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Alternatives at the Zero Bound

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Once the nominal interest rate is at zero, no further downward adjustment in the rate can occur, since lenders generally will not accept a negative nominal interest rate when it is possible instead to hold cash. At this point, the nominal interest rate is said to have hit the "zero bound." – Ben Bernanke, "Deflation: Making Sure 'It' Doesn't Happen Here", November 2002

Interest rates at the zero bound present investors with a conundrum. On the one hand, historical fears of inflation and the resultant surge in yields bolster concerns about asset allocations that are heavily weighted to bonds. On the other hand, record-breaking levels of sovereign debt trading well into negative yield territory challenge earlier investment assumptions about interest rates. An allocation to alternative investments, specifically in the form of a multi-strategy hedge fund, has the potential to reduce correlation to an overall portfolio of bonds and equities and thereby mitigating the risk of a substantial drawdown during a low rate environment that coincides with rising volatility.

It used to be so simple: lenders were rewarded for the risks associated with making loans. But who would have seriously envisioned an environment where lenders would "accept a negative nominal interest rate?" Certainly not Former Federal Reserve Chairman Bernanke. However, investors have now borne witness to the surprising fact that there is no "bound" when it comes to interest rates. One need only observe Switzerland, with negative yields dating out to 10 year maturities, to find that the answer is not so simple, nor one-sided. A recent J.P. Morgan report reveals that 16% of the outstanding debt in its global government bond index traded with a negative yield in January 2015[1].

Uncertainty, as measured by increasing volatility in the bond and equity markets, has risen appreciably because investors are

[1] *"Flows and Liquidity: Who Buys Bonds with Negative Yields?"* J.P. Morgan, January 30, 2015.

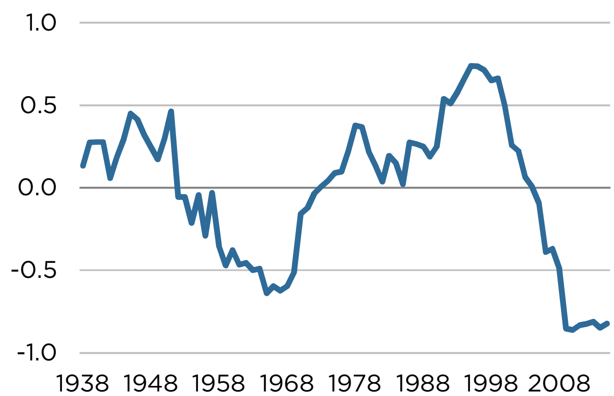
struggling to address changes in the upcoming interest rate regime, especially as rates actually break *through* the supposed zero bound. Investors are caught in a conundrum, confronted by the potential for a noticeably distorted risk-return profile in the coming years. Until recently, investors, strategists and economists alike persistently forecasted higher rates. But the recent move through the zero bound creates a new fear. What if the zero bound becomes home for rates far longer than most expect? Looking at the historical downtrend of rates (**Exhibit 1**), combined with the recent shock of negative yields in countries around the globe, perhaps this is the new normal.

Exhibit 1: US 30 Year Treasury Bond Yields[2]

Low to zero interest rates can create a serious dilemma for any asset allocation. For the past decade, bond returns served as an ideal foil to equity volatility, helping to offset the latter's material drawdowns. The historical relation between bonds and equities illustrates that bonds have successfully fulfilled that role since the Financial Crisis (**Exhibit 2**).

Looking forward, however, with rates at the zero bound, there is a risk of a reversal to that negative correlation, where bond yields are less likely to generate the same historically attractive returns for investors. And when bonds can no longer generate competitive returns as a low risk or risk-free asset, investors will be forced to hunt for a comparable, bond-like alternative in a portfolio. What are the implications of effectively losing the upside of an entire asset class?

Exhibit 2: Equity vs. Bond Market Historical Return Correlation[3]



Diversification: Alternatives Enter the Equation

Generally speaking, investors have historically turned to a mix of bonds and equities to manage the rigors of bull and bear markets accompanying changing economic environments. The risk of a significant drawdown and the impairment of compounded returns could theoretically be mitigated by the simple act of diversification.

As we discussed in an earlier note[4], portfolio diversification can be measured in a number of ways, in number of different forms. Unfortunately, given the uncertainties facing both bonds and equities at the zero bound, effective portfolio diversification may be more difficult to achieve today than in years past. Some financial advisers might suggest the addition of private equity, real estate or commodities to the equation. However, while

[2] Bloomberg.

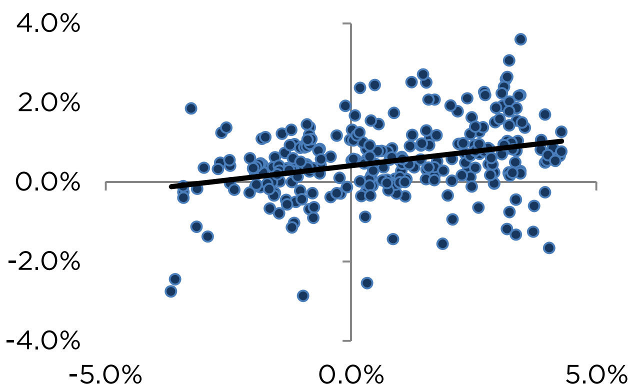
[3] Federal Reserve of St. Louis.

[4] *"Investing at the Zero Bound: A Role for Alpha in a Balanced Risk Portfolio,"* Weiss Multi-Strategy Advisers LLC, January 2015.

the low correlation of such alternative investments to an overall portfolio may be indisputable, concerns about illiquidity and roll-risk diminish their appeal in an overall allocation, especially if more attractive capital opportunities should suddenly become available elsewhere. A more liquid option within the alternative investment universe, however, could present a more attractive addition to an asset allocation strategy composed of equities and bonds – a hedged fund.

Hedge funds generally eschew beta (systematic risk) in favor of alpha (risk-adjusted performance). They have historically been less correlated to other asset classes. But unlike bond funds, our data reveals that monthly hedge fund returns generally outperform along with rising rates earned on a cash proxy, such as the London Interbank Offered Rate (**Exhibit 3**). This is because hedge funds generally invest in both long *and* short assets to guard against financial loss and capital impairment during turbulent markets. And although that may come at a cost during bull markets, the potential for reduction in risk and the corresponding increase in Sharpe ratio may outweigh any potential underperformance.

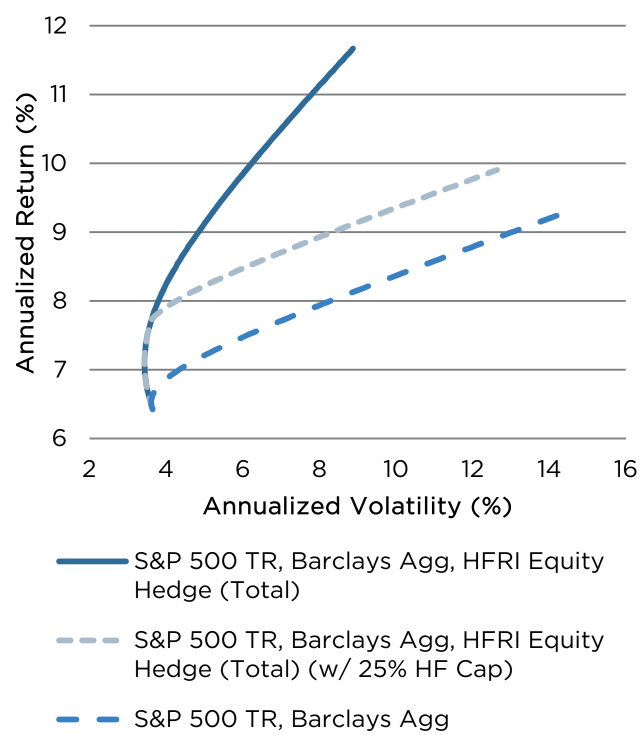
Exhibit 3: HFRI Equity Market Neutral Monthly Returns vs. Inflation-Adjusted LIBOR Scatter Plot[5]



[5] Bloomberg, HFRI.

The right hedge fund could provide investors with greater liquidity, more stable returns and a lower volatility profile than other alternative investments. When considering whether bonds will continue to deliver attractive, risk-free returns at the zero bound, a hedge fund could further diversify a portfolio while offsetting the risk of "losing" an entire asset class. Below, the efficient frontier suggests how a hedge fund allocation has the potential to improve the risk/return profile of a traditional portfolio consisting of only equities and fixed income (**Exhibit 4**). Modern portfolio theory teaches that diversification works[6]. When hedge funds are included, diversification has the potential to work even better.

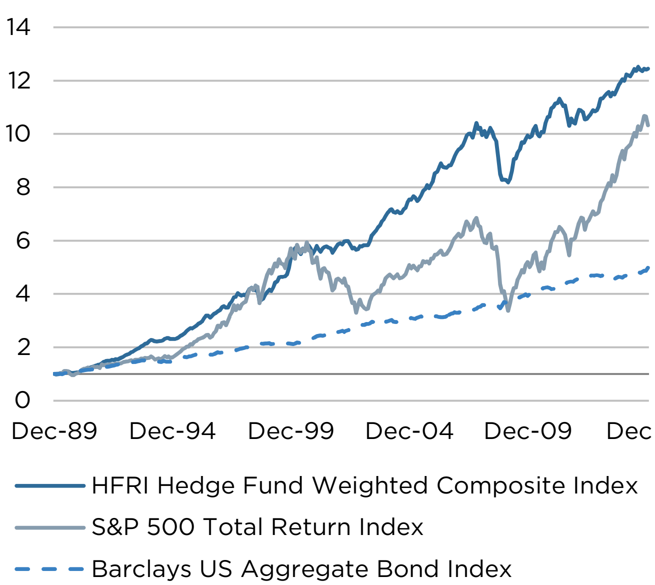
Exhibit 4: Efficient Frontiers: The Benefits of Adding Hedge Funds to Traditional Assets (Feb 1990 - Jan 2015)[7]



[6] Harry Markowitz, "Portfolio Selection," *The Journal of Finance* 7 (March 1952): 77-91.
[7] Weiss Multi-Strategy Advisers LLC, Barclays, Bloomberg, HFRI.

If one compares the performance of the HFRI Fund Weighted Composite Index to the S&P 500 total return index over the past 25 years, hedge funds as a class outperformed the benchmark by an average of almost 100 basis points annually at significantly lower realized levels of risk, as measured by the standard deviation of monthly returns (**Exhibit 5**). Moreover, while the stock market rallied to all-time highs after the Financial Crisis, the risk-adjusted performance of hedge funds consistently outperformed US equities, global equities and global bonds. The data clearly implies that drawdown protection, not occasional market outperformance, is what really drives consistent, attractive portfolio returns. The stock market rally of recent years may not last forever.

Exhibit 5: Asset Class Historical Performance (Dec 1990 – Jan 2015)[8]



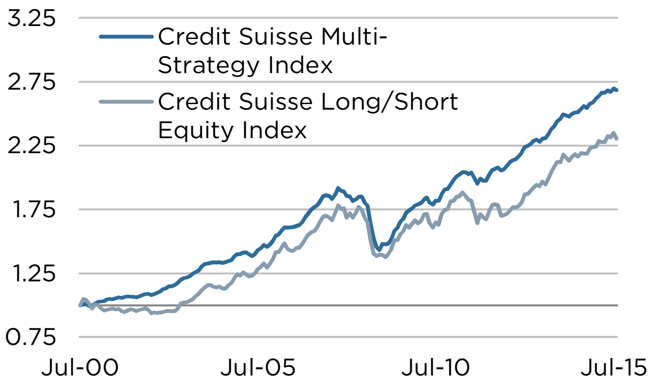
	Ann. Return	Ann. Volatility
HFRI Hedge Fund Weighted Composite Index	10.6%	6.8%
S&P 500 Index	9.8%	14.7%
Barclays US Aggregate Bond Index	6.6%	3.6%

Maximizing Diversification with Multi-Strategies

A *multi-strategy* hedge fund, in particular, could extend these benefits even further. As a result of the various underlying strategies that pursue returns in multiple asset classes with a wide range of financial instruments, a multi-strategy hedge fund could offer a more diverse source of alpha and may withstand adverse market conditions more robustly. In essence, multi-strategy hedge funds can express lower systemic exposure to the broader financial markets, potentially resulting in lower correlation to an overall portfolio allocation. In fact, an analysis of multi-strategy hedge funds' performance, as compared to a broader index of long/short hedge funds, reveals that the former generated comparable returns over the past 10 years with significantly lower volatility (**Exhibit 6**).

[8] Barclays, Bloomberg, HFRI.

Exhibit 6: Hedge Fund Historical Performance (Dec 1999 – Jan 2015)[9]



	Ann. Returns	Ann. Volatility	Sharpe Ratio
Credit Suisse Multi-Strategy	6.8%	5.0%	1.37
Credit Suisse Long/Short Equity	5.9%	7.3%	0.81

Acknowledging the benefits of an investment in a diverse basket of hedge fund strategies, some investors may seek to replicate an investment in a multi-strategy fund by deploying capital to a basket of individual single strategy hedge funds. But even if investors are willing to accept the onus of synthetically running a "multi-strategy" on their own, they may be unable to duplicate some of the more important benefits of a single allocation to a multi-strategy investment manager.

When striving for an optimal balance among diversification, correlation and performance, competent investment managers must be identified and vetted, each individual fund's exposure to systemic and idiosyncratic risk must be continually monitored, and the allocations to the individual funds must be constantly evaluated and rebalanced in order to ensure diversification and prevent correlation to other funds.

Investors should not underestimate the resources needed for manager selection. There is no denying the number of talented hedge fund managers available to investors today. However, absent a dedicated research team, investors may find that selecting one is hard enough, let alone a basket. Furthermore, talented portfolio managers tend to be attracted to multi-strategy hedge funds, as compared to starting their own fund, owing to the draw of minimized operational and administrative headaches, and the benefits of a collaborative environment and centralized risk management. A multi-strategy platform allows portfolio managers to focus exclusively on being portfolio managers.

When attempting to rebalance the portfolio, the mismatched redemption profiles of a basket of individual hedge funds may prohibit the rapid deployment of capital when opportunities shift across sectors, regions and assets, impacting risk/returns ratios. A multi-strategy fund has the ability to swiftly reallocate capital among its underlying strategies, a critical capability in a volatile zero bound world.

Beware Netting Risk at the Zero Bound!

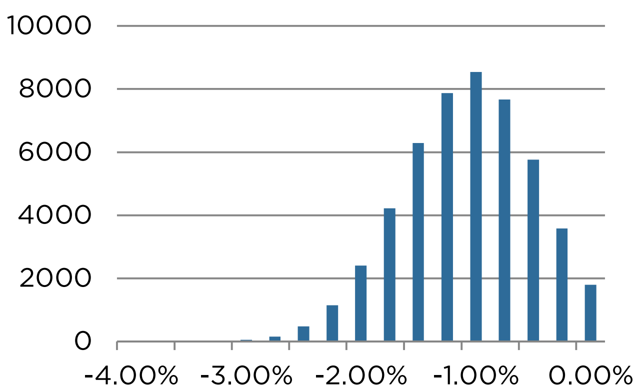
One more risk worth noting, although often less well understood, is the risk owing to the netting of performance fees, or "netting risk". When allocating to a basket of single strategy hedge funds, the investor is responsible for paying a performance fee to each investment manager that generates positive performance, even if the overall performance of the investment managers collectively is negative as a result of another manager's (or managers') drawdown. This leads to performance degradation, or the scenario whereby performance fees are being paid on an overall portfolio that has generated no, or even negative, returns. Conversely, with a multi-strategy fund,

[9] Credit Suisse.

performance fees are only charged when the *sum* of the fund's strategies is positive; the obligation lies with the multi-strategy fund's management company, not the investor, to reward individual portfolio managers for their positive performance within the multi-strategy fund.

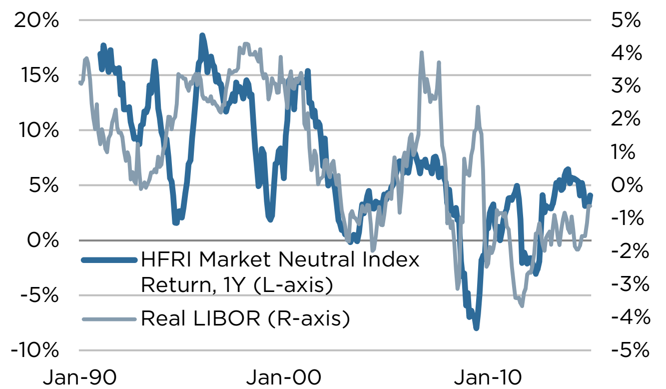
A Monte Carlo simulation can quantify the potential performance drag suffered by an allocation to multiple hedge funds as compared to a single allocation to a multi-strategy fund. The calculation assumes an annual net return of 10%, similar to the average annual return of HFRI's fund weighted composite index over the past 25 years. Both allocations are composed of 10 uncorrelated investment strategies, all with a 25% annualized volatility and a 2-and-20% fee structure. The simulation suggests that a multi-manager program of single-strategy investments needs to earn an additional 120 bps of net performance on average across each strategy per year to compensate for the netting effect (**Exhibit 7**). The distribution has a 56 bps standard deviation, so the total drag can be much larger, as illustrated by the magnitude of the left tail below.

Exhibit 7: Netting Risk Impact on Annual Hedge Fund Returns[10]



As a result of record low interest rates, equity market correlations remain at high levels and stock dispersion is extraordinarily low. In these environments, our data suggests that hedge fund returns tend to be muted, increasing the likelihood that an individual fund manager may have a lackluster year (**Exhibit 8**). Thus, in today's world, the performance sacrificed by an investor that bears the netting risk should be an important consideration.

Exhibit 8: HFRI Equity Market Neutral Rolling Performance vs. Inflation-Adjusted LIBOR[11]



	High Real Rates	Low Real Rates
Average Annualized Returns	8.9%	3.2%
Average Annualized Volatility	3.1%	2.9%

Hedge fund returns should provide reasonable returns while guarding against material capital drawdowns. In other words, a hedge fund should not be treated as a proxy for long equity or long bond exposure, but instead viewed as a complement to them. As mentioned earlier, hedge funds may increase the diversification of an overall portfolio, can have low volatility and can provide measurable protection against the drawdowns that equities and bonds occasionally experience. While it may be informative to compare bond, equity and

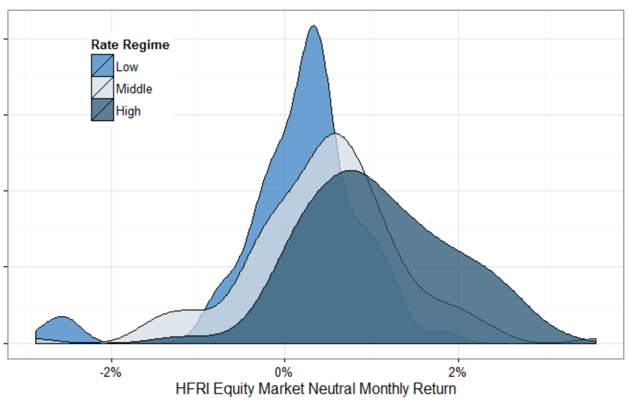
[10] Weiss Multi-Strategy Advisers LLC.

[11] Bloomberg, HFRI.

hedge fund indices, doing so presents them as mutually-exclusive assets.

Unfortunately, low targeted returns as a result of low interest rates are not the only deleterious effect impacting netting risk on a fund of hedge funds. Low interest rates also increase the volatility of individual hedge fund manager returns. Our data reveals that low interest rate regimes observe a greater incidence of lower returns accompanied by significantly higher negative tail risk (Exhibit 9).

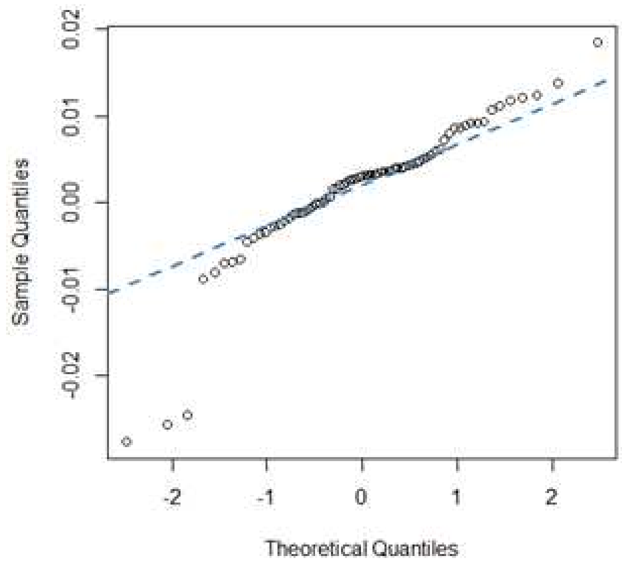
Exhibit 9: Hedge Fund Monthly Performance in Different Rate Regimes[12]



Additionally, along with the increased likelihood of meager returns, there exist notable risks of outsized negative returns[13] (Exhibit 10). All told, it boils down to a fact that should not be ignored: *netting risk in a low rate world can be a silent killer of portfolio returns*.

[12] Weiss Multi-Strategy Advisers LLC, HFRI.
[13] A Q-Q plot is a visual tool comparing two distributions. The dots on the bottom left of the chart (that deviate materially from the dashed red line) illustrate that the HFRI Equity Market Neutral Index has realized negative monthly returns that have materially exceeded those expected by a normal distribution.

Exhibit 10: Q-Q Plot of Hedge Fund Monthly Performance in Different Rate Regimes: Fat Tails and Negative Skew[14]



The Alternative Quest for Yield

Ultimately, the question boils down to how an investor should best construct a portfolio with the potential to consistently provide attractive returns while aggressively defending against the risk of a drawdown during these increasingly volatile times. Because interest rates continue to inch ever nearer to the zero bound, the quest for yield has become increasingly important to those investors heavily reliant on a regular income. But as several nations' sovereign debt enters negative yield territory, and given the significant swings in foreign exchange rates, surging bond volatility, above average stock correlation and record low stock price dispersion, investors may be required to make one-way momentum bets on equity beta exposure in order to generate favorable returns. In this environment, will bonds continue to deliver returns that have historically cushioned portfolio allocations during the past decades? If not, will the weak

[14] Weiss Multi-Strategy Advisers LLC, Bloomberg, HFRI.

state of the global economy and heavy debt burdens invite inflation, and with it highlight the substantial convexity risk of ultra-low rates? Suffice it to say, investing at the zero bound poses its own unique set of issues.

As usual, however, the solution may lie in diversification, but not just any diversification. An alternative investment, specifically in the form of a multi-strategy hedge fund, may represent the best source of non-correlated alpha for implementation in an asset allocation strategy. In an environment overshadowed by interest rates that continue to hug the zero bound, intrusive central banks and rising volatility stoking investor fears, prudent portfolio diversification demands a highly non-correlated asset that can more effectively hedge against any unforeseen economic obstacles. Consequently, the inclusion of a multi-strategy hedge fund to a multi-asset portfolio affords the investor the potential to more comfortably maintain long exposures to both bonds and equities while dutifully minimizing the likelihood of substantial drawdowns. And, with a secular turning point likely upon us, the opportunity for alternative investments to outshine other asset classes may well be upon us too.

Weiss Multi-Strategy Advisers LLC offers non-traditional investment solutions. Please feel free to reach out for additional information.

AUTHORS
Charles S Crow IV
ccrow@gweiss.com

Edward Olanow
eolanow@gweiss.com

NEW YORK OFFICE
320 Park Avenue, 20th Floor
New York, NY 10022

HARTFORD OFFICE
One State Street, 20th Floor
Hartford, CT 06103

INQUIRIES
Gillian Tullman
Director of Investor Relations
gillian.tullman@gweiss.com
+1 212 390-3451

WEBSITE
http://gweiss.com