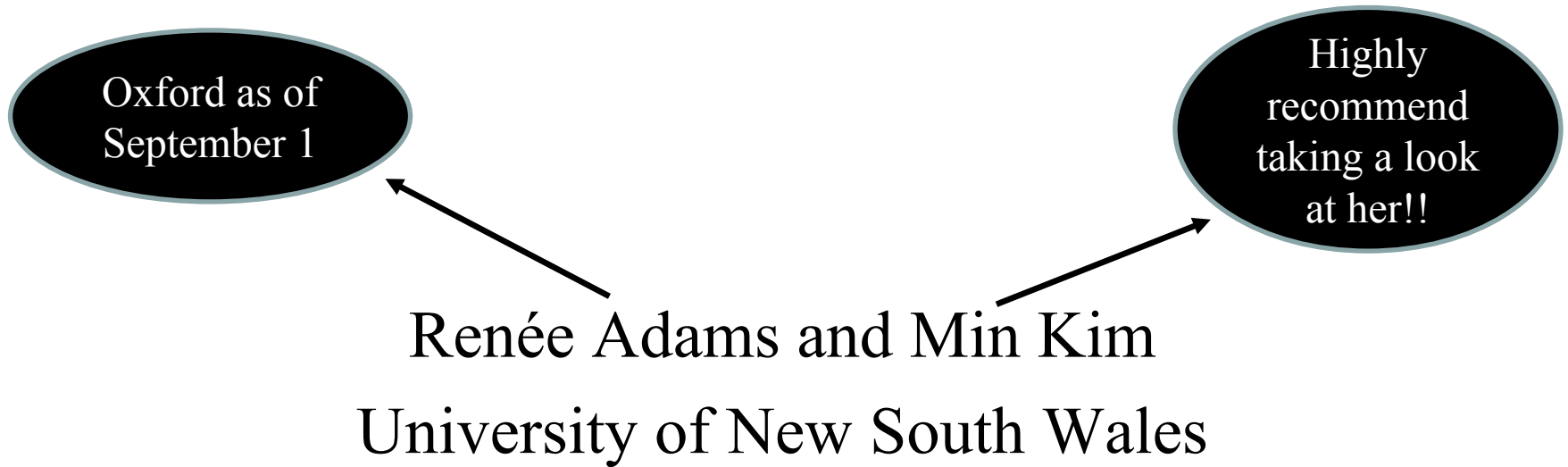


# Unsuccessful Teams

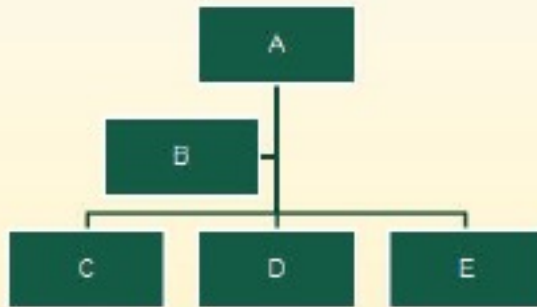
Renée Adams and Min Kim  
University of New South Wales

# Unsuccessful Teams

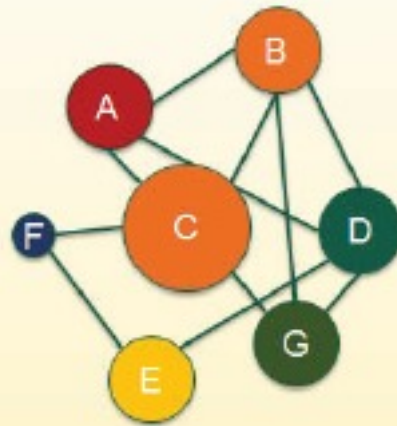


## The New Organization: Different by Design

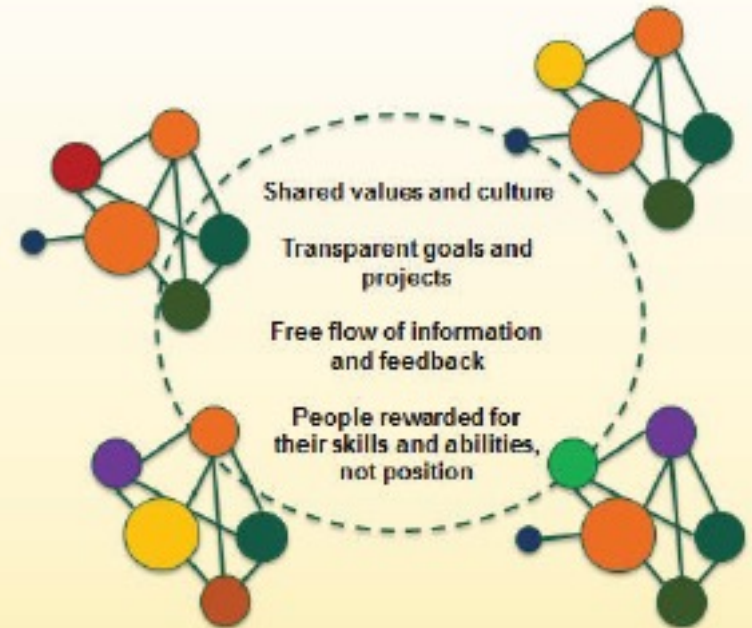
# A network of teams



How things were



How things "are"



How things work

Fig 1: The New Organization: A Network of Teams

- Deloitte Human Capital Trends 2016

# Some familiar examples

- Academic Co-authorships
- Corporate R&D
- Management Consulting
- Mutual Funds

# Great, but...

- Lack of individual performance signal
- Credit or blame for team outcomes may be over- or under-attributed to some team members based on prior performance expectations (Gender, race, education)
- Heilman and Haynes' (2005) label:

Attributional rationalization

# A nod to Harvard...

Sarsons (2017) also finds women and men have different outcomes following group work

- Relative to male economists, female economists are less likely to be tenured when they co-author than when they solo author

# U.S. mutual fund industry as a laboratory

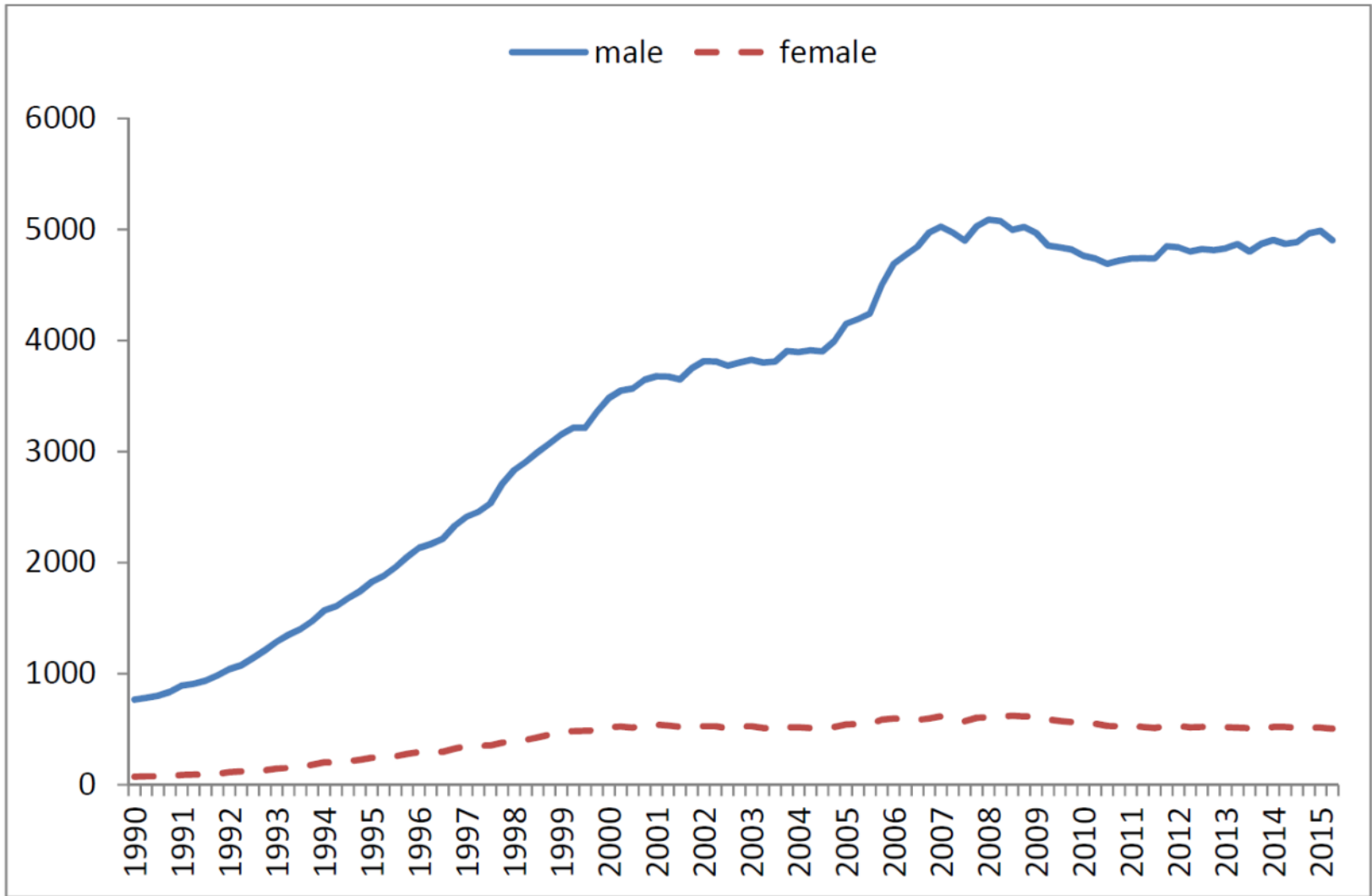
- Team management, but also solo management
- Common and observable outputs, homogenous tasks
  - An intuitive signal of fund failures: fund closures
  - An intuitive measure of labor market outcomes: exit as proxy for firing (but fire=quit?)
- Variation in employment relation: fund family versus sub-advisor
- Since more men than women in mutual fund industry, tasks might be considered more “male”
  - Morningstar (2015): 9.4% of mutual fund managers are women

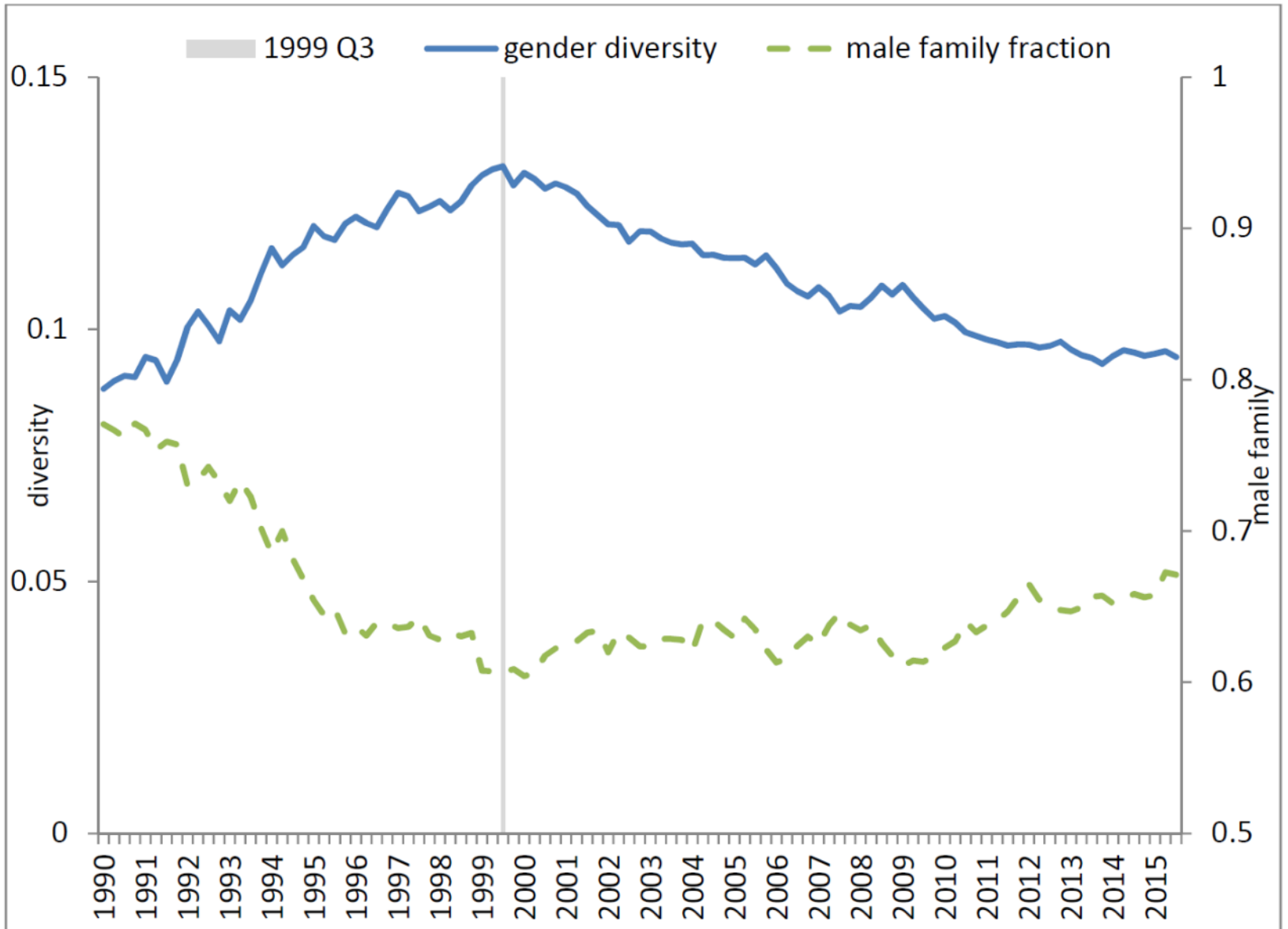
# Question

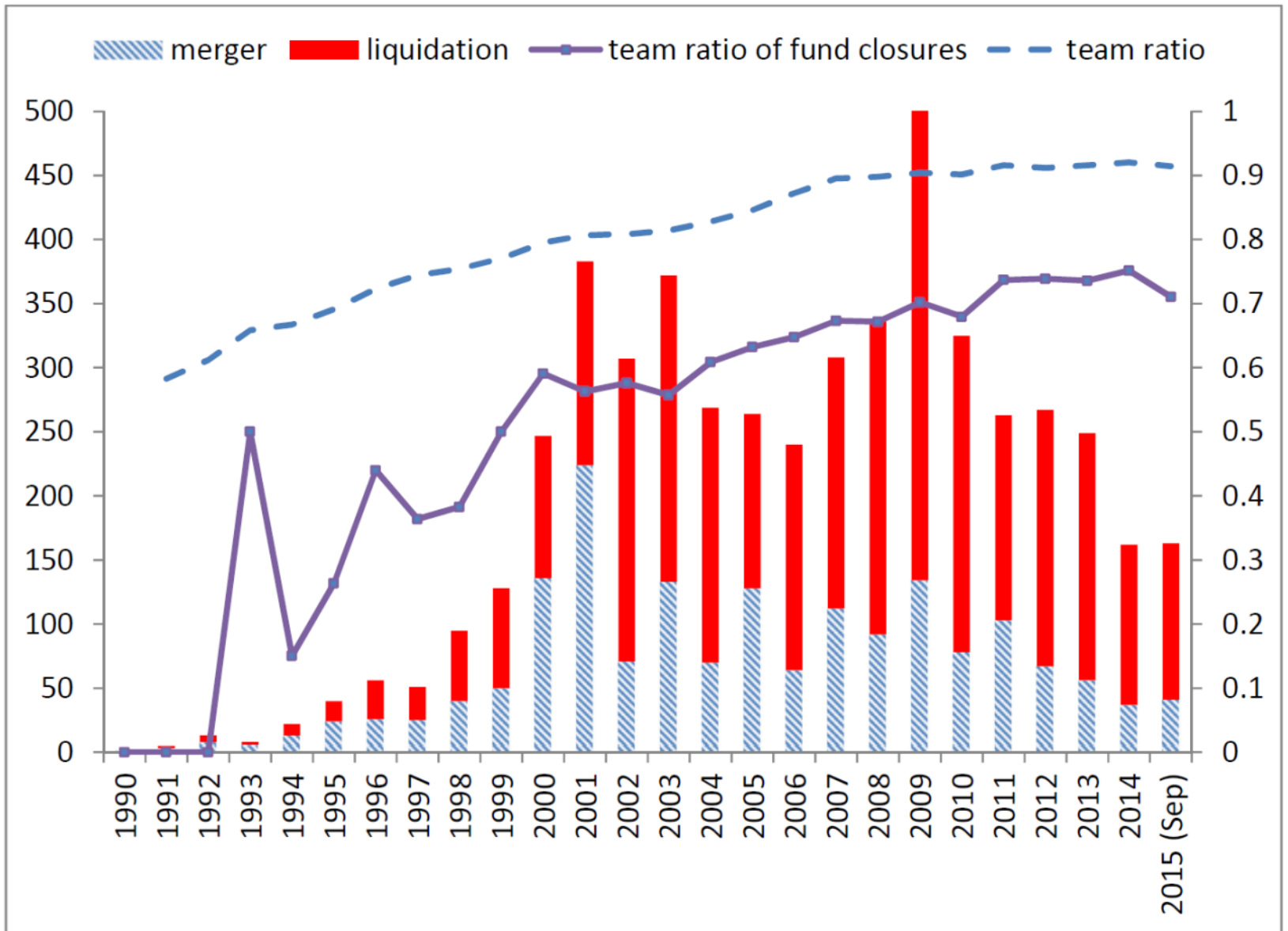
Does failure (fund closures) lead to different exit decisions (leave the fund family or leave the industry) for male and female managers?

- Are women “blamed” more for failure of teams they are members of?

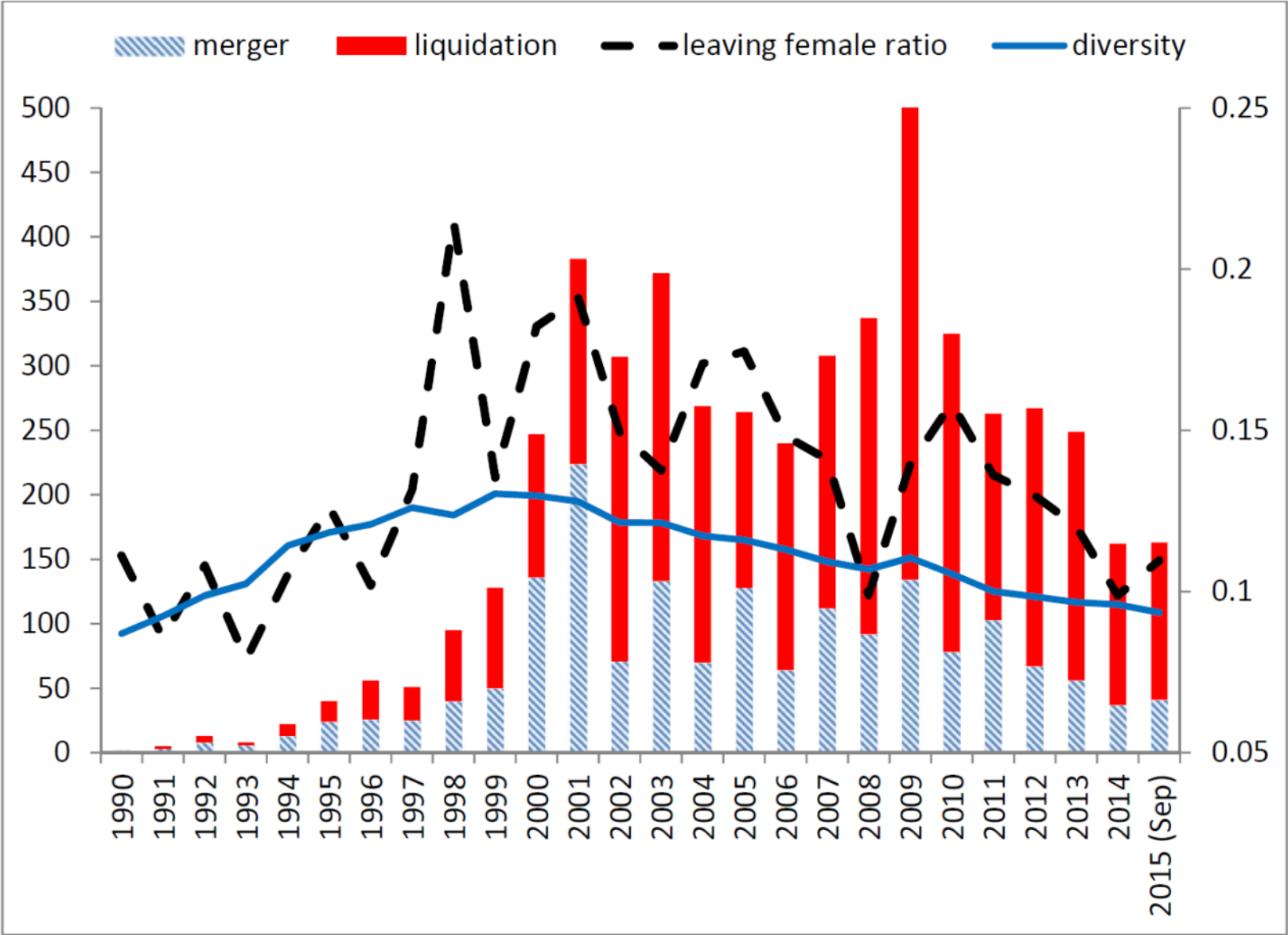






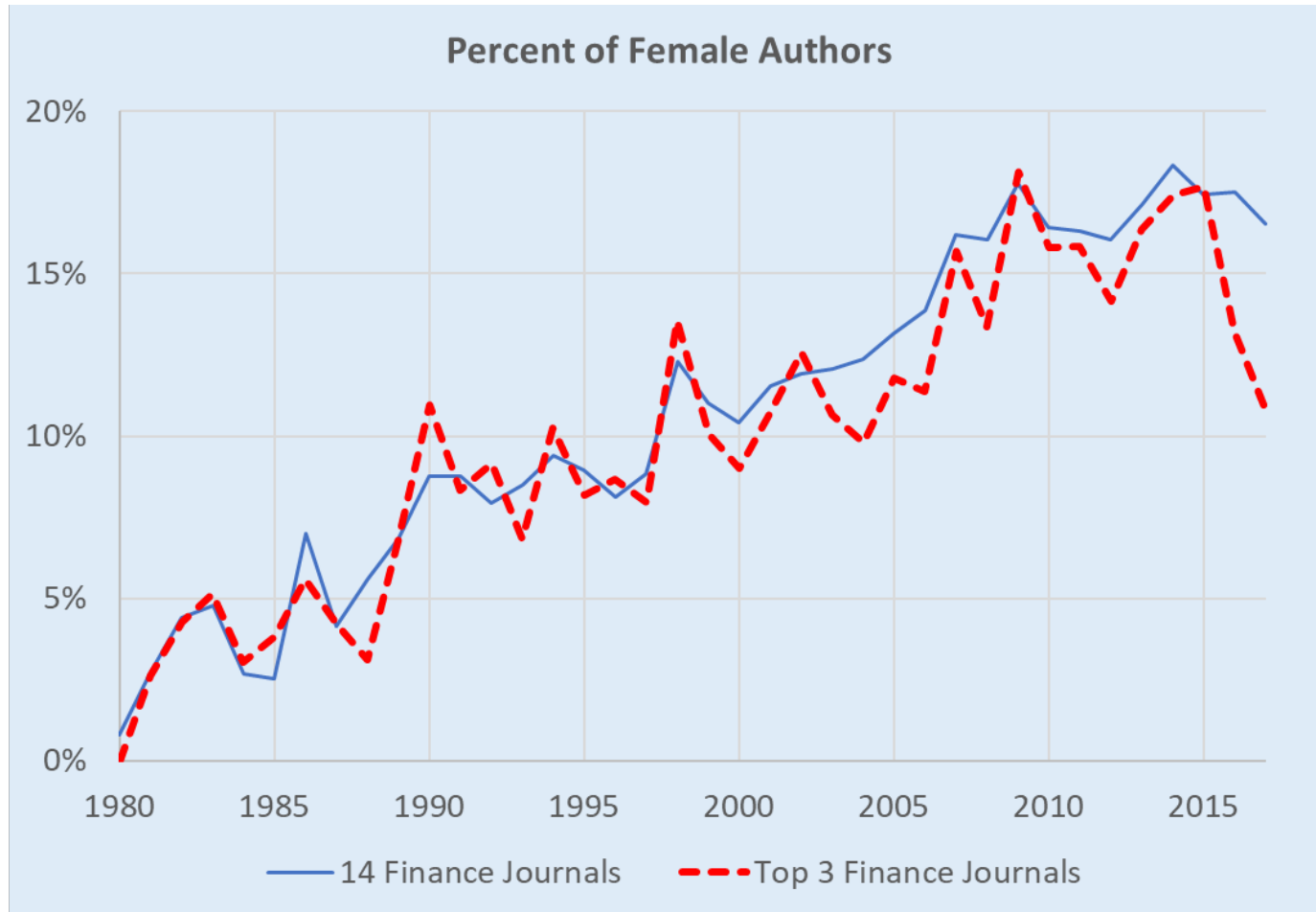


# Gender diversity and fund closures (13.2% in 1999 Q3 to 9.4% in 2015 Q2)



# Some context: Women in the finance profession

AFFECT 2018 AFA presentation



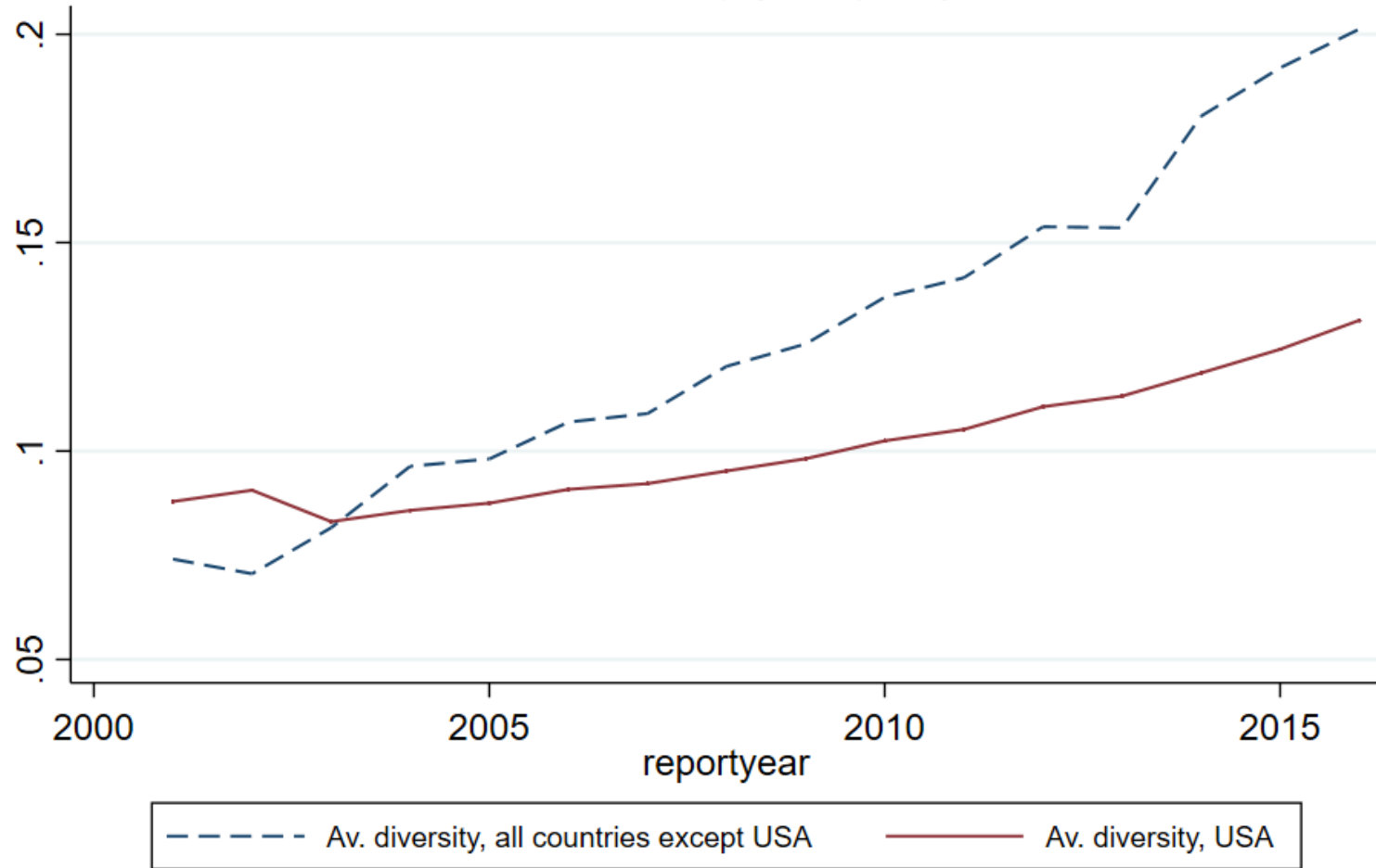
- Data = papers published in 14 finance journals, by finance authors
- Finance author = a person that published 2+ papers in one of these 14 journals over 1947 – 2017

# Some context: Women on finance boards

Adams and Kirchmaier (2018)

## Gender diversity in Finance

Banks, Insurance, Priv. Equity and Specialty Finance



# Empirical strategy

- Is fund closure a measure of failure?
- Probability managers leave the fund family and industry following fund closure
  - Contrast team managers versus solo
    - Is it demand or supply?
  - Also: own-managers versus subadvised
    - Is it a quit or a fire?
- Examine manager departure when more likely to be “quit”: mutual fund scandal
- What might explain differential exit? Examine skill
  - Contrast team managers versus solo

# Results

- Fund closures are more likely for funds with lower fee revenues (no diversity effect)
- Exit from fund family/industry following fund closure: higher for women in teams
- Mutual fund scandal: managers more likely to leave families, but no gender difference
- No significant differences in Carhart's alpha by gender
  - Amid fund closure:
    - Team managers alphas seem indistinguishable for stayers and leavers
    - Solo manager stayers dominate leavers



# Interpretation

- Not consistent with widespread taste-based discrimination:
  - No significant gender difference in exit for solo managers
- Although prior of female underperformance does not seem accurate, attributional rationalization may be form of statistical discrimination:
  - Lack of individual performance measures in teams and increased exit of women from the industry means inaccurate priors might persist

# Data

- Morningstar data from the first quarter of 1990 to the third quarter of 2015
- Identify manager gender using US Census (female/male if > 90% women/men same first name, ow missing): 12.3% women
- For each quarter  $t$ ,  $leave_{i,j,t+3} = 1$  if manager  $i$  leaves the fund family/industry between  $t$  and  $t+3$  and is zero otherwise
- Most managers either solo (16%) or team (76%), only 8% of managers are both solo and team
  - Women: teams (78%), solo (15%), both solo and team (7%)

Fund closure through liquidation or external merger in quarter t  
estimates and p-values, family fixed effects, clustering fund family and year-quarter

(A)	(a) all fund families				(b) diverse families				(c) male only families	
	all funds		own-managed funds		all funds		own-managed funds		all funds	
diversity	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
	(0.937)	(0.890)	(0.898)	(0.924)	(0.895)	(0.925)	(0.898)	(0.990)		
# managers (10's)	0.007	0.000	0.001	-0.005	0.007	0.001	0.001	-0.006	0.006	-0.003
	(0.233)	(0.936)	(0.741)	(0.250)	(0.235)	(0.896)	(0.846)	(0.250)	(0.506)	(0.723)
size (trillions)	-0.331	-0.151	-0.304	-0.151	-0.325	-0.130	-0.307	-0.134	-0.325	-0.216
	(0.014)	(0.104)	(0.012)	(0.037)	(0.014)	(0.184)	(0.004)	(0.025)	(0.132)	(0.253)
age (10's)	0.002	-0.002	0.003	-0.001	0.002	-0.002	0.004	0.000	0.002	-0.001
	(0.236)	(0.262)	(0.183)	(0.780)	(0.324)	(0.288)	(0.212)	(0.860)	(0.375)	(0.668)
index fund	-0.002	-0.004	0.002	0.000	-0.002	-0.004	0.002	0.001	-0.001	-0.004
	(0.481)	(0.207)	(0.713)	(0.960)	(0.503)	(0.252)	(0.739)	(0.862)	(0.710)	(0.109)
expense ratio (%)	-0.102	-0.075	-0.091	-0.064	-0.114	-0.079	-0.109	-0.068	-0.063	-0.064
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.009)	(0.017)
net return (%)	-0.002	-0.003	-0.002	-0.003	-0.002	-0.003	-0.002	-0.004	-0.002	-0.002
	(0.674)	(0.195)	(0.627)	(0.129)	(0.726)	(0.152)	(0.638)	(0.065)	(0.669)	(0.615)
flow (%)	-0.003	-0.002	-0.002	-0.002	-0.003	-0.002	-0.001	-0.001	-0.003	-0.002
	(0.000)	(0.000)	(0.001)	(0.002)	(0.000)	(0.001)	(0.082)	(0.104)	(0.000)	(0.000)
industry closure ratio	0.216	0.045	0.209	0.056	0.204	0.026	0.208	0.038	0.239	0.090
	(0.000)	(0.005)	(0.000)	(0.008)	(0.000)	(0.102)	(0.000)	(0.091)	(0.000)	(0.010)
family closure ratio		0.793		0.689		0.855		0.773		0.639
		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)
family # funds (10's)		0.001		0.000		0.001		0.001		0.002
		(0.276)		(0.704)		(0.188)		(0.562)		(0.456)
family diversity		-0.001		0.003		0.006		0.013		
		(0.803)		(0.625)		(0.470)		(0.195)		
family # managers (10's)		0.000		0.000		0.000		0.000		0.002
		(0.859)		(0.578)		(0.893)		(0.443)		(0.159)
family size (trillions)		-0.015		-0.008		-0.013		-0.007		-0.036
		(0.008)		(0.103)		(0.012)		(0.154)		(0.090)
family age (10's)		0.002		0.003		0.002		0.003		0.004
		(0.053)		(0.010)		(0.202)		(0.064)		(0.111)
sub managed dummy	0.006	0.005			0.007	0.005			0.006	0.007
	(0.009)	(0.028)			(0.024)	(0.127)		(0.063)	(0.022)	
Rsquared	0.005	0.141	0.005	0.119	0.005	0.137	0.005	0.122	0.004	0.151
	0.11051	0.11051	0.11051	0.11051	0.11051	0.11051	0.11051	0.11051	0.11051	0.11051

# Descriptives

	(1)		(2)		(3)		(4)		(5)		(6)	
	leave the family		leave the industry		move to another		leave the family fund closures		leave the industry fund closures		move to another fund closures	
	male	+female	male	+female	male	+female	male	+female	male	+female	male	+female
own solo	0.109 (0.000)	0.027 (0.002)	0.072 (0.000)	0.019 (0.001)	0.037 (0.000)	0.008 (0.088)	0.540 (0.000)	0.211 (0.000)	0.357 (0.000)	0.085 (0.022)	0.183 (0.000)	0.127 (0.001)
own team	0.133 (0.000)	0.017 (0.000)	0.083 (0.000)	0.022 (0.000)	0.050 (0.000)	-0.005 (0.005)	0.392 (0.000)	0.070 (0.000)	0.227 (0.000)	0.072 (0.000)	0.165 (0.000)	-0.002 (0.811)
sub solo	0.122 (0.000)	0.024 (0.006)	0.074 (0.000)	0.030 (0.000)	0.048 (0.000)	-0.006 (0.189)	0.604 (0.000)	0.080 (0.054)	0.398 (0.000)	0.147 (0.001)	0.206 (0.000)	-0.067 (0.017)
sub team	0.156 (0.000)	0.022 (0.000)	0.084 (0.000)	0.026 (0.000)	0.072 (0.000)	-0.004 (0.026)	0.388 (0.000)	0.054 (0.000)	0.171 (0.000)	0.045 (0.000)	0.217 (0.000)	0.010 (0.352)

- Managers are always more likely to leave the fund family when they experience closure than otherwise.
- Solo managers are more likely to leave the fund family amid fund closures than team managers.
- Patterns consistent with the idea that performance influences fund families' employment decisions and that fund closures are a better performance signal for solo managers than for team managers regardless of gender

# Exit of team managers amid closure (fraction funds closed between t and t+3) manager-quarter level regressions, clustered fund-family and year-quarter

(A) fund family	(1)		(2)		(3)		(4)		(5)		(6)	
	est	pvalue	est	pvalue	est	pvalue	est	pvalue	est	pvalue	est	pvalue
female	0.007	(0.127)	0.002	(0.751)	-0.035	(0.141)	-0.036	(0.125)	-0.046	(0.073)	-0.047	(0.067)
fund closure	0.498	(0.000)	0.481	(0.000)	0.481	(0.000)	0.503	(0.000)	0.521	(0.000)	0.555	(0.000)
fund closure*female	0.060	(0.017)	0.065	(0.012)	0.067	(0.011)	0.098	(0.010)	0.067	(0.013)	0.093	(0.015)
industry quit ratio	0.619	(0.000)	0.599	(0.000)	0.594	(0.000)	0.592	(0.000)	0.573	(0.000)	0.568	(0.000)
fund closure*tenure							-0.004	(0.393)			-0.007	(0.165)
fund closure*tenure*female							-0.007	(0.181)			-0.006	(0.261)
diversity			0.032	(0.024)	0.025	(0.153)	0.025	(0.150)	0.009	(0.644)	0.009	(0.626)
# manager			0.010	(0.000)	0.009	(0.000)	0.009	(0.000)	0.005	(0.054)	0.005	(0.055)
size			-0.334	(0.008)	-0.306	(0.019)	-0.314	(0.015)	-0.274	(0.130)	-0.292	(0.105)
managing funds			-0.012	(0.013)	-0.012	(0.018)	-0.012	(0.018)	-0.012	(0.009)	-0.011	(0.009)
tenure			0.005	(0.000)	0.005	(0.000)	0.005	(0.000)	0.002	(0.034)	0.002	(0.009)
age			0.001	(0.089)	0.001	(0.098)	0.001	(0.097)	0.000	(0.788)	0.000	(0.785)
family diversity			-0.103	(0.089)	-0.101	(0.107)	-0.099	(0.113)	0.060	(0.238)	0.061	(0.236)
family # manager			0.000	(0.373)	0.000	(0.274)	0.000	(0.278)	0.000	(0.004)	0.000	(0.004)
family size			-0.003	(0.318)	-0.004	(0.296)	-0.004	(0.321)	-0.018	(0.000)	-0.018	(0.000)
family age			-0.001	(0.390)	-0.001	(0.233)	-0.001	(0.235)	0.000	(0.538)	0.000	(0.554)
diversity*female					0.044	(0.258)	0.045	(0.246)	0.085	(0.033)	0.086	(0.031)
manager*female					0.003	(0.185)	0.004	(0.176)	0.002	(0.586)	0.002	(0.567)
size*female					-0.214	(0.234)	-0.220	(0.222)	-0.409	(0.060)	-0.413	(0.058)
managing funds*female					-0.003	(0.177)	-0.003	(0.173)	-0.002	(0.303)	-0.002	(0.298)
tenure*female					0.000	(0.762)	0.000	(0.982)	-0.001	(0.528)	0.000	(0.799)
age*female					0.000	(0.927)	0.000	(0.914)	0.000	(0.703)	0.000	(0.719)
family diversity*female					-0.020	(0.724)	-0.022	(0.694)	-0.024	(0.693)	-0.027	(0.661)
family # manager*female					0.000	(0.022)	0.000	(0.022)	0.000	(0.019)	0.000	(0.019)
family size*female					0.001	(0.757)	0.001	(0.797)	0.005	(0.169)	0.004	(0.188)
family age*female					0.002	(0.061)	0.002	(0.064)	0.002	(0.022)	0.002	(0.024)
fixed effects		family		family		family		family		none		none
observations		122,030		116,148		116,148		116,148		116,148		116,148
Rsquared		0.083		0.087		0.088		0.088		0.236		0.236

# Exit of team managers amid closure (fraction funds closed between t and t+3) manager-quarter level regressions, clustered fund-family and year-quarter

(B) industry	(1)		(2)		(3)		(4)		(5)		(6)	
	est	pvalue	est	pvalue	est	pvalue	est	pvalue	est	pvalue	est	pvalue
female	0.017	(0.000)	0.011	(0.025)	-0.039	(0.080)	-0.040	(0.070)	-0.033	(0.139)	-0.035	(0.129)
fund closure	0.281	(0.000)	0.271	(0.000)	0.271	(0.000)	0.236	(0.000)	0.283	(0.000)	0.253	(0.000)
fund closure*female	0.051	(0.047)	0.054	(0.034)	0.054	(0.036)	0.085	(0.037)	0.050	(0.055)	0.075	(0.075)
industry quit ratio	0.195	(0.041)	0.231	(0.030)	0.230	(0.029)	0.234	(0.026)	0.170	(0.038)	0.174	(0.032)
fund closure*tenure							0.007	(0.115)			0.006	(0.170)
fund closure*tenure*female							-0.007	(0.237)			-0.005	(0.390)
diversity			0.035	(0.007)	0.028	(0.093)	0.028	(0.098)	0.018	(0.284)	0.018	(0.296)
# manager			0.004	(0.001)	0.004	(0.002)	0.004	(0.002)	0.000	(0.709)	0.000	(0.697)
size			-0.284	(0.006)	-0.265	(0.016)	-0.252	(0.019)	-0.293	(0.038)	-0.277	(0.041)
managing funds			-0.009	(0.008)	-0.009	(0.012)	-0.009	(0.011)	-0.007	(0.011)	-0.007	(0.011)
tenure			0.004	(0.000)	0.004	(0.000)	0.004	(0.000)	0.003	(0.000)	0.003	(0.000)
age			0.001	(0.144)	0.001	(0.085)	0.001	(0.086)	0.000	(0.317)	0.000	(0.316)
family diversity			-0.075	(0.123)	-0.089	(0.086)	-0.091	(0.075)	0.031	(0.328)	0.031	(0.330)
family # manager			0.000	(0.843)	0.000	(0.920)	0.000	(0.926)	0.000	(0.000)	0.000	(0.000)
family size			0.000	(0.874)	0.000	(0.836)	-0.001	(0.726)	-0.007	(0.007)	-0.007	(0.005)
family age			0.000	(0.657)	0.000	(0.905)	0.000	(0.927)	0.000	(0.871)	0.000	(0.896)
diversity*female					0.051	(0.132)	0.051	(0.131)	0.061	(0.079)	0.061	(0.077)
manager*female					0.005	(0.026)	0.005	(0.027)	0.003	(0.176)	0.003	(0.181)
size*female					-0.230	(0.154)	-0.249	(0.121)	-0.343	(0.042)	-0.357	(0.035)
managing funds*female					-0.003	(0.105)	-0.003	(0.111)	-0.002	(0.158)	-0.002	(0.163)
tenure*female					-0.001	(0.450)	-0.001	(0.579)	-0.001	(0.413)	-0.001	(0.503)
age*female					-0.001	(0.421)	-0.001	(0.418)	-0.001	(0.211)	-0.001	(0.208)
family diversity*female					0.029	(0.580)	0.029	(0.577)	0.014	(0.791)	0.014	(0.786)
family # manager*female					0.000	(0.485)	0.000	(0.498)	0.000	(0.545)	0.000	(0.557)
family size*female					0.001	(0.662)	0.001	(0.611)	0.003	(0.198)	0.003	(0.168)
family age*female					0.001	(0.074)	0.002	(0.070)	0.002	(0.031)	0.002	(0.029)
fixed effects		family		family		family		family		none		none
observations		122,030		116,148		116,148		116,148		116,148		116,148
Rsquared		0.043		0.050		0.050		0.050		0.133		0.133

## Exit of solo managers amid closure (fraction funds closed between t and t+3)

(A) fund family	(1)		(2)		(3)		(4)		(5)		(6)	
	est	pvalue	est	pvalue	est	pvalue	est	pvalue	est	pvalue	est	pvalue
female	0.007	(0.454)	0.000	(0.997)	-0.136	(0.164)	-0.131	(0.181)	-0.172	(0.064)	-0.169	(0.068)
fund closure	0.518	(0.000)	0.513	(0.000)	0.512	(0.000)	0.615	(0.000)	0.540	(0.000)	0.647	(0.000)
fund closure*female	0.116	(0.024)	0.122	(0.020)	0.123	(0.020)	0.051	(0.613)	0.130	(0.012)	0.070	(0.475)
industry quit ratio	0.244	(0.011)	0.330	(0.003)	0.338	(0.002)	0.321	(0.003)	0.156	(0.167)	0.139	(0.216)
fund closure*tenure							-0.020	(0.002)			-0.021	(0.001)
fund closure*tenure*female							0.014	(0.471)			0.011	(0.557)
control variables	No		Yes		Yes		Yes		Yes		Yes	
control variables*female	No		No		Yes		Yes		Yes		Yes	
fixed effects	family		family		family		family		none		none	
observations	25,896		24,638		24,638		24,638		24,638		24,638	
Rsquared	0.117		0.121		0.121		0.123		0.236		0.236	
(B) industry	(1)		(2)		(3)		(4)		(5)		(6)	
	est	pvalue	est	pvalue	est	pvalue	est	pvalue	est	pvalue	est	pvalue
female	0.013	(0.097)	-0.014	(0.543)	-0.121	(0.156)	-0.119	(0.158)	-0.131	(0.068)	-0.129	(0.069)
fund closure	0.287	(0.000)	0.280	(0.000)	0.279	(0.000)	0.295	(0.000)	0.289	(0.000)	0.303	(0.000)
fund closure*female	0.030	(0.607)	0.047	(0.427)	0.049	(0.408)	-0.017	(0.858)	0.048	(0.400)	-0.008	(0.928)
industry quit ratio	0.073	(0.459)	0.154	(0.141)	0.155	(0.137)	0.152	(0.144)	-0.007	(0.942)	-0.008	(0.933)
fund closure*tenure							-0.003	(0.636)			-0.003	(0.707)
fund closure*tenure*female							0.013	(0.403)			0.012	(0.461)
control variables	No		Yes		Yes		Yes		Yes		Yes	
control variables*female	No		No		Yes		Yes		Yes		Yes	
fixed effects	family		family		family		family		none		none	
observations	25,896		24,638		24,638		24,638		24,638		24,638	
Rsquared	0.057		0.064		0.065		0.065		0.127		0.127	

## Exit of team submanagers amid closure

(B) sub managers	diverse family					
	(1)		(2)		(3)	
	est	pvalue	est	pvalue	est	pvalue
female	0.015	(0.004)	0.010	(0.066)	0.033	(0.221)
fund closure	0.507	(0.000)	0.491	(0.000)	0.491	(0.000)
fund closure*female	0.027	(0.335)	0.025	(0.400)	0.023	(0.428)
industry quit ratio	0.406	(0.006)	0.302	(0.029)	0.300	(0.031)
diversity			0.043	(0.005)	0.047	(0.006)
# manager			0.004	(0.000)	0.004	(0.000)
size			1.894	(0.914)	5.323	(0.761)
managing funds			-0.033	(0.000)	-0.033	(0.000)
tenure			0.007	(0.000)	0.007	(0.000)
age			0.000	(0.472)	0.001	(0.386)
family diversity			-0.089	(0.190)	-0.073	(0.290)
family # manager			0.001	(0.010)	0.001	(0.011)
family size			-0.433	(0.301)	-0.459	(0.280)
family age			-0.001	(0.220)	-0.001	(0.234)
diversity*female					-0.026	(0.598)
manager*female					0.000	(0.810)
size*female					-6.470	(0.002)
managing funds*female					0.002	(0.713)
tenure*female					0.004	(0.129)
age*female					-0.001	(0.546)
family diversity*female					-0.062	(0.302)
family # manager*female					0.000	(0.657)
family size*female					0.068	(0.072)
family age*female					0.000	(0.578)
observations	164,215		151,384		151,384	
R-squared	0.002		0.106		0.107	



# Evidence suggests

- Following fund closures, female managers are more likely to leave the fund family and industry than male managers when they work in teams, but not when they work alone
- Consistent with attributional rationalization
- No gender differences in exit for sub-managers: fund family decides closure but has no employment authority

# Two big but related issues

- Gender literature: how to separate supply-side factors from demand side-factors?
  - E.g. women may experience differential exit because they want to leave (maternity, etc.)
    - No differences in solo exit suggests results not driven by different supply-side, but by demand-side
- Labor literature: separating quits from fires
  - No gender effect for sub-managers suggests results not driven by quits

# Exit when likely to be voluntary: mutual fund scandal of 2003

(A) own team managers	leave the fund family						leave the industry					
	(1)		(2)		(3)		(1)		(2)		(3)	
	est	p-value	est	p-value	est	p-value	est	pvalue	est	pvalue	est	pvalue
scandal	0.042	(0.015)	0.047	(0.002)	0.045	(0.002)	0.013	(0.261)	0.021	(0.052)	0.021	(0.054)
female	0.007	(0.136)	-0.037	(0.115)	-0.038	(0.114)	0.016	(0.000)	-0.041	(0.065)	-0.041	(0.065)
scandal*female	0.002	(0.951)	0.000	(0.990)	0.012	(0.695)	0.011	(0.636)	0.006	(0.808)	0.007	(0.748)
fund closure	0.500	(0.000)	0.504	(0.000)	0.503	(0.000)	0.280	(0.000)	0.235	(0.000)	0.235	(0.000)
female*fund closure	0.059	(0.018)	0.098	(0.010)	0.103	(0.008)	0.052	(0.045)	0.085	(0.037)	0.085	(0.039)
scandal*fund closure	-0.068	(0.347)	-0.062	(0.394)	-0.037	(0.621)	0.026	(0.659)	0.016	(0.777)	0.018	(0.775)
scandal*fund closure*female					-0.270	(0.039)					-0.023	(0.873)
control variables	No		Yes		Yes		No		Yes		Yes	
control variables*female	No		No		Yes		No		No		Yes	
observations	122,030		116,148		116,148		122,030		116,148		116,148	
Rsquared	0.083		0.088		0.088		0.043		0.051		0.050	
(B) own solo managers	(1)		(2)		(3)		(1)		(2)		(3)	
	est	pvalue	est	pvalue	est	pvalue	est	pvalue	est	pvalue	est	pvalue
scandal	0.024	(0.025)	0.033	(0.010)	0.033	(0.015)	-0.005	(0.620)	0.003	(0.749)	0.004	(0.537)
female	0.000	(0.316)	0.130	(0.163)	0.130	(0.163)	0.014	(0.006)	0.121	(0.155)	0.120	(0.156)
scandal*female	-0.058	(0.143)	-0.058	(0.163)	-0.058	(0.175)	-0.010	(0.749)	-0.008	(0.799)	-0.011	(0.587)
fund closure	0.510	(0.000)	0.607	(0.000)	0.607	(0.000)	0.285	(0.000)	0.293	(0.000)	0.293	(0.000)
female*fund closure	0.115	(0.022)	0.051	(0.607)	0.051	(0.611)	0.030	(0.611)	-0.017	(0.857)	-0.019	(0.840)
scandal*fund closure	0.125	(0.185)	0.123	(0.175)	0.124	(0.317)	0.039	(0.641)	0.039	(0.640)	0.032	(0.715)
scandal*fund closure*female					-0.001	(0.996)					0.028	(0.900)
control variables	No		Yes		Yes		No		Yes		Yes	
control variables*female	No		No		Yes		No		No		Yes	
observations	25,890		24,632		24,632		25,890		24,632		24,632	
Rsquared	0.118		0.124		0.122		0.057		0.065		0.065	

# Carhart alpha per year (%) and p-value

- VW portfolio of male-only funds vs. diverse funds (+diverse).
- Fund return: gross returns (returns + expense ratio) (or net return-similar results)

$$R_{p,t} - R_{f,t} = \alpha_p + \delta g_p + \beta_{i,1}MKT_t + \beta_{i,2}SMB_t + \beta_{i,3}HML_t (+\beta_{i,4}MOM_t)$$

$$+\gamma_{i,1}MKT_t * g_p + \gamma_{i,2}SMB_t * g_p + \gamma_{i,3}HML_t * g_p (+\gamma_{i,4}MOM_t * g_p) + \epsilon_{i,t}$$

		Fama-French	
		alpha*12	
		male	+diverse

(A) all managers

estimate	-0.189	-0.024
standard error	(0.703)	(0.994)
pvalue	(0.788)	(0.980)

(B) own managers in diverse families

estimate	-0.341	0.087
standard error	(0.719)	(1.018)
pvalue	(0.635)	(0.932)

(C) own team managers in diverse families

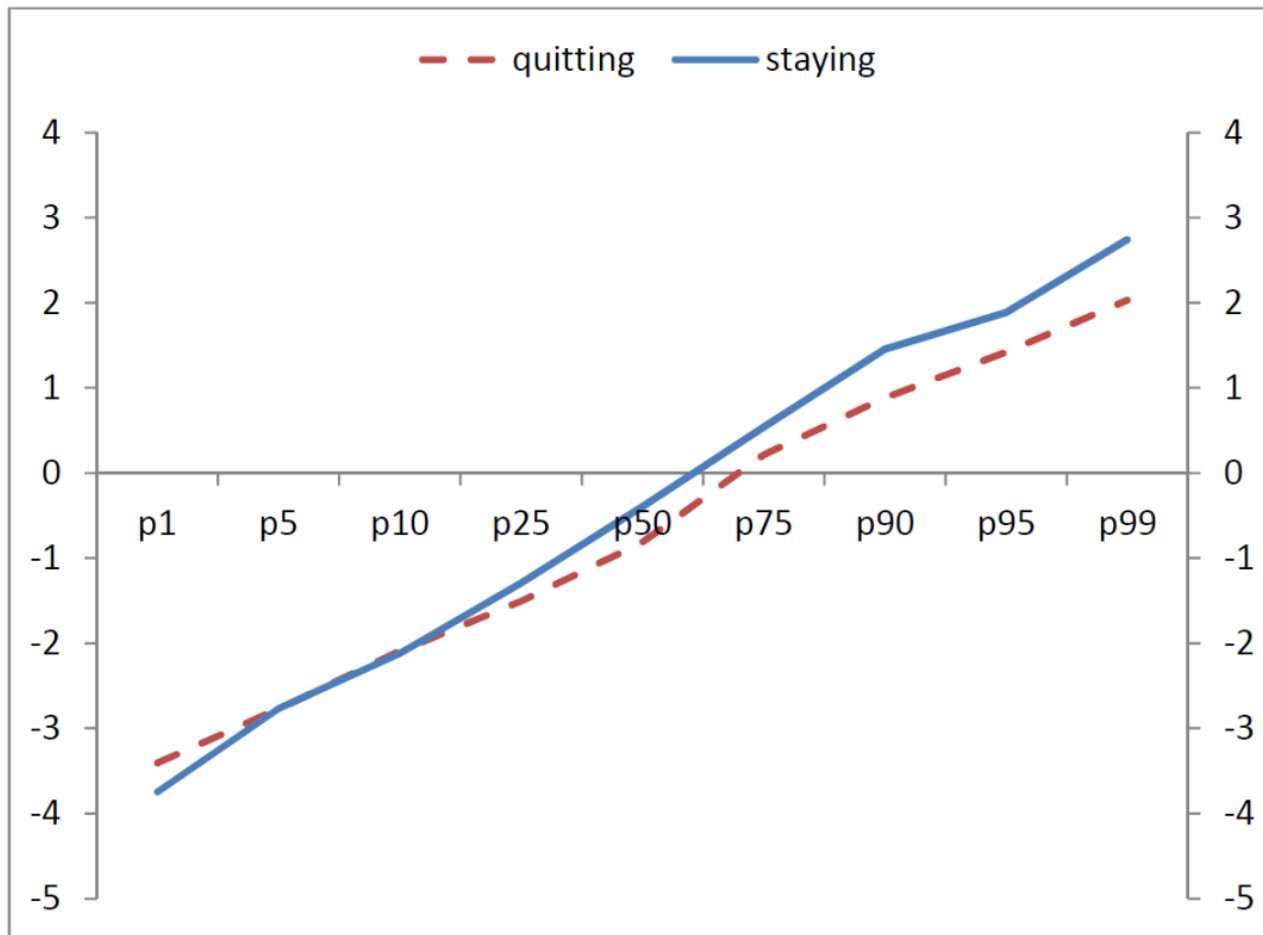
estimate	-0.452	0.181
standard error	(0.744)	(1.052)
pvalue	(0.544)	(0.864)

# Carhart alpha per year (%) and p-value

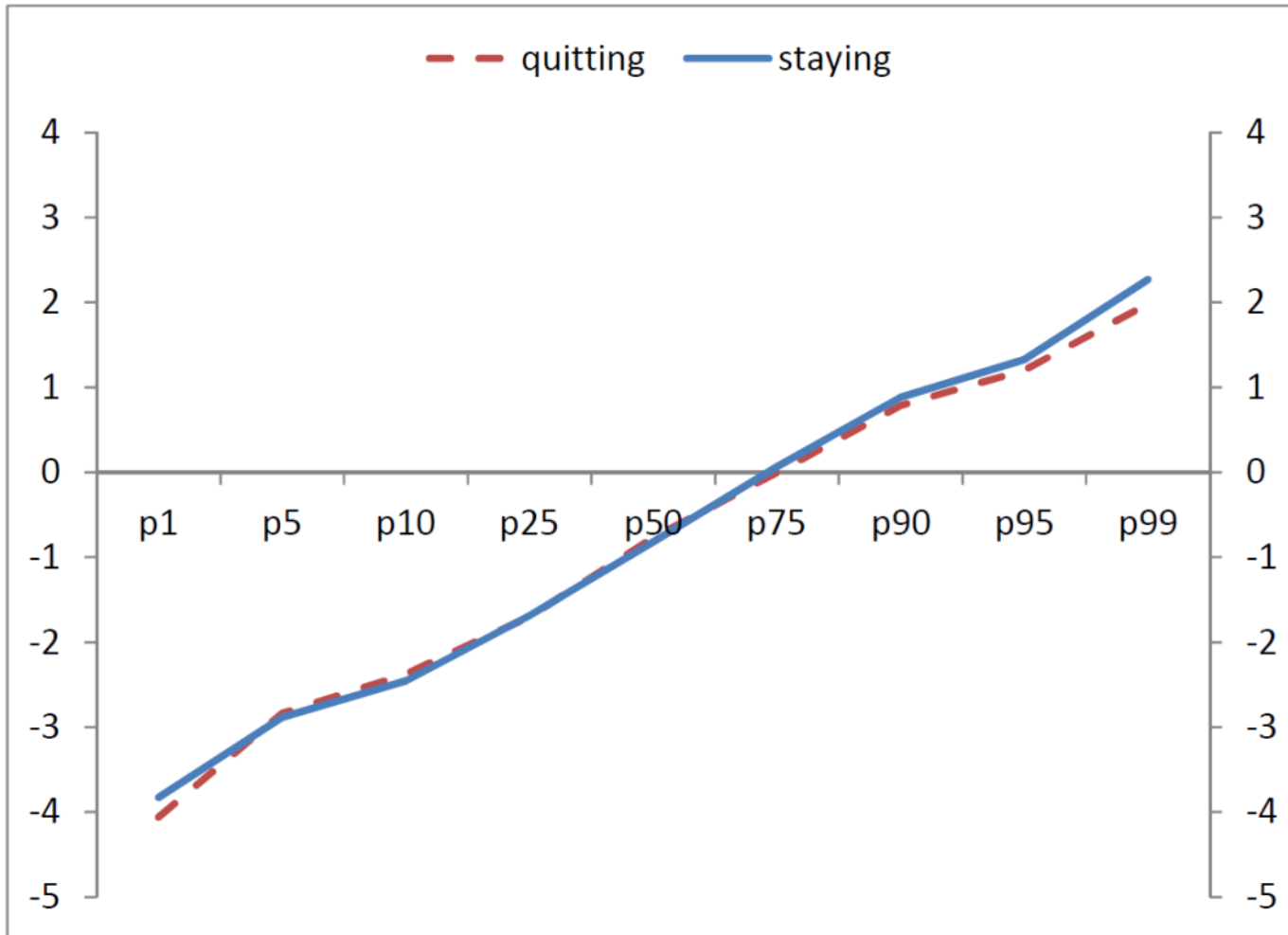
- VW portfolio of male managers' vs. female managers' funds (+female).

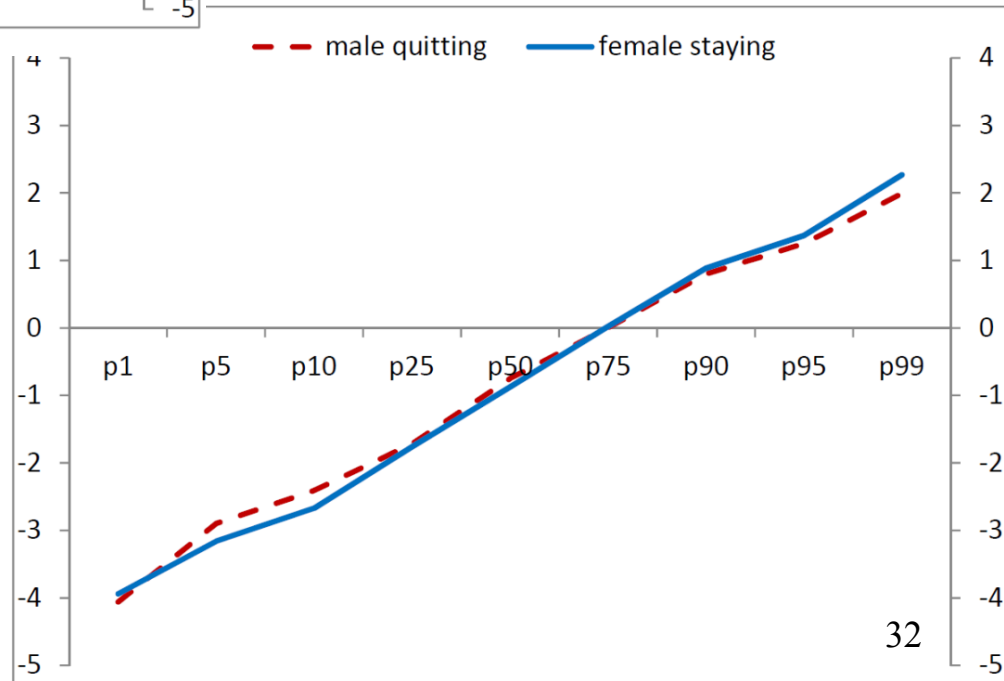
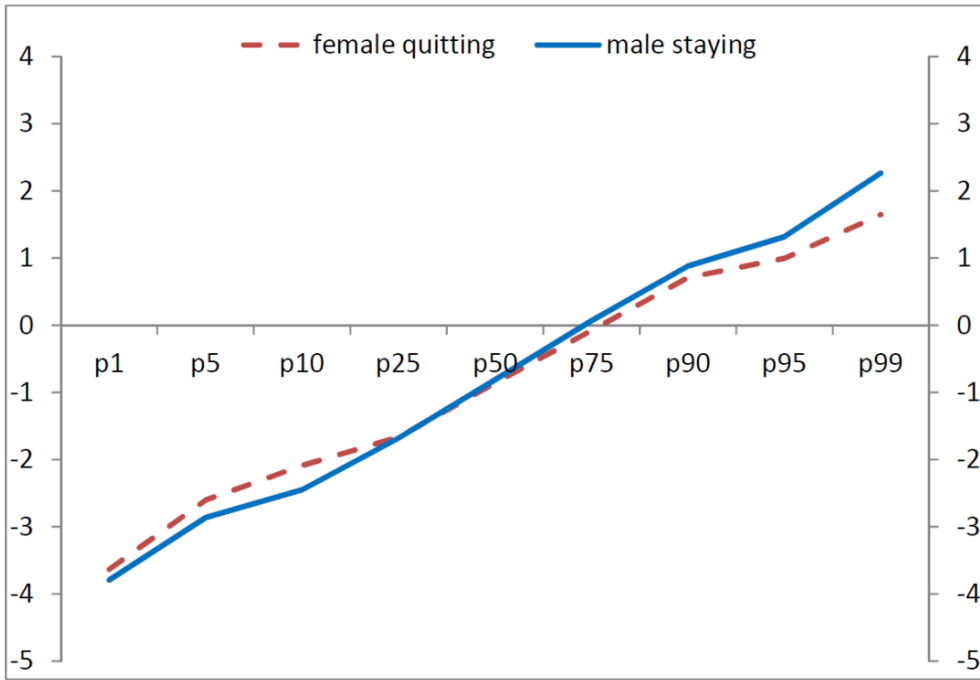
	Value-weighted				Equal-weighted			
	FF alpha*12		Carhart alpha*12		FF alpha*12		Carhart alpha*12	
	male	+female	male	+female	male	+female	male	+female
monthly gross returns (%)								
(A) all managers								
estimate	0.007	-0.180	0.086	-0.389	-0.189	-0.024	-0.254	-0.130
standard error	(0.687)	(0.972)	(0.698)	(0.987)	(0.703)	(0.994)	(0.713)	(1.009)
pvalue	(0.991)	(0.853)	(0.902)	(0.693)	(0.788)	(0.980)	(0.722)	(0.898)
(B) own managers in diverse families								
estimate	0.430	-0.465	0.048	-0.558	-0.341	0.087	-0.385	0.028
standard error	(0.775)	(1.096)	(0.678)	(0.959)	(0.719)	(1.018)	(0.731)	(1.034)
pvalue	(0.579)	(0.671)	(0.944)	(0.561)	(0.635)	(0.932)	(0.599)	(0.978)
(C) own team managers in diverse families								
estimate	0.371	-0.208	-0.020	-0.309	-0.452	0.181	-0.495	0.159
standard error	(0.792)	(1.120)	(0.704)	(0.996)	(0.744)	(1.052)	(0.756)	(1.070)
pvalue	(0.640)	(0.853)	(0.978)	(0.757)	(0.544)	(0.864)	(0.513)	(0.882)

# Carhart alphas-solo

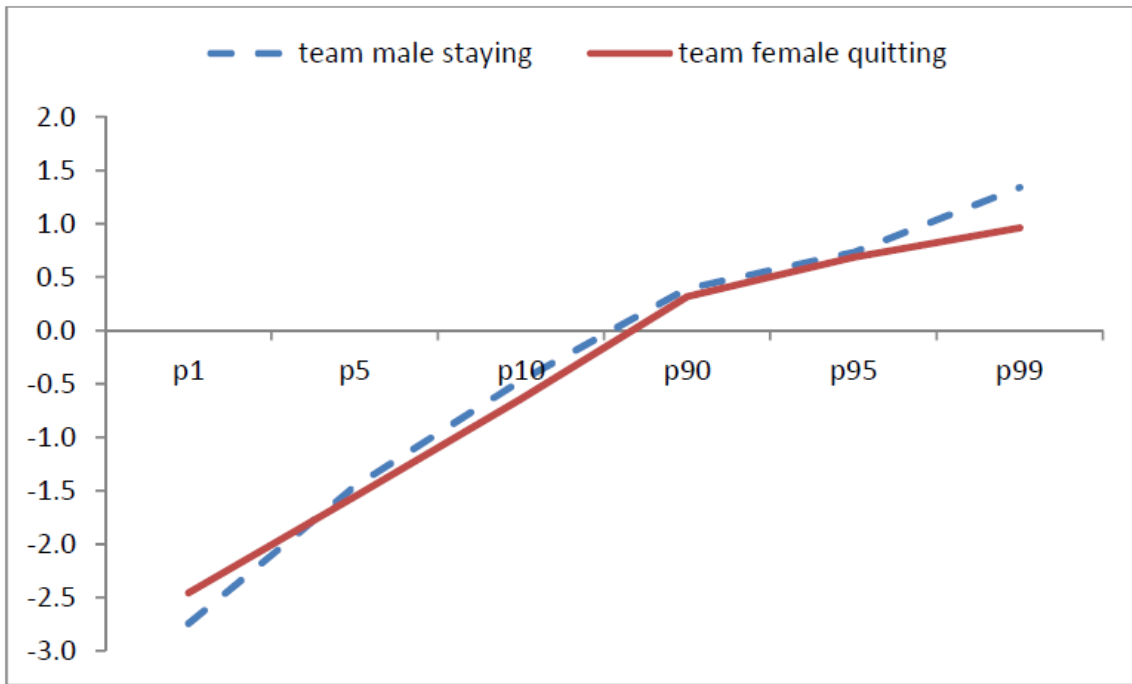


# Carhart alphas-team

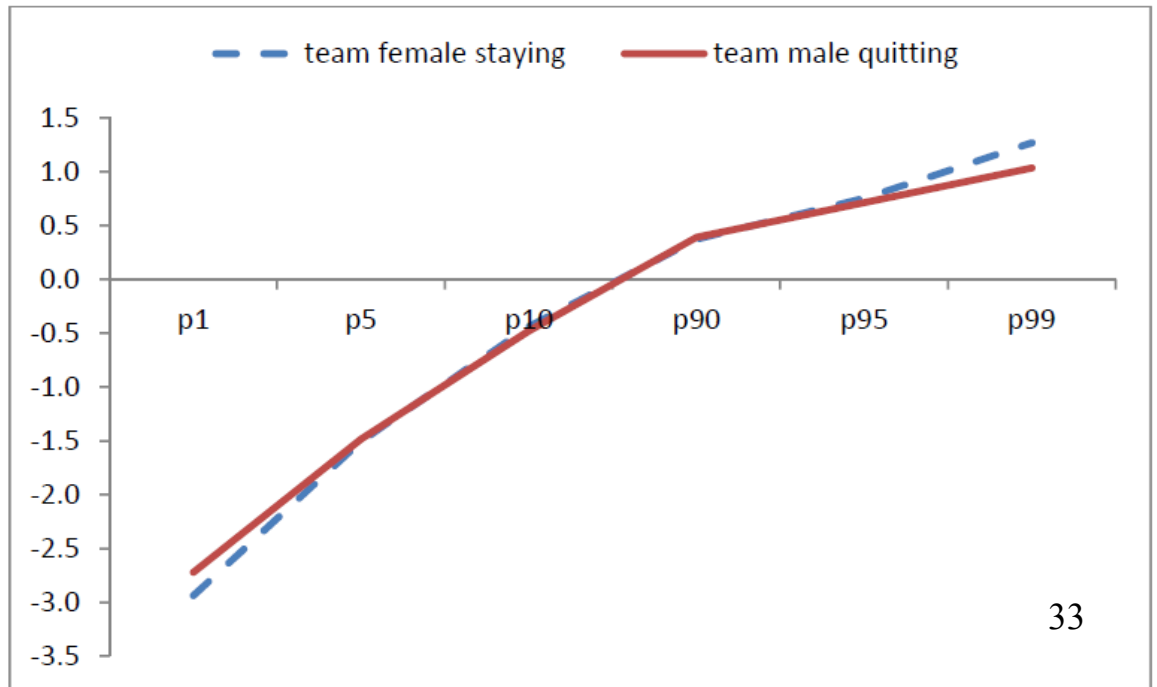


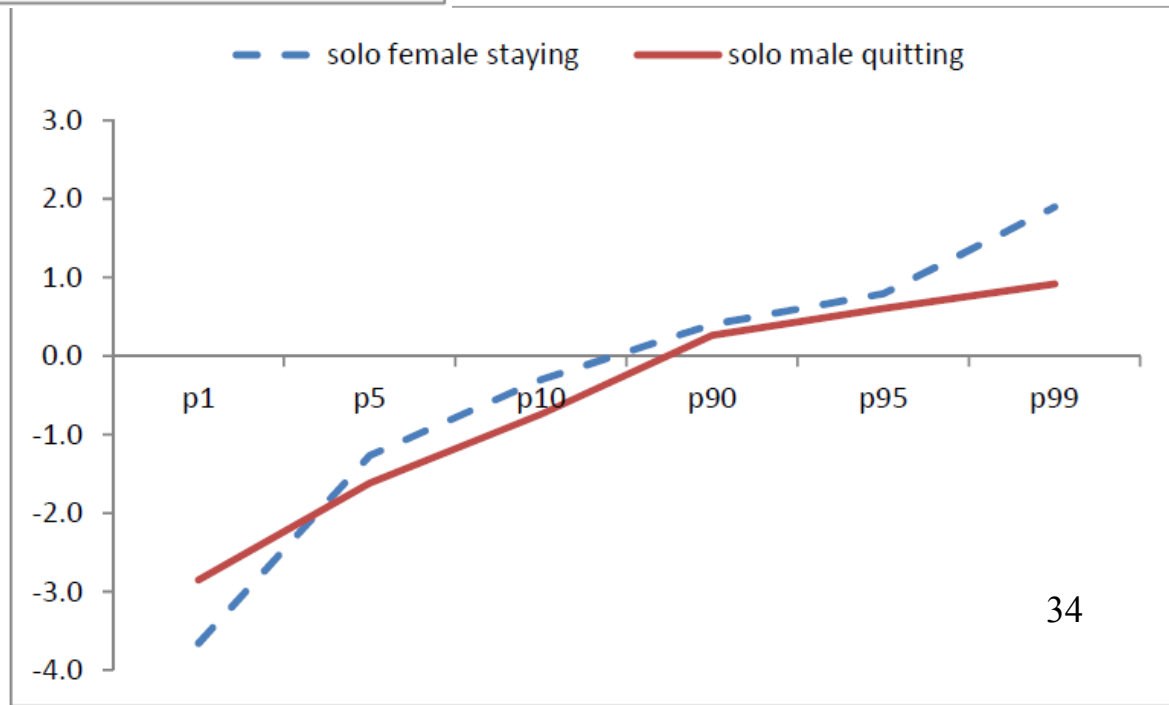
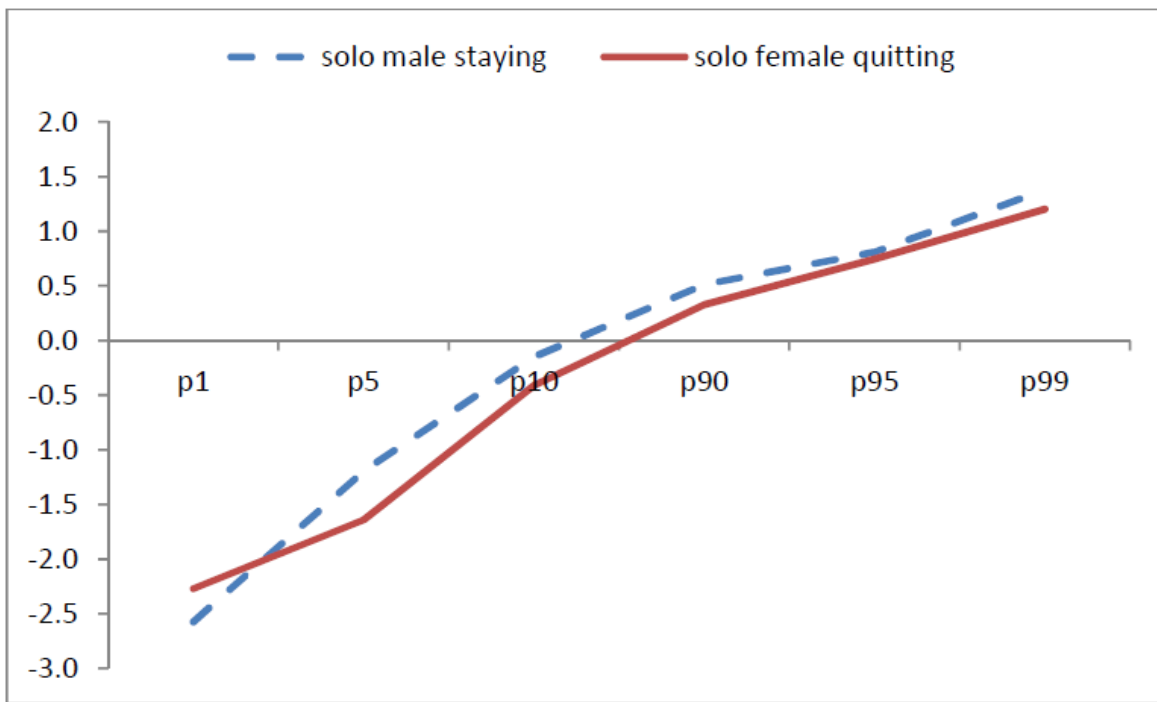






Distribution of t-statistics for managers' Carhart alphas





# Interpretation

- No statistically significant differences in alphas for men and women
  - Amid closure, skills of solo managers who stay dominate skills of those who leave regardless of gender
  - BUT, skills of team managers who stay and leave are hard to distinguish
- Availability of performance signal appears important

# Skills of self-employed managers

- Do women try to avoid employment relationship?

	gross return		net return	
	male	+female	male	+female
Current and past self-employed managers				
est.	-1.917	2.980	-3.030	2.520
pvalue	(0.094)	(0.076)	(0.008)	(0.134)
Current self-employed managers only				
est.	-1.487	4.573	-2.544	4.200
pvalue	(0.128)	(0.009)	(0.009)	(0.016)

# Conclusion

- Diversity in the mutual fund industry has been declining
  - Stark contrast to other sectors
- We document female team managers are significantly more likely to leave their jobs and the industry amid fund closures than male team-managers
  - Even though no evidence that can distinguish performance of team members
- Well known that work done by individuals may be prone to discrimination (e.g. Egan, Matvos and Seru, 2017)
- We highlight that the absence of individual performance signals in teams may foster discrimination

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