



March 2009 **RESEARCH**



An Alternative Investment Specialist

# Timing Market Beta and Hedge Funds

**Paul Roberts**

**Patrick O'Sullivan FIA**



PRISMA CAPITAL PARTNERS

## Timing Market Beta and Hedge Funds

In January 1970, Carol J. Loomis wrote an article in Fortune Magazine entitled "Hard times come to the hedge funds". Loomis's article highlighted the fact that hedge funds had been "clobbered" by the 1969 bear market and had left many hedge fund investors with strong reservations about the whole concept. Fortune Magazine was unable to find many hedge funds that had made money that year and for the first time in its short history, the fledgling hedge fund industry suffered capital withdrawals and some closures. Within the article, Loomis also highlighted the fact that the then 39 year old Warren Buffet was intending to liquidate the Buffet Partnership, Ltd. Buffet felt that "some of the juice had gone out of the stock market" and that investors may wish to invest more passively.

### Executive Summary

In this paper we consider the historical performance of the hedge fund industry relative to mainstream asset classes following periods of asset price dislocation. The aim is to assess whether a hedge fund allocation remains compelling when markets appear "cheap".

We also investigate the effects that timing had on investment results around those periods by considering the sensitivity of the returns to the specific entry month chosen.

We analysed the three year return achieved by a range of market indices from the lowest point in the dislocation, and from a range of time before and after that point.

The returns data for the three periods we identified as being "stressed" indicated the following:

1. Hedge funds have provided attractive returns following each market trough on both an absolute and risk-adjusted basis relative to the other mainstream asset classes;
2. Long only beta opportunities do not necessarily offer the best risk-adjusted returns when market premia are high, even for investors with perfect timing;

3. Of the asset classes we considered, only hedge funds delivered consistently strong performance following each market trough; and
4. The timing of the investment had less impact on the returns achieved by hedge funds than for the other asset classes considered.

### Introduction

An environment of high volatility, high risk aversion and assets priced at distressed levels potentially offers greater returns from buy and hold market strategies, relative to times when the opposite is true. In this note we take a look at three previous periods of asset price distress to discover whether multi-asset investors would have benefited by increasing their pure market (beta) exposure at the expense of their hedge fund allocation at those times.

#### Definition - Market risk premium:

*"The excess return over the risk free rate an investor can expect for accepting market risk."*

Often, timing your investment can have a significant impact on your overall returns. In this note, therefore, we also look at the sensitivity of hedge fund and mainstream asset class performance to the entry month chosen around these market stress points.

### Methodology

We set out to compare the performance of a range of assets classes, including hedge funds, following the major stress points we have seen in markets, when risk premia have been relatively high.

Our analysis was limited to the period beginning January 1, 1990 when the HRFRI Fund Weighted Composite Index ("HFRI Index") data begins. As a proxy for general market returns, we used the following indices: the S&P 500 TR Index ("S&P 500") for US equities, the MSCI World AC Index ("MSCI World") for global equities, the Lehman U.S. Aggregate Index ("Lehman Agg") for investment grade bonds, the Lehman U.S. Corporate High-Yield Index ("Lehman HY") for high yield bonds), and the Dow Jones AIG

Commodities Index (“DJ Commodities”) for commodities.

We identified three separate periods where there was a large peak to trough decline in the S&P 500 index along with an observed rise in the level of risk aversion. For the purpose of this paper we measured a rise in risk aversion as a spike in market volatility as measured by the VIX index<sup>1</sup> and/or an increase in the perceived risk of lending as indicated by historical TED Spread.<sup>2</sup>

### Dislocation periods

Specifically, we applied the following quantitative criteria to identify a period or market dislocation:

- A peak to trough fall in the S&P 500 price index of 15% or more, in combination with
- An elevated VIX price above 30, and/or
- A heightened TED Spread greater than 1.0

The following table sets out the periods chosen and the relevant measures at those times.

Periods of Asset Price Declines and High Risk Aversion  
[Month end values]

Trough	Event	S&P 500 Price Index (peak to trough decline)	VIX Index	TED Spread
Nov 1990	Gulf War	-15.8%	30.0	1.1
Aug 1998	LTCM / Russian Default	-15.6%	44.3	1.0
Mar 2003	Corporate Fraud	-44.6%	39.7	0.2

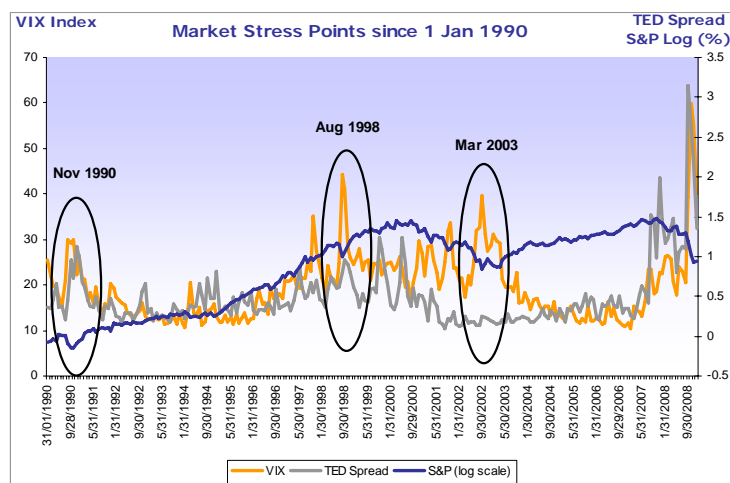
Source: Bloomberg

<sup>1</sup> The VIX Index reflects a market estimate of future volatility, based on the weighted average of the implied volatilities from a wide range of S&P equity options. A low level of VIX can indicate a benign market with high trader confidence. A high level can indicate a riskier market with less trader confidence.

<sup>2</sup> The price difference between the three-month futures contracts for U.S. Treasuries and three-month contracts for Eurodollars having identical expiration months. The TED Spread can be used as an indicator of credit risk. As the TED spread increases, default risk is considered to be increasing, and investors will have a preference for safe investments. As the spread decreases, the default risk is considered to be decreasing.

In comparison, the ongoing economic crisis we currently face saw a month-end peak to trough fall in the S&P of 42% as at the end of November 2008. The VIX index reached a high of 80 in that same month, while the TED Spread reached a high of 4.6 during October 2008.

The graph below highlights those points in time where a trough in the S&P coincided with a spike in the VIX index and/or a rise in the TED spread.



Source: Bloomberg

### Perfect Foresight

Initially, we assumed that the investor had perfect foresight in identifying the bottom of the market (the trough month), and then compared the returns achieved from investing in that month over the next three years.

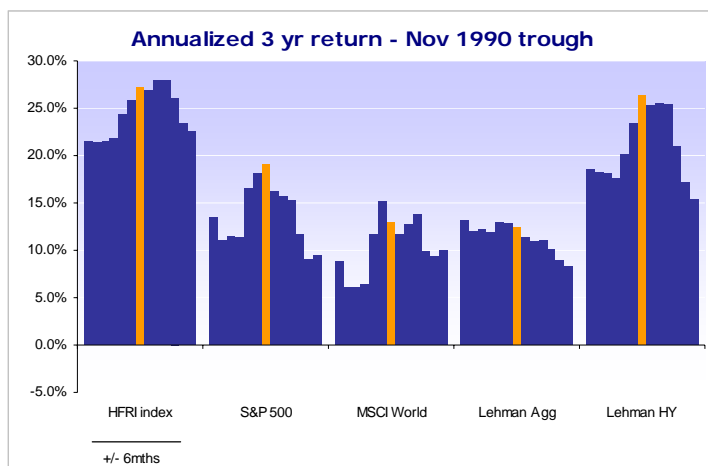
Subsequently, in order to gauge the sensitivity of returns due to timing, we looked at the performance of each of the strategies from different starting points. We show in our analysis the three year return that was achieved from an investment that started in each of the six months prior to, and following the “trough month”.

### Results of the Analysis

#### Absolute Returns

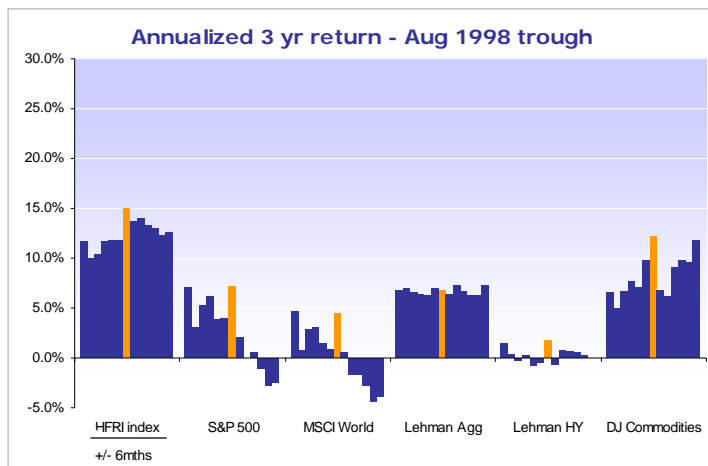
The following charts show the three year returns of the asset classes under consideration following each of the three dislocation periods we identified above. The orange bar indicates the return achieved if the investor chose the very bottom market month (perfect

foresight) while the blue bars on either side indicate the returns that would have been achieved if the investor had invested initially in each of the six months earlier or later than the market turn.



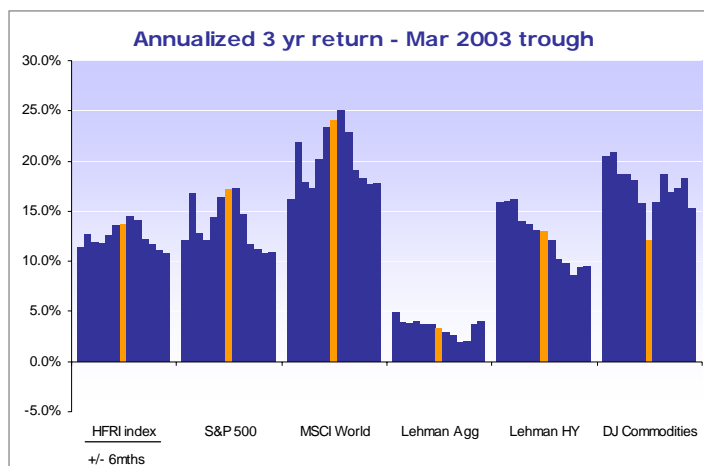
Source: Pertrac

In the three year period following the 1990 market correction, hedge funds rallied the strongest returning 27% per annum. High yield debt (HYD) was the best performing of the other mainstream asset classes considered (26% p.a.).



Source: Pertrac

The results following the 1998 correction tell a different story. HYD was one of the worst performing asset classes. Commodities performed relatively well, at 12% p.a., but hedge funds led the way, giving investors a return of 15% p.a.

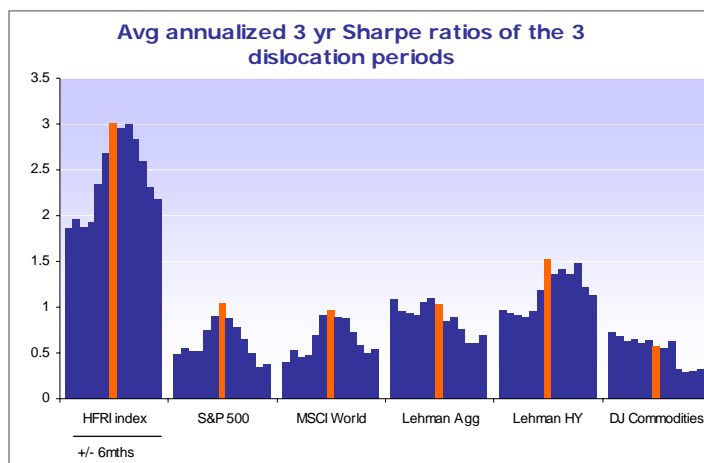


Source: Pertrac

Following the 2003 dislocation, each of the risk bearing asset classes we considered performed strongly, with global equities performing the best, providing 24% p.a. over the next three years. Consistent with the other two periods we reviewed, hedge funds produced strong double digit figures of approximately 14% p.a. following the trough month.

### Risk-adjusted returns

The graph below shows the average Sharpe ratios achieved by each asset class following the stress points we identified. The orange bar reflects the result for an investor with perfect foresight who timed the bottom of the market precisely. The blue bars show the range of outcomes achieved if the investment was instead initiated in each of the six months before and after this lowest month.



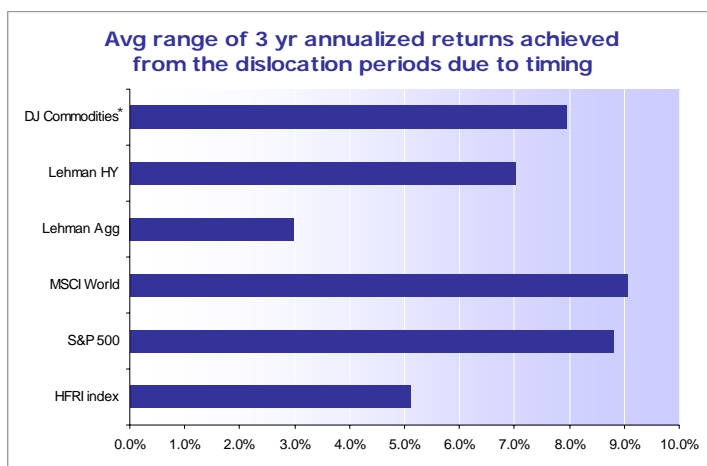
Source: Pertrac

The graph above demonstrates that hedge fund industry as a whole, if considered an asset class, delivered the best risk adjusted returns over the three market dislocations considered.

**This result, while not conclusive, suggests that, even for investors with perfect timing, long only beta opportunities do not necessarily offer the best risk-adjusted returns when market premia are high.**

### Timing

Having compared the three year returns generated by each of the different strategies for the three market dislocations under consideration, we then tried to assess what the impact of market timing had been. For each of the three periods under consideration, we looked at the six month periods prior and post the S&P 500 low. We then calculated the returns from the worst entry month during that twelve month period and then subtracted them from the returns of the best entry month. We then calculated an average for each of the strategies.



Source: Pertrac

\*Commodity indices only reflect 1998 and 2003 trough periods.

The graph above shows that in the periods under consideration, the two strategies where it was most important to have timed entry correctly were, unsurprisingly, the equity strategies (S&P 500 and MSCI World). The difference in returns due to timing of entry point was least marked in investment grade bonds (Lehman Agg) and hedge funds.

### Discussion of our Findings

There were many differences in the economic conditions and causes for the asset market declines we have considered in 1990, 1998 and 2003. However, the results of our analysis suggest that even when mainstream markets are relatively cheap, a broad hedge fund investment remains compelling.

In each of the periods considered, hedge funds, as an asset class, has been a consistently good performer over the next three years in actual and relative terms, particularly on a risk-adjusted basis. The navigation of the inflection point seems to have been more smoothly handled by the hedge fund industry when compared to equity, high yield debt or commodity indices. The difference in cumulative three year returns on equities would have been materially affected by the timing of the entry point over the year of inflection. For the 3 periods we looked at the average dispersion in equities on the overall cumulative return was +/- 25-30%. For hedge funds this was significantly lower at +/- 10-15%.

The simple methodology employed in this study leads us to make a number of conclusions about the performance of hedge funds in the aftermath of asset price distress. However, a number of issues may limit the significance of our conclusions, in particular the study of returns data in isolation, without a background analysis of the volatility, correlation, liquidity and leverage in each scenario. Market dynamics and relationships continually evolve, however, as Sir John Templeton pointed out, "*this time it's different*", are the four most expensive words in the investing language.

## Notes

Certain information contained in this presentation has been obtained from sources outside Prisma Capital Partners LP. While such information is believed to be reliable for the purposes used herein, no representations are made as to the accuracy or completeness thereof, and Prisma Capital Partners LP does not take responsibility for such information.

Past performance is not indicative of future results. Investing in financial markets involves substantial risk. Investment losses may occur, and investors may lose some or all of their investments.

Information contained herein is not intended to provide, and should not be relied upon for, accounting, legal or tax advice or investment recommendations. You should consult tax, legal, accounting or other advisers about the matters discussed herein.

### Description of indices:

- The S&P 500 Index is comprised of a representative sample of 500 large-cap companies. The index is an unmanaged, float-weighted index with each stock's weight in the index in proportion to its float, as determined by Standard & Poors. The index is one of the most widely used benchmarks of U.S. equity performance.
- The HFRI Fund Weighted Composite Index, which is comprised of over 2,000 hedge funds, is designed to be representative of the performance of hedge funds across all strategies (excluding fund of funds). Because the HFRI Fund Weighted Composite Index is calculated based on information that is voluntarily provided, actual returns may be higher or lower than those reported.
- The MSCI World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. As of June 2007, the MSCI World Index consisted of the following 23 developed market country indices: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States. (Source: <http://www.msibarra.com/products/indices/equity/definitions.jsp#WORLD>)
- Lehman U.S. Corporate High-Yield Index covers the USD-denominated, non-investment grade, fixed-rate, taxable corporate bond market. Securities are classified as high-yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. The index excludes Emerging Markets debt.
- Lehman U.S. Aggregate Index covers the USD-denominated, investment-grade, fixed-rate, taxable bond market of Securities and Exchange Commission-registered securities. The index includes bonds from the Treasury, Government-Related, and Corporate, MBS (agency fixed-rate and hybrid ARM "pass throughs"), ABS and CMBS sectors.

- Dow Jones AIG Commodities Index is a rolling commodities index composed of futures contracts on 19 physical commodities traded on U.S. exchanges, serving as a liquid and diversified benchmark for the commodities' asset class.

It is not possible to invest directly in these indices.

Paul Roberts

Tel: +44 (0) 20 7016 6465

[proberts@prismapartners.com](mailto:proberts@prismapartners.com)

Patrick O'Sullivan FIA

Tel: +44 (0) 20 7016 6468

[posullivan@prismapartners.com](mailto:posullivan@prismapartners.com)