



Ocean Hedge Fund

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I. Create an Equity Hedge Fund

Investment Objectives and Adaptability

A. Preface on how the hedge fund plans to adapt to current and future market conditions

The Fund is organized as an open-ended fund in the United States. The Fund objective is to provide strong returns with a Macro-Systematic Diversified bias to achieve capital appreciation through investing predominantly in equity-related instruments in the United States. Viable investments include equities, equity-related instruments including stock and index futures on a long and short term basis, and trading in futures and option contracts. The portfolio will be diversified across different industries, security types, and market capitalizations. The valuation of each security will be driven by an analytical approach that considers firm-level information and macroeconomic trends. Hedges will be implemented that reflect the Fund's opinion of the general direction and strength of movements within particular securities, industries, and the market as a whole. The Fund will seek to provide strong returns on a risk-adjusted basis during bullish market trends while protecting investors from downside risk in the event that bearish market conditions occur.

B. Historical Views

Historical trends indicate that a Macro-Systematic Diversified hedge fund strategy provides strong returns in excess of the market. The graph on the next page compares relevant hedge fund strategy performances against the S&P 500. From 2003-2008 a Macro-Systematic Diversified strategy yielded a 12.5% return compared to an S&P 500 return of just over 6%. This strategy provides the investor with the unique opportunity to capture strong returns in both bullish and bearish markets. The Fund is in a strong position to reap the benefits of market-level volatility by taking a macro-systematic approach to fund management. While there are other strategies that have provided strong returns, we believe that a Macro-Systematic approach is the safest to employ. Evidence of this can be seen in the performance of Emerging Market Strategies from years 2003-2008, and 2007-2008. An Emerging Markets Strategy yielded a strong 20.1% return and a weak -27.7% return respectively. It is clear that this strategy does not hold up well to strong downward-directional shifts in the economy. A Macro-Systematic approach will balance out risk and provide strong returns in a variety of market conditions.

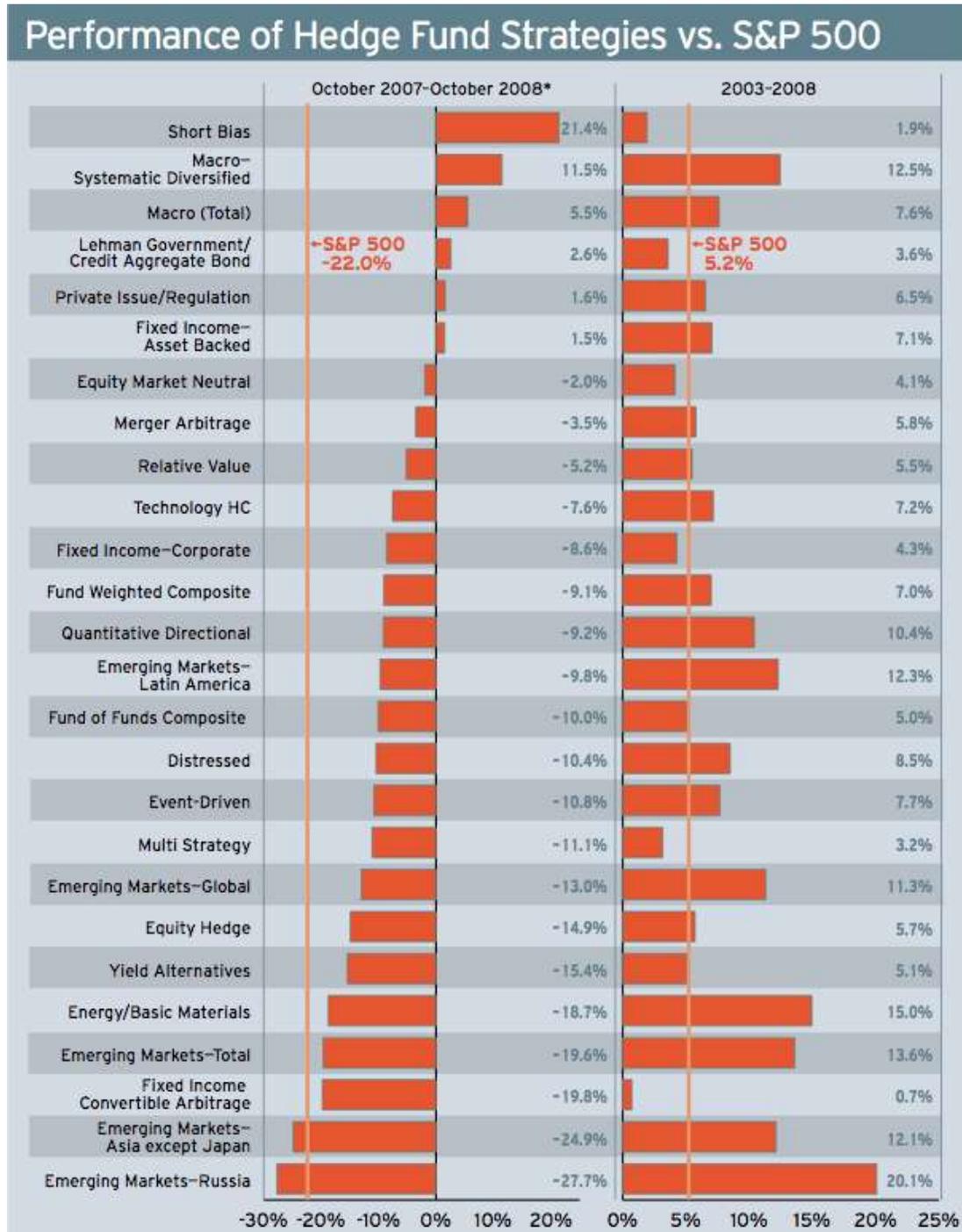
C. Expected Returns

Indicated by the historical data on the next page, we expect the Fund to outperform an unhedged fund on a risk-adjusted basis. Protecting downside risk and limiting negative returns through hedging will keep the average fund performance well above that of an unhedged fund.

D. Investment Horizon

Investment horizon describes the total length of time an investor expects to hold a security. Generally, investors either have a "long-term" or "short-term" investment horizon. The

long-term approach is common with a buy-and-hold strategy and generally yields a higher risk-adjusted return. The short-term investor usually looks for more volatility and tries to capture large returns in short periods of time (i.e. months, weeks, days, minutes). Our hedge fund primarily follows the long-term approach but implements some short-term transactions in order to hedge against risk.



Principal Investment Strategies

Our hedge fund's principal investment strategy is to beat the annual S&P 500 return through long/short equity value investing in mid/large-cap companies and with the use of option contracts. Our management team allocates the fund's assets into specific sectors based on the future outlook and the value of each sector. Using both the S&P 500 market index and similar style hedge funds as benchmarks we compare our performance and rebalance when necessary.

Principal Risk Factors

A. Relationship between HF Size and Risk

Hedge fund size relates to the Assets Under Management (AUM) of the fund. Larger hedge funds are considered to be riskier than smaller funds due to the difficulties in sustaining prior performance. Because hedge funds do not have some of the resources to generate capital in comparison to investment banks, there are a number of contingencies that can trigger investor concern especially with a very large fund. This often leads to a reduction in AUM and the inability to support infrastructure and the investment team. Another concern for investors is the large position size of the bigger hedge funds. Selling off these positions to generate liquidity commonly causes significant price declines in those positions due to the reaction of the market, thus hurting the investors. Smaller hedge funds have smaller position sizes that are less costly to unwind.

B. Market Risk (Beta and Adjusted-Beta)

Market risk is the risk of losses in positions arising from movements in market prices. We generally use Beta to measure this type of risk. Beta describes the correlated volatility of the fund in relation to the market benchmark. We can take this a step further using Vasicek Beta which is built on the empirical basis that stock beta coefficients are influenced by the central limit theorem whereby stocks converge to the unity over time (Forecasting Time Variation). Vasicek is an adjusted beta and is considered a higher quality measure of systematic risk.

C. Tax Management Issues

Hedge funds are taxed as partnerships. All profits and losses pass through the investors and thus there is no double taxation which is the case of corporations. In other words, the hedge fund files its taxes and the investors pay the taxes in the end. Because hedge fund managers buy and sell so frequently, investors incur high capital gains which are taxed at the ordinary income tax rate.

D. Capital Risk

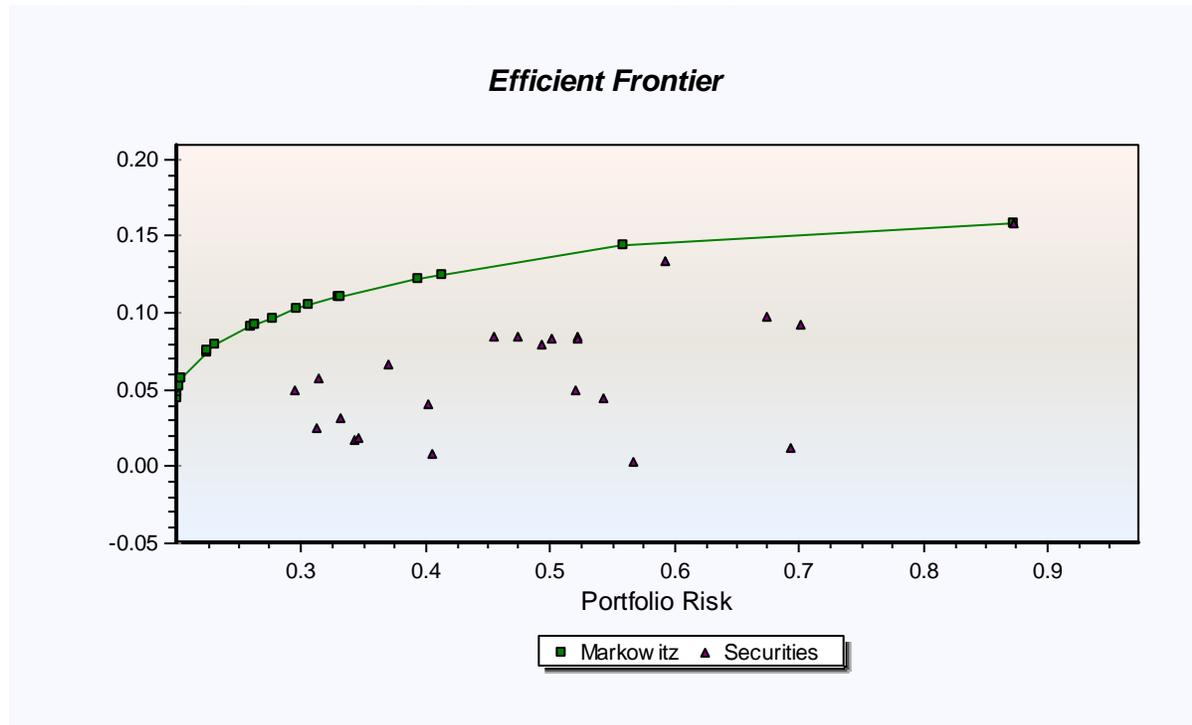
Capital risk relates to the size of companies in terms of market capitalization. Small-cap companies generally are less stable than mid and large-cap companies because they are in the early stages of business and thus more volatile. Small-cap companies usually have greater growth opportunity but are more susceptible to downward movements in the market. Large-cap companies are considered “blue-chips” and are the most stable; generally used in “buy and hold” strategies. Mid-cap companies are the most common for investors based on having similar growth opportunities as small-cap but with less risk involved. Hedge funds have different investment strategies; the strategies that involve more small-cap companies are often riskier but can see great returns in a healthy market.

E. Foreign Investment and Foreign Exchange Risk

Some hedge funds invest in foreign markets and need to consider foreign exchange risk. Foreign exchange risk involves the risk of an investment’s value changing due to changes in currency exchange rates. Hedge funds will often protect themselves by hedging instruments such as currency futures, forwards, and options.

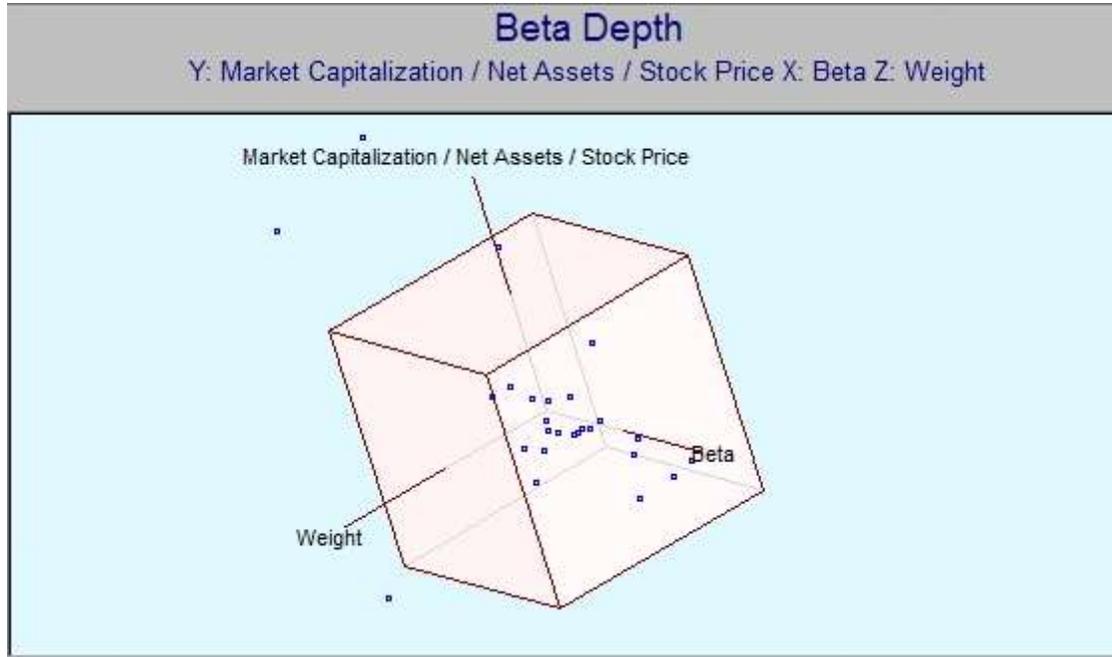
Efficient Frontier

The graph below displays the efficient frontier of our managed portfolio. We chose a portfolio along the plotted line as a basis for comparison with regards to risk and performance against the hedged portfolio, unhedged portfolio, and market index.



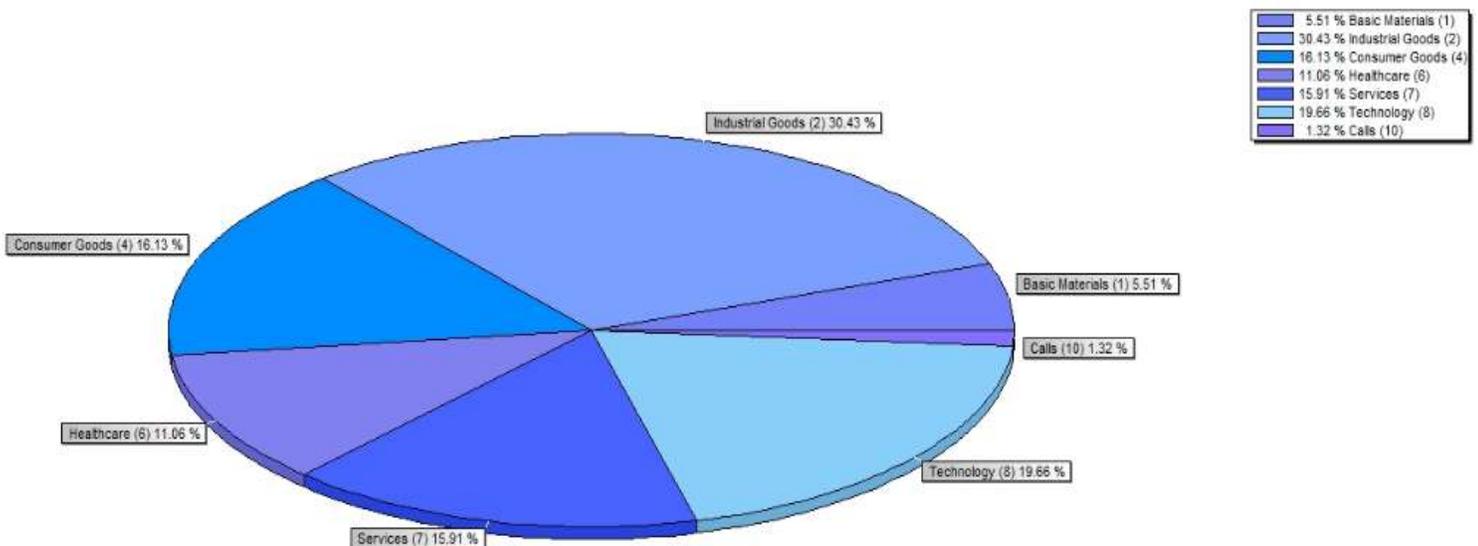
Beta Depth

The box below displays the beta depth of the optimal portfolio. This 3d graph compares each securities weight in the portfolio as a function of both its market capitalization and beta. The graph below indicates that securities with a low beta have a greater weight within the portfolio. In addition to this, securities with a lower market cap have a greater weight in the portfolio. This is consistent with the objectives of an optimal portfolio that sits along the efficient frontier (minimizing risk while maximizing returns).



Sector Analysis

Portfolio Value by Sector



Our portfolio is well-diversified. The value by sector is as follows:

- Basic Materials (1) comprises 5.51% of the portfolio
- Industrial Goods (2) comprises 30.43% of the portfolio
- Consumer Goods (4) comprises 16.13% of the portfolio
- HealthCare (6) comprises 11.06% of the portfolio
- Services (7) comprises 15.91% of the portfolio
- Technology (8) comprises 19.66% of the portfolio
- Calls (10) comprises 1.32% of the portfolio

The sector diversification of our equity portfolio is spread out. By allocating our investments among many different sectors we can distribute our overall risk. This allows us to maximize our return on a risk-adjusted basis. As shown in the pie graph on the previous page, we are over-weighted in a few sectors. Our most prominent sector in terms of value is the Industrial Goods sector comprising 30.43% of our portfolio. We also have a strong presence in Technology, Consumer Goods and Health Care. We are slightly over-weighted in these sectors due to our current outlook on the market and based on where we expect to see future growth.

II. Convert Equity Fund to Hedge Fund

Hedge Fund Style

Long/Short Equity –

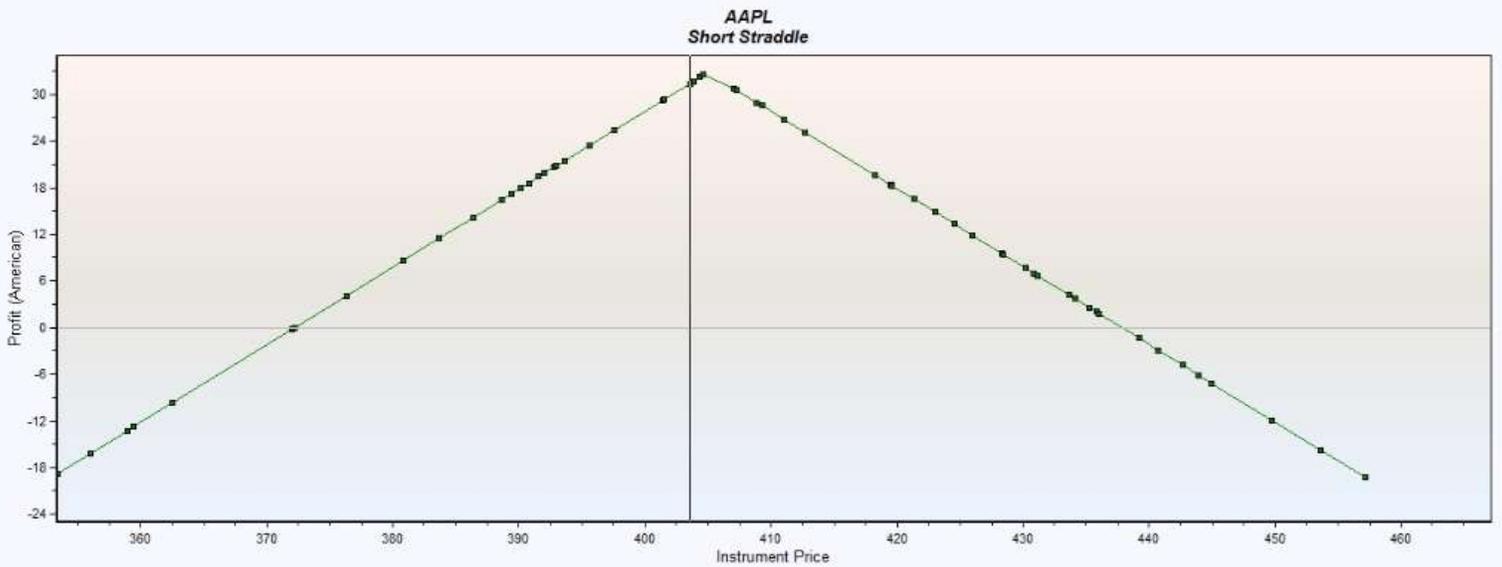
Our fund focuses on the long/short equity hedge fund strategy. This strategy primarily invests in long/short equities but allows the fund managers to use derivatives and option strategies as well. Our fund is a net long strategy including 25 stocks with 3 option spreads and 3 short sales. We based our stock positions on Joel Greenblatt's Gotham Asset Management Hedge Fund. His main holdings are determined using his "Magic Formula," explained in his book *The Little Book that Beats the Market*. This formula first establishes a minimum market cap of roughly \$50 million then ranks companies by both earnings yield and return on capital. Companies with both high earnings yield and return on capital are then considered for the fund. Using Greenblatt's formula, our fund suggests we primarily invest in undervalued companies (long positions) with potential to grow in earnings. We included a few short positions and option strategies for profit potential and to hedge against downward movements in the market.

Micro-Hedge Portfolio Components

Three Option Spreads –

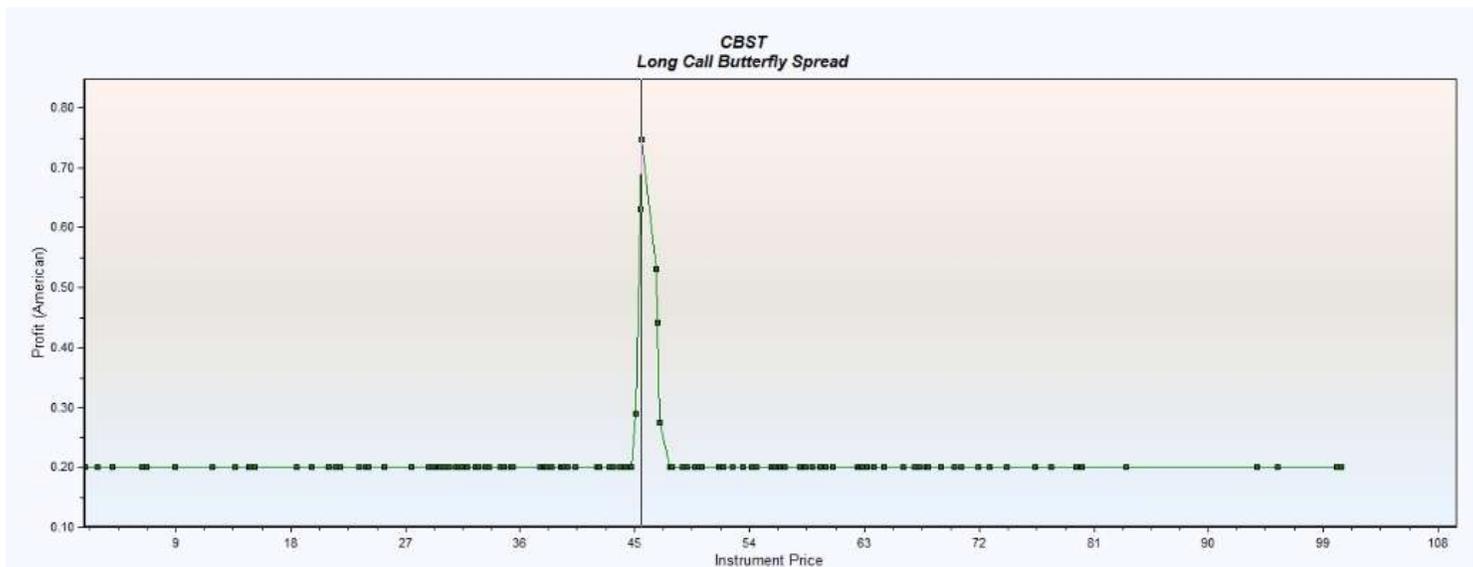
1. AAPL – Short Straddle

The short straddle is a direction-neutral strategy. We feel this is a profitable strategy for AAPL due to the recent activity of the stock price. It has been beaten down over the past 6 months which leads us to believe it will calm down and stay relatively flat for the 2 month remainder of the option life; expiration in June.



2. CBST - Long Call Butterfly

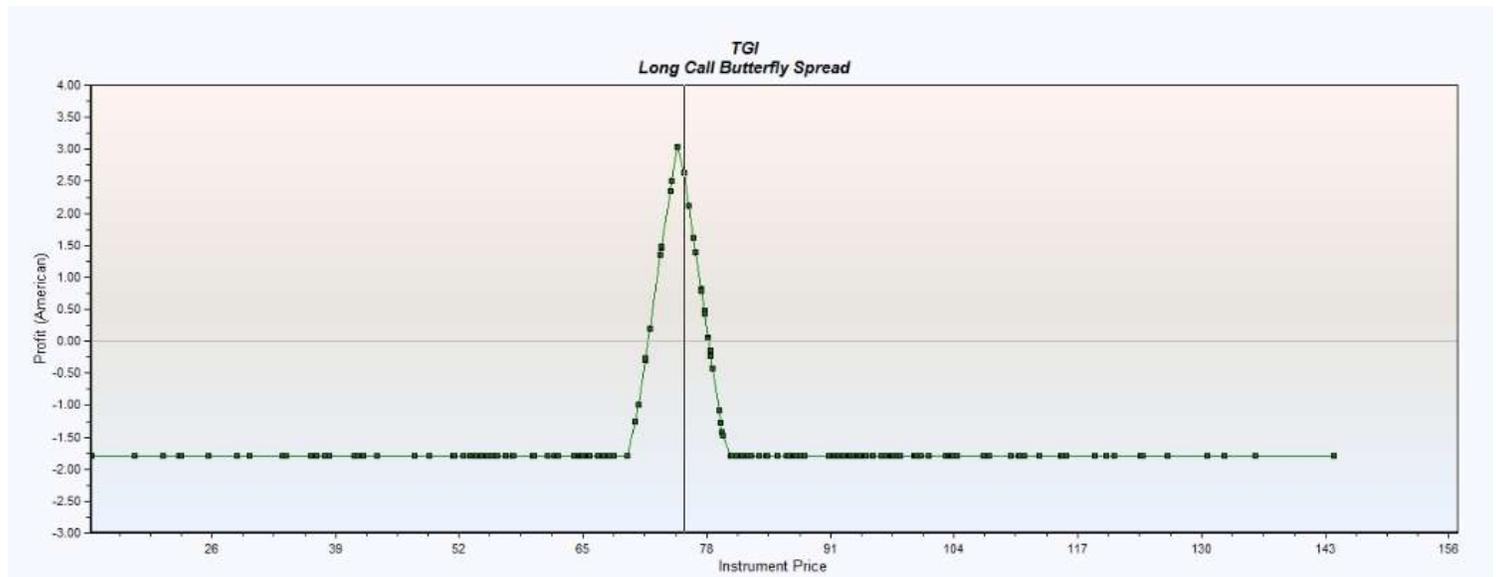
The long call butterfly is a combination between a bull and a bear spread and requires little movement in stock price. Currently the stock price of CBST is hovering around \$46.40 which is where it has been since early March. We see this strategy as a profitable strategy because we believe the stock price will remain between \$45 and \$48 per share.



3. TGI – Long Call Butterfly

Once again this strategy is direction-neutral. Unlike AAPL, TGI has seen a 21.98% appreciation in the past 6 months. We feel as though this stock will calm down during the remainder of the

option horizon. This low-cost strategy looks promising especially if the stock price levels of around \$75.



Three Short Sales

1. AAPL – We originally purchased a long position in AAPL but as of late the company has continued to decline in value. As a result, we short sold half the amount of positions we had longed. Thus, we have an under-valued opinion of the company, but used a short position to hedge our risk if the stock continues to struggle.
2. TSN – Much like most of the market, Tyson Foods has experienced a bullish year, up almost 24%. We tried to capture some gains by investing in the company early but recently shorted about half what we longed. We are being conservative and hedging our risk even though we have a long-term approach to the stock.
3. PDCO – Similar to the previous two short positions, our fund short sold roughly half the amount we longed of PDCO. The stock price is hovering around \$47.50 and is up about 8% for the year. The past month, PDCO is down almost 2% so we felt the need to hedge our risk in case the stock continues to plunge

Macro-Hedge and Back-Test Hedge Fund

The market index chosen for our comparison is the SP 500. The S&P 500 is often regarded as an adequate portrayal of market movement. We chose the E-Mini S&P 500 futures contract. The S&P 500 contains the largest companies in the world, so it makes sense that movement in the direction of S&P is a great indicator of the general market movement. Following this logic, the stocks in our portfolio have a correlation of .81 to our chosen market index (S&P 500). This correlation indicates that the movements of the portfolio are also seen in the index, and vice versa.

The E-mini S&P 500 futures contract is linked to the S&P 500. The S&P futures contract is one of the best indicators of overall short-term market direction. The E-Mini S&P 500 futures contract tracks the exact same stocks as the S&P 500. The Stock future hedge on the E-Mini S&P 500 including the open and close of contracts on each date can be seen below.

Historical Date	Portfolio Value with Micro Hedge	E-mini S&P 500 Index Price	E-mini S&P 500 Market Value	Number of Contracts	Dynamic Hedge Open	Dynamic Hedge Close	Hedge Profit / Loss
28-Jan-13	\$33,775.06	\$1,491.25	\$74,562				
29-Jan-13	\$33,163.86	\$1,499.25	\$74,962	1	\$74,962		
30-Jan-13	\$32,925.07	\$1,489.50	\$74,475				
31-Jan-13	\$33,245.06	\$1,487.50	\$74,375	1		\$74,375	\$587
01-Feb-13	\$33,700.11	\$1,501.00	\$75,050	1	\$75,050		
04-Feb-13	\$34,585.90	\$1,487.75	\$74,387	1		\$74,387	\$662
05-Feb-13	\$33,662.35	\$1,500.25	\$75,012				
06-Feb-13	\$33,687.91	\$1,501.00	\$75,050	1	\$75,050		
07-Feb-13	\$32,584.31	\$1,499.50	\$74,975	1		\$74,975	\$75
08-Feb-13	\$32,347.43	\$1,506.75	\$75,337				
11-Feb-13	\$31,976.81	\$1,507.25	\$75,362				
12-Feb-13	\$33,066.26	\$1,510.50	\$75,525				
13-Feb-13	\$33,551.14	\$1,511.50	\$75,575				
14-Feb-13	\$33,787.33	\$1,512.75	\$75,637	1	\$75,637		
15-Feb-13	\$34,383.48	\$1,511.25	\$75,562	1		\$75,562	\$75
19-Feb-13	\$34,526.99	\$1,522.25	\$76,112	1	\$76,112		
20-Feb-13	\$34,959.32	\$1,501.25	\$75,062				
21-Feb-13	\$35,017.36	\$1,495.25	\$74,762	1		\$74,762	\$1,350
22-Feb-13	\$34,976.27	\$1,508.75	\$75,437	1	\$75,437		
25-Feb-13	\$35,172.48	\$1,481.50	\$74,075	1		\$74,075	\$1,362
26-Feb-13	\$34,858.39	\$1,486.75	\$74,337				
27-Feb-13	\$35,796.33	\$1,510.00	\$75,500	1	\$75,500		
28-Feb-13	\$36,240.54	\$1,507.50	\$75,375	1		\$75,375	\$125
01-Mar-13	\$37,332.36	\$1,510.75	\$75,537				
04-Mar-13	\$38,524.38	\$1,520.00	\$76,000				
05-Mar-13	\$37,895.18	\$1,531.25	\$76,562				
Net Position	\$7,116						\$11,650

The method for equity portfolio hedging is linked to the assumptions underlying the capital asset pricing theory. For that reason the method is sometimes referred to as the minimum variance hedge ratio. The method ignores two important problems. First, it disregards dividends paid. Second, the method makes the brave assumption that the futures contract of choice behaves as if it is perfectly correlated with the market portfolio. Despite these limitations, the equation does perform well-enough to warrant study and practical implementation. The MVP equation is $N_f = -\beta_s (s/f)$ where β_s is the beta of the stock or portfolio. This equation arrives at the minimum variance hedge by multiplying the beta of the portfolio times the ratio of the spot price to the future price.

Average Return and Associated Standard Deviation

PERFORMANCE	MANAGED PORTFOLIO	MARKET INDEX	OPTIMAL PORTFOLIO	UNHEDGED PORTFOLIO
Risk Free Rate		0.05%		
Average	\$42,164.00	\$1,542.30	\$35,651.36	\$38,471.62
Geometric	\$41,755.78	\$1,541.94	\$35,636.86	\$38,459.93
Deviation	\$5,890.77	\$27.42	\$877.15	\$763.95

The graph above shows the average return and standard deviation of the managed portfolio, market index, and optimal portfolio. The deviation is the standard deviation around the average interim return. This is the most common measure of statistical dispersion. It measures how spread out the values in a data set is. The managed portfolio fared better than the index with an average return of .73%, the index returned a value of .09%, the optimal portfolio returned a value of .14%, and the unhedged portfolio returned a value of .09%. The increased performance of the managed portfolio came at a cost of increased risk. The managed portfolio contains a deviation of 1.76% while the market index, optimal portfolio, and unhedged portfolio have deviations of .74%, 1.15%, and .91% respectively.

PERFORMANCE	MANAGED PORTFOLIO	MARKET INDEX	OPTIMAL PORTFOLIO	UNHEDGED PORTFOLIO
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Geometric	\$41,755.78	\$1,541.94	\$35,636.86	\$38,459.93
Deviation	\$5,890.77	\$27.42	\$877.15	\$763.95
Skewness	0.10	-0.84	-0.21	-0.84
Kurtosis	-0.52	0.97	-0.36	0.74
Ho Normal / P-value	0.976	0.955	0.980	0.951
Sharpe Measure	151.15	43.65	45.49	35.07
Treynor Measure	2.49	0.32	0.85	0.30
Jensen's Alpha	0.00636		0.00071	-0.00008
Sortino Ratio	103.35	57.47	78.01	38.04
VaR Indexed @5%	\$63.12	\$21.58	\$34.15	\$26.50
CVaR Indexed @1%	\$112.03	\$28.75	\$45.67	\$34.49
VaR @5%	\$1,432.75	\$21.58	\$709.29	\$657.62
CVaR @1%	\$2,543.25	\$28.69	\$1,016.83	\$855.86
STARR Ratio	15.89%	4.88%	5.08%	3.96%
Omega	1.53	0.94	1.24	0.78
Sharpe-Omega	0.63	0.13	0.16	0.69
BD	-0.032		-0.02	-0.016
Corr(P) / P-value	0.814	0.00001		0.745
Corr(D) / P-value	0.440	0.00009		0.419
Corr(P,D) / P-value	0.312	0.43%		0.734

Sharpe and Treynor Measures

The chart above displays Sharpe and Treynor measures for the managed portfolio, Market Index, optimal portfolio, and unhedged portfolio. It is useful to first examine the Ho: Normal/P-Value for the managed portfolio and the market index. This is a hypothesis test applied to the time series of interim returns. The null hypothesis states that the portfolio returns are drawn from a normal probability density function. A rejection of the null hypothesis with a 95% confidence level requires a computed p-value of .05 or smaller. Stated differently, if the p-value is .05 or smaller then we may assume that time series of returns are not normally distributed. Seen above, the p-value for the managed portfolio, market index, optimal portfolio and unhedged portfolio are .976, .955, .980, and .951 respectively. We can state with strong conviction that the returns from both the market portfolio and market index are drawn from a normal distribution. The Sharpe ratio is a direct measure of reward to risk. The numerator of the Sharpe ratio is the (Rp-Rf). The denominator is the standard deviation of Rp. The Sharpe ratio examines excess return per unit of total risk. The measure is used for

diversified instruments. When comparing two assets with the same expected return, the one with the higher Sharpe ratio gives more return for each unit of risk. Seen above, the managed portfolio has a Sharpe of 151.15. The market index, optimal portfolio and unhedged portfolio have a Sharpe ratio of 43.65, 45.49, and 35.03 respectively, it is clear that the managed portfolio has a greater reward to risk profile than the market index, optimal portfolio, and unhedged portfolio. Like the Sharpe ratio, the Treynor ratio is a direct measure of reward to risk. The numerator is identical to that used in the Sharpe measure. However, the denominator is the portfolio beta; this measure reports the amount of excess return per unit of systematic risk. The Treynor measure may be used for both individual instruments and portfolios. The managed portfolio has a Treynor value of 2.49. The market index, optimal portfolio, and unhedged portfolio have Treynor values of .32, .65, and .30 respectively. This metric is consistent with the findings of the Sharpe ratio.

VaR

Value at risk is a current standard benchmark for firm-wide risk measurement. VaR is the maximum probable loss on an investment over a specific period of time at a given confidence level. The default critical value in WinORS is 5%. Stated differently, VaR estimates an expected maximum loss for a portfolio given a time horizon and a level of statistical significance. The daily VaR for the managed portfolio at 5% is reported as \$1,432. This means that there is only a 5% chance that the daily loss on the portfolio would exceed \$1,432. OR, there is a 95% chance that the daily loss on the portfolio will not exceed \$1,432. The VaR for the market index is \$21.58. This number is significantly lower because the portfolio value of the market index is only \$1,542 compared to that of \$42,164 for the managed portfolio. On a percentage basis, the managed portfolio VaR is 2.73% of the portfolio value while the market index VaR is 1.36% of the value. By this metric, with 95% certainty, the managed portfolio can stand to lose more money on a given day.

CVaR

Conditional value at risk, also known as mean excess loss, is the conditional expectation of the loss above VaR for a given time horizon at a specified confidence level. In other words, CVaR quantifies the risky dangers beyond VaR. The CVaR for the managed portfolio at 1% is \$2,543. This means that on average, there is only a 1% chance that the daily loss on the portfolio will exceed \$2,543 (4.84%). The CVaR for the market index is \$28.69 or 1.81%. By this metric, the managed portfolio will still stand to lose more in a given day than the market index.

Omega

Omega is a performance measure that incorporates all the distributional characteristics of a return series; hence, it is the appropriate measure to employ when returns are not normally distributed. Omega is a function of the return level and required no parametric assumptions on the distribution of the returns. The measure considers the returns below and above a

specific loss threshold. The result is a total probability of weighted gains and losses that fully describes the properties of the returns distribution. Omega measures the total impact of the statistical movements rather than viewing each moment separately. Even if returns are normally distributed, omega provides additional information as it takes into account an investor's preference for loss and gain. The omega for the managed portfolio is 1.53 while the omega for the market index, optimal portfolio, and unhedged portfolio are .94, 1.24, and .78 respectively. The higher value of the managed portfolio is preferred when compared to the market index omega.

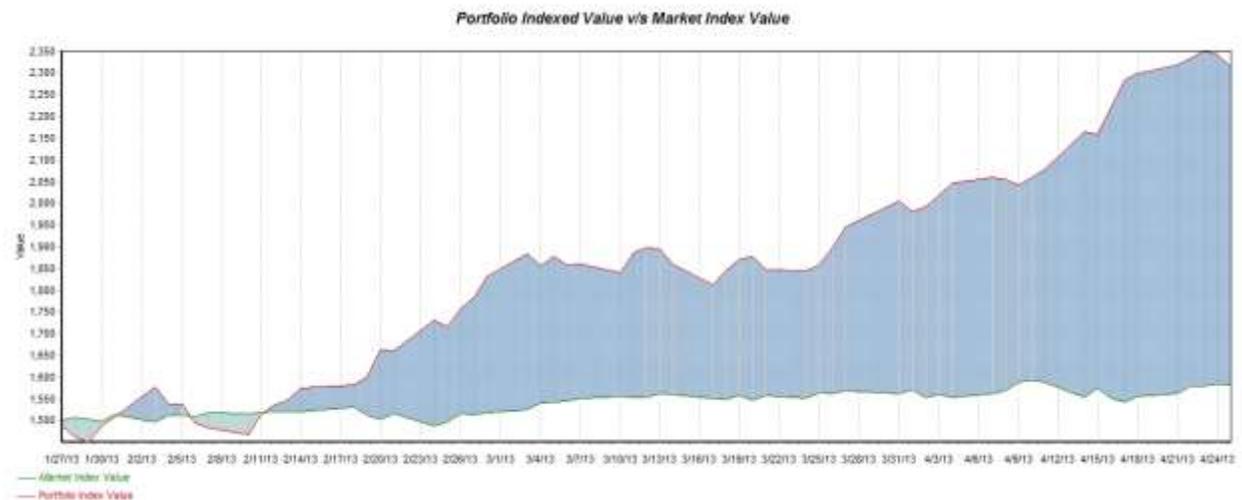
Sharpe-Omega

This ratio is a complement to the omega ratio. The rankings produced by the Sharpe-Omega ratio are identical to the ranks generated by the application of the omega ratio. Because the calculation of the Sharpe-Omega is similar to the basic Sharpe ratio it is often considered more intuitive in practical use. The ratio numerator is the expected return of the portfolios less a threshold return level (in this case, the risk free rate). The denominator of the ratio is equal to a put price on the instrument at the threshold level. The Sharpe-Omega for the managed portfolio is .63. The Sharpe-Omega for the market index, optimal portfolio, and unhedged portfolio are .13, .16, and .09 respectively.

Graphical Analysis

Market Tracking-Indexed Portfolio vs Market Index

The graph below shows the Portfolio Indexed Value vs. the Market Index Value. The casual viewer can observe that the market index value lagged behind the portfolio indexed value for the entire look-back period. The value of the two separated by an extremely large degree from March onward. It is clear that a correlation exists between the two as they move in the same direction on every tick illustrated by the graph.



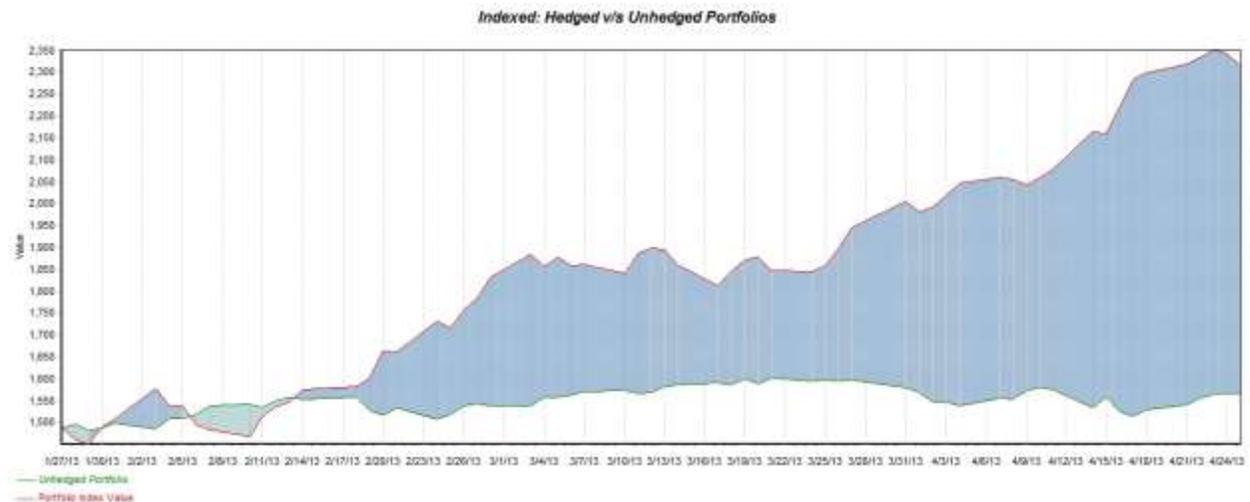
Portfolio Value vs. Index Value

The graph below shows the portfolio value vs. the index value. The portfolio value appears relatively stable as it stays within a range of \$32,400 to 48,600. Meanwhile, the Index Value seems to be more unstable. The index value ranges from 5,400 all the way down to 48,600. It is important to note that the optimal portfolio remains very stable throughout the entire time period; this is because determined weights are a result of historical data.



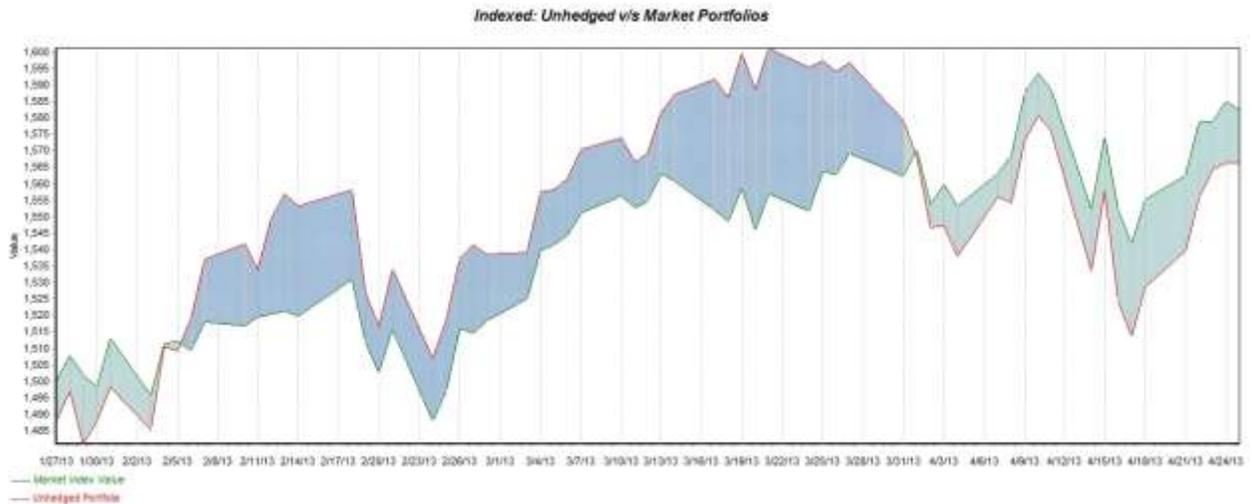
Indexed; Hedged vs Unhedged

It is clear from the graph below that the indexed hedged portfolio outperformed the indexed unhedged portfolio. The two performed similarly through the month of February but separately to an extreme degree after March 1. The hedged portfolio reached a value of 2,350 while the unhedged portfolio only reached a value of 1,600.



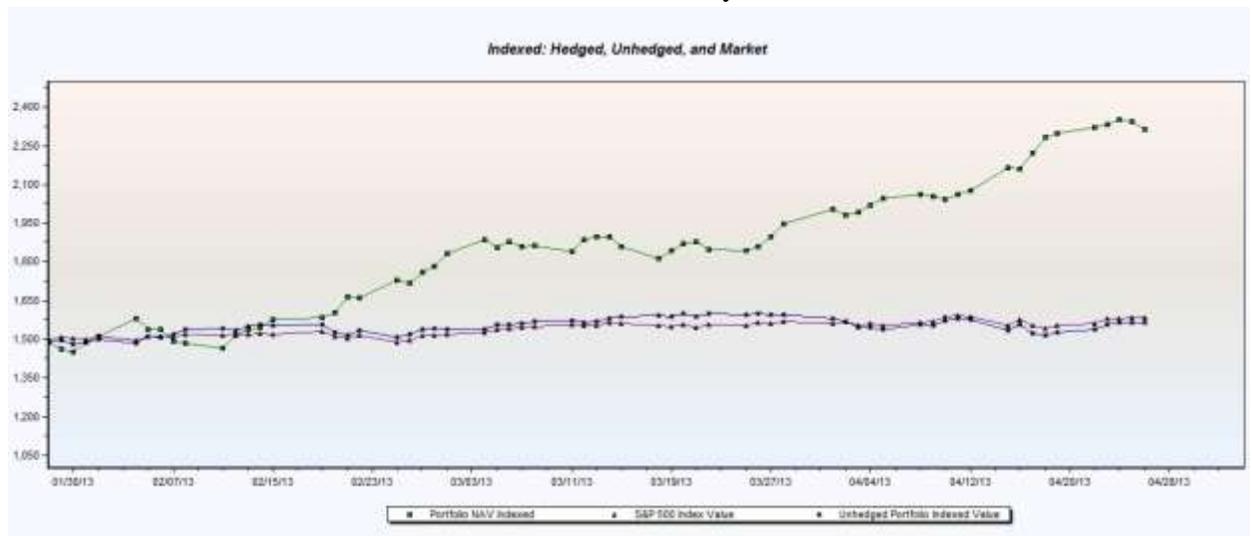
Indexed: Unhedged vs Market Index

The unhedged indexed portfolio and market index perform far more close to one another than the hedged portfolio and unhedged portfolio. The graph below displays this trend. The two indexed portfolios show a strong correlation and relatively equal price movements. The unhedged portfolio seems to outperform the market overall.



Indexed: Hedged, Unhedged, and Market

The graph below compares the indexed value of the hedged, unhedged, and market portfolios. This graph is consistent with the trends observed above. The hedged portfolio outperforms the unhedged and market index a great deal while the unhedged portfolio and market index perform very similarly. Correlation is still present between all portfolios as directional shifts between the three still move in harmony with one another.



Summary and Conclusion

Our Hedge Fund simulation was successful. Our objective was to provide strong returns with a Macro-Systematic Diversified bias. This allowed our fund to achieve capital appreciation through investing predominantly in equity-related instruments in the U.S. The valuation of each security was driven by an analytical approach that considers firm-level information and macro-economic trends. History shows that from years 2003-2008 a Macro-Systematic Diversified Strategy yielded a 12.5% return compared to the S&P's 6% return. Based on this information, the future returns of our hedge fund look promising. With this strategy, we are able to see strong returns in a variety of market conditions while balancing out our risk. Protecting our downside risk and limiting negative returns will put our fund ahead of the unhedged funds on a risk-adjusted basis.

We managed to follow our principal investment strategy very closely. Our fund's main objective is to beat annual S&P returns through long/short equity value investing in mid/large-cap companies. Money was allocated to each sector based on economic outlook and overall attractiveness.

Our risk management approach yielded a stable portfolio. Beta, Vasicek beta, capital risk, and tax management risk factors were accounted for. We invested in many mid-cap and large-cap companies through a "buy and hold" strategy. Since market risk is extremely prevalent, both long and short option strategies were implemented. Effective positioning enabled our hedge fund to participate in both bullish and bearish market trends.