To Group or Not to Group? Evidence from Mutual Funds

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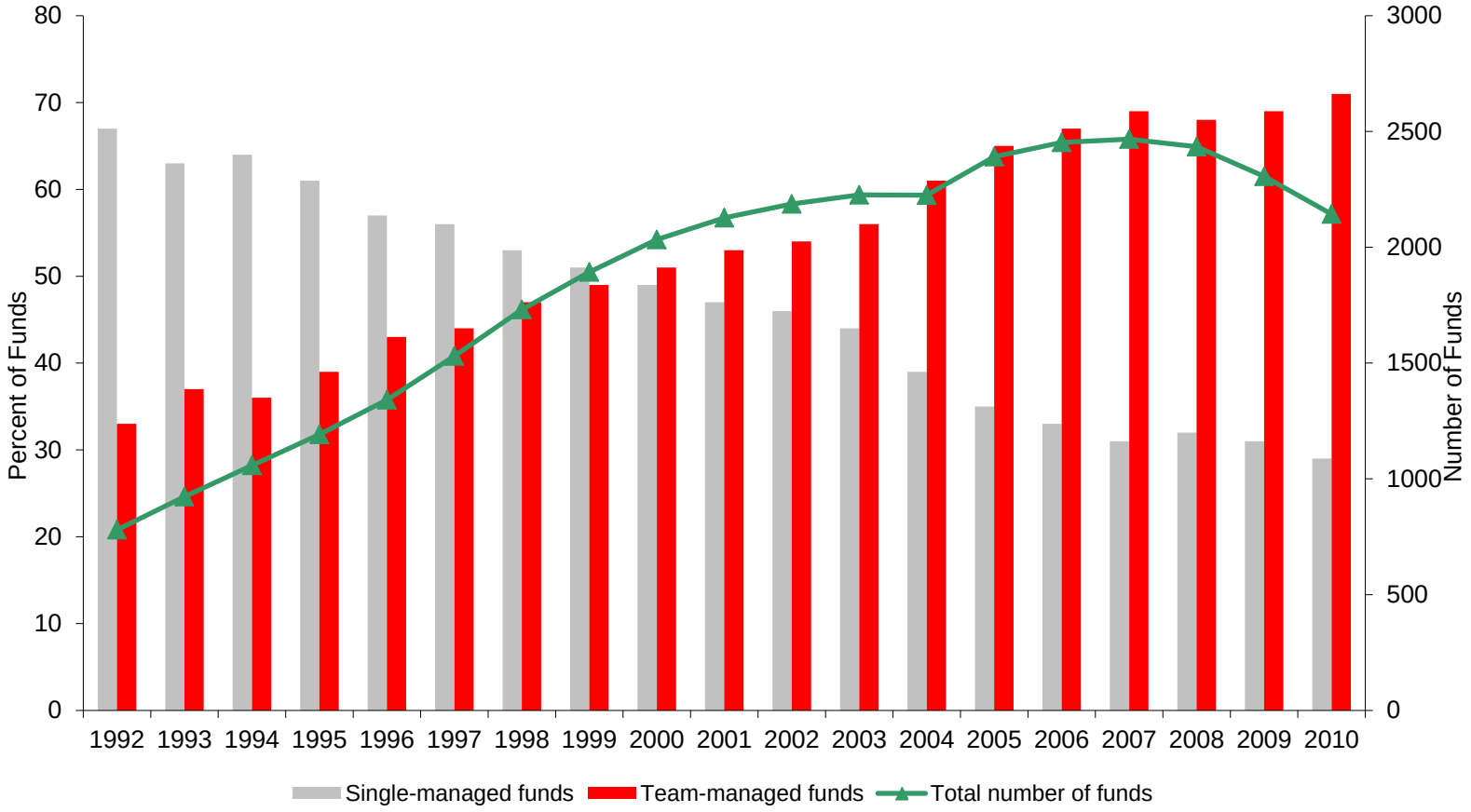
Fund management structure evolution



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Trend in fund management structure

"Mutual fund star managers have gone the way of the vinyl record: They're cool to have, expensive to get, and sometimes, not the best quality. In their place, fund companies ... are moving in favor of a team-oriented approach. Even Fidelity Investments, home of one of the first star managers, Peter Lynch, has switched some funds to a team-managed approach. The move helps fund companies defend against poaching, protect their funds' returns, and shield themselves from the level of outflows seen at competing firms after their high-profile stars have flamed out."

Reuters, Dec 2, 2011

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Outline

- Motivation
- Differences between Morningstar and CRSP datasets
- The impact of team on fund performance
- Impact of teams on risk taking and fund characteristics
- Conclusion

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The value of a group: Is it there?

- **No!**
  - Teams lead to “risky shifts” and “group polarization” (Kerr, 1992)
  - Teams induce “groupthink” (Janis, 1982)
  - Teams bring “free riding” (Holmström, 1982; Rasmusen, 1987)
- **Yes!**
  - Teams help diversification of style and judgment (Sharpe 1981)
  - Teams may reduce portfolio risk (Barry & Starks, 1984)
  - Teams increase productivity (Hamilton, et al., 2003)
  - Teams arrive to less extreme decisions (Adams & Ferreira, 2010)

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Related mutual fund literature:

- Teams are bad (use CRSP data):
  - Chen et al. (2004)
  - Bar et al. (2010)
  - Han et al. (2008)
- Teams are similar to single managers (use MS data):
  - Massa et al. (2010)
  - Bliss et al. (2008)

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Two hypotheses & predictions

- H1: Fund performance is higher among team-managed funds.
  - P1. Fund performance is non-linear in the number of team members.
  - P2. Fund performance is higher among team-managed funds located in larger cities.

- H2: Team-managed funds do not take excessive risk.

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Main findings

- There are large discrepancies in managerial structures between CRSP and Morningstar databases reaching on average 20% per year.

- Team-managed funds:
  - Have higher risk-adjusted returns than single-managed funds,
  - Are not riskier than single-managed funds,
  - Generate extra fund flows,
  - Exhibit large cross-sectional variations in the extent of gains.

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Data sources and sample properties

- **Source**: Morningstar Direct, CRSP
- **Fund types**: US domestic equity (no index or specialty)
- **Time period**: 1992-2010
- **Number of unique funds**: 3,935
- **Number of manager-fund-year observations**: 35,440
- **Performance metrics**: 4-factor alpha (unconditional and conditional)

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Fund-level characteristics

- **Size** – TNA of the fund
- **Age** – the fund's age since its inception year
- **Family size** – TNA of the fund's family
- **Expenses** – total expense ratio of the fund
- **Turnover** – annual trading rate
- **Volatility** – standard deviation of monthly net fund returns over the past 12 months
- **Flows** – net growth in TNA of the fund
- **Location** – financial center dummy

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Manager-level characteristics

- **Tenure** – the number of years the fund manager remains with the fund
- **SAT** – the SAT score of matriculates of the fund manager's undergraduate institution
- **MBA** – a dummy which equals one if at least one manager of the fund has an MBA degree
- **Age** – fund manager's age in the current year

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Misspesification CRSP: Example

(CRSP Fund No: 53; MS Fundid: FSUSA004ZG)

			# Fund Managers		
Fund Name (MS)	Fund Name (CRSP)	Year	MS	CRSP	SEC
AARP Growth & Income	AARP Growth & Income Fund	1992	3	3	-
AARP Growth & Income	AARP Growth Tr: Growth and Income Fund	1993	3	1	-
AARP Growth & Income	AARP Growth Tr: Growth and Income Fund	1994	3	1	-
AARP Growth & Income	AARP Growth Tr: Growth and Income Fund	1995	3	1	3
AARP Growth & Income	AARP Growth Tr: Growth and Income Fund	1996	4	3	4
AARP Growth & Income	AARP Growth Tr: Growth and Income Fund	1997	5	1	5
AARP Growth & Income	AARP Growth Tr: Growth and Income Fund	1998	4	1	4
AARP Growth & Income	AARP Growth Tr: AARP Growth and Income Fund	1999	2	2	2

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Misspesification in CRSP: Full picture

Year	Funds	Single(CP)-Team(MS)		Team(CP)-Single(MS)		Misspecified Funds	% Sample
		Funds	% Single(CP)	Funds	% Team(CP)		
1992	582	89	18.94	14	12.50	103	17.70
1993	720	147	24.92	22	16.92	169	23.47
1994	835	176	26.47	40	23.53	216	25.87
1995	946	196	26.49	37	17.96	233	24.63
1996	1040	173	24.09	60	18.63	233	22.40
1997	1238	166	21.20	83	18.24	249	20.11
1998	1560	222	23.37	117	19.18	339	21.73
1999	1668	177	19.64	124	16.17	301	18.05
2000	1678	197	22.46	136	16.98	333	19.85
2001	1798	183	20.29	143	15.96	326	18.13
2002	1864	190	21.40	169	17.32	359	19.26
2003	1933	145	17.68	181	16.26	326	16.86
2004	1940	116	18.10	255	19.63	371	19.12
2005	2015	184	27.50	227	16.86	411	20.40
2006	2068	203	29.12	198	14.44	401	19.39
2007	2129	122	18.26	130	8.90	252	11.84
2008	2110	122	19.15	174	11.81	296	14.03
2009	1928	116	19.80	140	10.43	256	13.28
2010	1866	105	18.17	83	6.44	188	10.08

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Teams in CRSP & Morningstar

Controls match those in Chen, Hong, Huang, and Kubik (2004)

	CRSP		Morningstar	
	α(4U)	α(4C)	α(4U)	α(4C)
Team	-0.0108	-0.0058	0.0247	0.0340**
	(0.475)	(0.728)	(0.106)	(0.039)
Fund controls	Yes	Yes	Yes	Yes
Manager controls	Yes	Yes	Yes	Yes
Time & Obj. FE	Yes	Yes	Yes	Yes
Cluster (Fund)	Yes	Yes	Yes	Yes
R^2 (%)	13.33	13.31	13.35	13.34
Obs.	10,982	10,982	10,982	10,982
F: Team (MS-CRSP) = 0			0.0355***	0.0398***
p-value			(0.000)	(0.000)

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Teams & fund performance

	OAR		α(4U)		α(4C)	
	(1)	(2)	(3)	(4)	(5)	(6)
$Team_{i,t}$	0.0128	0.0308*	0.0181*	0.0320**	0.0184	0.0381**
	(0.332)	(0.094)	(0.100)	(0.043)	(0.118)	(0.025)
Fund controls	Yes	Yes	Yes	Yes	Yes	Yes
Manager controls		Yes		Yes		Yes
Time & Obj. FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster (Fund)	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	1.93	2.99	11.90	12.77	12.31	13.25
Obs.	20,565	12,135	19,781	11,646	19,781	11,646

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Teams & fund styles

	α(4C)			
	AG	GR	GI	EI
$Team_{i,t}$	-0.0179	0.0388*	0.0833***	0.0804*
	(0.696)	(0.082)	(0.003)	(0.051)
Fund controls	Yes	Yes	Yes	Yes
Manager controls	Yes	Yes	Yes	Yes
Time & Obj. FE	Yes	Yes	Yes	Yes
Cluster (Fund)	Yes	Yes	Yes	Yes
R^2 (%)	15.06	13.42	18.00	18.42
Obs.	2,402	6,908	1,761	575

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Cross-sectional properties of teams

- Team size:
  - Productivity of teams is high but diminishes with more members (Hamilton et al., 2003)
  - Three-member teams are necessary and sufficient for solving highly intellectual problems (Laughlin et al., 2006)
- Team location:
  - Large cities enable better transfer of information and knowledge (Jacobs, 1969; Christoffersen & Sarkissian, 2009)
- Team heterogeneity (mixed findings):
  - Enhances information processing skills (Hamilton et al., 2003) but raises social frictions (Jehn et al. 1999).

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Team size effect

	α(4U)			α(4C)		
	(1)	(2)	(3)	(4)	(5)	(6)
2 Managers	0.0121	0.0124	0.0307*	0.0058	0.0073	0.0304
	(0.317)	(0.336)	(0.091)	(0.653)	(0.600)	(0.119)
3 Managers	0.0359**	0.0320**	0.0405*	0.0384**	0.0388**	0.0499**
	(0.015)	(0.045)	(0.065)	(0.016)	(0.021)	(0.032)
4 Managers	0.0155	-0.0068	0.0154	0.0230	0.0052	0.0392
	(0.516)	(0.737)	(0.526)	(0.373)	(0.802)	(0.126)
5+ Managers	0.0305**	0.0328*	0.0291	0.0236	0.0307*	0.0361
	(0.043)	(0.050)	(0.184)	(0.151)	(0.093)	(0.123)
Fund controls		Yes	Yes		Yes	Yes
Manager controls			Yes			Yes
Time & Obj. FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster (Fund)	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	11.13	11.96	12.83	11.20	12.39	13.28
Obs.	25,908	19,555	11,534	25,908	19,555	11,534

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Interaction of team & location

	α(4U)			α(4C)		
	(1)	(2)	(3)	(4)	(5)	(6)
$Team_{i,t}$	0.0095	-0.0052	0.0144	-0.0089	-0.0152	0.0092
	(0.572)	(0.774)	(0.551)	(0.612)	(0.417)	(0.725)
$Team_{i,t} \times FC_i$	0.0222	0.0400*	0.0290	0.0469**	0.0578**	0.0475
	(0.286)	(0.076)	(0.326)	(0.033)	(0.016)	(0.138)
FC_i	-0.0124	-0.0290	-0.0278	-0.0267	-0.0401**	-0.0223
	(0.459)	(0.127)	(0.284)	(0.129)	(0.046)	(0.431)
Fund controls		Yes	Yes		Yes	Yes
Manager controls			Yes			Yes
Time & Obj. FE	Yes	Yes	Yes	Yes	Yes	Yes
Cluster (Fund)	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	11.29	11.91	12.77	11.33	12.34	13.26
Obs.	24,714	19,781	11,646	24,714	19,781	11,646
F: FC (Team - Single)	0.0317**	0.0348**	0.0434**	0.0380***	0.0426***	0.0567***
p-value	(0.013)	(0.011)	(0.026)	(0.007)	(0.004)	(0.007)

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Team diversity

	Financial centers		Non-financial centers	
	α(4U)	α(4C)	α(4U)	α(4C)
Tenure Diversity$_{i,t}$	0.0093	-0.0229	0.0772	0.1225**
	(0.838)	(0.643)	(0.166)	(0.049)
SAT Diversity$_{i,t}$	-0.6434**	-1.0662***	0.0066	-0.0395
	(0.019)	(0.000)	(0.988)	(0.933)
MAge Diversity$_{i,t}$	-0.3695**	-0.4976***	0.2642	0.1605
	(0.047)	(0.003)	(0.110)	(0.353)
Team Size$_{i,t}$	0.0047	0.0193	-0.0488**	-0.0235
	(0.815)	(0.377)	(0.037)	(0.357)
Fund controls	Yes	Yes	Yes	Yes
Manager controls	Yes	Yes	Yes	Yes
Time & Obj. FE	Yes	Yes	Yes	Yes
Cluster (Fund)	Yes	Yes	Yes	Yes
R^2 (%)	16.59%	18.35%	15.79%	17.83%
Obs.	1,667	1,667	1,214	1,214

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Team effect on risk-taking

		CAPM		Unconditional 4F alpha				
	Total Risk	Mrk1	IdoVol1	Mrk4	SMB	HML	MOM	IdVol4
$Team_{i,t}$	0.0797	0.0102	0.0569	0.0096	0.0267*	0.0301**	-0.0030	-0.0061
	(0.180)	(0.385)	(0.137)	(0.216)	(0.056)	(0.044)	(0.699)	(0.787)
Fund controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Manager controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time & Obj. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster (Fund)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	58.00	18.56	45.46	6.90	31.71	12.12	10.03	33.15
Obs.	12,891	12,286	12,286	12,286	12,286	12,286	12,286	12,286

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Team effect on fund characteristics

	Expenses	Turnover	Size	Flows
$Team_{i,t}$	-0.0198 (0.273)	-0.1243*** (0.000)	0.0216* (0.081)	0.0757** (0.020)
Fund controls	Yes	Yes	Yes	Yes
Manager controls	Yes	Yes	Yes	Yes
Time & Obj. FE	Yes	Yes	Yes	Yes
Cluster (Fund)	Yes	Yes	Yes	Yes
R^2 (%)	16.57	13.57	92.96	9.87
Obs.	13,279	12,312	12,136	12,135

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Conclusions

- Mutual funds provide an ideal setting for the analysis of group versus individual behavior and performance.
- Collective decision making is beneficial.
- The benefits if team management are sensitive to:
  - Team size
  - Team location
  - Team diversity

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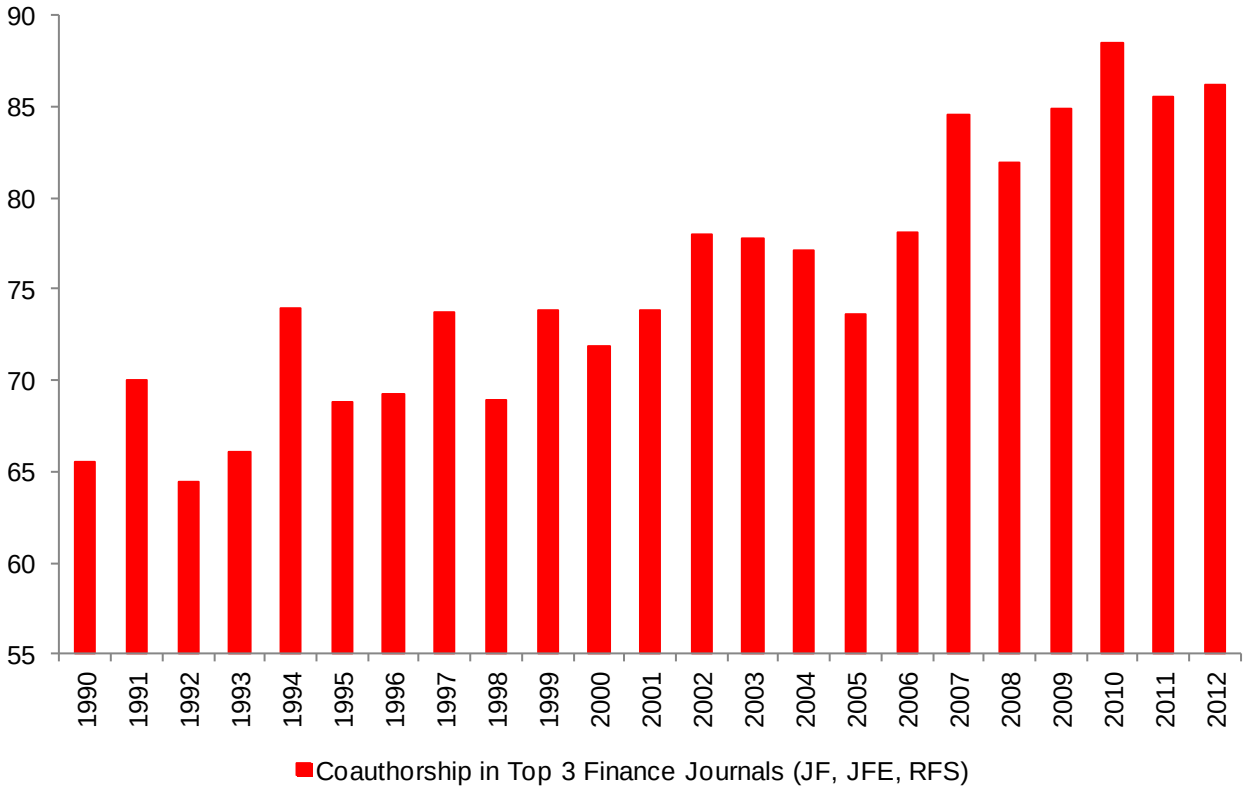
Team work trend in finance research



- Source: Patel (2012)

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