

FUNDAMENTALS OF HEDGE FUNDS

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Portfolio theory continues to evolve as the array of available investment products and tools expands at an ever increasing rate. Long-only, domestically oriented portfolios have given way to globally diversified portfolios consisting of traditional and alternative asset classes and strategies. Not only has the asset mix changed, but the way assets are combined has changed as well. Mean variance optimization has been augmented by full scale optimization, dynamic programming, Monte Carlo simulation and risk budgeting techniques. While institutional investors have historically led the way in utilizing new tools and techniques, the wealth management industry serving high net worth individuals is closing the gap. In this highly competitive environment, those firms that are early adopters of the institutional investment model will be able to differentiate themselves and add value to their clients' portfolios in a way that is not only unique, but relevant – a true competitive advantage.

The purpose of this paper is to explore one of the fastest growing investment tools in both investor acceptance and choice; hedge funds. *We believe that hedge funds can add meaningful value as part of a diversified portfolio.* With that said however, misconceptions around hedge funds abound and it is of critical importance that advisors have a firm understanding of the fundamentals of hedge funds before investing client assets. This paper will endeavor to rise above the noise from the popular financial media and provide that fundamental framework, specifically by discussing what hedge funds are, what strategies hedge fund managers employ, what the attraction is from a risk and return perspective, and how to think about integrating hedge funds into a portfolio.

What Are Hedge Funds?

Hedge funds continue to garner tremendous attention, both positive and negative, as the number of funds and total assets under management swell. Stories of breathtaking hedge fund success and just-as-spectacular folly are ubiquitous. Amidst reports of exorbitant riches earned by hedge fund managers – the top five most highly compensated hedge fund managers each earned in excess of \$1 billion in 2007 – has been a series of stories about major hedge fund blow-ups, think Bear Stearns, Citigroup and Sowood. But eye-catching headlines aside, what are hedge funds?

The term 'hedge fund' is so generic as to be essentially meaningless. It conveys the same amount of information that 'mutual fund' does; in other words, it describes the vehicle. Hedge funds no more constitute an asset class than do mutual funds. Rather, hedge funds, like mutual funds, are vehicles for managing money and represent pools of capital. While hedge fund managers trade in the same markets as traditional managers, they often employ leverage, derivatives and non-traditional strategies. Functionally, hedge funds are typically structured as limited partnerships, and in order to avoid the regulation of registered investment vehicles, comply with either section 3(c)(1) or 3(c)(7) of the Investment Company Act of 1940.

It is generally agreed that the birth of the hedge fund industry occurred in 1949, when Alfred Jones launched a fund that not only purchased common stock, it utilized short selling and leverage; two unique portfolio management tools at the time. In the ensuing years, the hedge fund community grew, but the progress made was hindered by the troubled markets of the 1970's and early '80s. According to research conducted by Tremont Partners, only 68 hedge funds existed in 1984. But over the next decade the emergence of hedge fund star power like Julian Robertson and George Soros, coupled with a desire among financial institutions to shift proprietary risk-taking activities off of their balance sheets led to what many have referred to as a Wall Street 'brain drain', which fed the dramatic growth in hedge funds. By mid-2007 there were some 13,334 hedge funds and 5,884 funds of hedge funds managing in excess of \$3.1 trillion, according to the Barclay Group. To put that into context, as of May 2008 there were only 7,059 mutual funds in the Morningstar database after eliminating multiple share classes.

What Are Hedge Fund Strategies?

Without question the proliferation of hedge funds was driven by the opportunity for innovative portfolio managers to identify new ways to make money. But while the number of hedge fund strategies appears to be limitless, most fall into one of the following three general categories.

- **Directional** – Strategies that attempt to exploit mis-pricings and/or trends in equities, bonds, commodities, etc. and that tend to have a meaningful net market exposure. Directional strategies include:
 - *Long/short equity* – Strategies that involve both buying and shorting stocks.
 - *Global macro* – Go anywhere strategies that trade in equity, fixed income, commodity and currency markets around the world, often times making concentrated bets.
 - *Managed futures* – Strategies run by commodity trading advisors (“CTAs”) that often are trend following and invest in futures and option contracts on equities, interest rates, commodities, etc. Importantly, while the name CTA implies that these are commodity strategies, that is too narrow of a description, given the various markets in which CTAs trade.
- **Relative Value** – Strategies that attempt to exploit discrepancies between related securities. Relative value strategies include:
 - *Convertible arbitrage* – Strategies that attempt to take advantage of perceived mis-pricings of the embedded options in convertible bonds.
 - *Fixed income arbitrage* – Strategies that attempt to exploit mis-pricings or relationships between fixed income instruments; often employing a high degree of leverage.
 - *Equity market neutral* – Strategies that involve both buying and shorting common stocks, but typically with no net market exposure, i.e. portfolios are fully hedged against market risk.
- **Event Driven** – Strategies that attempt to exploit discrete events in corporate lifecycles. Event driven strategies include:
 - *Merger arbitrage* – Also known as “risk arbitrage” these strategies involve buying and shorting the shares of companies involved in announced or anticipated mergers.
 - *Distressed* – Strategies that trade in the securities of companies in financial distress or bankruptcy. Sometimes referred to as “loan to own” strategies.
 - *Special Situations* – Strategies focused on other corporate events, e.g. spin-offs or restructurings.

What’s the Attraction?

Broadly speaking the greatest attraction to hedge funds is the opportunity for enhanced alpha generation. The complexity and flexibility of the various strategies provides that opportunity, and truly talented managers (which are admittedly hard to identify) essentially have the freedom to add value in whatever way they see fit. *The total value add that a manager generates has been characterized theoretically as a function of the skill of*

*the manager times the number of decisions the manager makes.*¹ We suggest however, that the notion that all hedge fund managers are able to generate pure alpha has undoubtedly been oversold. While the ability to utilize innovative investment techniques while garnering high fees has certainly attracted many bright people, the sheer number of hedge funds would indicate that on average hedge fund managers are no smarter than traditional managers, except to the extent that they have figured out how to get paid more than their traditional counterparts.

Further, while hedge fund managers do have the tools to reduce ‘beta’ in the total return equation (recall that total return = risk free rate + [beta * market return] + alpha), in reality few hedge fund managers actually reduce beta to zero. And of course, properly identifying all of the underlying beta exposures is quite difficult due to the dynamic nature of the investment strategies. In the traditional world, benchmarks representing relatively static opportunity sets for managers do a good job of defining the ‘market’ and thus the set of risk exposures used to define beta, but those types of benchmarks do not exist for hedge fund.

But even if it is difficult to distinguish between skill-generated alpha and exposure to beta, if the return stream to a hedge fund has a low correlation to the returns to traditional assets, then it will provide meaningful diversification. In addition, the fact that hedge funds often have an absolute return goal, T-Bills + 5% for example, necessitates, or at least should necessitate, comprehensive risk management. Not unexpectedly, hedge fund managers have generally been quick to adopt advanced risk management techniques, an attractive characteristic given that the math of a big loss is quite painful. The following table presents the return and risk statistics for the major hedge fund strategies relative to the S&P 500.

Hedge Fund Return and Risk Characteristics (1990-2007)					
Index	Return	Risk	Draw	Sharpe	Correlation
S&P 500:	10.6%	13.7%	44.7%	0.54	1.00
HFRI Equity Hedge:	16.5%	8.5%	10.3%	1.42	0.66
HFRI Macro:	15.0%	7.9%	10.7%	1.35	0.39
HFRI Convertible Arbitrage:	9.8%	3.5%	7.3%	1.66	0.29
HFRI Equity Market Neutral:	8.8%	3.0%	2.7%	1.62	0.14
HFRI Fixed Income Arbitrage:	7.9%	4.1%	14.4%	1.01	-0.04
HFRI Merger Arbitrage:	10.2%	4.2%	6.5%	1.48	0.48
HFRI Distressed:	14.6%	5.8%	12.8%	1.76	0.40

As the data in the table indicates, hedge funds have generated returns that are not only quite competitive with U.S. equities, they’ve done so with considerably less volatility and downside (as measured by the maximum drawdown, or the worst loss experienced from peak to trough). These return streams have resulted in favourable Sharpe ratios, which although dependent on an assumption of normality often not present in hedge fund returns, are adequate for the purpose of understanding the risk-adjusted potential.

Hedge Funds and Risk

All returns originate from risk-taking activities, and in this regard hedge funds are no different from traditional strategies. *The difference comes from the risk exposures that a manager accepts and/or seeks out in order to generate returns.* Generally speaking, these risks include:

- Market risk
- Credit risk
- Interest rate risk
- Liquidity risk
- Correlation risk
- Manager risk

One of the most significant differences between traditional strategies and hedge fund strategies is that hedge fund managers can greatly reduce the first three risks listed above. This does not ensure that they will, but rather

they have the flexibility to do so. Therefore, when evaluating hedge funds special attention should be given to the last three risks. What scenarios could result in liquidity crises? How will strategies act in conjunction with one another under various economic or market conditions? What is the possible downside to the use of leverage? Where could a manager intent on misleading or defrauding investors cause the most harm? How much money can a manager run in a particular strategy and still add value? These are just a few of the myriad questions that need to be asked when vetting hedge funds.

With all the publicized hedge fund blow-ups, manager specific risk seems particularly daunting, and rightly so. We believe this idiosyncratic risk must be diversified when investing in hedge funds. But the need to diversify across a number of hedge funds presents a few problems, not the least of which the time and resources required to identify quality managers (and of course monitor them on an ongoing basis). And often times, just gaining access to those top performing hedge fund managers is as difficult as it is to meet their relatively high minimums. Simply put, the end client must have a sizeable portfolio in order to construct a diversified portfolio of hedge funds. Institutions and ultra affluent investors may have the capital to build prudently diversified hedge fund portfolios, but the typical investor certainly does not.

Enter Funds of Hedge Funds

Hedge fund of funds (“FOFs”) offer a variety of advantages, including full diversification at reasonable minimums, the potential to invest with top quality hedge funds otherwise inaccessible, better liquidity terms than single hedge funds, and professional management and monitoring. The downside to FOFs is that they are admittedly expensive. In addition to the underlying hedge fund fees, FOF managers typically layer on both a management fee and a performance-based fee. But to this we add the point that *hedge fund research is truly a specialty*. Just sourcing managers is difficult as databases are incomplete, funds cannot advertise and many of the top tier funds are highly secretive, so one must have a good network in the hedge fund community to get access (incidentally, ‘access’ is something all FOFs claim, but a relatively small number actually have). Further, specialized due diligence that goes beyond understanding the investment team and strategy is required – operational due diligence is essential in the hedge fund space. Running an institutional quality FOF takes the right people with the right experience, the right infrastructure, the right processes and the right connections. This is not an easy business as demonstrated by the high profile closure of Russell’s two FOFs in April 2008 after assets in those funds plummeted due to poor performance.

Given the abundance of FOFs, it is clear that selecting a FOF manager is a challenge. The reality is that selecting a quality FOF manager requires almost the same degree of knowledge, expertise and diligence as selecting a hedge fund manager. Good FOF due diligence should include:

- *Organizational Review* – What are the sponsor firm’s lines of business and is FOF management a core competency? How financially stable is the firm and can it devote the necessary resources to hedge fund due diligence and portfolio management? What is the business plan? The capital structure?
- *Team* – How are roles and responsibilities divided and are positions in investment research, risk management and operational due diligence appropriately staffed? Does the compensation system align the interests of the investment team with the interests of their investors?
- *Resources* – Does the team have the right databases, software tools and overall technology infrastructure, among other things, to vet funds and manage a FOF?
- *Philosophy* – What is the FOF manager’s driving philosophy and why does the manager believe that value can be added?
- *Processes* – What are the various investment, risk management and operational processes, and are they reflective of an institutional quality offering?
- *Portfolio* – What has the portfolio looked like over time in terms of the number of underlying managers, its strategy exposure and consistency, and total leverage?

Since FOFs come in a variety of styles, it's important to select a FOF that complements an existing portfolio and aligns with the goals of the end client. The following grid provides a helpful way to categorize FOFs and a context for deciding what type of FOF best suits a clients' needs.

	Diversified	Directional	Non-Directional
Low Volatility	<ul style="list-style-type: none"> The portfolio should be constructed with a mix of directional and non-directional funds, providing for exposure to all types of hedge fund strategies. Volatility should be managed to a level that approaches that of fixed income markets. The portfolio should not employ leverage. 	<ul style="list-style-type: none"> The portfolio should be constructed primarily with long/short equity funds. Volatility should be managed to a level that approaches that of fixed income markets. The portfolio should not employ leverage. 	<ul style="list-style-type: none"> The portfolio should be constructed primarily with relative value and event driven funds. Volatility should be managed to a level that approaches that of fixed income markets. The portfolio should not employ leverage.
High Volatility	<ul style="list-style-type: none"> The portfolio should be constructed with a mix of directional and non-directional funds, providing for exposure to all types of hedge fund strategies. Volatility should be managed to a level that can approach that of equity markets (although will typically be less). The portfolio may employ leverage. 	<ul style="list-style-type: none"> The portfolio should be constructed primarily with long/short equity, global macro, CTA or other multi-strategy funds. Volatility should be managed to a level that can approach that of equity markets (although will typically be less). The portfolio may employ leverage. 	<ul style="list-style-type: none"> The portfolio should be constructed primarily with relative value and event driven funds. Volatility should be managed to a level that can approach that of equity markets (although will typically be less). The portfolio may employ leverage.

In addition to the FOF style descriptions provided above, the following considerations may be helpful in determining which style(s) may be most appropriate:

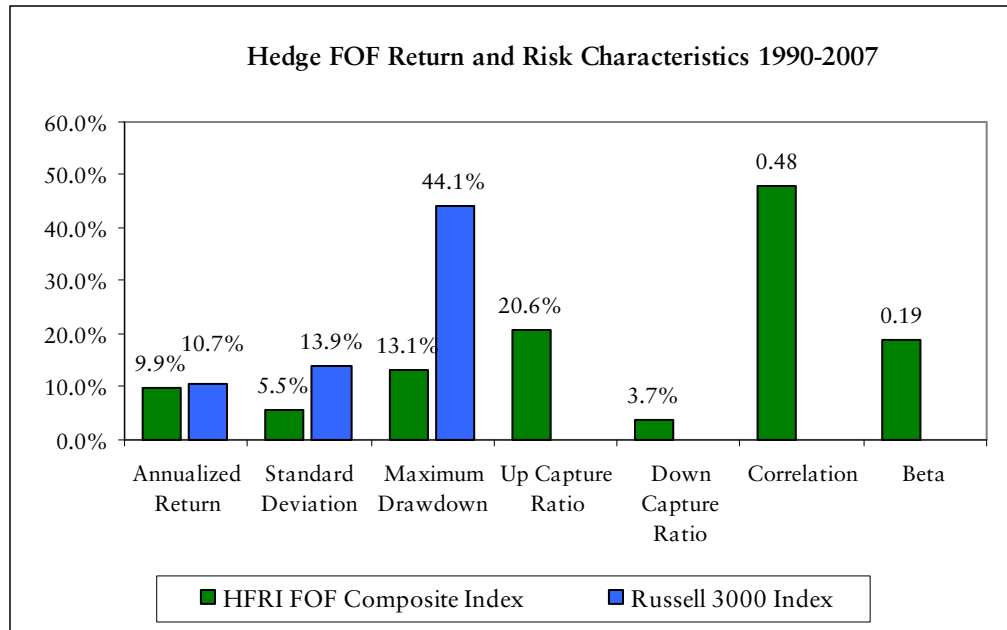
- Acceptable volatility should be dependent on how the funds will be used in client portfolios.
- While all funds should exhibit low correlations to traditional equity and fixed income strategies, directional funds will likely have higher equity betas and non-directional funds will likely have higher fixed income betas.
- Diversified funds will offer the greatest utility, and as such, might be a good universal option.
- While there are many FOFs in existence, once quality, availability and vehicle type are considered the number of viable options drops precipitously. Clients may want to allow the search to define the mandate as opposed to the reverse.

As mentioned above, FOFs are offered in different vehicle types. There are three main structures:

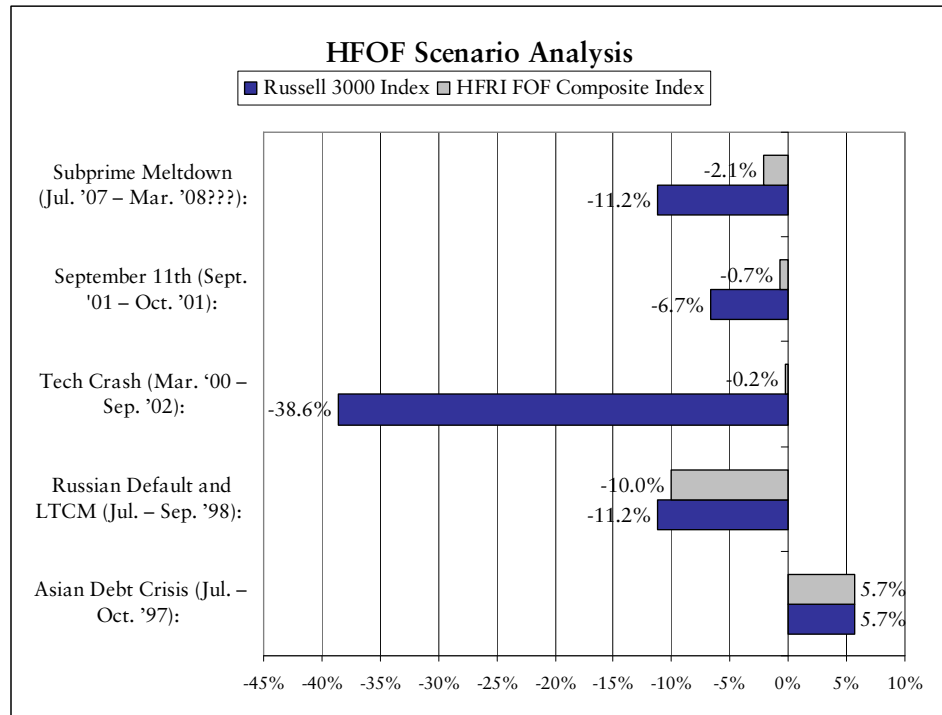
- 3(c)(1) funds are limited to 100 slots for accredited investors, defined as those individuals with \$1 million net worth or income in excess of \$200,000 in each of last 2 years (or institutions with assets in access of \$5 million).
- 3(c)(7) funds are limited to 499 slots for qualified purchasers, defined as those individuals with \$5 million net worth (or institutions with assets in excess of \$25 million).
- Registered investment company funds (“RICs”), which eliminate the ‘slot’ limitation issue, but do not eliminate the need to meet certain investor standards; investors must be accredited.

All of these vehicle types typically issue K-1 statements, although some RICs are structured to offer 1099’s, which is advantageous.

Previously we presented the return, risk and correlation characteristics of various hedge fund categories and at this point we consider the same characteristics for FOF vehicles. Please note that returns are net of all fees, so while FOFs are relatively expensive, their results can stand on their own. All of the following characteristics are for the HFRI FOF Composite Index versus the Russell 3000 Index for the years 1990 through 2007.



In addition to the long term return and risk characters of FOFs, it is also worthwhile considering how FOFs have acted under various adverse market conditions (returns are not annualized).

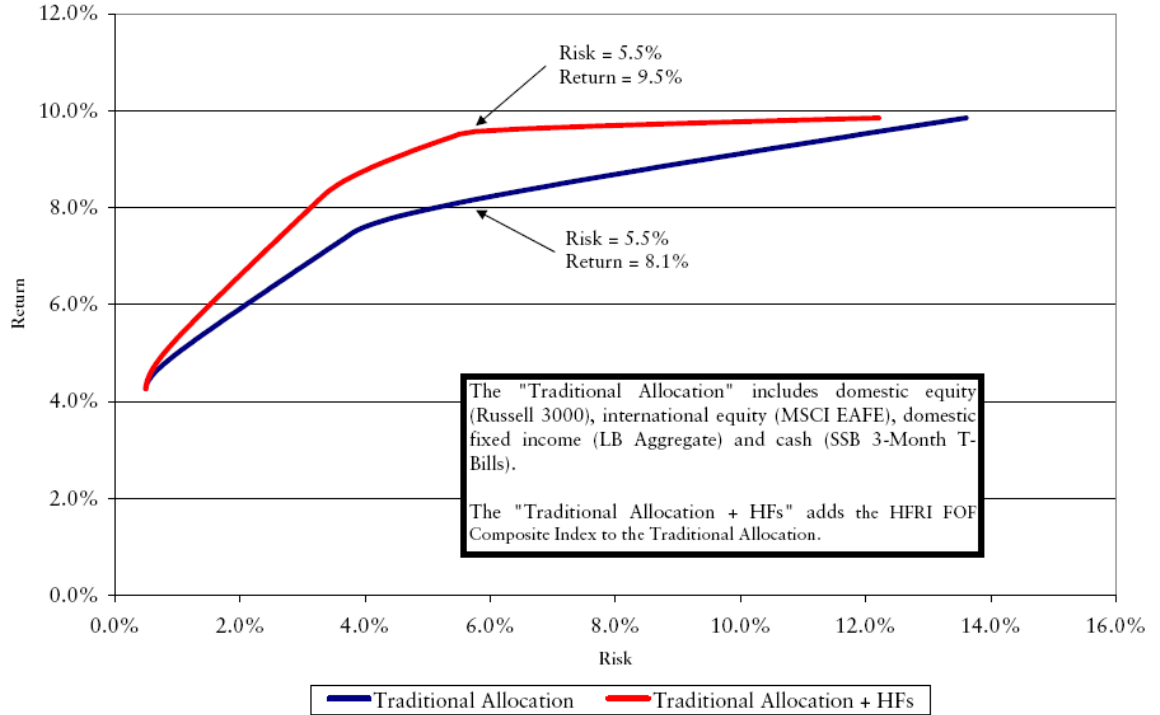


With the exception of the Russian Default and LTCM meltdown in the summer of 1998, FOFs have held up relatively well during stressful economic/market environments. But while historic performance is instructive, proper expectations for future performance need to be set, leading to the question, “what are reasonable expectations for FOFs over the long term?” We believe that the best way to think about return expectations for FOFs is in relation to other asset types. Relative to fixed income investments we suggest that FOFs are properly viewed as return enhancers, meaning that under most conditions FOFs should be able to generate returns that exceed those from fixed income assets. Relative to equities however, our view is that FOFs are best considered as diversification and downside protection tools. Most FOFs will lag equities in bull markets, but they should perform relatively well in down markets and should compare favorably in low, but positive return equity markets.

Including Hedge Funds in an Asset Allocation

The last consideration is how to properly size an allocation to hedge funds. The short answer is that there is no right answer. Obviously the appropriate weighting to FOFs depends on a number of things, including client risk and return goals, liquidity needs and portfolio size. Those issues aside, the case for hedge funds is easy to build from a mean variance optimization perspective. The following chart indicates the efficient frontier for both a traditional asset allocation and an asset allocation with the addition of hedge funds.

The Efficient Frontier (January 1990 - March 2008)



This chart indicates that for any given level of risk, the efficient frontier can be pushed upward by including FOFs in the asset mix. That of course is the goal of asset allocation, to continually work toward a more efficient portfolio.

We believe that alternatives in general and hedge funds specifically can add significant value when considered as part of a diversified portfolio. Hedge funds exhibit attractive risk/return characteristics that allow an advisor to better shape the outcomes of client portfolios. Importantly, by including hedge funds in a well diversified portfolio, overall volatility can be dampened. We believe that by reducing volatility the advisor increases the probability that his/her client will stay committed to a long term investment program and will thus be able to reap the benefits of such a program. But the risks and challenges of investing in individual hedge funds are many, and a diversified portfolio of hedge funds is most likely a more prudent option. For most investors that requires investing through fund-of-fund vehicles. While fund of funds are certainly expensive products, they do offer return streams that are unattainable from traditional strategies and thus provide true diversification and downside protection, and in that sense are prudent additions to any portfolio.

References

1. Richard Grinold (1989), "The Fundamental Law of Active Management" *The Journal of Portfolio Management*, Spring 1989

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