Labor Mobility and Capital Misallocation in the Mutual Fund Industry

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Motivation

Why should we care about the allocation of assets across active fund managers?

- ► The mutual fund sector manages about 1/4 of all financial assets of U.S. households (i.e., almost $20 trillion)

- ► Active fund managers vary greatly in skills and face decreasing returns to scale: skill and scale interact

- ⇒ The value added by the mutual fund industry is related to the allocation of capital across active managers

How is capital reallocated across managers?

Investors' fund flows reallocate capital across managers: capital goes to managers…

… however capital may be sticky and not flow efficiently across managers

⇒ the match between managers and capital could also occur by managers going to capital

▶ This paper: external labor market. By moving across firms, managers end up managing more/less capital

▶ Question: Does fund managers' mobility across firms allow for a better capital allocation?

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Empirical challenges

Studying the effect of fund managers' external mobility on the efficiency of capital allocation poses three challenges:

1. Need rich fund manager-level data to follow managers over time and across firms

2. Need to measure the effect of scale on managers' performance

3. Need exogenous variation in intensity of managers' mobility

Data

Combining three databases:

1) CRSP Survivorship Bias Free Mutual Fund Database

2) Morningstar mutual funds data

3) S&P Capital IQ-People Intelligence: profiles of professionals with individual ID, company affiliation, office address

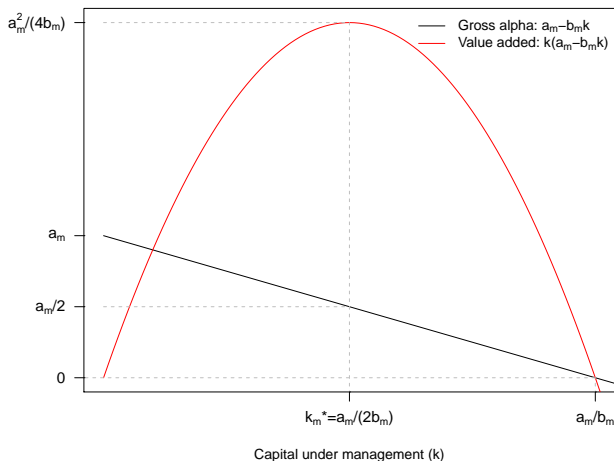$\Rightarrow$ Novel dataset featuring 7,600+ distinct active equity fund managers with a track-record of at least two years between 2000 and 2018

Manager's value added

If manager m manages an amount of capital k, generates value added:

$$v_m(k) = \underbrace{k}_{\text{capital}} \times \underbrace{\alpha_m(k)}_{\text{\% gross alpha created by manager } m \text{ with capital } k}$$
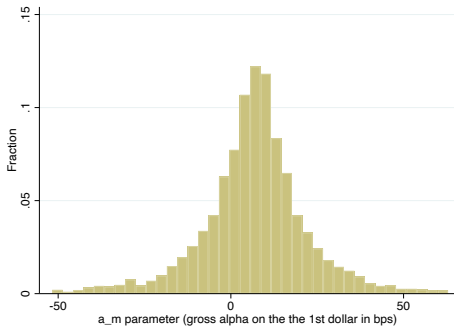
where $\alpha_m(k) \downarrow$ with k
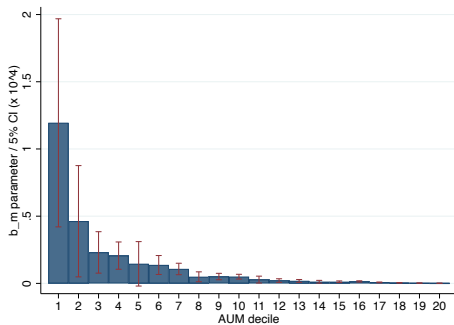

Capital under management (k)

Skills and the effect of scale

$$\text{Assuming } \alpha_m(k) = a_m - b_m k$$

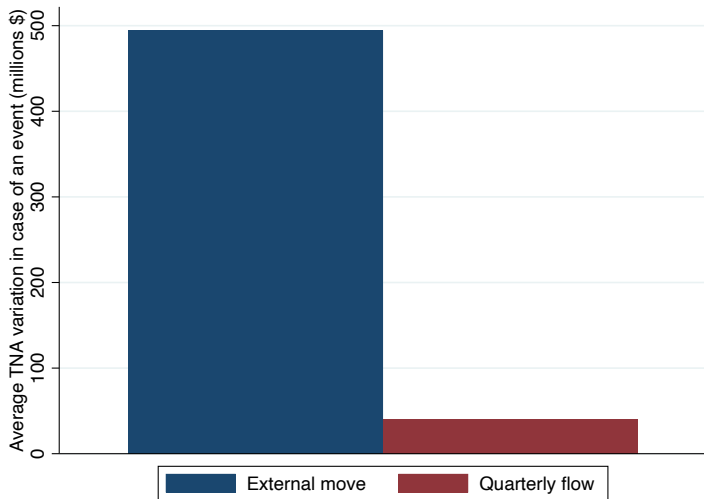

Distribution of the estimates of a_m
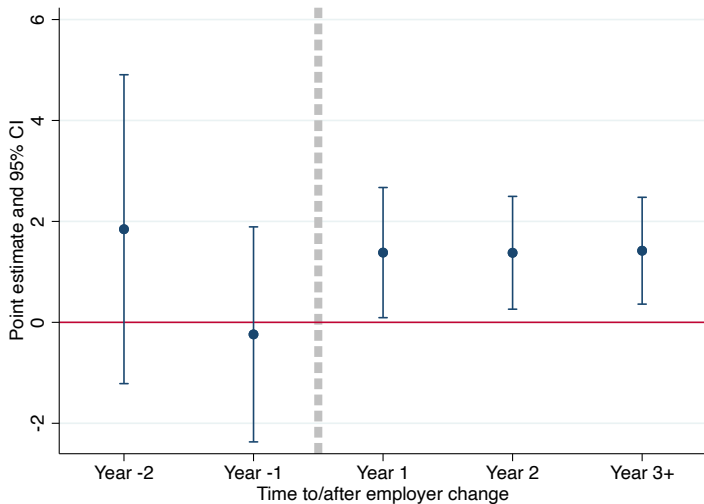
Estimates of b_m

What happens when a fund manager changes firm

Managers' mobility and value added

Managers' mobility and misallocation

Non-Compete Clauses

Estimates are biased if mobility is driven by unobserved variables:

- Use staggered state-level variations in the enforceability of non-compete clauses (NCC)

- NCC: clauses in labor contracts in which the employee covenants neither to join nor to found a competing firm within 1–Y of leaving

- State-level NCC policy changes affect the ability of fund managers employed in those states to switch mutual fund firms

⇒ Test whether in states where NCC enforcement increases:

1) managers' mobility ↓ w.r.t. control states

2) sum of managers' value added ↓ w.r.t. control states

3) capital misallocation across managers ↑ w.r.t. control states

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$\Rightarrow$ Test whether in states where NCC enforcement increases:

1) managers' mobility $\downarrow$ w.r.t. control states

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3) capital misallocation across managers $\uparrow$ w.r.t. control states

The effect of NCC on the % of moving managers
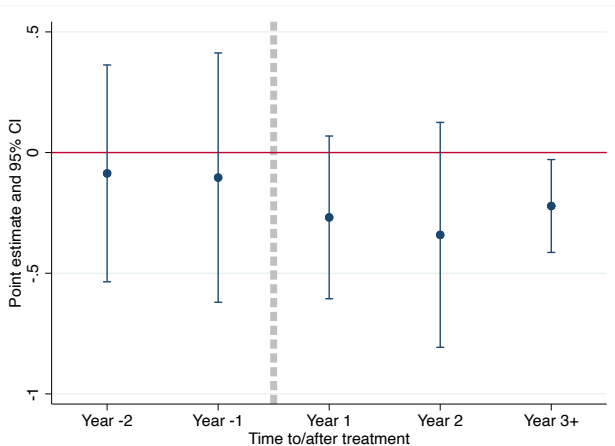
The effect of NCC on state managers' value added
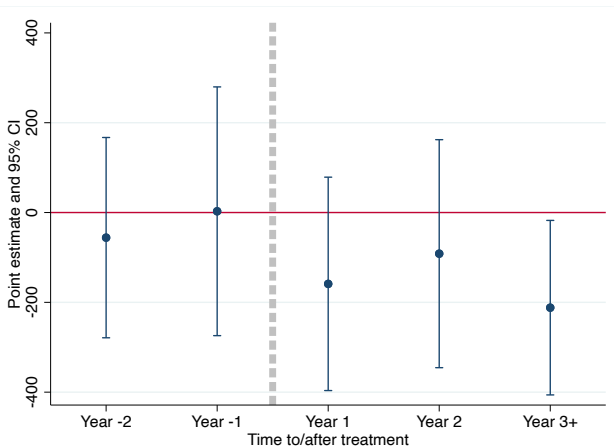
Concluding remarks

Does fund managers' mobility across firms allow for a better capital allocation?

1) When a manager switches firm: misallocation $\downarrow$ and value added $\uparrow$

2) Using NCC enforceability changes, I show that restricting managers' mobility across firms:

$\downarrow$ total value added by more about $200 million in treated states compared to control states

$\Rightarrow$ The mobility of managers across firms is a key channel through which capital is efficiently reallocated in the mutual fund sector

Appendix

Experience when managers change employer

Summary statistics of skill parameters

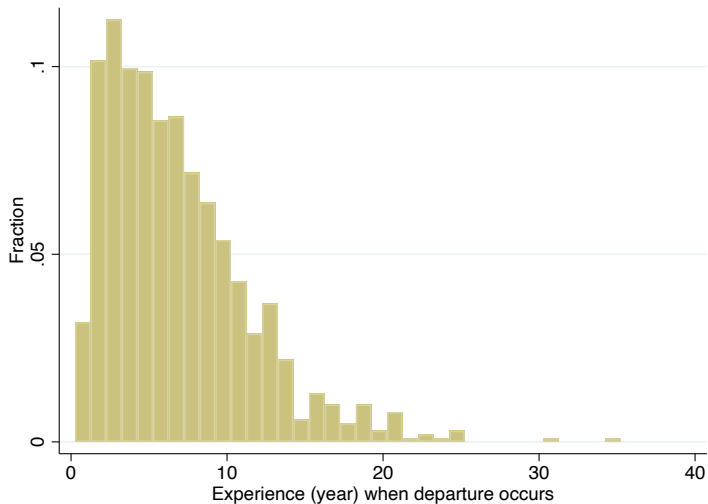| Group	Avg. TNA	$b_m(\times 10^4)$	$t(b_m)$	a_m $(\times 10^4)$						
				mean	std.	5%	25%	50%	75%	95%
1	22	1.194	3.02	19.08	22.67	-17.62	11.26	21.88	30.98	44.96
2	31	0.462	2.19	12.91	18.45	-19.39	5.62	13.89	20.67	38.26
3	41	0.230	2.93	10.12	28.33	-17.18	1.51	8.71	14.95	43.18
4	53	0.207	3.99	9.58	18.61	-16.63	0.23	10.30	16.37	41.19
5	67	0.146	1.73	7.66	20.45	-24.05	0.62	9.21	16.44	37.81
6	84	0.137	3.80	9.53	18.90	-17.99	2.72	10.87	17.41	35.77
7	103	0.107	4.93	10.22	19.44	-16.17	4.43	11.05	17.04	30.60
8	126	0.049	2.60	3.85	21.37	-27.68	-2.52	5.54	11.57	27.50
9	154	0.051	4.18	4.91	17.28	-23.41	-1.37	6.28	12.75	31.37
10	188	0.050	5.53	7.41	17.70	-16.58	2.16	8.96	13.40	29.64
11	232	0.028	2.17	4.47	24.95	-31.58	-3.93	5.67	12.08	32.12
12	284	0.021	3.09	2.82	19.73	-22.54	-5.02	4.17	9.70	26.48
13	355	0.018	3.44	3.64	16.69	-28.13	-3.00	5.03	11.79	24.51
14	444	0.012	2.43	2.81	21.90	-30.65	-5.29	3.32	10.09	34.83
15	566	0.012	3.87	3.49	16.36	-21.44	-2.63	4.72	10.69	25.76
17	728	0.015	6.15	9.03	26.01	-16.30	2.21	8.50	13.78	31.28
17	982	0.007	4.98	3.89	14.83	-18.01	-0.46	5.83	10.19	21.32
18	1417	0.004	4.06	4.84	20.02	-18.80	-2.75	3.87	9.73	29.04
19	2373	0.002	4.89	3.81	19.15	-23.39	-2.90	4.00	9.23	24.84
20	7370	0.001	4.39	6.31	13.20	-13.65	0.64	6.53	12.08	26.40

Measuring misallocation

With estimates of a_m and b_m, one can compute for a given manager:

- marginal product of capital (MPK) when running a fund of size k:

$$v_m{}'(k) = a_m - 2b_m k$$

- the amount of capital k_m^* maximizing value added:[1]

$$v_m{}'(k_m^*) = 0 \quad \Rightarrow \quad k_m^* = \frac{a_m}{2b_m}$$

Consider two measures of misallocation at the manager level:

- absolute value of MPK: a large underfunding/overfunding w.r.t. k_m^* should be associated with a large positive/negative MPK

- dollar spread between current and optimal TNA: $|k_{m,t} - k_m^*|$

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[1] k_m^* is set to zero for managers who have a negative estimate of a_m.

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Managers' mobility and misallocation

Preliminary evidence: panel regression that includes a post switch dummy

$$\log(\textit{Misallocation})_{m,t} = \beta \textit{Switch}_{m,t} + \textit{Controls} + \delta_t + \lambda_m + \eta_{style} + \theta_f + \epsilon_{m,t}$$

|	Misallocation					
	(1)	(2)	(3)	(4)	(5)	(6)
Switch $\times$ Post	-382.41*** (127.26)	-250.79* (146.40)		-215.15** (101.06)	-201.53 (138.82)	
SwitchPromotion $\times$ Post			-449.34*** (136.35)			-331.23* (167.49)
SwitchDemotion $\times$ Post			-108.27 (163.67)			-92.47 (122.21)
log(TNA)		267.02*** (46.34)	274.82*** (47.89)		267.95*** (59.29)	270.67*** (60.00)
log(Nb. Fund)		258.02 (175.22)	253.07 (175.60)		247.53 (223.99)	246.97 (224.03)
Flow		-0.67 (0.70)	-0.67 (0.70)		-0.69 (0.73)	-0.69 (0.73)
log(Tenure)		-87.17*** (23.32)	-88.23*** (23.26)		-70.73*** (25.00)	-71.06*** (25.06)
log(Experience)		-1.19 (20.25)	-0.69 (20.31)		-0.17 (17.20)	-0.07 (17.16)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Manager FE	Yes	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes	Yes	Yes
Observations	233,847	226,286	226,286	233,507	225,960	225,960
R^2	0.69	0.71	0.71	0.73	0.75	0.75

Managers' mobility and value added

Preliminary evidence: panel regression that includes a post switch dummy

$$ValueAdded_{m,t} = \beta Switch_{m,t} + Controls + \delta_t + \lambda_m + \eta_{style} + \theta_f + \epsilon_{m,t}$$

	Value Added					
	(1)	(2)	(3)	(4)	(5)	(6)
Switch × Post	2.112*** (0.359)	1.312** (0.490)		1.353** (0.547)	1.068** (0.500)	
SwitchPromotion × Post			2.492*** (0.659)			1.489** (0.645)
SwitchDemotion × Post			0.464 (0.485)			0.713 (0.552)
log(TNA)		-1.507*** (0.246)	-1.553*** (0.245)		-1.572*** (0.288)	-1.581*** (0.285)
log(Nb. Fund)		1.046 (0.663)	1.076 (0.662)		1.923** (0.776)	1.925** (0.776)
Flow		-0.004 (0.004)	-0.004 (0.004)		-0.006 (0.004)	-0.006 (0.004)
log(Tenure)		0.230 (0.249)	0.236 (0.250)		0.109 (0.263)	0.110 (0.263)
log(Experience)		0.087 (0.575)	0.084 (0.576)		0.177 (0.636)	0.177 (0.636)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Manager FE	Yes	Yes	Yes	Yes	Yes	Yes
Style FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes	Yes	Yes
Observations	233,847	226,286	226,286	233,507	225,960	225,960
R^2	0.03	0.03	0.03	0.04	0.04	0.04

Non-Compete Clauses (NCC) enforcement changes
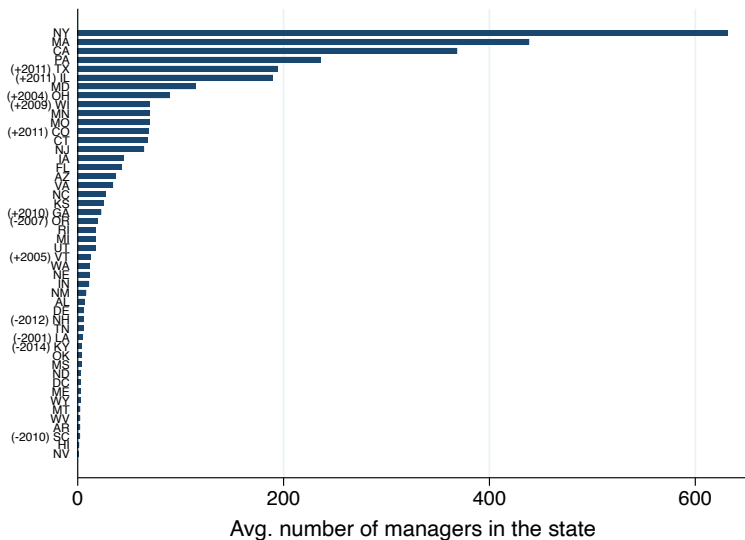

(+year) and (-year) denote states that strenghtened and weakened the enforceability of NCC (2000-2018) according to Ewens and Marx (2017)

Non-Competes in the U.S. labor force

Source: Starr, Bishara and Prescott (2018), using nationally representative survey data on 11,505 labor force participants in the US in 2014

Figure A1: Incidence of noncompetes by industry and occupation
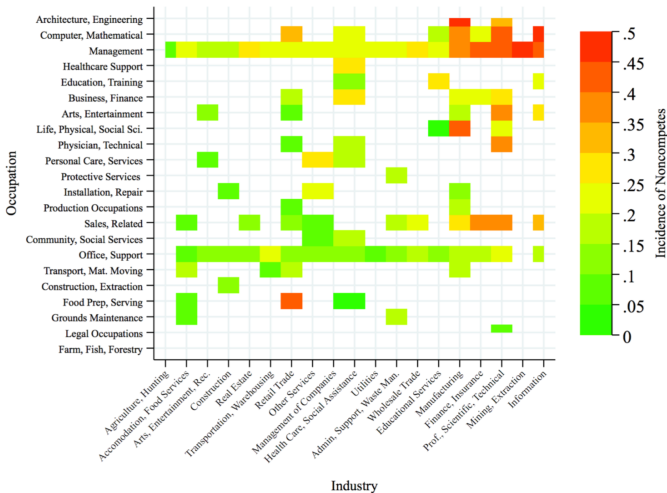
Non-Compete Clause

The typical investment manager NCC documented online has a period of 12-month and restricts the following activities:

"*directly or indirectly performing asset management services, trading services or investment advisory services; or working for or having an interest in a company, partnership or other entity that competes with [the fund and its affiliates]*".

The effect of NCC on managers' mobility

Diff-in-diff to test the effect of NCC enforcement changes on managers' mobility:

$$100 \times \left(\frac{\#Switches}{\#Managers} \right)_{s,t} = \beta \left\{ Treated \times Post \right\}_{s,t} + Controls_{t-1} + \delta_t + \theta_s + \epsilon_{s,t}$$

	$100 \times (\#Switches/\#Managers)$					
	(1)	(2)	(3)	(4)	(5)	(6)
Treated $\times$ Post	-0.506[*] (0.252)	-0.635[*] (0.343)		-0.175[*] (0.100)	-0.216[**] (0.093)	
Strengthened $\times$ Post			-0.343[**] (0.129)			-0.228[**] (0.112)
Weakened $\times$ Post			1.134 (0.879)			0.159[*] (0.081)
log(Nb. Managers)		0.441 (0.292)	0.431 (0.289)		0.371[*] (0.186)	0.370[*] (0.186)
log(Nb. Firms)		-0.117 (0.334)	-0.126 (0.340)		-0.045 (0.171)	-0.043 (0.172)
log(TNA)		-0.068 (0.094)	-0.059 (0.104)		-0.004 (0.083)	-0.005 (0.083)
If Nb. Managers $\geq$ 10	No	No	No	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,334	3,286	3,286	2,068	2,046	2,046
R^2	0.06	0.06	0.06	0.13	0.13	0.13

The effect of NCC on misallocation and value added

Diff-in-diff to test the effect of NCC enforcement changes on misallocation:

$$\log(\textit{Misallocation})_{s,t} = \beta \left\{ \textit{Treated} \times \textit{Post} \right\}_{s,t} + \textit{Controls}_{t-1} + \delta_t + \theta_s + \epsilon_{s,t}$$

	$\log(\sigma(MPK))$		$\log(MPK\ 90-10)$		$\log(MPK\ 75-25)$		$\log(\textit{Misallocation})$		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Treated × *Post*	0.108** (0.053)		0.112** (0.046)		0.150*** (0.048)		0.098* (0.057)		-1 (1
Strengthened × *Post*		0.058 (0.046)		0.091* (0.053)		0.108** (0.045)		0.108 (0.069)	
Weakened × *Post*		-0.343*** (0.041)		-0.212*** (0.039)		-0.346*** (0.029)		-0.051 (0.032)	
log(Nb. Managers)	0.206** (0.084)	0.204** (0.085)	0.142 (0.099)	0.141 (0.099)	0.118 (0.088)	0.116 (0.088)	0.318*** (0.107)	0.319*** (0.107)	1 (2
log(Nb. Firms)	-0.132 (0.080)	-0.126 (0.079)	-0.075 (0.082)	-0.072 (0.081)	-0.023 (0.063)	-0.017 (0.062)	-0.056 (0.098)	-0.058 (0.099)	- (1
log(TNA)	-0.025 (0.029)	-0.028 (0.030)	0.028 (0.048)	0.027 (0.048)	-0.015 (0.028)	-0.017 (0.028)	0.764*** (0.061)	0.765*** (0.061)	- (9
If Nb. Managers $\geq$ 10	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Observations	2,046	2,046	2,046	2,046	2,046	2,046	2,046	2,046	
R^2	0.60	0.60	0.51	0.51	0.41	0.42	0.98	0.98	