Asset Allocation, Hoaxes, and the Creation of Straw Men

by Brian D. Singer,CFA

The topic of asset allocation receives widespread attention among investors. Two articles frequently cited as relevant to the discussion of asset allocation are "Determinants of Portfolio Performance II: An Update" written by Gary P. Brinson, Brian D. Singer and Gilbert L. Beebower, and published in the *Financial Analysts Journal*, May-June 1991 (BSB), and an earlier paper on the same subject, "Determinants of Portfolio Performance," written by Gary P. Brinson, L. Randolph Hood and Gilbert L. Beebower, published in the *Financial Analysts Journal*, July-August 1986 (BHB).

Both of these articles found a similar result: *a portfolio's asset allocation policy (what asset classes to hold and in what proportion) dominates portfolio performance, and over a period of time typically explains over 90 percent of the variation in the portfolio's returns.*

William W. Jahnke commented on the subject of asset allocation in an opinion article, "The Asset Allocation Hoax," published in the February 1997 *Journal of Financial Planning*, and used "Determinants of Portfolio Performance" as a straw man to bolster his arguments. Jahnke ultimately agreed with the conclusions of "Determinants of Portfolio Performance" when he stated in his own conclusions, "There is little doubt that asset allocation is an important determinant of portfolio performance." We find it appropriate to comment, nonetheless, on his statistical mistakes and inaccurate portrayal of the BSB/BHB articles.

Conclusions of Study Addressed

Beginning with Jahnke's principal conclusions, Jahnke states that BSB/BHB advises the use of fixed weight asset allocation: "the idea that a pension plan or an individual investor should set long-term fixed asset class weights is flawed. Only if expected returns are fixed should asset allocation weights be fixed. In fact, investment opportunities change over time, both absolutely and relatively." He further observes that "the idea that the most important investment decision should be fixed at some arbitrary point in time is strange advice." The advice is not only strange, it is never offered in the BSB/BHB articles. Jahnke has constructed a straw man that he then attempts to knock over.

The BSB/BHB articles conclude that the "design of a portfolio involves at least four steps:

■ Deciding which asset classes to include and which to exclude from the portfolio

■ Deciding upon the normal policy, or long-term, weights for each of the asset classes allowed in the portfolio

■ Strategically altering the investment mix weights away from normal in an attempt to capture excess returns from important fluctuations in asset class prices (market timing)

■ Selecting individual securities within an asset class to achieve superi-

or returns relative to that asset class (security selection)."

The BSB/BHB articles also indicate that since the policy weights describe such a large portion of the variation in actual quarterly total returns, "investment policy should be addressed carefully and systematically by investors."

The conclusions in these articles do not endorse the assumption of fixed asset allocation weights over time. Asset allocation policy should be determined by long-term, forward-looking, equilibrium, asset class return and risk characteristics considered in conjunction with the objectives and constraints of the investor. However, asset class returns and risks periodically deviate from the long-term forward-looking characteristics by sufficient magnitude to warrant strategically altering the investment mix. Altering the investment mix in response to important asset price fluctuations is an integral aspect of the design of an actively managed portfolio.

Second, Jahnke states that "the fundamental problem with BSB/BHB's analysis is its focus on explaining portfolio volatility rather than portfolio returns." Jahnke incorrectly argues that the narrow range of policy returns and the wide range of actual returns is more important than the over 90 percent of return variation described by plan policy mixes. His argument is absurd. The narrow policy range is a mere artifact of the *SEI Large Pension*

Plans Universe. For example, if the universe contained only plans with 60 percent equity/40 percent bond policy mixes, then all policy mixes would have provided the same return and the policy range would have been zero, while the actual return range would have been somewhat greater than zero. No one would conclude from this example that policy allocations are irrelevant. Similarly, if the universe held plans with policy mixes ranging from short-term fixed income benchmarks to equity-only benchmarks, the range of policy returns would have been extremely wide. Here, the range of policy and actual portfolio returns would likely be of similar magnitude, suggesting that policy allocations are the only aspect of investment management that is relevant. No one would want to conclude this, either. Jahnke has allowed himself to become confused by a cross-sectional statistical comparison that is invalid.

Third, Jahnke indicates that our use of the coefficient of determination is "the wrong number" and "misrepresents the relative importance asset allocation policy has on portfolio volatility." He suggests an alternative statistic based on the standard deviation of returns. The coefficient of determination, also referred to as the R^2 of a univariate regression model, gives an indication of how well the portfolio return data is explained by the policy return data. If the coefficient of determination is close to "one," then nearly all of the variation in portfolio returns is "explained" by the benchmark returns. Any introductory statistics textbook describes the characteristics of the coefficient of determination used in the BSB/BHB article.[1] We are unaware of any statistical text that suggests using a measure based on the standard deviation methodology employed by Jahnke. In the end, our intuition would suggest that the one piece of information that would enable us to predict the performance of a portfolio is its normal policy asset allocation. The BSB/BHB study's use of the coefficient of determination provides strong statistical evidence in support of this intuition.

Fourth, Jahnke states that "nowhere in the BHB study is cost mentioned." In the Brinson, Singer and Beebower update to the BHB study, we clearly state that "the focus of the article is on investment performance, so all returns were expressed gross of management fees." Active management fees are different for each investor, typically based on the amount of funds managed. As such, inclusion of management fees would have confused the results of the study. This is not to ignore the importance of costs associated with any investment activity. We welcome any contributions to the literature in this area.

Allocations and Benchmarks

Many of Jahnke's other observations are designed to bolster the status of his attack on the BSB/BHB articles. Most of these observations are inconsequential and are part of his building of a straw man. Jahnke observes that the studies assume that the average asset class weights are the same as the policy weights. While we would have liked to use actual policy allocations, they were unavailable. The average equity and fixed income weights are about 55 percent and 35 percent, respectively, with an additional 10 percent designated as "other." Since the average allocations are relatively close to the typical 60 percent equity/40 percent fixed income policy allocation, we feel that the average allocations provided good proxies of the actual policy allocations.

Jahnke states that we assume that investments in the "other" category can be proxied by equity, bond and cash allocations. Since a complete history of the "other" category was not available for many plans, we reallocated this weight to the equity, bond and cash asset classes according to available information. While we would have preferred complete data on the "other" category, its average allocation was only about ten percent. Portfolios with large "other" allocations were omitted from the analysis. If we had had more complete data on the "other" category and included it in the

analysis, we would have been better able to represent true policy asset allocations. Our results, therefore, benefiting from more accurate policy representations, probably would have identified a higher degree of portfolio return variation explained by policy asset allocations.

Jahnke states that our assumed index benchmarks for stocks, bonds and cash may not be appropriate. Given the high correlation between equity market indexes and between bond market indexes, it is unlikely that using different benchmarks would have any impact on the results. In fact, the original BHB article used a different bond market index than in the subsequent BSB article, with no discernible effect on result and absolutely no impact on our conclusions. Furthermore, the BSB article notes that "we repeated each analysis using a broader market index than the S&P 500; the results were virtually identical."

We observe that Jahnke says "the financial services industry has taken liberties with the BHB study to market a wide range of products." Unfortunately, his own opinion piece falls victim to this observation. ■

1. See, for example, *Quantitative Toolkit for Economics and Finance*, Stephen Mathis and Lee Siegel, pp. 352–353, where the authors state, "...a simple measure indicating the percentage of the variation in the dependent variable (actual portfolio) that is explained by the independent variable (policy portfolio) can be constructed. This term is defined as the coefficient of determination and is labeled R^2."

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