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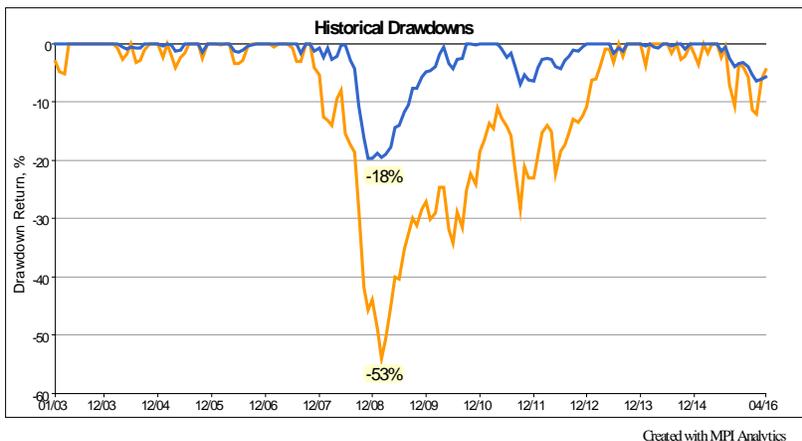
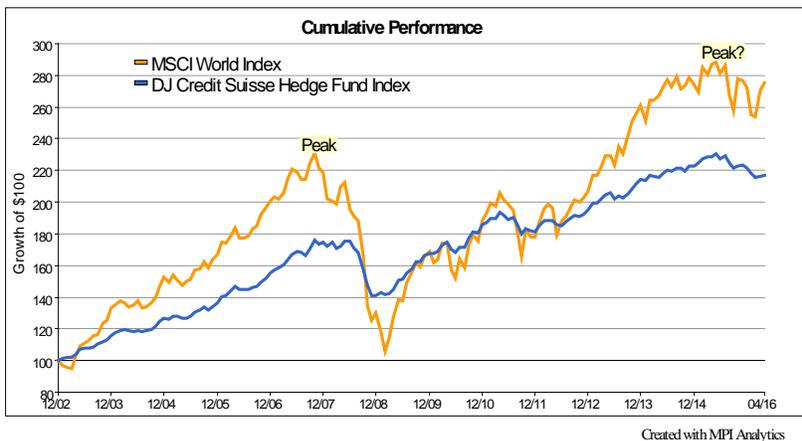
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Hexit: Is Now the Time to Pull Out of Hedge Funds?

Institutional investors are susceptible to unfairly evaluating hedge funds against equity benchmarks during an extended bull run. Instead, they should be asking whether their hedge fund investments are fulfilling their intended mandate.

“Are we at the market peak?”

After [CalPERS became the first large investor to pull out of hedge funds](#) in late 2014, AIG and MetLife Inc. followed suit this year by announcing their exits from hedge fund investmentsⁱ. With hedge funds seemingly falling out of favor with large institutional investors, MPI asks the necessary question, “Is now the right time to pull out of hedge funds?”



Critics of hedge funds have blasted their high fees and mediocre performance against equity benchmarks. In the post-crisis, anti-Wall Street climate, this debate has generated more heat than light. To put performance under the microscope, we plot the cumulative performance of the asset-weighted DJ Credit Suisse Hedge Fund indexⁱⁱ, net of fees, against the MSCI World Index, a broad equity benchmark, both in USD terms. The sample period we consider begins with a broad market rally in January 2003 and ends in April 2016.

Looking at the charts, it is clear that global equities outperformed hedge funds during the 61-month bull market run starting 2003ⁱⁱⁱ. However, equities then suffered a -53% loss during the bear market caused by the financial crisis in '07 and '08. Over the same period, hedge funds did better in

preserving investor capital with a much lower drawdown of -18%^{iv}.

“Hedge funds aim at capital preservation, volatility reduction, improving diversification within a portfolio and typically deliver superior long-term risk-adjusted returns.”

Fast forward to the present. The current bull market, starting March 2009, is already more than 70 months old^v. During this period, equity markets rebounded with gains of more than 170%, leaving hedge funds trailing. But if history is any guide and if the cycles of bull and bear markets are immutable, does it make sense for institutional investors to exit hedge funds during another equity market peak?

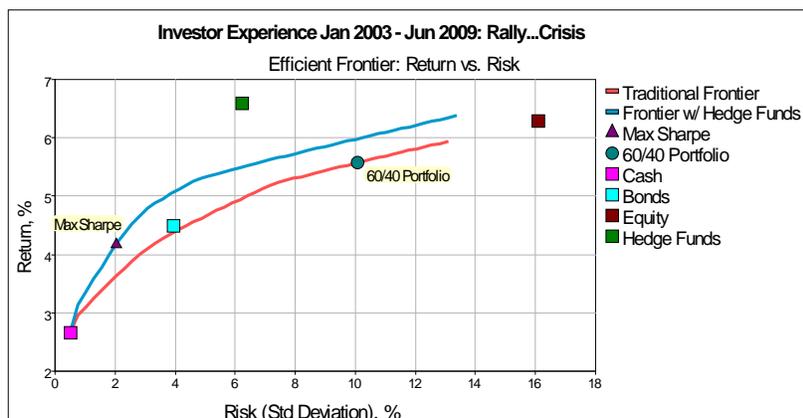
Improving Portfolio Efficiency

Hedge funds are not designed - and should not be expected - to outperform equity markets during protracted equity market rallies. Despite the focus on performance alone by many in the industry, hedge funds aim at capital preservation, volatility reduction, improving diversification within a portfolio and typically deliver superior long-term risk-adjusted returns^{vi}. But are hedge funds still doing *these* jobs? Using MPI’s asset allocation tool, we attempt to assess the benefits of including hedge funds in a broad portfolio of stocks, bonds and cash. The proxies for stocks and hedge funds are the same as above, and the proxy for bonds is the Barclays U.S. Aggregate Bond Index; for cash, we use the Merrill Lynch 3-month T-Bill index. For investment constraints, we assume long-only positions with maximum allocations for bonds, stocks and hedge funds of 60%, 80% and 25%, respectively. We have also included a 60/40 equity/bond portfolio blend as a further reference point, as well as mapping the point with the highest Sharpe Ratio.

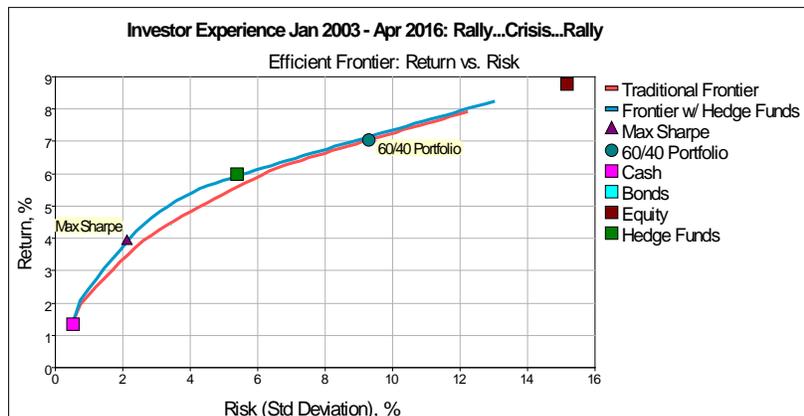
For comparison, we create our ex-post optimal asset allocations based on three different historical equity market experiences. The first period starts in January 2003 and ends in June 2009, corresponding to the equity market rally ending with the 2008 crisis

and the subsequent immediate rebound. The second period includes the full period between January 2003 and April 2016, including the full post-crisis rally in equities. The third includes only the recent bull market from July 2009 through April 2016.

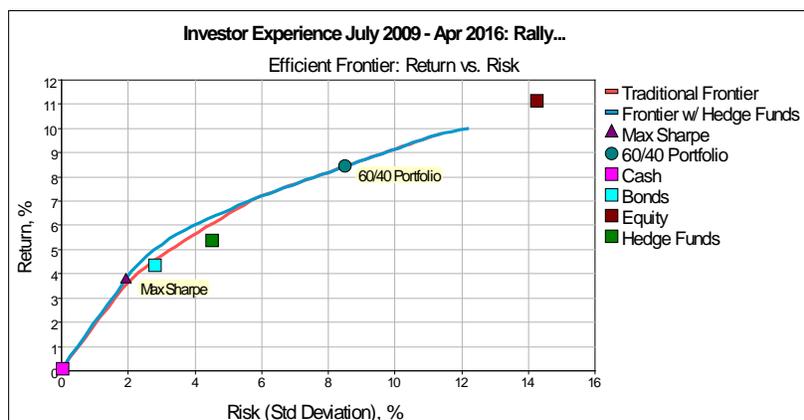
We present results of our analysis in three Risk/Return frontier diagrams corresponding to the periods above:



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“As soon as you take a period of significant market turbulence into consideration, a significant hedge fund allocation becomes worthwhile.”

the blue line represents an efficient frontier^{vii} where allocations to hedge funds are allowed (and capped at 25%), while the red line is for the traditional portfolio with allocations only to cash, bond and equity (chart axes represent annualized values).

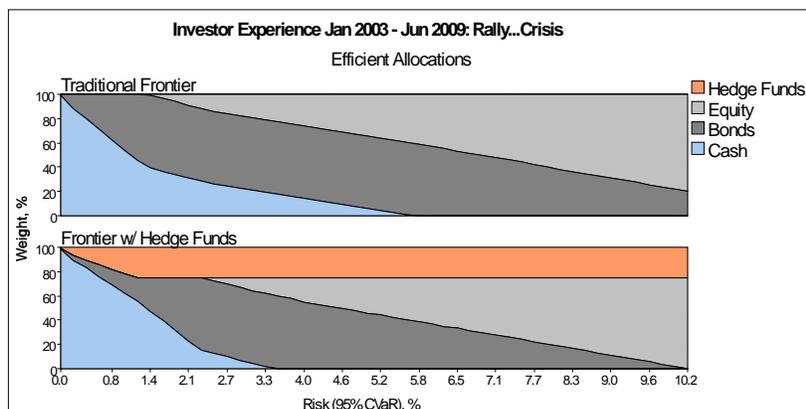
In the first two cases, allocations to hedge funds would have (in retrospect) improved portfolio efficiency for any risk tolerance level. Even for the period dominated by market rallies (2003-2016), hedge funds can still provide diversification benefits, although the effect on efficiency improvement is not as significant as in the first case^{viii}.

In the third example, where optimization inputs include only the most recent market rally (2009-2016), allocations to hedge funds

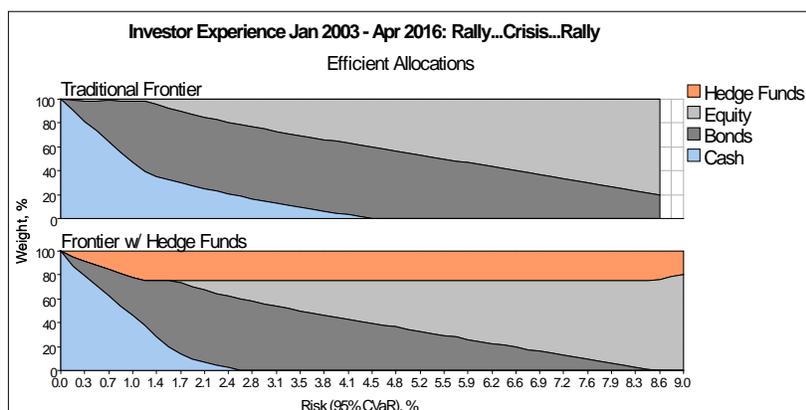
have not provided any sizable efficiency benefits to portfolios with generic assets. This would appear to support the views of those advocating lower hedge fund allocations, citing recent market performance. But as our analysis shows, as soon as you take a period of significant market turbulence into consideration, a significant hedge fund allocation becomes worthwhile. The following charts show the efficient (or “optimal”) allocations along each efficient frontier, from the most conservative to the most aggressive portfolios.

Seller Beware

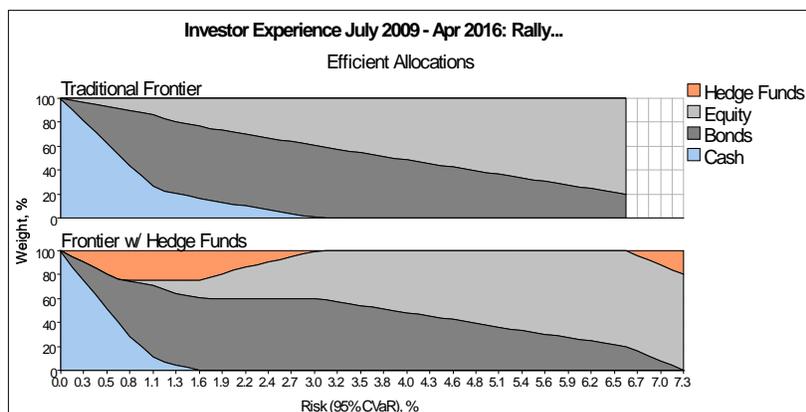
It is worth noting that the optimal hedge fund allocation hits the 25% maximum constraint very quickly in the two cases that include the crisis period. This indicates that a small (i.e. 1%) hedge fund allocation may be harder to justify, echoing [results of our previous analysis of CalPERS decision to exit hedge funds](#).



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We should also make a caveat to our use of the DJ Credit Suisse Hedge Fund Index, as a proxy for hedge fund investment. As an asset-weight average of thousands of hedge funds, it is widely diversified and does not reflect the experience of investing in a single fund or a handful of funds.

Assessing Diversification Benefits

Additionally, asset allocation analysis is typically used by investors and consultants (institutional and retail alike) in an ex-ante context: long-term capital market assumptions for major asset classes are specified (and not necessarily using historical periods as we did in this analysis) and investment constraints are often

determined. In this case, we opted to exclusively rely on historical data as an ex-post reality check with 20/20 hindsight, looking back at the results observed in the market without any guess work on risk premiums, yield curves or correlations.

In summary, before making any hasty decisions to exit from hedge funds, we believe investors should consider the role of hedge funds in their portfolio overall and certainly in different market environments. We view an analysis, such as we have performed, to be a valuable audit that any investor should undertake before making any rushed decisions on the fate of the hedge fund allocations. Clearly, there are other justifiable reasons for investors to avoid hedge funds (higher fees, less transparency, illiquidity, etc.) – but returns that trail equity benchmarks during an equity bull market run should probably not be one of them!

Notes

i According to [NY Times May 12, 2016](#), The American International Group (AIG) said it would cut its hedge fund exposure in half, to \$5.5 billion by the end of 2017 from \$11 billion at the end of last year. MetLife said it would slash its hedge fund portfolio by two-thirds, to \$600 million from \$1.8 billion.

ii Our choice reflects our view that an asset-weighted hedge fund index represents a more realistic investor experience compared to an equal-weighted index where a \$10B fund commands the same weight as a \$10M fund.

iii Before 2003, hedge funds, represented by DJ Credit Suisse HF index, vastly outperformed world equities, represented by MSCI World Index.

iv The -53% and -18% drawdowns represent the maximum losses that investors could suffer from the peak values of their investments in equities (MSCI World index) and hedge funds (DJ Credit Suisse HF index).

v According to [Putman Investments](#), the average bull market has lasted roughly 44 months since 1949.

vi Even during the current bull market, DJ Credit Suisse Hedge Fund index outperformed MSCI World index in Sharpe ratio by 1.29 over 0.99.

vii The efficient frontier is the set of optimal portfolios that offers the highest expected return for a defined level of risk or the lowest risk for a given level of expected return. Although for this analysis we applied traditional Mean-Variance Optimization (MVO), using tail-risk-focused objective such as CVaR (ETL) produced similar results.

viii This is not surprising and is expected from MVO and similar optimizations. We recommend using sensitivity tests such as statistical resampling to get a better sense of the significance of improvement.

About MPI

MPI (Markov Processes International, Inc.) is a global provider of investment research, analytics and technology. Its solutions are used by leading organizations throughout the financial services industry, including alternative research groups, hedge funds, hedge fund of funds, family offices, institutional investors, consultants, private banks, asset managers, investment advisors and private wealth professionals. For more information, visit <http://www.markovprocesses.com>

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