Calculating Upside/Downside Capture Ratios for Equity Hedge and Tactical Managers

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Summary

The upside/downside capture ratio is an important analytical tool for the investment management consultant. While they may be calculated for managers in all asset classes, in this paper we focus on upside/downside capture ratio calculations for equity hedge and tactical managers. We believe that the time period used with the ratio is significant when evaluating each of these types of managers.

For the purposes of this paper, we define those managers who are generally hedged (usually long and short at all times) as "equity hedge." This designation includes market neutral, relative value and long/short managers. We define managers who are directional and not necessarily hedged at all times as "tactical," including global macro, managed futures and tactical managers.

The traditional upside/downside capture ratio, which is usually calculated using a monthly time series, is best at evaluating an equity hedge manager's security selection and portfolio construction expertise. As the equity hedge portfolio fluctuates versus its benchmark, the investment consultant is able to assess an equity hedge manager's performance versus the benchmark during the up and down periods.

Tactical strategies, on the other hand, often make extensive use of broad market indexes through ETFs, futures contracts and derivatives rather than individual securities. This approach is used because the goal of these managers is primarily to regulate the exposure of the portfolio to the market rather than the selection of individual long and short securities. Tactical strategies are more directional in nature.

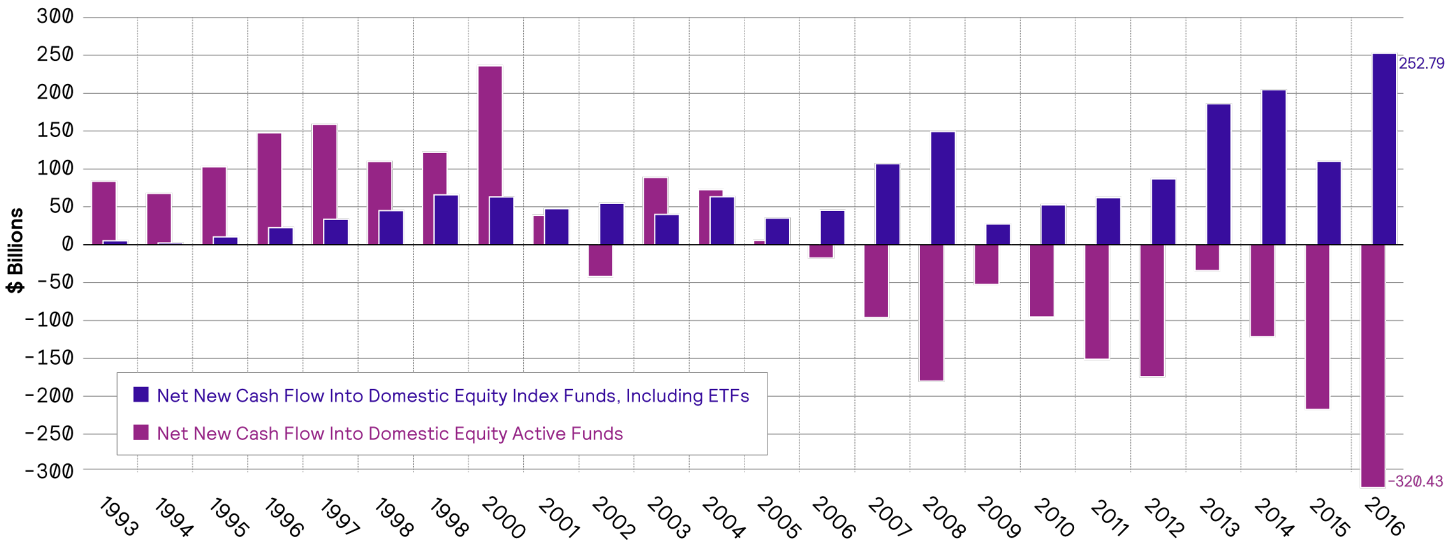
Upside/downside capture ratios for tactical managers should provide insight into their ability to manage systemic risk and preserve capital during down market cycles. We suggest that the best way to achieve this goal is to use a time period that is related to the overall market environment—e.g., up, down, flat, volatile cyclical markets—which may be longer than their monthly variance versus a benchmark. While the investment management consultant is able to use the same mathematical formula for both calculations, we believe that the selection of the measurement period is important in evaluating the manager's particular skill in their area of expertise.

Why Is Upside/Downside Capture Analysis Important Now?

The rush to passive investing has accelerated in recent years. In 2016, there was a record net new cash inflow in domestic equity index funds (including ETFs) of over $250 billion. At the same time, there was a record net outflow in domestic equity active funds of over $300 billion. Many market participants have asked if this is the new model for investment management. *Figure 1* seems to suggest that this trend is secular in nature, having persisted for 25 years, rather than merely a cyclical phenomenon. It leaves many wondering: why should an investor hire an active manager if active management returns have not exceeded that of unmanaged market indices? Is active management dead?

Figure 1. Record Flows Into Passive Funds and Out of Active Funds

Yearly Data, December 31, 1993 – December 31, 2016



Sources: Ned Davis Research, Investment Company Institute, as of 12/31/16

"The essence of portfolio management is the management of risks, not the management of returns." —Benjamin Graham

We believe that a good way to manage risks in a passive portfolio is to allocate a significant portion of the portfolio to tactical strategies that are designed to manage portfolio risks. We believe this active management allocation is essential to portfolio management, particularly now.

At the current point in the economic and stock market cycle, after the U.S. stock market has produced continuous positive returns every year since 2009, it is prudent to ask at what point the market will undergo the type of correction to the uptrend that typically occurs after economic expansions. This question is particularly important for those investors whose time horizon is less than 10 years. Remember that if an investment portfolio declines 50%, as it did during the last recession, it must subsequently double in value just to get back even, which begs the question: does the portfolio have sufficient time to recover? Another consideration when looking at passive versus active investing is that the market advance since 2009 has been indiscriminate in driving up stocks; high-quality and low-quality securities alike have been buoyed upward by the rising stock market tide. Active investment managers that discern higher quality from lesser quality securities have been at a disadvantage because the stock market has not rewarded this distinction.

Calculation of the Upside/Downside Capture Ratio

Upside/downside capture ratios show how much a manager has gained or lost compared to a broad market benchmark over a specified time period. The ratios are usually calculated using monthly data, but any time period can be used. The investment consultant might want use daily or weekly data to examine the manager's sensitivity to very short-term market movements or extend the time period under review to one year or more to measure a manager's risk capabilities during a large market decline (2008, for instance) and ability to participate in the subsequent market advance.

Monthly upside/downside capture ratios are calculated by taking the manager's monthly return during months when the benchmark had a positive return and dividing it by the benchmark return during that same month. Downside capture ratios are calculated by taking the manager's monthly return during the periods of negative benchmark performance and dividing it by the benchmark return. Generally, upside/downside capture ratios are calculated over one-, three-, five-, 10- and 15-year periods by calculating the geometric average for both the manager's returns and index returns during the up and down months, respectively, over each time period.

According to Morningstar, "An upside capture ratio over 100 indicates that the manager has outperformed the benchmark during periods of positive returns for the benchmark. A downside capture ratio of less than 100 indicates that the manager has declined less than its benchmark in periods when the benchmark has been negative. In the case where a manager registers positive returns when the benchmark declines, the fund's downside capture ratio will be negative (meaning it has moved in the opposite direction of the benchmark). The selection of a particular benchmark is important and is usually the stated benchmark for the manager."[1]

Upside/Downside Capture Ratio Measurements for Equity Hedge Managers

Upside/downside capture ratios are commonly calculated using monthly return data. Monthly calculation is an appropriate measure for those managers who employ security selection as their focus, as this analysis captures how well their positions contribute to the overall portfolio movement versus the benchmark without regard to the market environment, as measured monthly. The goal for an equity hedge portfolio is to select both long and short positions they believe will contribute positively to returns.

Upside/Downside Capture Ratio Measurements for Tactical Managers

A tactical manager's goal is often to *capture upward moves during up market cycles* and to *avoid losses during down market cycles*. The traditional method of calculating upside/downside capture ratios using monthly data does not address the tactical manager's use of risk management techniques through portfolio exposure in different market environments because one month doesn't capture the full range of a market cycle. By using only monthly data without regard to the market environment, the traditional method does not provide insight into a manager's timing ability and success at mitigating systemic risk over a full market cycle.

Evaluating Equity Hedge and Tactical Managers Using the Upside/Downside Capture Ratio

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.'"[2] Investment consultants evaluate a manager's capability versus a benchmark by identifying the relevant features of that manager's strategy. The appropriate benchmark should encompass the manager's "area of expertise." The investment consultant should therefore determine how best to measure this expertise in relation to the benchmark.

We suggest that the investment consultant consider four factors when evaluating a manager's performance versus a benchmark when using the upside/downside capture ratio:

1. **The investment time horizon.** Tactical managers often take a top-down macroeconomic or a quantitative approach to the markets, or use a combination of the two. The time horizon targeted by these managers might be longer and encompass more of an intermediate- or long-term economic and stock market cycle—from three months to a year or more. The traditional monthly calculations used may be not be helpful in measuring a tactical manager's success or failure over a longer market cycle.

2. **The securities used reflect the different investment approaches**. Equity hedge managers generally have long and short individual securities positions in the portfolio. The upside/downside capture ratio as calculated monthly gives the investment consultant a good idea of how the long and short positions have contributed to the performance of the overall equity hedge portfolio, which in turn offers insight into the manager's stock selection capabilities.

   However, tactical managers often use broad market indexes and derivatives rather than individual securities. The evaluation of tactical managers is not based upon stock selection, but rather upon the portfolio's performance during up- and down-market cycles. By extending the time period to encompass a market cycle or a specific time period within a market cycle, the investment consultant can better evaluate the correlation of investment returns compared to the benchmark with respect to systemic risk.

3. **The types of risks being measured**. Upside/downside capture ratios using monthly data do a good job of assessing a manager's ability to construct and manage security-specific risks. The tactical manager's primary goal is often to capture the larger market upward moves and protect the portfolio from systemic, or market, risk. By adjusting the time period used in the calculation, the investment consultant can make sure to measure the manager's skill at managing each type of risk—specific risk and systemic risk.

4. **The stock market environment**. If the stock market environment in the next five years is similar to the last five years of rising stock prices, then the traditional monthly upside/downside capture ratio calculation may be the best way to assess a manager because it demonstrates the stock picking and portfolio construction ability of the manager. However, if the approaching stock market environment has more economic contractions, declining stock prices or increased volatility, then we suggest that a better way to assess risk management may be to evaluate how a manager performed during longer periods of time compared to the benchmark. Adjusting the time horizon to reflect the anticipated market environment may enhance an investment consultant's ability to evaluate each manager's particular area of expertise.

Conclusion

The upside/downside capture ratio can be a powerful tool in evaluating both equity hedge and tactical managers. However, adjusting the time horizon for each of these types of managers can better evaluate each manager's area of expertise and management of specific risk versus systemic risk.

The commonly used method of calculating upside/downside capture ratios using monthly data is an excellent method for assessing an equity hedge manager's area of expertise, namely individual security selection and portfolio construction. However, when evaluating the area of expertise of tactical managers, we suggest broadening the time period under investigation to include various market environments. By expanding the time period used in the calculation, a consultant can better evaluate the tactical manager's expertise at managing risk and return during rising, flat, declining or higher volatility market environments. We believe that examining performance over various time periods and market environments may give the consultant a more robust assessment of the skills of equity hedge and tactical investment managers.

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Co-CEO

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[1] See www.morningstar.com/InvGlossary/upside-downside-capture-ratio.aspx
[2] 2014 CFA Program Curriculum, Level III, "Portfolio: Execution, Evaluation and Attribution, and Global Investment Performance Standards," page 136