

Mutual Fund Investment Discretion And The Asset Allocation Problem

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This article questions whether mutual fund investors attempting to follow an asset allocation plan can determine the appropriateness of a mutual fund in their portfolio simply by the fund name, the announced fund objective, or the classification of the fund by an independent organization. One reason for this difficulty may be the discretion fund managers are given in the fund's investment composition. We argue that this problem exists, and that true, effective asset allocation requires careful study of the manager's discretion over the composition of each fund's investments, as well as periodic review of the investment allocation of the fund.

Key Words: *Individual investors, Mutual fund selection, Diversification, Asset allocation*

Introduction

This paper combines the findings of the risk discrimination literature with recent observations on the problems arising from management investment discretion to argue that investors must take great care in designing and maintaining an asset allocation plan. We begin with an overview of the potential benefits which have been associated with asset allocation programs. We then examine some of the conclusions from studies of the risk discriminatory power of stated management objectives. Next we introduce the problems arising from management's discretion in the investment composition decision, and outline numerous investment allocation findings which deviate from expectations based on fund classification. Finally, we restate the asset allocation problem in light of the latter two problems, and outline suggestions to better the chances for a successful allocation program.

Asset Allocation

Asset allocation is the process of allocating funds to diverse asset classes to maximize returns within specific risk tolerances. There is a significant body of literature indicating that such diversification of investment holdings can help investors better meet their risk/return desires, and thus is an important consideration for investor. In two important early works on the benefits of diversification, Brinson, Hood and Beebower (1986; 1991), concluded that over 90% of the variation between returns on different portfolios is accounted for by the asset allocation decision.

As the popularity of mutual funds has increased through

the 1990s, the asset allocation literature has been extended from managing a portfolio of securities, to managing a portfolio of mutual funds. Mutual fund investors are told that they can better meet their risk/return desires through diversification of their portfolio by using funds with various objectives, such as domestic equity funds, international equity funds, small company funds, long-term bond funds, short-term bond funds, and so on. This advice comes from consulting organizations (Deloitte & Touche, 1997), academics (Niendorf & Lang, 1995; Sharpe, 1992), and from the mutual fund companies themselves (Fidelity, 1997; Van Kampen American Capital, 1996).

One difficulty with asset allocation plans for the individual investor is the need to rebalance one's holdings periodically. If the bond market is flat for a year while the stock market is up 30%, then your stock/bond allocation must be reexamined and likely rebalanced. This process not only takes time, but may result in transaction costs. The same problem exists for dynamic asset allocation, which goes beyond simple rebalancing and calls for the investor to continually adjust his or her portfolio allocation in response to changing market conditions. In addition to transaction costs, this dynamic process becomes far more technical (Rubenstein & Leland, 1981; Sharpe & Perold, 1988).

This paper does not reexamine these traditional costs and benefits of asset allocation. Instead, we take as a given that many or most individual mutual fund investors are attempting some sort of asset allocation. Given this, we address another potential asset allocation problem which

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we argue has become prevalent in the 1990s: mutual fund managers deviating from a stated or perceived investment objective. This leads to difficulty in risk discrimination, and implies that investors engaging in asset allocation must base their fund selection on more than the fund's name, stated objective, or categorization by some independent organization.

Sharpe (1992) correctly points out that through asset allocation, the investor is ultimately interested in their portfolio's exposure to the key asset classes which is a function of both the allocation of the investor's portfolio to the various funds, and the exposures of each of these funds to the various asset classes. The focus of this paper is on the second of these concerns. As we show below, the risk discrimination literature has found that, *on average*, stated mutual fund objectives provide a good proxy for the risk and return characteristics of a fund. However, we illustrate that because of management's discretion over the fund's investments, individual funds show dramatic deviation from these averages, and thus may adversely impact even a well constructed allocation plan.

Risk Discrimination

Research has shown that fund risk is heterogeneous across management's stated fund objectives.^a Thus, investors desiring higher expected return, and willing to accept higher risk, can *on average* invest in aggressive growth stock funds over growth or growth and income funds and achieve this result.

However, risk discrimination research has shown that *within* a specific objective group (e.g., aggressive growth), the risk is also heterogeneous.^b One possible explanation is that some fund managers are purposefully or otherwise taking actions which alter the normal risk and return characteristics for that fund category. For example, poor performers within a fund category may, in an attempt to make up for a bad quarter or year, alter their fund's structure in such a way that increases risk in an attempt to increase returns.

Investment Composition

The risk discrimination literature has focused on *averages* between and within stated fund objectives. However, many investors develop an asset allocation plan, and then fund that plan with just a handful of mutual funds. Moreover, it is likely that many investors rely on the fund's name, the objective stated by the fund, or a classification applied by some independent organization such as Morningstar, which may or may not be identical

to the fund's stated objectives (as we will discuss below).

The reason for our concern with this approach is that many funds, including funds from major fund families, have funds whose investment composition is surprising given the funds name and investment category classification^c. If an investor wants to have 60% large domestic equity, 30% international, and 10% small company growth as the makeup of the equity portion of their portfolio, then choosing a large domestic equity fund with 30% of its assets invested overseas could be a problem (or a fortuitous blessing, depending on the relative market performances). Similarly, if the domestic equity fund or funds that the investor chooses hold 20% in cash and invest 30% in bonds, then again they are unknowingly deviating from their desired allocation.

The obvious question is whether funds actually do the sort of things outlined above. The answer is yes, and it is usually fully acceptable within the fund's prospectus. The prospectus is purposefully written to protect the fund manager from lawsuits due to deviating from the stated objectives, and thus the objectives are often written in ambiguous terms which leave the investor open to legal but misleading misallocation of their funds.

Data

We examine three years worth of data for funds in the broad category of domestic equity funds as classified by Morningstar Incorporated.^d We identify 1,061, 1,318 and 1,670 funds for 1995, 1996, and 1997 respectively. The funds are classified as domestic equity funds with at least three years of operations, and which are not sector, specialty, international or world funds.^e From this sample we examine various subsamples based on their classification by Morningstar (e.g., large growth, small value), and we discuss the findings from this analysis. To provide a benchmark reference for this analysis, Table 1 summarizes the investment composition of the entire sample of domestic equity funds for each year.

We examine both average fund data and individual funds within various investment classifications in an effort to measure the extent to which funds deviated from both the overall domestic equity category average, and the average fund within the particular classification being examined. We measure this deviation in terms of concentration in specific sectors, foreign holdings, bond and cash holdings, median market capitalization, growth versus value orientation, and degree of balance in asset allocation funds. We discuss each of these areas below.

Table 1
Portfolio Profile: All Domestic Equity Funds

Investment Class	1995	1996	1997
Stocks (% Foreign)	89.5%(7.0)	91.3%(5.0)	92.5%(5.4)
Bonds	2.2	1.1	0.9
Cash	7.0	6.1	5.2
Other	1.3	1.6	1.1
Equity Sector	% of Equity Holdings		
Cyclicals	15.7	16.2	14.9
Technology	17.4	15.0	15.4
Financial	16.4	15.0	16.6
Services	13.8	15.4	15.2
Health	9.0	11.3	11.0
Retail	5.0	6.8	6.9
Staples	5.4	6.3	5.9
Energy	6.3	7.0	7.7
Utilities	5.7	2.7	2.3
Other Characteristics			
Number of Funds	1061	1318	1670
Beta	0.93	0.91	0.86
Turnover	74%	81%	83%
Expense Ratio	1.30%	1.33%	1.33%
Management Tenure	5.4 Years	4.8	5.3

Source: Morningstar Principia™ January 1996, 1997, 1998.

Fund Classifications

Within the domestic equity category, Morningstar classifies mutual funds by *objective* and *equity style* (see Appendix 1). Funds within the domestic equity category fall into one of the equity style classifications, and one of the objective classifications. The value/growth/blend classification is determined by Morningstar by a combined measure of the fund's average price-book and price-earnings ratios. The large/medium/small classification is determined by the median market capitalization of the average stock held by the fund. Finally, the objective classification is determined by the fund's prospectus, although Morningstar reserves the right to move a fund to a new objective classification if the fund is not investing in keeping with the wording of its prospectus or its fund name.

Portfolio Composition

We begin by considering *all* domestic equity funds (i.e., all objectives and styles), and examine deviations from the average portfolio profile reported in Table 1. We first examine the portfolio composition (foreign holdings, bonds, and cash) and sector weightings, and then turn to subgroups of objectives and styles. While there was always numerous funds significantly deviating from the average, we focus on the fund (or funds) with the greatest deviation, and use endnotes to document that the deviation was not transitory.

Foreign Holdings

While the average of 5-7% foreign stocks for all domestic equity funds is acceptable, individual funds far exceeded this with over 50 funds having foreign holdings in excess of 20%. Foreign holdings ranged as high as 76%.^f On the other hand, there were many funds which held no foreign stocks.

Bonds

Certainly we should expect that a domestic equity fund has most of its assets allocated to stocks. On average this is true. As Table 1 showed, over 90% of the funds were allocated to stocks, with on average a mere 1-2% being in bonds. However, these averages are *despite* individual funds with bond holdings up to 123% of its investments.^g

Cash

Although the average domestic equity fund held 5-7% of assets in cash, individual funds had cash holdings ranging up to 95% in cash.^h Nearly 50 funds had in excess of 20% allocated to cash, and even funds classified as *aggressive growth* had cash holdings in excess of 30%. On the other hand, one fund had -42% in cash, and 142% in stocks (about 20 funds had negative cash balances each year).ⁱ

Sector Holdings

Even though we excluded sector funds from our sample, we found many funds with a high concentration of stock holdings in one sector. Although, as illustrated in Table 1, no sector exceeded 20% of equity holdings for the group as a whole, we found funds with in excess of 80% of their stock holdings in one sector. Our findings include individual funds with 70.5% in utilities, 84% in technology, and 82.4% in the financial sector.^j

We now examine various subclassifications within the domestic equity category. The subclassifications are based on either fund objective or fund style as assigned by Morningstar.

Objective/Style Classification Analysis

Growth and Value Funds

While there may be some debate about what constitutes a value fund and what constitutes a growth fund, there are funds categorized as value that would likely not meet anybody's definition of value.^k We identified funds not only classified as value, but with the word *value* in their name, despite having an average PE ratio over 32, while the market PE ratio was 26. We also found value funds with price-to-book ratios of 7.5 versus the S&P 500's price-to-book ratio of closer to 4.^l

If you prefer beta as a measure of growth and value (with high beta signaling a growth fund and low beta signaling a value fund), then you may be no better off. The averages were in line with expectations as growth funds averaged approximately 1.0, with value funds closer to 0.8. However, individual growth funds, including one's with *capital appreciation* in their name, had betas as low as .56. Value funds, again including ones with the word *value* in their name, existed with betas over 1.6.^m

Asset Allocation/Balanced Funds

Within the group of asset allocation funds, stocks made up about 55% of investments (with about 7% foreign, and no sector exceeding 20%), bonds made up about 25%, cash made up 12%, and 8% was invested in *other* assets. However, funds with the words *asset allocation* in their name had as much as 99% of assets in stocks. Still others had 0% in stocks, while one had 79% in cash. Within the equity investments, one fund had 100% allocated to financial stocks, and another had 100% in utility stocks. We found similar results in the group of *balanced* funds.ⁿ

Solving the Asset Allocation Problem

Given the potential problems associated with imperfect risk discrimination and possible deviations from anticipated investment composition in mutual funds, investors must take a more proactive approach to asset allocation. While there is no simple way to completely eliminate the problems outlined above, there are some actions investors can take to minimize these problems.

Prospectus Analysis

The mutual fund prospectus often contains limitations on foreign holdings, derivative investments, maximum concentration in one sector or one stock, and so on. Investors should review the fund's *Investment Policy* section to determine the range of allowable investments, and any maximums or minimums established.

Even with the above precautions taken, given the wide latitude afforded most managers, it is important to evaluate the actual investment composition of the fund on a regular basis, either with the fund's annual or semi-annual report, or by obtaining fund portfolio composition from an independent source. By doing so, if a fund in one's portfolio is deviating significantly from the stated objective, the investor can either find a new fund, or rebalance the allocation to the affected area(s). Appendix 2 provides on-line sources which may make the process of regular fund investment tracking easier.

Index Funds

Another option available to investors is to utilize index funds. Index funds have a more focused investment objective of tracking a particular market index (e.g., SP500, Russel 2000, Morgan Stanley World Index, etc.). Thus, the investor is far less likely to find (in fact should not ever find) an SP500 index fund holding 30% bonds than they are to find a blue chip domestic equity fund doing so at any point in time.

Moreover, a long history has shown that the average mutual fund underperforms the market, and as a result domestic index funds designed to match the U.S. market have outperformed the average managed domestic equity fund.^o This has likely contributed to the dramatic increase in the use of index funds by mutual fund investors. Another advantage of index fund investing is the relatively low cost. The average annual management fee for index funds was less than half of that for managed funds in 1996 (0.6% versus 1.3% respectively). Furthermore, many of these index funds have expense ratios as low as .2%, with no sales loads, 12b-1 fees, or exit fees.

Conclusions

We have outlined the potential problems that mutual fund investors attempting to follow an asset allocation plan face given the discretion fund management is given with respect to investment composition. Given that many funds have invested significant portions of the fund's assets in sectors or investments one might not expect given the funds stated objective or investment classification, investors must be more careful in their allocation plan. Investors must monitor the holdings of the funds in their portfolio on a regular basis. While this is not a new observation, our results do reinforce it with comprehensive data, and we provide Internet resources to make this task more manageable. One possible approach to minimizing the likelihood of deviations from expected investment composition is the use of index funds which are often constrained to mimic a specific market index.

Endnotes

- a. See Bogle (1970), Klemkosky (1976), Fabozzi and Francis (1979), Bogle (1991), and Sharpe (1992).
- b. See Najand and Prather (1997).
- c. We are not suggesting (anywhere in this paper) anything we report is illegal or in violation of a fund's prospectus. Moreover, it is possible that some funds have a specific strategy in place that makes their portfolio composition appear inconsistent with their name or stated objective when in fact it is consistent. For example, a fund classified as equity income may hold derivatives to produce equity income returns, resulting in the appearance of low stock holdings.
- d. The data are from the January 1996, 1997 and 1998 versions of

Morningstar Principia.

- e. We require three years of operations because Morningstar reports a 3-year average beta which we use in our analysis. Eliminating startup funds may also remove any distortions caused by including brand new funds.
- f. The foreign holdings for this fund were 20%, 76%, and 73% for 1995, 1996, and 1997 respectively. One fund had 100% of equity in foreign stocks in 1997, but the appeared to be more transitory.
- g. This fund had negative cash holdings in 1995 to finance the 123% bond allocation. It's bond holdings for 1996 and 1997 were 87% and 66% respectively. Other funds had as high as 100% bond holdings in one year. Even the popular Fidelity Magellan fund was caught with significant cash and bond holdings in 1996, missing out on the strong equity gains during that time.
- h. In addition to its 95% cash holdings in 1997, this fund had 73% in 1995, and 0% in 1996.
- i. This same fund held -27% cash in 1996 and -46% in 1997.
- j. These high sector weightings are not transitory. In addition to these 1995 figures, the same funds had sector weightings of 62.1%, 86.3%, and 82.7%, respectively, in 1997. For a discussion of the technology sector buildup, see McGough and O'Connell (1997).
- k. See Gordon (1997).
- l. A high price-to-book ratio signals that the market is willing to pay a large premium over book value. This is typically viewed as a sign of high growth expectations and thus a growth stock. Low PB stocks are generally considered value stocks. See Haugen (1996) for a discussion of this classification.
- m. The beta measure used is a three year average.
- n. On a related note, one may even find that their mutual fund is only barely meeting the expectations of the term "mutual fund". We found funds with over 50% of assets invested in one stock.
- o. The performance data on small company funds and international funds is not as compelling, and thus the use of index funds in these areas is more controversial.

Appendix 1

Objective and Style Classifications (Domestic Equity Funds Only)

Equity Styles	Objectives
Large Value	Aggressive Growth
Medium Value	Growth
Small Value	Growth and Income
Large Blend	Equity Income
Medium Blend	Asset Allocation
Small Blend	Balanced
Large Growth	Small Company
Medium Growth	Small Growth

Appendix 2

On-line Fund Tracking Resources

Investors can utilize on-line sources of mutual fund information such as fund web sites, independent private organizations, and government sites to make the task of more careful tracking of their funds less difficult. Below we provide some sites broken into the categories of general information, fund company web sites, and fund tracking web sites. Each listing provides the site's URL (web address: note all sites beginning with www are preceded by <http://>) and the name (or description) of the site.

General Information Sites
www.ici.org/index.html

Investment Company Institute site called the Mutual Fund Connection

www.mfea.com
Mutual Fund Education Alliance

www.fundsinteractive.com
Brills Mutual Funds Interactive

www.usatoday.com/money/lipper/mlobject.htm
USA Today Mutual Funds Education

www.morningstar.net/Cover/LearnArchive.html#investing101funds
Morningstar's Investing 101

www.sec.gov/consumer/inwsmf.htm
Securities Exchange Commission (SEC) web site on investing wisely in mutual funds

Fund Tracking/Research Sites
www.morningstar.net/InfoDesk/MemberBenefits.html
Morningstar's X-Ray site. This site Summarizes your true allocation among cash, bonds, U.S. and foreign stocks, showing which market risks you are exposed to. Requires membership.

<http://www.forbes.com/tool/html/toolbox.htm>
Forbes Mutual Fund Toolbox site.

www.fundclub.com
Lipper Analytical's FundClub site. Allows you to download mutual fund documents (e.g., a fund prospectus).

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