Identity, Diversity, and Team Performance:

Evidence from U.S. Mutual Funds

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Main Work

1. Focusing on political ideology as the relevant facet of identity, this paper examines the performance of diverse portfolio manager teams.
2. Two channels: Improved decision-making process and Mutual monitoring.
3. Two potential frictions that might prevent investment advisors from adopting more diverse teams.

Motivation

- 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.

Political ideology

- Different political ideologies are associated with different economic perspectives and information sets.
- Political ideology is both a salient dimension of identity in the workplace and when "primed" is likely to generate intra-team conflict.
- 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.

Prior literature

- **Identity economics**: An individual's sense of self could affect the choices of economic agents within organizations. (Akerlof and Kranton, 2000-2008; Kranton, 2016)[1,2,3,4]
- **Diverse teams**: Gender diversity (Kim and Starks, 2016; Niessen-Ruenzi and Ruenzi, 2019)[5,6], individual ancestries diversity (Giannetti and Zhao, 2019)[7]
- **Human capital allocation in mutual fund industry**: Characteristics of individual managers (Chevalier and Ellison, 1999)[8], single- versus team-managed (Patel and Sarkissian, 2017)[9].

Data

Sample

Data sources

- Fund information: Center for Research in Security Prices (CRSP) Survivorship Bias-Free Mutual Funds Database.
- Fund holdings: The Thomson Reuters/CDA Spectrum database.
- Background of portfolio managers: Morningstar.
- Political contribution data: Center for Responsive Politics (CRP).

Sample

- 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.
- Drop index funds and funds managed by a single portfolio manager.
- Sample contains 12387 managers, 5305 funds, and 583 management companies.

Political diversity measures

- R_i and D_i: compute the total dollar amount of political donations made by the manager to the Republican (R_i) and Democratic (D_i) Parties over the entire sample period.
- $Mgr\ Rep = \frac{R_i - D_i}{R_i + D_i}$

Political diversity measures

- $ManagerFund\ Distance = \frac{|Mgr\ \ Rep_i - Fund\ \ Rep_{-i}|}{2}$
- where $Fund\ Rep_{-i}$ is the average value of $MgrRep$ among the other fund managers, excluding manager i.
- A $ManagerFund\ Distance$ 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.

Political diversity measures

- $Fund\ Diversity_i = \frac{1}{N} \times \sum_{i=1}^{N} (\frac{|Mgr\ \ Rep_i - Fund\ \ Rep_{-i}|}{2})$
- where the sum is calculated across all the team members at time t.

Figure: Table 1: Summary Statistics

Panel A: Sample Descriptive Statistics

	1992 – 2000	2000 – 2010	2010 – 2016
Team Funds	800	2905	3115
Fund Families	178	392	403

Panel B: Diversity Variables

	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

Fund performance

Baseline Results

Figure: Table 2: Team Diversity and Performance: Calendar Portfolios

Panel A: Diversity Portfolios

	D=0	Q1	Q2	Q3	Q4	D=1
Alpha	0.037	0.052	0.086*	0.076*	0.135*	0.191**
	(0.74)	(1.05)	(1.80)	(1.71)	(1.85)	(2.36)
MKT	0.698***	0.753***	0.703***	0.722***	0.722***	0.659***
	(42.74)	(46.95)	(43.01)	(49.82)	(31.21)	(28.61)
SBM	0.118***	0.146***	0.106***	0.140***	0.096***	0.131***
	(7.62)	(7.51)	(6.12)	(9.08)	(3.44)	(5.91)
HML	0.054**	0.030	0.042*	0.044**	0.162***	0.031
	(2.55)	(1.36)	(1.93)	(2.16)	(4.66)	(1.02)
WML	-0.006	0.006	-0.019	-0.007	-0.039**	0.021
	(-0.48)	(0.45)	(-1.45)	(-0.63)	(-2.48)	(1.32)

Panel B: Long-Short Portfolios

	[D=1] - [D=0]	[D=1] - [Q1]	[Q4] - [D=0]	[D=1 + Q4] - [D=0 + Q1]
Alpha	0.154**	0.139**	0.099**	0.102***
	(2.34)	(2.09)	(1.99)	(2.82)
MKT	-0.039**	-0.093***	0.024	0.001
	(-2.00)	(-5.05)	(1.65)	(0.08)
SBM	0.013	-0.015	-0.023	-0.009
	(0.67)	(-0.66)	(-1.06)	(-0.61)
HML	-0.023	0.001	0.108***	0.072***
	(-1.02)	(0.04)	(4.90)	(4.58)
WML	0.026*	0.015	-0.034**	-0.021**
	(1.83)	(1.00)	(-2.38)	(-2.06)

- A nearly monotonic increase in risk-adjusted returns as we move from the low diversity to the high diversity portfolios.

Fund performance

Baseline Results

Figure: Table 3: Team Diversity and Performance: Multivariate Analysis

	Gross Return	Alpha 1F	Alpha 3F	Alpha 4F	Benchmark-Adjusted
Fund Diversity	0.128***	0.097***	0.076***	0.069***	0.082***
	(5.40)	(5.70)	(5.73)	(6.24)	(4.27)
Size (log TNA)	-0.032***	-0.012***	-0.003	-0.007**	-0.007*
	(-2.68)	(-2.66)	(-0.95)	(-2.22)	(-1.87)
Expense Ratio	4.485	2.971	3.558***	2.083*	3.200
	(1.47)	(1.60)	(2.74)	(1.76)	(1.49)
Load Fee	0.341	0.269**	0.165**	0.233***	0.118
	(1.38)	(2.35)	(2.01)	(2.91)	(1.07)
Turnover	-0.015	0.000	-0.003	-0.007	-0.003
	(-1.31)	(0.02)	(-0.44)	(-1.39)	(-0.42)
Fund Age (log)	0.031	-0.018**	-0.030***	-0.035***	-0.019***
	(1.52)	(-2.15)	(-4.22)	(-4.64)	(-2.72)
Fund Managers (log)	0.020	0.009	0.010	0.014*	0.010
	(1.41)	(0.96)	(1.33)	(1.91)	(1.19)
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	0.067	0.070	0.068	0.021

- $R_{it} = \alpha_{st} + \beta Fund\ Diversity_{it-1} + \gamma X_{it-1} + \epsilon_{it}$
- Regardless of the specification used, the coefficient on Fund Diversity is positively and significantly related to fund performance.

Fund performance

Demographic and functional diversity

Figure: Panel A of Table 4: Team Diversity and Performance: Alternative Explanations

Panel A: Demographic and Functional Diversity

	Gross Return	Alpha 1F	Alpha 3F	Alpha 4F	Benchmark-Adjusted
Fund Diversity	0.127***	0.097***	0.075***	0.069***	0.086***
	(5.53)	(5.69)	(5.77)	(6.02)	(4.51)
Gender Diversity	-0.009	-0.003	-0.006*	-0.006*	0.000
	(-1.24)	(-0.76)	(-1.92)	(-1.83)	(0.01)
Ethnicity Diversity	0.007	0.008	0.004	-0.012	0.004
	(0.39)	(0.52)	(0.33)	(-1.17)	(0.32)
Tenure Diversity	-0.002	-0.002	0.006	0.001	-0.013
	(-0.13)	(-0.20)	(0.69)	(0.18)	(-0.75)
Style-Experience Diversity	0.009***	0.005**	0.002	0.003	0.005*
	(3.18)	(2.21)	(1.19)	(1.57)	(1.67)
Functional Diversity - Degree	0.006	-0.006	-0.006	-0.001	0.000
	(0.42)	(-0.53)	(-0.71)	(-0.11)	(0.01)
Functional Diversity - Major	0.035	0.025**	0.021**	0.023**	0.041***
	(1.63)	(2.11)	(2.04)	(2.58)	(2.94)
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	0.107	0.067	0.070	0.067	0.021

- None of the demographic and functional diversity measures are as strongly and consistently associated with outperformance as the measure of political identity diversity.

Fund performance

Political connections

Figure: Panel B of Table 4: Team Diversity and Performance: Alternative Explanations

Panel B: Political Connections

	Gross Return	Alpha 1F	Alpha 3F	Alpha 4F	Benchmark-Adjusted
Fund Diversity	0.132***	0.110***	0.085***	0.072***	0.088***
	(4.06)	(6.09)	(5.75)	(5.61)	(4.46)
Fund Contributions	0.008***	0.006**	0.005***	0.006***	0.004*
	(3.01)	(2.38)	(2.89)	(3.25)	(1.91)
Fund Candidates	0.048	0.013	-0.005	-0.021	-0.057
	(0.81)	(0.28)	(-0.13)	(-0.59)	(-1.35)
Fund Winners	-0.113	-0.041	0.001	0.029	0.108
	(-1.09)	(-0.55)	(0.02)	(0.50)	(1.56)
Holdings Political Similarity	0.032	0.043***	0.037***	0.031***	0.035***
	(0.83)	(3.69)	(3.51)	(2.95)	(3.38)
Percent Aligned	0.000	0.001	-0.000	-0.003	-0.003
	(0.02)	(0.28)	(-0.08)	(-1.45)	(-1.15)
Controls	Yes	Yes	Yes	Yes	Yes
Style x Time FE	Yes	Yes	Yes	Yes	Yes
Observations	551,634	551,634	551,634	551,634	551,634
Adjusted r^2	0.107	0.067	0.070	0.068	0.021

- 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.

Potential Channels

Improved decision-making in diverse teams

Improved decision-making in diverse teams

- 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.

Empirical analysis

- **Portfolio diversification and scaling** (Pollet and Wilson, 2008)[10].
- **Active management** (Cremers and Petajisto, 2009)[11].
- **New investment ideas**.
- **ESG investing** (Hong and Kostovetsky, 2012)[12].

Improved decision-making in diverse teams

Portfolio diversification and scaling

Figure: Table 5: Portfolio Diversification and Scaling

	Δ LogS				Δ LogOwn			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fund Flows	0.058***	0.055***	0.056***	0.049***	0.519***	0.517***	0.522***	0.481***
	(6.65)	(6.45)	(6.71)	(5.96)	(11.67)	(11.66)	(11.91)	(11.35)
Fund Diversity		0.003	0.003	-0.003		0.017	0.018	0.009
		(0.40)	(0.46)	(-0.34)		(0.97)	(1.02)	(0.44)
Fund Flows × Fund Diversity		0.014**	0.012**	0.012**		-0.015	-0.013	-0.012
		(2.56)	(2.36)	(2.41)		(-0.70)	(-0.60)	(-0.60)
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	0.019	0.020	0.049	0.067	0.090	0.091	0.114	0.137

- Politically diverse funds respond to a 1% increase in TNA by raising the number of stocks in their portfolio by an additional 1.2/1.4%.
- In contrast to this, Fund Diversity plays no role in fund scaling decisions in response to fund flows.

Improved decision-making in diverse teams

Active management

Figure: Table 6: Team Diversity and Active Management

	Active Share	Tracking Error
Fund Diversity	0.025***	0.146***
	(2.73)	(5.19)
Size (log TNA)	-0.005***	-0.004
	(-4.72)	(-1.43)
Expense Ratio	2.653***	23.715***
	(5.28)	(15.29)
Turnover	-0.001	0.038***
	(-0.75)	(6.51)
Fund Age (log)	-0.012***	-0.091***
	(-4.26)	(-10.29)
Fund Managers (log)	-0.037***	-0.096***
	(-7.24)	(-6.73)
Style x Time FE	Yes	Yes
Observations	141,409	589,316
Adjusted r^2	0.412	0.721

- The fact that diverse teams display both higher active share and tracking error suggests that diverse funds are concentrated stock pickers, and that they generate outperformance through their superior ability to place concentrated bets.

Improved decision-making in diverse teams

New investment ideas

Construct four different portfolios of stocks

- A portfolio of new stocks in which diverse teams invest in response to fund inflows.
- A portfolio of existing stocks in which diverse teams invest in response to fund inflows.
- A portfolio of new stocks in which homogeneous teams invest in response to fund inflows.
- A portfolio of existing stocks in which homogeneous teams invest in response to fund inflows.

Improved decision-making in diverse teams

New investment ideas

Figure: Panel A of Table 7: Team Diversity and Performance: New Ideas

Panel A: Calendar Portfolios

	Diverse Funds		Homogenous Funds		Difference	
	New Stocks [1]	Old Stocks [2]	New Stocks [3]	Old Stocks [4]	[1]-[3]	[1]-[3+4]
Alpha	0.693***	0.127*	0.375**	0.121	0.318*	0.525***
	(4.64)	(1.84)	(2.52)	(1.42)	(1.81)	(3.50)
MKT	1.071***	1.099***	1.057***	1.114***	0.014	-0.003
	(38.33)	(67.09)	(29.12)	(56.23)	(0.37)	(-0.10)
SBM	0.258***	0.122***	0.206***	0.156***	0.052	0.047
	(4.46)	(4.47)	(3.88)	(5.41)	(0.95)	(0.93)
HML	0.016	0.082**	0.025	0.080***	-0.009	-0.058
	(0.30)	(2.22)	(0.54)	(2.87)	(-0.17)	(-1.37)
WML	-0.101**	-0.058***	-0.091***	-0.079***	-0.011	-0.010
	(-2.16)	(-2.41)	(-3.27)	(-2.82)	(-0.23)	(-0.31)

- The portfolio of new stocks selected by diverse teams exhibits the highest alpha across the four portfolios, about 0.7% in monthly risk-adjusted returns.
- The last column of Panel A shows that new stocks selected by diverse teams outperform the overall portfolio of homogeneous teams by about 0.53% risk adjusted returns per month.

Improved decision-making in diverse teams

New investment ideas

Test whether these results survive in a multivariate setting

- $R_{ijt+1} = \delta_t + \beta_1 New\ Stocks_{ijt} + \beta_2 New\ Manager_{it} + \beta_3 New\ Stocks_{ijt} \times New\ Manager_{it} + \gamma X_{ijt-1} + \epsilon_{ijt+1}$

Improved decision-making in diverse teams

New investment ideas

Figure: Panel B of Table 7: Team Diversity and Performance: New Ideas

Panel B: Multivariate Analysis

	(1)	(2)	(3)	(4)
New Stocks	0.010	-0.131***	-0.004	-0.125***
	(0.31)	(-3.90)	(-0.10)	(-3.19)
New Diverse Manager	-0.005			
	(-0.07)			
New Stocks × New Diverse Manager	0.159***	0.149**		
	(2.79)	(2.26)		
New Homogenous Manager			0.035	
			(0.46)	
New Stocks × New Homogenous Manager			0.062	0.017
			(1.14)	(0.28)
Controls Funds	Yes		Yes	
Controls Stocks	Yes	Yes	Yes	Yes
Style x Time FE	Yes		Yes	
Stock FE	Yes		Yes	
Fund FE	Yes		Yes	
Fund x Time FE		Yes		Yes
Stock x Time FE		Yes		Yes
Observations	15,623,089	15,623,089	15,813,540	15,813,540
Adjusted r^2	0.050	0.155	0.050	0.155

- Estimates for coefficient β_3 in columns (1) and (2) are positive and significant.
- The results suggest that new diverse managers who join homogeneous teams are able to contribute with new and profitable investment ideas.

Improved decision-making in diverse teams

ESG investing

Figure: Panel A of Table 8: Team Diversity and ESG Investing

Panel A: ESG investing

	(1)	(2)	(3)	(4)
New Stocks	-0.089**	-0.092***	-0.296***	-0.266***
	(-2.46)	(-2.60)	(-8.27)	(-8.04)
New Republican Manager	-0.046			
	(-0.20)			
New Stocks × New Republican Manager	-0.090**	-0.091**		
	(-2.23)	(-2.31)		
New Democrat Manager			-0.215**	
			(-2.07)	
New Stocks × New Democrat Manager			0.153***	0.122***
			(3.59)	(3.15)
Controls Funds	Yes		Yes	
Controls Stocks	Yes		Yes	
Style x Time FE	Yes		Yes	
Stock FE	Yes		Yes	
Fund FE	Yes		Yes	
Fund x Time FE		Yes		Yes
Stock x Time FE		Yes		Yes
Observations	11,280,820	11,280,820	7,166,481	7,166,481
Adjusted r^2	0.471	0.573	0.460	0.554

- Republican teams tilt their portfolios towards ESG stocks when a new Democrat manager arrives.

Improved decision-making in diverse teams

ESG investing

Construct six portfolios of stocks

- Portfolio of low ESG stocks selected by diverse teams.
- Portfolio of high ESG stocks selected by diverse teams.
- Portfolio of low ESG stocks selected by Democrat teams.
- Portfolio of high ESG stocks selected by Democrat teams.
- Portfolio of low ESG stocks selected by Republican teams.
- Portfolio of high ESG stocks selected by Republican teams.

Improved decision-making in diverse teams

ESG investing

Figure: Panel B of Table 8: Team Diversity and ESG Investing

Panel B: Calendar Portfolios

	Diverse		Democrat		Republican		Difference	
	Low [1]	High [2]	Low [3]	High [4]	Low [5]	High [6]	[1]-[3]	[2]-[6]
Alpha	0.645***	0.327**	0.041	0.473***	0.163	-0.026	0.604*	0.353*
	(3.21)	(2.38)	(0.12)	(2.93)	(0.96)	(-0.10)	(1.86)	(1.73)
MKT	1.054***	0.996***	1.045***	1.005***	1.054***	0.997***	0.010	-0.001
	(20.83)	(21.57)	(12.27)	(7.83)	(17.61)	(15.34)	(0.10)	(-0.01)
SBM	0.125*	0.146**	0.225**	0.078	0.234***	-0.013	-0.100	0.159*
	(1.94)	(2.49)	(2.08)	(0.48)	(3.08)	(-0.16)	(-0.88)	(1.72)
HML	-0.028	-0.002	0.052	0.272*	-0.010	0.004	-0.080	-0.005
	(-0.44)	(-0.03)	(0.47)	(1.66)	(-0.13)	(0.04)	(-0.068)	(-0.06)
WML	-0.047	-0.083**	-0.196***	-0.059	-0.106**	-0.045	-0.149**	-0.038
	(-1.19)	(-2.30)	(-2.95)	(-0.59)	(-2.26)	(-0.89)	(-2.08)	(-0.66)

- Interestingly, in the last two columns of the panel we show evidence of superior performance when we compare the performance of portfolios of low (high) ESG stocks purchased by diverse teams and low (high) ESG stocks selected by Democrat (Republican) teams.

Mutual monitoring and peer pressure

- In diverse teams, managers exert more effort due to increased monitoring by other team members.
- 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.

Promotion and demotion

- 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.

Potential channels

Mutual monitoring and peer pressure

Figure: Table 9: Team Diversity and Monitoring

	Promotion		Demotion	
	(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 × 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

- 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.

Bargaining power and supply of diversity

Why aren't all asset management teams ideologically diverse?

- **Entrenched managers**: 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.
- **Local labor supply**: A limited local supply of ideologically diverse managers.

Measurement

- **Entrenched managers**: The dollar value ($ million) of the assets controlled by the manager ($Manager\ AUM$); the tenure of the manager ($Manager\ Tenure$)
- **Local labor supply**: The average Euclidean distance among all donors in a state (funds headquartered) based on their political identities ($State - Level\ Diversity$).

Bargaining power and supply of diversity

Figure: Table 11: Bargaining Power and Supply of Diversity

	Fund Diversity					
	(1)	(2)	(3)	(4)	(5)	(6)
Manager AUM	-0.518***			-0.455***		
	(-4.56)			(-3.31)		
Manager Tenure		-0.145***			-0.112***	
		(-14.48)			(-11.06)	
State-Level Diversity			0.103*			0.075*
			(1.90)			(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	589,316	589,316	589,316	589,316	589,316	589,316
Adjusted r^2	0.248	0.258	0.247	0.372	0.376	0.371

- Managers with greater bargaining power as measured by more assets under management or longer tenure, are more likely to manage funds with less ideologically diverse teams.
- 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.

Conclusions

Conclusions

1. Teams composed of money managers with different political identities outperform homogeneous teams. In economic terms, the outperformance corresponds to a difference of about to $2 million per year between homogeneous and heterogeneous teams.
2. This study suggests a realization of the potential complementarities of diverse teams –namely improved decision-making due to combining different information sets and increased monitoring associated with more diverse teams.
3. Entrenched managers prefer homogeneous teams, and the local labor market supply of ideologically diverse managers is constrained.
4. 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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