Building Efficient Hedge Fund Portfolios





Investors typically allocate assets to hedge funds to access return, risk and diversification characteristics they can't get from other investments. The hedge fund universe includes a wide variety of strategies and styles that can help investors achieve this objective. Why then, do so many investors make significant allocations to hedge fund strategies that provide the least portfolio benefit? In this paper, we look to hedge fund data for evidence that investors appear to be missing out on the core benefits of hedge fund investing and we attempt to understand why.

The Basics

Let's start with the assumption that an investor's asset allocation is fairly similar to the general investing population. That is, the portfolio is dominated by equities and equity-like risk. Let's also assume that an investor's reason for allocating to hedge funds is to achieve a more efficient portfolio, i.e., higher return per unit of risk taken. In order to make a portfolio more efficient, any allocation to hedge funds must include some combination of the following (relative to the overall portfolio):

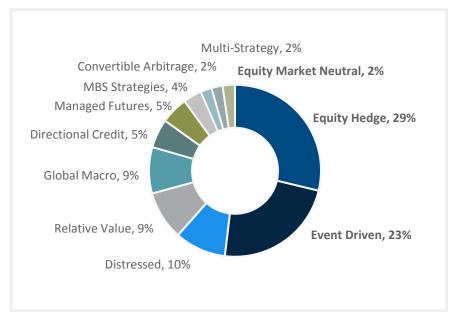
- Higher return
- Lower volatility
- Lower correlation

The Goal

Identify return streams that deliver any or all of the three characteristics listed above.

In a perfect world, the best allocators would find return streams that accomplish all three of these goals - higher return, lower volatility, and lower correlation. In the real world, that is quite difficult to do. There are always trade-offs. In some cases, allocators accept tradeoffs to increase the probability of achieving specific objectives. For example, they may give up a bit of return to invest in a strategy with lower expected volatility and correlation, in order to improve overall portfolio efficiency via lower risk. Or, they might allocate to higher returning strategies, thereby





Source: Evestment April 2017 monthly report via Wilshire Associates. Figures reflect global hedge fund universe.

accepting greater risk or volatility in the portfolio, to achieve their goal. Allocators make these types of decisions every day. By analyzing the assets under management and flows into specific hedge fund strategies, we can clearly see where investors are allocating their hedge fund investments.

The data at left shows that the largest allocation is to equity-related strategies, such as equity hedge and event driven, which suggests that investors' allocations are not increasing the efficiency of overall portfolios as much as they could. On the following pages, we explore the reasons why allocators may make such sub-optimal decisions.



Portfolio Efficiency

If building more efficient portfolios is a primary motivation for investing in hedge funds, one may conclude that investors have been making sub-optimal allocation decisions for years. Exhibit 2 below illustrates the concept of return stream "efficiency." The table shows the correlation of each strategy to investors' biggest risk factor (the stock market) and each strategy's return-to-risk ratio, known as the Sharpe Ratio¹. The lower correlation a strategy has to the stock market and the higher its Sharpe Ratio, the more that strategy would improve a portfolio's efficiency.

EXHIBIT 2: MAJOR HEDGE FUND INDICES CORRELATION TO STOCK MARKET, AND SHARPE RATIOS

| HFRI Indices | S&P 500 Correlation | Sharpe Ratio | |
|--|------------------------|-----------------|--|
| Equity Market Neutral | 0.26 | 1.09 | |
| Macro (Total) | 0.32 | 1.02 | |
| Systematic Diversified | 0.39 | 0.87 | |
| Rel Val Fixed Inc - Convtble Arb | 0.47 | 0.82 | |
| Merger Arbitrage | 0.52 | 1.22 | |
| Distressed/ Restructuring | 0.52 | 1.19 | |
| Relative Value Multi-Strategy | 0.53 | 1.16 | |
| Rel Value Fixed Income Corp | 0.53 | 0.72 | |
| Emerging Markets | 0.62 | 0.62 | |
| Event Driven (Total) | 0.7 | 1.12 | |
| Equity Hedge | 0.73 | 0.96 | |
| Fund Weighted Composite | 0.74 | 1.03 | |
| Equity Quantitative Directional | 0.79 | 0.68 | |

Source: Hedge Fund Research, from 1/1/90 to 12/31/16.

While the various strategies have comparable Sharpe Ratios, their correlation benefits vary dramatically. Investors seeking to increase the efficiency of a "typical" portfolio (which would generally have significant equity risk), would be well-served to allocate to strategies with the lowest stock market correlations, such as market neutral, macro, and systematic diversified.

However, actual allocations show the opposite is true, as we saw in Exhibit 1. Investors have allocated a majority of hedge fund dollars to strategies with a very high correlation to the stock market, e.g., equity hedge and event driven. Long-biased, equity-related hedge fund

strategies have captured a significant share of industry AUM, which means allocators are "doubling up" on equities – the risk factor to which they already have too much exposure.

Not surprisingly, equity hedge and event driven strategies depend more on a rising stock market to generate return. Even the HFRI Fund Weighted Composite Index, a widely used benchmark for hedge fund strategies, is very highly correlated to the stock market. From an efficiency standpoint, one might accept a high correlation if there were a significant increase in Sharpe Ratio, but there isn't, as indicated by Exhibit 2.

Why do investors behave this way?

One reason investors behave in such a counterproductive manner may be familiarity and comfort with equity strategies. Company news is at the center of the business press and everyone likes to talk about their favorite stocks. For professional investors, explaining these strategies is relatively simple due to the link between their performance and the performance of the stock market. Ultimately, the reasons are less important than the potential problem – overconcentration in stock-like risk.

Overcoming a Portfolio Shortcoming

We are not suggesting that investors should sell equity-related strategies and allocate all of their risk to market neutral, global macro, and systematic strategies. The global equity market is an important source of alpha for any active manager and finding the most efficient means of harnessing that alpha is critical. However, we believe overconcentration is a significant risk. A more prudent approach may be to diversify the alpha opportunity set across a variety of asset classes and trading approaches. Such diversity should provide the best chance of attaining consistent performance across a wide variety of economic and market conditions.

How should one achieve hedge fund diversification?

Portfolio construction usually begins with assumptions for targeted return, volatility, correlation, and liquidity. These assumptions vary by investor. For example, an investor's alternatives allocation may seek a return-to-risk ratio of 0.7 or higher, with little to no correlation to



the stock market, and deep liquidity. Once individual portfolio assumptions are in place, an investor can begin to formulate a plan to achieve the goal. A variety of investment approaches can be used to execute the plan, and the manner in which one combines them is critical.

We believe diversification of investment style is a key component of hedge fund portfolio construction. Exhibit 2, which shows the wide disparity in correlations for various hedge fund strategies, supports this belief. However, having the majority of one's risk in different strategies that essentially behave like a single style, results in a substantial, non-diversified bet on the risk that is over-represented in most investors' portfolios. To combat this, one should thoughtfully diversify among a broad set of investment styles.

Diversification can manifest itself in many ways, including the opportunity set or asset class the manager trades, the length of time the manager holds trades, the analytical process a manager applies to investment decisions (i.e. technical/quantitative/fundamental/discretionary), or any combination of these factors. Ideally, a portfolio efficiently combines a set of dynamic, specialist strategies in a manner that seeks to avoid concentrated bets and diversify all bets across as many investment disciplines as possible. Our hedge fund investing experience has taught us that there have been and will continue to be periods of outperformance and underperformance for each hedge fund strategy type. Because it is so difficult to predict when those periods will occur and for how long, we believe a disciplined approach to combining diversified strategies efficiently into a portfolio should lead to the most consistent performance across market cycles. This is why we believe that a risk-balanced approach is a prudent method for a portfolio construction and strategy allocation process. The goal of balancing the portfolio's risk budget among a wide variety of opportunities (represented by different asset classes, trading time horizons and investment approaches) mitigates the temptation to make concentrated bets in certain strategies.

The Importance of Manager Due Diligence

Dispersion of manager returns in the hedge fund universe is often greater than it is among traditional strategies, as illustrated below.

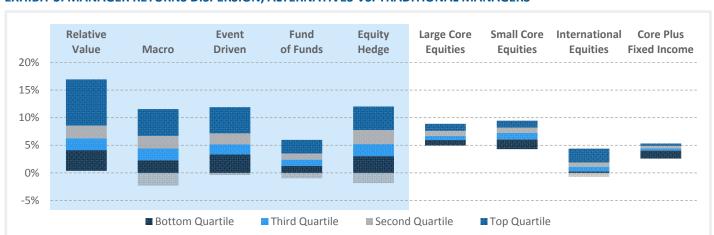


EXHIBIT 3: MANAGER RETURNS DISPERSION, ALTERNATIVES VS. TRADITIONAL MANAGERS

| Manager Dispersion | Relative Value | Macro | Event Driven | Fund of Funds | Equity Hedge | Large Core Equities | Small Core Equities | Internationa I Equities | Core Plus Fixed Income |
|----------------------|-------------------|-------|-----------------|------------------|-----------------|------------------------|------------------------|----------------------------|------------------------------|
| Top 5% to Bottom 5% | 16.6% | 13.9% | 12.3% | 7.0% | 13.9% | 3.9% | 5.2% | 5.1% | 2.7% |
| Top 25% to Bottom 5% | 4.4% | 4.4% | 3.18% | 2.2% | 4.8% | 1.7% | 2.1% | 1.6% | 0.9% |

Source: Wilshire CompassSM, PerTrac. Large Core Equities represented by the Lipper Classification "Large-Cap Core Funds", Small Core Equities by "Small-Cap Core Funds", International Equities by the Lipper Objective "International Large-Cap Core", Core Plus Fixed Income by "Core Bond Funds". Alternative strategy custom peer groups are defined by their respective HFRI benchmark constituents. Returns are presented as 10 year annualized performance for 7/1/2007-6/30/2017.



The performance difference between the best and worst performing large-cap core manager is 400 basis points for the 10-year period ending June 2017. Compare that to the 1390 basis point difference between the best and worst performing global macro manager over the same time period! We believe it is clear that due diligence matters even more for hedge funds than for traditional long-only strategies.

Choosing talented managers with disciplined, repeatable processes is critical. For most advisors and investors, performing detailed analysis of hedge fund managers' investment strategies, portfolio construction philosophy, and risk oversight policies is impractical. This highlights the benefits of investing in products that are managed by professional advisors who perform appropriate due diligence and monitoring on an ongoing basis. With new hedge fund offerings coming to market almost daily, sound and structured approach to selecting managers positioned to deliver alpha is imperative.

CONCLUSION

As a new wave of investors gain access to hedge funds and alternative investment strategies, they face a broad set of challenges. Thoughtful strategy selection that considers one's current portfolio mix is critical. For many investors, there is probably room to improve the efficiency of their overall hedge fund strategy mix. As the proliferation of liquid alternatives products continues, investors must understand that different hedge fund strategies will interact with their existing holdings and impact their overall asset allocation in many different ways.

Identifying the right strategies to improve a portfolio's efficiency and selecting the most appropriate managers to implement those strategies is essential. Having professional advisors experienced in hedge fund management and capable of conducting ongoing due diligence and oversight can be a significant advantage in achieving investors' objectives for their alternatives allocation.

IMPORTANT DISCLOSURES



ENDNOTES

1. Sharpe Ratio is a measure for calculating risk-adjusted return. It is calculated as the average annual return earned in excess of average annual return of the risk-free rate (3-month Treasury Bill Index) per unit of volatility.

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