HEDGE FUNDS: BROKEN OR DAMAGED?

NEPC Research

Executive Summary

The meltdown of the global capital markets during 2008 generated significant losses for most institutional investment programs. It also caused investors to question the underlying assumptions of many investment strategies and concepts. The poor investment results of hedge funds, hedge funds of funds, and their application in "portable alpha" frameworks have triggered particular scrutiny, as have well-publicized fund blow-ups and episodes of apparent fraud.

In this paper we:

1. review the original case for hedge funds in institutional investment portfolios;
2. examine the justification for hedge funds of funds;
3. review the concept of portable alpha and its application in institutional investment programs; and,
4. revisit our assumptions about these investment concepts and their roles in institutional investment programs going forward.

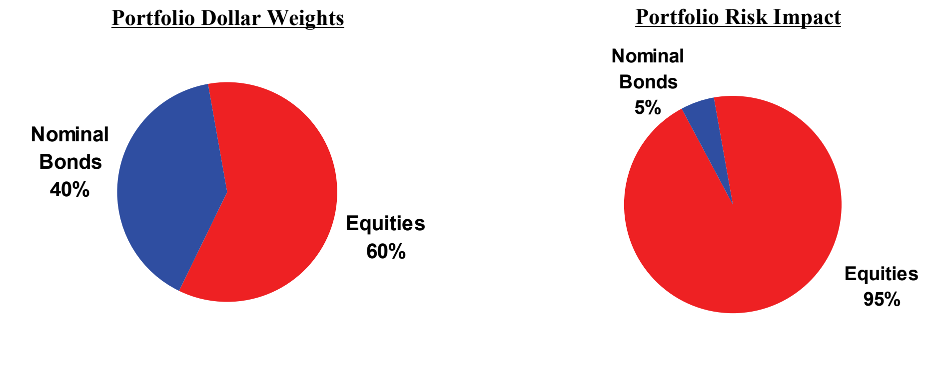
In evaluating our assumptions about hedge funds, hedge funds of funds, and portable alpha, we seek to determine if these concepts are irretrievably broken or merely damaged in the short term. ***We conclude the drivers of performance for hedge funds, hedge funds of funds and portable alpha are still valid. While we recognize the difficulties experienced in 2008, we conclude that, although there may be short-term damage among these strategies, over the longer term, the case for their inclusion in institutional investment programs remains strong.***

1) Overview

The year 2008 will be remembered as a period in which all risk-bearing markets suffered precipitous declines. Active management strategies were especially hard hit and perhaps the most active investment strategy of all, hedge funds, received its most negative publicity in more than a generation. The list of challenges hedge funds faced was long: performance fell significantly below expectations (average returns of -16% to -20% in 2008), managers constrained investor liquidity by imposing gates and other redemption restrictions, high profile funds closed and, ultimately, industry assets under management declined some 30% due to investment losses and investor redemptions. These upheavals have served to heighten investor concerns about the viability of these strategies in a prospective environment of further redemptions and fund closures, additional cases of fraud, the likelihood of increased regulatory oversight, and changed economic circumstances with scarce financing and limited liquidity. As a result, institutional investors and their advisors, including NEPC, must challenge their assumptions regarding the role of these strategies in institutional investment programs.

In this paper, NEPC sets out to revisit the role of hedge funds and hedge funds of funds in institutional portfolios. In addition, because many investors have utilized hedge funds as the alpha engine in portable alpha strategies, NEPC will revisit the assumptions surrounding those programs.

Exhibit 1: Typical 60/40 Portfolio: 95% of Risk Due to Equities



Source: NEPC Research

We conclude that hedge funds, either as a separate asset commitment or as the alpha engine in a portable alpha program, are damaged in the short-term. We do not, however, believe they are irretrievably broken and destined for the ash heap of history. Instead, hedge funds and hedge funds of funds are adaptive strategies that can respond to ongoing changes in the economic landscape. In general, hedge funds have flexible mandates which allow them to deploy capital efficiently to the most attractive risk/return opportunities, latitude that their long-only investment counterparts do not have. Furthermore, changes in the capital markets also represent significant opportunities for well-resourced, institutional-quality hedge funds and hedge funds of funds. We also expect to see improved fees, terms, and transparency, perhaps in exchange for longer lockups. Therefore, *while hedge funds face challenges in the near-term, they remain viable and attractive long-term investment options for institutional investors.*

2) The Case for Hedge Funds in an Institutional Portfolio

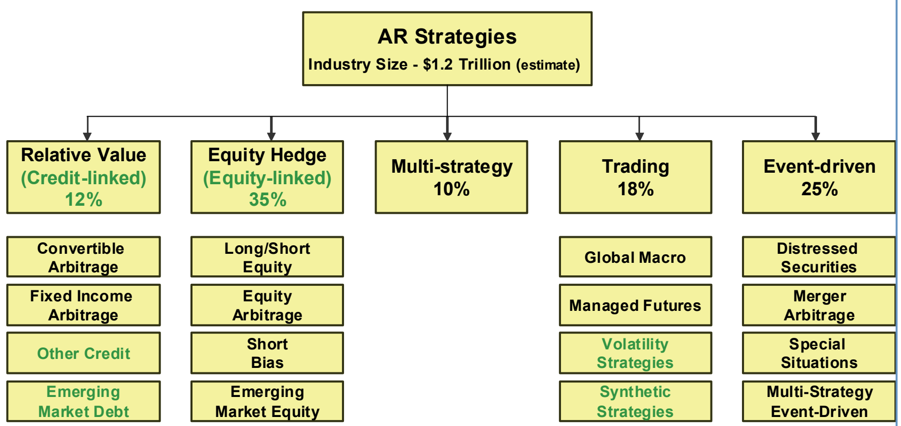
Institutional Investors have an over-riding goal to generate ***long-term returns through the efficient use of capital.*** To accomplish this, investors must make allocations to diversified portfolios comprised of multiple risky asset classes and strategies with modest correlations to one another. For many years, a combination of the traditional asset classes, equity and fixed-income, accomplished the goal of generating sufficient returns. However, as the asset allocation has evolved into a risk-budgeting perspective, a traditional 60/40 portfolio has been confirmed as essentially a one-bet portfolio. This is because a 60% equity commitment to an investment program contributes nearly 95% of a portfolio's total risk (see Exhibit 1). This was fine as long as equity markets were bullish; however, the equity declines accompanying the bursting tech and real estate bubbles have shattered the myth that this portfolio construct is appropriate over the long term. Consequently, institutional investors are employing additional tools to generate their necessary returns while diversifying away some of the risk from an equity-centric portfolio. Hedge funds have been and are important tools utilized in this process.

Hedge funds, while not strictly an asset class, are a collection of actively managed strategies that collectively have provided close to ***equity-like returns*** with ***bond-like volatility*** over time. Additionally, they have displayed relatively ***low degrees of correlation*** over intermediate time periods to many of the major asset classes typically found in institutional investors' portfolios. While the historic case for hedge funds was compelling (pre-2008), our inquiry looks to the future. The next few sections of this paper argue that the assumptions regarding the drivers of hedge fund returns, while somewhat damaged, still exist and that forward-looking returns should remain sufficiently attractive to justify inclusion in institutional portfolios.

a) Assumptions Regarding Hedge Funds

Hedge funds, though often lumped together as a single investment category, encompass a wide variety of strategies (see Exhibit 2). Hedge funds may be equity-related strategies (generally long-short equity with a market-neutral or net long bias), credit-related strategies (generally pursuing relative value trades across different parts of a corporation's balance sheet), event-driven strate-

Exhibit 2: Absolute Return Strategies



- Black strategies as defined by CS Tremont and HFR indices
- Green strategies represent NEPC Classifications
- Percentages represent portion of industry assets dedicated to each strategy (CS Tremont)

Source: NEPC Research

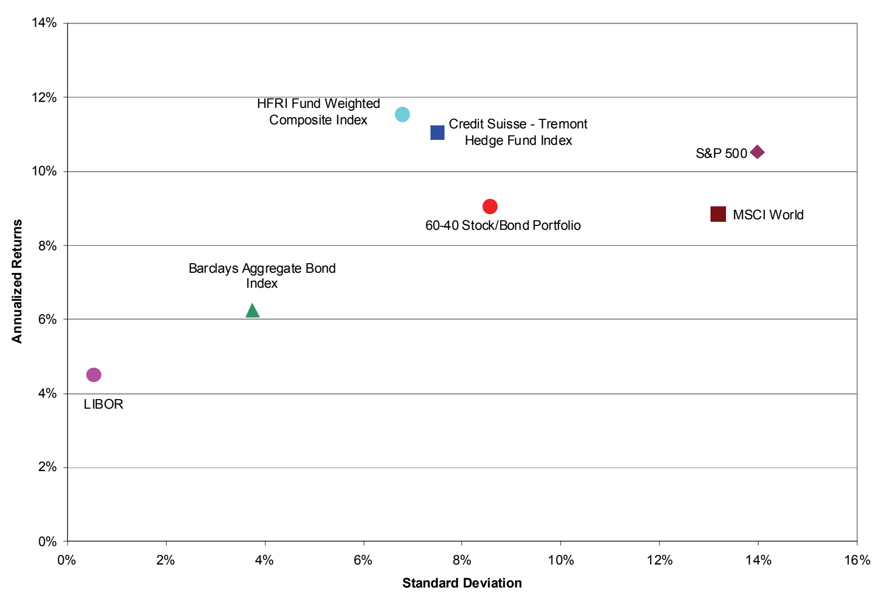
gies (generally pursing relative value trades regarding corporate actions), trading strategies (generally macro or systematic trading of global equity indexes, currencies, and sovereign debt), and/or multi-strategy (generally allocating risk among a variety of in-house portfolio managers pursuing several of the aforementioned strategies).

Although each strategy is different, and there is wide dispersion among managers within each classification, hedge funds in general seek to provide alpha (risk-adjusted excess return) through several common methods. These methods are unique and distinct from traditional long-only equity and fixed income strategies, and include:

- ***Expanded Investible Universe*** - in addition to having few restrictions on security selection, concentration or tracking error, hedge funds may seek liquidity premia through investments in some less-liquid securities as compared to traditional long-only managers;
- Utilizing ***Leverage*** and/or ***Derivatives*** to customize desired risks and exposures; and,
- Employing ***Shorting*** for hedging and/or generating incremental returns.

For the purposes of this paper, we will be looking at hedge funds in general, rather than the individual sub-strategies. To facilitate this view we will look at the HFRI Fund Weighted Composite (an equal-weighted universe) and the Credit Suisse Tremont Hedge Fund Index (an asset-weighted universe). These are peer universes that portray a general idea of what is going on in the hedge fund world and can serve as broad proxies for hedge funds. A current challenge when discussing hedge funds in general is that no perfect benchmark exists. Each of these measures suffers from biases, including self-reporting bias. However, these indices (for lack of a better term) can provide a barometer of returns experienced by hedge fund investors and serve as a useful tool in our analytical framework.

Exhibit 3: Risk and Return – A Long View (1994 through 2007)



Source: NEPC Research

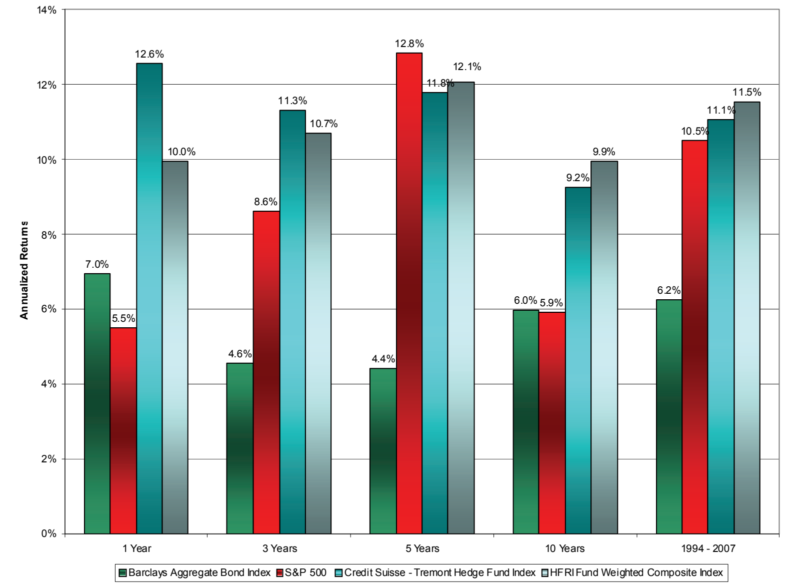
b) Historical Record—How Did We Get Here?

Historical performance indicates that hedge funds, in general, did deliver on their promises (equity-like returns, bond-like volatility, and moderate correlation) through the end of 2007. While not sufficient for our entire analysis, examining the historical record is an important first step.

i) Returns / Volatility / Correlation through 2007

In general, when looking at hedge fund returns between 1994 (inception of the Credit Suisse Tremont Hedge Fund Index) and 2007, hedge funds did provide equity-like returns with bond-like volatility and low correlations. Exhibit 3 displays the risk-adjusted return potential to a portfolio with the inclusion of hedge funds during the period 1994-2007.

Exhibit 4: Trailing Returns through 12/31/2007

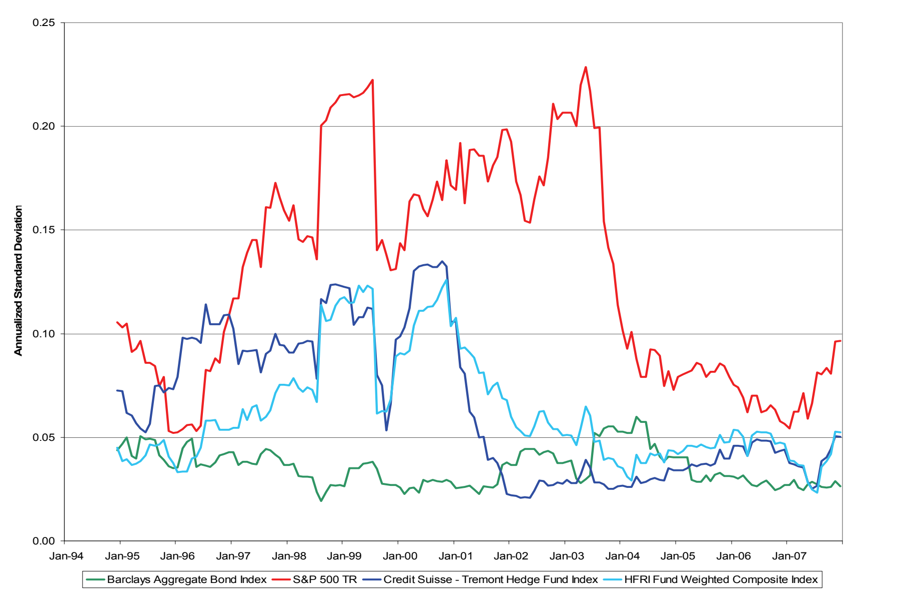


Source: NEPC Research

Additionally, when looking at the trailing returns chart (see Exhibit 4), one sees that over most periods of time, including those encompassing episodes of market stress (1998, 2000 – 2002) hedge fund performance remained fairly strong (through 2007) and met the goal of *equity-like returns*.

Furthermore, trailing annualized volatility for hedge funds is low in most periods. Though not entirely *'bond-like'*, hedge fund volatility was lower than the Barclays Aggregate Bond Index for portions of the 2000s (see Exhibit 5).

Exhibit 5: Trailing Annualized Standard Deviation through 12/31/2007

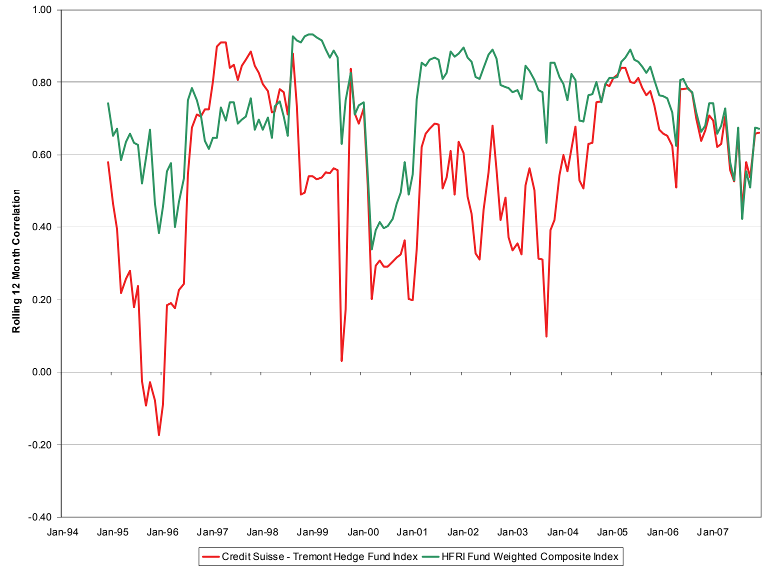


Source: NEPC Research

Finally, over most periods, hedge funds provided diversification benefits. For the period 1994 – 2007, the HFRI Fund Weighted Composite displayed a correlation of 0.71 to the S&P 500 while the Credit Suisse Tremont Hedge Fund Index displayed a correlation of 0.49 to the S&P 500. Thus, hedge funds may not be considered uncorrelated, but they do provide better diversification benefits than many asset classes. Correlation, however, is highly time-sensitive. Over rolling 12-month periods, hedge funds on balance displayed modest correlation to the S&P 500 (see Exhibit 6).

Consequently, on balance, recent history has suggested that hedge funds could deliver decent returns, moderate volatility, and relatively low correlation to the S&P 500.

Exhibit 6: Trailing 12 Month Correlation to the S&P 500 through 12/31/2007



Source: NEPC Research

c) 2008—What Happened?

In 2008 every risky strategy and asset class experienced meaningful losses. Hedge fund performance, while disappointing, did provide some diversification benefit to portfolios, especially if these strategies were funded by reducing allocations to equities (see Exhibit 7).

Exhibit 7: 2008 Results

	Return	Annualized Standard Deviation	Correlation to the S&P 500
Barclays Aggregate	5.2%	6.1%	0.35
S&P 500	-37.0%	21.0%	1.00
CS - Tremont Hedge Index	-19.1%	9.8%	0.69
HFRI Fund Weighted Composite Index	-17.9%	9.5%	0.78

Source: NEPC Research

Hedge funds, while posting their worst calendar year returns ever, did out-perform equity indices by significant amounts. Further, while volatility was elevated from prior years, it was still mild and fairly *'bond-like'*. Finally, while hedge fund correlations to the S&P 500 did increase in 2008, they remained within prior historical ranges during periods of distress.

Nevertheless, in this period of unprecedented illiquidity there were pockets of extreme pain felt by investors in certain funds or market segments, including:

- ***Significant losses,*** *some* in excess of -50%, incurred by many well-known funds;
- On-going ***deleveraging***, margin calls, and forced dumping of assets by many funds;
- Forced ***liquidation*** of certain funds whose primary prime broker, ***Lehman Brothers***, went out of business and effectively froze access to fund assets;
- The temporary ***ban on short selling*** negatively impacting many strategies;
- High profile ***fraud*** (Madoff, Dreier, etc.); and
- ***Gates, Suspensions, Withdrawal Restrictions, Payment-in-Kind*** and other methods by which managers restricted the ability of investors to redeem from their funds.

Rather than dwell on the specifics of a disappointing year for individual managers or strategies, investors may question whether their assumptions regarding the drivers of hedge fund performance held in 2008.

Assumption 1: Hedge Fund performance is driven by an expanded investible universe and the ability to provide liquidity to certain market segments. In a year where every risk-based asset is shunned, having an expanded investible universe is not an advantage. Whether hedge funds specialized in corporate credit or emerging market equities, all risk-based assets suffered. Furthermore investments in assets with limited liquidity amplified performance issues. Theoretically, hedge fund managers can take on illiquidity risk because their investors' redemption rights are limited to certain time periods. Therefore, since most investors will not redeem 100% of their assets in any single redemption period, hedge fund managers can allocate a portion of their capital to illiquid assets in exchange for an expected illiquidity premium. Yet in 2008, many assets that had previously been considered liquid became illiquid. Numerous traditionally-liquid market segments became, effectively, no-bid markets. When the bid-ask spreads blew out in these segments, the marked price on these assets collapsed. When assets were marked-to-market, the Net Asset Value on the funds dropped precipitously (whether or not the assets were performing) and consequently: (a) leverage providers called their loans, and (b) investors demanded withdrawals. Therefore, hedge fund managers faced an asset/liability mismatch. As a result of the negative performance of all risky assets and the performance impact from decreased liquidity, the first assumption about hedge fund performance drivers clearly did not hold in 2008.

Assumption 2: Hedge Fund performance is driven by leverage and the use of derivatives. Leverage and derivatives in hedge funds are often used to magnify equity and total fund exposure. They are also used to manage and customize various exposures, including hedging certain risks. For most managers and strategies, leverage damaged performance in 2008. In the face of collapsing asset prices, leverage magnified problems. Additionally, the use of derivatives to hedge exposures failed at times due to wide differences in valuation between the cash and swaps markets. When the credit and swaps markets seized up due to investment bank failures, counter-party mistrust, and fear of the unknown, many derivatives positions did not hedge as expected. In 2008, the second assumption about hedge fund performance being bolstered by the use of leverage and derivatives did not hold.

Assumption 3: Hedge Fund performance is driven by the ability to short. In 2008, governing and regulatory bodies around the world enacted bans against short selling. Additionally, securities lending pools faced problems and the prime brokerage communities made some securities extremely difficult and expensive to borrow. Though all of these problems did not persist for the entire year, they created tremendous friction for managers and strategies utilizing short-selling. Additionally, the incredible volatility of the equity market meant that the best performing security/sector for one month often was the worst performing security/sector in the next month. Thus, the wild swings that seemed to be far removed from fundamental value made successful shorting incredibly difficult. Hence, the third assumption about hedge fund performance being driven by the ability to short was invalid for much of the year.

Thus, in a year in which each assumption about drivers of hedge fund returns failed, disappointing performance was the result. Next, we examine whether 2008 was an outlier event or the start of a longer-term trend.

d) The Future

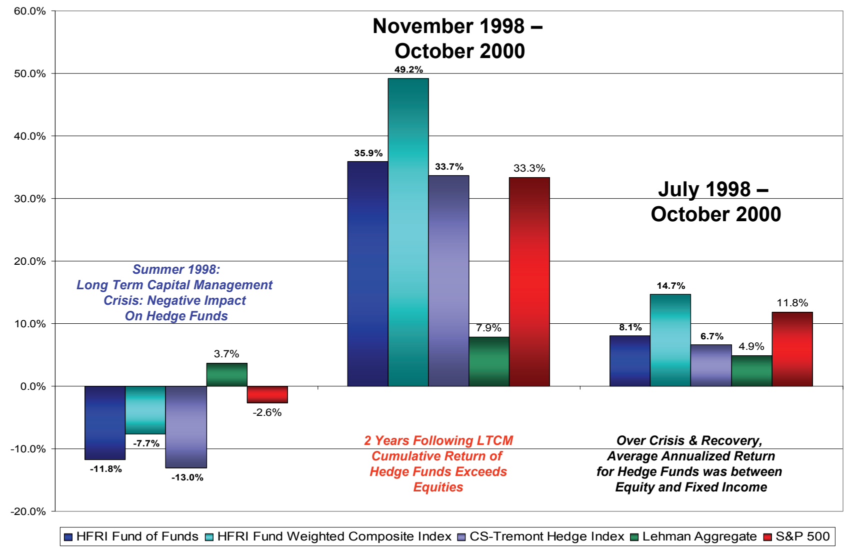
Certainly, the future is unknown. A combination of historical experience and informed judgment, however, can help frame a reasonable approach to sizing up the future. To do this, we ask whether anything like this ever happened before and we must revisit our assumptions and assess whether those assumptions still hold.

There is some historical precedent for recent experience. In 1998, in the wake of the collapse of Long Term Capital Management, many observers sounded the death knell for hedge funds. During that crisis period markets for most credit spread products fell apart and credit-based hedge funds experienced a severe liquidity crunch. While the pain was relatively brief (a few quarters then compared with eighteen months and counting in the current crisis), hedge funds in general were able to bounce back from the LTCM crisis, find opportunities and deliver performance for their investors (see Exhibit 8).

Can a similar recovery occur again? If the assumptions about drivers of hedge fund performance hold, then the answer is "yes". So, let us examine each of these assumptions looking forward.

Assumption 1: Hedge Fund performance can be driven through the use of an expanded investible universe and the ability to provide liquidity to certain market segments. Over the past year, the hedge fund competitive landscape has changed significantly. Investment bank proprietary trading

Exhibit 8: Has Anything Like This Happened Before?



Source: NEPC Research

desks essentially went out of business, somewhat reducing competition for the positions sought by hedge funds. It is also likely that a large segment of the hedge fund management industry is shutting its doors. Thus, there will be even fewer investors pursuing the same trades. Therefore, wide bid-ask spreads are likely to persist. Further, there are some investment categories, such as convertible securities, that many investors have exited completely. Consequently, it is likely that risk capital and the provision of liquidity will be rewarded at some point in the future. If institutional investors believe that investment risk will never be rewarded and 2008's risk-shunning environment will persist indefinitely, then a portfolio of risk-free assets with meager returns should be embraced. If, however, institutional investors believe in the capitalist system, then they must trust that, at some, point taking risk with capital will be rewarded. In fact, ***we assume that the long-term relationship between investment risk and reward will be restored in the future.*** The challenge for hedge fund managers is to match their assets and liabilities. While many see fundamental value-based opportunity, relatively few managers are putting risk capital to work. Why is this? In part it stems from managers trying to manage their own liquidity challenges (investor redemptions) and their reluctance to take on mark-to-market risk. It is our contention that, given what has occurred in the past year, hedge fund managers will seek to lock-up capital and limit withdrawal rights. Institutional investors, on the other hand, may not necessarily agree with these steps by hedge funds. Hence, there will be friction between the investment management community and the institutional investor community in the short term. The outcome of this clash will determine how much illiquidity risk the hedge fund community will take on, the types of risk embraced in an expanded investable universe, and the magnitude of this performance driver. We believe the outcome of this tension will be a willingness to take on risk to seek excess return, and therefore, that Assumption 1 will hold in the future.

Assumption 2: Hedge Fund performance can be driven through the use of leverage and derivatives. Going forward, we believe the amount of available financing will be reduced and the cost of obtaining leverage will increase for hedge fund managers. This may make certain highly levered hedge fund strategies somewhat less attractive. The majority of hedge fund investment approaches, however, do not use significant leverage. Most use less than 1 or 2 times leverage (by comparison, many investment banks had leverage ratios of 30:1 or greater). Furthermore, it is our contention that at some point there will be a derivatives clearinghouse. This should facilitate the use of swaps and allow for better hedging or risk-adjustment. Additionally, it is our belief that many strategies and managers will be able to generate attractive returns without the use of leverage, particularly at this time in certain areas of the credit markets. Thus, while with somewhat mixed application, we believe that Assumption 2 will hold going forward.

Assumption 3: Hedge Fund performance can be driven through the use of short-sales. It is our assumption that a functioning capital market will provide investors the opportunity to sell securities short. While additional regulation in this area may be coming, it is our belief that the ability to short securities and indices will remain intact. Additionally, we believe prime brokers and others will be able to provide this service at an economic cost in the future and that securities lending pools will be available. While events like those that occurred in 2008 may arise from time to time, on balance, the capital markets will be functional and allow investment managers an ability to sell short. Thus, we believe Assumption 3 will hold going forward.

Therefore, we continue to believe that the three fundamental assumptions regarding the performance drivers of hedge funds will hold in the future (see Exhibit 9). Whether future performance will have equity-like returns with bond-like volatility and moderate correlation is unknown. Odds favor hedge funds delivering decent returns, moderate volatility, and modest correlation. And, the road between now and the time where there is a fully functional capital market will be bumpy.

Exhibit 9 – Hedge Fund Summary

Hedge Fund Scorecard

	Pre-2008	2008	Going Forward
Equity-like Returns	+	+	?
Bond-like Volatility	+	-	?
Moderate Correlation	+	-	?
Alpha Sources			
Expanded Universe / Illiquidity	+	-	+
Leverage / Derivatives	+	-	+
Shorting	+	-	+

Source: NEPC Research

Specifically, we expect certain institutional investors to exit the hedge fund space in the near term due to risk aversion and the lack of desire or ability to lock-up liquidity. Additionally, we expect to see numerous hedge fund managers exit the space, including some well-known personalities. Hedge fund closings will be due to investor redemptions and the economic reality that many funds will become unviable with diminished management fees and little hope for generating incentive fees given current, distant, high water marks. Furthermore, we expect increased regulation to create additional uncertainty, friction, and costs. ***While these factors may act to dampen performance expectations, we do not believe they will extinguish the ability for many managers to generate performance.*** However, in the very near term, we advocate that investors sit on the sidelines and allow the hedge fund community to go through this shake-out. While some short-term opportunities may be missed, we believe the prudent course is to gain additional visibility regarding regulation, liquidity, transparency, and the business models of the hedge fund management community.

3) Hedge Funds of Funds

For all investors, building a hedge fund program requires tremendous resources. The process is as follows: First, an institutional investment committee decides to allocate to 'hedge funds'. Next, it needs to set sub-strategy allocations (e.g. equity market neutral, credit-linked, global macro, etc.). Then committees must seek out and identify investment managers. Most institutional investors appropriately demand strategy and manager diversification. Research suggests that at least 15 - 30 managers pursuing differing strategies should be utilized in building a hedge fund portfolio. (see French, Craig W., Ko, Damian B. and Abuaf, David N., "Diversification and Persistence in Hedge Funds" (October 31, 2005) http://ssrn.com/paper=850304). Once managers are identified, the required contractual reviews necessitate internal and legal oversight and will include significant fees paid to outside legal counsel. After selection takes place, portfolio monitoring and review are time-consuming, but critical, on-going endeavors. All of these steps require time and significant human and fiscal capital. Consequently, some investors have outsourced some of these assignments to hedge fund of funds.

Hedge funds of funds, of course, provide this service for a fee. Generally, hedge funds of funds charge between 0.50% - 1.50% of assets under management and some also charge incentive fees. While not right for all investors, it is our belief that hedge funds of funds do have a place in many institutional investment portfolios, as we explain below.

a) Assumptions Regarding Hedge Funds of Funds

When institutional investors utilize hedge funds of funds, they do so primarily to outsource services which they themselves cannot perform on a cost- or time-effective basis. Hedge funds of funds are assumed to:

- Provide a pre-packaged portfolio of subordinate hedge funds;
- Provide ***broad manager*** and ***strategy diversification;***
- Perform the initial ***due diligence*** on investment opportunities; and
- Perform on-going ***monitoring, due diligence, and risk management.***

Historically, hedge funds of funds have performed these tasks, albeit at an annual offset to performance of 100-200 basis points (essentially, the marginal fee charged by the Hedge Fund of Funds manager. See Exhibit 10).

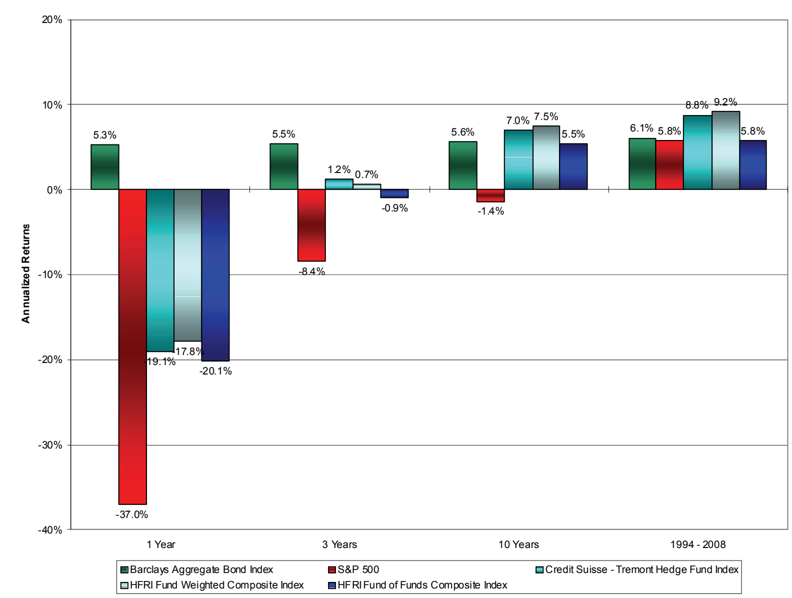
b) 2008 Challenges

In addition to the general challenges faced by hedge funds 2008 crystallized some important areas of responsibility for the hedge funds of funds community.

The primary challenges to hedge funds of funds are the conduct of strong ***due diligence*** and on-going ***risk monitoring*** and ***risk management*** of their subordinate funds. In 2008 the importance of these functions became overwhelmingly apparent to avoid both fraud and poor performing managers and strategies. In regard to the alleged frauds, 2008's list includes Madoff, Dreier, and Petters. Sadly, similar challenges arose in prior years surrounding Amaranth, Bayou, Beacon Hill and others. Secondly, investors are questioning the ability of Hedge Funds of Funds managers to assess the prospective economic environment and allocate capital away from managers and strategies likely to face severe headwinds and move towards those that may have better opportunities.

In the wake of these challenges, investors who avoided trouble are quick to point out the obvious short-comings of managers who faced challenges and to cast aspersions towards those who did invest with such managers. We believe it is better to approach investing with humility than hubris. We observe that virtually all investors who risk capital will at some point in their career make an investment that doesn't work out, due either to style drift, misjudging the opportunity set, or just plain poor selection. As due diligence, risk monitoring, and risk management practices evolve, the appropriate response to recent issues should be the ongoing refinement of the due dili-

Exhibit 10: Trailing Returns through 12/31/2008



Source: NEPC Research

gence process to determine what (if anything) was missed to ensure better-informed decisions in the future.

That being said, it is our belief that the institutional investment community will likely shun for some time those hedge fund of funds that had material exposure to scandal or severe underperformance. Therefore, we are continuously evaluating the business models of those funds and their ability to survive. It is likely that many hedge funds of funds, especially those with a large exposure to a potentially fraudulent investment, may be involved with litigation. For those without a diversified business model or the necessary infrastructure, such litigation may distract from the investment process through 2009 or longer.

Over the past few years, the hedge funds of funds community has become bifurcated between those who seek to meet the demands of the institutional investor community and those who seek to keep their investments and strategies opaque. Institutionally-oriented hedge funds of funds have continued to improve their standards regarding transparency, risk reporting, and communication and we anticipate these trends to continue. We also see further bifurcation between those who have suffered from a fraudulent investment and those who haven't. While we may not believe this litmus test to always be appropriate, it exists and likely will for some time. In time, the hedge funds of funds that survive with a fraudulent investment on their track record will be those who are able to demonstrate to a skeptical institutional investor community that they did perform rigorous diligence and on-going monitoring and did size their investments appropriately. In all likelihood, the total number of hedge funds of funds will decline, fees will decrease and be paid over longer periods to better align with investor interests, and a smaller number of hedge funds of funds will emerge as the partners of choice for the institutional investor community.

c) The Future

Hedge funds of funds do have a place in many appropriately structured institutional investor portfolios. Those hedge funds of funds possessing strong due diligence, risk monitoring, and risk management practices will continue to be embraced by the institutional investor community. Existing practices are neither perfect nor static, as they are continuously evolving to reflect newer and better practices. It is our contention that institutionally-friendly hedge funds of funds can effectively run out-sourced hedge fund portfolios on behalf of resource-, time-, and capital-restricted institutional investors.

NEPC believes that institutional investors will prefer those hedge funds of funds which:

- Provide a researched pre-packaged portfolio of subordinate hedge funds
- Provide ***broad manager*** and ***strategy diversification,***
- Perform the requisite ***due diligence*** on investment opportunities,
- Perform on-going ***monitoring, due diligence and risk management.***

We believe these hedge funds of funds exist and that they are viable going-forward (see Exhibit 11). However, we also contend that almost all hedge funds of funds (as well as all institutional inves-

Exhibit 11 – Hedge Fund of Funds Summary

Hedge Fund of Fund Scorecard

	Pre-2008	2008	Going Forward
Provide Hedge Fund-like Characteristics	+	+	+
Services			
Provide Diversification	+	+	+
Provide Due Diligence	+	o	+
Provide Risk Management	+	o	+
Fees	?	o	?

Source: NEPC Research

tors) will at some point in time buy a poor investment. The challenge for funds of hedge funds will be to convince a skeptical institutional investment community that they have performed and will continue to perform rigorous due diligence and risk management.

4) Fees and Structure

We have focused above largely on the performance and value-add related characteristics of hedge funds and hedge funds of funds in 2008. We will now address the interconnected topics of fees and structure.

In 2008, hedge fund managers faced an asset-liability mismatch. Liquid assets suddenly became much more illiquid while longer-term liabilities (investor redemptions and leverage providers' capital) became much more near-term. Although no strategy or segment was spared, larger sized credit managers and multi-strategy managers tended to be most severely impacted by this problem.

Investor redemptions were driven primarily by (1) dissatisfaction with performance and (2) liquidity needs elsewhere in their portfolios (either from capital calls in their private markets portfolios or to meet operational/beneficiary needs). In the short-term, neither of these drivers is likely to abate much. Longer-term, whether institutional investors will reclassify their hedge fund portfolios as *illiquid* and akin to their private equity or real estate portfolios or whether they will continue to classify hedge funds as *marketable alternatives* is up for debate. For liquidity planning purposes, it may be wiser to classify hedge fund investments as *illiquid* since, as 2008 proved, they can be largely illiquid in times of market stress.

Going forward, we believe that hedge fund managers will seek longer and more onerous lock-up provisions from their institutional investors. Fee concessions should, and in many cases will, be granted to investors in return for the longer lock-ups. Yet, it is questionable in the near-term whether most institutional investors will embrace this option. We believe that it is likely that, longer-term, institutional investors will submit to longer lock-ups; however, investors may seek greater fee concessions than managers are currently willing to provide. Additionally, there will still be a premium for successful hedge fund managers with long track records. Hence, we are likely to see additional bifurcation between established managers and more recent market entrants.

Hedge funds of funds will face similar pressures regarding lock-ups. But, it is our contention that they will grant fee concessions to institutional investors. Hedge funds of funds are not as differentiated from one another (except for the difference between those that had alleged fraudulent investments in 2008 and those that did not) as hedge fund managers. Consequently, to survive, hedge funds of funds will need to differentiate themselves on fees and demonstrate that they can provide a value-added service for an appropriate level of compensation.

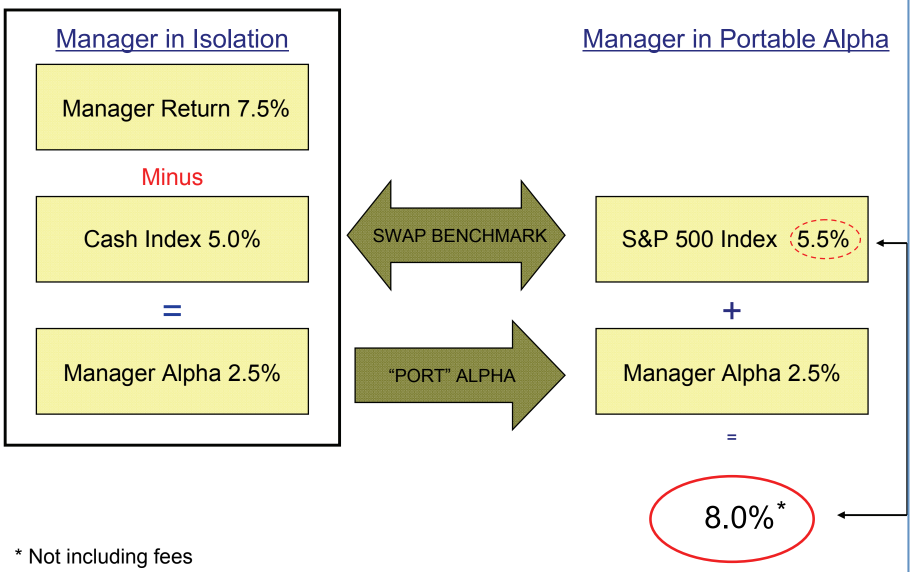
5) Portable Alpha

The concept of portable alpha is relatively straight-forward. However, the implementation of the idea can present challenges. The concept is that finding investment managers in efficient asset classes (such as U.S. large company stocks) who can consistently outperform a benchmark (e.g. the S&P 500) has a low probability of success.

Alternatively, one *can* find managers in inefficient, less correlated asset classes who consistently outperform cash (hedge fund managers). Once these managers who outperform cash (creating alpha) have been identified, their alpha can be transported onto a "beta" (i.e., an S&P 500 swap or futures contract) and thereby creating an investment vehicle that provides exposure to an underlying asset class or market segment while consistently delivering value-added performance. Conceptually, this is displayed below (see Exhibit 12).

Over the past decade, portable alpha has gained broad acceptance. In general, it is implemented in one of two ways. In "unbundled" implementations investors select the alpha managers and beta providers themselves and consolidate them in-house. Alternatively, over the past few years, providers have created products that bundle the alpha source (often a hedge fund of funds) and the beta exposure into a single commingled product. In 2008, neither approach delivered the expected benefits.

Exhibit 12: How Portable Alpha Works (Swap Example)



* Not including fees

Source: NEPC Research

a) Assumptions Regarding Portable Alpha

There are several assumptions regarding portable alpha. For this strategy to function properly one assumes:

- A ***functioning capital market*** can reliably ***port alpha*** through ***swaps*** or derivatives onto ***cheaply obtained beta;***
- A ***properly structured*** portable alpha program will minimize the risk of impairing any collateral needed to port the alpha on to the beta;
- Investment managers can ***generate alpha*** over time (outperform cash or the cost of "porting" the alpha).

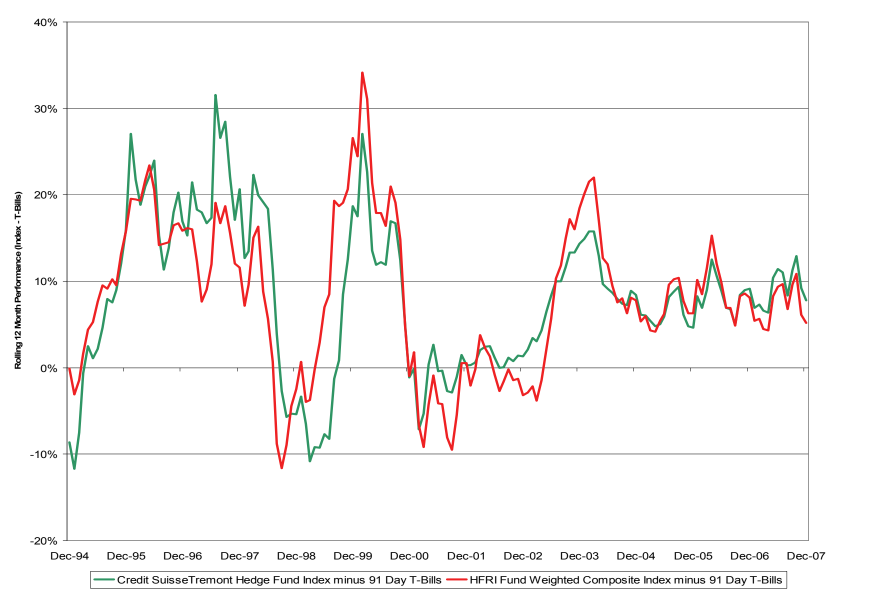
The initial assumptions essentially relate to a functional capital market. We will evaluate those in the next section when discussing 2008. In evaluating the latter, however, were we naïve to believe that hedge funds could out-perform cash consistently and provide alpha?

To assess this, we reviewed "net of cash" hedge fund performance from 1994 through the end of 2007. While results were negative during a few intervals, over most time periods, the rolling 12-month performance of hedge funds less cash was positive (see Exhibit 13). Therefore, it was reasonable to hypothesize that hedge funds could, generally, outperform cash.

Over longer time-periods, the rolling 36-month performance of hedge funds suggested that there was a very high probability of out-performing cash over a three-year period. (see Exhibit 14).

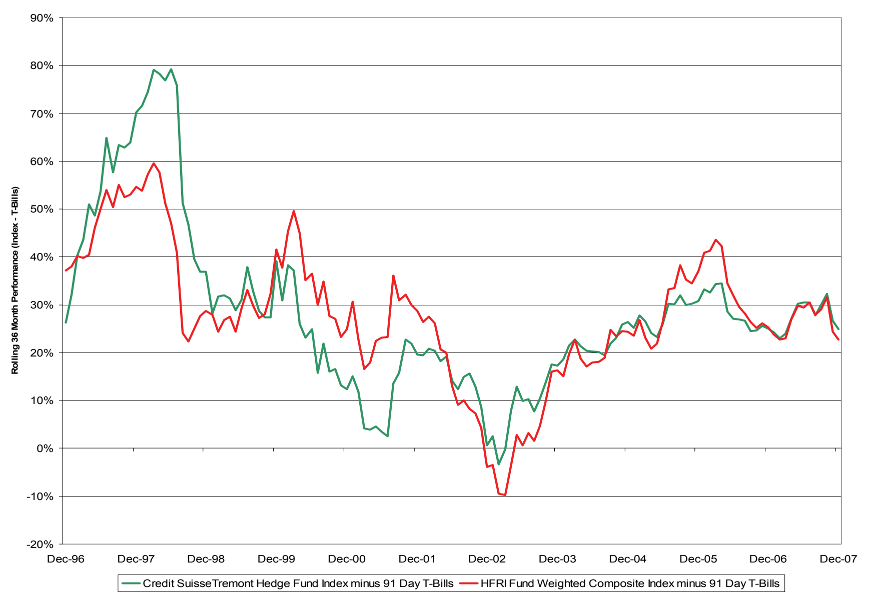
Then 2008 came along and with the lock up of the credit markets and essentially all risk-bearing asset classes losing money, the concept of portable alpha crashed hard. With the fall, the chorus of "past performance is not indicative of future results" was heard by those employing portable alpha strategies.

Exhibit 13: Rolling 12 Month Performance (Index – T-Bills) through 12/31/2007



Source: NEPC Research

Exhibit 14: Rolling 36 Month Performance (Index – T-Bills) through 12/31/2007



Source: NEPC Research

b) 2008 Challenges

During 2008, virtually none of the assumptions that had made the concept of portable alpha attractive prevailed. We review them one by one.

<u>*Assumption 1: Investment managers can generate alpha over time (outperform cash or the cost of portable alpha)*</u>. The alpha engine for most portable alpha programs is a portfolio of hedge funds or a hedge fund of funds. The issues and challenges regarding these strategies have been detailed earlier in this paper. Suffice it to say most hedge fund portfolios used in portable alpha programs generated returns of -16% to -20% over the 12 month period ending December 31, 2008. Clearly during this period, the alpha engine stalled.

<u>*Assumption 2: The Beta foundation for portable alpha programs can be obtained cheaply and reliably in functional capital markets.*</u> While the fundamental assumption may remain true, the 2008 capital markets were staggeringly dysfunctional, as much so as during any period in modern history. Following the demise of Bear Stearns, Lehman Brothers, and Merrill Lynch and the ensuing fears of demise regarding Morgan Stanley and Goldman Sachs (with the cost of credit default swaps on those providers skyrocketing), there was great consternation in the derivatives markets. Deleveraging occurred with breathtaking speed, counter-parties often cancelled swaps or began requiring exorbitant levels of collateral. Derivatives could not be traded reliably. Beta could not be obtained cheaply or easily. Therefore, even for those few programs that generated positive alpha it was difficult to transport. Thus, the capital market conditions necessary for assumption 2 to hold were not present.

<u>*Assumption 3: Portable alpha plan structuring is sound*</u>. To obtain beta through swaps, portable alpha practitioners often pledged shares as collateral in their alpha engine investments. Most portable alpha engines are structured to obtain an almost 1:1 ratio of beta and alpha engine. This maximizes the magnitude of potential alpha which can be transported on to a beta. Thus, to obtain $100 of notional value in a Beta (e.g., an S&P 500 swap), managers would deposit $3 cash to the swap provider for margin, invest $97 in alpha engine managers and pledge that $97 in alpha engine managers as collateral. In addition to the problems enumerated above, when the notional value of the beta deteriorated as rapidly as it did in 2008 (especially in October for the S&P 500), swap providers made margin calls on investors to provide for a maintenance margin. This forced investors either to (a) sell part of their alpha engine to meet the margin call or (b) generate cash from elsewhere in their portfolio. Unfortunately, with the lock up in the credit markets it was not easy to do either. Most investors lacked liquidity and cash throughout the year. And many managers in alpha engines (hedge funds) limited withdrawal rights making it almost impossible to obtain cash from the alpha engine to meet margin calls. Hence, the assumption of structuring a portable alpha program to obtain $1 of notional exposure to a beta for $1 of value to an alpha engine failed.

c) The Future

Given what happened in 2008, is the concept of portable alpha irretrievably dead or temporarily wounded? We believe it is wounded. Over time, we believe all three key assumptions will generally hold, even though the challenges of the current environment may persist in the near-term.

Assumption 1: Investment managers can generate alpha over time (outperform cash or the cost of portable alpha). Over longer periods of time, it is our contention that investment managers, including hedge funds, can outperform cash. Earlier, we discussed why we think our assumptions about return drivers for hedge funds will hold. In the short-term, however, many problems still exist and remain to be worked through. The key question is whether institutional investors will have the patience to stick with alpha engines long enough to over-come existing (largely unrealized) losses for the potential of future out-performance. The most recent 12 or 18 month period has been agonizing for investors. Many will seek to end the pain. Yet it is our belief that in time a functional capital market will reward those who deploy prudent amounts of risk-capital.

Assumption 2: Beta can be obtained cheaply and reliably through a functional capital market. Many swap providers have exited the business. Counter-party mistrust remains at excessive levels. We believe that well-functioning capital markets will return and that an organized clearing-house will be established for swap transactions. When and where remain to be seen, but regulatory and market pressures suggest it will be near term. Significant demand exists for this service and at some point a functional capital market will provide it. Longer-term, we believe Assumption 2 to be valid. In the short term, however, questions remain.

Assumption 3: Portable alpha plan structuring is sound. It is our contention that a 1:1 match of notional beta exposure to alpha engine exposure is unlikely to persist. Many practitioners may be required to either (a) provide additional cash collateral or (b) obtain significantly less than 100% beta exposure. This means that the size of any potential alpha generated will be smaller relative to the beta upon which it is ported. Additionally, this may mean that making up unrealized losses to-date will take longer than would otherwise be possible through a 1:1 match. Therefore, it is likely that some institutional investors and commingled portable alpha products will exit the marketplace.

Nevertheless, we believe portable alpha is a valid concept. Going forward, the implementation will continue to remain challenging but should provide investors who possess a longer-term outlook a higher probability of success in obtaining out-performance in relatively efficient asset classes than hiring traditional long-only managers (see Exhibit 15).

Exhibit 15 – Portable Alpha Summary

Portable Alpha Scorecard

	Pre-2008	2008	Going Forward
Generate Positive Alpha	+	-	+
Obtain Beta	+	-	+
Porting Ability			
Swap / Porting Providers	+	-	+
Appropriate Structuring	+	-	O

Source: NEPC Research

6) Conclusion—Lessons (Re-) Learned

2008 has been described as an *Annus Horribilis* (a horrible year) for all investors. Certainly practitioners and investors in hedge funds, hedge funds of funds, and portable alpha will echo that sentiment.

In 2008, we relearned that hedge funds do not always produce positive returns and that liquidity can dry up when it is most needed. Furthermore, while we believe the concept of portable alpha investing remains sound, the execution of the concept is continuously evolving. Assumptions regarding the soundness and functioning of the capital markets, especially about cheaply obtained beta and the ability to transport returns through swaps and derivatives, have come into question. While in time we believe a functioning capital market will provide these services, in the short term, we are cognizant of the challenges posed by the market place.

Hedge funds and hedge funds of funds have provided positive performance relative to stocks through one of the worst equity market declines in history. On a longer-term basis, these strategies, including portable alpha, have added value in both absolute and risk-adjusted terms. The market actions of the first part of 2009 have provided further evidence of the value of these strategies in diversified investment programs, as the hedge fund averages have now provided historic levels of outperformance relative to stocks since the market break in September, 2008.

While wounded, we do not believe hedge funds, hedge funds of funds and portable alpha strategies are dead. In a functioning capital market, our assumptions about the drivers of performance and the implementation of these strategies hold. In addition, going forward we believe investors in hedge funds who can accept appropriate lock-ups will benefit from improved fees, terms, and transparency. While many obstacles remain in the short-term before these strategies will function again, in the longer-term, we are confident that they have a useful place in institutional investment programs.

We appreciate the opportunity to work with our clients in navigating the evolving challenges posed by these shifting investment paradigms. The past year has been dramatic and we expect more drama in the near term. Through it all, we seek to partner with our clients to find ways to achieve their investment objectives. For inquiries or additional discussion, please contact our Research Team or your Consulting Team.