

Abstract

- U.S. mutual fund portfolio managers invest in the funds they manage
- Managerial ownership of funds could lead to conflicts of interest between the fund's managers and its investors
- Alternatively, portfolio managers who beneficially own more shares of a fund may have their interests more closely aligned with those of their investors, and therefore have more of an incentive to help the fund perform well.
- Vast empirical literature finds both effects present in corporations: low levels of managerial ownership lead to an alignment of interest while high levels lead to entrenchment and degrade firm performance
- Scant literature on the mutual fund industry
- The goal of this study is to determine the impact of managerial ownership on a mutual fund's performance and management

Data

- Cross-sectional data for the approximately 800 mutual funds listed in the May 2009 Value Line No-Load Fund Advisor Mutual Fund Directory. No-load funds do not charge a sales fee at time of investment. There are approximately 9,000 mutual funds in the U.S.
- 1,703 fund-year observations spanning 2006-2009
- As of March 2005, U.S. mutual funds are required by the SEC to disclose a range of how much managers have personally invested in the funds they manage.
- The ranges are: \$0; \$1-\$10,000; \$10,001-\$50,000; \$50,001-\$100,000; \$100,001-\$500,000; \$500,001-\$1,000,000, and \$1,000,001+.
- For our purposes we recorded the midpoints of these ranges for each manager of each fund. \$1mn+ is recorded as \$1,000,001. Many funds are team-managed.
- Data was also collected on aspects of the fund's performance, management and corporate governance

Distribution of Manager Ownership and Returns

The managerial ownership distribution is relatively split into three levels: managers have no ownership stake in 18% of the fund-years, have intermediate levels of ownership in 45% of the fund-years, and 36% have stakes of more than \$1,000,000.

Most mutual funds generated positive raw nominal returns during this period. Nominal returns do not reflect a fund's performance relative to the appropriate benchmark (i.e., excess returns).

We do not show excess returns on this graph as the average excess return is -4.02e-09 basis points per year.

100 basis points = 1%.

Manager Ownership

- Many factors can influence a portfolio manager's decision to invest in a fund given that managerial income and employment are already closely tied to the fund's performance.
- Our dataset does not include information on managerial income or other investment assets, and thus cannot address the role of portfolio diversification.
- Managers with different personal characteristics (such as age) may avoid investing in certain types of funds. Younger managers, in particular, may prefer to avoid investing in bond funds.
- However, even if a manager decides that their own fund is not the optimal personal investment, managers may invest in their fund just to be able to signal to potential investors that they have confidence in the fund.
- While the few studies of the mutual fund industry thus far have found a positive correlation between higher levels of manager ownership and fund performance, there is no established conclusion regarding the causal relationship. Moreover, these studies do not differentiate among types of mutual funds.

Returns by Average Ownership Level

	Nominal	Own \$1- Own \$0	Own \$10k- \$10k	Own \$10k-50k- 100k	Own \$50k-100k- 500k	Own \$100k-500k- \$1m	Own \$500k-1m- >\$1mn
Mean	2.00	2.28	2.32	2.21	1.72	2.15	2.10
Std. Dev.	3.52	4.35	5.95	4.67	2.77	3.07	3.31
Minimum	-6.55	-3.14	-7.34	-7.63	-11.68	-7.00	-4.02
Maximum	25.50	24.20	27.57	27.25	15.89	18.68	30.68

Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
<b>Total managerial ownership in fund (lagged)</b>					
in \$ terms	1,276	658,943	830,290	0	5,750,005
As % of total assets in fund	1,276	.001	.005	0	.104
Frequency of zero ownership	1,276	.201	.401	0	1
<b>Performance</b>					
Nominal returns (bp)	1,719	1.988	3.509	-11.679	30.677
Excess returns (bp)	1,719	-4.02e-09	1.548	-9.921	13.404
<b>Fund characteristics</b>					
Expense ratio (bp)	1,718	1.025	.406	0	2.97
Age of fund (years)	1,720	20.040	15.594	0	85
Fund size (log \$mn, lagged)	1,276	7.326	1.510	1.619	11.406
Total fund family size (log \$mn)	1,597	30.773	14.784	0	54.995
Board size (ln)	1,660	2.108	.337	1.099	2.773
Insiders as % of board	1,550	23.103	20.555	0	77.398

Empirical Analysis

The generalized forms of the equations we used to find our results are as follows. All models are estimated using OLS with error terms clustered at the fund family level. We estimate each model twice using nominal and style-adjusted excess returns.

- Returns = f(manager ownership, fund characteristics, year characteristics)
- Fees = f(manager ownership, fund characteristics, year characteristics)
- Manager Ownership = f(return, fund characteristics, year characteristics)

Managerial ownership is measured as

- (1)average managerial ownership
- (2)total managerial ownership in \$ terms
- (3)total managerial ownership as a % of the assets under management

- (1-3) are used to estimate the returns and fees models
- Only (3) is used to estimate determinants of managerial ownership

Regression Results

	Nominal returns (bp)			Expense ratio (bp)	Total ownership as % of fund value
Total ownership (\$)	-0.257***			0.102***	
Total ownership (as %)	-33.38***				
Dummy for own zero stake in fund	-0.239				
Nominal returns				0.010***	-0.000053***
Expense ratio	0.746***	0.620***	0.605***		-0.000262
Age of fund	-0.014***	-0.014***	-0.015***	-0.003**	0.0000162**
Fund size	0.206***	0.107**	0.142***	-0.107***	-0.000991***
Fund family size					-0.0000216
Year fixed effects	Yes	Yes	Yes	Yes	Yes & board variables
R <sup>2</sup>	0.239	0.238	0.237	0.193	0.166
# observations	1,185	1,185	1,185	1,184	1,089

All results are robust to the use of excess returns in lieu of nominal returns, and to the inclusion of corporate governance variables. Results are also robust across multiple divisions of the dataset (e.g., by year or quartiles of size or age).

Conclusions

Managerial ownership in a no load mutual fund leads to

- Lower future returns
- Higher future expenses

Managerial ownership in a no load mutual fund is likely to be higher when the fund

- Has lower past returns
- Is older
- Belongs to a smaller fund family

These results suggest that the entrenchment theory better explains the relationship between ownership and performance in the no load mutual fund industry.

References

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