Volume 7, No. 10

SENIOR CONSULTANT
The Voice of the Investment Management Consultant

Can Hedge Fund Managers Win the Dartboard Game?

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Good chance that you're familiar with "The Dartboard Game" in the *Wall Street Journal* which challenges professional investors to outperform a portfolio chosen at random by figuratively throwing darts. Surprisingly, or maybe not so surprisingly, this has been a tough game to win. In this article we present a similar challenge to hedge fund managers, not just for amusement but as a practical solution to the problem with current performance evaluation approaches. Peer groups and indexes simply don't work for evaluating hedge fund performance, because each hedge fund is unique and therefore without peers. Using the dartboard analogy, we recommend in the following that each hedge fund have its own unique dartboard: some round, some square, some with concentric circles and some with random shapes. In other words, the game is played to each manager's unique specifications, and it is played at random. Can a hedge fund manager beat a capricious god who is playing dice to create a universe of random hedge funds cloned from the very process employed by that manager?

The dartboard game has a real world application in evaluating investment performance. This application is directly related to hypothesis testing. In this context, performance evaluation is viewed as a hypothesis test, where the hypothesis is "performance is good." As with any statistical problem, this hypothesis is tested by comparing the actual outcome of a process with all of the possible outcomes. If the actual outcome ranks high among all of the possibilities, the hypothesis of "performance is good" can be accepted with statistical confidence. The basic idea is that the successful manager should beat the majority of the monkeys who are allowed to play his game. This application of the dartboard game as a real world solution is not new. A technology named Portfolio Opportunity Distributions (POD) has been used to evaluate traditional investing for about a decade. Recently POD has been extended to hedge funds to create HedgePOD.

HedgePOD addresses the uniqueness challenge of evaluating hedge fund performance by creating at random all of the possible portfolios that the hedge fund manager could have conceivably held, thereby applying the scientific principles of modern statistics to the problem of hedge fund evaluation. The answer to the question "What hedge funds are in a HedgePOD peer group?" is "All of them that matter."

Why Create HedgePOD?

Despite the high costs, investors have been flying blind when they select a hedge fund. Even investment consultants who help investors choose hedge funds admit there is no way to scrutinize them the way they would a less complex money-management firm, that is up until now. With HedgePOD, investors have the ability to distinguish between the form and the substance of an individual hedge fund. This ability has become more crucial as hedge funds attract increasing interest based on their offer of protection (hedge) against the downside, while potentially delivering value added on the upside through investment management skill. The downside protection is the form, and the presumed skill is the substance. This has led some to proclaim that the industry is "buying beta, not alpha," that is, investors are buying the downside protection and not getting the value added through skill. Downside protection can be purchased cheaply in a variety of ways. The average fund created by HedgePOD represents the form of the strategy being simulated. In most cases, this average fund's returns could be purchased passively as long and short index funds. An individual fund's rank in its HedgePOD universe is its substance, that is, the likelihood that performance is good, evidencing skill or absence thereof.

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Investors have literally thrown money at hedge funds because of their mystique, rather than because of any real confidence in manager skill. Hedge fund man-

agers have gladly accepted these riches while denying access to the information that might reveal the emperor's clothes, or lack thereof. HedgePOD circumvents this lack of transparency by using returns to determine the likelihood of skill, an insight that cannot be achieved with any other evaluation approach currently available. HedgePOD also provides a credibility check on manager performance. A reported return is suspect if it exceeds or lags all of the possible returns in its strategy.

For investment firms that offer hedge funds, HedgePOD is a means for back-testing new product ideas. By creating all of the possible hedge funds in the new strategy and examining them in various market environments, HedgePOD enables an investment firm to observe the natural return to the strategy (the middle of the distribution of returns) as well as the implementation risk (the range of potential returns), thereby providing invaluable guidance for product development decisions.

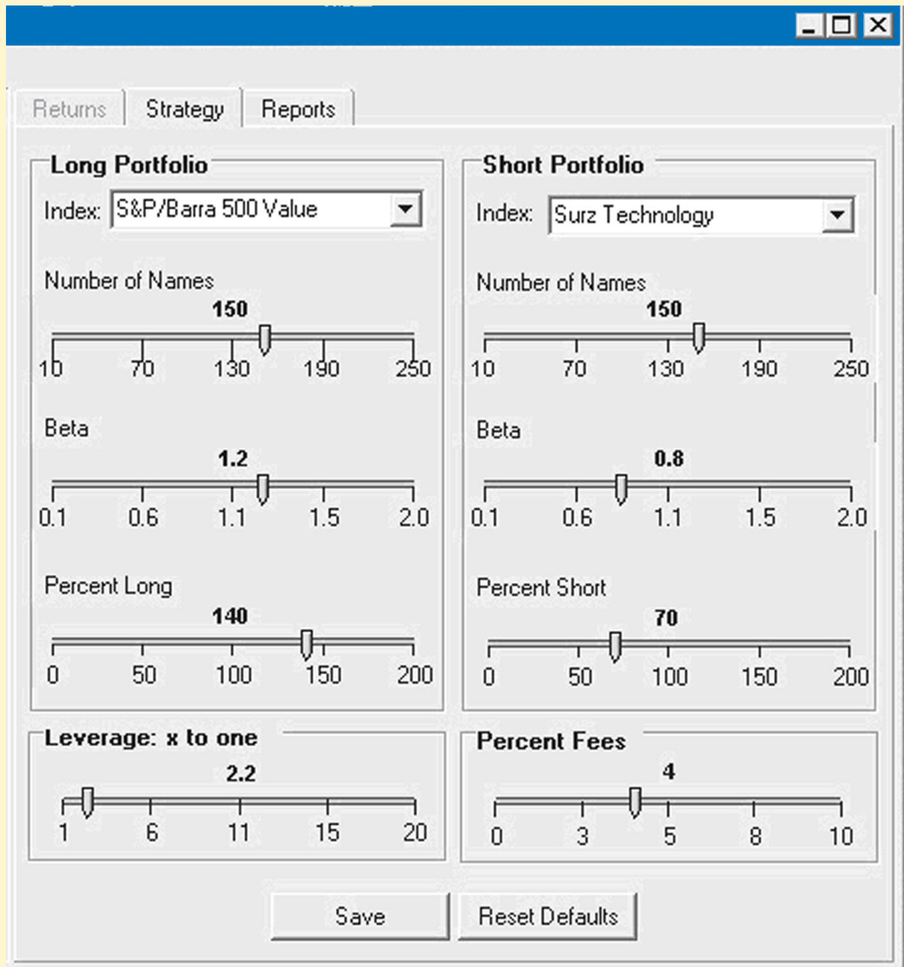
HedgePOD Simulations

HedgePOD performs a Monte Carlo simulation that follows the same rules that a particular hedge fund manager follows. These rules include the following:

- Investment style: What approach does the manager employ for the long portfolio? For the short portfolio?
- Breadth: How many securities are held long and short?
- Risk: What are the betas of the individual long and short portfolios?
- Direction: How much is held long and how much is held short?
- Leverage: Is money borrowed to amplify performance?
- Fees

Figure 1 shows the control panel that operates HedgePOD. This is how a particular hedge fund's attributes are specified. The simulator uses these inputs to create 10,000 portfolios at random that conform to the same portfolio construction parameters followed by the actual manager. The result is a scientific and unbiased backdrop for evaluating manager performance.

Figure 1.
Defining the Hedge Fund



Example 1: Market Neutral

Let's take a single strategy as an example, market neutral. Market neutral is a very popular hedge fund strategy, and there are about as many types of market neutral as there are market neutral funds ... and many such funds should not be called market neutral at all. There's dollar neutral, beta neutral, sector neutral, style neutral, and the list goes on. This creates a real problem for performance evaluators, who would like to extend traditional approaches to hedge funds but who find that they cannot.

There are big differences among the various flavors of market neutral, and performance results reflect these differences. Let's take three different market neutral substrategies as examples. All three are both dollar and beta neutral, but they vary in their style neutrality. One is style neutral, one is long value and short growth, and the third is long growth and short value. The scientific peer groups in Figure 2 show the dramatic differences in the opportunities available to these three substrategies over the past five years, even though all three are properly designated as market neutral.

As you can see, the best performing "long growth/short value" manager, with a 3% return, ranks as the worst when compared to the "long value/short growth" universe. A skillful manager could very easily be adjudged as unskilled, and vice versa, if the wrong peer groups are used – a mistake that literally cannot

happen with proper specification of the manager's approach in HedgePOD.

This ability to identify skill is particularly important to fund-of-funds managers. The three substrategies in our example might very well be candidates for inclusion in the market neutral sleeve of a fund of hedge funds since these three variants on the market neutral theme tend to exhibit low correlations relative to one another, so they make good diversification partners. A fund-of-funds manager will try to gather the best talent within each strategy and diversify among that talent. As is the case in traditional investing, the search for talent must start with proper identification of the opportunities available to the style of management. Let's consider what currently happens, when HedgePODs is not used. In Figure 3, a candidate for inclusion in a fund-of-funds has delivered bottom quartile performance within this candidate's substrategy, which is long Value and short Growth, but this same performance ranks above median when contrasted to the traditional non-customized peer group of all market neutral managers. Even the most sophisticated investor, like a fund-of-funds manager, can easily mistake strategic dominance for skill. The question, of course, is: "Will style dominance shift?" Presumably skill, or lack thereof, will persist through style shifts.

Conclusion

Portfolio Opportunity Distributions for hedge funds is an important breakthrough that deserves our interest and use. With billions of dollars pouring into hedge funds every year it's imperative that investors know the truth provided by this new insight. HedgePOD is a "game" that skillful managers should win, and it's fun since everybody loves a clone. ■

About the Author

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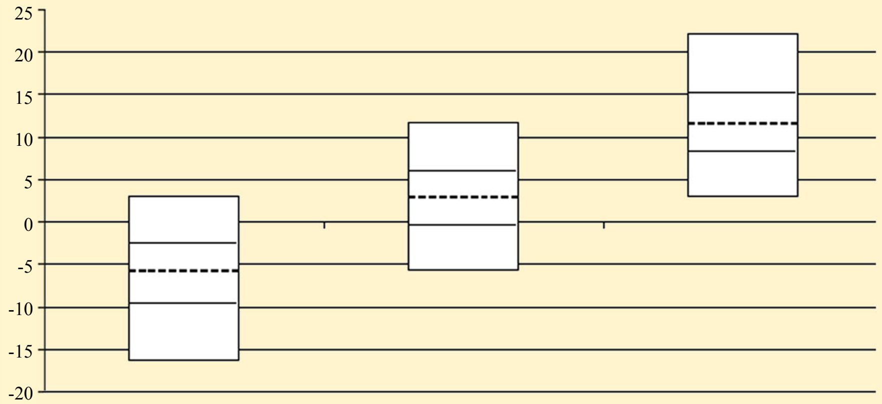
Figure 2.
Peer Groups for Different Market Neutral Strategies: Portfolio Opportunity Distributions for Select "Market Neutral" Strategies
(5 Years Ending 6/30/04)



Long: / Short :	Growth / Value	Market / Market	Value / Growth
5	3.0	11.7	22.1
25	-2.5	6.0	15.3
50	-5.8	2.9	11.6
75	-9.5	-0.3	8.3
95	-16.4	-5.9	2.8

Figure 3.
The Difference Customization Makes: Portfolio Opportunity Distributions for Select "Market Neutral" Strategies
(5 Years Ending 6/30/04)