UPSIDE/DOWNSIDE CAPTURE RATIOS FOR TACTICAL MANAGERS

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January, 2015

SUMMARY

Traditional upside/downside capture ratio calculations for investment managers who employ tactical strategies may not fully reflect what those managers' strategies are trying to achieve. We believe that the traditional upside/downside capture analysis of tactical managers can be enhanced by adding an additional benchmark calculation. This calculation evaluates the manager's upside and downside capture ratios during rising and falling market periods. We suggest that investment consultants may consider adding this method as part of their evaluation process to achieve a more robust assessment of tactical investment managers.

The CFA Institute has stated that "At the manager level, we can think of a benchmark as a passive representation of the manager's investment style, incorporating the salient investment features (such as significant exposures to particular sources of systematic risk) that consistently appear in the manager's portfolios. A manager's benchmark encompasses the manager's "'area' of expertise." (2014 CFA Program Curriculum, Level III, "Portfolio: Execution, Evaluation and Attribution, and Global Investment Performance Standards," page 136).

A tactical manager's approach differs in several ways from a traditional long/short manager who employs stock selection and who is continuously hedged with long and short positions. In this paper, we suggest a new method of analysis which segments performance returns into bull and bear market cycles. This method provides another way of assessing the ability of the manager to successfully navigate stock market cycles. Our benchmark is therefore the performance of the S&P 500 during those up and down market cycles.

In this paper, we have applied these calculations to the Broadmark Tactical Plus strategy, a tactical strategy whose goal is to participate in market advances and avoid market declines. We believe this method incorporates the CFA Institute's suggestions of "incorporating the salient investment features such as significant exposures to particular sources of systematic risk and encompassing the manager's "area of expertise." We believe that this method can be successfully applied to other tactical and macro managers who attempt to navigate stock market cycles and therefore have lower correlations during declining markets.

UPSIDE/DOWNSIDE CAPTURE FOR TRADITIONAL LONG SHORT MANAGERS

The commonly used calculation of upside/downside capture ratios measures the movement of a portfolio in relation to a benchmark using a continuous series of monthly or quarterly return data. This mathematical calculation is an entirely appropriate measure for those managers who employ security selection as their focus, since this analysis captures how well their long positions and short positions contribute to the overall portfolio movement versus the benchmark.

The goal for these traditional long/short managers is to produce low beta and high alpha. The movement of the portfolio over a continuous time period, in all types of market environments, provides the investment consultant with a good gauge of how the traditional long/short manager's long and short security selections in the portfolio are contributing to the movement of the entire portfolio versus the benchmark. Superior stock selection on both the long and short side of the book is expected to achieve positive alpha and correspondingly low beta. Due to the continuous series of data across all market environments, however, no weight is given to the manager's timing ability.

The traditional calculation of upside capture is to take the fund's monthly return during months when the benchmark had a positive return and divide it by the benchmark return during the same month. Downside capture ratios are calculated by taking the fund's monthly return during periods of negative benchmark performance and dividing it by the benchmark return.

An upside capture ratio of over 100 indicates the fund has generally outperformed the benchmark during periods of positive returns for the benchmark. A downside capture ratio of less than 100 indicates that a fund has lost less than its benchmark in periods when the benchmark has been in the red. If a fund generates positive returns, however, while the benchmark declines, the fund's downside capture ratio will be negative (meaning it has moved in the opposite direction of the benchmark).

For upside capture, the greater the number, the better. For downside capture, the smaller the value (or a negative value), the better.

For the Broadmark Tactical Plus strategy, here is the downside capture ratio from its inception on November 1, 2005 to November 30, 2014 using this methodology:

Upside Capture	**61.56%**
Downside Capture	**46.26%**

While the strategy has a better upside capture than downside capture ratio, the summary data shown above does not look very impressive. The ratios seem to indicate that the manager does not demonstrate any particular skill in navigating up and down markets. Indeed, this relatively lackluster upside/downside capture ratio makes even less sense when one looks at the actual performance statistics for the Broadmark strategy during the period under review:

SUMMARY PERFORMANCE November 1, 2005 to November 30, 2014

Broadmark Tactical Plus Total Return Annualized	**16.29%**
S&P 500 Total Return Annualized	**8.38%**
Standard Deviation Annualized	**14.02%**
Alpha	**12.90**
Beta	**0.43**
Correlation	**0.46**

One might ask, how could the strategy outperform the benchmark by a two-to-one margin, generate a high alpha and relatively low beta, and have such a poor upside/downside capture ratio?

We believe the answer lies in the fact that the traditional method of calculating up/down capture ratios does not address what a tactical manager is trying to do: namely, to capture up ***moves during up market cycles*** and to avoid losses ***during down market cycles***. By using a continuous series of calculations without regard to the market environment, the traditional method rewards stock picking ability and the ability to manage a simultaneously hedged long and short book of securities.
Since most tactical managers adjust their market exposure in an attempt to navigate up and down market cycles, it seems the traditional upside/downside capture calculations are not an optimal evaluation of the manager's tactical skills. This is why we suggest a calculation that separates up and down market cycles.

A SUGGESTED METHODOLOGY FOR CALCULATING UP/DOWN CAPTURE FOR TACTICAL STRATEGIES

When a manager's primary investment strategy is tactical allocation, the traditional upside/downside capture methodology does not fully measure the manager's exposures to sources of systematic risk; nor does this calculation accurately reflect the manager's area of expertise, which is navigating market cycles. In Broadmark's case, we believe that this is true because:

Broadmark does not employ stock selection. A tactical manager's performance should be measured with respect to the market environment, that is, how the portfolio performs during up and down market cycles rather than measured in a continuous monthly or quarterly series. Many tactical managers objective are to capture upside in rising market environments and to avoid losses in declining market environments. The ability to navigate the portfolio during a turbulent market environment is the critical factor. The traditional calculation for upside/downside capture ratios better reflect stock selection skill, not the skill of successfully adjusting market exposure.

Broadmark's long-short portfolio is largely directional, and is not continuously hedged. Like some other directional managers, Broadmark hedges the portfolio based upon its view of the market environment. Broadmark therefore takes more of a macro approach to general market risk/reward characteristics and often uses no specific stock selection at all. The strategy will often use ETFs or futures contracts to gain access to the broad market indexes or industry indexes. Again, the market environment rather than security selection is the core feature of the strategy.

With respect to upside/downside capture ratios, therefore, Broadmark's goal is to capture a percentage of upside capture during rising markets and to protect the portfolio against losses in declining markets. And unlike the traditional analysis of a continuously hedged long/short manager, Broadmark seeks to achieve high beta in up markets and low or even negative beta in down markets.

Traditional calculations of upside/downside capture ratios penalize a manager for periods of high beta. We would argue that in a way similar to the philosophy behind the construction of the Sortino Ratio, which divides volatility into upside volatility ("good" volatility) and downside volatility ("bad" volatility), proper analysis of a tactical manager should separate upside capture vs. downside capture based upon how well the manager captures actual stock market advances and declines. A tactical manager aims for high beta during rising markets and low or negative beta during declining markets. The resulting alpha measures the degree to which the tactical manager has succeeded, or not succeeded, in achieving these goals.

While the continuously hedged long/short manager's goal is to add alpha through stock selection, the tactical manager's goal is to separate alpha and beta.

CALCULATION OF UPSIDE/DOWNSIDE CAPTURE IN UP AND DOWN MARKETS (2005 TO 2014)

CALCULATION OF UPSIDE/DOWNSIDE CAPTURE IN UP AND DOWN MARKETS (2005 TO 2014)
For our analysis, therefore, we took our benchmark the market return as defined as the total return of the S&P 500. Bull and bear periods are defined sequentially by material market advances in price preceding declines of 15% or more since the inception of the strategy in 2005. A threshold of a 15% price decline will occur more frequently in higher market volatility environments than is specified in this analysis. Based upon these parameters, we then calculated the return of the Broadmark Tactical Plus strategy for each of those time periods.

It should be noted that the beginnings and ends of bull and bear market cycles can only be defined in hindsight. Nonetheless, since the tactical manager's strategy is to successfully navigate these cycles on a real-time basis, we believe it is entirely appropriate to evaluate a manager based upon this historical yardstick, since this is the tactical or macro manager's stated investment objective. Indeed, the analysis can be further refined by setting additional parameters based upon higher or lower thresholds, and/or incorporating various measures of volatility.

The upside/downside calculation is as follows:

$$\text{Upside/Downside Capture Ratio} = \frac{\text{Cumulative Return on the Broadmark Portfolio}}{\text{Cumulative Return on the S\&P 500}}$$

Here are the results for each time period of market advance and decline since the strategy's inception in 2005:

CYCLICAL	S&P 500 TOTAL RETURN	BROADMARK TACTICAL PLUS RETURN	UPSIDE/DOWNSIDE CAPTURE
BULL 11/1/2005 to 10/9/2007	34.56%	67.97%	197%
BEAR 10/10/2007 to 3/9/2009	-55.25%	-9.55%	17%
BULL 3/10/2009 to 4/23/2010	84.21%	71.78%	85%
BEAR 4/24/2010 to 7/2/2010	-15.63%	-6.10%	39%
BULL 7/3/2010 to 4/29/2011	35.48%	19.16%	54%
BEAR 4/30/2011 to 10/3/2011	-18.64%	-9.15%	49%
BULL 10/4/2011 to 11/30/2014	101.44%	48.14%	47%

The above data encompasses the entire period from November 1, 2005 to November 30, 2014. We calculated the average compounded annual rate of return for the up and down markets during the periods in order to determine Broadmark's overall up/down capture ratio:

SUMMARY DATA
Broadmark Upside/Downside Capture Ratio (Un-weighted Series)

November 1, 2005 to November 30, 2014

Upside Capture	80.98%
Downside Capture	27.70%

Another way of looking at the data is to calculate a time-weighted series. This calculation gives more weight to longer advances and declines than shorter ones. This type of calculation may give insight into the persistence of a tactical manager's ability to capture upside performance and to avoid downside risks over longer advances and declines in the market as weighted by the length of the market advance or decline.

SUMMARY DATA
Broadmark Upside/Downside Capture Ratio (Time-weighted Series)

November 1, 2005 to November 30, 2014

Upside Capture	74.36%
Downside Capture	20.85%

CONCLUSION

When we segment the strategy's upside/downside performance by market advances and declines, we get a far different picture of the manager's ability than in the traditional upside/downside capture ratio analysis. For the Broadmark strategy, we believe this analysis adds context to the manager's skill in navigating up and down markets. The summary data of the new methodology—whether weighted or un-weighted—is more consistent with the overall performance returns, alpha and beta calculations of the strategy versus the benchmark S&P 500 Index.

The traditional calculation of up/down capture ratios for long/short managers is more suited to managers who employ stock selection and who are continuously hedged with long and short positions. This analysis is successful at measuring the manager's stock picking ability. However, many tactical managers like Broadmark do not use stock selection as their primary strategy. In addition, many tactical and macro managers employ a top-down approach which is directional in nature. They attempt to capture large market trends rather than rely on stock selection or a continuous hedge. We suggest that in addition to the traditional calculation of upside/downside capture ratios for tactical managers using a continuous time series, investment consultants may wish to add a calculation of how a tactical manager's portfolio performs during discreet up and down market periods. This calculation can be used along with the traditional up/down capture ratio calculation to provide a more robust evaluation of the manager's skill.

By separating a tactical manager's returns during up and down market cycles, as we suggest in this paper, investment consultants may better assess the manager's goal of participating in upside markets and avoiding losses in down markets.

DISCLAIMER
Broadmark Tactical Plus Strategy
Gross Performance

Performance presented for the period November 1, 2005 through June 30, 2006 reflects the returns generated on an internal proprietary account managed employing the Broadmark Tactical Plus Strategy. Performance presented for the period July 1, 2006 through September 30, 2009 represents actual trading conducted in Broadmark Dynamic Enhanced Equity Alpha Fund, Ltd, an exempted company organized under the laws of Bermuda and not registered under the Investment Company Act of 1940 ("Company Act"). Beginning October 1, 2009 the performance figures listed are those of Broadmark Dynamic Enhanced Equity Alpha Fund, LP, a private fund not registered under the Company Act, which at that time began employing the Tactical Plus Strategy, and became the larger of the two funds using the Strategy.

While the legal structures of the above investment vehicles differ, the implementation of the Tactical Plus Strategy has not been restricted by those differences and has been consistently applied across the vehicles. The Fund reflected has not yet been audited for the current year. It should not be assumed that future investors will experience returns that are comparable to those of the Strategy discussed herein. Performance is historical, and should not be taken as any indication of future results.

This document is not an invitation to purchase or an offer to sell interests in this Strategy. It is incomplete and does not include all of the information material to make a decision to invest, including, but not limited to the risk of such an investment, compensation of the investment manager and conflicts of interest of the management of the Strategy. Nothing contained in this material is intended to constitute legal, tax, securities, or investment advice, nor an opinion regarding the appropriateness of any investment, nor a solicitation of any type. The general information contained in this publication should not be acted upon without obtaining specific legal, tax, and investment advice from a licensed professional.

All returns reflect the reinvestment of dividends and other earnings and are gross of fees.

PAST RESULTS ARE NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. ALL INVESTMENTS INVOLVE RISK AND POTENTIAL LOSS OF PRINCIPAL.

Please remember that investments do not typically grow at an even rate of return and may experience negative growth. As with any type of portfolio structuring, attempting to reduce risk and increase return could unintentionally reduce returns. Alternative investments involve a high degree of risk and can charge higher fees than other investments. Hedge strategies are not subject to the same regulatory requirements as registered investment products and often engage in short selling and other speculative investment practices that may increase the risk of investment loss.

The S&P 500® Index is an unmanaged index and is widely regarded as the standard for measuring large-cap U.S. stock-market performance. Index results assume the reinvestment of all capital gain and dividend distributions. An investment cannot be made directly into an index.

For data supporting statistical and performance claims and for our futures disclosure statement, please contact Rawson Gulick, Marketing Director, (415) 526-8220, rgulick@broadmarkasset.com.