

# Disciplined Approach to Broad Hedge Fund Allocations

Since the burst of the Internet bubble, hedge funds have become in vogue. That's no surprise since they promise absolute returns which do not depend on the direction of equity and fixed income. Academic studies show that hedge funds provided very high risk-adjusted returns

compared to other asset classes (as shown in figure 1). For portfolio construction, what is even more important is that they also provide significant diversification benefits since their return correlation to standard asset classes is low (chart 2).



**By Michael C. Ho, PhD**  
Chief Investment Officer  
Marcuard Family Office, Zurich

Desire for diversification and high risk-adjusted returns would normally make investors favor hedge funds. If the HFR Fund of Funds Index is a reasonable proxy for future return/risk prospects, then hedge funds as a whole would deserve large allocations within a balanced portfolio. Figure 3 shows the optimal hedge fund allocations in red for a given portfolio proportion of equity and fixed income. Introducing hedge funds into the picture distorts the optimal portfolio significantly. Even a very risk-averse investor, with a normal allocation of 20/80 in equity/bonds would allocate a large amount of about 36% to hedge funds! Obviously, this theoretical exercise does not match normal, real world practice.

From our experience, a typical high networth client's or family office's allocation to hedge funds is between

10 and 30%, leaving the bulk of assets in equities and fixed income. Why the discrepancy? In our opinion, it is because hedge funds suffer from risks that are difficult to quantify. The autumn of 1998 and LTCM come to mind when we conjure up disastrous illiquidity shocks. When this happens, managers are forced to sell good positions while holding radioactive ones. If we assume hedge funds can suffer an event risk with 0.5% chance of total loss in any given year, then the optimal hedge fund allocations would become much smaller and more in line with real world allocations (blue in figure 3).

## Our approach to hedge funds

Treating hedge funds as a broad asset class does not achieve portfolio efficiency. Each hedge fund style has its own risk characteristics that should be managed separately in a broad portfolio context. From our point of view, we have broken up hedge fund styles into categories which can be funded from traditional asset class buckets. This is shown in the table below.

We fund equity hedge and equity market neutral from equities because these two hedge fund styles have risk exposures that are closely related to the equity market. A typical equity hedge manager has roughly 20 to 30% net long exposure to the market and may buy fast growing small caps with cheap stock valuation and short liquid large caps as a hedge. So returns are

generated from picking stocks and exposures to the broad market, value/growth and small/large styles. Equity market neutral is similar except the net market exposure is closer to neutral.

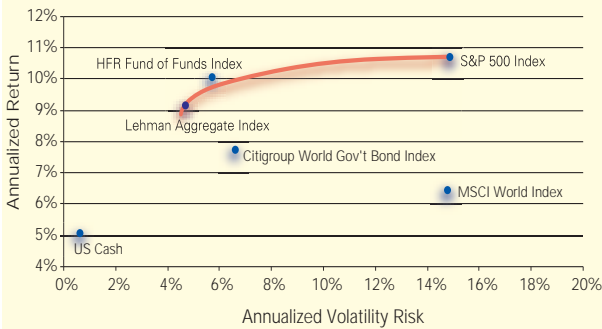
Other than having more flexibility to short stocks, equity hedge managers are not unlike long-only equity managers. Of course, shorting can free up managers to create better returns on a risk-adjusted basis. Nonetheless, the sources of risks taken are not far from those of long-only equity managers. Hence, it makes sense to allocate to these styles from the traditional equity bucket.

A similar argument can be made for funding arbitrage strategies from the fixed-income bucket. Long-only bond managers take active positions in duration, credit, mortgage and other spreads to generate returns from security selection. However, the majority of them stay close to their benchmarks. So returns from long-only managers are roughly in line with their benchmarks. Fixed income arbitrage managers act in a similar way except that they typically hedge away the underlying long-only benchmark exposure and use gearing to expand spread returns to make it more attractive.

Viewed from a long horizon, cash has uncertainty that comes from changing reinvestment yields. So the actual long-run returns are difficult to pin down. Nevertheless, it is a vehicle that provides capital preservation. As such,

Traditional Asset Classes	Potential Hedge Fund Alternatives
Equity	Equity hedge, equity market neutral
Fixed income	Assorted arbitrage strategies, diversified multi-strategy
Cash	Low volatility multi-strategy
Opportunistic	Managed futures, macro/market timing, distressed etc.

**Chart 1: Annualized Return vs. Volatility**  
January 1990 to May 2004



Annualized return and volatility trade-off

cash allocations should normally not be in active strategies. However, today's real cash yields are negative in many countries. So we decided to allocate a small portion to broadly diversified multi-strategy funds with very low volatility to enhance real cash returns.

We also created an opportunistic category to introduce strategies that can provide excellent risk-adjusted returns which do not readily fall under other categories. These strategies tend to be driven by manager skills in macro trading and can potentially involve more liquidity risk. As the risk level is higher, we fund this category from traditional equity.

**Risk control**

Understanding the sources of risk in each hedge fund style enables us to use them creatively. The key to this understanding is that the sources of risk for equity and fixed-income hedge fund managers are similar to long-only managers. But the magnitude for risks taken in each category is quite different. The most obvious is that hedge

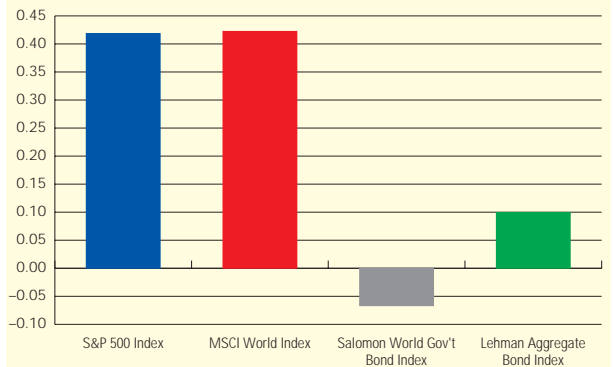
ten trade in small cap stocks which may have stale prices if no transaction occurs at month-end, estimated market exposure from historical fund returns may be biased. Therefore we include up to two months of lagged returns to get a better measurement of market exposure. The average world equity market exposure for equity hedge increases from 25 to 35% by doing so. Most of this 10% rise comes from more S&P 500 exposure. This makes sense because the majority of equity hedge funds focuses on the U.S. market. The larger market exposure would materially impact the optimal allocation in a balanced portfolio since the diversification benefits decline.

Assuming that the S&P 500 has 15% annual volatility, EAFE has 17% and the correlation between the two is 0.5, further analysis shows that the median equity hedge manager has about 6.5% market volatility and 12% stock selection volatility. Hence, equity hedge differs from long-only equity in that average market exposure does not dominate fund risk. In fact, equity hedge managers have wide ranging average mar-

ket exposures and selection risks. Some of them are also very dynamic in managing their market exposures and their style shifts in value/growth and small/large stocks. This means that we need to monitor and understand their risk exposures much closer vis-à-vis typical long-only equity managers.

Parallel analysis can also be done for fixed-income hedge fund managers by measuring their exposures to duration, mortgage/agency spreads, credit spreads etc. Liquidity, exchange rate risk and security selection volatility should also be monitored. These three are important drivers of risk and return for a portfolio. Liquidity in particular is important. We monitor liquidity on two levels: cash balance and portfolio liquidity of securities underlying the invested hedge funds. Obviously, cash

**Chart 2: Return Correlation With HFR Index**  
January 1990 to May 2004



Correlation traditional asset classes / hedge funds

balance and portfolio liquidity of hedge funds are important to cover redemptions when distress occurs. They are a gauge of drawdown risk for our hedge fund investments in situations like the LTCM crisis in 1998.

**Conclusion**

We believe that hedge funds are an important addition to an investment portfolio. At Marcuard Family Office, we do extensive analysis to understand the risks and rewards involved from investing in hedge funds. Breaking up hedge funds into different categories helps us increase the efficiency of our clients' portfolios. Though not shown here, this flexibility has resulted in remarkable risk-adjusted returns for our clients since inception. ■

**Chart 3: Optimal Hedge Fund Allocation**  
January 1990 to May 2004

