

Corporate shareholders vote on a range of issues, including on the election of directors and on various corporate governance policy issues. Our goal is to uncover the structure of mutual funds' corporate governance preferences, as revealed through how they vote their shares in their portfolio companies. We investigate in this section the main ways in which mutual funds differ in their corporate governance preferences by applying principal components analysis (PCA) to estimate a parsimonious spatial model. The dramatic reduction in the dimensionality of the data we achieve then facilitates our characterization of the "party structure" of mutual funds—identifying clusters of funds that vote similarly—in the following

section.

2.1. **Voting data.** Mutual funds and other registered investment companies—alone among institutional investors—are required to publicly disclose teir votes. Our mutual fund voting data is from ISS Voting Analytics, which is drawn from public filings by mutual funds on Form N-PX. Our sample period is from 2010 - 2015. We treat the set of domestic equity and balanced mutual funds in the CRSP mutual funds database that hold U.S. common stock as the population of interest.[3] Hence, we only keep in our sample the mutual funds from ISS Voting Analytics that we can match to such a CRSP fund. We use ticker, fund name, and family name as well as data from EDGAR to link the two datasets. After excluding votes cast by funds that voted on fewer than 30 proposals, the full sample covers votes on 181,951 proposals from 5,774 portfolio companies by 4,656 mutual funds from 474 fund families. Table 1 compares the overall CRSP population of domestic equity and balanced mutual funds from 2010 - 2015 holding U.S. common stock to those we were able to match to a fund in the ISS Voting Analytics data in that year that was included in our estimation sample. The estimation sample includes votes by funds representing about 55% of the funds in the CRSP population in each year, and about 80% of the value of U.S. common stock held by domestic equity and balanced funds in CRSP.

We also include as "voters" in the data matrix rows for management, ISS, and Glass Lewis based on their respective recommendations.[4] This enables us to place these actors in the same preference space as the mutual funds, which aids in interpretation of the model.[5]

The resulting data matrix, formed by funds as rows and proposals as columns, has a total

[3]More specifically, we select funds in CRSP with crsp_obj_cd equal to "ED**" or "M" (indicating domestic equity and balanced funds) and exclude any such funds that the CRSP portfolio data indicate do not hold U.S. common stock.

[4]The data on management recommendations and ISS recommendations come from ISS Voting Analytics. Following Larcker, McCall, and Ormazabal (2015), we impute Glass Lewis's recommendations by identifying a set of mutual funds that follow Glass Lewis, based on information from the Proxy Insight website, and coding the Glass Lewis recommendation as the majority vote among the Glass Lewis followers for proposals in which at least two of the Glass Lewis followers voted on it and more than two-thirds of the Glass Lewis followers voted in the same direction.

[5]Including these three actors as voters in the data matrix has a negligible effect on our estimates; all results are robust to excluding them.

of 847,709,709 cells. However, because each individual mutual fund owns only a fraction of the portfolio companies covered in the dataset, and therefore votes on only a small fraction of the proposals in the sample, there are only 28,318,233 votes in the sample. In other words, 96.7% of the cells in the data matrix are empty.

2.2. **Estimating a low-dimensional model of mutual fund preference.** Each of the 181,951 proposals represents a variable in the dataset, and the sheer number of variables threatens to swamp attempts to use the data to systematically characterize mutual funds' voting behavior. Many of these variables, however, are highly correlated. Relatedly, we hypothesize that much of the variation in mutual funds' votes on these proposals is driven by preferences and other factors that can be well represented as positions in a much lower dimensional space.

To investigate this, we use PCA, which can be motivated and derived in a number of different ways. One way is in terms of finding the mutually orthogonal directions in the data having maximal variances (Joliffe, 2002). This is an important sense in which PCA helps us identify the *main* ways mutual funds differ in their voting behavior. An alternative framing of PCA is that it finds a low rank approximation of the data that minimizes the squared approximation error. In particular, let X be the $n \times p$ matrix of votes of n funds on p proposals. To find the best (in a least squares sense) rank k approximation of X, we solve:

$$\min_{Z,A,M} \|X - ZA - M\|^2,$$

where Z is an $n \times k$ matrix of principal component "scores," A is a $k \times p$ "coefficient" (or "loadings") matrix, and M is an $n \times p$ matrix with each row equal to a vector containing the means of each variable. Let z_i be the i-th row of Z, a_j be the j-th column of A, and m_j be the mean of the j-th column of X. Then the problem can be written element-by-element

as:

$$\min_{Z,A,M} \sum_{i=1}^{n} \sum_{j=1}^{p} (X_{ij} - z_i a_j - m_j)^2.$$

The solution to this complete-data problem can be calculated using the singular value decomposition of the centered data matrix $(X - M)$.

A challenge to performing PCA posed by our data, however, is that 96.7% of the entries in the data matrix are missing. Let $O \subset \{1, \ldots, n\} \times \{1, \ldots, p\}$ denote the set of (i, j) such that X_{ij} is *observed*. PCA can be generalized to this setting as:

$$\min_{Z,A,M} \sum_{i,j \in O} (X_{ij} - z_i a_j - m_j)^2,$$

which lacks an analytic solution. We fit the model using a type of expectation maximization algorithm proposed by Kiers (1997) and further analyzed in Ilin and Raiko (2010) and Josse and Husson (2012). To estimate a k dimensional model, the algorithm proceeds as follows:

1. Impute missing observations in X using the mean of each variable.
2. Perform PCA on the completed dataset to estimate $(\hat{Z}, \hat{A}, \hat{M})$. Retain k dimensions of $\hat{Z}$ and $\hat{A}$; denote the truncated matrices as $\hat{Z}^k$ and $\hat{A}^k$.
3. Reimpute the missing values of X using $\hat{M} + \hat{Z}^k \hat{A}^k$.
4. Repeat steps 2 and 3 until convergence.

The principal component scores z_i can be understood as the projection of the rows of X (each representing a fund) onto a k dimensional subspace. The fund preference scores can also be understood as estimates of funds' "ideal points" in a spatial model.[6] We will refer to these measures as "fund preference scores," but they do not capture "preference" in only a narrow attitudinal or ideological sense. Rather our estimated fund preference scores

[6]Heckman and Snyder (1997) develop a linear probability model approach to estimating a spatial model of preferences over discrete choices and show that the agents' preference parameters in such a model can be estimated using PCA.

are best understood as descriptive summaries of the latent two dimensions that best explain differences in funds' votes.

2.3. **Filtering the sample.** One challenge of applying our estimation approach to the data is that it is computationally expensive, given the enormous size of the data matrix. Many of the proposals in the full dataset, however, contain little information. In particular, the vast majority of proposals are highly lopsided, with almost all funds voting the same way. The most numerous type of lopsided proposal is votes on management nominees in uncontested director elections. These lopsided votes contain little information about the relative preferences of mutual funds. To see the intuition, consider the extreme case of a unanimous vote—unanimous votes contain *no* information about mutual funds' relative preferences. To focus on informative votes, and to make the computation more manageable, we drop all proposals for which fewer than 5% of funds voted in the minority.[7] Similarly, for a proposal to be included in the estimation sample, we require that at least 20 mutual funds vote on it, and for a fund to be included it must have voted on at least 30 sample proposals.

The resulting estimation sample covers votes by 4,329 mutual funds on 43,871 proposals from 3,966 portfolio companies. Table 2 provides counts of proposal types for the estimation sample and the full sample. The prefixes "MP" and "SP" in the proposal categories refer to management proposals and shareholder proposals, respectively. Proposals to elect directors nominated by management are by far the most common type of proposal. Shareholder proposals are less numerous than management proposals and mostly focused on corporate governance issues.

With 4,332 voters (4,329 funds plus management, ISS, and Glass Lewis) and 43,871 proposals, there are a total of 190,049,172 potential votes in the estimation sample and therefore cells in our data matrix. The median fund, however, owns a total of only 498 unique portfolio companies over the sample period, and as a consequence there are only 6,788,522

[7]In unreported results, we experimented with smaller lopsidedness thresholds, down to the 3% lopsidedness threshold used in Bolton, Li, Ravina, and Rosenthal (2020), and larger ones, up to 10%, and find qualitatively similar results.

votes in the estimation sample. In other words, 96.4% of the cells of the estimation sample data matrix are empty.

2.4. **The number of dimensions.** An initial question is how many dimensions of mutual fund preference are needed to provide a good model of mutual fund preferences. The eigenvalues of each principal component provide one perspective on the issue. The eigenvalue of the k-th principal component measures the variance in the voting data along that dimension. Figure 1 plots the eigenvalues of the first thirty principal components. Note that starting with the third component, the plot becomes linear. In what follows, we thus focus on the first two dimensions as a parsimonious model of mutual fund preference.[8]

Table 3 provides the classification percentage (CP) and average proportional reduction in error (APRE) for models using 1 - 10 dimensions. The CP is simply the percentage of votes that the model classifies correctly, where a predicted value $\hat{M}_{ij} + \hat{z}_i^k \hat{a}_j^k > 0.5$ is classified as a "Yes" vote, and $\hat{M}_{ij} + \hat{z}_i^k \hat{a}_j^k < 0.5$ is classified as a "No" vote. APRE measures the reduction in error the model achieves in classifying votes relative to a simple benchmark model of predicting that all funds vote with the majority on the proposal.[9] A two-dimensional model performs well, correctly classifying 89% of the votes, with an APRE of 47%.

2.5. **The distribution of mutual funds' preferences.** Figure 2 shows the estimated preference scores of mutual funds. Also depicted with triangles are the average of the investment advisors' funds' preferences (weighted by each fund's TNA) for a subset of the mutual fund investment advisors in the data.[10]

The distribution of fund scores in this two-dimensional preference space takes a tri-

[8]The third principal component primary tracks a single investment advisor's voting behavior—Blackrock—and hence is of little general interest.

[9]For each proposal, the proportional reduction in error (PRE) is equal to $\frac{\text{Number Minority Votes} - \text{Number Classification Errors}}{\text{Number Minority Votes}}$. The APRE sums over all of the proposals: $\frac{\sum_{j=1}^{m} \text{Number Minority Votes}_j - \text{Number Classification Errors}_j}{\sum_{j=1}^{m} \text{Number Minority Votes}_j}$.

[10]We discuss in some detail in Section 4 how we identified the investment advisor to which each fund delegates voting authority.

angular shape, with a group of funds clustered around each of the three vertices of the triangle. Management is located near the lower-left vertex, and several of the very largest fund advisors—including Blackrock, Vanguard, State Street, and Fidelity—are located in the same cluster of funds. The leading proxy advisor, ISS, is located near the lower-right vertex of the triangle, and the second leading proxy advisor, Glass Lewis, is likewise located near the upper-left vertex. By dramatically reducing the dimensionality of funds' voting behavior, from their votes on 43,871 proposals down to the two directions in that high-dimensional proposal space that capture the maximal variance in funds' voting choices, our preference estimates suggest that funds can be usefully classified into three main groups, those clustered at each of the three vertices that map out the distribution of fund's preference scores. We turn in Section 3 to describing the voting behaviors of these three clusters of funds.

It is noteworthy that the two leading proxy advisors are located in orthogonal directions from management in this space. That is, while one might imagine that management, mutual funds, and the proxy advisors sit on a single dimension that ranges from an extreme managerialist view on one end to an extreme "shareholder rights" view on the other, with each fund ordered according to the intensity of their shareholder rights views, a better representation of mutual fund preferences is that there are two orthogonal dimensions of shareholder preferences. A fund can be extreme on dimension 1 without being extreme on dimension 2, and vice-versa.

2.6. **The interpretation of the dimensions.** We interpret the dimensions by studying the pattern of loadings a_j across proposals on the two dimensions. If a proposal loads positively on a dimension, then funds that score positively (negatively) on the dimension are predicted to be more (less) likely to vote affirmatively (and vice-versa for proposals that load negatively). Figure 3 shows the distributions of proposals' loadings on the two dimensions. For each dimension there is substantial variation in loadings across proposals. To interpret the dimensions we need to characterize the kinds of proposals that load heavily in either

direction on each dimension. One challenge in our application of PCA is the sheer number of variables in the model, which prevents us from simply listing the proposals that load heavily in each direction on each dimension and offering an intuitive interpretation of the principal components, as is often done in PCA (see Joliffe, 2002, pp. 63-77, for a useful discussion). Rather, we must describe in meaningful ways the characteristics of proposals and identify which characteristics are associated with loadings on each dimension.

2.6.1. *The recommendations of the proxy advisors and management.* We begin by noting that the extreme locations of ISS, Glass Lewis, and management in the preference space imply that the loadings are associated with the recommendations of these three key actors. We also know institutionally that the recommendations of these three actors play important roles in the proxy voting process (Ertimur, Ferri, and Oesch, 2013; Malenko and Shen, 2016). Ertimur, Ferri, and Oesch (2018) argue in particular that ISS and Glass Lewis play an "agenda-setting role" in the sense that many institutional investors will only seriously consider opposing management if a proxy advisor recommends against management. All of this suggests that the recommendations of the proxy advisors and management might be related to the interpretation of our estimated preference space.

To investigate this hypothesis, we regress the absolute value of the loadings, which measures how strongly each dimension predicts voting on the proposal, on indicators for whether each proxy advisor recommended against management on the proposal. The results are reported in Table 4. Column (1) shows that there is a substantial association between whether ISS opposes management and how strongly the proposal loads on dimension 1. The coefficient on ISS's recommendation is about 1.3 times the standard deviation of the absolute value of the loadings. In contrast, the coefficient on Glass Lewis's recommendation is close to zero.[11] Column (2), however, adds an interaction term between the two proxy advisors'

[11]The sample used to estimate the regressions in Table 4 is substantially smaller than the number of proposals in our estimation sample because Glass Lewis's recommendations are only available for 34% of the proposals. In unreported analysis, we regress the absolute value of loadings on dimension 1 against a dummy for whether ISS recommends against management (and a constant) using the sample of proposals for which

recommendations, which results in a large jump in the explanatory power of the model, from an R^2 of 0.47 in column (1) to 0.82 in column (2). The pattern of coefficients reveals that the category of proposals with by far the strongest loadings on dimension 1 is proposals for which ISS recommends against management and Glass Lewis recommends in favor of management. So Glass Lewis's recommendations do indeed seem to play an important role: dimension 1 captures variation in preference most strongly when ISS and Glass Lewis *disagree* on the merits of the proposal and ISS opposes management.

For dimension 2, in contrast, column (3) shows that proposals load much more strongly when Glass Lewis opposes management, but that there is no substantial association between ISS's recommendations and the loadings on dimension 2. Adding the interaction term in column (4) adds little to the explanatory power of the model.

To further investigate, we split the set of proposals into the four categories mapped out by the four possible combinations of the proxy advisors' recommendations vis-à-vis management. Figure 4 reports the densities of raw loadings on dimensions 1 (top panel) and 2 (bottom panel) for each of those four groups of proposals. The conditional density of the loadings on dimension 1 for the key group that our earlier regressions indicate load most strongly on dimension 1—proposals for which ISS opposes management and Glass Lewis supports management—is bimodal, with modes on each extreme side of the distribution. The bottom panel similarly shows a mix of positive and negative loadings on dimension 2. To further refine our interpretation, we need to know more about the substance of the proposals that determines the signs of the loadings.

To proceed, we make the signs of loadings more comparable across proposals by "polarizing" each loading based on management's recommendation. In particular, if management recommends against a proposal, we multiply the raw proposal loading by -1 to calculate its "polarized loading." The signs of polarized loadings can be interpreted in terms of supporting

ISS's and management's recommendations are available—even if Glass Lewis's recommendation is missing. The estimation sample includes $43,636$ proposals, and the coefficients for the dummy and the constant are the same as those reported in column (1) of Table 4 to the third decimal place.

or opposing corporate management on the substantive issue raised by the proposal.

Figure 5 reports the conditional densities of the *polarized* loadings for the same four groups of proposals. Unlike for the raw loadings, the signs of the polarized loadings on dimension 1 are strikingly uniform within each of the four groups. Moreover, the conditional densities for each of the four subgroups have little overlap, reflecting that the recommendations of management and the proxy advisors play important roles in determining the direction and magnitude of the loadings of each proposal on dimension 1.

As noted in the regressions above, a key driver of the variation in loadings on dimension 1 is *disagreement* between Glass Lewis and ISS. The conditional density on the far left of dimension 1 corresponds to proposals for which ISS opposes management and Glass Lewis supports management. Scoring highly positively (negatively) on dimension 1 is thus strongly predictive of voting against (with) management on these proposals. Similarly, the density on the far right corresponds to proposals for which ISS supports management and Glass Lewis opposes management. These include almost all of the proposals that load substantially positively on dimension 1, and the interpretation of these mirrors that of the left-most conditional density. To a lesser extent dimension 1 also captures the tendency of funds to oppose management when ISS and Glass Lewis both oppose management (the second conditional density from the left). Finally, note that dimension 1 does not substantially track variation in preferences over proposals for which neither proxy advisor opposes management—the bulk of the conditional density for this group is near 0.

Turning to dimension 2 in the bottom panel of Figure 5, the polarized loadings are overwhelmingly negative, indicating that, unlike dimension 1, dimension 2 measures a form of preference generally opposed to management's recommendations. This is consistent with management's extremely negative score on dimension 2. The conditional densities also show that recommendations from Glass Lewis in opposition to management are associated with a leftward shift in the polarized loadings, and that, in contrast, the ISS's recommendations play little role. This is consistent with ISS's score on dimension 2 near 0, depicted in Figure

2.

In summary there are strong relationships between the the loadings of proposals on the two dimensions of our preference space and the recommendations of the two leading proxy advisors and management. Dimension 1 primarily captures the tendency of funds to oppose management when ISS (but not Glass Lewis) opposes management and to support management when ISS (but not Glass Lewis) supports management. Dimension 2 primarily captures the tendency of funds to oppose management when Glass Lewis opposes management, irrespective of ISS's recommendations.

These associations between the proxy advisors' recommendations and the loadings of proposals presumably reflect both the causal influence of their recommendations on funds' voting choices (Malenko and Shen, 2016) as well as the fact that the proxy advisors' recommendations themselves track important features of institutional investors' preferences (Choi, Fisch, and Kahan, 2010). Ertimur, Ferri, and Oesch (2018) argue convincingly that a major reason for the correlation between ISS recommendations and institutional investors' votes is that ISS aggregates institutional investors' preferences through regular meetings with and surveys of its clients and then synthesizes its clients' views into a set of proxy voting guidelines. We turn now to the substantive corporate governance preferences underlying these dimensions.

2.6.2. *Substantive corporate governance issues.* As reflected in the 38 categories of proposals shown in Table 2, shareholders vote on a wide range of issues. To develop an interpretation of the preference space in terms of substantive corporate governance preferences, we investigate whether particular types of proposals, in terms of their substantive content, tend to load strongly on each dimension. Note that many of the 38 proposal categories in Table 2 are on closely related issues. To proceed, we outline below what we consider to be the eight main corporate governance issues implicated by these shareholder votes.

1. *The board's supervisory role and director independence.* A main responsibility of the

board of directors is to supervise the firm's top management. Key to performing this supervisory function, it is commonly thought, is director independence and a commitment by the directors to invest the time and effort necessary to perform their task effectively.

2. *Compensation.* Another core corporate governance issue is executive compensation. There are two main concerns: first, that the top managers are not paid excessive amounts, and second that the top managers are given strong performance incentives.

3. *Corporate finance.* Shareholder interests are implicated by corporate financing decisions, most importantly stock sales that threaten to dilute existing shareholders' interests.

4. *Corporate malfeasance.* Much of corporate law is directed at deterring insiders from engaging in self-dealing that treats the company and its shareholders unfairly and other forms of malfeasance. Concern about such malfeasance might manifest in votes to ratify the company's auditors following accounting restatements or other forms of reporting problems.

5. *Corporate social responsibility.* While the shareholder primacy norm remains the dominant conceptualization of corporate purpose, institutional investors are increasingly pushing corporate management to consider broader social issues.

6. *Fundamental shareholder rights.* While the board of directors holds legal authority to manage the business and affairs of the corporation. The firm's shareholders retain a set of fundamental rights. First, they elect the board of directors. Second, they are accorded voting rights to approve (or not) certain major corporate transactions, most importantly mergers. Third, they have the right to sue fiduciaries that breach their fiduciary duties or otherwise violate shareholders' rights. Fourth, they have the right to sell their shares. But there is substantial variation in the precise scope of these

fundamental shareholder rights across companies.

7. *Responsiveness to shareholders.* Many institutional investors expect the board to respond to shareholders' demands even when shareholders do not formally have the right to decide the matter. The two principal examples of this are: (1) board implementation of precatory shareholder proposals that received substantial support in an earlier meeting; and (2) the replacement of directors who receive a large withhold vote.

8. *Company performance.* Institutional investors in general care about company performance, of course. They might express concerns about company performance by withholding votes on director elections.

We group proposals into this taxonomy of substantive corporate governance issues based on their proposal type, as shown in Table 5. We also create a set of subcategories for each corporate governance issue category in order to explore variation within each category. We assign all uncontested director election proposals to their own "Director Elections" category; we explore variation in loadings among director election proposals below. Of the 43,871 proposals in the sample, we are able to assign corporate governance issue categories to 42,271 of them, which indicates that our conceptual taxonomy is fairly comprehensive.[12] Note that two of the corporate governance issue categories outlined above—responsiveness to shareholders and company performance—were assigned no proposals in Table 5. We consider those issues in our analysis of uncontested director elections below.

Figures 6 and 7 show how the proposals load on the different corporate governance categories and subcategories for dimensions 1 and 2, respectively. The bar plots in the left column in the figures show the average absolute value of the loadings on proposals in each subcategory, with the vertical dotted line drawn at the mean absolute value of the loadings across all proposals as a reference point. The average absolute value of loadings provides a

[12] Of the 1,600 proposals that we could not assign to a corporate governance issue category in our taxonomy, 793 were management proposals to adjourn the shareholders' meeting, and 382 were described in the voting data as simply "Other Business."

measure of the extent to which each dimension tracks mutual funds' voting preferences for proposals in each category. The second column shows the densities of polarized loadings for each subcategory of proposals, with the solid vertical lines drawn at the mean polarized loading for each subcategory. The signs of the polarized loadings indicate whether the dimension measures preferences to support (positive sign) or oppose (negative sign) management on the proposal.

Consider dimension 1 first. As an initial matter, note that dimension 1 puts some weight on all proposal categories—there are no categories with mean absolute value loadings far below the mean, and the densities show that there are some proposals with substantial loadings in every subcategory. So the substantive corporate governance preferences captured by dimension 1 encompass all of these issues. There are, however, a number of proposal categories that load particularly strongly on dimension 1: shareholder proposals on compensation, CSR proposals, proxy contests, and say-on-pay proposals. In most of these cases—CSR, shareholder proposals on compensation, proxy contests—the proposals load systematically against management on dimension 1. In the case of the two most numerous categories, however—director election and say-on-pay proposals—substantial numbers of proposals load in favor of management as well as against management, leading to mean polarized loadings close to zero.

By contrast, in the case of dimension 2, Figure 7 shows more heterogeneity across categories in the intensity of proposal loadings. Consider, for example, CSR proposals. Only proposals related to corporate political contributions and board diversity load strongly against management on dimension 2 and not environmental proposals and other social proposals. Also noteworthy is the contrast with dimension 1 on the two most numerous types of proposals. Uncontested director election proposals and say-on-pay proposals both load relatively strongly against management on dimension 2, leading to much more negative average polarized loadings than on dimension 1. Dimension 2 also seems to track particularly strongly preferences on votes to ratify auditors, votes to appoint an independent board chair or lead

director, and votes that implicate fundamental shareholder rights, all of which load strongly against management on dimension 2.

2.6.3. *Analysis of director election proposals.* So far we have grouped together uncontested director election proposals into a single category. But there is substantial heterogeneity in the loadings of director election proposals on the two dimensions as well as in the corporate governance issues implicated across these proposals. This raises the question of what issues are driving the variation in loadings for director election proposals. Ertimur, Ferri, and Oesch (2018) find that the primary driver of shareholder voting in uncontested director elections is the recommendations of the proxy advisors, which in turn are based on a specific set of concerns. We follow their basic approach by creating a set of proxies for some of the substantive issues in corporate governance raised by director elections and explore their correlation with the loadings. We construct indicator variables that proxy for whether a particular director election proposal raises concerns about five of the eight corporate governance issues in our taxonomy: (1) board supervision; (2) compensation; (3) corporate malfeasance; (4) board responsiveness; and (5) corporate performance. Tables 6 and 7 provide details about the construction of these indicator variables and their summary statistics, respectively.

Table 8 reports the results of regressions of the polarized loadings on our proxies for the corporate governance issues implicated by the proposal.[13] As an initial matter, note the contrast between the constants estimated for each dimension: the constant on dimension 1 is 0.001, compared to -0.004 for dimension 2. This means that, in the absence of the corporate governance concerns captured by our proxies, dimension 1 on average loads mildly pro-management, whereas dimension 2 loads strongly anti-management.

In terms of the coefficients on our proxies for corporate governance issues, the two main issues that explain the variation in loadings on dimension 1 are board supervision and responsiveness. The coefficients on both are negative and substantially larger in absolute

[13]The size of the sample used to estimate the regressions is substantially smaller than the set of director election proposals in our estimation sample because the Voting Analytics Directors Database only covers firms in the S&P 1500 and say-on-pay votes only started to be cast at a meaningful rate in 2011.

magnitude than the estimated constant. These appear to be the two main issues that result in negative loadings of direction election proposals on dimension 1.

By contrast, our proxies for corporate governance issues are much less predictive of the loadings of director election proposals on dimension 2—the R^2 of the model for dimension 2 is only 0.016, compared to 0.174 for dimension 1. The concerns underlying the variation in loadings of director election proposals on dimension 2 remain mysterious, but these results suggest that, unlike for dimension 1, they do not track the standard set of corporate governance concerns for which we have included proxies. We hypothesize that dimension 2 is capturing funds' propensity to use withhold votes on director elections to signal general dissatisfaction with the performance of the board rather than to push for particular corporate governance reforms.

2.6.4. *The role of corporate social responsibility vs. profit seeking.* Our analysis of the main dimensions of institutional investor voting preferences contrasts sharply with the approach and conclusions of Bolton, Li, Ravina, and Rosenthal (2020). To interpret the dimensions of their estimated preference space, they first identify the institutions located at extreme points in the space. They point out that the institutional investors located at the left-most extreme of their first dimension are predominantly socially responsible investors such as Calvert and Domini Social Investments and public pension funds. They contrast this group with the more conventional, non-SRI investors that are at the right-most extreme. On that basis they conclude that the main dimension of investor preference reflects an "ideology" based on how socially responsible vs. "money conscious" investors are. As Bolton et al. (p. 321) put it: "the issue that most separates institutional investors is the degree to which they weigh social responsibility." This would be a surprising conclusion and belies a large academic literature on corporate governance that focuses mostly on other issues, such as takeover defenses (Bebchuk, Cohen, and Ferrell, 2009), director independence (Ryan and Wiggins, 2004), and the extent to which executive compensation is linked to corporate performance

(Murphy, 2013). Similarly, recent survey evidence on the corporate governance preferences of institutional investors shows that CSR is not a major focus. McCahery, Sautner, and Starks (2016) reports the top corporate governance concerns cited by institutional investors, only two of which relate to CSR ("Socially irresponsible behavior", ranked #9 of 17; and "Financial contributions to political parties or politicians", ranked #16 of 17),

But while in both our estimated preference space and Bolton et al's model, the first dimension does indeed track voting behavior on CSR proposals, concerns about social responsibility are only a small part of an appropriate interpretation of the preference spaces estimated in both this paper and in Bolton et al. (2020). In particular, the first dimensions of both preference spaces strongly predict voting across a wide range of corporate governance issues. Of the proposals that have an absolute value of loading on dimension 1 greater than the median absolute value loading in our model, only 3% are about CSR. Bolton et. al (2020, Section 6) likewise shows that the first dimension of their estimated preference space predicts mutual funds' voting behavior across the full gamut of proposals, not just on the small subset that relate to CSR. CSR is in fact only a minor part of the main ways funds differ in their voting behavior.

It is useful to contrast the approach taken in Bolton et al. (2020) to interpreting the preference space with the approach taken to interpreting similar models applied to voting in Congress, for which the particular preference estimation methodology employed in Bolton et al. (2020) was developed. The main finding of that literature is that, for most of U.S. history, votes in Congress can be well explained based on a single dimension that represents a left-right ideological spectrum (Poole and Rosenthal, 2007). A voluminous literature in political science has shown that locations of members of Congress in the left-right ideological space are highly predictive of their voting behavior on every major political issue. As Poole and Rosenthal (1991) puts it:

> A contemporary liberal, for example, is likely to support increasing the minimum wage, oppose aid to the Contras, oppose construction of MX missiles, support mandatory affirmative action programs, and support federal funding of health

> care programs. Indeed, this consistency is such that just knowing that a politician favors increasing the minimum wage is enough information to predict, with a fair degree of reliability, the politician's views on many seemingly unrelated issues.

If we applied Bolton et al. (2020)'s approach to interpret the Congressional preference space, it would entail selecting a single one of the many issues that legislators' locations on the left-right ideological space predicts voting on. But this would be a misreading of the nature of Congressional politics. For the same reason, we see no basis—in either our empirical findings or in the empirical findings reported in Bolton et al. (2020)—for interpreting the main preference dimension of institutional investor voting behavior in terms of the degree to which the funds weigh social responsibility.

2.6.5. *Summary.* In summary, the pattern of loadings shows that the main ways mutual funds differ in their corporate governance preferences, as reflected in their voting behavior, are closely related to the recommendations of ISS and Glass Lewis. Each of the two main dimensions of mutual fund voting preferences, moreover, encompasses a wide range of corporate governance issues. To anticipate our findings on how the three main clusters of funds vote below, we emphasize here a key difference between the two dimensions. The two most numerous types of proposals—uncontested director election proposals and say-on-pay proposals, which together account for 77% of the estimation sample—load almost uniformly negatively on dimension 2 (i.e., against management), resulting in strongly negative average loadings on dimension 2. In contrast, about two-thirds of the set of proposals in these two types load *positively* on dimension 1. Moreover, we find that the key corporate governance concerns that drive the negative loadings of director elections on dimension 1 are board supervision concerns, such as the fraction and role of independent directors on the board, as well as concerns that the board has been unresponsive to shareholder demands for corporate governance reforms. We show in section 3 below that these key differences in the patterns in loadings on the two dimensions in turn drive systematic differences in how the three clusters of funds in our preference space vote.

2.7. **Robustness checks.** We perform a range of robustness checks and report the results in the Online Appendix. First, so far we have estimated our principal components model using fund-level voting data. However, much of the decisionmaking about voting occurs at the investment advisor level, and most investment advisors manage many funds. In Section 1.1 of the Online Appendix we aggregate funds' votes up to the investment advisor level and reestimate the model, finding the same basic dimensions of fund preference and orientation of advisors as in our fund-level model.

Second, one concern about our estimates is the high degree of missingness in the data matrix: 96.4% of the cells of the estimation sample data matrix are empty. Our finding that our scores are robust to estimation at the advisor level substantially mitigates this concern. To further investigate whether the amount of missing data is distorting our estimates, in Section 1.2 of the Online Appendix we construct a new fund-level sample with far less missing data by restricting the proposals in the sample to those from S&P 500 companies and the funds to those that vote on a large fraction of those proposals. The resulting sample has far less missing data: only 37.2% of the cells in the data matrix are empty. Reestimating the model on this restricted sample reveals the same basic configuration of preferences as in the main estimation sample, giving greater confidence that our imputation approach can handle the high degree of missingness in the estimation sample.

Finally, in Section 1.3 of the Online Appendix we investigate the stability of the preference space by dividing the sample into three two-year cohorts and estimating the model separately for each cohort. We find that funds' preferences are highly stable over time.

3. The Party Structure of Mutual Funds

The scatter plot of mutual funds' preferences in Figure 2 reveals that there are three distinct modes, or clusters, of mutual funds located near the boundaries of the preference space. In this section we use cluster analysis—a standard unsupervised learning tool from the machine

learning literature—to identify more formally three characteristic "types" of mutual funds in terms of their corporate governance philosophies that correspond to those three modes.

3.1. **Empirical framework.** We cluster mutual funds on the basis of their scores on the first two principal components of their voting data using a Gaussian mixture model. We model mutual funds' two-dimensional scores z as random vectors with density of the form:

$$f(z) = \sum_{m=1}^{M} \alpha_m \phi(x; \mu_m, \Sigma_m), \tag{1}$$

where M is the number of components of the mixture and α_m represents the mixing proportion of the m-th Gaussian component, which has mean μ_m and covariance matrix Σ_m. We put no restrictions on Σ_m and estimate the parameters using the expectation maximization algorithm as outlined in Celeux and Govaert (1995). We use a four component model in order to capture each of the three modes evident in the scatter plot in Figure 2 plus a component to capture the funds that lie between and far from each of the three modes. Each mutual fund i is then assigned to the component with the greatest conditional probability that z_i arises from it.

3.2. **The estimated party structure.** Figure 8 plots the contours for the estimated Gaussian mixture density along with a scatter plot of the mutual fund preference scores. The scores of the mutual funds that were classified into one of the three components corresponding to the three extreme modes are plotted with dark shaded circles. The scores of mutual funds classified into the fourth component are plotted with lighter unshaded circles.

We interpret the three extreme clusters as mutual fund "parties" in the sense that each cluster is a group of funds with similar corporate governance preferences as reflected by their voting behavior. Much like members of a political party generally vote together, so too do the members of a mutual fund party. For reasons discussed in our analysis below, we label the party in the lower-left of the preference space the "Traditional Governance Party," the one

on the right the "Shareholder Reform Party," and the one in the upper-left the "Shareholder Protest Party."

To give a sense of which mutual funds populate the three parties, Table 9 lists the top ten investment advisors in each party by total net assets (TNA) of the advisors' funds in the party as of 2013.[14] There are major investment advisors in each party. We report systematic differences in the funds that compose each party in section 4.2 below.

3.3. **Party coherence.** Table 10 provides measures of the degree to which party members vote together. For each proposal, we calculate the outcome voted for by a majority of each party's members. We then report the fraction of party members' votes in each proposal category that were cast in the opposite direction of the party's majority. The column labeled "All" reports the corresponding fractions for all mutual funds considered as a single party, which serves as a useful benchmark. Considering mutual funds as a whole, 21% of mutual fund votes in the sample are cast in the opposite way from how a majority of mutual funds voted on the proposal. In contrast, for all proposals, only 12% of the votes of Traditional Governance Party members were cast against the majority of the party, and the corresponding figures for the Shareholder Reform Party and Shareholder Protest Party are 1% and 8%, respectively (and the differences between the parties are all statistically significant at the 1% level). Perhaps one reason the latter two parties exhibit substantially more coherence in their voting than the Traditional Governance Party is that those parties have a clear focal point in a proxy advisor's recommendations to coordinate their votes—ISS for the Shareholder Reform Party and Glass Lewis for the Shareholder Protest Party.

There is also variation in the degree to which party members vote together across proposal types. Of particular note, the category with the highest level of disagreement for the Traditional Governance Party is proxy contests, at 25%. Proxy contests involve particularly information intensive business judgments. But on the other hand, on average 75% of party

[14]The ranking of investment advisors we recover may differ from the rankings one would recover using ownership information from 13-F filings because our dataset only reflects ownership stakes of funds that report their votes in form N-PX.

members vote the same way on proxy contests.

3.4. **Disagreement between parties.** While the funds in each party tend to vote together, the majority of each of the three parties voted the same way on only 44% of proposals in the estimation sample. Put differently, on 56% of the proposals, the majority of one party was opposed to the majorities of the other two parties. The fact that there is disagreement among the three parties on most proposals that generate at least a minimum amount of controversy shows how fundamental the party structure is to mutual fund voting.

The majority vote of the Shareholder Reform Party is the same as that of the Shareholder Protest Party for only 55% of proposals, which illustrates that the voting patterns of the two parties are quite different. Panel A of Table 11 further breaks down the rates of agreement and disagreement between the two parties based on whether each party supported or opposed management. Most of the cases of agreement occur when both parties support management (40% of proposals) rather than when both oppose management (15% of proposals). In contrast, the table shows that each of the two parties opposes management more frequently on their own than with the other party. The two parties both oppose management on only 15% of sample proposals, compared to 20% for which the Shareholder Reform Party does so on its own and 24% for the Shareholder Protest Party on its own. The two parties thus follow distinctive patterns of opposition to management.

Panels B and C provide the corresponding frequencies for the Traditional Governance Party paired with each of the other two parties. They show that the Traditional Governance Party supports management at much greater rates than the other two parties and that, when it does oppose management, it typically does so along with one or both of the other two parties. In only 0.7% of estimation sample proposals does a majority of the Traditional Governance Party oppose management but the majority of each of the other two parties supports management.

3.5. **Party corporate governance philosophies.** Consider now the substantive visions of corporate governance that animate each of the three parties. Figure 9 provides the fraction of votes cast according to management's recommendation by each party by proposal category for the estimation sample, using the same grouping of proposals into corporate governance issues used in Section 2.[15] In Table 12 we investigate the variation in each party's votes on uncontested director elections using the same set of proxies for the corporate governance issues implicated by each proposal used in Section 2.6.3.

3.5.1. *The Traditional Governance Party.* We begin with the Traditional Governance Party, which is at the lower left vertex of our preference space. Funds in this party have negative scores on both dimensions, so their voting behavior is inversely related to the loadings of proposals on both dimensions. Mutual funds in the Traditional Governance Party generally support management at higher rates than do members of the other two parties, but they are distinctly deferential on issues that are traditionally understood as matters for the board, rather than shareholders, to decide. These include proposals related to executive compensation and CSR proposals. In contrast, the Traditional Governance Party is most likely to break with management on proposals related to fundamental shareholder rights and on proxy contests. Fundamental shareholder rights proposals involve efforts to change the company's basic corporate governance rules, for example by declassifying the board, removing poison pills, or eliminating dual-class common stock structures. Management typically recommends in the direction of limiting fundamental shareholder rights. Members of the Traditional Governance Party vote against management on almost half of fundamental shareholder rights proposals related to the rules governing director elections and somewhat less frequently for other types of fundamental shareholder rights proposals. This is in line with a traditional

[15] In unreported analysis we calculate the fraction of votes cast according to management's recommendation by each party by proposal category for the full sample of proposals. Since the proposals that did not pass the lopsidedness filter typically involve funds overwhelmingly supporting management, the cross-party differences in support shrink. However, the ordering across parties in terms of how frequently they support management remains qualitatively identical to the one we recovered using the estimation sample.

conception of corporate governance in which, while the board is in charge day-to-day, shareholders have a set of fundamental rights to, for example, replace the entire incumbent board by majority shareholder action at an annual meeting. The Traditional Governance Party also opposes management at a substantial rate in proxy contests, which is consistent with our interpretation of the party's underlying corporate governance philosophy. In sum, the Traditional Governance Party supports management prerogatives in their traditional domain but is not managerialist—the party frequently opposes management to defend shareholder rights.

In voting on uncontested director elections, Table 12 shows that, in the absence of an indication that the election raises any of the corporate governance issues we have proxies for, the Traditional Governance Party and the Shareholder Reform Party support management at similar rates; the constant is 0.91 for the the former compared to 0.90 for the latter. But the Traditional Governance Party's support of management drops much less than the Shareholder Reform Party's does in response to our proxies for corporate governance issues. This suggests that the Traditional Governance Party is much less prone to using director election votes to further a corporate governance reform agenda.

3.5.2. *The Shareholder Reform Party.* The Shareholder Reform Party is located in the right vertex of the preference space and has extremely positive scores on dimension 1 but scores near 0 on dimension 2. This implies that the party's voting behavior is predicted by proposals' loading on dimension 1 rather than on dimension 2. Across a wide range of corporate governance issues, the Shareholder Reform Party opposes management at much higher rates than either of the other two parties. These include proposals on fundamental shareholder rights related to voting, CSR proposals, proxy contests, and shareholder proposals on compensation. The fact that funds in the Shareholder Reform Party are disproportionately supportive of these proposal categories reveals that the party engages in targeted requests for specific corporate governance reforms to a much greater extent than the other two par-

ties (hence our label for the party). The party's substantive view of corporate governance, moreover, goes beyond the traditional view outlined above and includes shareholder intervention in matters such as CSR and executive compensation that are traditionally within the purview of the board rather than shareholders.

The patterns in the party's votes on uncontested director elections, reflected in the regression results reported in Table 12, reinforce this interpretation. When a director election proposal implicates concerns about board supervision—for example, the nominee is a non-independent member of a board committee—or about board responsiveness to shareholder demands, there is a roughly *seven-fold* increase in the Shareholder Reform Party's opposition to management, from about 10% of votes cast in opposition to about 70%. This suggests that funds in the Shareholder Reform Party use their votes on uncontested director election proposals to target discrete issues related to a company's corporate governance that funds in the party believe should be addressed. Given that ISS is located squarely in the center of the Shareholder Reform Party, our findings echo the results of Ertimur, Ferri, and Oesch (2018), who show that a set of specific corporate governance concerns, including concerns related to board supervision, responsiveness, and compensation, drive ISS's withold recommendations on uncontested director elections.

3.5.3. *The Shareholder Protest Party.* The Shareholder Protest Party is located in the upper-left of the preference space, with negative scores on dimension 1 and highly positive scores on dimension 2. This means that its voting behavior is inversely related to proposals' loadings on dimension 1 and positively related to their loadings on dimension 2. For the proposal categories for which the Shareholder Reform Party most frequently opposes management, the Shareholder Protest Party's voting behavior is intermediate between the other two parties. What is most distinctive about the Shareholder Protest Party is how it votes on the two most numerous proposal categories: uncontested director election proposals and say-on-pay proposals. On these proposals—which together make up 77% of the

sample—the Shareholder Protest Party opposes management at substantially greater rates than do the other two parties. The Shareholder Protest Party's average rate of opposition to management on say-on-pay proposals is 43% higher than that of the Shareholder Reform Party and 470% higher than that of the Traditional Governance Party. For uncontested director election proposals, the Shareholder Protest Party opposes management at a rate 55% higher than that of the Shareholder Reform Party and 300% higher than that of the Traditional Governance Party. Both of these types of proposals are generally non-binding and instead serve as signaling devices for shareholders to communicate their displeasure with management. The Shareholder Protest Party uses these "protest" votes at much higher rates than the other two parties, hence our label for the party.

Table 12 shows that our proxies for corporate governance issues explain little of the variation in the votes of the Shareholder Protest Party on uncontested director elections. The R^2 of the model for the Shareholder Protest Party is only 1%, compared to 24% in the case of the Shareholder Reform Party. This suggests that, for funds in the Shareholder Protest Party, their substantial fraction of withheld votes reflects general discontent with the way the company is being run rather than concerns related to the specific governance issues we have proxies for.

3.6. **Mapping the votes on specific proposals.** To build further intuition about the window into mutual fund voting behavior our framework provides, Figure 10 depicts the spatial map of votes for a say-on-pay proposal at PolyOne Corporation from its 2015 annual shareholder meeting. We plot the "Yes" and "No" votes cast by each fund at the location of the fund's estimated preference scores, using different marker styles to identify "Yes" and "No" votes according to whether the model correctly classified the fund's vote. Also depicted is the "cutting line" that separates the areas of the preference space predicted to vote "Yes" and "No."

The voting on this proposal illustrates well the party structure of mutual funds. As

shown in the figure, most funds in both the Shareholder Reform Party and Traditional Governance Party supported the proposal, whereas most funds in the Shareholder Protest Party opposed it. This proposal thus illustrates one of the characteristic features of the Shareholder Protest Party, which opposes say-on-pay proposals at greater rates than the other two parties. Overall the model correctly classifies the votes of 91% of funds and achieves a PRE of 47%. We provide spatial maps of the votes on several other proposals of range of types in the Online Appendix.

3.7. **Party influence.** Consider now the extent to which each party influences voting outcomes. The sizes of the parties, as measured by TNA, shape their degree of influence since more shares owned means more votes. The Traditional Governance Party is much larger than the others, at 66% of sample TNA as of 2013, compared to only 6.9% for the Shareholder Protest Party and 6.2% for the Shareholder Reform Party. But size is not all that matters for party influence. Also important is how they vote. A party that votes in a more coordinated manner, for example, will have more influence. Furthermore, whether a party's votes are *pivotal* on any given proposal depends on the entire distribution of votes for the proposal. A party that takes stands against management only when other shareholders overwhelmingly support management, for example, will have little influence on voting outcomes.

We estimate each party's influence by asking: if the party did not exist, how would voting outcomes—in terms of the passage or failure of proposals—have changed? To measure this, we exclude uncontested director elections governed by a plurality voting rule, which always pass. After also dropping a small number of proposals for which the voting outcomes data show fewer shareholder votes than the total mutual fund votes in our sample (indicating data problems), the resulting sample includes 15,962 proposals. We assume that in the counterfactual in which a party did not exist, the shares voted by the party would instead have been voted to mirror the voting behavior of all other mutual funds in the data.

As a conservative, lower-bound estimate of each party's influence, we first exclude only

the shares voted by mutual funds in the party in our sample. We calculate the number of shares voted by each fund on each proposal by using the fund's most recent quarterly holdings reported in CRSP. This is conservative because our sample includes only a fraction of the holdings of all institutional investors, and many other shares owned by institutional investors are voted in line with the behavior of one of our mutual fund parties.[16]

To get a rough sense for how large each party's influence in aggregate might be, including these additional institutional investor holdings for the party that are not in our sample, we also report estimates based on scaling up each mutual fund's holdings using the following procedure. First, we calculate the total holdings in each portfolio company's common stock held by all institutional investors.[17] We exclude any holdings by a single institution that are greater than 20% of the common stock outstanding of the issuer, since it is implausible that very large holders vote in a manner similar to diversified mutual funds. We then calculate a scaling factor for each proposal equal to the number of shares in the company owned by all institutional investors divided by the number of shares in the company owned by the mutual funds in our voting data. After winsorizing this scaling factor,[18] we use it to scale the number of votes cast by each mutual fund in the excluded party.

3.7.1. *Results.* The lower-bound, mutual-fund-only estimates are given in Panel A of Table 13. Column (2) shows that excluding the Traditional Governance Party would result in the outcome of over 4% of proposals changing. In contrast, excluding either (or both) of the

[16]For example, the investment advisors in our data also vote the shares they manage on behalf of non-mutual fund clients, and surely in many cases they do so in a similar way to how they vote the shares of the mutual funds they advise. Similarly, non-mutual fund institutional investors use proxy advisors much like mutual funds do and presumably many vote in line with one of the three mutual fund parties.

[17]For the period prior to 2013 Q2, we use the Thomson-Reuters institutional ownership data. From 2013 Q2 on we use the WRDS 13F data, since the Thomson-Reuters data is incomplete in the more recent period (Ben-David, Franzoni, Moussawi, and Sedunov, 2016).

[18]In some cases this scaling factor is very large, because most institutional investor holdings in the issuer are not in our data. In those cases our assumption that the distribution of votes of the institutional investor shares not in our data mirrors the distribution of votes of the mutual funds in our data becomes implausible. We thus winsorize the scaling factor at 5. A further complication is that, if one scales the holdings of the mutual funds in our data by this scaling factor, in some cases the total number of scaled mutual fund votes exceeds the total number of votes cast on the proposal. Accordingly, in those cases we use a scaling factor equal to the total votes cast on the proposal divided by the total votes cast on the proposal by mutual funds in our data.

Shareholder Reform and Shareholder Protest parties would change the outcome of fewer than 1% of proposals. Columns (3) and (4) show that the Traditional Governance Party's influence is mostly in helping management win—4.5% of proposals for which the voting outcome followed management's recommendation would have come out the other way in the absence of the Traditional Governance Party. But column (4) reveals a key role of the other two parties—9% of proposals that went against management's recommendation would have instead gone management's way in the absence of the Shareholder Reform Party and the Shareholder Protest Party. In contrast, only 1.6% of proposals that management lost would have turned out the other way had the Traditional Governance Party been excluded. This shows that the Shareholder Reform and Shareholder Protest parties play a distinctive and important role, belying their modest size in terms of assets, in producing pressure on management through shareholder votes. Interestingly, the Shareholder Reform Party plays a markedly larger role in this regard than the Shareholder Protest Party, despite the two parties' similar sizes. To be sure, management losses are rarer events than management wins, but on the other hand they are much more significant events for corporate governance.

The scaled results, using all shares owned by institutional investors, are qualitatively similar but with much larger magnitudes. Management would have lost 16% of proposals that they in fact won in the absence of the Traditional Governance Party. And management would have won a full 23% of proposals that they lost had the Shareholder Reform Party and Shareholder Protest Party been excluded.

4. The Determinants of Mutual Funds' Party Membership

What factors underlie the sorting of mutual funds into the three parties? In this section we first examine whether there are systematic differences among the three parties in their mutual fund members' investment management characteristics. We then investigate the extent to which differences in investment managers' incentives to become informed about voting determines mutual funds' party membership.

4.1. **Data.** We use data on funds' investment management characteristics from CRSP. Table 14 provides a list of variable definitions and Table 15 provides summary statistics. We measure characteristics at both the individual fund level and at the level of the investment advisor. Each mutual fund (e.g., the Vanguard Total Stock Market Index Fund) is managed by an investment advisor (e.g., The Vanguard Group, Inc.), which typically manages multiple funds. The decisionmaking about voting funds' shares generally occurs at the investment advisor level. For active funds, but not passive funds, the fund's portfolio manager is sometimes consulted by the executives in charge of proxy voting at the advisor, although their influence in the voting outcome varies by advisor (Bew and Fields, 2012; Morningstar, 2017).

In many cases, a fund's investment advisor delegates portfolio management responsibilities to a different investment advisor as "sub-advisor." In such cases, typically the responsibility for determining how to vote the fund's shares is also delegated to the sub-advisor (Morgan, Poulsen, Wolf, and Yang, 2011). Importantly, the "fund family" identified in both the CRSP and Voting Analytics datasets does not accurately capture the investment advisor organization that votes funds' shares. For example, Fidelity Investments sponsors both actively managed funds and index funds. The active funds are generally advised by Fidelity Management and Research whereas the index funds are sub-advised by Geode Capital Management, a separate company, which determines how those funds vote. Accordingly, we reviewed SEC filings to determine for each fund the investment advisor to which voting authority is delegated. In cases in which the fund uses a sub-advisor, this is often the sub-advisor.[19] We will use the term "investment advisor" to refer to the organization to which a fund delegates voting responsibility.[20]

[19]In cases in which a fund delegates voting authority to multiple subadvisors, we set the advisor to missing.

[20]To give a sense for the importance of correctly tracking the voting investment advisor, rather than relying on the fund family reported in CRSP, 9.3% of family-proposal combinations in the sample involve cases in which funds in the family did not vote unanimously, compared to only 3% of advisor-proposal combinations. These statistics are calculated excluding cases in which only a single fund in the advisor / family voted on the proposal. The bulk of the cases of non-unanimous voting within families thus reflect delegation of voting responsibility to different investment advisors altogether.

An important distinction in the analysis that follows is between "active advisors" and "passive advisors." We define an advisor as active if more than 50% of the advisor's assets under management is in active funds, and as passive otherwise. Note that this means that active advisors manage some passive funds, and vice-versa.

4.2. **Party characteristics.** Table 16 provides the the average characteristics of the funds that populate the three parties (weighted by fund TNA). The main difference is that funds and advisors in the Traditional Governance Party are on average much larger than those in the other two parties. The Traditional Governance Party also has smaller fractions of active funds and of active advisors than the other two parties, as well as greater average number of stocks held per fund and per advisor (although these differences are not statistically significant). Active funds in the Traditional Governance also earn higher abnormal returns, calculated using a four-factor model, than active funds in the other two parties.

4.3. **Advisors' incentives to generate information about voting.** Many different factors in principle might play a role in determining mutual funds' party membership, including idiosyncratic preferences of the individual executives involved and conflicts of interest stemming from business ties (Davis and Kim, 2007; Cvijanović, Dasgupta, and Zachariadis, 2016). We focus here on just one potential source of variation in mutual funds' party membership: the strength of investment managers' incentives to invest resources in generating information about how to vote. Iliev and Lowry (2014) find that proxies for such incentives are negatively related to funds' reliance on the recommendations of ISS. Relatedly, in recent years concerns have been raised that many mutual funds approach voting as a "compliance function." Indeed, SEC Commissioner Michael Piwowar has suggested that the SEC's policies may have led to advisors taking such a compliance approach, stating:

> By requiring advisers to vote on every single matter – irrespective of whether such vote would impact the performance of investment portfolios – our previous actions may have unintentionally turned shareholding [sic] voting into a regulatory

compliance issue, rather than one focused on the benefits for investors.[21]

To investigate the role of investment advisor's incentives to become informed in determining their mutual fund party membership, we focus on three determinants of advisor incentives.[22] First, we use the log of the advisor's total net assets (TNA) to capture scale economies in voting—larger advisors can spread the costs of becoming informed about voting on a larger asset base. Second, we use the log of the number of stocks held by the advisor's funds to capture diseconomies of scope—the more portfolio companies the advisor must follow, the greater are the costs of becoming informed about all of the votes the advisor must cast. Third, the existing literature argues that active advisors face different incentives from passive advisors to become informed about voting (Rock and Kahan, 2019). On the one hand, passive advisors generally cannot simply divest from a position and hence must use "voice" (e.g., voting) rather than "exit" if they are unhappy with the company's governance or management. On the other hand, unlike active managers, passive managers lack incentives to use their voting rights to improve investment returns in order to attract investment flows away from competitors, since their competitors hold essentially the same portfolio. The investment selection process of active advisors, moreover, might generate information that is useful for voting. In summary, it is theoretically ambiguous which form of investment management generates stronger incentives to become informed about voting.

We report in Table 17 the results of multinomial logit regressions predicting party membership on the basis of these determinants of advisors' incentives, first for the entire sample and then separately for active advisors and for passive advisors. Column (1) shows that membership in the Traditional Governance Party is strongly negatively associated with the number of firms held by the advisor and strongly positively associated with the advisor's TNA. Stronger incentives to become informed about voting is thus predictive of Traditional Governance Party membership. Furthermore, the marginal effect of having an active advisor

[21]SEC Commissioner Michael Piwowar, Opening Statement at the Proxy Advisory Services Roundtable (Dec. 5, 2013).

[22]We focus on advisor-level, rather than fund-level, characteristics because decisionmaking about how to vote funds' shares is generally made at the advisor level.

is -0.22 and marginally statistically significant. Passive advisors are thus substantially more likely to be members of the Traditional Governance Party than are active advisors, *ceteris paribus*.

In contrast, column (2) shows that these patterns are reversed for the Shareholder Reform Party. Larger advisor TNA predicts that the fund is *less* likely to be a member of the party, and similarly greater number of stocks held by its advisor predicts the fund is *more* likely to be in the party. This indicates that having greater incentives to become informed about voting predicts that the fund is less likely to be a member of the Shareholder Reform Party. Since ISS is located in the Shareholder Reform Party, this echoes the findings of Iliev and Lowry (2014) that high net benefits of voting predict lower reliance on ISS's recommendations. In contrast, column (3) shows no significant relationships between our determinants of fund incentives and membership in the Shareholder Protest Party. We also report results from the multinomial logit model with the sample restricted to subgroups of active advisors in columns (4) - (6) and of passive advisors in (7) - (9) and find similar results.

To summarize, greater incentives to invest in voting predicts a higher likelihood of membership in the Traditional Governance Party, and a lower likelihood of membership in the Shareholder Reform Party. Recall that the Shareholder Reform Party's voting is closely associated with the recommendations of ISS whereas the Traditional Governance Party's voting behavior does not track either of the two leading proxy advisors. This suggests a potential explanation for this pattern of findings: that they are a result of investment managers' incentives to outsource voting to the proxy advisors in order to economize on the costs of voting. In an extreme form, this might be due to mutual funds taking a "compliance approach" to voting in which they attempt to comply with their legal obligations with respect to voting at the lowest cost possible.

To investigate this explanation further, we code a dummy for whether each investment advisor takes a "compliance approach" based on the titles of their proxy voting executives, as reported by Proxy Insight. The titles of these executives vary across investment advisors.

The most common title listed is "Chief Compliance Officer"; investment advisors and mutual funds are required under SEC rules to appoint a Chief Compliance Officer, who is responsible for administering its compliance procedures.[23] Other titles used include "Head of Corporate Governance," "Chief Investment Officer," and "Director, Investment Proxy Research." We set *Compliance Approach* to 1 if all of the advisors' proxy voting executives have titles that include compliance language and set it equal to 0 otherwise.[24]

Our *Compliance Approach* indicator is included in Table 16, which provides average characteristics of funds by party. It shows that only 6.5% of Traditional Governance Party members take a compliance approach, according to our proxy, as compared to 30% and 41% of the members of the Shareholder Protest Party and Shareholder Reform Party, respectively. This is consistent with the hypothesis that funds that take a compliance approach tend to outsource more to the proxy advisors.

To explore the "compliance approach" hypothesis further, we create a dummy variable *SR or SP* equal to 1 if the fund is a member of *either* the Shareholder Reform Party or the Shareholder Protest Party, since each of these two parties is associated with the recommendations of a major proxy advisor. Table 18 reports a series of logistic regressions estimated using the sample restricted to funds that belong to one of the three mutual fund parties (i.e., excluding funds that belong to no party). We begin in column (1) with a regression of *Compliance Approach* on our proxies for advisors' incentives to become informed about voting. As expected, the advisors' TNA is strongly negatively related to *Compliance Approach*. Column (2) of Table 18 shows that *Compliance Approach* is strongly predictive of *SR or SP*, with a marginal effect of 0.41. In column (3) we report results from a regression of *SR or SP* on our determinants of fund incentives. The number of stocks held by the advisor

[23] 7 CFR §275.206(4)-7(c); 17 CFR §270.38a-1(a)(4).

[24] Titles that we consider as including "compliance" language are titles that include the term "compliance", "operations," or "administation." Examples of titles that do not include such compliance language, and hence trigger *Compliance Approach* = 0, include: "Vice President," "Managing Director," "Senior Proxy Analyst," "Corporate Governance Analyst," "ESG Analyst," "President", "Chief Executive Officer", "Vice President of Proxy Voting," "Head of Corporate Governance," "Chief Investment Officer," "Director, Investment Proxy Research," and "Assistant Portfolio Manager."

is positively associated with *SR or SP*, whereas the advisor's TNA is strongly negatively associated with *SR or SP*, consistent with our basic hypothesis. Interestingly, these results persist after adding *Compliance Approach* to the model, shown in column (4).

Columns (5) - (7) report the same models using just the active advisors in the sample and reveal that *Compliance Approach* is much less predictive of being a member of the Shareholder Reform or Shareholder Protest parties instead of the Traditional Governance Party among active advisors. Comparing columns (5) and (6) shows that adding *Compliance Approach* to the model actually increases the magnitude of the marginal effects of fund incentives on *SR or SP*.

In contrast, restricting the sample to just passive advisors, column (8) shows that the marginal effect of *Compliance Approach* is 0.84. In essence, passive advisors are members of either the Shareholder Reform Party or the Shareholder Protest Party if (and essentially only if) they follow a compliance approach to voting. Comparing columns (9) and (10) shows that, for passive advisors, much of the relationship between our determinants of fund incentives and *SR or SP* disappears once we control for *Compliance Approach*. These results thus provide strong support for the hypothesis that much of the variation in party membership of passive advisors in particular stems from whether they approach voting as a compliance matter and focus on simply minimizing the costs associated with complying with their voting obligations. Our findings thus provide some corroboration of the concerns that have been raised that mutual funds are treating their voting obligations as a compliance matter, to be met at minimal costs, particularly for smaller passive advisors.

5. Conclusion

In this paper we have systematically characterized the corporate governance preferences of mutual funds. We show that a model with just two latent dimensions of preference is highly predictive of mutual fund voting behavior. Our parsimonious measures of mutual funds' corporate governance preferences generate a number of descriptive insights about the

broader system of corporate governance and moreover enable the quantitative testing of various hypotheses. In particular, we show that mutual funds are clustered into three parties, the Traditional Governance Party, the Shareholder Reform Party, and the Shareholder Protest Party. Members of the Traditional Governance Party vote in line with a traditional conception of corporate governance in which the board, and not shareholders, manages the business and affairs of the corporation. The Shareholder Reform Party, in contrast, actively pushes for specific corporate governance reforms, including intervention in matters related to operational decisionmaking that are traditionally the purview of the board. Finally, the Shareholder Protest Party focuses on monitoring corporate management and expressing its displeasure through largely symbolic "protest votes" in uncontested director elections and say-on-pay proposals. We furthermore document systematic relationships between funds' investment management characteristics and their party membership. We find that funds that have stronger incentives to generate their own information for voting are more likely to be members the Traditional Governance Party and less likely to be members of the Shareholder Reform Party. A proxy for whether the investment advisor takes a "compliance approach" to voting strongly predicts party membership, suggesting that party membership in part reflects advisors' decisions whether to outsource to proxy advisors to economize on the costs of voting. Most strikingly, funds advised by the passive advisors in our three mutual fund parties are members of either the Shareholder Reform Party or Shareholder Protest Party essentially if and only if their advisor takes a compliance approach. We hope the introduction of our measures of mutual fund corporate governance preferences to the literature will enable other researchers to test quantitatively a range of theories and hypotheses about corporate governance.

References

Bebchuk, L., A. Cohen, and A. Ferrell (2009): "What Matters in Corporate Governance?," *The Review of Financial Studies*, 22(2), 783–827.

Bebchuk, L., and S. Hirst (2019): "Index Funds and the Future of Corporate Governance: Theory, Evidence, and Policy," *Columbia Law Review*, 119(8), 2029–2145.

Ben-David, I., F. Franzoni, R. Moussawi, and J. Sedunov (2016): "The Granular Nature of Large Institutional Investors," Working Paper 22247, National Bureau of Economic Research.

Bew, R., and R. Fields (2012): "Voting Decisions at US Mutual Funds: How Investors Really Use Proxy Advisers," *Unpublished working paper*.

Bolton, P., T. Li, E. Ravina, and H. Rosenthal (2020): "Investor Ideology," *Journal of Financial Economics*, 137(2), 320–352.

Brav, A., W. Jiang, T. Li, and J. Pinnington (2020): "Picking Friends Before Picking (Proxy) Fights: How Mutual Fund Voting Shapes Proxy Contests," SSRN Scholarly Paper ID 3101473, Social Science Research Network, Rochester, NY.

Celeux, G., and G. Govaert (1995): "Gaussian Parsimonious Clustering Models," *Pattern recognition*, 28(5), 781–793.

Choi, S., J. Fisch, and M. Kahan (2010): "The Power of Proxy Advisors: Myth or Reality?," *Emory Law Journal*, 59(4), 869.

——— (2013): "Who Calls the Shots: How Mutual Funds Vote on Director Elections," *Harv. Bus. L. Rev.*, 3, 35.

Choi, S. J., J. E. Fisch, and M. Kahan (2008): "Director Elections and the Role of Proxy Advisors," *Southern California Law Review*, 82(4), 649–702.

Cvijanović, D., A. Dasgupta, and K. E. Zachariadis (2016): "Ties That Bind: How Business Connections Affect Mutual Fund Activism," *The Journal of Finance*, 71(6), 2933–2966.

Davis, G. F., and E. H. Kim (2007): "Business Ties and Proxy Voting by Mutual Funds," *Journal of Financial Economics*, 85(2), 552–570.

Ertimur, Y., F. Ferri, and D. Oesch (2013): "Shareholder Votes and Proxy Advisors: Evidence from Say on Pay," *Journal of Accounting Research*, 51(5), 951–996.

——— (2018): "Understanding Uncontested Director Elections," *Management Science*, 64(7), 3400–3420.

Heath, D., D. Macciocchi, R. Michaely, and M. C. Ringgenberg (2020): "Do Index Funds Monitor?," SSRN Scholarly Paper ID 3259433, Social Science Research Network, Rochester, NY.

Heckman, J. J., and J. M. Snyder (1997): "Linear Probability Models of the Demand for Attributes with an Empirical Application to Estimating the Preferences of Legislators," *RAND Journal of Economics*, pp. S142–S189.

Iliev, P., and M. Lowry (2014): "Are Mutual Funds Active Voters?," *The Review of Financial Studies*, 28(2), 446–485.

Ilin, A., and T. Raiko (2010): "Practical Approaches to Principal Component Analysis in the Presence of Missing Values," *Journal of Machine Learning Research*, 11(Jul), 1957–2000.

Joliffe, I. (2002): *Principal Component Analysis*. Springer-Verlag New York.

Josse, J., and F. Husson (2012): "Handling Missing Values in Exploratory Multivariate Data Analysis Methods," *Journal de la Société Française de Statistique*, 153(2), 79–99.

Kiers, H. A. (1997): "Weighted Least Squares Fitting Using Ordinary Least Squares Algorithms," *Psychometrika*, 62(2), 251–266.

Larcker, D. F., A. L. McCall, and G. Ormazabal (2015): "Outsourcing Shareholder Voting to Proxy Advisory Firms," *The Journal of Law and Economics*, 58(1), 173–204.

Li, T. (2018): "Outsourcing Corporate Governance: Conflicts of Interest Within the Proxy Advisory Industry," *Management Science*, 64(6), 2951–2971.

Lund, D. S. (2018): "The Case Against Passive Shareholder Voting," *Journal of Corporation Law*, 43(3), 493–536.

Malenko, N., and Y. Shen (2016): "The Role of Proxy Advisory Firms: Evidence from a Regression-Discontinuity Design," *The Review of Financial Studies*, 29(12), 3394–3427.

McCahery, J. A., Z. Sautner, and L. T. Starks (2016): "Behind the Scenes: The Corporate Governance Preferences of Institutional Investors," *The Journal of Finance*, 71(6), 2905–2932.

Morgan, A., A. Poulsen, J. Wolf, and T. Yang (2011): "Mutual Funds as Monitors: Evidence from Mutual Fund Voting," *Journal of Corporate Finance*, 17(4), 914–928.

Morningstar (2017): "Passive Fund Providers Take an Active Approach to Investment Stewardship," *Unpublished working paper*.

Murphy, K. J. (2013): "Chapter 4 - Executive Compensation: Where We Are, and How We Got There," in *Handbook of the Economics of Finance*, ed. by G. M. Constantinides, M. Harris, and R. M. Stulz, vol. 2, pp. 211–356. Elsevier.

Poole, K. T., and H. Rosenthal (1991): "Patterns of Congressional Voting," *American Journal of Political Science*, 35(1), 228–278.

——— (2007): *Ideology and Congress*. Oxford University Press.

Rock, E. B., and M. Kahan (2019): "Index Funds and Corporate Governance: Let Shareholders Be Shareholders," SSRN Scholarly Paper ID 3295098, Social Science Research Network, Rochester, NY.

Ryan, H. E., and R. A. Wiggins (2004): "Who Is in Whose Pocket? Director Compensation, Board Independence, and Barriers to Effective Monitoring," *Journal of Financial Economics*, 73(3), 497–524.

Appendix

Table 1: CRSP Coverage

Year	Number of CRSP Funds	Number of Merged Funds	Fraction	TNA CRSP ($ millions)	TNA Merged ($ millions)	Fraction
2010	5,507	2,968	0.54	5,462,796	4,274,650	0.78
2011	5,718	3,042	0.53	5,263,227	4,092,580	0.78
2012	5,708	2,980	0.52	5,863,155	4,527,865	0.77
2013	5,716	3,072	0.54	7,803,258	6,379,391	0.82
2014	5,821	3,446	0.59	8,668,008	7,466,128	0.86
2015	5,937	3,290	0.55	8,438,582	6,673,425	0.79

Notes: *Number of CRSP Funds* is the number of domestic equity and balanced funds in CRSP in the respective year that hold U.S. common stock. *Number of Merged Funds* is the number of such funds that were merged with a fund from ISS Voting Analytics for which we estimated a preference score using data from the respective year. *TNA CRSP* and *TNA Merged* are the sum of total net assets in the CRSP and merged samples, respectively.

Table 2: Distribution of Proposal Categories in Estimation and Full Samples

Proposal Type	Estimation Sample	Full Sample
All MP	40,871	177,916
MP-Adopt Forum Selection Bylaws	46	54
MP-Approve Pill	97	141
MP-Authorize New Class of Stock	7	16
MP-Board Size	8	193
MP-Declassify Board	11	416
MP-Elect Director (Contested)	388	607
MP-Elect Directors	30,621	125,651
MP-Eliminate Cumulative Voting	22	37
MP-Increase Authorized Stock	388	925
MP-Majority Vote for Directors	10	143
MP-Merger / Acquisition Related	72	1,474
MP-Miscellaneous	1,299	3,579
MP-Other Compensation	3,934	8,946
MP-Other Corporate Finance	170	1,143
MP-Proxy Access	10	18
MP-Ratify Auditors	420	19,972
MP-Reduce Supermajority Reqs.	9	288
MP-Right to Act by Written Consent	13	46
MP-Right to Call Special Meeting	15	122
MP-Say On Pay	3,310	14,059
MP-Unspec. Charter/Bylaw Amend.	21	86
All SP	3,000	4,035
SP-Compensation	419	466
SP-Cumulative Voting	77	77
SP-Declassify Board	119	212
SP-Elect Directors (Contested)	371	592
SP-Eliminate Dual Class Shares	28	37
SP-Environmental	291	400
SP-Increase Board Diversity	16	17
SP-Indep. Chair/Lead Dir.	312	316
SP-Majority Vote for Directors	155	182
SP-Miscellaneous	208	455
SP-Political Contributions	343	426
SP-Proxy Access	107	127
SP-Reduce Supermajority Reqs.	91	111
SP-Social Proposal	138	279
SP-Special Meetings	140	146
SP-Subject Pill to Sh Approval	23	29
SP-Written Consent	162	163
Total	43,871	181,951

Notes: Table provides counts of proposals in each category in the estimation sample and in the full sample. The estimation sample is the set of proposals used to estimate funds' preference scores (see text for detailed sample selection criteria, the most significant of which is the requirement that at least 5% of votes be cast against the majority on the proposal). The full sample includes the entire set of proposals in the dataset for the sample period. "MP" refers to management proposals; "SP" refers to shareholder proposals.

Table 3: Goodness of Fit by Number of Dimensions

# of dims	CP	APRE
1	0.86	0.33
2	0.89	0.47
3	0.91	0.56
4	0.92	0.62
5	0.93	0.68
6	0.94	0.72
7	0.95	0.76
8	0.96	0.79
9	0.96	0.82
10	0.97	0.84

Notes: Table provides two goodness of fit measures for models estimated using the specified number of dimensions. The classification percentage (CP) is the percentage of votes that the model classifies correctly, where a predicted value $\hat{M}_{ij} + \hat{z}_i^k \hat{a}_j^k > 0.5$ is classified as a "Yes" vote, and $\hat{M}_{ij} + \hat{z}_i^k \hat{a}_j^k < 0.5$ is classified as a "No" vote. The average proportional reduction in error (APRE) measures the reduction in error the model achieves in classifying votes relative to a simple benchmark model of predicting that all funds vote with the majority on the proposal. For each proposal, the proportional reduction in error (PRE) is equal to $\frac{\text{Number Minority Votes} - \text{Number Classification Errors}}{\text{Number Minority Votes}}$. The APRE sums over all of the proposals: $\frac{\sum_{j=1}^{m} \text{Number Minority Votes}_j - \text{Number Classification Errors}_j}{\sum_{j=1}^{m} \text{Number Minority Votes}_j}$.

Table 4: Association between Proxy Advisor Recommendations and Loadings

	Abs. Value of Loading on Dimension 1		Abs. Value of Loading on Dimension 2	
	(1)	(2)	(3)	(4)
ISS Rec.	0.004***	0.007***	0.0002***	0.0005***
	(0.0001)	(0.00004)	(0.0001)	(0.00004)
GL Rec.	0.0001	0.003***	0.004***	0.005***
	(0.0001)	(0.00003)	(0.0001)	(0.00003)
ISS Rec. * GL Rec.		−0.007***		−0.001***
		(0.0001)		(0.0001)
Constant	0.002***	0.001***	0.002***	0.002***
	(0.00003)	(0.00002)	(0.00003)	(0.00002)
Observations	14,980	14,980	14,980	14,980
R^2	0.469	0.817	0.590	0.592

Notes: Regressions are at the proposal level with standard errors clustered at the shareholder meeting level. "ISS Rec." is a dummy variable for whether ISS recommended against management. "GL Rec." is a dummy variable for whether Glass Lewis recommended against management. Dependent variables are the absolute value of the loadings on each dimension. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 5: Corporate Governance Concepts and Proposal Categories

Corp. Governance Category: Subcategory	Proposal Type	N
Board Supervision: MP-Board Size	MP-Board Size	8
Board Supervision: SP-Indep. Chair/Lead Dir.	SP-Indep. Chair/Lead Dir.	312
CSR: SP-Environmental	SP-Environmental	291
CSR: SP-Increase Board Diversity	SP-Increase Board Diversity	16
CSR: SP-Political Contributions	SP-Political Contributions	343
CSR: SP-Social Proposal	SP-Social Proposal	138
Compensation: MP-Other Compensation	MP-Other Compensation	3934
Compensation: MP-Say On Pay	MP-Say On Pay	3310
Compensation: SP-Compensation	SP-Compensation	419
Corporate Finance: MP-Increase Authorized Stock	MP-Increase Authorized Stock	388
Corporate Finance: MP-Other Corporate Finance	MP-Other Corporate Finance	170
Corporate Finance: MP-Other Corporate Finance	MP-Authorize New Class of Stock	7
Corporate Malfeasance: MP-Ratify Auditors	MP-Ratify Auditors	420
Director Elections	MP-Elect Directors	30621
Fund. Sh. Rights: FSR-Director Election Rules	SP-Majority Vote for Directors	155
Fund. Sh. Rights: FSR-Director Election Rules	SP-Declassify Board	119
Fund. Sh. Rights: FSR-Director Election Rules	SP-Proxy Access	107
Fund. Sh. Rights: FSR-Director Election Rules	SP-Cumulative Voting	77
Fund. Sh. Rights: FSR-Director Election Rules	MP-Eliminate Cumulative Voting	22
Fund. Sh. Rights: FSR-Director Election Rules	MP-Declassify Board	11
Fund. Sh. Rights: FSR-Director Election Rules	MP-Majority Vote for Directors	10
Fund. Sh. Rights: FSR-Director Election Rules	MP-Proxy Access	10
Fund. Sh. Rights: FSR-Other	MP-Approve Pill	97
Fund. Sh. Rights: FSR-Other	MP-Adopt Forum Selection Bylaws	46
Fund. Sh. Rights: FSR-Other	SP-Subject Pill to Sh Approval	23
Fund. Sh. Rights: FSR-Other Voting Rules	SP-Written Consent	162
Fund. Sh. Rights: FSR-Other Voting Rules	SP-Special Meetings	140
Fund. Sh. Rights: FSR-Other Voting Rules	SP-Reduce Supermajority Reqs.	91
Fund. Sh. Rights: FSR-Other Voting Rules	SP-Eliminate Dual Class Shares	28
Fund. Sh. Rights: FSR-Other Voting Rules	MP-Right to Call Special Meeting	15
Fund. Sh. Rights: FSR-Other Voting Rules	MP-Right to Act by Written Consent	13
Fund. Sh. Rights: FSR-Other Voting Rules	MP-Reduce Supermajority Reqs.	9
Proxy Contest: MP-Elect Director (Contested)	MP-Elect Director (Contested)	388
Proxy Contest: SP-Elect Directors (Contested)	SP-Elect Directors (Contested)	371

Notes: Table provides the mapping from proposal types to corporate governance categories and subcategories.

\footnote

Table 6: Director Election Variable Definitions

	Variable Description	Source
Board Supervision$_{dfm}$	Dummy equal to one if one or more of the following was true for director nominee d in firm f in the year leading to meeting m where d was up for election: d was Absent from over 25% of board/committee meetings; d was a non-independent committee member; d was non-independent and the board of f was minority-independent; d was overboarded; the board of f lacked a key committee.	Voting Analytics Directors Database
Compensation$_{dfm}$	Dummy equal to one if director nominee d was a member of the Compensation Committee of firm f and was up for election at a meeting m during which shareholders voted on a mananagement Say on Pay proposal that received less than 70% of the votes cast in favor (and equal to zero otherwise).	Voting Analytics Voting Results Database; Voting Analytics Directors Database
Corporate Malfeasance$_{fm}$	Dummy equal to one if during the year leading to the meeting m the firm filed an item 4.02 8-K filing indicating that the financial statements previously filed with the SEC can no longer be relied upon (and equal to zero otherwise).	Westlaw
Board Responsiveness$_{fm}$	Dummy equal to one if during the year leading to meeting m, firm f failed to implement a precatory shareholder proposal that had obtained the support of more than 50% of the outstanding shares in the previous annual meeting (and equal to zero otherwise).	Voting Analytics Voting Results Database; SharkRepellent; EDGAR
Performances$_{fm}$	Dummy equal to one if firm f's five-year total shareholder return was at the bottom quartile of the distribution of the variable among allfirms in the same 3-digit SIC code as firm f (and equal to zero otherwise—including for firms that have not been publicly traded for at least five years).	CRSP

Table 7: Director Election Variables Summary Statistics

	N	Mean	St. Dev.	Min	Median	Max
Board Supervision	8,505	0.088	0.284	0.00	0.00	1.00
Compensation	8,505	0.103	0.304	0.00	0.00	1.00
Responsiveness	8,505	0.025	0.156	0.00	0.00	1.00
Corporate Malfeasance	8,505	0.0215	0.145	0.00	0.00	1.00
Performance	8,505	0.136	0.343	0.00	0.00	1.00

Table 8: Association between Director Election Features and Loadings

	Polarized Loading Dimension 1	Polarized Loading Dimension 2
	(1)	(2)
Board Supervision	-0.005^{***}	0.001^{***}
	(0.0002)	(0.0002)
Compensation	-0.0001	0.0004^{*}
	(0.0002)	(0.0002)
Corporate Malfeasance	-0.0002	-0.001^{***}
	(0.0005)	(0.0003)
Responsiveness	-0.004^{***}	-0.002^{***}
	(0.0005)	(0.0003)
Performance	-0.0001	-0.0004^{**}
	(0.0002)	(0.0002)
Constant	0.001^{***}	-0.004^{***}
	(0.0001)	(0.0001)
Observations	8,505	8,505
R^2	0.174	0.016

Notes: Regressions are at the firm-year-nominee level with standard errors clustered at the meeting level. Sample is all uncontested director election proposals with non-missing feature information. Dependent variables are the polarized loadings on dimension 1 (column 1) and dimension 2 (column 2). * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 9: Top Fund Investment Advisors in Each Party by TNA

Advisor	TNA ($ millions)
Traditional Governance Party	
1. Vanguard Group Inc	1,310,993
2. Capital Research & Management Company	706,770
3. Fidelity Management & Research Company	607,238
4. BlackRock Inc	454,382
5. T Rowe Price Associates Inc	210,562
6. SSGA Funds Management Inc	96,141
7. Dodge & Cox	69,251
8. JP Morgan Investment Management Inc	61,665
9. Wellington Management Inc	59,222
10. Teachers Advisors Inc	42,394
Shareholder Reform Party	
1. Dimensional Fund Advisors LP	87,034
2. OppenheimerFunds Inc	45,556
3. Principal Management Corporation	41,718
4. Wells Fargo Funds Management LLC	34,256
5. First Trust Advisors LP	30,614
6. SunAmerica Asset Management LLC	25,861
7. USAA Asset Management Company	22,714
8. Fred Alger Management Inc	15,161
9. Delaware Management Company	14,730
10. ProFund Advisors LLC	12,909
Shareholder Protest Party	
1. Franklin Advisers Inc	141,335
2. Columbia Management Inv Advisers LLC	111,931
3. Charles Schwab Investment Management Inc	75,484
4. Neuberger Berman Management LLC	24,792
5. Allianz Global Investors Fund Mgmt LLC	15,126
6. Yacktman Asset Management Company	13,030
7. Russell Investment Management Company	10,524
8. Van Eck Associates Corporation	10,114
9. Loomis Sayles & Company LP	8,704
10. Sterling Capital Management LLC	3,628

Notes: The panels list in order the top 10 advisors in each party by total TNA as of 2013 of advisor funds in the party. The TNA of each advisor may differ from the TNA one would recover using ownership information from 13-F filings because our dataset only reflects ownership stakes of funds that report their votes in form N-PX.

Table 10: Fraction of Votes Cast in the Party's Minority

Proposal Category	All	TG Party	SR Party	SP Party
Board Supervision	0.31	0.10	0.04	0.32
Compensation	0.23	0.11	0.02	0.04
Corporate Finance	0.19	0.21	0.00	0.07
Corporate Malfeasance	0.11	0.02	0.01	0.13
CSR	0.34	0.08	0.07	0.07
Director Elections	0.18	0.12	0.01	0.08
Fundamental Shareholder Rights	0.29	0.20	0.02	0.10
Proxy Contest	0.26	0.25	0.03	0.09
All	0.21	0.12	0.01	0.08

Notes: For each proposal category we determine the majority vote among members of each party, counting each fund in the party as one vote. We then report the fraction of party member votes cast against the party's majority.

Table 11: Disagreement Between the Parties

Panel A: SR Party vs. SP Party		
	SP Party Opposes Management	SP Party Supports Management
SR Party Opposes Management	0.15	0.20
SR Party Supports Management	0.24	0.40
Panel B: SR Party vs. TG Party		
	TG Party Opposes Management	TG Party Supports Management
SR Party Opposes Management	0.08	0.28
SR Party Supports Management	0.02	0.62
Panel C: SP Party vs. TG Party		
	TG Party Opposes Management	TG Party Supports Management
SP Party Opposes Management	0.06	0.34
SP Party Supports Management	0.03	0.58

Notes: For each proposal category we determine the majority vote among members of the party, counting each fund in the party as one vote. We then report the fraction of estimation sample proposals on which the majority in each party supports or opposes management as indicated in the row and column headings.

Table 12: Association between Director Election Features and Votes for each Party

	Vote with Management		
	TG Party	SR Party	SP Party
	(1)	(2)	(3)
Board Supervision	-0.135^{***}	-0.594^{***}	0.030
	(0.047)	(0.021)	(0.029)
Compensation	-0.061^{*}	-0.088^{***}	0.038
	(0.031)	(0.027)	(0.028)
Corporate Malfeasance	0.007	-0.072	-0.208^{***}
	(0.012)	(0.055)	(0.059)
Responsiveness	-0.178^{***}	-0.635^{***}	-0.263^{***}
	(0.038)	(0.050)	(0.046)
Performance	0.017	-0.015	-0.031
	(0.011)	(0.023)	(0.024)
Constant	0.912^{***}	0.904^{***}	0.552^{***}
	(0.029)	(0.009)	(0.019)
Observations	744,523	452,867	146,762
R^2	0.023	0.240	0.010

Notes: Regressions are at the firm-year-nominee level with standard errors two-way clustered at the meeting and advisor level. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 13: The Influence of the Parties on Voting Outcomes

Party Excluded (1)	Outcome Would Have Changed (2)	Mgmt Won Would Lose (3)	Mgmt Lost Would Win (4)
Panel A: Sample mutual funds only			
SR Party	0.4	0.1	6.5
SP Party	0.2	0.1	2.4
SR & SP Parties	0.5	0.1	9.0
TG Party	4.4	4.5	1.6
Panel B: All institutional investors			
SR Party	1.0	0.2	16.2
SP Party	0.5	0.2	6.4
SR & SP Parties	1.4	0.3	23.3
TG Party	15.4	16.0	4.3

Notes: Table reports the percentage of proposals in the column category for which the outcome would have been different had the party given in the row been excluded. We assume that the shares owned by the excluded party would instead have been voted to mirror the distribution of votes for non-party members. Panel A excludes only the holdings of mutual funds in our sample. Panel B excludes all shares held by institutional investors that belong to the party using the procedure described in the text.

Table 14: Variable Definitions

	Variable Description
Score 1_f	Fund's score on first principal component of voting matrix.
Score 2_f	Fund's score on second principal component of voting matrix.
TG Party$_f$	Indicator for whether fund belongs to the Traditional Governance Party.
SR Party$_f$	Indicator for whether fund belongs to the Shareholder Reform Party.
SP Party$_f$	Indicator for whether fund belongs to the Shareholder Protest Party.
Active$_f$	Indicator for whether fund is actively managed. If Active Share data is available for the fund: = 1 if CRSP indicates fund is not an index fund and fund has Active Share > 0.3, = 0 otherwise. If Active Share data is not available for the fund: = 1 if CRSP indicates fund is not an index fund, = 0 otherwise. For the small number of funds for which this indicator would not be the same in all years in the data (e.g., because Active Share changes), we set Active = 1 if the fund meets the criteria for a majority of years in the data and Active = 0 otherwise.
Number Stocks Held$_{ft}$	Total number of stocks held in the fund's portfolio as of the latest report available for the fund in the CRSP fund portfolio dataset for the corresponding year. Defined yearly between years 2011 and 2015.
Average Monthly Abnormal Return (bp)$_{ft}$	Average monthly abnormal return (in basis points) experienced by the fund (defined only for actively managed funds). Abnormal returns are calculated using a four-factor model on the basis of fund-level monthly portfolio returns obtained from CRSP. Defined yearly between years 2011 and 2015.
TNA$_{ft}$	Total market value of stocks held in the fund's portfolio as of the latest report available for the fund in the CRSP fund portfolio dataset for the corresponding year, in millions of dollars. Defined yearly between years 2011 and 2015.
Adv. Active$_a$	Indicator for whether the fund's investment advisor focuses on actively managed funds. Advisor Active = 1 if 50% of the advisor's funds under management are in active funds and = 0 otherwise. For the small number of advisors for which this indicator would not be the same in all years in the data, we set Adv. Active = 1 if the advisor meets the criteria for a majority of years in the data and Adv. Active = 0 otherwise.
Adv. Number Stocks Held$_{at}$	Number of different U.S. equity securities held by the advisor (derived from CRSP Mutual Fund portfolio-level data). Defined yearly between years 2011 and 2015.
Adv. TNA$_{at}$	Dollar value of the U.S. equity securities held by the advisor, in million dollars (derived from CRSP Mutual Fund portfolio-level data). Defined yearly between years 2011 and 2015.
Compliance Approach$_a$	Indicator for whether the titles of the fund's investment advisor's proxy voting executives listed on Proxy Insight website use compliance language (see text for details).

Table 15: Mutual Fund Variables Summary Statistics

	N	Mean	St. Dev.	Min	Median	Max
Score 1	14,923	0.6	41.2	-86.6	-10.8	77.2
Score 2	14,923	-1.6	32.3	-60.0	-3.6	170.1
TG Party	14,923	0.34	0.47	0	0	1
SR Party	14,923	0.09	0.29	0	0	1
SP Party	14,923	0.22	0.41	0	0	1
Active	14,923	0.77	0.42	0	1	1
TNA	14,923	1,437	7,302	0	223	354,003
Number Stocks Held	14,923	176	328	1	75	3,335
Average Monthly Abnormal Return (bp)	10,703	-11	59	-828	-10	998
Adv. Active	14,923	0.74	0.44	0	1	1
Adv. TNA	14,923	86,238	180,979	0	16,429	1,266,098
Adv. Number Stocks Held	14,923	1,365	1,064	1	1,136	3,481
Compliance Approach	13,569	0.35	0.48	0	0	1

Notes: Each observation is a fund-year.

Table 16: Fund Characteristics by Party

	TG Party	SR Party	SP Party	TG-SR	TG-SP	SR-SP
Active	0.6	0.73	0.87			
Total Value Holdings ($m)	51,253	3,006	6,035	**	**	
Number Stocks Held	553	478	176			
Avg. Monthly Abnormal Return (bp)	-2	-21	-17	***	***	
Adv. Active	0.5	0.69	0.87			
Adv. Total Value Holdings ($m)	516,997	25,274	47,694	***	***	
Adv. Number Stocks Held	2,140	1,341	1,255			
Compliance Approach	0.065	0.41	0.3	**		

Notes: Statistics reported in the first three columns are means taken over observations from 2013 for funds in each party, weighted by each fund's TNA. The final three columns report levels of statistical significance for pairwise differences between the parties (e.g., "TG-SR" refers to the difference between the Traditional Governance and Shareholder Reform parties). Statistical significance is calculated through F-tests on coefficients from a regression of the covariate of interest against the three party dummies (where standard errors are clustered at the advisor level and observations are weighted by the fund's TNA).

Table 17: The Determinants of Party Membership

	(1) TG Party	(2) SR Party	(3) SP Party	(4) TG Party	(5) SR Party	(6) SP Party	(7) TG Party	(8) SR Party	(9) SP Party
Active Advisor	-0.215*	-0.036	0.025						
	(0.112)	(0.102)	(0.067)						
Log(Adv. Number of Firms)	-0.140***	0.086**	0.002	-0.127***	0.080**	0.012	0.110	-0.050	-0.067*
	(0.031)	(0.037)	(0.023)	(0.035)	(0.037)	(0.024)	(0.208)	(0.143)	(0.041)
Log(Adv. TNA)	0.110***	-0.072***	-0.005	0.087**	-0.062***	-0.005	0.122***	-0.081*	0.002
	(0.023)	(0.016)	(0.009)	(0.034)	(0.015)	(0.011)	(0.017)	(0.043)	(0.010)
N	17717	17717	17717	13297	13297	13297	4420	4420	4420
Advisor Type	All	All	All	Active	Active	Active	Passive	Passive	Passive

Notes: This table reports the results of three different multinomial logit estimations. The outcome variable has four possible values: TG Party, SR Party, SP Party, and No Party (the omitted baseline). In each row, we report the marginal effects of the corresponding covariate on the likelihood that the fund will belong in the relevant party. In the case of covariates that are dummies, the marginal effect corresponds to the change in the variable from zero to one. Standard errors (in parenthesis) are clustered at the advisor level. In Columns 1-3, the estimation sample consists of all fund-year observations. In Columns 4-6 (7-9) the estimation sample consists only of fund-years under active (passive) advisors. * $p < 0.1$; ** $p < 0.05$ *** $p < 0.01$.

Table 18: Compliance Approach and Outsourcing to Proxy Advisors

	(1) Compliance Approach	(2) SR or SP	(3) SR or SP	(4) SR or SP	(5) SR or SP	(6) SR or SP	(7) SR or SP	(8) SR or SP	(9) SR or SP	(10) SR or SP
Active Advisor	-0.102		0.106	0.158						
	(0.124)		(0.132)	(0.120)						
Log(Adv. Number of Firms)	-0.041		0.167***	0.200***		0.179***	0.218***		-0.162	0.032
	(0.045)		(0.046)	(0.046)		(0.049)	(0.051)		(0.219)	(0.027)
Log(Adv. TNA)	-0.095***		-0.132***	-0.117***		-0.120***	-0.131***		-0.117***	-0.053***
	(0.026)		(0.018)	(0.018)		(0.025)	(0.023)		(0.020)	(0.019)
Compliance Approach		0.412***		0.289***	0.230*		0.160*	0.837***		0.722***
		(0.109)		(0.088)	(0.134)		(0.097)	(0.099)		(0.104)
N	10395	10408	11415	10395	7043	7889	7030	3365	3526	3365
Advisor Type	All	All	All	All	Active	Active	Active	Passive	Passive	Passive

Notes: For all models reported in the table, the sample is restricted to funds that belong to one of the three mutual fund parties (i.e., funds in no party are excluded). Column 1 reports the marginal effects from a logit model in which the dependent variable equals 1 if the fund's advisor follows a compliance approach, and zero otherwise. Columns 2-11 report the results of logit models in which the dependent variable equals 1 if the fund belongs to either the Shareholder Reform or Shareholder Protest parties, and zero if it belongs to the Traditional Governance Party. In each row, we report the marginal effects of the corresponding covariate on the likelihood that the fund will belong to the Shareholder Reform or Shareholder Protest parties. For all specifications, in the case of covariates that are dummies, the marginal effect corresponds to the change in the variable from zero to one. Standard errors (in parentheses) are clustered at the advisor level. In Columns 5-7 (8-10) the estimation sample consists only of fund-years under active (passive) advisors.

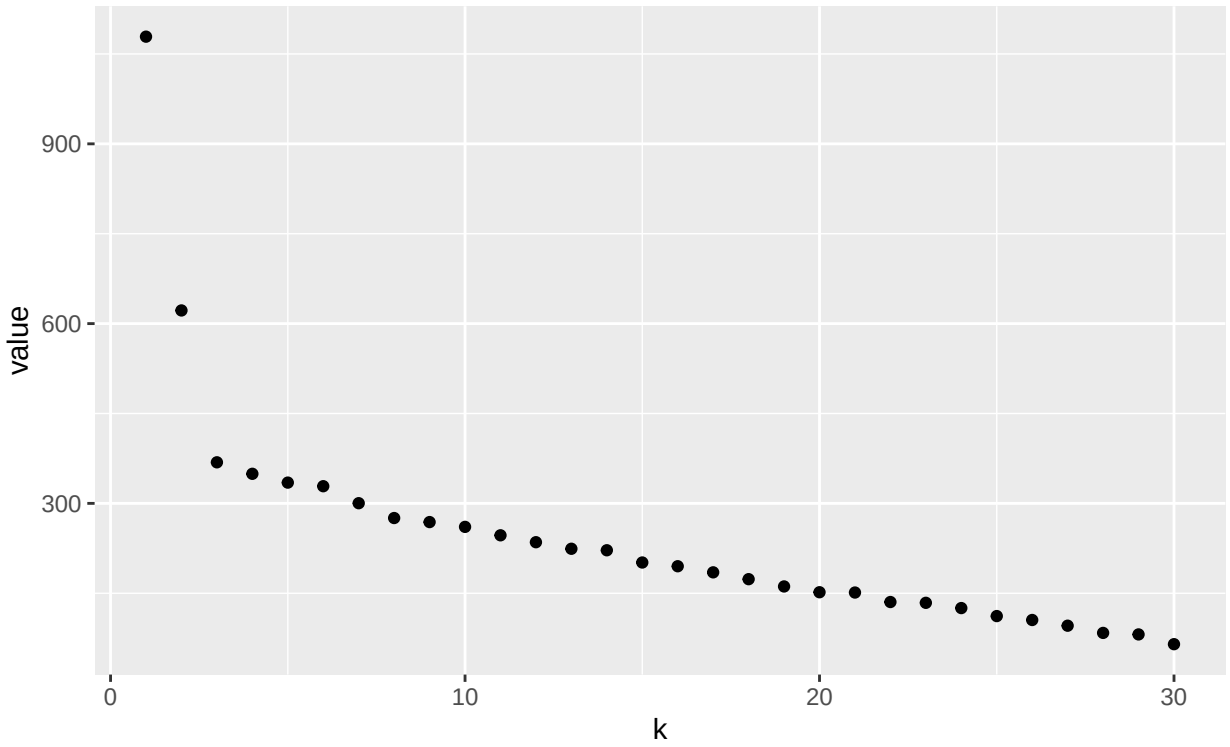


Figure 1: Scree Plot

Notes: This figure plots the eigenvalues corresponding to the first thirty principal components extracted from our estimation sample vote matrix.

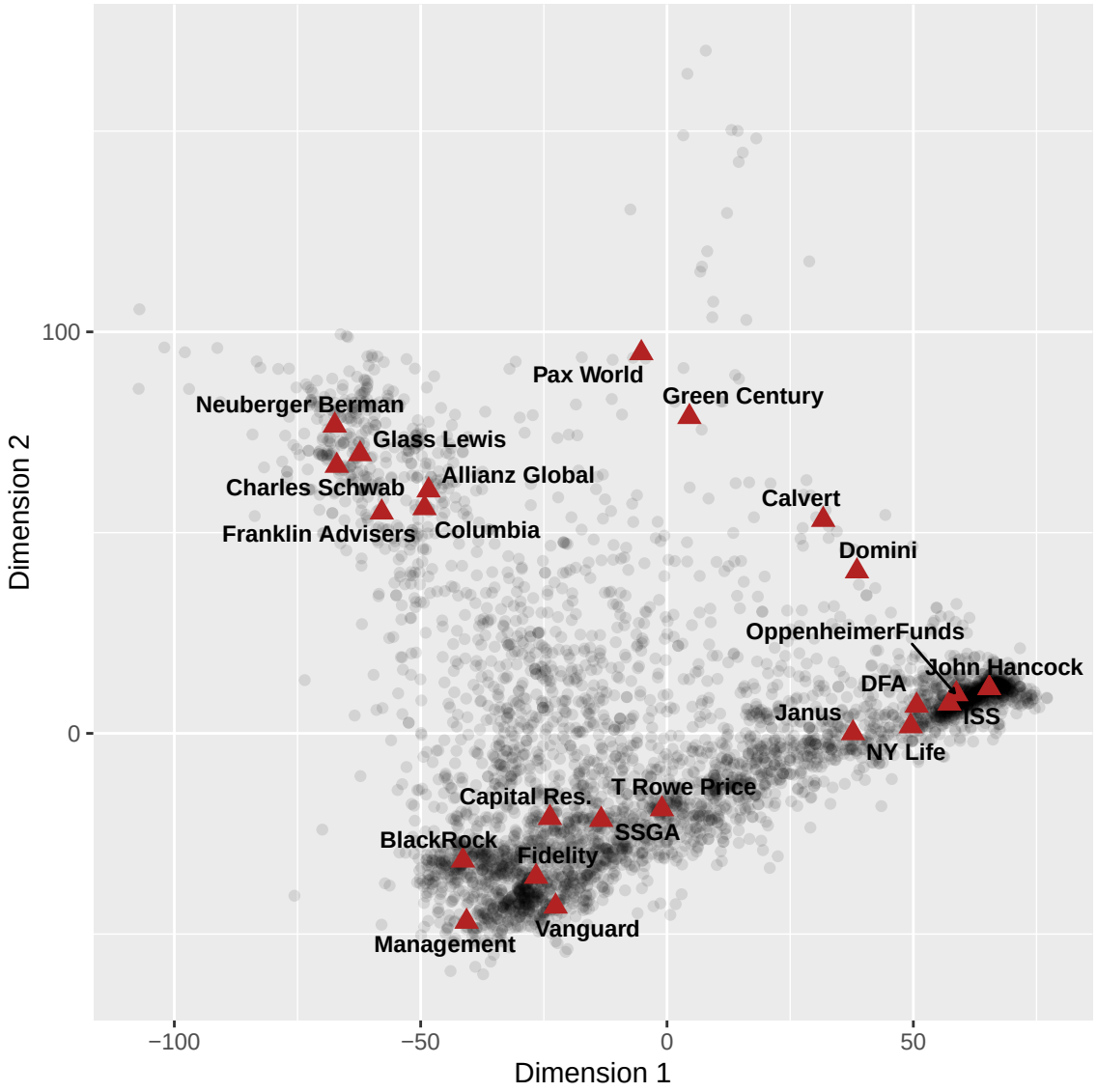


Figure 2: Dimension 1 vs. Dimension 2

Notes: This figure plots with circles the preference scores of the 4,329 funds in our estimation sample. Plotted with triangles are the preference scores of a select set of prominent investment advisors, caculated as the asset-weighted average of the preference scores of all the funds under the advisor for which we have recovered preference estimates. In addition, for reference, the figure includes triangular markers reflecting the scores for management, ISS, and Glass Lewis.

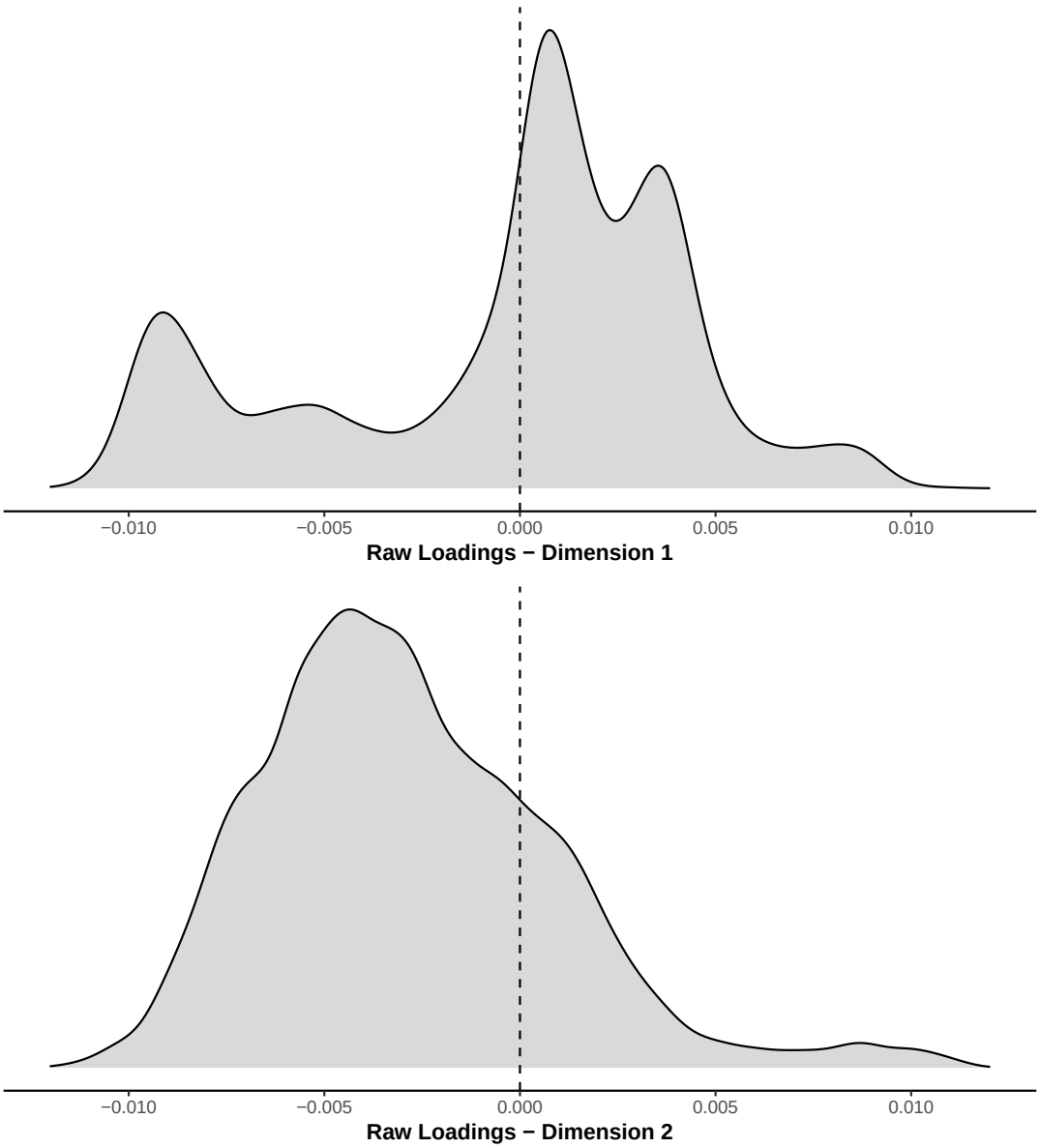


Figure 3: Distribution of loadings across proposals

Notes: This figure shows the univariate densities of the loadings of proposals on dimensions 1 and 2.

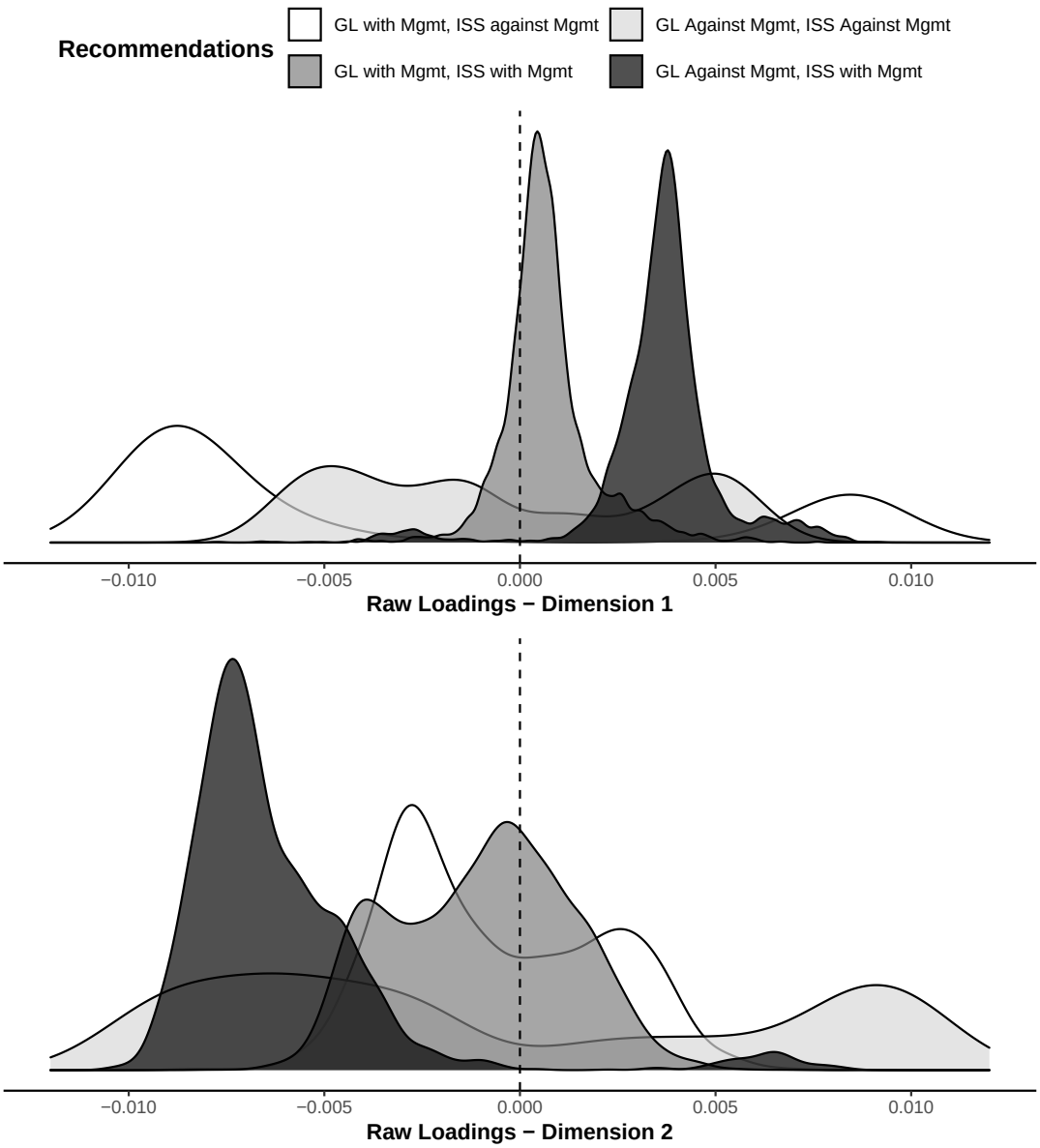


Figure 4: Conditional densities of raw loadings

Notes: The top panel of figure shows the conditional densities of raw loadings on dimension 1 across four subsets of proposals. The unshaded conditional density corresponds to proposals for which Glass Lewis's (ISS's) recommendation was the same as (the opposite from) management's recommendation. The conditional density shaded in light grey corresponds to proposals for which both Glass Lewis's and ISS's recommendations were against management's recommendation. The conditional density shaded in medium grey corresponds to proposals for which both Glass Lewis's and ISS's recommendations were the same as management's recommendation. The conditional density shaded in dark grey corresponds to proposals for which Glass Lewis's (ISS's) recommendation was the opposite from (the same as) management's recommendation. The bottom panel shows the conditional densities of raw loadings on dimension 2 for the same four subsets of proposals.

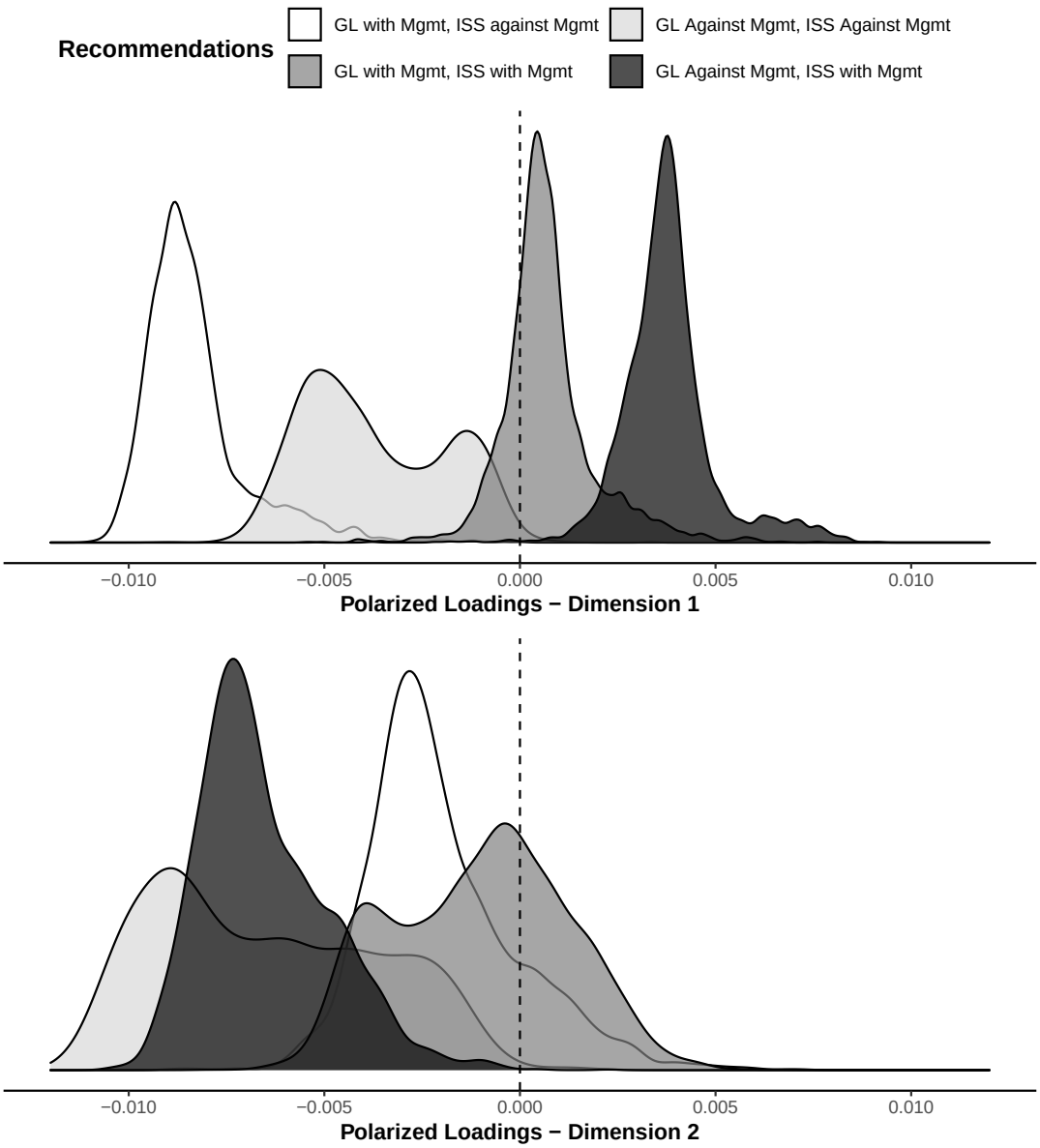


Figure 5: Conditional densities of polarized loadings

Notes: The top panel of figure shows the conditional densities of polarized loadings on dimension 1 across four subsets of proposals. The unshaded conditional density corresponds to proposals for which Glass Lewis's (ISS's) recommendation was the same as (the opposite from) management's recommendation. The conditional density shaded in light grey corresponds to proposals for which both Glass Lewis's and ISS's recommendations were against management's recommendation. The conditional density shaded in medium grey corresponds to proposals for which both Glass Lewis's and ISS's recommendations were the same as management's recommendation. The conditional density shaded in dark grey corresponds to proposals for which Glass Lewis's (ISS's) recommendation was the opposite from (the same as) management's recommendation. To polarize the loadings relative to management, the raw loadings on dimension 1 are multipled by -1 if management recommended against the proposal. The bottom panel shows the conditional densities of polarized loadings on dimension 2 for the same four subsets of proposals.

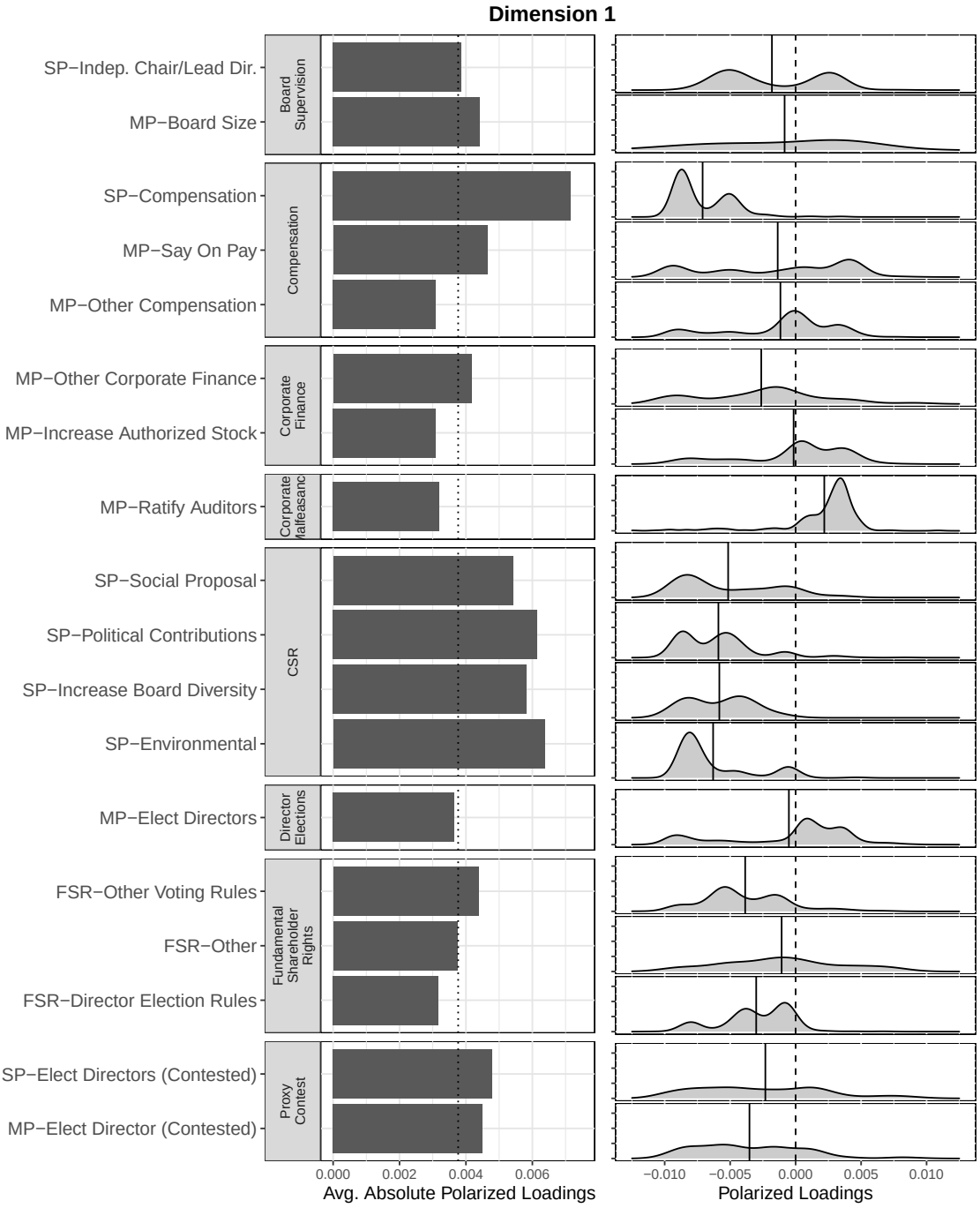


Figure 6: Proposal loadings by corporate governance categories - Dimension 1

Notes: The left panel of this figure reports the mean of the absolute value of the polarized loadings on dimension 1 in each of 18 categories of proposals. The right panel of this figure reports the density of the polarized loadings on dimension 1 for each of those categories, together with a vertical full line that indicates the mean of the polarized loadings on dimension 1 in the relevant category. To polarize the loadings relative to management, the raw loadings on dimension 1 are multipled by -1 if management recommended against the proposal.

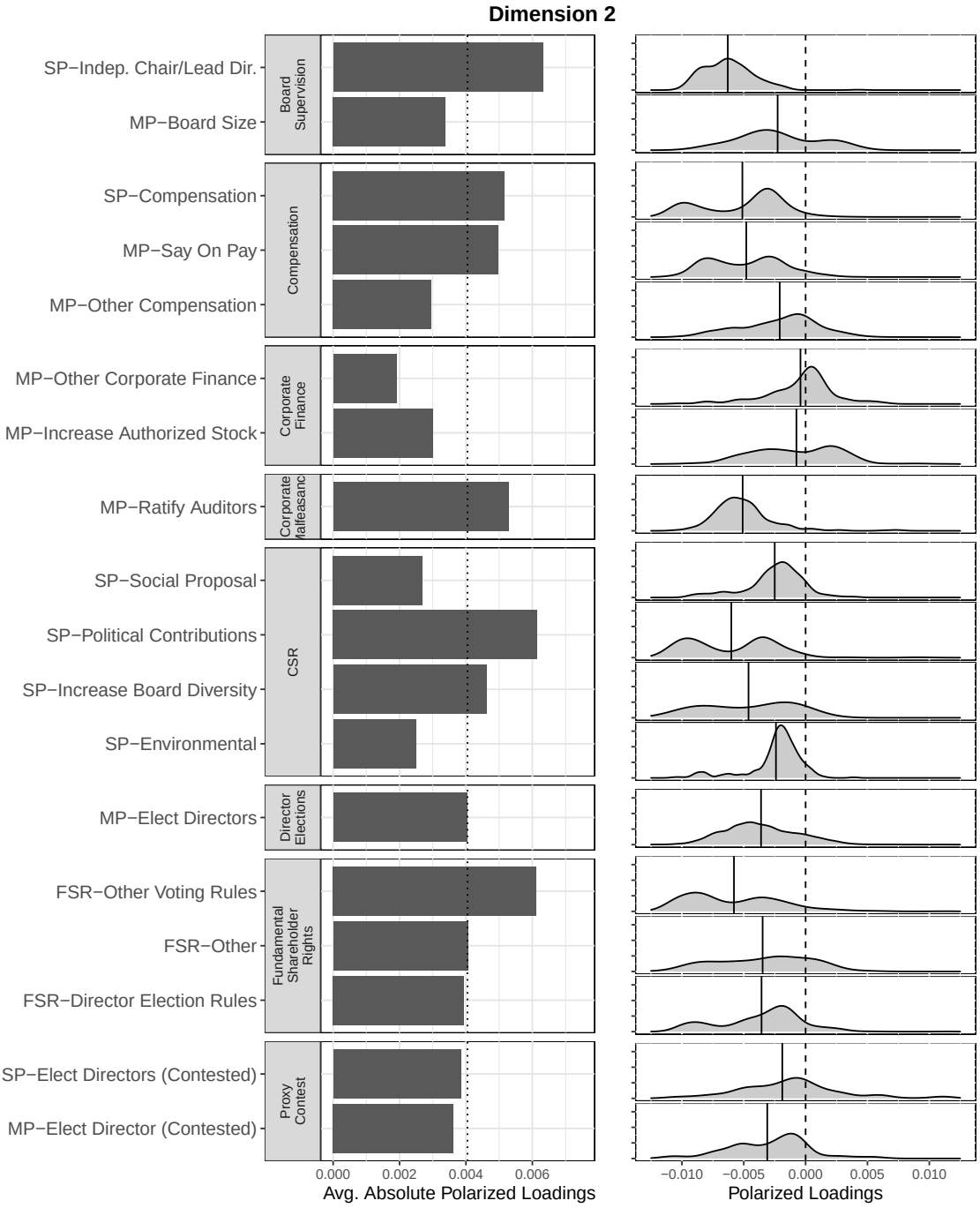


Figure 7: Proposal loadings by corporate governance categories - Dimension 2

Notes: The left panel of this figure reports the mean of the absolute value of the polarized loadings on dimension 2 in each of 18 categories of proposals. The right panel of this figure reports the density of the polarized loadings on dimension 1 for each of those categories, together with a vertical full line that indicates the mean of the polarized loadings on dimension 1 in the relevant category. To polarize the loadings relative to management, the raw loadings on dimension 1 are multipled by -1 if management recommended against the proposal.

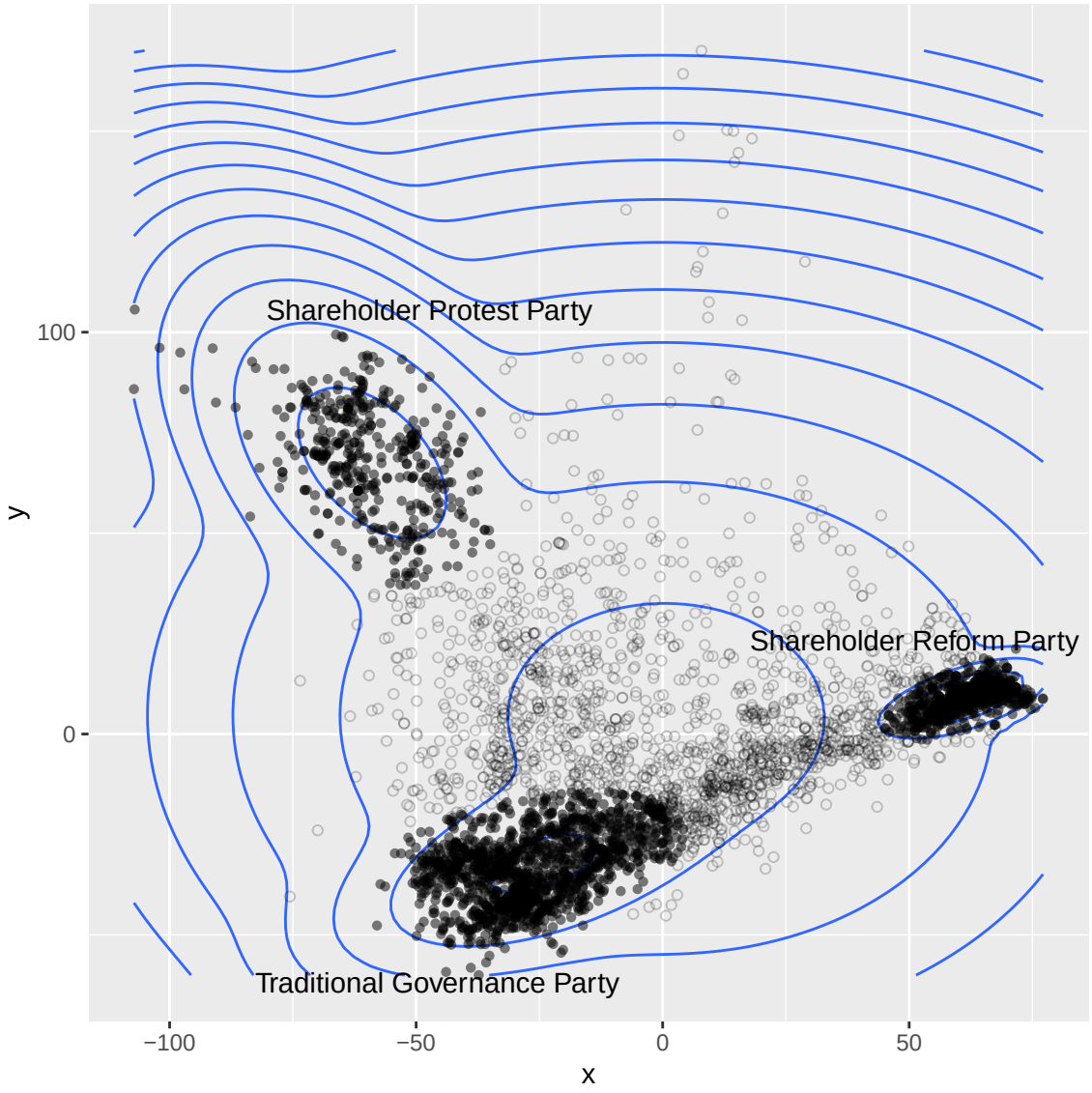


Figure 8: The Parties

Notes: This figure identifies the three "mutual fund parties" as three of the four clusters of funds recovered from applying a four-component Gaussian mixture model to the vector of mutual fund scores on dimensions 1 and 2. Each circular marker corresponds to a mutual fund. The marker's location corresponds to the mutual fund's preference scores. The cluster corresponding to each of the three main parties—the Traditional Governance Party, the Shareholder Reform Party, and the Shareholder Protest Party—is labeled in the figure, and the markers corresponding funds belonging to that party are filled in dark grey. The figure also depicts using blue lines the contour plots of the density of mutual fund preference scores estimated using the Gaussian mixture model.

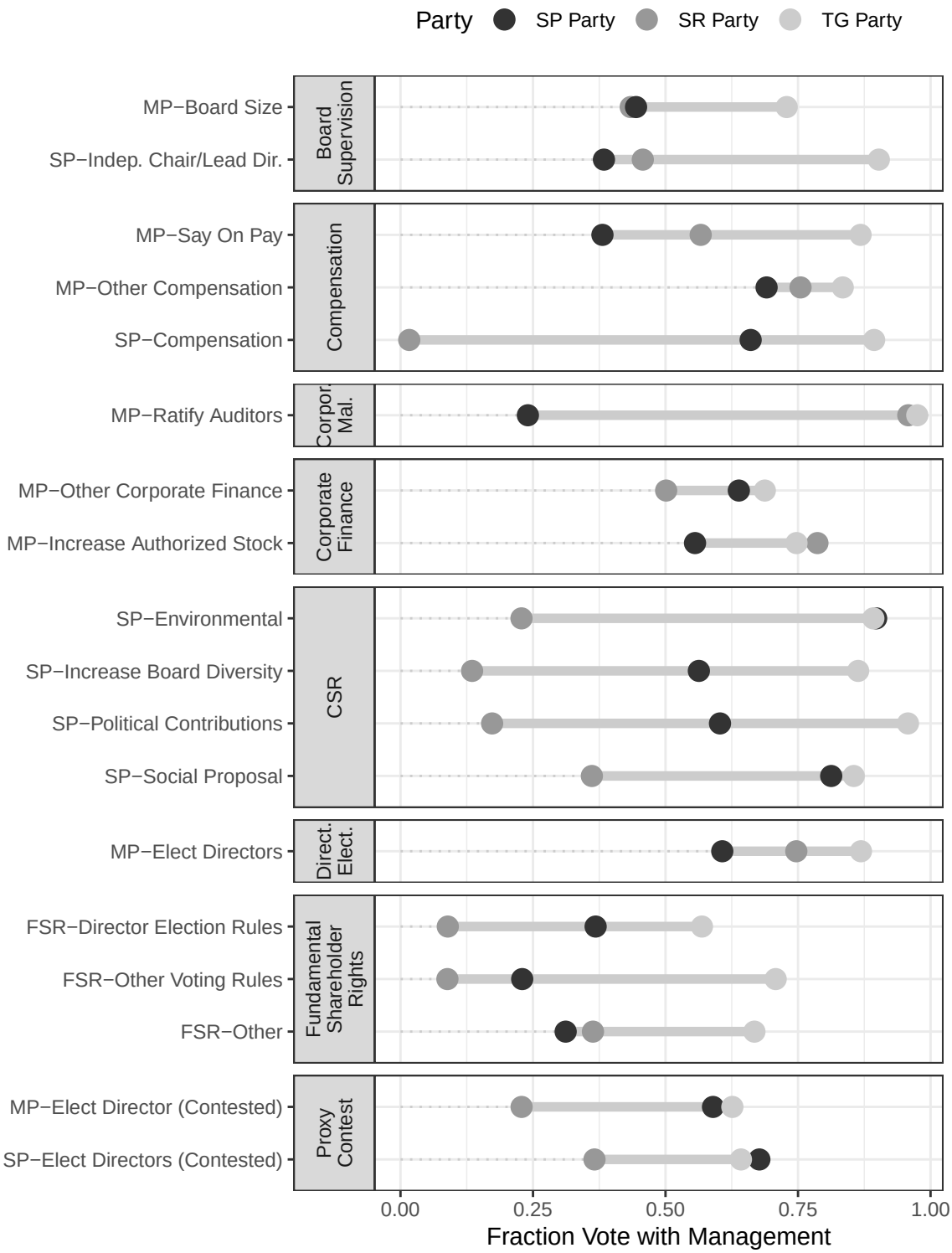


Figure 9: Fraction of Funds in Party Voting with Management

Notes: This figure summarizes the voting behavior of funds in the different parties across different categories of proposals. For each category of proposal, and for each mutual fund party, we calculate what fraction of the votes cast on the category by the funds in each party followed management's recommendation.

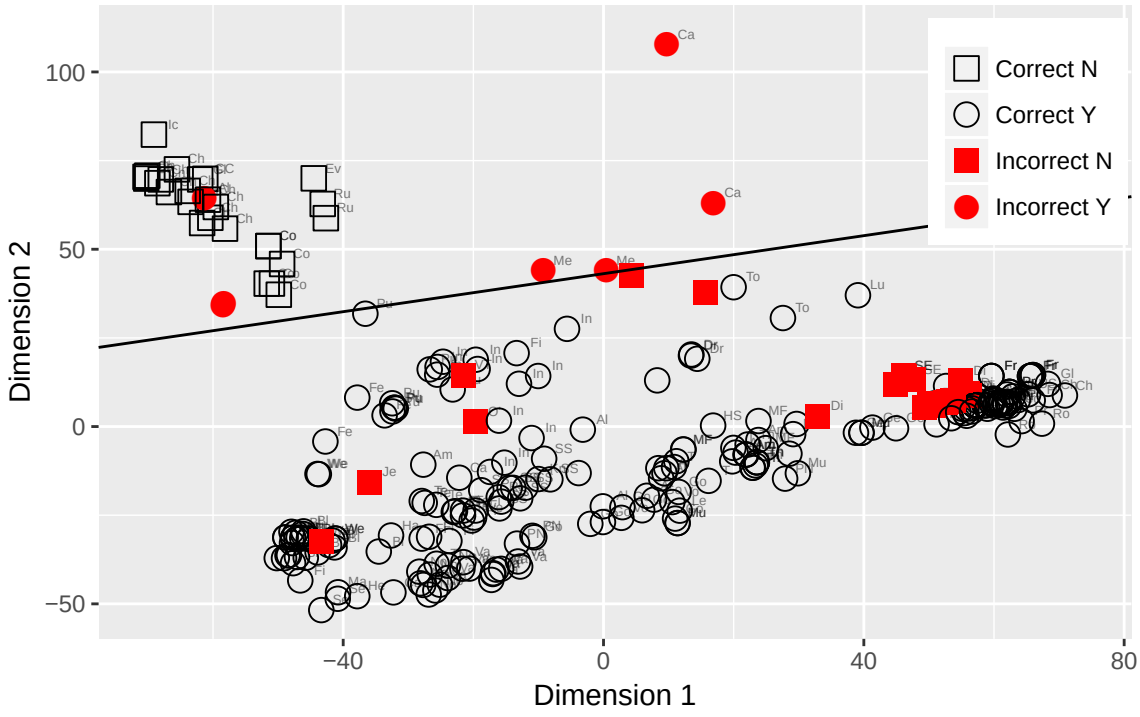


Figure 10: A Say-on-Pay proposal at PolyOne Corporation.

Notes: This figure describes the votes cast on a Say-on-Pay management proposal at PolyOne Corporation by all the mutual funds in our database. The vote of each fund in the sample that voted on the proposal is plotted with a marker located at the fund's preference score. In the legend, "N" and "Y" refer to votes against and for the proposal, respectively, and "Correct" and "Incorrect" refer to whether the model's prediction for the fund's vote was correct. The two letters close to each marker indicate the corresponding fund's advisor. The upward-sloping line in the center of the figure reflects the "cutting line" generated by the principal component analysis for this proposal. That line separates the funds that the model predicted would support the proposal from those that the model predicted would oppose the proposal.

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