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### Identity, Diversity, and Team Performance: Evidence from U.S. Mutual Funds

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FINANCIAL ECONOMICS



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### Abstract

We examine team diversity and performance in the asset management industry through the lens of identity. Focusing on political ideology as the relevant dimension of identity, we find that diverse teams outperform homogeneous teams. The mechanism involves both improved decision-making due to more diverse perspectives and increased monitoring by heterogeneous team members. The benefits of ideological diversity are undone when political polarization is higher, consistent with increased intra-team conflict. In examining why less diverse teams are prevalent in asset management, we find entrenched managers prefer homogeneous teams, and the local labor market supply of ideologically diverse managers is constrained.

JEL Classification: G11, G23, J33, J44, L22, L25, L84, M12, M52

Keywords: Mutual fund, Teams, Dispersion in Beliefs, diversity, Labor incentives, Political Ideology, Campaign Contributions, Polarization, PACs

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## Identity, Diversity, and Team Performance: Evidence from U.S. Mutual Funds \*

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We examine team diversity and performance in the asset management industry through the lens of identity. Focusing on political ideology as the relevant dimension of identity, we find that diverse teams outperform homogeneous teams. The mechanism involves both improved decision-making due to more diverse perspectives and increased monitoring by heterogeneous team members. The benefits of ideological diversity are undone when political polarization is higher, consistent with increased intra-team conflict. In examining why less diverse teams are prevalent in asset management, we find entrenched managers prefer homogeneous teams, and the local labor market supply of ideologically diverse managers is constrained.

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#### 1 Introduction

There is a growing literature on identity, an individual's sense of self, and its impact on the choices of economic agents within organizations (e.g., Akerlof and Kranton (2000), Akerlof and Kranton (2005) and Bénabou and Tirole (2011)). One important application of this literature is understanding the relationship between diversity and team performance.<sup>1</sup> Because identity can be related to perspective, knowledge, and expertise, a diverse team (i.e., one comprised of individuals whose identities differ) can be more effective.<sup>2</sup> At the same time, differences in identity among group members, either real or perceived, can hinder productivity through mistrust, increased conflict, or decreased effort.<sup>3</sup> Recognizing that an individual's identity is multi-faceted, one approach to mitigating this potential conflict is to "prime" the facet of identity that the team has in common (e.g., team-building exercises to create a work-team identity). By making a given facet more salient, perceived differences and intra-team conflict are reduced.<sup>4</sup> Similarly, when a dimension of identity that differs among group members (e.g., political ideology) becomes more salient, increased discord can result.

In this paper, we examine the relationship between diversity and team performance through the lens of identity. Focusing on political ideology as the relevant facet of identity, we examine the performance of diverse portfolio manager teams.<sup>5</sup> While different dimensions of identity, including both functional (e.g., differing job expertise) and demographic (e.g., race and gender), have been studied in the literature, we focus on political ideology for three reasons. First, different political ideologies are associated with different economic perspectives and information sets. As a result, a team comprised of individuals with diverse political views plausibly exhibits complementarities necessary to generate superior team performance.<sup>6</sup>

Second, political ideology is both a salient dimension of identity in the workplace and when "primed" is likely to generate intra-team conflict. Unlike race, religion, and gender,

<sup>&</sup>lt;sup>1</sup>See Charness and Chen (2020) for a partial review of this literature.

<sup>&</sup>lt;sup>2</sup>See Lazear (1999), Hong and Page (2001), Hamilton, Nickerson, and Owan (2003), Rockenbach, Sadrieh, and Mathauschek (2007)

<sup>&</sup>lt;sup>3</sup>See Hjort (2014), Coffman (2014), Glover, Pallais, and Pariente (2017)

<sup>&</sup>lt;sup>4</sup>See Eckel and Grossman (2005), Charness, Rigotti, and Rustichini (2007), Chen and Chen (2011) and Chen et al. (2014)

<sup>&</sup>lt;sup>5</sup>While our exclusive use of team-managed funds is necessitated by our focus on team diversity, several papers within the mutual fund literature examine the role of individual versus team management. Bliss, Potter, and Schwarz (2008), for example, find that team-managed funds have less performance dispersion and greater similarity in their portfolio factor loadings than their individual-managed counterparts consistent with Adams and Ferreira (2009a).

<sup>&</sup>lt;sup>6</sup>For example, Hutton, Jiang, and Kumar (2014) show a manager's political affiliation affects firm policies such as corporate debt levels, R&D spending and the riskiness of firm investments. More specific to our asset management context, Hong and Kostovetsky (2012) show that the investment strategies of Democratic and Republican money managers exhibit statistically and economically significant differences broadly consistent with the tenets of these different ideologies.

where social norms dictate behavior, there are fewer constraints on the expression of hostility toward people who adhere to opposing political ideologies.<sup>7</sup> Using state-wide cross-sectional and time-series variation in political polarization as a proxy for political identity priming, we are able to examine the potential trade-offs between the value-added from incorporating diverse perspectives and the conflicts raised due to increased polarization.<sup>8</sup>

In examining the potential trade-offs of diverse teams, the dimension of identity studied must be a plausible source of both potential complementarities and potential conflict. We argue above that political identity meets these criteria, but there is a third and perhaps even more important reason to focus on political ideology. The implicit assumption in using demographic facets of identity to measure diversity is that these observables proxy for individuals' values or perspectives (e.g., Hambrick and Mason (1984)). Unlike many of these demographic dimensions, political identity is a choice and one that is based on an individual's view of the world. As such, political affiliation provides a plausibly more precise reflection of an individual's values and perspective. Several studies show that the strength of people's attachment to their political parties surpasses affiliations with their own race, religion, and other social categories (Westwood et al. (2018), Sunstein (2016), and Iyengar and Westwood (2015)).

To measure diversity in political identity, we follow a well-established strand of the literature that uses political contributions to classify an individual's political orientation.<sup>9</sup> Using this methodology, we obtain information on the political contributions of around 2,500 money managers between 1992 and 2016 from the Center for Responsive Politics (CRP) website. We then use this data to measure how heterogeneous or homogeneous these political beliefs are within a fund management team.

The U.S. mutual fund industry provides an extremely useful setting to study how team diversity affects performance for several reasons. First, human capital plays a crucial role in the asset management industry, and the industry is increasingly reliant on teams to manage capital on behalf of investors. Second, the organizational structure of asset management companies

<sup>&</sup>lt;sup>7</sup>Mutz and Mondak (2006), for example, find that the workplace is the most common setting for discussions about political differences. At the same time, Westfall et al. (2015) show that individuals who identify strongly as a Democrat or Republican, as measured in part by campaign contributions, are more sensitive to and perceive greater political polarization than other individuals. Sunstein (2016) and Iyengar and Westwood (2015) demonstrate that polarisation is stronger for partian affiliations than for racial or social class affiliations. Klar (2013) also documents the effect of identity "priming" on political preferences.

<sup>&</sup>lt;sup>8</sup>Empirical evidence suggests there is time-series variation in political polarization in the U.S. (e.g., Iyengar, Sood, and Lelkes (2012), Mason (2013), Mason (2015), Boxell, Gentzkow, and Shapiro (2017)).

<sup>&</sup>lt;sup>9</sup>See, e.g., Hong and Kostovetsky (2012), Di Giuli and Kostovetsky (2014), Lee, Lee, and Nagarajan (2014), Hutton, Jiang, and Kumar (2014). For example, looking at differences in corporate policies among CEOs with different political ideologies, Hutton, Jiang, and Kumar (2014) validate the use of donations by showing a strong correlation between revealed versus self-reported political orientation.

enables us to identify the team of managers that run a given fund and distinguish them from other manager teams working for the same investment advisor but managing other funds. Third, the output of the team's decision-making process is directly observable both in the investment return and the holdings of the fund. Fourth, in this setting, it is common for managers to simultaneously work in both homogeneous and heterogeneous teams. By observing the same manager, at the same point in time, working in two different teams, we can control for the selection issue arising from the unobserved managerial ability, thus providing strong casual evidence of the effect of team diversity on performance outcomes.

Consistent with a competitive advantage of diverse perspectives, we find that teams composed of money managers with different political identities outperform homogeneous teams by about 1.8% risk-adjusted return per year. Using the dollar value-added measure of Berk and Van Binsbergen (2015) this corresponds to an average difference of approximately \$2 million per year between heterogeneous and homogeneous teams. We perform a host of robustness tests for this baseline result, including the addition of high dimensional fixed effects such as manager-by-time and family-by-time fixed effects, accounting for the political network of each manager and for the provision of fund-level incentives. Related to our suggested political identity mechanism, there two robustness tests that may be of particular interest to readers. First, we include in our regressions a set of alternative measures of diversity based on gender, race, experience, and education. These additional tests show that the impact of political identity on fund performance exists over and above the role played by other demographic and functional dimensions of diversity. Therefore, these results are strongly supportive of our conjecture that political ideology is superior to these alternative measures in capturing differences in individuals' information sets and views of the world. Second, we examine in depth the sensitivity of our results to the inclusion of managers for whom we do not observe political donations (Grey managers). This set of tests unequivocally leads to the conclusion that including Grey managers does not bias our results towards finding the outperformance of diverse teams. Instead, these results suggest that our classification of Grey managers as individuals without a strong political identity is correct, providing useful variation in our tests of team ideological diversity.

While the performance results suggest potential complementarities in diverse teams, we also explore the potential trade-off of increased conflict due to differing political ideologies. Using measures of state-wide political polarization over time, we examine the impact of "priming" this dimension of fund manager identity. The prior literature shows that in times of high political polarization, differences in political beliefs can be exacerbated, creating conflict, limiting communication, and paralyzing decision-making.<sup>10</sup> We rerun our baseline analysis separately in times of low and high polarization. We find that consistent with a trade-off between the costs and benefits of diversity, the priming of group political differences associated with increased polarization undoes diverse teams' performance advantage.

Next, we examine possible mechanisms for the observed outperformance. The literature suggests two possible channels for diverse team outperformance: a superior investment choice based on more diverse perspectives/information sets and increased effort due to enhanced monitoring. If team diversity impacts performance through either of these channels, we expect diversity to result in increased active share, a joint measure of both portfolio uniqueness and manager effort, which is what we find. Interestingly, when we repeat the analysis of these measures separately in times of low and high polarization, we also find that increased polarization mitigates the positive impact of diversity on active management.

To further refine the potential mechanism, we examine the channel of diverse teams generating better information and improved decision-making. To assess the potential role of this channel, we revisit an important insight from Pollet and Wilson (2008). They examine the response of mutual funds to additional investment inflows and find that the average manager responds to flows by increasing their holdings of an existing position instead of adding new positions, negatively impacting performance. They interpret this behavior as a manifestation of constraints on human capital. We revisit their analysis, accounting for ideological diversity across teams. Consistent with their results, we find that managers disproportionately increase their ownership share in existing positions in response to net fund flows rather than adding new positions. However, more diverse teams are more likely to add new positions in response to flows than homogeneous teams. This result is consistent with the enhanced information and improved decision-making of diverse teams, overcoming the suggested human capital constraints.

We also examine one dimension of information production that the previous literature has suggested may differ across Democratic and Republican-leaning managers: ESG (Environmental, Social, and Governance) stock holdings. Hong and Kostovetsky (2012) show that Democratic managers are more likely to hold high ESG stocks, while Republican managers are more likely to hold low ESG or so-called "sin" stocks. The different holdings across managers subscribing to these two different ideologies are consistent with an internal filter regarding certain types of stocks. Heterogeneous teams, however, could combine the two different information

 $<sup>^{10}</sup>$ See Jehn, Northcraft, and Neale (1999), Ely and Thomas (2001), De Dreu and Weingart (2003), Klar (2013), and Westfall et al. (2015)

sets of Democratic and Republican managers, resulting in improved performance. We test this hypothesis at the manager level, identifying a sample of managers who operate simultaneously in a homogeneous team (i.e., the team has the same political identity as the fund manager) and a heterogeneous team. By focusing on the same manager, overseeing two funds in the same investment objective, at the same time, we control for manager ability investment style and time-trend effects. We then look at the value-weighted ESG scores of these managers across the two settings. Overall, we find that Democratic managers in homogeneous teams hold higher ESG ranked stocks than they do in a heterogeneous team. Similarly, Republican managers in homogeneous teams hold lower ESG ranked stocks than they do in heterogeneous teams.

While the broader diversity literature emphasizes the potential for different perspectives and information sets of the diverse team members to result in better decision-making, the economics literature also highlights an alternative mechanism: mutual monitoring (Akerlof and Kranton (2008)). The synergy among agents, which is precisely the reason for the team's existence (Alchian and Demsetz (1972)), implies that each member's contribution to the team's output is not distinguishable. Thus, it would not be possible to remunerate team members according to individual productivity. This setting generates the free-rider problem suggested by Holmstrom (1982), which arises when the joint output is the only observable indicator of each team member's input, making it impossible to identify agents who shirk. One solution to this team production problem relies on the peer pressure associated with mutual monitoring. Given the inherent unobservability of individuals' contributions by the principal, the monitoring is performed by the very members of the team, who mete out punishments to those agents who fail to perform adequately. In a theoretical work, Kandel and Lazear (1992) show that if the cost of such monitoring to the agents is sufficiently low, peer pressure can offset the free-riding incentives.

To test this second potential mechanism of mutual monitoring and peer pressure, we examine the determinants of fund manager promotions and demotions. While we expect promotions and demotions to be driven by manager performance, the mutual monitoring hypothesis suggests that there would be more intense monitoring in heterogeneous teams. As a result, we would expect managers in heterogeneous teams with higher performance to have an incrementally higher probability of promotion. At the same time, those with poor performance will also have an incrementally higher probability of being demoted. In studying the determinants of promotions and demotions of portfolio managers, we show evidence consistent with this hypothesis.

Last of all, we study additional frictions that might be preventing investment advisors from adopting more diverse teams. To this end, we examine two possible hypotheses. The first is that entrenched managers may prefer to avoid any additional monitoring associated with a heterogeneous team. As a result, they may influence the allocation of managerial talent to ensure they are only involved in homogeneous teams. The second is that the supply of ideologically diverse managers may be constrained by geography. We argue that if the labor market in which the investment advisors are hiring new managers is largely homogeneous relative to the ideological bent of the investment advisors, then they will be less likely to make diversifying hires.

To examine the first hypothesis, we use tenure at the firm and assets under management for each manager to measure entrenchment and negotiating leverage. Consistent with the hypothesis that entrenched managers prefer homogeneous teams, team homogeneity is strongly correlated with these measures. To examine the second hypothesis, we calculate state-level time-series measures of ideological diversity. Using these measures, we find that those investment advisors operating in less ideologically diverse states are more likely to have homogeneous manager teams.

Our paper contributes to the literature in three major ways. First, we contribute to the growing literature on identity economics (i.e. Akerlof and Kranton (2000), Akerlof and Kranton (2005), Akerlof and Kranton (2008), Kranton (2016), and Kranton et al. (2020)) by providing strong empirical evidence of how identity influences decision-making in the workplace. Specifically, we provide evidence of the value of ideological diversity that arises when teams include individuals with differing political identities. We also find evidence that when these differences in their political identities are primed, the value associated with diverse teams disappears. Our results on mutual monitoring also speak to important implications of group identity for manager incentives (Kranton et al. (2020)).

Second, we relate to the broad empirical literature on diverse teams, which includes studies that focus on the effects of gender diversity on boards (e.g., Adams and Ferreira (2009b), Ahern and Dittmar (2012), Kim and Starks (2016)), or among mutual fund managers (e.g., Niessen-Ruenzi and Ruenzi (2019)), and studies that analyze several dimensions of diversity (e.g., Adams, Akyol, and Verwijmeren (2018), Bernile, Bhagwat, and Yonker (2018), Giannetti and Zhao (2019)). Our paper is among the first to explore the role of political identity, as the relevant measure of diversity. This focus is important because political ideology is an important aspect of identity and has been shown to be a more informative measure of attitudes and beliefs. We show that political diversity is relevant over and above more common demographic or functional dimensions of diversity. Moreover, through our use of political polarization as an exogenous exacerbating shock to differences in political identity, we show that the increased conflict associated with this polarization can undo the potential value-added through diversity. When differences in political identity become more polarizing, consistent with increased conflict, limited communication, and paralyzed decision-making, the observed beneficial effect of diverse teams is mitigated. Finally, because we observe the same manager simultaneously in different teams, we can address the endogeneity concerns that plague much of the prior literature.

Finally, our findings are also relevant to the literature on the role of human capital allocation for mutual fund performance. Existing studies explore characteristics of individual managers (e.g., Chevalier and Ellison (1999)), or compare the performance of single- versus team-managed funds (e.g., Prather and Middleton (2002), Bar, Kempf, and Ruenzi (2011), and Patel and Sarkissian (2017)). We add to this literature by providing causal evidence of the impact of team ideological diversity on fund performance. We also provide evidence consistent with both an improved decision-making and increased monitoring mechanisms for the observed increase in team productivity.

The remainder of the paper is structured as follows: in Section 2, we describe the dataset and how we construct our measure of political identity and provide summary statistics. Section 3 presents evidence consistent with team ideological diversity being associated with superior performance and shows that this result is robust to several alternative mechanisms. In Section 4, we study the mechanism underlying the outperformance of diverse teams. Section 5 explores the effect of negative identity priming on diverse team performance. Finally, Section 6 tests two possible hypotheses for the lack of ideological diversity in asset management and Section 7 concludes.

#### 2 Data

This section describes the databases used in our analysis, the data collection, and the construction of our political diversity measures.

#### 2.1 Data sources

To construct our sample, we combine data from several sources. We use the Center for Research in Security Prices (CRSP) Survivorship Bias-Free Mutual Funds Database for fundlevel information. The Thomson Reuters/CDA Spectrum database is used to obtain quarterly mutual fund holdings. We obtain full names and portfolio managers' backgrounds from Morningstar Direct.

We start from the list of actively managed U.S. funds from January 1992 through December 2016, belonging to five different asset classes: domestic and international equity, domestic and international bonds, and balanced portfolios. Because we are interested in studying the active behavior of team members, we drop index funds and funds managed by a single portfolio manager. After applying these filters, our sample contains 12, 387 managers, 5, 305 funds, and 583 management companies.

We obtain individual donation data from the Center for Responsive Politics (CRP), which serves to identify the political identity of the managers from their contributions. CRP is a non-profit organization that directly collects the information from the Federal Election Commission's political contributions reports. The CRP database covers all contributions from Political Action Committees (PACs) and individual contributions from the 1992 cycle through the 2016 cycle. The database includes information on the individual's name, individual's location (state/zip), individual's occupation/employer, donation amounts, recipients of their donations, and recipients' party affiliation.<sup>11</sup>

To determine a match between a manager in our data and an individual within the CRP data, we adopt a conservative approach consisting of two steps. First, we require that the individual in the CRP database has the same full name as the portfolio manager. Second, for individuals with the same full name as the manager, we require that the individual's employer is one of the management companies that characterize the manager's employment history in our sample. We obtain individual contributions to political candidates and political committees for 2, 428 portfolio managers that are part of 4, 123 team-managed funds from 1992 through 2016. The total campaign contributions by the average portfolio managers over our sample period was \$19, 222, with the average Republican manager donating \$22, 632 and the average Democratic manager donating \$14, 726.<sup>12</sup>

<sup>&</sup>lt;sup>11</sup>The CRP data can be accessed at http://www.opensecrets.org/

<sup>&</sup>lt;sup>12</sup>Before the Bipartisan Campaign Reform Act of 2002 (BCRA), the individual contribution limits to a political candidate was \$1,000 per election cycle and \$25,000 to political committees per calendar year. Beginning with the 2003-2004 election cycle, the BCRA increased the limits on contributions made by individuals and political committees. As of 2016, the cap on individual donations to a political candidate was \$2,700 per

We label each individual donation as Republican ("Red") or Democratic ("Blue") if the recipients' party affiliation is Republican (Democrat). If the individual contributed to a PAC, to be as conservative as possible, we label the donation Red (Blue) only if the PAC to which the manager contributed has donated 100% of the total dollar amount contributed in that election cycle to a Republican (Democrat) candidate.

#### 2.2 Political diversity measures

Using each manager's full donation history, we construct a manager-level measure of political orientation. First, we compute the total dollar amount of political donations made by the manager to the Republican  $(R_i)$  and Democratic  $(D_i)$  Parties over the whole sample period. Then, we calculate the proportion of the manager's donations towards the Republican party net of Democratic donations as a function of total donations as follows:

$$Mgr \, Rep_i = \frac{R_i - D_i}{R_i + D_i} \tag{1}$$

By construction,  $Mgr Rep_i$  is a continuous measure between -1 for Blue managers (Democratic) and 1 for Red (Republican) managers. If a manager is not politically involved and does not donate to any candidate, we classify her as "Grey" and assign a value of zero to  $Mgr Rep_i$ . We classify the 9,461 managers that do not appear in the CRP database as Grey.

An empirical choice that we make in classifying managers is to use each individual's full donation history to more accurately ascribe her dominant political identity. While it is certainly possible that an individual changes political beliefs, our choice minimizes the risk of misclassifying individuals who, for reasons unrelated to their political views (e.g., relationships with candidates or variation in party popularity), contribute to the other party in a single election cycle. This choice, driven by the desire to minimize measurement error, follows existing literature using political donations data (e.g., Hong and Kostovetsky (2012), Lee, Lee, and Nagarajan (2014), Hutton, Jiang, and Kumar (2014)). There are two reasons why we believe this choice does not significantly affect our results. First, for most managers, political contributions reveal a unique political inclination; only 6.7% of managers display two different dominant political views over the sample period. Second, we also calculate a time-varying definition of manager donations in which we allow political beliefs to varying by political cycle. Our baseline results are robust to using this time-varying definition of manager ideology, as reported in Internet Appendix Table A1, Panel B.

election cycle and 333,400 to political committees per calendar year.

Another empirical choice that we make is to include in our measure of funds' diversity managers who do not make political contributions (Grey managers) and assign them a value of zero. The rationale behind our choice is that the decision not to contribute to any political party is informative in itself about the strength of an individual's beliefs. Specifically, it suggests that the degree of political involvement of such an individual is lower than an individual who donates. Importantly, this information separates managers who do not donate from both Blue and Red managers and therefore contributes to the diversity in ideologies within a fund (e.g., a team composed of a Red and a Grey manager is more diverse than a team with two Red managers or two Grey managers).

If some managers with strong political views do not contribute, our empirical approach to Grey managers could result in measurement error. If such measurement error exists, it would introduce noise to our diversity measure, biasing our results toward the null hypothesis of no effect associated with ideological fund diversity. To elucidate this argument, consider that the political ideology of a misclassified Grey manager could tilt either Democratic or Republican. As a result, the manager's true value of  $MgrRep_i$  could fall anywhere between -1 and +1 and the true diversity of the fund could be lower or higher.<sup>13</sup>

While we believe it implausible that potential misclassification of Grey managers is driving our results, we nonetheless demonstrate robustness in three different ways. First, we control for the fraction of Grey managers in a team and the fund's total dollar contributions in all our regressions. This is important, as the inclusion of these variables enables us to interpret the impact of fund diversity on performance holding fixed the proportion of Grey managers in a team and the overall size of fund's donations. Second, we explore the performance of Grey managers, both when they operate individually and as a team, using calendar-time portfolios, and we provide evidence that is supportive of our classification of Grey managers as individuals without a political identity.<sup>14</sup> Third, we perform extensive robustness checks to make sure our results are robust to alternative sample choices, and we report these checks in Panel B of Internet Appendix Table A1. This table shows that the magnitude of the diversity impact on performance is, in fact, larger when dropping teams with all Grey managers, restricting the sample to teams with at least two managers contributing to political parties, or focusing only on teams with at least 50% of managers contributing to political parties. These results

<sup>&</sup>lt;sup>13</sup>Any argument in support of a positive association between the potential misclassification of Grey managers and fund performance would have to simultaneously explain two effects: i) why funds with misclassified managers whose actual views imply higher fund diversity are systematically associated with better fund performance; ii) why funds with misclassified managers whose actual views imply lower fund diversity are systematically associated with worse fund performance.

<sup>&</sup>lt;sup>14</sup>See Table 2 and Panel A of Internet Appendix Table A1.

indicate that, in line with our expectation, measurement error regarding political orientation arising from the lack of donations is not driving our results and, if anything, biases against finding that team diversity relates to performance and decision-making.

In the next step, we construct a variable that reflects the distance in political beliefs between manager i and the rest of the fund's team at time t. Specifically, we compute the normalized Euclidean distance between manager i and the other managers of the fund:

$$Manager-Fund\ Distance_t = \frac{|Mgr\ Rep_i - Fund\ Rep_{-i}|}{2} \tag{2}$$

where  $Fund Rep_{-i}$  is the average value of Mgr Rep among the other fund managers, excluding manager *i*. A Manager-Fund Distance value of zero indicates perfect agreement in political beliefs between the manager and the rest of the team members, while a value of one (the maximum distance) indicates they have complete opposing views.

As a final step, we aggregate *Manager-Fund Distance* at the fund level by taking the average at time t. We compute:

Fund Diversity<sub>t</sub> = 
$$\frac{1}{N} \times \sum_{i=1}^{N} \left( \frac{|Mgr Rep_i - Fund Rep_{-i}|}{2} \right)$$
 (3)

where the sum is calculated across all the team members at time t. In Internet Appendix Table A1 we also aggregate at the fund level by weighting the views of each manager by the ratio of manager's dollar donations to the fund's total dollar donation, and we document that our main results are robust to the use of this alternative weighting measure.

#### 2.3 Summary statistics

Panel A of Table 1 reports the average number of team funds and fund families of our sample over three different sample periods. The number of funds managed by teams grows from 800 during the period 1992-2000 to 3,115 during the period 2010-2016. We observe a similar pattern for the number of fund families, with 178 in the earlier period of our sample and 403 during the latest period.

We report summary statistics for our team diversity variables in Panels B. Fund Diversity is 0.15, on average, and 0.28 in the 75th percentile of the distribution. Manager-Fund Distance is 0.14, on average, and 0.25 in the 75th percentile of the distribution. We compute a similar diversity variable at the state level, where the average is 0.61, suggestive of more heterogeneity at the state level, albeit with a lower standard deviation. Panel C shows that the median number of managers in a team is 3, with 2 in the 25th percentile and 4 in the 75th percentile of the distribution. In the other rows of Panel C, we report the distribution of the control variables used in our regression specifications.

[Insert Table 1 here]

#### 3 Main results

This section examines whether team diversity in terms of political identity is related to fund performance.

#### 3.1 Baseline tests

As a starting point for our analysis, in Table 2, we use calendar-time portfolios to study the performance of politically diverse teams. We divide the funds in our sample into the following six portfolios: i) the portfolio of funds with a value of diversity equal to zero (column (1); ii) four portfolios based on quartiles of diversity computed excluding funds with diversity values equal to zero or one (columns (2) through (5)); and the portfolio of funds with a value of diversity equal to one (column (6)). Next, we regress the time-series of (gross) returns of each portfolio on the Fama-French-Carhart's 4-factor model, and we report the resulting monthly average gross risk-adjusted return. We observe an almost monotonic increase in riskadjusted returns as we move from the low diversity to the high diversity portfolios. The portfolio of funds with zero diversity and the portfolio of funds in the bottom quartile by the distribution of diversity values that exclude zeros and ones are the only two portfolios that display returns that are not statistically different from zero. In addition, their returns are statistically indistinguishable from each other. We observe positive and significant risk-adjusted returns starting from the portfolio in column (3), with the portfolio of funds in the top quartile by the distribution of diversity values that exclude zeros and ones displaying average monthly risk-adjusted returns equal to 0.14%. The portfolio of funds with a value of diversity equal to one shows the highest average monthly alpha, equal to 0.19%, or about 2.3% risk-adjusted returns per year.

In the last three columns of the table, we report the risk-adjusted returns of three long-short portfolios. In the column labelled ((6)-(1)) we construct a portfolio that buys funds in column (6) and sells funds in column (1), thus comparing funds with a diversity value of one and funds with a diversity value of zero. Results show a positive and significant average monthly alpha of 0.15%. In the column labeled ((6)-(2)) we contrast funds with a diversity value of one and funds with the lowest, strictly positive diversity values. The monthly average alpha sums up to 1.7% per year, which indicates that the superior performance of diverse funds survives even excluding the set of funds with zero diversity. Finally, in the last column we exclude funds with a diversity value equal to one, thus comparing funds with the highest diversity values strictly below 1 and funds with zero diversity. We still observe a positive and significant average monthly risk-adjusted return amounting to 1.2% per year. This exercise is important as it shows that the superior performance of diverse funds does not depend upon funds with extreme values of our diversity measure (i.e. *Fund Diversity* = 0 or 1), but it is a feature of the entire distribution of diversity values. Similarly, these results rule out the concern that the outperformance of diverse teams stems solely from the presence in the sample of Grey funds, as our results are robust to excluding funds with zero diversity.<sup>15</sup>

Next, we test whether the outperformance of teams comprised of members with different political identities is robust to a fund-level multivariate regression setting, where we can explicitly control for several other determinants of performance, as well as for time-varying unobservable heterogeneity common to all funds following the same style. Moreover, in this setting we use five different performance measures, thus making sure our results are not specific to any one of them. More in detail, we run the following fund-level regression:

$$R_{it} = \alpha_{st} + \beta \ Fund \ Diversity_{it-1} + \gamma \ X_{it-1} + \epsilon_{it} \tag{4}$$

where the dependent variable  $R_{it}$  is either the gross return of the fund *i*, or the fund's alpha over the CAPM (*Alpha 1F*), the Fama-French 3-factor (*Alpha 3F*), the Fama-French-Carhart's 4-factor (*Alpha 4F*), or the difference between the fund's gross return and the return of the fund's Morningstar benchmark (*Benchmark-Adjusted*), all measured as of month  $t.^{16} X_{it-1}$  is a matrix of fund characteristics, including fund size, expense ratio, load fee, turnover, fund age, and the number of fund managers, all measured at the end of month t - 1. Importantly, we include two variables that control for any systematic difference in performance between funds with a larger proportion of Grey managers and funds with a larger proportion of either Red or Blue managers: i) the fraction of Grey managers in a team; ii) funds total dollar contributions. We also add style-by-time fixed effects ( $\alpha_{st}$ ), which absorb any time-varying differences across styles that may correlate with fund performance. To account for cross-sectional correlation of

<sup>&</sup>lt;sup>15</sup>Nevertheless, we perform several additional tests to rule out potential biases introduced by the presence of Grey managers in our sample in section 3.5.

<sup>&</sup>lt;sup>16</sup>The factors SMB (size factor), HML (book-to-market factor), and WML (momentum factor) are obtained from Kenneth French's website. Morningstar benchmark returns are obtained from Morningstar Direct.

fund returns, we cluster standard errors by time (year-month).<sup>17</sup> Table 3 reports the results. We find that, regardless of the specification used, the coefficient on *Fund Diversity* is positively and significantly related to fund performance.<sup>18</sup>

#### [Insert Table 3 here]

To gain further insight into the economic magnitude of our documented results, in Internet Appendix Table A4 we study the difference in value-added between homogeneous and diverse teams. Following Berk and Van Binsbergen (2015), we compute value-added by multiplying the difference between the gross return of the fund and the return of the fund's corresponding Vanguard index by the total assets under management of the fund at the end of the previous period.<sup>19</sup> We find that teams in the top quartile of diversity generate about \$2.2 million per year in value-added compared to those in the bottom quartile. When looking at the relation between *Fund Diversity* and value-added in a multivariate regression setting, we find that the difference in the value extracted from markets between a homogeneous team and a diverse team is about \$1.8 million per year.

#### 3.2 Demographic and functional diversity

In addition to our metric of ideological diversity based on political views, a growing literature also explores the impact of demographic and functional diversity (e.g., Bar, Kempf, and Ruenzi (2011), Bernile, Bhagwat, and Yonker (2018)). In this section, we test whether our political diversity measure contributes to fund performance above and beyond these other dimensions of diversity.

We use the Teachman's Entropy index based on managers' gender and ethnicity to measure team diversity based on gender and ethnicity. We measure tenure diversity as the standard deviation of managers' tenure, where tenure is the number of years since the manager is recorded in the Morningstar Direct database. Style-experience diversity is the standard deviation of the number of years each fund's manager has worked on a given style. Lastly, we measure functional diversity using the Teachman's Entropy index based on the degree level and field of studies of

<sup>&</sup>lt;sup>17</sup>Our results are robust to different clustering methods, such as clustering by fund, clustering by fund and time, or using Newey-West standard errors in a Fama-Macbeth specification. Table A2, Panel C, in the Internet Appendix, reports our baseline fund performance analysis results when we cluster standard errors by fund and time.

 $<sup>^{18}</sup>$ We find similar results when we repeat the analysis using returns after deducting fees and expenses. The results are presented in Table A3 in the Internet Appendix.

<sup>&</sup>lt;sup>19</sup>Assets under management are inflation-adjusted by expressing them in 2016 dollars.

the manager.<sup>20</sup>

As a first step in the analysis, in Internet Appendix Table A5 we report correlations and regression results examining the relationship between the average political views and other demographic measures. Specifically, we compute the political view of the fund management team by taking the average of Equation (1) across the fund's managers. This variable captures how Republican-leaning is the average member of the team (*Fund Republican Index*). We then compare this variable to *Female Managers*, computed as the fraction of female managers working for a fund at date t; *Non-White Managers*, computed as the proportion of managers working for a fund that is not White/Caucasian; *Average Tenure*, computed as the mean tenure of funds' managers; *Average Style-Experience*, computed as the mean number of years each manager has worked on her fund's style; *Graduate Managers*, computed as the fraction of managers with graduate studies; and *Business Major*, the fraction of managers with a business major.

We find that funds with a greater proportion of male, white/Caucasian, longer-tenured, without a graduate degree, and with a business major are more likely to exhibit Republican views. These results accord well with prior literature and anecdotal evidence and thus provide a point of validation for our measure of funds' political identity. For example, the Pew Research Center (2018) examines demographic differences in Republican and Democratic voters. Consistent with our results, they find, women, African American, Latino, Millennial voters, and college graduates are more likely to identify as Democrats or lean Democratic.

While these results provide a point of verification for our measure of manager political views, they also point to a possible alternative causality. Due to the correlation between manager political views and these other managers' characteristics, our measure of team ideological diversity may proxy for other dimensions of diversity. To determine what role, if any, these other diversity variables play relative to ideological diversity, we rerun our baseline performance analysis (Equation (4)), including alternative diversity variables based on gender, ethnicity, tenure, specialization on a given fund style, and education. The results are presented in Panel A of Table 4.

Overall, the results indicate that using political ideology diversity as the relevant facet of identity matters over functional and demographic diversity measures. Some of the other measures, such as functional diversity and diversity based on managers' experience in an investment style, seem to impact team performance positively. Interestingly, for measures of demographic

 $<sup>^{20}\</sup>mathrm{We}$  provide further details about the construction of these two metrics in the variable descriptions in Appendix A1.

diversity, the results are more mixed: in some specifications, gender diversity negatively affects performance, while ethnicity diversity does not seem to have any significant effect. These results are consistent with Bar, Kempf, and Ruenzi (2011), who construct measures of team diversity based on age, gender, tenure, and education, and find no significant impact of any of the diversity dimensions on the team behavior of portfolio managers. We conclude that none of the demographic and functional diversity measures are as strongly and consistently associated with outperformance as our measure of political identity diversity.

Given these results, a question that might arise is: what makes diversity in political identity superior in predicting performance compared to the other diversity measures? While a complete answer to this question is outside the scope of this paper, we propose a potential explanation. The implicit assumption behind the use of demographic and functional characteristics to study the impact of diversity on team performance is that differences in such characteristics reflect differences in team members' preferences and views (see, e.g., Hambrick and Mason (1984) for a discussion of this assumption). However, characteristics like gender, ethnicity, and education are only imperfect proxies for an individual's views of the world, and thus diversity measures based on such characteristics likely capture with significant error intra-team dispersion in beliefs. On the other hand, political identities provide a more precise reflection of an individual's views. We, therefore, argue that using a diversity metric based on political identities reduces measurement error and allows higher statistical power to study the impact of dispersion in value systems and preferences on performance.

#### 3.3 Political connections

A second plausible alternative explanation for our main results is that fund diversity proxies for a team's political connections. Such political connections could provide a comparative advantage in access to information, which, in turn, might give managers an edge to generate outperformance. The argument is similar, for example, to the one in Cohen, Frazzini, and Malloy (2008), which shows that a manager's social network provides valuable information advantages. In our setting, diverse teams are those in which managers contribute to different political candidates. Thus, these teams might mechanically have a larger network of political connections. If managers benefit from collecting information based on their political identity, they could capitalize on the abnormal returns related to this information, generating higher performance (Grossman and Stiglitz (1976)).

To rule out that the outperformance arises because diverse teams capitalize on their political

network, we rerun our baseline model (4), including variables that control for the intensity of funds' political connections. These variables are: *Fund Candidates*, computed as the total number of unique candidates that received a contribution by the fund's managers in the election cycle; and *Fund Winners*, computed as the total number of unique winning candidates that received a contribution by the fund's managers in the election cycle. Because funds might benefit from their political network by investing in politically connected stocks, where they arguably possess superior information, we also explore the degree of political bias that the fund displays in its holdings. We use the Thomson Reuters mutual fund holdings database to compute the average political views of stocks included in the portfolio of funds in our sample. We measure the political views of fund holdings using the political contributions of the firms' executives. We then add *Holdings Political Similarity*, computed as the Euclidean distance between the average political views of the fund managers and the value-weighted average political views of the fund holdings. Lastly, we also add *Percent Aligned*, computed as the fraction of fund holdings invested in politically aligned stocks, as in Wintoki and Xi (2019).

The results are shown in Panel B of Table 4. While *Holdings Political Similarity* has a positive impact on fund performance in some specifications, our *Fund Diversity* variable remains virtually unchanged. We confirm that across different specifications, the relation between *Fund Diversity* and performance is robust to the inclusion of these additional controls. These results suggest that the outperformance we observe for diverse teams is independent of any additional outperformance they generate through increased political connections on both sides of the aisle.

#### [Insert Table 4 here]

#### 3.4 Fund, family and manager unobserved heterogeneity

While the previous results provide compelling evidence that the performance relation we document is not driven by demographic and functional diversity or political connections of the managers, there may be plausible alternative explanations that we have not explicitly addressed. These alternative explanations can be related to unobserved fund, family, or manager-level heterogeneity.

A first concern is that our main variable *Fund Diversity* might be persistent, and thus crosssectional differences in our variable might be capturing time-invariant heterogeneity across funds. This concern originates from the fact that we use a time-invariant classification of managers' political identity (as detailed in section 2.2), so variation in our *Fund Diversity*  measure comes solely from changes in the composition of the team. To address this concern, we include fund fixed effects in our regressions, and we run the following specification:

$$R_{it} = \alpha_i + \alpha_t + \beta \ Fund \ Diversity_{it-1} + \gamma \ X_{it-1} + \epsilon_{it} \tag{5}$$

where the difference with equation (4) is the substitution of style-time fixed effect with fund and time fixed effects. Results in Panel A of Table 5 show that the positive and significant relation between *Fund Diversity* and performance survives the inclusion of fund fixed effects. Since coefficients are now estimated using within-fund variation, these results indicate that time-invariant fund-level drivers of performance cannot explain the positive impact of *Fund Diversity* on performance.

Given the economics of the asset management industry, family-level unobserved factors are also a relevant concern,<sup>21</sup> thus we add family-by-time fixed effect to our performance analysis of Equation (5) and report results in Panel B of Table 5. The coefficient on *Fund Diversity* remains positive and highly statistically significant, which indicates that our results are not induced by family-level drivers, even if those drivers are unobservable and time-varying.

A potentially more serious concern for the interpretation of our baseline results is that they are driven by unobserved omitted variables at the manager level. For example, managers operating in diverse teams might simply be better managers. In such a case, the higher ability would be the actual driver of the outperformance of diverse funds, rather than the political diversity per se. The richness of our data offers us a powerful way to deal with this concern. To control for unobserved managerial characteristics, we exploit the fact that we observe managers in our sample operating in multiple funds simultaneously, which allows us to hold fixed any factor that changes across managers at any point in time.

Operationally, in this section, we use a manager-fund-date panel, and we run the following regression:

$$R_{imt} = \alpha_i + \alpha_{mt} + \beta_1 \ Manager-Fund \ Distance_{imt-1} + \gamma \ X_{it-1} + \epsilon_{imt} \tag{6}$$

where i indexes fund, m indexes managers, and t indexes time. Manager-Fund Distance is the Euclidean distance between a manager's political beliefs and the average political beliefs of the other managers in the same team. The key element of this regression is the high-dimensional

<sup>&</sup>lt;sup>21</sup>Potential examples of such factors are family-level competitive/cooperative incentives, which are known to predict fund performance (Evans, Prado, and Zambrana (2020)); or the political views of the top executives of a family, which prior work suggests may shape the contribution of lower-level employees (Babenko, Fedaseyeu, and Zhang (2020)).

manager-by-time fixed effects  $\alpha_{mt}$ , which absorb any difference across managers, irrespective of whether they are unobservable and time-varying.  $\alpha_i$  indicate fund fixed effects. The set of controls included in  $X_{it-1}$  is the same as in our baseline regression (4) with the addition of an indicator variable for single-manager funds. Since most managers who serve simultaneously in different teams do that also as solo-managers, we also add these observations to reflect the other extreme of complete ideological agreement (i.e., in a single-manager fund, the manager only needs to agree with him/herself). The results in Table 5 Panel C are compelling. They show that the same manager, at the same time, performs better if she operates in an ideologically diverse team compared to a homogeneous team. These results rule out any alternative explanation based on manager-level heterogeneity.

#### [Insert Table 5 here]

#### 3.5 Additional robustness

Our results that fund diversity is associated with better fund performance survive several additional robustness tests based on alternative sample choices or variations in the baseline measure of political diversity.

We start by studying more closely our classification of Grey managers. The presence of Grey managers poses a concern for our results if, for some reasons and as a group, they are systematically associated with lower performance. It is important to note that those reasons must be different from the simple benefits coming from being a donor as opposed to not donating, such as the value of political connections, as we directly address these alternative explanations by including funds' total dollar contributions as control in all our tests, as well as more extensively in Table 4, Panel B. To deal more generally with the potential biases introduced by Grey managers, in Panel A of Table A1 we start from a different angle: we test whether Grey managers are systematically linked to lower performance compared to donor managers. To do that, we use a calendar portfolio approach. In the first three columns of the table we focus on solo-manager funds, which have zero diversity by definition. In these columns we contrast the portfolio of Grey solo-manager funds with the portfolio of solo-manager funds for which we observe the political donations of the manager. As the third column of the table clearly shows, we do not find any difference in their performance. In the last three columns of the table we perform a similar exercise using team-managed funds. We compare teams fully composed of Grey managers with teams that also have a value of diversity equal to zero, but in which we observe the political donations of at least two managers. Again, we do not

find any difference in the performance of these two portfolios.<sup>22</sup> To sum up, these results provide evidence against the view that Grey managers are systematically associated to lower performance and thus bias our results. Quite the contrary, they indicate that our classification of Grey managers as individuals with no political identity is borne out by the data.

Nonetheless, in Panel B of Table A1 in the Internet Appendix, we further study the sensitivity of our results to the choice of including Grey managers in the computation of *Fund Diversity*. In column (1), we drop funds whose managers are all Grey, i.e., do not make donations to any candidate. In column (2), we restrict the sample to funds with at least two managers donating to political parties. In column (3), we restrict the sample to funds with at least 50% of team members who make political contributions. Across the different columns, the coefficient on *Fund Diversity* remains positive and significant. In fact, in all columns the point estimates of the diversity coefficient grow larger compared to the baseline coefficients of Table 3. For example, the last column indicates that diverse teams (*Fund Diversity* = 1) outperform homogenous teams (*Fund Diversity* = 0) by 1.6% style-adjusted returns per year. We interpret this as supporting our conjecture that if including Grey managers in our diversity metric introduces measurement error, such a measurement error is either inconsequential or biases our estimates toward zero.

In Panel A of Table A2, we study the robustness of our results to variations in the baseline measure of political diversity. In column (1), we use a version of *Fund Diversity* constructed, allowing the political beliefs of managers to vary by political cycle. In column (2), we use a version of *Fund Diversity* constructed weighting the views of each manager by the ratio of manager's dollar donations to fund's total dollar donations. In column (3), we use a version of *Fund Diversity* constructed considering political beliefs only of those who give more than \$2,000 in net contributions and a value of zero to all others. In column (4), we use a version of *Fund Diversity* computed as the standard deviation of political beliefs among the managers of a fund. Regardless of how we define *Fund Diversity*, the results indicate a positive and significant impact of diversity on performance.

In Panel B of Table A2, we restrict the sample to domestic equity funds. This panel clearly shows that our baseline result of a positive impact of *Fund Diversity* on performance does not hinge critically on our inclusion of multiple asset classes in the analysis, but it survives when we focus exclusively on U.S. domiciled equity funds.

Another plausible alternative explanation is that diversity proxies for managerial incentives.

<sup>&</sup>lt;sup>22</sup>The absence of statistical significance for the alphas is unlikely to be due to low statistical power of the test, as many of the loadings on the factors display high statistical significance.

To ensure that managers are not just responding to different explicit incentives provided by the investment advisor, in Table A6, we run our baseline model (4), including fund-level incentive variables. We use the following five manager compensation variables hand collected from each fund's Statement of Additional Information (SAI) filings: *Bonus-fund performance, Bonus-fund revenue*, and *Bonus-paid in fund shares*. Khorana, Servaes, and Wedge (2007) show that manager fund ownership is positively related to performance. Thus, we control for the impact of manager ownership on performance by including the portfolio managers' ownership range data, which rank manager ownership from one to seven, with a higher rank corresponding to higher ownership.<sup>23</sup> Finally, we also use the shape of the fund advisory contract, Cole's incentive rate (CIR) (see Coles, Suay, and Woodbury (2000)). A higher CIR results in higher performance and risk-taking (Massa and Patgiri (2008)). We document that the effect of our *Fund Diversity* variable remains unchanged even after controlling for fund-level differences in the provision of contractual incentives.

#### 4 Potential channels

In this section, to understand the mechanism underlying the outperformance of diverse funds, we first examine the impact of team diversity on how active the fund is in deviating from its benchmark. Because increased active management may proxy for both improved investment decision-making and increased managerial effort, we then separately examine both of these potential alternative mechanisms by looking into more granular portfolio choices and incentives.

#### 4.1 Active management

Active share, first proposed by Cremers and Petajisto (2009), measures how actively a manager deviates from her benchmark. While Cremers and Petajisto (2009) show that higher active share is associated with higher fund performance on average, the exact mechanism for this outperformance is not fully explored in their paper. Considering active share in our context, the two suggested mechanisms through which diversity could generate improved team performance are superior decision-making due to more diverse perspectives and increased effort due to greater monitoring among team members. Under either of these two mechanisms, we would expect a positive effect of diversity on how actively funds manage their portfolios. Thus,

 $<sup>^{23}</sup>$ The SEC requires managers to disclose the value of their fund ownership across 7 ranges: None; \$1-\$10,000; \$10,001-\$50,000; \$50,001-\$1,000,000; \$100,001-\$500,000; \$500,001-\$1,000,000; or more than \$1,000,000.

examining the relationship between portfolio active management measures and team diversity is a natural first test of potential channels through which diversity affects team performance.

In Table 6, column (1) we regress for equity funds active share on *Fund Diversity* and other controls, and we observe that *Fund Diversity* has a strong positive impact on active share. Because tracking error is also commonly used to measure deviations between a fund and its benchmark, we also repeat the analysis with tracking error as the dependent variable across all the funds in our sample. The tracking error is measured as the standard deviation of the residuals obtained from a 36-month rolling window regression of fund performance on the Fama-French-Carhart 4-factor model. Column (2) of Table 6 documents that there is a significant positive relation between *Fund Diversity* and a fund's tracking error. Finally, similar to Amihud and Goyenko (2013) we also calculate across all funds a measure of idiosyncratic variation in the mutual fund portfolio, as the adjusted R-squared obtained from a regression of its returns on the 4-factor benchmark model to determine how much the fund loads on systematic risk. According to Amihud and Goyenko (2013) lower R-squared indicates greater selectivity. In column (2) of Table 6 we observe a significant negative relation between *Fund Diversity* and R-squared.

#### [Insert Table 6 here]

Overall, these results suggest that diverse teams exhibit higher active management. The extant literature argues that higher active management proxies for increased manager effort or superior investment-decision making process. Moreover, because active share tracking error and R-squared are more direct measures of the portfolio construction process, this significant evidence addresses concerns that omitted variables or alternative explanations drive the diversity and performance relation.

#### 4.2 Improved decision-making

The literature on team diversity highlights improved decision-making as a possible mechanism for superior team performance. With different perspectives, information sets and expertise, a diverse team may consider a wider set of possibilities and through considering more dimensions of the analysis make better decisions on that wider set.

While active share, as a performance-enhancing measure of fund manager team deviation from the benchmark, is an indirect test of improved decision-making, we examine a more direct test of this mechanism here. Relying on an important insight from Pollet and Wilson (2008). These authors show that fund managers disproportionately respond to asset growth by increasing their investments in existing positions rather than increasing the number of investments in their portfolios. At the same time, the paper documents that greater diversification leads to higher subsequent performance. Thus, the observed insufficient diversification might explain the well-known negative relation between fund size and fund returns (Chen et al. (2004)). Pollet and Wilson (2008) and Chen et al. (2004) both suggest the underperformance they document is a function of constraints on human capital specifically. Faced with increasing fund size, these manager teams are unable to generate new investment ideas at a sufficient rate. We hypothesize that team ideological diversity may alleviate these constraints, as the addition of a diverse manager to a team is more likely to enrich the information set used by the team to make investment decisions.

To test this hypothesis, we study whether the relation between fund flows and fund diversification is affected by the political diversity of the fund. We use the same regression framework provided by Pollet and Wilson (2008), adding *Fund Diversity*, as well as the interaction between *Fund Diversity* and fund flows. Results are reported in Table 7. Columns (1) and (5) replicate the baseline results of Pollet and Wilson (2008), and document that a 1% increase in Total Net Assets (TNA) raises the number of stocks in a portfolio by about 5%, and leads to an increase in average ownership share of approximately 51%. However, the coefficient of interest is the interaction between *Fund Diversity* and *Fund Flows*. Our results show that politically diverse funds respond to a 1% increase in TNA by raising the number of stocks in their portfolio by an additional 1.3-1.5%. In contrast to this, *Fund Diversity* plays no role in fund scaling decisions in response to fund flows. These results are consistent with the idea that diverse teams benefit from complementary information, perspectives, styles, and insights, which manifest in their ability to better diversify their portfolios in response to the growth in their assets under management.

#### [Insert Table 7 here]

Our second test of the improved decision-making mechanism focuses on the type of stocks selected by diverse and homogenous teams. Specifically, we examine one dimension of stock selection that previous literature suggests may differ across Democratic and Republican-leaning managers: ESG stocks. Hong and Kostovetsky (2012) show that Democratic managers are more likely to hold high ESG stocks, while Republican managers are more likely to hold low ESG or so-called "sin" stocks. The different holdings across these two types of managers are consistent with an implicit or explicit bias regarding certain types of investments. We hypothesize that combining the two different information sets of Democratic and Republican managers in ideologically diverse teams could mitigate their respective biases, thereby extending the fund investment opportunity set, and improving performance.

The ideal setting to test this hypothesis is to compare the ESG choice of the same manager when she operates in two different teams, one fully aligned with her political identity and the other one characterized by diversity in political views. We exploit the granularity of our data again to set up such a test. Specifically, we identify the sub-sample of managers who operate simultaneously in a homogeneous team (i.e., the team shares the same political identity as the fund manager) and a diverse team (i.e., the team has on average a different political identity as the fund manager). We identify managers who operate in both types of funds in the same investment objective for a given period, effectively controlling for investment style and time effects. We also include manager and fund fixed effects to capture systematic differences in managers and funds over time. We then look at the value-weighted ESG scores of these managers across the two settings. Our results are shown in Table 8.

To capture the ESG leanings of fund managers in different settings, we follow Hong and Kostovetsky (2012) in constructing an overall ESG score from the KLD-MSCI rating data. Specifically, we take the sum of the following four KLD ratings: Community Engagement, Workforce Diversity, Employee Relations, and Environment. In addition to the overall ESG score, we also examine each of the four components individually. The two independent variables listed in Table 8, Democ Mgr-Diverse Fund and Repub Mgr-Diverse Fund, capture the differential impact on ESG ratings of a Democratic- or Republican-leaning manager, respectively, when they are part of a diverse fund management team where, on average, the other members have different political leanings (e.g., Republican or Democratic, respectively). In the first column, we see that relative to operating in a homogeneous team, a Democratic manager operating in a diverse or Republican-leaning team has an overall ESG rating that is lower by 0.346. Given the average overall KLD rating is around 4.6, this is approximately a 7.5%decrease in ESG controlling for fund, manager, time, and investment objective effects. Similarly, a Republican-leaning fund manager operating in a diverse team has a 0.320 higher ESG rating relative to operating in a homogeneous team -a 7.0% increase relative to the mean. These results suggest that the bias, first documented by Hong and Kostovetsky (2012), towards high (low) ESG stocks exhibited by Democratic (Republican) inclined managers is mitigated in diverse teams, where they appear to hold a more balanced mix of high and low ESG stocks.

Overall, the two tests in this section provide evidence that the combined perspectives and

information sets of diverse teams are associated with a more representative and diversified portfolio. Combined with the indirect evidence from the active share results, this combined set of results is compelling evidence of the improved decision-making mechanism.

#### [Insert Table 8 here]

#### 4.3 Mutual monitoring and peer pressure

An alternative mechanism for the observed relation between *Fund Diversity* and outperformance is that, in diverse teams, managers exert more effort due to increased monitoring by other team members. The free-rider problem associated with team production proposed by Holmstrom (1982), Kandel and Lazear (1992) suggests that peer pressure can offset free-riding incentives within teams. Specifically, given the inherent unobservability of individuals' contributions by the principal, monitoring is performed by the very members of the team, who mete out punishments to those agents who fail to perform adequately. At the same time, both the broader diversity literature and the finance literature (e.g., Lee, Lee, and Nagarajan (2014)) provide evidence that greater homogeneity in a group or team may result in reduced monitoring. We hypothesize that in more diverse teams, however, the incentive to monitor would be higher.

To test whether increased monitoring is a plausible mechanism for the observed diversity and performance relation, we examine the determinants of manager promotion and demotion decisions. Similar to the demotion analysis of Chevalier and Ellison (1999), in this section, we examine how the probability of being both demoted and promoted within the fund family is affected by a manager's past performance and the distance between a manager's political beliefs and the average political beliefs of other managers in the fund.

We employ the same dataset at the manager-fund-date level that we use to estimate equation (6) to run the following regression:

$$Y_{mt} = \alpha_i + \alpha_m + \alpha_t + \beta_1 \ Manager \ Performance_{mt-1} + \beta_2 \ Manager-Fund \ Distance_{imt-1} + \beta_3 Manager \ Performance_{mt-1} \times Manager-Fund \ Distance_{mt-1} + \gamma \ X_{imt-1} + \epsilon_{imt}$$
(7)

Here *i* indexes fund, *m* indexes managers, and *t* indexes time. In the first set of specifications, the dependent variable  $Y_{mt}$  equals one if a given manager *m* is promoted in month *t*, or 0 otherwise. The second set of specifications examines manager demotions using a similar setup. We define a promotion (demotion) as an increase (decrease) in both the number of funds and total assets under management (AUM) overseen by the portfolio manager. Manager Performance is measured as the value-weighted average of the past 36-month style-adjusted gross returns across all funds in which the manager operates, where the weights are computed as the portion of fund AUM attributed to the manager. Since both the dependent variables and Manager Performance change at the manager-time level, we cannot include manager-by-time fixed effects as in Equation (6) because they would absorb all the relevant variation. Thus, we include fund fixed effects ( $\alpha_i$ ), time fixed effects ( $\alpha_t$ ), and manager fixed effects ( $\alpha_m$ ). The set of covariates is the same as in Table 3. Using this specification, we compare the promotion and demotion decisions of portfolio managers when they work with team members with similar beliefs compared to a situation when they work with colleagues with different political beliefs. Table 9 present the results.

As expected, manager promotions (demotions) are positively (negatively) related to past performance. At the same time, while we expect promotions and demotions to be driven by good and bad manager performance, respectively, the mutual monitoring hypothesis predicts that the greater the ideological differences between the manager and the funds where she operates, the greater the monitoring. Consistent with such a hypothesis, in the promotion regressions, we find that the coefficient on the interaction term between *Fund Diversity* and *Manager Performance* is positive and significant, indicating a higher sensitivity of promotions to performance when the distance between the manager's political view and that of other team members is greater. Similarly, in the demotion regressions, the point estimate on the interaction term is negative and significant, consistent with higher sensitivity of demotions to performance.

#### [Insert Table 9 here]

Overall, these results suggest that career incentives are enhanced in ideologically diverse teams, where promotion and demotion decisions are more sensitive to objective measures like performance. In turn, stronger career incentives might elicit additional managers' efforts, leading to increased fund performance.

#### 5 Political polarization

In this section, we study the within-team conflicts that may arise from negative identity priming due to increased political polarization.

#### 5.1 Performance and state level political polarization

on average diversity in political identity is beneficial for fund performance. Diverse teams benefit from both larger information sets and enhanced monitoring within teams. However, the literature on identity suggests that when differences in identity become more salient, diversity may also have a detrimental effect on team performance. Such negative consequences arise since diversity might exacerbate conflicts among team members and disrupt the team's decisionmaking process. (see e.g., Jehn, Northcraft, and Neale (1999), Ely and Thomas (2001), De Dreu and Weingart (2003)).

In this section, we use measures of state-level political polarization as a proxy for the priming of differences in identity across team members and examine how it affects team performance. Using this cross-sectional and time-series variation in political polarization, we are able to examine the potential tradeoffs between the value-added from incorporating diverse perspectives and the conflicts raised due to greater perceived differences in identity.

Our measure of state-level political polarization comes from Shor and McCarty (2011). They measure the average distance between the median ideology of Republican and Democratic parties in the House and the Senate using state legislative roll call data. To determine if polarization influences the relation between team ideological diversity and performance, we rerun our baseline analysis (Equation (4)) on two subsamples characterized by low and high levels of polarization. In Table 10, we split our sample into Panel A (below-median) and Panel B (above-median) polarization periods in the state where management companies are headquartered.<sup>24</sup>

Across performance measures, the benefits of diversity appear to be concentrated in times of low polarization. In times of high polarization, the potentially more salient differences in political identity seem to reduce its benefits significantly, as the effect of *Fund Diversity* on performance becomes much weaker.

#### [Insert Table 10 here]

We also revisit our evidence of improved decision-making in more diverse teams controlling for our proxy of differences in political identity priming. Using the same setting, we repeat the analysis of Section 4.1 splitting the sample into times of low and high polarization. Table 11 finds results consistent with a paralysis of the decision-making process due to heightened conflicts within diverse teams. We find that the significant relationship between diversity and

 $<sup>^{24}</sup>$ There is a total of 304 (402) management companies in 16 (20) different states with low (high) levels of polarization at some point during our sample period.

active management is only present in times of low polarization. In times of high polarization, ideological diversity is not statistically significantly associated with more active portfolio construction.

#### [Insert Table 11 here]

To sum up, in this section, we uncover evidence of the potential costs of team diversity. Differences in political identities may cause teams to be more prone to conflicts, especially in polarized times, and this may negatively affect intra-team communication and decisionmaking.<sup>25</sup>

It is worth noting that, in addition to the importance of this result in characterizing the potential downsides of diversity, the results in this section also lend credence to our interpretation of the results of the paper. Evidence that the relation between *Fund Diversity*, performance, and active management is sensitive to the degree of political polarization suggests that our results in Table 3 and Table 6 are driven by differences in *political* identity.

#### 6 Bargaining power and supply of diversity

Given the potential of diverse teams to add value in the asset management industry, there is an important final question: why aren't all asset management teams ideologically diverse? In this section, we explore two potential constraints facing asset management companies that may explain the prevalence of more homogeneous teams: entrenched managers and local labor supply.

#### 6.1 Bargaining power and entrenchment

One plausible determinant of the observed homogeneity in fund manager teams is manager entrenchment if managers have a strong preference to be in a like-minded group. Being in a homogeneous team offers managers important advantages. The similarity-attraction paradigm of Byrne (1971) suggests that individuals are attracted to others who are similar to themselves and gain utility from working with like-minded colleagues. Consistent with this view, Wiersema and Bird (1993) show that heterogeneous teams are the most likely to have higher turnover rates. Moreover, being in a homogeneous team relaxes the incentives to monitor each other and might make communication and decision-making easier (Jehn, Northcraft, and Neale (1999)).

<sup>&</sup>lt;sup>25</sup>Results in this section are virtually unchanged when we use country-wide variation in political polarization using the Partisan Conflict Index provided by the Federal Reserve Bank of Philadelphia, which tracks the degree of political disagreement among U.S. politicians at the federal level as measured by the frequency of newspaper articles reporting disagreement in a given month.

If a team's composition is the product of bargaining between the asset management firm and the individual portfolio manager, individuals with high bargaining power may be more likely to surround themselves with like-minded managers. To test this, we regress our measure of team diversity on variables reflecting fund managers' bargaining power within the fund. The first measure of bargaining power uses the dollar value (\$ million) of the assets controlled by the manager (*Manager AUM*). For a given fund-date observation, this variable reflects the AUM of the manager who oversees the greatest dollar value of assets across all funds overseen. Our second measure uses the tenure of the manager (*Manager Tenure*). For a given fund-date observation, this variable reflects the manager's tenure who has worked in the mutual fund industry for the highest number of years.

Table 12 provides evidence consistent with the entrenchment hypothesis. Managers with greater bargaining power as measure by more assets under management or longer tenure, are more likely to manage funds with less ideologically diverse teams.<sup>26</sup>

[Insert Table 12 here]

#### 6.2 Local labor supply of ideologically diverse managers

Our second possible explanation relies on exogenous constraints imposed by a limited local supply of ideologically diverse managers. To determine whether a labor supply that is not perfectly elastic could partially explain why we observe homogeneous teams, we construct a state-level diversity measure akin to our main fund-level dispersion variable. Then, we relate this variable to the diversity of the funds headquartered in that state. *State-Level Diversity* is computed as the average Euclidean distance among all donors in a state based on their political identities. The assumption underlying the use of this state-level variable is that the state where funds are headquartered constitutes the most relevant labor market for the management companies. Columns (3) and (6) of Table 12 show that *State-Level Diversity* is positively and significantly related to *Fund Diversity*, which suggests that a limited supply of diverse managers at the state level plays a role in determining the degree of diversity observed in the funds in our sample.

<sup>&</sup>lt;sup>26</sup>Note that to make sure our results are not driven by a manager's potential preference for solo-managing a fund, we exclude single-managed funds in our analysis.

#### 7 Conclusion

In this paper, we examine the impact of team diversity on performance through the lens of identity for a sample of about 2,500 U.S. mutual fund managers from 1992 to 2016. Using fund manager political donations to characterize their political identity, we find that teams composed of money managers with different political identities outperform homogeneous teams by 0.3% annualized or 54% of the average benchmark-adjusted return in our sample. In terms of value-added, this corresponds to a difference of about to \$2 million per year between homogenous and heterogeneous teams. These results are robust to adding fund, investment advisor, and manager-by-time fixed effects. Thus, we confirm that a manager in a team composed of members with differing political convictions generates higher value than her performance in another team with like-minded members.

We also provide evidence that the result is not driven by other dimensions of identity (i.e., gender, ethnicity, tenure, experience on a given fund style and education), manager political connections, or managerial compensation incentives. In trying to assess the mechanism for this observed outperformance, we find evidence of both improved decision-making due to combining different information sets and increased monitoring associated with more diverse teams.

While our evidence suggests a realization of the potential complementarities of diverse teams –namely improved decision-making through incorporating different perspectives and information sets– we are also mindful that team composed of individuals with differing identities may negatively affect performance if those differences become more salient. Using a measure of political polarization as a plausibly exogenous "priming" shock to political identity and the associated within-team conflicts, we find that polarization has a significant limiting effect of team diversity on performance. Moreover, consistent with reduced ability to reach consensus, portfolios managed by heterogeneous teams become less active in politically polarized times.

In examining why less diverse teams are prevalent in asset management, we find entrenched managers prefer homogeneous teams, and the local labor market supply of ideologically diverse managers is constrained. These results shed light on how team composition can influence productivity, and they highlight the importance of diverse perspectives as a fundamental driver of human behavior within teams.

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# Table 1: Summary Statistics

Panel A of the table reports the average number of team funds and fund families of our sample over three different sample periods. Panel B, C report summary statistics for our fund diversity variables and fund characteristics for the sample, respectively. The sample period runs from 1992 through 2016. A complete list of definitions for these variables is provided in the Data appendix.

	1992 - 2	000	2000 -	2000 - 2010			
Team Funds Fund Families	800 178			2905 392			
Panel B: Diversity Variables	3						
	Obs.	Mean	Std. Dev.	25%	50%	75%	
Fund Diversity	589, 316	0.15	0.19	0.00	0.00	0.28	
Manager-Fund Distance	2,359,246	0.14	0.20	0.00	0.00	0.25	
State Diversity	589,316	0.61	0.05	0.58	0.61	0.63	
Panel C: Other Variables							
	Obs.	Mean	Std. Dev.	25%	50%	75%	
Size (log TNA)	589,316	5.77	2.17	4.35	5.86	7.30	
Expense Ratio	589,316	0.01	0.01	0.01	0.01	0.01	
Load Fee	589,316	0.04	0.04	0.01	0.03	0.08	
Turnover	589,316	0.97	1.12	0.34	0.64	1.14	
Fund Age (log)	589,316	2.25	0.84	1.73	2.34	2.82	
Fund Managers	589,316	3.51	2.51	2.00	3.00	4.00	

# Table 2: Team Diversity and Fund Performance: Calendar Portfolios

This table presents risk-adjusted monthly portfolio returns for different portfolios of funds. Fund returns are calculated before (gross) deducting fees and expenses. We report the risk-adjusted monthly returns of six portfolios: i) portfolio of funds with zero diversity (column (1)); ii) four portfolios based on quartiles of diversity computed excluding funds with diversity equal to zero or one (columns (2) through (5)); portfolio of funds with diversity equal to one (column (6)). We also report: the risk-adjusted monthly returns of the portfolio that buys funds with diversity equal to one and sells funds with zero diversity (column ((6)-(1))); the monthly returns of the portfolio that buys funds with diversity equal to one and sells funds in the bottom quartile by the distribution of diversity values that exclude zeros and ones (column ((6)-(2))); the monthly returns of the portfolio that buys funds with diversity values that exclude zeros and ones and sells funds in the bottom quartile by the distribution of diversity (column ((5)-(1))). We calculate the average portfolio return across funds in each month by equal-weighting funds in a portfolio. *t*-statistics based on robust standard errors are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

	D=0	Q1	Q2	Q3	Q4	D=1		Difference	
	(1)	(2)	(3)	(4)	(5)	(6)	(6)-(1)	(6)-(2)	(5)-(1)
Alpha	0.037	0.052	$0.086^{*}$	$0.076^{*}$	$0.135^{*}$	$0.191^{**}$	$0.154^{**}$	0.139**	0.099**
	(0.74)	(1.05)	(1.80)	(1.71)	(1.85)	(2.36)	(2.34)	(2.09)	(1.99)
MKT	$0.698^{***}$	$0.753^{***}$	$0.703^{***}$	$0.722^{***}$	$0.722^{***}$	$0.659^{***}$	-0.039**	-0.093***	0.024
	(42.74)	(46.95)	(43.01)	(49.82)	(31.21)	(28.61)	(-2.00)	(-5.05)	(1.65)
SBM	$0.118^{***}$	$0.146^{***}$	$0.106^{***}$	$0.140^{***}$	0.096***	$0.131^{***}$	0.013	-0.015	-0.023
	(7.62)	(7.51)	(6.12)	(9.08)	(3.44)	(5.91)	(0.67)	(-0.66)	(-1.06)
HML	$0.054^{**}$	0.030	$0.042^{*}$	0.044**	$0.162^{***}$	0.031	-0.023	0.001	0.108***
	(2.55)	(1.36)	(1.93)	(2.16)	(4.66)	(1.02)	(-1.02)	(0.04)	(4.90)
WML	-0.006	0.006	-0.019	-0.007	-0.039**	0.021	$0.026^{*}$	0.015	-0.034**
	(-0.48)	(0.45)	(-1.45)	(-0.63)	(-2.48)	(1.32)	(1.83)	(1.00)	(-2.38)
N. Months	300	300	300	300	300	300	300	300	300
N. Funds	1,043	258	243	249	216	64	1,107	322	1,259
Adjusted $r^2$	0.943	0.948	0.948	0.956	0.873	0.836	0.040	0.131	0.208

# Table 3: Team Diversity and Fund Performance

This table reports results from regressions of fund monthly performance variables on *Fund Diversity* and other fund characteristics lagged one month. Fund returns are calculated before (gross) deducting fees and expenses. These returns are also adjusted using the CAPM model (Alpha 1F), the Fama-French model (Alpha 3F), the Carhart model (Alpha 4F), or computed as the difference between the fund gross return and the return of the fund benchmark, as provided by Morningstar. *Fund Diversity* is computed as the average Euclidean distance among all managers of a fund based on the political beliefs of managers, as described in section 2.2. *t*-statistics based on standard errors clustered by time (year-month) are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively. A complete list of definitions for these variables is provided in the Data appendix.

	Gross Return	Alpha 1F	Alpha 3F	Alpha 4F	Benchmark-Adjusted
Fund Diversity	0.109***	0.107***	0.075***	0.066***	0.086***
U U	(4.05)	(5.30)	(4.78)	(4.44)	(4.03)
Size (log TNA)	-0.031***	-0.011***	-0.003	-0.006**	-0.006*
	(-2.67)	(-2.64)	(-0.87)	(-2.03)	(-1.84)
Expense Ratio	4.714	$3.238^{*}$	$3.441^{***}$	$2.008^{*}$	3.190
	(1.56)	(1.79)	(2.70)	(1.72)	(1.56)
Load Fee	0.354	$0.260^{**}$	$0.175^{**}$	0.229***	0.100
	(1.47)	(2.39)	(2.25)	(3.02)	(0.95)
Turnover	-0.014	-0.000	-0.002	-0.006	-0.002
	(-1.37)	(-0.01)	(-0.28)	(-1.22)	(-0.32)
Fund Age (log)	$0.032^{*}$	-0.019**	-0.030***	-0.034***	-0.018***
,	(1.67)	(-2.17)	(-4.18)	(-4.49)	(-2.84)
Fund Managers (log)	0.014	0.003	0.005	0.007	0.005
	(0.97)	(0.36)	(0.62)	(1.01)	(0.50)
Grey Managers	-0.007	0.018	0.005	0.004	0.012
	(-0.46)	(1.52)	(0.49)	(0.45)	(0.99)
Fund Contributions	0.006***	$0.005^{**}$	0.005***	0.005***	0.004**
	(2.72)	(2.55)	(3.10)	(3.30)	(2.03)
Style x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	589,316	589,316	589,316	589,316	589,316
Adjusted $r^2$	0.109	0.067	0.069	0.067	0.023

# Table 4: Team Diversity and Performance - Alternative Explanations

This table reports results from regressions of fund performance variables on *Fund Diversity* and other fund characteristics lagged one month. Panel A includes demographic and functional diversity variables as: *Gender Diversity*, computed using the Teachman's Entropy index based on managers' gender; *Ethnicity Diversity*, using the Teachman's Entropy index based on managers' ethnic groups; *Tenure Diversity*, the standard deviation of tenure of a fund's managers; *Style-Experience Diversity*, the standard deviation of the number of years each fund's manager has worked on a given style; *Functional Diversity - Degree*, the Teachman's Entropy index based on managers' degree level; *Functional Diversity - Major*, the Teachman's Entropy index based on managers' major of studies. In Panel B, we include variables to control for political connections. *Fund Candidates*, the total number of unique candidates that received a contribution from the fund's managers; *Fund Winners*, the total number of unique winning candidates that received a contribution by the fund's managers; *Holdings Political Similarity*, the Euclidean distance between the average political views of the fund managers and the average political views of the fund holdings; *Percent Aligned*, the fraction of fund holdings invested in politically aligned stocks (Wintoki and Xi (2018)). *t*-statistics based on standard errors clustered by time (year-month) are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

	Gross Return	Alpha 1F	Alpha 3F	Alpha $4F$	Benchmark-Adjusted
Fund Diversity	$0.114^{***}$	0.111***	0.076***	0.067***	0.096***
u u	(4.13)	(5.32)	(4.69)	(4.39)	(4.38)
Gender Diversity	-0.012	-0.006	-0.009***	-0.009***	-0.002
·	(-1.63)	(-1.42)	(-2.67)	(-2.79)	(-0.52)
Ethnicity Diversity	0.000	0.005	0.001	-0.015	0.003
	(0.01)	(0.35)	(0.08)	(-1.49)	(0.20)
Tenure Diversity	0.002	0.002	0.009	0.005	-0.008
	(0.13)	(0.19)	(1.06)	(0.66)	(-0.54)
Style-Experience Diversity	0.009***	$0.005^{**}$	0.002	0.002	0.005
	(3.09)	(2.00)	(0.90)	(1.34)	(1.60)
Functional Diversity - Degree	0.005	-0.004	-0.006	-0.001	0.002
	(0.33)	(-0.36)	(-0.68)	(-0.08)	(0.13)
Functional Diversity - Major	0.036	$0.023^{*}$	$0.019^{*}$	$0.022^{**}$	0.037***
	(1.63)	(1.93)	(1.89)	(2.52)	(2.76)
Controls	Yes	Yes	Yes	Yes	Yes
Style x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	561,276	561,276	561,276	561,276	561,276
Adjusted $r^2$	0.110	0.069	0.072	0.069	0.023

### Panel A: Demographic and Functional Diversity

### Panel B: Political Connections

	Gross Return	Alpha 1F	Alpha 3F	Alpha $4F$	Bechmark-Adjusted
Fund Diversity	0.123***	0.125***	0.088***	0.074***	0.099***
	(3.90)	(6.01)	(5.50)	(4.81)	(4.52)
Fund Candidates	0.022	0.011	-0.012	-0.029	-0.047
	(0.41)	(0.25)	(-0.35)	(-0.87)	(-1.13)
Fund Winners	-0.069	-0.032	0.015	0.043	0.093
	(-0.71)	(-0.45)	(0.25)	(0.79)	(1.38)
Holdings Political Similarity	0.038	$0.042^{***}$	$0.034^{***}$	0.029***	$0.041^{***}$
	(0.98)	(3.81)	(3.27)	(2.90)	(4.16)
Percent Aligned	-0.001	0.001	0.000	-0.002	-0.003
	(-0.13)	(0.25)	(0.13)	(-1.22)	(-1.01)
Controls	Yes	Yes	Yes	Yes	Yes
Style x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	589,316	589,316	589,316	589,316	589,316
Adjusted $r^2$	0.109	0.067	0.069	0.067	0.023

# Table 5: Team Diversity and Performance - Fixed-Effects

This table reports results from regressions of fund performance variables on *Fund Diversity* and other fund characteristics lagged one month. Fund returns are calculated before (gross) deducting fees and expenses. These returns are also adjusted using the CAPM model (Alpha 1F), the Fama-French model (Alpha 3F), the Carhart model (Alpha 4F), or computed as the difference between the fund gross return and the return of the fund benchmark, as provided by Morningstar. In Panel A, we run specification (5), which includes fund and time fixed effects. In Panel B, we add family-by-time fixed effects to equation (5). Panel C reports results from regressions of fund performance variables on *Manager-Fund Distance* and other fund characteristics lagged one month. *Manager-Fund Distance* is computed as the Euclidean distance between a manager's political beliefs and the average political beliefs of the other managers of the same fund. We add manager-by-time fixed effects and fund fixed effects. *t*-statistics based on standard errors clustered by time (year-month) are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively. A complete list of definitions for these variables is provided in the Data appendix.

	Gross Return	Alpha 1F	Alpha 3F	Alpha 4F	Bechmark-Adjusted
Fund Diversity	$0.196^{***}$ (2.82)	$0.185^{***}$ (4.53)	$0.146^{***}$ (5.63)	$0.133^{***} \\ (5.25)$	$\begin{array}{c} 0.141^{***} \\ (4.43) \end{array}$
Controls	Yes	Yes	Yes	Yes	Yes
Fund FE	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes
Observations	589,215	589,215	589,215	589,215	589,215
Adjusted $r^2$	0.081	0.033	0.040	0.043	0.023

### Panel B: Family Fixed Effects

	Gross Return	Alpha 1F	Alpha 3F	Alpha 4F	Bechmark-Adjusted
Fund Diversity	$0.173^{**}$ (1.97)	$0.167^{***}$ (3.64)	$0.146^{***}$ (5.17)	$0.130^{***}$ (4.73)	$0.147^{***}$ (4.56)
Controls	Yes	Yes	Yes	Yes	Yes
Fund FE	Yes	Yes	Yes	Yes	Yes
Family x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	589,096	589,096	589,096	589,096	589,096
Adjusted $r^2$	0.082	0.049	0.060	0.063	0.048

### Panel C: Manager Fixed Effects

	Gross Return	Alpha 1F	Alpha 3F	Alpha 4F	Bechmark-Adjusted
Manager-Fund Distance	0.116*	0.083***	0.084***	0.073***	$0.045^{*}$
	(1.77)	(3.34)	(4.32)	(3.74)	(1.90)
Sole Manager Fund	0.043	0.020	0.019	0.022	-0.000
	(1.21)	(1.31)	(1.37)	(1.60)	(-0.02)
Controls	Yes	Yes	Yes	Yes	Yes
Fund FE	Yes	Yes	Yes	Yes	Yes
Manager x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	2,359,246	2,359,246	2,359,246	2,359,246	2,359,246
Adjusted $r^2$	0.089	0.077	0.091	0.092	0.058

### Table 6: Team Diversity and Active Management

This table reports results from regressions of active management variables on Fund Diversity and other fund characteristics lagged one month. Fund Diversity is computed as the average Euclidean distance among all managers of a fund based on the political beliefs of managers, as described in section 2.2. Activeness variables are Active Share and Tracking Error, computed as in Cremers and Petajisto (2009), as well as  $R^2$ , computed as in Amihud and Goyenko (2013). The results reported for Active Share are based on the sample obtained from Martijn Cremers website and use quarterly observations. The list of controls is the same as in our baseline Table 3. t-statistics based on standard errors clustered by fund are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

	Active Share	Holding-based Variables Tracking Error	$R^2$
Fund Diversity	0.051***	0.092***	-0.014*
	(3.92)	(2.69)	(-1.80)
Size (log TNA)	-0.003***	-0.005	0.003***
	(-2.60)	(-1.47)	(3.90)
Expense Ratio	7.184***	23.603***	0.573
	(11.01)	(15.24)	(1.38)
Turnover	-0.001	0.037***	-0.017***
	(-0.36)	(6.36)	(-10.63)
Fund Age (log)	0.002	-0.091***	0.018***
	(0.56)	(-10.26)	(8.50)
Fund Managers (log)	-0.047***	-0.091***	0.008**
	(-7.52)	(-6.27)	(2.44)
Grey Managers	0.010	-0.051***	-0.006
	(1.33)	(-2.61)	(-1.27)
Fund Contributions	0.000	-0.003	0.000
	(0.04)	(-0.98)	(0.31)
Style x Time FE	Yes	Yes	Yes
Observations	84,032	$589,\!650$	$589,\!650$
Adjusted $r^2$	0.355	0.721	0.814

### Table 7: Portfolio Diversification and Scaling

This table reports results from regressions of log growth rate in the number of stocks and the annual change in the portfolio weighted log ownership share on *fund Flows*, *Fund Diversity*, and other fund characteristics lagged one month. *Fund Flows* is defined as the difference between the log growth rate for TNA and the log return for the fund between year t-1 and t. *Fund Diversity* is computed as the average Euclidean distance among all managers of a fund based on the political beliefs of managers, as described in section 2.2. The dependent variable is either the change in log number of stocks from year t-1 to t for fund i ( $\Delta$  LogS, in columns (1) through (4)) or the change in portfolio-weighted average log ownership share from year t-1 to t for fund i ( $\Delta$  LogOwn, in columns (5) through (8)). The list of controls is the same as in our baseline Table 3. We also include the interaction between all our controls and *Fuows*. *t*-statistics based on standard errors clustered by fund are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively. A complete list of definitions for these variables is provided in the Data appendix.

		$\Delta$ I	$\log S$		$\Delta$ LogOwn			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Flows	0.056***	0.056***	0.056***	0.049***	0.512***	0.512***	0.518***	0.478***
	(6.33)	(6.33)	(6.58)	(5.86)	(11.70)	(11.70)	(11.97)	(11.41)
Fund Diversity		0.009	0.009	0.007	. ,	$0.040^{*}$	$0.043^{*}$	0.036
		(0.97)	(1.02)	(0.64)		(1.80)	(1.91)	(1.45)
Flows $\times$ Fund Diversity		$0.015^{**}$	$0.013^{**}$	$0.015^{**}$		-0.017	-0.019	-0.015
		(2.28)	(2.11)	(2.27)		(-0.59)	(-0.65)	(-0.55)
Controls Interacted	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes			Yes	Yes		
Style x Time FE			Yes	Yes			Yes	Yes
Family FE				Yes				Yes
Observations	276,612	276,612	276,612	$276,\!612$	276,612	276,612	$276,\!612$	276,612
Adjusted $r^2$	0.020	0.020	0.051	0.072	0.091	0.091	0.116	0.141

### Table 8: Team Diversity and ESG Scores

This table examines a matched sample of managers in both homogeneous (the team has the same political ideology as the fund manager as measured by campaign contributions) and diverse teams (the team has a different ideology than the manager). First, we identify managers who only donate to Democratic and Republican candidates. Next, we identify the subset of managers who operate simultaneously in homogeneous and diverse teams in two different funds in the same investment objective at the same time. Then, value-weighted portfolio-level KLD-MSCI scores are calculated. The ratings analyzed include Community Engagement, Workforce Diversity, Employee Relations, Environment, and an overall KLD score consisting of the sum of the four. Finally, these ratings are regressed on an indicator variable for Democratic (*Democ Mgr-Diverse Fund*) and Republican managers (*Repub Mgr-Diverse Fund*) operating in diverse teams (i.e., Republican and Democratic teams, respectively). Manager and fund fixed effects are included. t-statistics based on standard errors clustered by manager and time (year-month) are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

	Overall KLD Ratings	Community	Diversity	Employ. Relat.	Environment
Democ Mgr-Diverse Fund	-0.346***	-0.032**	-0.078	-0.103	-0.132**
	(-2.67)	(-2.10)	(-1.53)	(-1.53)	(-2.08)
Repub Mgr-Diverse Fund	$0.320^{*}$	0.021	0.075	0.084	0.139
	(1.89)	(1.06)	(1.11)	(1.35)	(1.59)
Manager FE	Yes	Yes	Yes	Yes	Yes
Fund FE	Yes	Yes	Yes	Yes	Yes
Observations	27,760	27,760	27,760	27,760	27,760
Adjusted $r^2$	0.789	0.689	0.865	0.597	0.618

# Table 9: Team Monitoring

This table reports results from regressions of portfolio manager promotions and demotions on performance, diversity, and other fund characteristics lagged one month. The dependent variable promotion (demotion) is a dummy variable that equals one if a portfolio manager increases (decreases) both the number of funds and total assets under management (AUM) in the next month. *Manager Performance* is measured as the value-weighted average of the 36 past months style-adjusted gross returns across all funds in which the manager operates, where the weights are computed as the portion of a fund AUM attributed to the manager. *Manager-Fund Distance* is computed as the Euclidean distance between a manager's political beliefs and the average political beliefs of the other managers in the fund. The list of controls is the same as in our baseline Table 3. *t*-statistics based on standard errors clustered by fund are shown in parentheses. \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level.

	Prom	notion	Dem	otion
	(1)	(2)	(3)	(4)
Manager Performance	0.234***	0.228***	-0.149***	-0.148***
	(8.18)	(7.95)	(-6.88)	(-6.79)
Manager-Fund Distance	-0.016	-0.017	0.023	0.078
-	(-0.12)	(-0.13)	(0.19)	(0.66)
Manager Performance $\times$ Manager-Fund Distance	$0.370^{***}$	$0.357^{***}$	-0.183**	-0.176**
	(3.03)	(2.94)	(-2.16)	(-2.09)
Controls		Yes		Yes
Manager FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Fund FE	Yes	Yes	Yes	Yes
Observations	2,359,246	2,359,246	2,359,246	2,359,246
Adjusted- $r^2$	0.072	0.072	0.035	0.035

# Table 10: Team Diversity and Performance - The Impact of Polarization

This table reports results from regressions of fund performance variables on *Fund Diversity* and other fund characteristics lagged one month. *Fund Diversity* is computed as the average Euclidean distance among all managers of a fund based on the political beliefs of managers, as described in section 2.2. We split our sample into low (Panel A) and high polarization periods (Panel B) in the state where management companies are headquartered. *Polarization* is computed as the average distance in the ideology of the House and the Senate for a given state, using the data made available by Shor and McCarty (2011). We define low and high values of *Polarization* using the median of the *Polarization* variable in the current year. *t*-statistics based on standard errors clustered by time (year-month) are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

Panel	A:	Low	Polarization	Sample
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	Gross Return	Alpha 1F	Alpha 3F	Alpha 4F	Bechmark-Adjusted
Fund Diversity	$0.145^{***}$ (3.26)	$0.133^{***}$ (4.45)	$0.103^{***}$ (4.63)	$0.081^{***}$ (3.72)	$0.097^{***}$ (3.62)
Controls	Yes	Yes	Yes	Yes	Yes
Style x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	284,925	284,925	284,925	284,925	284,925
Adjusted $r^2$	0.110	0.061	0.061	0.058	0.021

### Panel B: High Polarization Sample

	Gross Return	Alpha 1F	Alpha 3F	Alpha 4F	Bechmark-Adjusted
Fund Diversity	$0.051 \\ (1.00)$	$0.065^{**}$ (2.31)	0.041 (1.53)	$0.044^{*}$ (1.92)	$0.072^{**}$ (2.01)
Controls	Yes	Yes	Yes	Yes	Yes
Style x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	274,175	$274,\!175$	$274,\!175$	274,175	274,175
Adjusted $r^2$	0.103	0.071	0.076	0.075	0.023

### Table 11: Team Diversity and Active Management - The Impact of Polarization

This table reports results from regressions of active management variables on *Fund Diversity* and other fund characteristics lagged one month. *Fund Diversity* is computed as the average Euclidean distance among all managers of a fund based on the political beliefs of managers, as described in section 2.2. Activeness variables are *Active Share* and *Tracking Error*, computed as in Cremers and Petajisto (2009), as well as  $R^2$ , computed as in Amihud and Goyenko (2013). The results reported for Active Share are based on the sample obtained from Martijn Cremers website using quarterly observations. We split our sample into low (Panel A) and high polarization periods (Panel B) in the state where management companies are headquartered. *Polarization* is computed as the average distance in the ideology of the House and the Senate for a given state, using the data made available by Shor and McCarty (2011). We define low and high values of *Polarization* using the median of the *Polarization* variable in the current year. The list of controls is the same as in our baseline Table 3. *t*-statistics based on standard errors clustered by fund are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

### Panel A: Low Polarization Sample

Active Share	Holding-based Variables Tracking Error	$R^2$
$0.053^{***}$ (3.13)	$0.142^{***}$ (3.16)	-0.030*** (-2.86)
Yes Yes 38,312	Yes Yes 277,712	Yes Yes 277,712 0.82
	0.053*** (3.13) Yes Yes	Active Share         Tracking Error           0.053***         0.142***           (3.13)         (3.16)           Yes         Yes           Yes         Yes           38,312         277,712

### Panel B: High Polarization Sample

	Active Share	Holding-based Variables Tracking Error	$R^2$
Fund Diversity	0.012 (0.65)	-0.003 (-0.06)	$0.004 \\ (0.32)$
Controls Style x Time FE Observations Adjusted $r^2$	Yes Yes 39,387 0.61	Yes Yes 269,187 0.74	Yes Yes 269,187 0.83

# Table 12: Bargaining Power and Supply of Diversity

This table reports results from regressions of *Fund Diversity*, on variables reflecting fund managers' bargaining power within the fund, as well as a state-level supply of individuals with different political views. *Fund Diversity* is computed as the average Euclidean distance among all managers of a fund based on the political beliefs of managers. In columns (1) and (4), we measure bargaining power using the dollar value (\$ million) of the assets controlled by the manager (*Manager AUM*). For a given fund-date observation, this variable reflects the AUM of the manager who controls the greatest dollar value of assets. In columns (2) and (5), we measure bargaining power using the tenure of the manager (*Manager Tenure*). For a given fund-date observation, this variable reflects the manager of individuals with diverse political beliefs using *State-Level Diversity*, computed as the average Euclidean distance among all donors in a state based on their political beliefs. The list of controls is the same as in our baseline Table 3. *t*-statistics based on standard errors clustered by fund are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

	Fund Diversity						
	(1)	(2)	(3)	(4)	(5)	(6)	
Manager AUM	$-0.518^{***}$ (-4.56)			$-0.455^{***}$ (-3.31)			
Manager Tenure		$-0.145^{***}$ (-14.48)			-0.112*** (-11.06)		
State-Level Diversity			$0.103^{*}$ (1.90)			$0.075^{*}$ (1.68)	
Controls	Yes	Yes	Yes	Yes	Yes	Yes	
Time x Style FE	Yes	Yes	Yes	Yes	Yes	Yes	
Family FE				Yes	Yes	Yes	
Observations	614,948	614,948	614,949	614,948	614,948	614,949	
Adjusted $r^2$	0.250	0.260	0.249	0.373	0.378	0.373	

# Appendix

Variable	Definition
Political Diversity Variable	
Fund Diversity	Average Euclidean distance among all managers of a fund based on the political beliefs of managers For each manager $i$ of a fund, the Euclidean distance between her and the other fund managers is computed as $ MgrRep_i - FundRep_{-i} /2$ . Where $MgrRep_i$ captures the manager $i$ political beliefs, and it is computed as $(R_i - D_i)/(R_i + D_i)$ , with $R_i$ and $D_i$ denoting the total dollar amount of political donations made by manager $i$ to the Republican and Democratic parties, respectively over the whole sample period. $FundRep_{-i}$ is the average value of $MgrRep$ at the fund level excluding manager $i$ .
Manager-Fund Distance	Euclidean distance between manager $i$ and the other managers of the same fund. Computed as $ MgrRep_i - FundRep_{-i} /2$ . Where $MgrRep_i$ captures the manager $i$ political beliefs, and it is computed as $(R_i - D_i)/(R_i + D_i)$ , with $R_i$ and $D_i$ denoting the total dollar amount of political donations made by manager $i$ to the Republican and Democratic parties, respectively, over the whole sample period. $FundRep_{-i}$ is the average value of $MgrRep$ at the fund level, excluding manager $i$ .
State Diversity	Average Euclidean distance among all contributors of a state based on their political beliefs. For each individual <i>i</i> living in state <i>s</i> , the Euclidean distance between her and the other individuals is computed as $ IndRep_i - StateRep_{-i} /2$ . Where $IndRep_i$ captures the individual <i>i</i> political beliefs, and it is computed as $(R_i - D_i)/(R_i + D_i)$ , with $R_i$ and $D_i$ denoting the total dollar amount of political donations made by individual <i>i</i> to the Republican and Democratic parties respectively, over the whole sample period. $StateRep_{-i}$ is the average value of $IndRep$ at the state level, excluding individual <i>i</i> .
Other Diversity Variables	
Female Managers	Proportion of female managers working for a fund at date $t$ . To determine the gender of a manager we employ an algorithm written using Python that infers the gender of an individual from her first name. The algorithm relies on a dictionary containing a list of more than 40,000 first names and gender, covering the vast majority of first names in U.S., all European countries, and in some overseas countries (e.g., China, India, Japan).
Non-white Managers	Proportion of managers working for a fund at date $t$ that are not White/Caucasian. To determine the ethnicity of a manager, we employ an algorithm written using Python that exploits the U.S census data to predict race and ethnicity based on the first and last name of an individual. The algorithm classifies an individual in one of the following four categories: White, Black, Asian, or Hispanic.
Tenure	The average tenure of managers working for a fund at date $t$ . We define a manager's tenure as the number of years she has worked in the mutual fund industry. Computed using the first date the manager appeared in the Morningstar database.
Graduate Managers	Proportion of managers working for a fund at date $t$ that completed graduate studies (M.S., MBA or Ph.D.). To determine the education degree of a manager, we use the managerial biographies provided by Morningstar Direct, and we employ an algorithm to search for terms indicating completion of graduate studies. For example, we classify a manager as having completed graduate studies if the biography contains terms such as "mba", "master in business administration", or "phd".

# Data appendix: Variable definitions

Continued on next page

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Variable	Definition
Business Major	Proportion of managers working for a fund at date $t$ that completed business studies. To determine
	the major of a manager's studies, we use the managerial biographies provided by Morningsta
	Direct, and we employ an algorithm to search for terms indicating the major type. Then we
	classify a manager as having completed Business studies when the biography contains terms such
	as "management" or "business".
Style-Experience	The average number of years each manager has worked in the specific style of the fund. Computer
	taking the average across all managers of a fund at time $t$ .
Gender Diversity	Teachman's Entropy Index based on fund managers' gender. The Entropy Index is computed as
	$-\sum (p_k \times ln(p_k))$ . Where $p_k$ is the proportion of fund managers that are either male or female.
Ethnicity Diversity	Teachman's Entropy Index based on fund managers' ethnic groups. The Entropy Index is com
	puted as $-\sum (p_k \times ln(p_k))$ . Where $p_k$ is the proportion of fund managers of an ethnic group k
	We classify managers into four ethnic groups: Asian, black, hispanic, white.
Tenure Diversity	The standard deviation of the number of years each manager of a fund has worked in the mutua
	fund industry. We compute each manager's tenure using the first date the manager appeared in
	the Morningstar database.
Style-Experience Diversity	The standard deviation of the number of years each manager has worked in the specific style o
	the fund. Computed taking the standard deviation across all managers of a fund at time $t$ .
Functional Diversity - Degree	Teachman's Entropy Index based on fund managers' degree level. The Entropy Index is computed
	as $-\sum (p_k \times ln(p_k))$ . Where $p_k$ is the proportion of fund managers that either completed graduat
	studies (MS, MBA, or PhD) or not.
Functional Diversity - Major	Teachman's Entropy Index based on fund managers' major of studies. The Entropy Index i
	computed as $-\sum (p_k \times ln(p_k))$ . Where $p_k$ is the proportion of fund managers either with o
	without a business degree
Political Connection Variables	3
Fund Candidates	Number of individual political candidates to which the fund managers made at least one donation
	Aggregated over the election cycle.
Fund Winners	Number of individual political candidates that won the elections to which the fund managers made
	at least one donation. Aggregated over the election cycle.
Holdings Political Similarity	Euclidean distance between the average political views of the fund managers and the average
	political views of the fund holdings.
Percent Aligned	Fraction of fund holdings invested in politically aligned stocks (Wintoki and Xi $(2018)$ ).
Other Fund-Level Variables	
Size (log TNA)	Natural logarithm of TNA (total net assets) under management (in US \$m).
Expense Ratio	Total annual expenses and fees divided by year-end TNA (in %).
Load Fee	Total front-end, deferred, and rear-end charges divided by year-end TNA (in %). Source: CRSP
Turnover	Minimum of aggregate purchases and sales of securities divided by average TNA over the calenda
Turnover	
Flows	year. The change in log TNA not attributable to the partfolio return of the fund Pollet and Wilson
r lows	The change in log TNA not attributable to the portfolio return of the fund Pollet and Wilson (2000)
Fund Age (leg)	(2008).
Fund Age (log)	Natural logarithm of the number of years since the fund inception date.
Fund Managers	Number of reported managers running the fund at a given date (year-month).
Grey Managers	For each election cycle, this variable measures the fraction of individual managers in a fund that
	does not contribute to any political candidate.
Fund Contributions	For each election cycle, this variable measures the total dollar amount of political donations mad
	by the managers of the fund (\$ million).

Continued on next page

Variable	Definition		
Value-Added (gross or net)	We follow Berk and Van Binsbergen (2015) in constructing the value-added of funds, using a		
	the next-best alternative investment opportunity the set of index funds offered by The Vanguar		
Group as in their Table 1. We multiply the benchmark adjusted realized gross			
	the real size of the fund (assets under management adjusted by inflation by expressing them is		
	2016 dollars) at the end of the previous period to obtain the realized value-added.		

# For Online Publication

# Internet Appendix for "Identity, Diversity, and Team Performance: Evidence from U.S. Mutual Funds"

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This Internet Appendix reports the supplementary results as described below:

- Table A1: Team Diversity and Performance: Robustness Tests Related to Grey Managers
- Table A2: Team Diversity and Performance: Alternative Measures, Samples, and Clustering
- Table A3: Team Diversity and Performance: Net Returns
- Table A4: Team Diversity and Fund Value-Added
- Table A5: Team Political Views and Other Demographic Measures
- Table A6: Team Diversity and Fund Incentives

# Table A1: Team Diversity and Performance: Robustness Tests Related to Grey Managers

This table reports robustness tests for our baseline results of Table 3. In Panel A we report the risk-adjusted monthly returns of four portfolios: i) portfolio of solo-manager funds where the individual manager is a grey manager; ii) portfolio of solo-manager funds where the individual manager is a donor (either red or blue); iii) portfolio of team-managed funds where all the managers are grey manager; iv) portfolio of team-managed funds where all the managers are donors (either red or blue) but the fund's value of diversity is zero. We also report: the risk-adjusted monthly returns of the portfolio that buys donor solo-manager funds and sells grey solo-manager funds; and the monthly returns of the portfolio that buys donor team-managed funds and sells grey team-managed funds. We calculate the average portfolio return across funds in each month by equal-weighting funds in a portfolio. In Panel B, the dependent variable is a fund's style-adjusted performance. In Panel B column (1), we drop funds with 100% of Grey managers. In Panel B column (2), we only use funds with at least two managers who contribute to political parties. In Panel B column (3), we only use funds with at least 50% of managers who contribute to political parties. The list of controls is the same as in our baseline Table 3. In both panels, fund returns are calculated before (gross) deducting fees and expenses. *t*-statistics based on standard errors clustered by time (year-month) are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

	Individual Funds			Team 1	Team Funds with Zero Diversity		
	Grey Managers	Donor Managers	Donor-Grey	Grey Teams	Donor Teams	Donor-Grey	
Alpha	0.048	0.071	0.023	0.034	0.077	0.042	
	(0.92)	(1.43)	(1.33)	(0.69)	(1.57)	(1.10)	
MKT	$0.723^{***}$	$0.792^{***}$	0.069***	$0.697^{***}$	$0.717^{***}$	$0.020^{*}$	
	(42.83)	(46.41)	(14.12)	(42.30)	(46.75)	(1.66)	
SBM	0.115***	0.138***	0.024***	0.117***	$0.169^{***}$	$0.052^{***}$	
	(7.00)	(8.83)	(3.09)	(7.49)	(9.27)	(3.65)	
HML	0.023	$0.052^{**}$	0.028***	$0.055^{**}$	$0.061^{***}$	0.006	
	(1.05)	(2.35)	(4.11)	(2.58)	(2.67)	(0.41)	
WML	-0.005	-0.003	0.001	-0.006	0.010	$0.016^{*}$	
	(-0.37)	(-0.29)	(0.32)	(-0.52)	(0.68)	(1.71)	
N. Months	300	300	300	300	300	300	
N. Funds	715	242	957	1,002	41	1,043	
Adjusted $r^2$	0.942	0.957	0.571	0.935	0.571	0.098	

### Panel A: Donors vs. Grey Portfolios

Panel B: Robustness to the Number of Grey Managers in a Team

	Grey Managers $<100\%$	Red+Blue >= 2	Red+Blue $\geq 50\%$
Fund Diversity	0.132*** (4.30)	$0.121^{**}$ (2.27)	$0.136^{***}$ (3.91)
Controls	Yes	Yes	Yes
Style x Time FE	Yes	Yes	Yes
Observations	$344,\!549$	150,961	203,012
Adjusted $r^2$	0.106	0.106	0.103

# Table A2: Team Diversity and Performance: Alternative Measures, Samples, and Clustering

This table reports results from regressions of fund performance variables on Fund Diversity and other fund characteristics lagged one month. Panel A deals with alternative ways of measuring Fund Diversity. In this panel, the dependent variable is a fund's style-adjusted performance. In Panel A column (1), we use a version of Fund Diversity constructed allowing the political beliefs of managers to vary by political cycle. In Panel A column (2), we use a version of Fund Diversity constructed weighting the views of each manager by the ratio of manager's dollar donations to fund's total dollar donations. In Panel A column (3), we use a version of Fund Diversity constructed considering political beliefs only of those who give more than \$2,000 in net contributions and a value of zero to all others. In Panel A column (4), we use a version of Fund Diversity computed as the standard deviation of political beliefs among the managers of a fund. In Panel B, we repeat the analysis of Table 3 restricting the sample to domestic equity funds. In this panel Fund Diversity is computed as the average Euclidean distance among all managers of a fund based on the political beliefs of managers, as described in section 2.2. While in Panel A and B we report t-statistics based on standard errors clustered by time (year-month), in Panel C we report t-statistics based on standard errors clustered by fund and time (year-month). Fund performance measures are calculated using performance before deducting fees and expenses (gross). These returns are also adjusted using the CAPM model (Alpha 1F), the Fama-French model (Alpha 3F), the Carhart model (Alpha 4F), or computed as the difference between the fund gross return and the return of the fund benchmark, as provided by Morningstar. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively. A complete list of definitions for these variables is provided in the Data appendix.

### Panel A: Alternative Diversity Measures

	Time Varying	Value-Weighted	Large Contributors	SD Diversity
Fund Diversity	$0.067^{***}$	$0.210^{***}$	$0.162^{***}$	$0.070^{***}$
	(2.86)	(4.46)	(5.28)	(5.22)
Controls	Yes	Yes	Yes	Yes
Stude or Times FF	Yes	Yes	Yes	Yes
Style x Time FE Observations Adjusted $r^2$	res 589,316 0.107	res 589,316 0.107	589,316 0.107	589,316 0.107

### Panel B: Restricting the Sample to Domestic Equity Funds

	Gross Return	Alpha 1F	Alpha 3F	Alpha 4F	Bechmark-Adjusted
Fund Diversity	$0.122^{***}$ (2.89)	$0.115^{***}$ (3.84)	$0.073^{***}$ (3.34)	$0.063^{***}$ (3.00)	$0.101^{***} \\ (3.31)$
Controls	Yes	Yes	Yes	Yes	Yes
Style x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	302,380	302,380	302,380	302,380	302,380
Adjusted $r^2$	0.098	0.048	0.041	0.039	0.020

### Panel C: Standard Errors Clustered by Fund and Time

	Gross Return	Alpha 1F	Alpha 3F	Alpha 4F	Bechmark-Adjusted
Fund Diversity	$0.109^{***}$ (8.61)	$0.107^{***}$ (4.98)	$0.075^{***}$ (3.64)	$0.066^{***}$ (3.19)	$0.086^{***}$ (3.42)
Controls	Yes	Yes	Yes	Yes	Yes
Style x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	589,316	589,316	589,316	589,316	589,316
Adjusted $r^2$	0.107	0.065	0.068	0.065	0.021

### Table A3: Team Diversity and Performance: Net Returns

This table reports results from regressions of fund net performance variables on *Fund Diversity* and other fund characteristics lagged one month. *Fund Diversity* is computed as the average Euclidean distance among all managers of a fund based on the political beliefs of managers, as described in section 2.2. Fund performance measures are calculated using performance after (net) deducting fees and expenses. These returns are also adjusted using the CAPM model (Alpha 1F), the Fama-French model (Alpha 3F), the Carhart model (Alpha 4F), or computed as the difference between the fund gross return and the return of the fund benchmark, as provided by Morningstar. *t*-statistics based on standard errors clustered by time (year-month) are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively. A complete list of definitions for these variables is provided in the Data appendix.

	Net Return	Alpha 1F	Alpha 3F	Alpha 4F	Bechmark-Adjusted
Fund Diversity	0.108***	0.102***	0.082***	0.083***	$0.085^{***}$
	(3.98)	(4.90)	(5.16)	(5.39)	(4.02)
Size (log TNA)	-0.032***	-0.012***	-0.004	-0.007**	-0.007**
	(-2.74)	(-2.75)	(-1.38)	(-2.43)	(-2.09)
Expense Ratio	-3.123	-5.190***	$-5.056^{***}$	-6.200***	-4.629**
	(-1.04)	(-2.61)	(-3.75)	(-5.01)	(-2.27)
Load Fee	0.331	0.206*	0.127	$0.154^{*}$	0.075
	(1.36)	(1.74)	(1.47)	(1.81)	(0.71)
Turnover	-0.015	-0.001	-0.001	-0.007	-0.002
	(-1.39)	(-0.11)	(-0.17)	(-1.44)	(-0.35)
Fund Age (log)	$0.032^{*}$	-0.004	-0.014**	-0.016**	-0.017***
	(1.70)	(-0.49)	(-2.06)	(-2.47)	(-2.73)
Fund Managers (log)	0.014	0.003	0.002	0.006	0.006
	(1.02)	(0.29)	(0.24)	(0.81)	(0.58)
Grey Managers	-0.008	0.006	0.003	0.006	0.012
	(-0.47)	(0.54)	(0.27)	(0.62)	(0.99)
Fund Contributions	0.006***	$0.004^{**}$	$0.005^{***}$	$0.005^{***}$	$0.004^{**}$
	(2.75)	(1.98)	(2.78)	(3.18)	(2.08)
Style x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	589,316	589,316	589,316	589,316	589,316
Adjusted $r^2$	0.107	0.066	0.071	0.069	0.020

# Table A4: Team Diversity and Fund Value-Added

This table examines the relation between *Fund Diversity* and a fund's gross value added. In Panel A, we compare the average gross value added between the sample of funds characterized by low diversity and the sample of funds characterized by high diversity. We define low (high) diversity funds as funds in the bottom (top) quartile of the diversity distribution. In Panel B, we report results from regressions of fund gross value added on *Fund Diversity*, and other fund characteristics lagged one month. We follow Berk and Van Binsbergen (2015) in constructing the value-added of funds, using the set of index funds offered by The Vanguard Group as the next-best alternative investment opportunity. We multiply the benchmark adjusted realized gross return by the real size of the fund (assets under management adjusted by inflation by expressing them in 2016 dollars) at the end of the previous period to obtain the realized value-added. *Fund Diversity* is computed as the average Euclidean distance among all managers of a fund based on the political beliefs of managers, as described in section 2.2. *t*-statistics based on standard errors clustered by fund are shown in parentheses. \* denotes significance at the 10% level, \*\* denotes significance at the 5% level, and \*\*\* denotes significance at the 1% level. A complete list of definitions for these variables is provided in the Data appendix.

	Low Diversity	Value-Added ( High Dive		Difference
Average Value-Added	$3.322^{***}$ (3.71)	$5.525^{**}$ (7.11)		$2.203^{**}$ (2.03)
Observations	282,655	280,43	2	563,087
Panel B: Multivariate Results				
	(1)	(2)	(3)	(4)
Fund Diversity	$6.153^{***}$ (2.85)	$5.719^{***}$ (2.69)	$6.308^{*}$ (1.76)	$6.296^{*}$ (1.75)
Expense Ratio	-360.055*** (-3.52)	-327.766 <sup>***</sup> (-3.20)	-475.318 <sup>***</sup> (-2.61)	-484.853*** (-2.65)
Load Fee	$117.077^{***}$ (5.21)	$95.725^{***}$ (4.72)	$88.578^{***}$ (3.99)	$88.336^{***}$ (3.97)
Turnover	$-1.794^{***}$ (-6.57)	$-1.955^{***}$ (-6.40)	-0.827** (-2.28)	-0.823** (-2.27)
Fund Age (log)	$4.040^{***}$ (4.78)	$6.076^{***}$ (5.01)	$9.349^{***}$ (5.24)	$9.352^{***}$ (5.24)
Fund Managers (log)	$6.410^{***}$ (3.70)	$6.896^{***}$ (3.75)	-3.054 (-0.78)	-3.087 (-0.79)
Grey Managers	$3.484^{**}$ (2.29)	$4.101^{**}$ (2.53)	$5.387^{**}$ (2.48)	$5.389^{**}$ (2.48)
Fund-level total amount contributed by cycl	e $0.000$ (1.43)	$0.000 \\ (1.36)$	$0.000 \\ (0.57)$	$0.000 \\ (0.57)$
Time FE Fund FE Family FE		Yes	Yes Yes	Yes Yes Yes
Observations Adjusted $r^2$	$563,087 \\ 0.001$	$563,087 \\ 0.016$	$563,087 \\ 0.043$	$563,087 \\ 0.043$

This table relates the average political views of a fund, with the fraction of female managers in a team (*Female Managers*), the fraction of non-white managers (*Non-white Managers*), the average managers that everage *Style-Experience*), the fraction of graduate managers and the fraction of managers with manager tenure (*Average Tenure*), the average style-experience of managers (*Average Style-Experience*), the fraction of graduate managers, and the fraction of managers with manager tenure (*Average Tenure*), the average style-experience of managers (*Average Style-Experience*), the fraction of graduate managers (*Average Styl* a business degree Business Major. Fund Republican Index is computed as the average political views of team managers, where the views of a manager are measured as in equation (1). In Panel A, we present correlations between the six variables. In Panel B, we present results from regressions of Fund Republican Index on the other demographic measures. The list of controls is the same as in our baseline Table 3. t-statistics based on standard errors clustered by fund are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively. A complete list of definitions for these variables is provided in the Data appendix.

Diversity Variable	Fund Rej	Fund Republican Index		Female Managers	Non-	Non-white Managers		Average Tenure	Gradu	Graduate Managers	Busi	Business Major
Female Managers		-0.072										
Non-white Managers		-0.025		0.058		00000						
Average Lenure		0.080		-0.023		-0.009						
Average Style-Experience		0.045		-0.024		-0.044		0.482				
Graduate Managers		-0.040		0.016		-0.029		0.012		0.024		
Business Major		0.033		-0.069		0.038		0.064		0.015		0.061
Panel B: Regression Table												
	(1)	(2)	(3)	(4)	(5)	Fund Republican Index (6) (7)	ican Index (7)	(8)	(6)	(10)	(11)	(12)
Female Managers	-0.186***						-0.098***					
Non-white Managers	(17.0-)	-0.057					(10.6-)	-0.089**				
Average Tenure		(-1.45)	0.020***					(-2.47)	0.017***			
Average Style-Experience			(5.55)	0.003***					(5.54)	$0.002^{**}$		
Graduate Managers				(4.03)	-0.110***					(2.40)	-0.069**	
Business Major					(81.6-)	$0.122^{***}$ (3.45)					(60.2-)	$0.143^{**}$ (4.15)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Style x Time	$\mathbf{Yes}$	Yes	Yes	$\mathbf{Yes}$	Yes	$\mathbf{Yes}$	Yes	Yes	Yes	Yes	Yes	Yes
Family FE Obsemmations	601 Q6Q	601 <u>060</u>	601 <u>060</u>	601 060	601 QGQ	601 QGQ	Yes 601 060	Yes 601 960	Yes 601 060	Yes 601 060	Yes 601 060	Yes 601 qfq
Adjusted $r^2$	0.038	0.035 0.035	0.038	0.038	0.037 0.037	0.036	0.268	0.267	0.269	0.267	0.267 0.267	0.268

# Table A5: Team Political Views and Other Demographic Measures

### Table A6: Team Diversity and Fund Incentives

This table reports results from regressions of fund gross returns on *Fund Diversity*, fund incentives variables, and other fund characteristics lagged one month. *Fund Diversity* is computed as the average Euclidean distance among all managers of a fund based on the political beliefs of managers, as described in section 2.2. We add *Bonus-fund performance*, an indicator variable with value 1, if the manager's compensation is based on the specific fund's performance; *Bonus-paid in fund shares*, an indicator variable with value 1, if the manager's compensation includes shares from the fund; *Bonus-fund revenue*, an indicator variable with value 1, if the manager's compensation is linked to the revenues collected by the fund; *Manager ownership*, Morningstar's ownership range based on the portfolio managers ownership data reported to the SEC; *CIR measure*, the difference between the last and first marginal compensation rates divided by the effective marginal compensation rate (Massa and Patgiri (2009)). The list of controls is the same as in our baseline Table 3. *t*-statistics based on standard errors clustered by time (year-month) are shown in parentheses. \*, \*\*, and \*\*\* denote significance at the 10%, 5%, and 1% levels, respectively.

	Gross Return	Alpha 1F	Alpha $3F$	Alpha 4F	Benchmark-Adjusted
Fund Diversity	0.129***	0.108***	0.099***	0.083***	0.111***
	(3.06)	(3.41)	(4.29)	(4.17)	(3.45)
Bonus-fund performance	-0.023	-0.009	-0.012	-0.010	-0.015
-	(-1.62)	(-0.89)	(-1.37)	(-1.27)	(-1.37)
Bonus-paid in fund shares	0.037	$0.051^{**}$	$0.031^{*}$	$0.045^{**}$	0.029
	(1.28)	(2.23)	(1.66)	(2.56)	(0.98)
Bonus-fund revenue	$0.039^{**}$	0.017	$0.025^{**}$	0.032***	0.011
	(2.23)	(1.24)	(2.34)	(3.21)	(0.75)
Manager ownership	0.050	0.032**	0.027**	0.021*	0.008
	(1.12)	(2.49)	(2.28)	(1.95)	(1.30)
Controls	Yes	Yes	Yes	Yes	Yes
Style x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	280,421	280,421	280,421	280,421	280,421
Adjusted $r^2$	0.114	0.074	0.080	0.077	0.029