

## The Role of Hedge Funds

Christopher M. Schelling  
Deputy CIO, Director of Absolute Return  
Kentucky Retirement Systems

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Recently, several mainstream media articles<sup>1</sup> have suggested that the returns generated by hedge funds over the last year or so have been disappointing to institutional investors broadly. Simultaneously, and somewhat contradictorily, other recent articles have attacked hedge funds as being overly risky and completely inappropriate for institutional portfolios. Unfortunately, the perception of hedge funds as being highly risky with poor returns is almost the complete opposite of the truth. While it is certainly possible that some hedge fund portfolios have disappointed investors, it is not necessarily correct to assume that knowledgeable investors were unhappy in the aggregate with the risk-adjusted contributions of their hedge fund allocations on their total portfolios.

Of course, anyone would be thrilled to have obtained higher returns with no additional risk after the fact. And it is easy to argue with perfect hindsight that hedge funds failed to “beat the market” in a year where the S&P was up 36%. On the other hand, it is equally easy to point to many periods where hedge funds have dramatically beaten stocks over a year or even much longer periods<sup>2</sup>.

However, such an exercise misses the point. A portfolio of diversified hedge funds is generally not constructed with the goal of creating extraordinarily high returns – or “beating the market” – over a short time period, but rather to generate stable levels of high risk-adjusted returns over longer periods of time. Further, a diversified hedge fund allocation actually helps in lowering the total portfolio risk, despite the rather undeserved reputation of hedge funds as universally “risky.”

First, in order to show how hedge funds accomplish this, we must explain risk in the context of investment portfolios. Typically, investment risk is measured by volatility. While admittedly not a perfect metric, and of less importance to some investors, volatility measures how the returns of a given investment vary around the long term average. An investment with lots of variability in returns from one period to the next has a high volatility; one with more stable and predictable returns year in and year out has low volatility.

Using three standard indices<sup>3</sup> for stocks, bonds, and hedge funds, we compare the performance of these investment classes over a roughly twenty year period, as summarized in Table 1 below. While it is important to note that drawing any conclusion from past performance alone is dangerous, it is at least reasonable to suggest that over longer periods of time, hedge funds have generated strong returns with fairly low risk. The Sharpe Ratio, a measure of return per unit of risk, is much higher for hedge funds

than it is for stocks and similar to that of bonds, meaning that investors in hedge funds have obtained equity-like returns with bond-like risk.

**Table 1 Asset Class Comparison**

1994 - YTD 2014	Stocks	Bonds	Hedge Funds
Average Return	9.20%	5.76%	8.78%
Volatility	15.18%	3.68%	6.96%
Sharpe Ratio	0.51	1.16	1.05

Even more importantly, hedge funds help to reduce the overall portfolio volatility through two mechanisms. Not only do they contribute lower volatility individually than stocks, but they are also relatively uncorrelated with equity market movements, providing diversification benefits. Hedge funds don't always produce positive returns, but sometimes they are able to do so in periods where stocks are down.

Using the same three indices as above, we constructed two separate portfolios. Portfolio A decided to invest 60% in stocks and 40% in bonds. The second investor, Portfolio B, invested 55% in stocks, 35% in bonds, and 10% in hedge funds. Assuming monthly rebalancing, Portfolio A would have yielded its investor 8.1% with a volatility of 9.3% over twenty years. This would be a successful outcome to a pension with a required rate of return of 7.75%. However, the second investor would have done even better, producing annual gains over 8.2% with a volatility of 9.0%.

**Table 2 Portfolio Comparison**

1994-2014	Portfolio A	Portfolio B
Average Return	8.13%	8.24%
Volatility	9.28%	9.03%
Sharpe Ratio	0.71	0.75

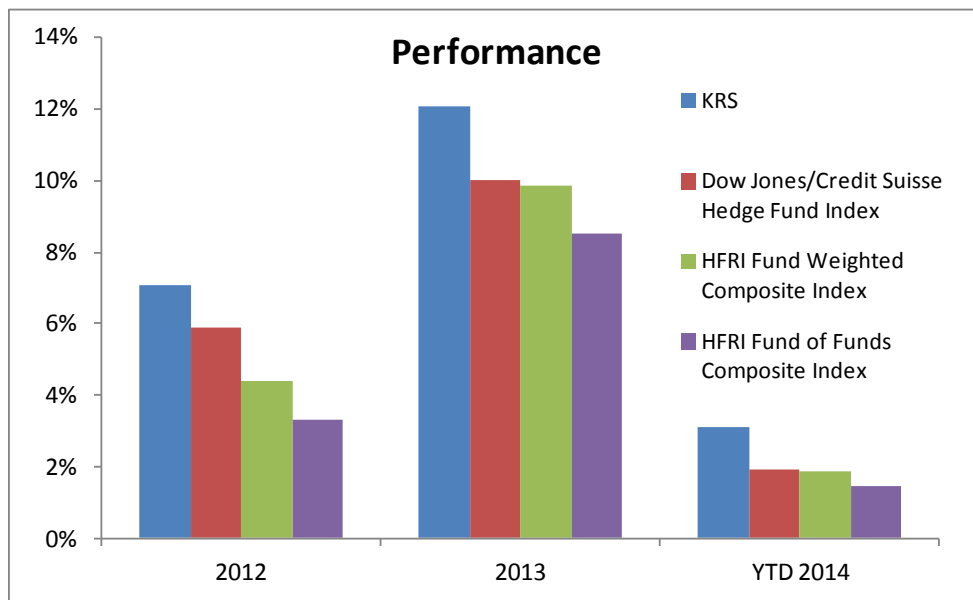
The addition of hedge funds to the portfolio both improved returns and reduced risk, the holy grail of investing. The effect may not be large, but it is significant. There are very few "free lunches" in investing, but the benefits of diversification are one. It is important to aggressively pursue such improvements anywhere, and everywhere, they may be available.

Finally, hedge funds are often touted as being able to generate "alpha", or higher risk-adjusted returns than an index. A complete discussion on the research behind the presence, or lack, of hedge fund alpha

is beyond the scope of this article<sup>4</sup>. However, it is certainly reasonable to expect a portfolio of hedge funds to generate returns after fees that are at least comparable to or preferably better than an index of similar funds or a peer universe. Hedge funds are admittedly expensive active management (well worth it given their risk-adjusted returns and diversification properties), but if an institutional investor cannot demonstrate skill in selecting hedge funds, they should not be doing it.

Fortunately, Kentucky Retirement System has generated a very strong performance track record in its Absolute Return mandate, one that beneficiaries should take comfort in. Since, September 2011, the date of the funding of the current portfolio, KRS has outperformed every relevant hedge fund index over every possible time period.

**Chart 1 Hedge Fund Performance Comparison**



By scrutinizing the historical returns, investment process, and risk composition of each hedge fund manager, KRS has constructed a portfolio that not only produced higher returns, but did so with lower total volatility than any comparable index since inception. Continually focusing efforts on ensuring that the system receives incrementally higher returns for each unit of risk accepted has allowed KRS to simultaneously generate higher returns, lower risk, and superior risk-adjusted returns than any relevant index.

**Table 3 Hedge Fund Performance Comparison**

<b>9/2011 to 3/2014</b>	<b>KRS</b>	<b>DJCS</b>	<b>HFRI FWC</b>	<b>HFRI FoF</b>
Average Return	<b>7.99%</b>	5.92%	5.10%	4.02%
Volatility	<b>3.54%</b>	4.26%	5.18%	3.91%
Sharpe Ratio	<b>2.21</b>	1.35	0.96	0.99

A diversified portfolio of hedge funds can fulfill a very important role in contributing stable, long term returns for an institutional investor while also reducing overall portfolio level risk. The implementation of a hedge fund mandate is critically important to ensure that these objectives are met. Although the success of the implementation of a hedge fund portfolio should be judged over longer periods of time, the performance of the KRS Absolute Return portfolio by any measures is exceeding expectations: exceeding all relevant benchmarks, generating returns comparable to the long term historical average of hedge funds with far lower risk, and beating the plan's required rate of return of 7.75%.

**Footnotes**

1. See Diamond (2014) or Sisti (2014).
2. For instance, from July 1998 to December 2012, a period of fourteen and a half years, the S&P 500 generated a total return of 63.8%, or 3.5% per year, while hedge funds, as proxied for by the HFRI Fund Weighted Composite Index, gained 127.2%, for an annual return of 5.8%. Perhaps this is not representative of what can be expected over a long term investment horizon for either index, but by the same token neither was 2013.
3. For stocks, we used the S&P 500 Total Return Index, for bonds the Barclays Aggregate Bond Total Return Index, and for hedge funds the HFRI Fund Weighted Composite Index. It's also worth noting that the traditional indices are gross of fees, meaning the returns an investor would get would be slightly lower, whereas the hedge fund index is net of fees. So, the higher fees you are paying are already accounted for in the returns. Deducting 10 to 20 basis points per annum for equities results in returns that are lower and even more comparable to hedge funds.
4. Most of the research concludes that although hedge fund indices do have some inherent biases that skew returns upward [Fung and Hsieh (2009)], hedge funds do in fact generate superior risk-adjusted returns, or alpha, relative to traditional indices, even after fees [Liang (2001), Ibbotson et al. (2011)]. Further, other research shows that top managers do demonstrate persistence of performance; that is, they continue to generate top quartile type performance from one period to the next [Amman et al. (2010), Boyson (2008)]. Finally, certain factors are shown to be consistently correlated with future returns, such as age and size [Aggarwal and Jorion (2008)].

## References

Aggarwal, Rajesh and Philippe Jorion, "The Performance of Emerging Hedge Fund Managers," *SSRN White Paper ID 1103215*, Draft: January 23, 2008

Amman, Manuel, Otto Huber and Markus Schmid, "Hedge Fund Characteristics and Performance Persistence," *SSRN White Paper ID 1650232*, August 2010

Boyson, Nicole, "Hedge Fund Performance Persistence: A New Approach," *Financial Analysts Journal*, Vol. 64, No. 6, November/December 2008, pp. 27-44

Diamond, Randy, "CalPERS chopping hedge fund allocation," *Pensions & Investments*, May 12, 2014

Fung, William and David Hsieh, "Measurement Biases in Hedge Fund Performance Data: An Update," *Financial Analysts Journal*, Vol. 65, No. 3, May/June 2009, pp. 36-38

Ibbotson, Roger, Peng Chen and Kevin Zhu, "The ABCs of Hedge Funds: Alphas, Betas, and Costs," *Financial Analysts Journal*, Vol. 67, No. 1, January/February 2011, pp. 15-25

Liang, Bing, "On the Performance of Hedge Funds," *Financial Analysts Journal*, Vol. 57, No.1, January/February 2001, pp. 11-18

Sisti, George, "It's hedge funds that should 'get no respect'," *MarketWatch: The Wall Street Journal*, June 2, 2014