



Portable Alpha: Enhancing Returns through Synthetic Overlays and Hedge Fund Strategies

Portable alpha strategies are increasingly garnering the attention of sophisticated institutional investors as a way of improving portfolio performance without significantly changing the asset allocation mix. In essence, portable alpha programs operate by taking synthetic exposure to a chosen benchmark and deploying the excess cash into an investment portfolio designed to produce consistent, positive performance at a rate greater than the embedded cost of capital (typically LIBOR). This unique way of leveraging the balance sheet is designed to gain greater investment, risk management, and operational flexibility while potentially improving the risk/return characteristics of the overall portfolio. Though seemingly straightforward, portable alpha strategies can pose several implementation challenges. This paper describes the mechanisms, benefits, and potential risks of employing synthetic equity overlays and using hedge fund strategies as part of a portable alpha program.

Two Sources of Return: Alpha and Beta

Capital allocated to traditional asset classes such as equities and fixed income provides two types of returns – beta and alpha. Beta measures the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole. Index funds, which track the performance of their benchmark, generate all of their returns from beta. Alpha, on the other hand, is a risk-adjusted measure of the so-called "excess return" of an investment. It is a common measure of assessing an active manager's performance, as it is the return in excess of a benchmark index or "risk-free" investment. The distinction between alpha and beta returns is a key component of portable alpha strategies. These strategies seek to isolate the alpha generated from a manager's strategy and then overlay that alpha on the beta of the desired market exposure.

Synthetic Beta Exposure: Swaps and Futures

Investors can achieve full beta exposure through numerous derivative instruments. Two of the most commonly used instruments are futures and swaps, both of which provide market exposure to a variety of benchmarks with little or no upfront cash commitment. Though futures and swaps serve the same purpose of generating beta, they each have their unique trade-offs.

Futures are by far the most common beta vehicle associated with portable alpha strategies. Futures are standardized contracts to buy or sell an underlying instrument at a certain date in the future, at a specified price. For example, an investor can purchase stock index futures to receive the return of the S&P 500. Futures are traded on an exchange, and therefore, offer minimal counterparty risk. As such, they allow investors to easily achieve desired market exposure without much diligence or paperwork.

Futures do possess certain disadvantages. Initial and variation margin requirements are typically 1%-8%, but can be as high as 20%. If an investor were to purchase futures with a notional value of \$100 million, \$20 million may have to be set aside for margin requirements, automatically reducing the allocation to alpha strategies by 20%. Although transaction costs associated with the typical monthly or quarterly "rolling" of futures contracts are negligible, additional costs (or benefits) may arise when the futures contracts trade at a price different from fair value. For example, a long investor rolling an "expensive" future will experience an incremental decrease in return relative to the index. Additionally, certain benchmarks do not possess liquid futures contracts, raising the possibility of tracking error. Even liquid futures contracts can pose a small risk of short term mispricing.

Swaps are the primary alternative to futures. Essentially any beta exposure achieved through futures can also be obtained through swaps. Swaps are agreements between two counterparties to exchange one stream of cash flows against another stream. For example, an investor can enter into a swap agreement to receive the return of the S&P 500 in exchange for a cash based payment, typically the LIBOR rate plus a small spread. The main advantage of swaps is that they are highly customizable. The notional amount, payment dates, settlement procedures, and tenor can be tailored to the needs of the counterparties. This flexibility allows swaps to have much longer maturities than futures.

Swaps generally do not require an upfront capital commitment, meaning that 100% of the swap value can be committed to alpha generating strategies. However, swaps do require periodic payments at predetermined reset dates; hence, some form of cash must be committed to meet these payments. The largest drawback of swaps is that they are direct agreements between two parties, as opposed to being freely traded on exchanges. This significantly decreases their liquidity, adds counterparty risk, and creates additional paperwork and diligence associated with assessing structuring, pricing, and the counterparty's creditworthiness. The documentation and diligence expenses incurred in swap transactions can be significant in terms of cost and time. However, the initial hurdle of entering into a swap agreement may be worth the additional diligence in order to avoid the margin requirements and rolling costs associated with futures.

Equity Overlays Using Hedge Funds for Alpha

Hedge funds are often characterized as investment vehicles that are uncorrelated with the traditional stock and bond markets. In other words, compared to traditional investment vehicles, alpha (or non-traditional beta) should have a greater impact on hedge fund returns than market beta exposure. Table 1 shows the performance of the HFRI Fund of Funds Index performance relative to LIBOR, correlation, and standard deviation statistics for the index from January 1991 to September 2008. Since beta exposure can be achieved through futures and swaps, any returns in excess of the cost of holding futures or swaps, typically LIBOR plus a small margin, will be a source of portable alpha. As such, it is important that hedge funds are able to consistently outperform LIBOR with low volatility and a low correlation to traditional markets.

HFRI Fund of Funds Index Performance (Jan. 1991 - Sep. 2008)				
Average Rolling	% Periods w/ Return Greater Than		Annualized	Correlation
12 Month Return	3mo LIBOR	3mo LIBOR + 200bps	STDEV	to S&P 500
9.6%	73.2%	68.5%	5.8%	0.52

Table 1. HFRI Fund of Funds Index performance January 1991 – September 2008. Percentage of periods with returns greater than LIBOR calculated by comparing rolling twelve month hedge fund returns with the average LIBOR rate during those twelve month periods. Source: Bloomberg.

One of the concerns with the typical fund of hedge funds is the relatively high correlation to equities. However, fund of funds are not specifically designed with portable alpha in mind and a direct hedge fund program can be designed to display lower sensitivity to equities than the typical fund of funds.

While hedge fund returns are often considered alpha, the reality is that fund of hedge funds as well as direct hedge fund programs usually exhibit a certain degree of market beta, as well as non-traditional beta (like volatility, liquidity, momentum, credit, etc.). This non-traditional beta is often uncorrelated with market beta, but it becomes very correlated during a financial crisis. These periods of high correlation can lead to sub par performance and ultimately negative alpha. For instance in August 1998, the month of the Russian financial crisis the HFRI Fund of Funds Index was down 7.5%. Similarly, in September 2008 the index declined 5.0% and as of September 30th 2008, the index was down 9.9% year-to-date. During such periods, portable alpha strategies that rely on hedge funds will, on average, underperform their benchmarks. Furthermore, a drop in the beta index exceeding the initial margin terms may necessitate liquidating a portion of the portfolio to post additional collateral. This can prove difficult given the limited liquidity terms of most hedge fund managers, which offer limited redemption rights (quarterly, annually, etc.).

Short term underperformance of this type may be difficult to accept for certain investors. Even in the medium term, hedge fund strategies may also encounter periods of negative performance. Since 1991, a period that encapsulates the Russian Financial Crisis, the crash of the tech bubble, and the current bear market, the HFRI Fund of Fund Index's largest 12 month decline was 9.3%. Assuming no initial margin requirements, a portable alpha program based on this hedge fund index would have underperformed the S&P 500 by more than 13% during that particular 12-month period (LIBOR was approximately 4%). However, since 1991, the HFRI Index posted returns in excess of the 3 month LIBOR rate 73% of the time, while outperforming the 3 month LIBOR rate by at least 200bps and 600bps, 68% and 47% of the time, respectively. The HFRI Index's ability to consistently outperform the LIBOR hurdle rate is graphically presented in Figure 1. As evident from Figure 1, hedge funds usually outperform LIBOR except for relatively short periods, typically centered on times of general financial turmoil. As such, underperformance of the benchmark tends to occur when the index returns are negative. Despite short and medium term periods of underperformance, a portable alpha program based on the HFRI Fund of Funds Index would have returned approximately 14.5% since 1991, outperforming the S&P 500 by 5.1%. Given this performance, hedge fund strategies appear attractive for portable alpha applications from a risk/reward standpoint.

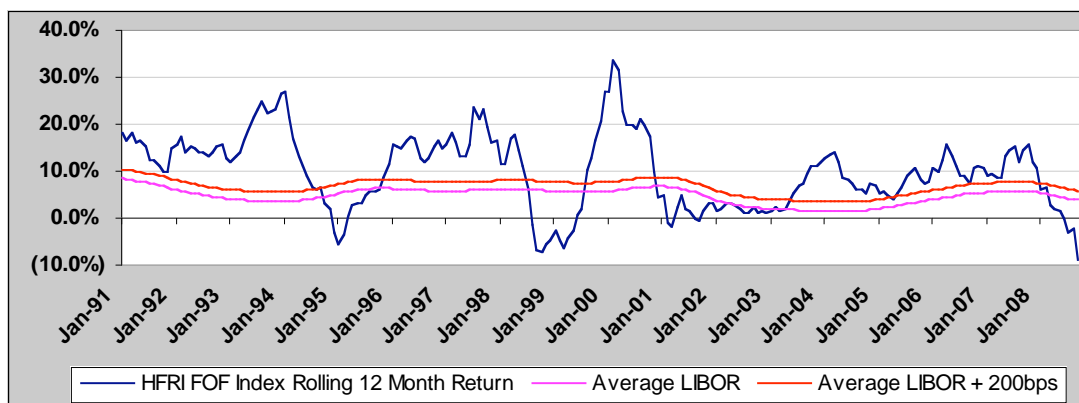


Figure 1. HFRI Fund of Fund Index rolling 12 month performance vs. the LIBOR hurdle rate.

Portable Alpha: A Case Study

Perhaps the easiest way to gain a better understanding of portable alpha is by means of an example. Let's assume an investor allocates \$100 million to portable alpha strategies with the goal of outperforming the S&P 500. The investor would first purchase \$100 million worth of S&P 500 futures contracts, which require no immediate cash outlays, aside from margin requirements. S&P 500 futures contracts typically trade at a premium to the S&P 500 Index's current price (when LIBOR exceeds the dividend yield). If LIBOR is 4% and the dividend on the S&P 500 is 2%, S&P 500 futures should trade at a 2% premium to the S&P 500 market price. Historically, the 3-month LIBOR and the 3-month T-Bill rates have tracked one another closely, so a portfolio of 3-month T-Bills generating a 4% return, coupled with S&P 500 futures, should match the S&P 500 return as illustrated in figure 2.

As previously discussed, the HFRI Fund of Funds Index has fairly consistently outperformed the LIBOR rate. Instead of fully collateralizing S&P 500 futures with T-Bills, an investor could allocate capital to hedge fund strategies. After allocating \$20m to T-Bills to meet margin requirements, the remaining \$80 million could be allocated to the HFRI Fund of Funds Index, which has historically returned approximately 10% annually with a relatively low correlation to the broader financial markets. Under these assumptions, the \$100 million allocated to the portable alpha strategy would return 13.8% ($5\% + 0.2 \cdot 4\% + 0.8 \cdot 10\%$), compared to the S&P 500's 9% return, as shown in Figure 2. Expressing beta through swaps, as opposed to futures, would eliminate the margin requirement and enhance these returns even further.

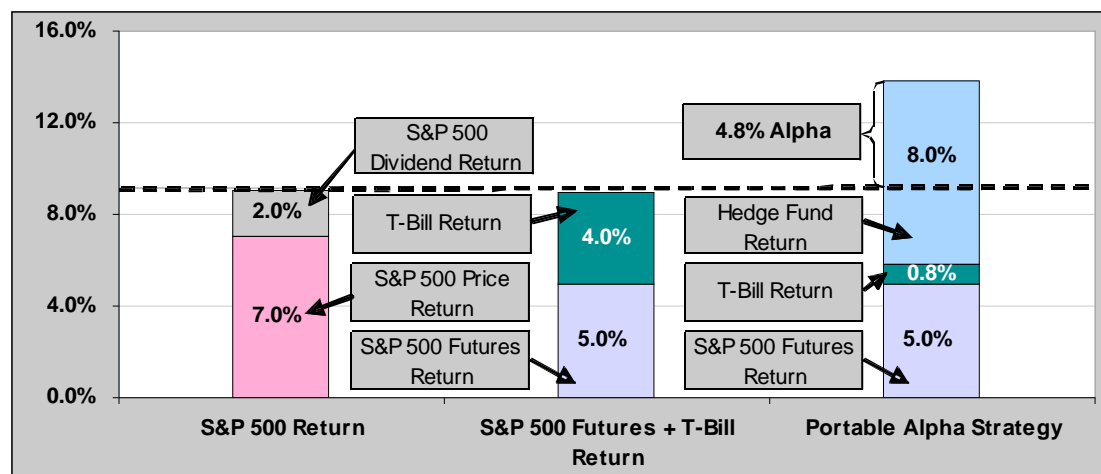


Figure 2. Hypothetical example of S&P 500, collaterized S&P 500 Futures, and portable alpha returns.

Options for Implementing a Portable Alpha Strategy

There are three primary options for implementing a portable alpha strategy that employ synthetic equity overlays and hedge fund strategies.

1. A fully customized approach that executes the synthetic beta portion through a dedicated manager and the “alpha engine” through a customized direct hedge fund program.
2. A component oriented approach that executes the synthetic beta portion through a dedicated manager and invests the excess cash into a pre-packaged fund of hedge funds.
3. A “turnkey” approach that invests in a fully pre-packaged product that manages both the synthetic beta and “alpha engine” components.

A fully customized approach appears the most desirable for the flexibility it offers. It allows investors to manage the degree of leverage effectively over time, achieve greater operational flexibility for managing cash flows and liquidity, and customize the “alpha engine” to display less sensitivity to the equity markets than the average fund of hedge funds. Investors can easily reduce portfolio risk by shifting the asset mix to one better suited to their risk objectives. For example, the “beta allocation” to equities could be reduced in favor of fixed income and inflation-linked exposures. Such an allocation could result in inflation protection, a better asset-liability match, and reduced portfolio volatility while maintaining or even increasing potential expected returns. Furthermore, the size of the alpha component can be easily varied, unrelated to the amounts of the asset classes to which the alpha is transported.

While the pre-packaged fund of hedge funds approach still provides the flexibility of managing the alpha and beta “vehicles” separately, it greatly reduces the flexibility of selecting a customized “alpha vehicle”. Lastly, most “turnkey” solutions for portable alpha do not offer the desirable operational and risk management flexibility and tend to concentrate in strategies that focus on extreme low volatility of returns. Unfortunately, many portfolios are often concentrated in risks that become highly correlated and punished during a liquidity shock.

Portable Alpha in 2008’s Market Conditions

The recent failures of Bear Stearns, Lehman Brothers, and struggles of several other financial institutions have instilled a large degree of uncertainty in the markets. Though the government’s bail-out plan should help stabilize the markets and stem some of the panic that has occurred of late, it is difficult to say if it will put a quick end to the current financial crisis. Given the lingering uncertainty, portable alpha strategies do not appear particularly attractive at the moment. At its core, portable alpha represents a means of achieving leverage at the

portfolio level and in light of the current market environment, we do not recommend increasing the degree of leverage. Furthermore, as in previous financial crises, many hedge fund returns have displayed a period of sub-par performance and higher market correlation, making it difficult to separate alpha from beta. Though we do not currently recommend actively pursuing portable alpha strategies, we do believe it is an appropriate time to prepare portable alpha programs for future implementation. When the dust settles, the current market sell off may leave equities favorably valued. Portable alpha strategies, through their use of swaps and futures, can prove to be an efficient means of rebalancing a portfolio to obtain more equity exposure.

Summary

- Portable alpha strategies have grown in popularity as a unique way of “beating the market”, without significant changes in asset allocation. The strategy’s appeal stems from its potential to provide greater investment, risk management, and operational flexibility while potentially improving the risk/return characteristics of the overall portfolio. However, there are many risk factors that investors should take into consideration.
- Portable alpha programs operate by taking synthetic exposure to the chosen “beta” through derivatives (swaps or futures) and deploying the excess cash into an “alpha engine” designed to produce consistent returns in excess of the LIBOR rate.
- Futures and swaps provide market exposure to a variety of benchmarks with little or no upfront cash commitment. Though futures and swaps possess their respective pros and cons, both are forms of leverage and hence should be employed with caution and prudence.
- Hedge fund strategies have proven to be a suitable alpha vehicle. Historically, hedge funds have fairly consistently posted returns in excess of LIBOR and have been relatively uncorrelated with the broader financial markets. In the short to medium term, even hedge fund strategies may become highly correlated with the market, especially in the wake of a financial crisis or a deleveraging event. Furthermore, past performance does not guarantee future performance and the ability of hedge funds to consistently generate alpha is still in question. However, diligent manager selection can substantially mitigate these risks.
- Fully customizable portable alpha programs appear the most attractive for the flexibility they offer.
- Given the degree of uncertainty surrounding today’s financial markets, we do not currently recommend actively pursuing portable alpha strategies. However, we believe it is an appropriate time to prepare portable alpha programs for future implementation.
- Although the benefit of compounded enhanced returns is a compelling reason to implement portable alpha strategies, portable alpha should be reserved for sophisticated investors who are comfortable with derivatives / leverage and are familiar with hedge funds.

Piotr Wiancki
Research Analyst

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