

An Alternative Look at Hedge Funds

by Alejandro Murguía, Ph.D., and Dean T. Umemoto, CFP®

Executive Summary

- Investment advisors cite the need for diversification as a major reason to include hedge funds in client portfolios. Relying on simple return data and traditional evaluation measures for hedge funds, however, may lead to inaccurate conclusions and inappropriate risk exposure.
- As an alternative, it is possible to replicate the dynamic returns of certain hedge fund styles with a passive trading strategy.
- Hedge fund returns reported by popular hedge fund indexes artificially inflate returns due to such factors as survivorship bias, selection bias and instant history bias.
- Hedge funds appear to suffer from the same lack of persistency present in mutual funds.
- Many hedge fund managers do not like to divulge their trading strategies. But trying to analyze manager performance using traditional performance measurements such as annualized returns and Sharpe ratios may not expose a fund's true risk-return profile.
- Instead of trying to select individual hedge funds, advisors may turn to funds of funds as a more practical approach for clients. But FOFs appear to underperform a composite hedge fund index and stock and bond indexes, due in part to higher fees.
- Ultimately, the value of hedge funds is not in providing alpha but in broadening investment opportunities beyond traditional mutual fund investing.
- Researchers have been able to successfully capture hedge fund return characteristics using a passive multifactor model that includes the use of exchange-traded options on stocks, bonds, currencies and commodities, not unlike managed futures hedge funds. This can be done with more transparency and lower costs than managed future hedge funds.

Alejandro Murguía, Ph.D., is vice president and the director of investment management services for McLean Asset Management Corporation in McLean, Virginia.

Dean T. Umemoto, CFP®, is the president of McLean Asset Management Corporation. Both authors can be reached at www.mcleanfn.com.

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Many advisors have reassessed their clients' investment policies in search of investment alternatives in recent years, leading some to consider hedge funds. According to an AdvisorBenchmarking survey in 2000, four percent of advisors indicated they used hedge funds. In 2002, the number of advisors using hedge funds increased dramatically to 15.3 percent (Kelly 2003). The reasons advisors state for this increased use of hedge funds center on the differences in the return characteristics of hedge funds versus the general capital markets. Other explanations include how hedge funds behave as a different asset class or are structured to provide absolute returns in any market. Although these reasons are very compelling, it is important to understand what hedge fund managers do to merit such distinctions and whether these are valid reasons.

If advisors are unaware of the operational and performance attributes of hedge funds before recommending them to clients, they may end up reading about their recommendations in the headlines of their local newspaper. For example, in 2003, Gotham Partners Management Co., Beacon Hill Asset Management LLC and the Eifuki Master Fund have earned the honor of high profile failures, remarkable for the speed and size of their collapse. The Eifuki Master Fund lost its entire \$300 million market value in seven trading days. Investors in this fund included

the legendary George Soros. There are about 6,000–7,000 active hedge funds, and it has been estimated that about 20 percent cease their operations every year due to poor returns (Brown, Goetzmann and Ibbotson 1999).

This article presents a critical overview of hedge funds for advisors considering them for their clients' portfolios. We begin with a brief description of the different investing styles and a discussion of the indexes that attempt to benchmark their performance. We then detail how advisors can misinterpret hedge fund returns by relying on traditional returns data. We also present a review of hedge fund manager performance relative to their risk exposures. We conclude with how it may be possible to systematically replicate the dynamic returns of certain hedge fund styles via a passive trading strategy.

Hedge Fund Overview

Despite their recent popularity and phenomenal growth in assets—about \$600 billion—hedge funds have been around since the 1950s. Due to their limited partnership structure, the term “hedge fund” is used to describe funds whose main similarity is their independence from certain regulatory controls over investment techniques. Anson (2003) presents a detailed review of hedge funds and their regulatory controls within the United States. Hedge funds domiciled overseas are referred to as offshore hedge funds.

Currently, a single definition of a hedge fund does not exist because they are not classified by their different asset classes, as are mutual funds. They are usually classified by the type of trading style used by the manager, which can range from extremely conservative to highly aggressive. While there is no broad consensus, the investment industry classifies hedge funds into a variety of investment strategies that are directional or nondirectional.

Nondirectional strategies are structured to have low correlations with a specific market and to provide positive returns regardless of market conditions. These strategies attempt to exploit short-term pricing or market inefficiencies. This group of funds is somewhat limited by the underlying liquidity in their investment choices.

Directional strategies attempt to benefit from broad market movements. These funds tend to be the most aggressive, as their managers attempt to capitalize on a broad array of market movements. A more detailed description of these strategies based on the CFSB/Tremont Index Categories is provided in Figure 1.

FIGURE 1

General Hedge Fund Styles

	Description
Non-directional Strategies	
Convertible Arbitrage	Involves holding opposite long and short positions in the security and convertible security of a company to arbitrage their relative mispricings. The main risks depend on credit exposures.
Equity Market Neutral	A strategy that involves being simultaneously long and short where the net equity exposure is very low. They are designed to be beta neutral. The main risks pertain to their specific positions.
Event Driven (ED)	This strategy attempts to capture mispricings generated by anticipated corporate events such as mergers, reorganizations, or takeovers. The main risk is the nonrealization of the anticipated event.
ED Distressed	A strategy that invests in a variety of securities for companies in financial distress or in bankruptcy. The anticipated event is a return to financial independence for the company.
ED Risk Arbitrage	A strategy in which arbitrageurs take a long position of the company being acquired and short the stock of the acquirer. The anticipated event is that the merger or acquisition takes place.
ED Multi-Strategy	This strategy refers to a combination of the event driven strategies, investing in generally illiquid stocks that are raising private equity, and high yield investing.
Fixed Income Arbitrage	This strategy attempts to arbitrage price discrepancies between interest rate securities via a variety of techniques. The main risks depend on duration, credit exposure, and degree of leverage employed.
Directional Strategies	
Global Macro	This strategy invests in long and short speculative positions in the global capital markets to capitalize on a variety of unforeseen market movements across all asset classes.
Long/Short Equity	Although this strategy has long and short positions, it is not a market neutral fund. This fund may vary from net long to net short. Managers tend to focus on specific sectors such as technology stocks.
Emerging Markets	This involves equity or fixed income investing. Due to short selling restrictions and the lack of sophisticated derivative products, investing in these funds is usually on the long-only side.
Managed Futures	This strategy involves investing in the commodities and futures markets. These funds often rely on technical indicators for their investment decisions.
Dedicated Short Bias	This strategy focuses on selling short overvalued securities through equities and derivatives. These managers are usually net short as opposed to having a total short exposure.

Indexes and Their Potential Biases

To provide a greater understanding of these hedge fund styles and manager skill, we must first review the popular databases that serve as the benchmarks for general investment performance. Analyzing the accuracy of hedge fund indexes is a difficult task because a record of every single fund does not exist. Reasons for this include the absence of commercial indexes prior to the mid-1990s, different inclusion criteria for the various databases and the voluntary nature of reporting returns. These characteristics in hedge fund databases lead to significant reporting biases that tend to overstate hedge fund returns. Survivorship, selection and instant history biases result from such omissions (Fung and Hsieh 2002).

Survivorship bias occurs when the index solely represents funds that have remained in the database over time. These databases are not representative of failed funds that were never included. In addition, before 1994, funds that were in a database and subsequently collapsed are not represented. Historical hedge fund performance is overstated due to the removal of collapsed funds or funds that were never included in the database. In the mutual fund literature, survivorship bias overestimates returns in the range of 0.5 to 1.4 percent a year (Brown and Goetzman 1995; Carhart 1997; Malkiel 1999). Moreover, annual survivorship biases have been reported as high as 3.54 percent for managed futures hedge funds (Fung and Hsieh 1997), 3 percent for offshore funds (Brown et al. 1999) and over 2 percent for funds listed on the HFR and TASS databases (Brown et al. 1995).

Selection bias arises from the different inclusion criteria among the varied database vendors and the voluntary

reporting of returns. For obvious reasons, a hedge fund that has had stellar returns and is interested in attracting capital may be more inclined to submit their returns to a database vendor. A fund manager who has had inferior returns would not have the same incentive. Consequently, the selection bias systematically adds funds that have better returns.

Instant history bias also arises from the selection of these funds. A hedge fund undergoes an incubation period with seed money before being marketed on a larger scale. If the fund is successful, it is marketed to accredited investors and included in a database as a marketing tool. These funds are included in the database with their previous return history. It is very likely that only funds with initial success will be marketed while unsuccessful ones are liquidated. Returns for these funds on the major databases are overestimated by 1.4 percent a year due to their instant history bias (Fung and Hsieh 2000).

The structural and performance differences between the commercially used hedge fund indexes, the inherent biases that artificially inflate returns, and the lack of consistent reporting should be major considerations when choosing hedge funds based on reports of major hedge fund index returns. With careful consideration and due diligence, advisors may be able to overcome these issues. Attention to these issues, however, is not enough. Recognizing how specific managers generate their returns is another topic that deserves thorough consideration.

Assessing Trading Strategies

As advisors move beyond general hedge fund indexes and begin to evaluate specific styles, an analysis of the individual trading strategies within the different styles is integral to understanding the fund's returns. A manager may have produced spectacular returns by engaging in risky trading strategies that do not require any specific manager skill. Two such naïve strategies are short-term volatility and the St. Petersburg concept (Weisman 2002).

Short-volatility investing is similar to writing insurance policies against low-probability events. The investor typically purchases a security while he or she simultaneously shorts another. This strategy can produce very favorable risk-adjusted returns for a sustained period. This strategy is more common among the nondirectional hedge fund strategies such as fixed-income arbitrage.

The *St. Petersburg* concept refers to a simple betting strategy. In this naïve strategy, the investor bets on a binomial outcome with equal probabilities. If the investor is correct, he bets again with the same unit size. If he loses, he “doubles up” until he wins again. At this point he returns to betting the original amount. This is similar to fund managers who increase leverage as they go into draw-down situations. Eventually, the portfolio will experience a string of losses that will bankrupt it. This strategy is more common among the directional hedge fund strategies such as the global macro style.

Due to the impressive returns naïve strategies can generate, advisors may be drawn to these funds. Many of these funds appear on an advisor's screen because they have been established for over three years, have very favorable track records and are somewhat “undiscovered.” This, however, creates a negative selection bias. Although these funds may have been successful for periods of time, these are naïve strategies that have a very high probability of significant losses and probable collapses over the long term (Weisman 2002).

Persistence of Returns

As with mutual funds, once advisors have identified hedge funds that seem to exhibit favorable risk-adjusted returns, they must determine whether the managers can continue to outperform. Do hedge fund managers exhibit persistent and superior risk-adjusted returns? Agarwal and Naik (2000) found that there is a reasonable

amount of persistency driven largely by losers continuing to be losers rather than continual outperformance. A follow-up investigation on hedge funds finds virtually no evidence of performance persistency using yearly multi-period returns (Agarwal and Naik 2000a). Another investigation reported similar findings for offshore funds (Brown et al. 1999). Thus, these studies indicate that hedge funds seem to suffer from the same lack of persistency present in mutual funds.

Evaluating True Market Exposure and Subsequent Manager Skill

Many hedge fund managers do not like to divulge their trading strategies. They claim to take advantage of market inefficiencies and are secretive about their investment holdings. Therefore, advisors trying to analyze manager performance are usually provided only with standard return data. Attempting to measure performance via traditional evaluation techniques such as annualized returns, standard deviation, Sharpe ratios and correlations will most likely lead to a misinterpretation of the fund's risk-reward profile (Kat and Amin 2003). Although these managers may appear to provide returns in excess of their systematic risk exposures, they may actually be exposed to other risk factors not captured by traditional evaluation measures.

A common measure of any investment performance is to assess whether a manager is able to provide value beyond what could be attained by passively investing in a similar opportunity set. After adjusting for general market exposure, many studies have documented that hedge funds exhibit a significant amount of excess returns, or alpha (Liang 2001). But these investigations do not effectively account for the illiquid or hard-to-price securities held in many funds.

Although hedge funds voluntarily provide monthly returns data, the data may not accurately reflect the current value of their assets. This is referred to as stale pricing. In addition, the absence of publicly available pricing may allow hedge fund managers an unusual amount of flexibility in how their positions are marked for month-end reporting. Since advisors often use hedge funds for overall portfolio diversification, managers have a powerful incentive to provide returns that are uncorrelated to the market and have consistent monthly returns. These issues can artificially reduce the volatility and correlation of hedge funds to traditional indexes (Asness, Krail and Liew 2001). For example, if there is an extreme drop in the market, the fund may not have certain securities accurately marked for several months to reflect the new market value of the position. This would give investors an inflated net asset value until the securities accurately reflect their true market value. It would also give investors a false sense of independence from market exposure.

Researchers have used lagged market betas to measure the degree of true market exposure among the hedge funds in the CSFB/Tremont Aggregate Hedge Fund Index (Asness et al. 2001). They show that broad hedge fund exposure to the general equity market on a monthly basis has a beta of 0.37. When accounting for stale pricing through lagged betas, true equity market exposure significantly increases to a beta of 0.84. The largest increases in betas occur in areas where stale pricing is very common such as convertible arbitrage (0.04 versus 0.43), fixed-income arbitrage (0.02 versus 0.36) and event driven (0.28 versus 0.61). These hedge fund styles usually contain a significant amount of hard-to-price, over-the-counter securities. When accounting for lagged market exposure, hedge funds provide significantly less hedging than a cursory examination would reveal.

Once advisors have attained a reasonable degree of certainty about a fund's true market exposure, they can assess whether managers are able to add a positive excess return or alpha. Using simple regressions, hedge fund returns for the CSFB/Tremont Aggregate Hedge Fund Index reported an alpha of about 2.6 percent annually. When accounting for true market exposure, however, the reported alpha is closer to -4.5 percent annually (Asness et al. 2001). These results suggest that manager alpha may be overstated by as much as seven percent annually. On average, hedge fund managers do not seem to add value over a traditional market portfolio once we are able to control for delayed pricing and more accurate market exposure.

The Fund of Funds Solution?

Due to the issues involved in analyzing individual hedge funds, many advisors may not have the time or the industry knowledge to accurately conduct the due diligence and continual monitoring in selecting these funds. Additionally, their clients may not have enough investment capital to diversify among the different hedge fund styles. Thus, investing in a hedge fund that invests in a portfolio of hedge funds is a practical approach for many advisors. These investment vehicles are known as funds of funds. FOFs typically invest in 20 to 40 individual hedge funds across many different styles. Additionally, the FOF approach is a more accurate and realistic depiction of actual investment returns from investing in hedge funds (Ennis and Sebastian 2003).

Ennis et al. (2003) studied the returns of the Hedge Fund Research (HFR) Composite Index and the HFR Fund-of-Fund Index from 1994–2002. Table 1 indicates the HFR Composite Index had a very favorable return (11.3 percent) compared with the S&P 500 (8.5 percent) and the Lehman Aggregate Bond Index (7.3 percent). The FOF index, however, returned only 7.1 percent. Thus, an index of “live” portfolios consisting of a diversified set of hedge funds returned annually 4.2 percent less than a hedge fund index. In addition, the HFR FOF Index returned less than general equity and bond indices. Reasons for such underperformance include high investment management fees that range from two percent annually to the previously mentioned biases inherent in the construction of the hedge fund databases that may artificially inflate returns. It seems unlikely that the returns from a hedge fund composite index are attainable through a diversified set of hedge funds.

TABLE 1

Comparison of Returns: 1994–2002 (%)

	Wilshire 5000	Lehman Aggregate Bond	HFR Composite Index	HFR FOF Index
Annualized Return	8.5	7.3	11.3	7.1

Source: Ennis and Sebastian, 2003

Another Alternative

If individual hedge fund managers or FOF managers are not able to provide value-added returns, why are hedge funds considered important and ubiquitous investment vehicles? Research suggests that hedge funds are very attractive investments because they engage in different investment styles and opportunity sets than traditional asset class funds (Agarwal and Naik 2000b; Fung and Hsieh 1997a). Thus, they have other risk exposures not present in mutual funds. Hedge fund managers, however, do not seem to add much value beyond their given risk exposures.

Because of a manager’s freedom to trade in multiple markets, take long and short positions, and use varying degrees of leverage, they can structure a portfolio that is exposed to a variety of risk factors beyond general market exposures. This ability gives many advisors the mistaken impression that hedge fund managers are able to consistently provide alpha. Hedge fund managers, however, have not avoided the risk-return parameters of investing. They are just able to expand their investment opportunities beyond the purview of traditional mutual fund investing. The true value-added component of hedge fund investing is a fund’s ability to invest in different opportunity sets—other risk exposures. It is not the manager’s ability to add value through stock selection or market timing that makes hedge funds unique investment vehicles.

Researchers have been able to successfully capture hedge fund return characteristics using a multifactor model that includes standard equity benchmarks and additional factors that mimic hedge fund trading strategies via option-like features (Fung and Hsieh 2001). The return characteristics of hedge funds largely come from three factors: location factors (payoffs from asset class positions), trading factors (payoffs from option-like payoffs) and leverage factors (payoffs due to degree of leverage [Fung and Hsieh 2002a; Fung et al. 2001]). This dynamic multifactor model explains a significant amount of the variation of hedge fund returns.

Passively creating a portfolio based on these factors using exchange-traded options on stocks, bonds, currencies and commodities has been shown to significantly correlate with trend-following hedge fund styles (Schneeweis and Spurgin 1998). Being able to provide a tradable index of a trend-following strategy would have many advantages for advisors seeking different hedge fund options. Characteristics of these trend-following strategies are a consequence of systematic market volatility and thus would significantly contribute to portfolio diversification (Fung et al. 2002a; Fung et al. 2001). This strategy is common among managed futures hedge funds. A trend-following strategy is successful in the futures market because a buy-and-hold strategy does not capture the basic economic functions in the market.

The futures market serves as a medium through which businesses can transfer the risk of price fluctuations to investors who are willing to accept the risk. This involves both the manufacturer who is willing to buy a commodity in the future at the current price and a supplier who is willing to sell a commodity in the future at today's price. The manufacturer does not want to risk a price increase and the supplier does not want to risk a price decrease. Both parties are willing to risk the lack of a possible investment gain in order to avoid a potential loss. The convenience yield is the theoretical return earned by the holder of the futures contract for taking on the transfer of risk. The investor, either long or short, receives a return that is consistent with the involved risk transfer.

The Mount Lucas Management Index (MLM Index™) incorporates a passively oriented trend-following strategy in the futures market. It is an equally weighted index among the 25 most liquid futures contracts. The MLM Index uses a simple algorithm based on the 12-month moving average of a particular futures contract. On a monthly basis, the index is either long or short in a futures contract if the specific contract is above or below its 12-month moving average. This index has an operational fund, the MLM Index fund. Returns of the MLM Index have been significantly correlated and have explained a significant amount of variation among managed futures hedge fund returns. The Goldman Sachs Commodities Index, which is a long-only index, was insignificantly related to the returns of managed futures (Schneeweis et al. 1998). Tables 2 and 3 report very favorable returns data and correlation of the MLM Index to traditional asset classes.

TABLE 2

Summary Statistics: 1961–2002 (%)

	MLM Index	S&P 500 Index	Micro-Cap Index*	1-Month CD
Annualized Return	14.42	10.35	11.82	6.61
Annual Standard Deviation	16.91	16.86	29.34	3.25

*CSP 9-10
Source: Mount Lucas Management Corp, Ibbotson Data, and DFA IIT LP#18; D, V, W, X, Y, Z

TABLE 3

Monthly Correlations: 1961–2002

	MLM Index	S&P 500 Index	Micro-Cap Index*	1-Month CD
MLM Index	1.000			
S&P 500 Index	-0.067	1.000		
Micro-Cap Index*	-0.100	0.724	1.000	
1-Month CD	0.155	-0.022	-0.048	1.000

*CSP 9-10
Source: Mount Lucas Management Corp, Ibbotson Data, and DFA IIT LP#18; D, V, W, X, Y, Z

The MLM fund is a more accurate example of a hedge fund index and represents how a passively constructed fund can capture the specific returns present in a particular hedge fund style. It is not a compilation of other actively managed futures hedge funds marketed to advisors as a hedge fund index. Because it is a passively managed fund, it has other advantages including transparent holdings and a significantly low expense ratio compared with other managed futures hedge funds.

Conclusion

Advisors relying on simple return data and traditional evaluation measures presented in many hedge fund tear sheets will be vulnerable to inaccurate conclusions and possibly expose their clients' investments to an inappropriate amount of risk. Evaluating the hedge fund performance via traditional evaluation measures will make a manager who consistently sells call options on an index seem like a superior performer. Although this manager may seem to be providing excess returns, a multifactor model that incorporates the dynamic trading strategy of the fund will indicate that the fund manager is essentially creating these returns by taking on more risk through the specific trading strategy and not necessarily through alpha.

Advisors wanting exposure to hedge funds for their clients currently have no other choice but to try to select the best available managers. Unfortunately, it does not seem that hedge fund managers are able to consistently provide alpha. An intriguing option promoted to advisors has been the "hedge fund index." Essentially, this is a fund of funds product marketed to represent a certain class of hedge funds. Investing in an actual hedge fund index, however, is not a realistic option due to the logistical hurdles that would need to be overcome. Some of the most basic hurdles include meeting the investment minimums, addressing the liquidity requirements and properly weighting the index fund according to the weights of all the funds listed in the index.

Although a set of passive hedge funds across the different styles does not exist, current research is attempting to identify the many different style factors from the underlying hedge funds in order to create a passive and transparent investment vehicle. Multifactor models that account for investments in different asset classes, trading styles and leverage are able to assess the specific risks that lead to positive returns. The MLM Index is a successful example of a managed futures hedge fund index that is able to passively capture the dynamic trend following strategies of that particular fund style. Ultimately, it may not be possible to replicate passive trading strategies for the other different hedge fund styles.

Empirical research on hedge funds is beginning to shed light on their usefulness in investment portfolios. Until further advances are made, advisors may be better served by diversifying their clients' portfolios with other unrepresented asset classes traded on major exchanges such as emerging markets or international small cap stocks. These different asset classes have traditionally been very effective portfolio diversifiers. Additionally they allow advisors a degree of liquidity and transparency not currently present in hedge funds.

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Web Sites for Further Information

- www.aima.org
AIMA represents the global alternative investment community and provides a center of knowledge for professional investment practitioners.
- www.london.edu/hedge_funds/index.html
The Centre for Hedge Fund Research and Education at London Business School focuses on areas of research relevant to gaining a better understanding of the strategies employed by hedge funds.
- www.hedgeworld.com
HedgeWorld is the leading provider of information and data about the hedge fund industry.
- www.ssrn.com
Social Science Research Network (SSRN) is devoted to the rapid worldwide dissemination of social science research and is composed of a number of specialized research networks in each of the social sciences.
- <http://cisdm.som.umass.edu>
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