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MUTUAL FUND OBJECTIVES: DO THEY PROVIDE A USEFUL GUIDE FOR INVESTORS?

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INTRODUCTION

Mutual funds, like most firms, are required to state their objectives in their prospectuses upon registration. We examined whether these objectives convey information about the performance of the funds that uniquely distinguishes them from funds with other objectives. This issue appears to be particularly critical for mutual funds, because they are able to alter their asset portfolios more readily and with less timely public knowledge than most other firms. In addition, most of the funds use their objective as part of their names so that investors are made aware of the objective.

There are some plausible reasons for performance to deviate from the objectives. It is conceivable, or even likely, that the fund managers cannot consistently identify securities of firms whose performance is congruent with their objectives. Furthermore, they may not be able to find a sufficient number of firms whose attributes fit the objective of the fund. In this case, they may find their selection to be further limited by the regulatory restrictions on the proportion of ownership they are allowed to hold in any single firm. The larger funds are more likely than smaller funds to have exhausted their selection pool, so they are more likely to deviate from their objectives as they continue to grow. This issue is also examined. The possibility that fund managers purposefully alter their portfolios to pursue a different objective than stated cannot be denied, but this is not testable.

This study differs from a few past studies in several ways. It uses a much larger and more recent data base with a greater number of objective categories. The data were subjected to more rigorous statistical tests than were used before. Two time periods were examined to see if fund performance for objective categories changed in comparison to other categories over time. We used the objectives stated in the prospectuses of the funds; whereas, the prior studies used objectives based in part on judgement.

REVIEW OF PRIOR RESEARCH

McDonald [6] examined the performance of funds, during the period from 1960 to 1969, in light of their objectives. He found that the objectives did explain a portion of performance as measured by excess returns over the market return. However, he also found large overlaps in performance from objective to objective.

Using monthly returns on 255 mutual funds for the period from January, 1973, through December, 1977, Shawky [9] assessed four objective categories. He found that the betas of the categories impacted on returns in a manner that he felt was representative of their objectives. The average betas ranked in decending order “maximum growth”, “growth”, “balanced,” and “income” objectives. The performance measures of Treynor [10], Sharpe [8], and Jensen [2] also ranked the objectives in the same order.

Martin, Keown, and Farrell [5] concluded that fund objectives explained only about 15 percent of the total variation in returns that was due to extra-market factors. Studies by Reints and Vandenberg [7], Klemkosky [3], and Woerheide [14] showed mixed results for the strength of the relationship between performance measures and the Wiesenberger objective classifications, but in general there appeared to be a significant relationship. Recently, the value of fund objectives to investors was questioned in the *Wall Street Journal* [1].

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All of the studies published in professional journals used objectives given in *Investment Companies* [13] published by Wiesenberger Service. The objectives provided by this source use the same descriptive terms, such as "growth", found in the prospectuses of the funds, but the actual objective applied to each fund is based on the best judgement of the managers of the service company. Hence, all prior studies used objectives that could differ from the stated objectives and that were subject to further change based on the changing perceptions of the service company managers as the life of the funds was extended.

DATA AND EMPIRICAL APPROACH

The source of data for the study was the *Business Week Mutual Fund Scoreboard*. The March, 1987, and the December, 1991, issues of the data base were used for comparative purposes. Only open-end funds were evaluated. The study was confined to seven objective categories because the other categories listed in the data base contained an insufficient number of funds or because the objective was too broad. Selected random comparisons of the data from March, 1987, with data from *Investment Companies* showed no differences between the two sources except for the objective categories, which was discussed above.

Two different statistical tests, regression analysis and Tukey-Kramer mean comparison tests [11,4], were used to assess the impact of fund objectives on the performance measures. Regardless of the test instrument or performance measure used, the null hypothesis tested was that in every case there was a significant difference between the fund categories in terms of the performance measure in use. The alternative hypothesis was that some of the categories were not significantly different. In the regressions, the expectation was that all coefficients of the variables except size should have positive signs. No a priori conclusion about the sign of the coefficient of the size variable was made. Similar hypotheses were tested on sub-samples of the fund categories, where the categories were divided into a large and a small group around the median asset size.

Two measures of performance, the Treynor Index and the three-month holding period returns, were used, and beta was also included separately as a measure of the risk of the funds. The Treynor Index was computed from the three-month holding period returns, betas, and the market return on T-Bills at the end of the holding period. Shawky's study [9] showed that the Treynor [10], Sharpe [8] and Jensen [2] measures ranked the funds equivalently. The Treynor measure was chosen because the data base was more easily applied to this measure.

The following regression model on the three-month holding period returns was used.

$$R_i = a_0 + a_1S_i + a_2B_i + a_3DMG + a_4DG + a_5DGI + a_6DB + a_7DSC + a_8DIN + e_i$$

where:

R_i = three-month holding period return of fund
S_i = asset size of fund in dollars
B_i = beta of fund
DMG = dummy variable for maximum growth funds
DG = dummy variable for growth funds
DGI = dummy variable for growth and income funds
DB = dummy variable for balanced funds
DSC = dummy variable for small company funds
DIN = dummy variable for international funds

The dummy variables were assigned values of 1 if the fund was in the category indicated by the variable, or 0 otherwise. The income fund category was included in the constant term of the regression to prevent singularity problems with the matrix. The size variable was included to satisfy the curiosity of the investigators.

The rationale for this estimating equation is based on the Capital Asset Pricing Model, which has the following form in this case.

$$R_i = a_0 + a_1B_i + e_i$$

This variant of the model is predicated on the risk-free and market rates of return having the same values for every fund in the sample because the regressions are cross-sectional. Hence, these return measures will become components of the constant term. If beta and the objectives of the funds are not perfectly congruent, any effects of the objectives of the funds would be captured in the error term. Consequently, variables reflecting the fund objectives must be added to the estimating equation to test any impacts from the objectives. In the case of regressions run on the Treynor Index as R_i, beta was excluded as an independent variable.

The Tukey-Kramer [2,9] tests were used to determine whether there were significant differences between fund categories based on the means of the performance measures and betas. This test performs multiple pair-wise mean comparisons to group the funds. Overlaps in these groupings imply that certain objective categories are not distinguishable from one another.

RESULTS

Regression Analyses

Three-Month Holding Period Returns

The results of regressions on the three-month holding period returns of the funds for both the 1987 and 1991 data sets are shown in Table 1. The results include the aggregate data set and the sub-samples divided around the median asset size into a large and a small group. As was expected, beta was significant for all sample groups in both time periods. With the aggregate samples for the two time periods, asset size was negative but insignificant. Only the small company and international funds were significantly different (at the 0.1 level) than income funds in both time periods, but in the case of the international funds the sign of the coefficient was positive in 1987 and negative in 1991. This sign change may reflect a major change in currency exchange rates between the two periods. The maximum growth and growth funds were significant in 1987, but insignificant in 1991. The balanced funds were significant in 1991 with a positive coefficient.

With the large and small asset-size sub-samples, size was insignificant except in the case of the small asset-size group in 1991. Not only was this variable significant at that time, but also the sign of the coefficient became positive. Except for the international funds, no one objective variable was consistently significant in both size groups and both time periods. Inconsistency was also found with the signs of the coefficients.

By the nature of this test instrument, the objective variables can fall into only two categories (i.e. those that were significantly different from the income funds and those that were not significantly different). Nevertheless, shifts in significance occurred with time period and asset size grouping. Consequently, the null hypothesis cannot be accepted for both the aggregate sample and the asset-size sub-samples.

Treynor Index

The regression results with the Treynor Index are shown in Table 2. With the aggregate sample, only the growth and income category changed significance between the time periods. The international funds were significant, but they showed a reversal in the signs of their coefficients between the two time periods. With the 1987 data, the objectives showing significance were the same in both the large and small asset-size groups. Size was significant for the small asset grouping but not for the large grouping. Size was also significant for the small asset sub-sample in 1991, but the sign of the coefficient was reversed as compared to 1987. Another difference between the large and small asset sub-samples was that in 1991 maximum growth funds were significant in the large asset group and not in the small. This is a particularly notable finding because it indicates that in the case of smaller funds in 1991, fund objectives (maximum growth and income) that would be expected to be at opposite ends of the performance spectrum were not significantly different.

The results with the Treynor Index showed more consistency between time periods and asset size groupings than was the case with three-month returns. Hence, the results with this measure prevent acceptance of the null hypotheses.

Tukey-Kramer Tests

Tukey-Kramer tests to group the fund objectives by pair-wise comparisons of the means of the two performance measures, and of beta, are shown in Table 3. The level of significance of the tests was 0.05. The groups are alphabetized in order of decending mean size, so the group with the highest mean is group A. The most complex grouping results were obtained on the Treynor performance measure in 1987, so this set was chosen to illustrate the interpretation.

The international, maximum growth, and small company categories are not distinguishable from one another. Likewise, the maximum growth, small company, and growth categories are also indistinguishable. Small company, growth, and growth and income categories are indistinguishable, as are growth and income and income funds. Finally, income funds are indistinguishable from balanced funds. The international, maximum growth, and small company funds are significantly different than the growth and income, income, and balanced funds. Further interpretations can be made, but the point is evident that clear distinctions in performance based on fund objectives are very limited with this performance measure.

The groupings based on beta seem to be the most distinctive within and between time periods. Even in this case, however, there are some important differences such as the international grouping being the same as the balanced group in 1987, but significantly different in 1991. The three-month return groupings fall between the other two measures in terms of overlaps of groups and consistency of ranking. At this juncture, the null hypothesis cannot be accepted with this test either.

The sub-samples based on asset size were also analyzed using the Tukey test, and both sub-samples were in the same group. In both time periods and with both performance measures and betas the means of the asset-size groups were not significantly different. Hence, in this comparison, the null hypothesis concerning asset size cannot be accepted.

CONCLUSIONS

Our results show that the stated objectives of mutual funds do not necessarily distinguish the performance of the funds. Therefore, an investor using stated objectives may err in his selection decisions. Based on these results, even if he/she makes an initial decision that is congruent with his/her goals, the evidence shows that the performance of the fund may change over time. As a result, the performance of the fund may deviate from the original assessment to the point that it appears to perform like funds in other objective categories. This conclusion seems to be valid for both performance measures and for beta. The asset size of the funds does not seem to be a major factor in explaining the lack of consistency between performance and objectives.

Further research is needed to determine whether investors are influenced by fund objectives to the extent that they are making selection decisions that are inappropriate for their investment goals.

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TABLE 1
Regression Results By Fund Objective For The Three-Month Return Data In Aggregate And Split By Asset Size[a]

	MARCH 1987			DECEMBER 1991		
VARIABLES	**AGGREGATE**	**LARGE**	**SMALL**	**AGGREGATE**	**LARGE**	**SMALL**
Constant	-0.555	-1.415	0.753	1.261	0.618	1.43
	(-0.590)	(-1.048)	(0.542)	(1.716)*	(0.623)	(1.287)
Total Assets, $	-0.000166	-0.0002	-0.0062	-0.0001	-0.0002	0.0158
	(-0.718)	(-0.790)	(-1.080)	(-0.573)	(-1.376)	(1.928)*
Beta	19.964	21.017	18.779	7.005	7.846	5.939
	(20.785)***	(15.390)***	(13.699)***	(9.719)***	(7.724)***	(5.807)***
Maximum Growth	2.979	2.259	3.790	0.544	2.446	-1.001
	(2.622)***	(1.508)	(2.211)**	(0.602)	(2.000)**	(-0.758)
Growth	1.705	2.021	1.378	0.795	0.874	0.919
	(2.082)**	(1.815)*	(1.152)	(1.212)	(0.983)	(0.954)
Growth & Income	0.939	0.782	1.286	-0.114	0.108	-0.051
	(1.109)	(0.687)	(1.030)	(-0.171)	(0.122)	(-0.052)
Balanced	-0.731	0.229	-1.554	1.276	1.914	0.808
	(-0.673)	(0.155)	(-0.983)	(1.785)*	(2.041)**	(0.758)
Small Company	3.003	3.059	3.165	1.394	2.011	1.004
	(2.861)***	(2.190)**	(2.026)**	(1.729)*	(1.881)*	(0.840)
International	6.096	4.892	7.732	-4.127	-4.237	-3.755
	(5.872)***	(3.468)***	(4.867)***	(-5.945)***	(-4.627)***	(-3.608)***
Adj. R^2	0.6801	0.6949	0.6700	0.3102	0.3999	0.2448
F	104.361***	55.379***	50.994***	46.702***	34.650***	17.532***
No. of Obs.[b]	389	191	197	813	404	408

* Significant at the 0.1 level
** Significant at the 0.05 level
*** Significant at the 0.01 level

a. Numbers in parentheses are t statistics
b. Differences in the number of observations between large and small asset-size groups are due to ties with the median

TABLE 2
Regression Results By Fund Objective For The Treynor Index In Aggregate And Split By Asset Size[a]

	MARCH 1987			DECEMBER 1991		
VARIABLES	**AGGREGATE**	**LARGE**	**SMALL**	**AGGREGATE**	**LARGE**	**SMALL**
Constant	9.622	9.955	10.365	0.282	-0.015	-0.603
	(9.351)***	(6.993)***	(6.627)***	(0.334)	(-0.013)	(-0.466)
Total Assets, $	-0.00012	-0.00015	-0.0148	0.000	-0.0002	0.028
	(-0.356)	(-0.419)	(-1.808)*	(0.023)	(-0.640)	(2.425)**
Maximum Growth	7.471	6.592	7.912	3.194	5.568	1.330
	(5.148)***	(3.358)***	(3.755)***	(2.614)***	(3.214)***	(0.774)
Growth	5.556	5.930	4.977	2.533	3.058	2.391
	(5.090)***	(4.007)***	(3.162)***	(2.783)***	(2.380)**	(1.857)*
Growth & Income	3.542	2.890	4.405	1.500	2.231	1.219
	(2.945)***	(1.771)*	(2.534)**	(1.552)	(1.640)	(0.894)
Balanced	-1.273	0.500	-2.664	0.298	1.995	-0.943
	(-0.814)	(0.234)	(-1.188)	(0.281)	(1.331)	(-0.629)
Small Company	7.093	6.947	7.183	3.517	4.576	2.675
	(5.097)***	(3.672)***	(3.595)***	(3.224)***	(2.973)***	(1.742)*
International	11.006	7.970	15.063	-5.674	-5.171	-5.613
	(7.394)***	(3.943)***	(6.699)***	(-5.510)***	(-3.555)***	(-3.833)***
Adj. R^2	0.1939	0.1411	0.2607	0.1628	0.1790	0.1611
F	14.363***	5.484***	10.922***	23.556***	13.580***	12.168***
No. of Obs.[b]	389	191	197	812	404	407

* Significant at the 0.1 level
** Significant at the 0.05 level
*** Significant at the 0.01 level
a. Numbers in parentheses are t statistics
b. Differences in the number of observations between large and small asset-size groups are due to ties with the median

TABLE 3
Tukey Test Fund Groupings By Objective, Time Period, And Performance Measure[a]

	MARCH 1987			DECEMBER 1991		
		3-MONTH			3-MONTH	
Fund Objective	**Treynor**	**Returns**	**Beta**	**Treynor**	**Returns**	**Beta**
International	A	C	D	C	D	D
Maximum Growth	A,B	A	A	A	A	A
Small Company	A,B,C	A,B	A,B	A	A	A
Growth	B,C	B	B	A,B	A,B	B
Growth & Income	C,D	C,D	C	A,B	B,C	C
Income	D,E	D,E	D	B	C	D,E
Balanced	E	E	D	B	C	E

a. Grouped at the 0.05 level of significance. Groups with the same letter, for a given column, are not significantly different.