

# FINDING A HOME FOR Hedge Funds

Where do hedge funds fit in? Three practitioner pieces address the role and fit of these investments in institutional portfolios, while two Canadian academics provide an introduction exploring contemporary research into the issue.

BY MAHER KOOLI, PETER KLEIN, ROBERT CULTRARO, TRISTRAM LETT AND WENDY BRODKIN

**H**edge funds have been around for more than half a century, but only recently have academics and practitioners begun to pay attention to them. They address new challenges to financial theory, but have also drawn criticism and doubt over their inclusion in institutional portfolios.

According to Robert Cultraro, hedge funds have been used to protect against bear markets and reduce risk of the total portfolio due to significant volatility. In the past, traditional performance measures such as Jensen's alpha, Sharpe ratio, and asset class factor models have been used to analyze hedge fund returns. However, these assume hedge fund returns to be normally distributed, when in fact they generally exhibit negative skewness and positive "excess kurtosis"—these characteristics make the use of traditional performance measures questionable. Additionally, the author presents three steps for good governance during the decision to invest in hedge funds; however, the process may not be quick and seamless, and each step should be carefully considered.

Common criticisms of hedge funds decry their low levels of transparency and liquidity as well as the shortage of suitable benchmarks for performance evaluation. Further, as Tristram Lett highlights, the industry has been badly misled by self-reported and grossly biased peer group indices. Research into survivorship bias in hedge fund performance data shows there can be overstated returns and understated risk. So, how much exposure should pension plans have? It depends, according to Lett: any allocation to hedge funds should consider market conditions and the investor's risk preferences. Lamm (2004) notes that a long-term allocation of 20% or more to hedge funds is generally practical, but that anything less than 10% will have little effect.

Finally, Wendy Brodtkin stresses the problem of selecting the right hedge fund manager, since they require different skills than traditional assets managers. Analysis of hedge fund managers and strategies requires both quantitative and qualitative research: historical returns will not accurately capture manager skill. Lack of disclosure in how the manager adds value, capacity limits, strategies, and fees are other important factors that should also be considered in the manager selection process. Funds of hedge funds can resolve these issues by providing investors with diversification across manager styles and professional oversight of fund operations. One caveat, however: as observed by Brown, Goetzmann and Liang (2004), certain individual hedge funds can dominate funds of funds on an after-fee return or Sharpe ratio basis. ■

—Maher Kooli, professor, Université de Québec à Montréal

**T**he terms alpha and beta stem from the Capital Asset Pricing Model, which assumes there is only one "market." In contrast, more realistic models allowing for multiple periods or preferences for investment alternatives find that the single market factor is not enough. The following three articles by Tristram Lett, Wendy Brodtkin and Robert Cultraro extend ideas on multiple markets to the sources of return and risk, "pure" alpha, "exotic" beta, and even discuss whether hedge funds are similar to casinos.

Portfolio theory provides some useful guidance here: rather than individual investment risk, an investment's contribution to overall portfolio risk is what truly counts. Hedge funds typically minimize traditional risks through hedging or taking offsetting positions, and seek to provide excess returns through exposure to non-traditional factors or superior selection of specialized trades. These

non-traditional sources of potential return can provide very good diversification to the risk in standard asset classes. Further, the probability of extreme returns on hedge fund portfolios actually appears to be less than for equity portfolios (Brulhart and Klein [2005]). It is also important to analyze how the overall portfolio behaves as compared to the investor's objectives which, as Cultraro outlines, is the purpose of the asset-liability study.

Brodkin discusses exotic betas as measures of exposure to three additional factors: high-yield bonds, value versus growth, and small cap stocks. While financial theorists have not yet uncovered why these specific factors should be discernible sources of investment risk, the fact they appear to be priced is consistent with the possible empirical implications from a richer, more realistic model that has yet to be developed. This is basically the claim of Fama and French's controversial "empirical asset pricing model" (1993). In practice, investment professionals tend to focus only on whether exposure to the factors yields superior results, and less on the reasons why.

Alpha measures return that is not attributable to priced factors. As Brodtkin accurately notes, return due to exotic beta may be reported as alpha when a manager has overweighted a priced factor not identified in the attribution analysis. Alpha may also be reported when a manager has been able, through luck or skill, to "beat the market." This is the pure alpha which Lett argues should be uncorrelated with priced factors. The concept of market efficiency—supported by numerous academic studies of well-developed markets—implies pure alpha should be zero in the long run. Still, many hedge fund managers report positive alpha over fairly extended periods of time. Is this superior performance due to exposure to unidentified priced factors, superior ability in markets that are not completely efficient, or simply good luck? Attribution analysis attempts to provide the answer but, in practice, one can never be completely sure. ■

—Peter Klein, associate professor of finance, Simon Fraser University

NOTE: This section has been abridged; full comments and references will be available online.

## ALLOCATION ACID TEST

**Pension fund sponsors do themselves a disservice by making uninformed decisions about the suitability—or lack thereof—of absolute return assets.**

BY ROBERT CULTRARO

Are hedge funds too risky for pension funds? Some think so, but what is certain is that anyone considering a hedge fund allocation should follow a detailed, clearly documented process to assess their suitability. Good governance requires fiduciaries to explore the possible use of all viable investment strategies to ensure the pension promise, and an examination of existing legislation, professional standards, and guidelines shows that investing in hedge funds is not inherently imprudent. They can reduce the risk of the total portfolio due to their low or negative correlation with other assets. And, losses can be reduced by diversification among hedge fund managers and strategies.

### Why hedge funds?

Modern portfolio theory dictates that combining low or uncorrelated assets may result in better risk-adjusted returns. Hedge funds' historical attributes suggest that their addition to a traditional portfolio will improve its risk-

return characteristics. While this makes intuitive sense, there is much more to be considered.

Below are some reasons provided by pension funds for considering such an allocation:

- Historically, hedge funds protected against bear markets and reduced total portfolio risk;
- Capital markets have become more correlated and investors are seeking new ways of diversifying;
- Investors are looking for ways to increase returns in a low-interest rate environment;
- Traditional investment in equities and/or fixed income may not provide necessary returns for funding the pension fund over the long run, and;
- Hedge funds can provide access to highly specialized and motivated talent.

### Another side to consider

Are casinos really risky? Probably less so if you're the

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owner. Are hedge funds risky? We can safely say that hedge funds are different from other investments, and their terminology can be daunting. The following list recounts reasons why pension funds have dismissed hedge funds after due diligence:

- The process is time-consuming;
- A small trial allocation demands a disproportionate amount of resources and, even if profitable, will only have a minimal impact on risks and returns;
- Poor results pose headline risk;
- Manager selection is paramount;
- Fees are high on a comparative basis;
- Mismatch risk versus liabilities;
- Lack of liquidity;
- Use of leverage, and;
- Limited transparency from managers.

### A three-step determination process

Although doing nothing in the current low return environment is not an option, neither is making matters worse by rushing into a hedge fund allocation. The following sample three-step process can help ensure good governance practices are followed during the decision process:

#### Step 1: Determine your objectives and constraints.

Does your atypical pension fund have a typical asset allocation? Can your mismatch between assets and liabilities be improved? Your asset allocation strategy will dictate whether or not hedge funds are ultimately useful. At the heart of it is the question, “What is the desired role of hedge funds—to provide diversification, better match the pension fund’s liabilities, or increase returns?”

**Step 2: Educate.** Education requires a commitment by all decision-makers. They don’t need to know the ins and outs, but they do need to know enough to make an

informed decision. Education is a long process, and should be done in stages.

So what does the board need to know? For starters, they need to know what hedge funds are. Remember to keep it simple: a lack of understanding due to highly technical terminology will more often than not result in a poor decision. If in Step 1 you determine that hedge funds might be appropriate, then be sure to provide a compelling reason why (the same goes for making a determination that they’re not appropriate). Remember to clearly articulate the objective of a hedge fund allocation as it relates to the pension fund; for instance, it should provide higher risk-adjusted returns. Ensure that the key decision makers buy into it. Finally, ask the question: what can go wrong?

**Step 3: Document.** This step is very important whether or not you make an allocation to hedge funds. If hedge funds are not appropriate, the pension fund sponsor should document and minute the decision and the reasons provided. If hedge funds are deemed appropriate, implementation is the next phase.

### Final thoughts

It’s easy to be discouraged by the work involved in determining hedge fund suitability, but remember: sticking with the status quo is a decision in and of itself, and what’s worse it’s made without any due process whatsoever. At the very minimum, pension funds should examine the potential contribution—and pitfalls—of hedge funds relative to their funding situation and objectives, thoroughly documenting the whys and why nots along the way. The thorough three-step process outlined above will go a long way toward ensuring that fiduciaries are practicing good governance and leaving no stone unturned in the quest for a more efficient and higher-returning pension portfolio. ■

# ALL THINGS IN GOOD MEASURE

How big should your allocation to hedge funds be? The answer is simple—and exceedingly complex.

BY TRISTRAM LETT

How much hedge fund exposure is appropriate for a pension fund? It depends. Include a fund of funds with other asset classes in a mean variance optimizer and you’ll get the same answer every time: invest 100% of the assets in the fund of funds. Is this answer correct? To find out, it is useful to start at the beginning and view the allocation

question from the bottom up. When all is said and done, coming up with the right level of hedge fund exposure should really be the last factor considered in the process.

### Alpha: the root of excess returns

As much as people like to mystify and mythologize

hedge funds, their alpha is derived from the same sources as that of other investments: security selection, security mispricing, market timing, and trade execution.

For both traditional long-only and hedge fund managers, picking the right securities is a matter of judicious selection. If there is a positive return after subtracting the effect of the market, then value (alpha) has been added. Security mispricing is also a key part of the alpha equation: often similar securities deviate in price from one another, and an investor can take advantage of the mispricing to make a profit through arbitrage.

Next comes market timing, which by strict statistical interpretation is not a source of alpha. Simply put, an investor either avoids or shorts markets that are falling and invests in markets that are rising. Successfully implemented, this will add value. Finally, lower trade execution costs are a source of alpha often overlooked by asset managers. However, they are certainly important to traditional passive managers and, consequently, it should be no surprise that they are the ones who seem most able to add alpha through this means.

It is difficult to split up these sources of returns statistically when looking at an active manager in the traditional, long-only sense, though reasonably close approximations can be made. When looking at this equation, one of the questions that arises is, “how would the investment process be changed if an investor could acquire these sources of return independently?”

If an investor simply desired alpha, the portfolio would be entirely skill-based, because the return is entirely based upon alpha generation through the management of idiosyncratic risk. When hedge funds entered the consciousness of investors, they became the source of alpha, though other sources existed before they became popular.

### The asset class misnomer

When consultants and large investors perform risk-reward analysis, risk budgeting and asset allocation exposure, they employ historical asset class returns in their optimizers and crunch all the numbers in the standard mean variance framework, which has a very restrictive underlying assumption that all return distributions are normal. When trying to determine the level of hedge fund exposure, they are erroneously including their return histories, the assumption being that hedge funds are an asset class when they are actually investment strategies in the same manner that a long-only, mid-cap, U.S. equity value manager is practicing

a strategy within the equity asset class.

The second faulty assumption is that their return distributions are normal; in many cases, they differ vastly from normal distributions: mean variance analysis and related statistics such as Sharpe ratios are incapable of providing correct information. Often investors and their consultants treat hedge funds like an asset class when trying to carve out an allocation; in doing so, they fall into the trap described above.

So how does one set the proportion allocated to hedge funds? As noted at the outset, that number could be anywhere from zero to 100%, based on a number of factors: how comfortable the investor is with hedge funds, the structure being employed, the amount of risk embodied in the structure in the form of leverage, the risk transparency available, and so on. Where a new hedge fund allocation is being considered, the investor is likely to start small and increase the allocation as their comfort level rises and their expectations are met.

### Alpha and hedge funds

We know a few things about the nature of alpha: it is transitory, and it is susceptible to dilution. Alpha is more

abundant in developing rather than mature instruments, and is more profuse after shocks to the financial system, individual securities or markets.

Hedge funds are often tagged as sources of pure alpha, but they also contain unexplained sources of return which are often large enough to be categorized as “other market risks.” These may be first-order, such as exposure to large cap equities or corporate bonds, or they may be more complicated, second-order market effects such as credit spreads and volatility. Whatever the risks are, they are included in hedge fund performance, but are cheap to acquire and should not demand the fees that alpha-generating processes do. They also add undiversifiable risk to the portfolio.

This begs two final questions: what are the characteristics of pure alpha, and against what should it be measured? The hedge fund industry has been badly misled by the self-reported, grossly biased, peer group indices and the index funds currently in fashion: in short, they are inappropriate measures against which to judge alpha. The arbitrage cost of two identical securities where one

is mispriced can be referred to as the risk-free rate, since the arbitrage would not be undertaken unless there is the expectation that this rate can be earned. This clearly points to the risk-free rate being the benchmark against which to judge pure-alpha strategies.

The characteristic of pure alpha should be a zero correlation with any other investment: deviation from zero implies a measure of dependence, which in turn implies impurity. A portfolio of pure alpha, which probably only exists in theory, should have low volatility close to that of the risk-free rate.

In conclusion, once investors understand that hedge funds are not an asset class and therefore should not be given an allocation as if they were one, it becomes easier to initiate the process of integrating an allocation into an investment program through a portable alpha approach. However, this involves an extra step compared to previous efforts to integrate active managers. In the end, “how much” really depends on a thorough analysis conducted in the appropriate framework. ■

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## THE MARK OF A MASTER MANAGER

Conventional manager selection practices and performance measures won't work for hedge funds.

BY WENDY BRODKIN

With the current emphasis on governance issues, it is surprising that many commonly used investing practices have failed to keep up. One of the worst offenders is the process used for investment manager selection, which is still driven by historical performance results, which do not predict future returns. Although style characteristics and new risk measurement techniques have supplemented return analysis, generally the manager with the best returns gets the business.

Both the managers who generate good returns and the investors who chase these returns are often overconfident that this performance will persist: underperformers often face tough questions, but there is usually minimal scrutiny of top performers to ascertain whether their efforts are sustainable. There are many anecdotal examples of this overconfidence: in its early days, Long-Term Capital Management did not disclose even basic information, such

as their process for generating returns, yet investors believed past returns were sustainable.

### The “science” of selection

The many sophisticated ways historical results are sliced and diced today—information ratio, tracking error, Value-at-Risk, and so on—may give a false notion that manager selection techniques are becoming more refined and accurate. However, the practice of using correlation analysis to evaluate how a particular manager will fit into an existing portfolio is neither predictive of the future nor is it a meaningful exercise to model the past, given that the managers are typically benchmarked and the bulk of their return is beta. If the value added over the benchmark is used for correlation analysis the results make more sense, but the usefulness of the exercise is still limited to

the historic pattern of past returns.

Another commonly used practice in selecting managers is attribution analysis, a top-down process which evaluates returns against a benchmark and then attributes components of those returns to asset mix, country and sector selection, and finally to security selection. These results are nearly always biased but, more importantly, they provide only minimal information for most managers. If this technique were applied to hedge fund returns, the results would be meaningless because there is no benchmark.

There are three discernable sources of a manager's return: alpha, beta and exotic beta. Alpha is skill (and luck and "noise"), beta is market exposure, and exotic beta is a beta that is not yet widely recognized or easily produced. An example of exotic beta is high-yield bond exposure in a universe bond portfolio, or a long value/short growth strategy in a market-neutral portfolio. The convention of benchmarking traditional managers led to investors incorrectly calling any difference between the benchmark return and the manager's return "alpha."

An attribution that deconstructs returns in terms of

alpha, beta and exotic beta is more meaningful, and also indicates the type of risks the manager is taking as well as the sustainability of the returns in different markets and at varying capacity levels. A true test of a manager's skill will be his or her ability to restructure the portfolio appropriately to exploit varying market conditions, and limit growth in order that capacity constraints do not impair future results.

### Higher standards for hiring

It is not surprising that mistakes happen in the process of manager selection, given undue reliance on past returns, reluctance to scrutinize the source and sustainability of those returns, analysis without accounting for the beta component, and flawed attribution analysis. However, it is worrisome that these same techniques are now being applied to select hedge funds, because they practically guarantee errors: selection risk with hedge funds could be a lot more costly in terms of reputation, "headline risk," capital loss, and inability to redeem the investment on a timely basis.

Most hedge fund failures can be traced to three causes—fraud, illiquidity and excess leverage—and

