
Does Firm Organization Matter?

Evidence from Centralized and Decentralized Mutual Funds

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Motivation

- Does firm organization impact investment decisions?
 - Coase [1937]
 - Williamson [1975; 1985]
 - Focus on internal decisions: centralized vs. decentralized
 - Theory exists
 - Aghion and Tirole [1997] (Real and Formal Authority)
 - Stein [2002] (Hierarchies)
 - Empirical work limited
 - Hard to get data on internal decision making
 - ...and track input and output of an agent
 - This paper:
 - Internal decision-making process impacts investment decisions
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Context: Mutual Funds

- Focus on the mutual fund industry
 - Economically large (~12 trillion)
 - Data on inputs and outputs are available
 - Heterogeneity in organizational forms
 - ~ 40% of fund families organized as centralized
 - homogenous decision making
 - ~ 60% of fund families organized as decentralized
 - relative autonomy
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Main Prediction

- Fund performance is **lower** for centralized structures
 - Centralized structure curbs managerial discretion...
 - Less private information produced => lower performance

Decentralized Structure: Discretion

“At Fidelity, individual portfolio managers are ultimately responsible for investment decisions. Since our founding, we have believed that individual responsibility and accountability for investment decisions is much more effective than decisions made by committee.”

Data

■ Data Sources:

- CRSP mutual fund database: fund and family characteristics
- Thomson Financial: fund holdings
- **Nelson's Directory of Investment Managers: family structure**
- Morningstar/Zabasearch/Zoominfo: fund managers
- SDC Platinum: brokerage houses' mergers; financial institutions' mergers
- IBES: forecast error of equity analysts
- CRSP/Compustat company accounting data

■ Time Period:

- 1980-2005

■ Cross Section:

- > 400 families with valid structure information
 - > 3000 U.S. equity funds
 - > 4000 fund managers
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Main Variables

- **Family Decision Making (Central):**
 - Indicator variable equal one if centralized family structure
 - **Fund Performance (Alpha/CS):**
 - Factor-based abnormal returns (Alpha): 3-factor and 4-factor
 - Holdings-based returns (Characteristic Selectivity: CS)
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Fund Performance: Panel-Data Evidence

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Return	CS	3-Factor α	4-Factor α	Return	CS	3-Factor α	4-Factor α
Central	-3.697***	-0.880***	-0.736**	-0.564*	-1.564***	-0.809***	-0.674**	-0.597*
	(1.306)	(0.336)	(0.321)	(0.320)	(0.570)	(0.349)	(0.344)	(0.341)
Time-Fixed Effects	No	No	No	No	Yes	Yes	Yes	Yes
Fund-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	185,645	182,563	184,574	184,574	185,645	182,563	184,574	184,574

Controls: log(assets), log(age), turnover, expense, load, style (size, value, momentum)

Interpreting Estimates

- Selection or Treatment?
 - Differences in performance could occur due to differential skill across structures, independent of internal decision making
 - Note: differential skill *could be* due to organizational form (e.g., decentralized structures attract better talent). This is consistent with our hypothesis. But, still interested in impact of structure on performance, *all else equal*
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Selection Evidence

		Central	
GRAD	-0.027** (0.013)		
IVY		-0.019 (0.017)	
IVY*GRAD			-0.035** (0.015)
Observations	3022	3022	3022

Interpreting Estimates

- Need to account for managerial quality
 - Estimate conditional effects
- Two broad strategies
 - Include manager-fixed effects/direct measures of skill
 - Evidence from fund mergers

Manager-Fixed Effects

	CS	3-Factor <i>a</i>	4-Factor <i>a</i>	CS	3-Factor <i>a</i>	4-Factor <i>a</i>
Central	-0.827*	-0.600**	-0.624**	-0.839**	-0.628*	-0.738**
	(0.452)	(0.299)	(0.305)	(0.428)	(0.357)	(0.355)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Manager-Fixed Effects	No	No	No	Yes	Yes	Yes
Observations	255,782	259,063	259,063	255,782	259,063	259,063

Evidence from Fund Mergers

- Exogenous impact of change in structure on performance
 - Consider mergers of fund families
 - Targets acquired by decentralized (centralized) families should do better (worse)
 - Control for selection of mergers with failed mergers (counterfactual of merger)
 - Completed and failed mergers are ex-ante identical
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Evidence from Fund Mergers

	4-Factor a		CT		RPI(SYST)	
T*After	0.0015***	0.0015***	0.0001	0.0001	0.912	0.912
	(0.0003)	(0.0003)	(0.0001)	(0.0001)	(0.598)	(0.628)
T*After*Central	-0.0019***	-0.0019***	-0.0013	-0.0013	-3.547**	-3.547**
	(0.0007)	(0.0007)	(0.0014)	(0.0015)	(1.602)	(1.568)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund style Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fund-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustering (Time)	No	Yes	No	Yes	No	Yes
Observations	31,947	31,497	29,478	29,478	31,610	31,610

Economic Mechanism

- More private information is produced in decentralized funds
 - More reliance on private information (RPI)
 - More resources devoted to information generation
- Decentralized structures provide better incentives to exert effort
 - More discretion
 - More internal incentives for higher performance
 - Sensitivity of internal careers to performance

More Information Production: RPI

	(1)	(2)	(3)	(4)
	RPI (SUE)	RPI (SYST)	RPI (SUE)	RPI (SYST)
Central	-0.208**	-0.078*	-0.219**	-0.082**
	(0.106)	(0.042)	(0.095)	(0.040)
Other Controls	Yes	Yes	Yes	Yes
Fund Fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	No	No	Yes	Yes
Observations	183,509	185,009	183,509	185,009

More Resources for Information Production

	Analysts		Managers		Traders	
Central	-9.441***	-7.904***	-13.759***	-12.727***	-3.071***	-2.531***
	(2.699)	(2.571)	(4.097)	(4.195)	(0.922)	(0.921)
Other Controls	No	Yes	No	Yes	No	Yes
Observations	389	358	388	357	378	347

Response to Shock to Information Environment

- Use exogenous shock to information environment
 - Assess observed response to shocks relative to expected response based on the underlying hypothesis
 - Shocks to precision of public information
 - Centralized structures rely more on public information
 - Expect negative effect on fund performance relative to decentralized funds
 - Heterogeneity of effects
 - Effect stronger for funds relying more on affected stocks
 - Effect weakens over time
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Impact on Investment Behavior

- Study differences between structures around experiment
 - Alpha/CS
- Interact effect with the strength of the impact: Percentage of portfolio holdings affected by shock (*Intensity*)
- Diff-in-Diff-in-Diff specification

$$Y = a + \beta_1 \text{Central} + \beta_2 \text{Central} \times \text{After} + \beta_3 \text{After} \times \text{Central} \times \text{Intensity} + \beta_4 \text{Controls} + \varepsilon$$

- Coefficient of interest: β_3
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Results: Performance

	CS	3-Factor α	4-Factor α	CS	3-Factor α	4-Factor α
After	-23.594*** (7.374)	-8.849** (3.043)	-8.009** (2.886)	-21.524** (7.631)	-8.466** (3.221)	-7.861** (2.912)
Central	-1.380 (2.445)	-0.820 (0.670)	-0.947** (0.379)	-0.869 (2.367)	-0.819 (0.685)	-0.900* (0.421)
After*Central	2.674 (1.864)	0.807 (0.922)	0.624 (0.498)	-4.213 (5.868)	-1.188 (1.198)	-0.217 (0.854)
After*Central*Intensity	-7.989* (4.227)	-3.882** (1.974)	-3.672*** (1.142)	-1.750* (0.891)	-1.611** (0.635)	-1.495*** (0.314)
Intensity	-24.651 (18.409)	-4.324 (3.656)	-3.334 (3.601)	1.769 (1.701)	0.760 (0.867)	0.576 (0.428)
Dum*Intensity	40.981** (15.784)	9.377*** (2.777)	6.457** (2.791)	10.262* (5.250)	2.900** (1.075)	1.715 (1.028)
Central*Intensity	3.366 (6.293)	1.715 (1.253)	1.365 (0.970)	0.407 (1.861)	0.724* (0.377)	0.493 (0.308)
Fund-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14,643	14,017	14,017	14,643	14,017	14,017

More Discretion

	Funds/Manager		Assets/Manager	
Central	-0.345*	-0.340*	-96.900*	-101.398**
	(0.203)	(0.203)	(53.197)	(52.840)
Log(Famage)		-0.061		-6.592
		(0.087)		(22.848)
Famreturn		-3.241***		-574.218***
		(0.555)		(137.966)
Expense		42.779**		-9,962.464**
		(19.980)		(4,704.597)
Fund-Fixed Effects	Yes	Yes	Yes	Yes
Time-Fixed Effects	Yes	Yes	Yes	Yes
Observations	54,974	54,119	54,974	54,119

High-Powered Incentives

	Internal Promotion		Internal Demotion	
Central	0.002*** (0.000)	0.002*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Return	-0.053*** (0.015)	-0.040*** (0.015)	-0.044** (0.019)	-0.065*** (0.019)
Return*Central	-0.135*** (0.045)	-0.135*** (0.046)	0.093*** (0.029)	0.095*** (0.029)
Gender	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Log(Manage)	-0.002*** (0.001)	-0.001* (0.001)	0.005*** (0.001)	0.006*** (0.001)
Idio Vol	0.041 (0.041)	0.095** (0.046)	0.009 (0.022)	-0.061** (0.026)
Beta	0.001 (0.001)	-0.000 (0.001)	-0.003*** (0.000)	-0.002*** (0.001)
Other Controls	Yes	Yes	Yes	Yes
Fund-Fixed Effects	Yes	Yes	Yes	Yes
Time-Fixed Effects	No	Yes	No	Yes
Observations	93,001	93,001	93,001	93,001

Centralized vs. Decentralized Structures

- Why do different structures coexist?
 - Centralized structure curbs managerial discretion...
 - Less private information produced => lower performance
 - ...but it allows for better coordination
 - Better coordination of trades
 - Better coordination of brokerage
 - Lower tracking error of a family portfolio
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Coordination: Panel Data Evidence

	(1) Trades Coordination	(2) Brokerage Coordination	(3) Idiosyncratic Volatility
Central	0.050** (0.028)	0.066** (0.037)	-0.001** (0.001)
Constant	0.527*** (0.033)	0.587*** (0.044)	0.010*** (0.001)
Controls	Yes	Yes	Yes
Time-Fixed Effects	Yes	Yes	Yes
Observations	34,893	21,283	34,026
R-squared	0.213	0.223	0.391

Controls: log(famsize), log(famage), famreturn, log(funds), %equity, traders

Conclusion

- Implications for literature on theory of the firm
 - Internal decision making affects nature of activity
 - Organizational structure matters for incentives
 - Interacts with scale and scope
 - Implications for literature on skill identification, performance, and risk of investment managers
 - Talent may sort based on organizational structure
 - Same skilled managers may put more effort depending on nature of decision-making process inside the firm
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