Executive Summary
ANCHOR TO WINDWARD
Aligning Absolute Return Objectives

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Following the 2000-2002 financial downturn, institutional investors increasingly turned to
hedge funds and other alternatives to incorporate more stable, diversifying return streams
into their portfolios. However, investors experienced several unexpected shortcomings with
their hedge fund investments during the 2008-2009 financial crisis, including illiquidity,
opacity and, at times, returns highly correlated with the market. Consequently, investors
have become increasingly interested in more liquid, transparent alternative strategies
designed to generate returns that are consistent, less volatile, and less likely to be correlated
with the broad market.

Common investment objectives for absolute return strategies include downside
diversification, better tail-risk protection, and consistent outcomes. We examine how a
variety of absolute return strategies delivered against these investment objectives over the
nine years from January 2008 through December 2016.

The breadth of potential sources for this kind of "liquid absolute return" can make the
identification and evaluation of strategies challenging for investors. We attempt to better
characterize the institutional opportunity set by analyzing a wide range of strategies
reported in the eVestment Hedge database and employing screens to focus in on liquid
absolute return-oriented strategies.

We recommend different performance metrics to evaluate different investment objectives.
To measure the consistency of absolute returns, we introduce the "Anchor Ratio" (AR),
which measures whether an investment strategy generates sustained and consistent
outcomes independent of the market environment. The name is drawn from cricket,
where the anchor player is a top-order batsman capable of batting for a long duration
throughout an inning. Despite playing defensively, the anchor is often the top scorer. In
finance, the "hit rate," defined as the percentage of correct decisions to total decisions is
often used to evaluate the consistency of a manager's skill. However, what's missing is the
notion of performance sustainability. How long can a manager hit without having a miss?

For the Anchor Ratio, we introduce the "hit run," defined as any period with consecutive
positive returns. A hit run's *score*, denoted by h, is the *number* of consecutive positive
returns during the run. Similarly, a period of consecutive *negative* returns is a "miss run,"
and its score, denoted by *m*, is the number of consecutive negative returns. We disregard
performance magnitude and focus solely on the duration of performance consistency. For
the entire sample period, we identify hit runs and miss runs and calculate each run's score.
We then calculate the ratio of sum of squared hit run scores to the sum of squared miss
run scores. The square root of this ratio is the AR, as below (where p is the number of hit
runs, and *q* is the number of miss runs):

$$AR = \sqrt{\frac{\sum_{i=1}^{p} h_i^2}{\sum_{i=1}^{q} m_i^2}}$$

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For example, suppose a manager has two runs: a hit run of five consecutive months of positive performance (*i.e.*, a hit run of score five) followed by a miss run of three consecutive months of negative performance (*i.e.*, a miss run of score three). In this simple example, the manager's AR would be $\sqrt{(25/9)} = 1.67$.

To measure tail-risk control we use conditional value-at-risk (CVaR) and maximum drawdown. And to measure diversification to traditional public markets in downturns we use downside correlation to the equity market.

We calculate these measures at the fund level and at the strategy level. Ranking by each of these performance metrics enables us to determine which absolute return strategies may be best suited to meet different investors' objectives.

On average, we find that:

- **Absolute Return, Event Driven,** and **Credit Long Short** strategies provided relative consistency (as measured by the Anchor Ratio), together with attractive risk-adjusted returns.
- **Equity Long Short** was attractive from a risk-adjusted return perspective.
- **Absolute Return, Multi Strategy, Event Driven,** and **Discretionary Macro** were most effective in controlling tail risk.
- **Managed Futures** alone stood out for downside diversification.

We rank all funds, regardless of strategy, by each one of the three measures: AR, CVaR, and downside correlation. We then group the funds into quartiles (by number of funds) based on these rankings. From here we can determine percentage of funds of each strategy that are represented in each quartile. Figure 1 shows these results when funds are sorted by the AR. Across this set of absolute return-style funds, an AR greater than 2.04 would rank in the top quartile and a ratio less than 1.16 would be in the bottom quartile. (Funds were also ranked by their 95% CVaR values and equity downside correlation and grouped into quartiles.)

Figure 1: Percentage of Funds in Each Anchor Ratio Quartile
(USD returns, January 2008 – December 2016)
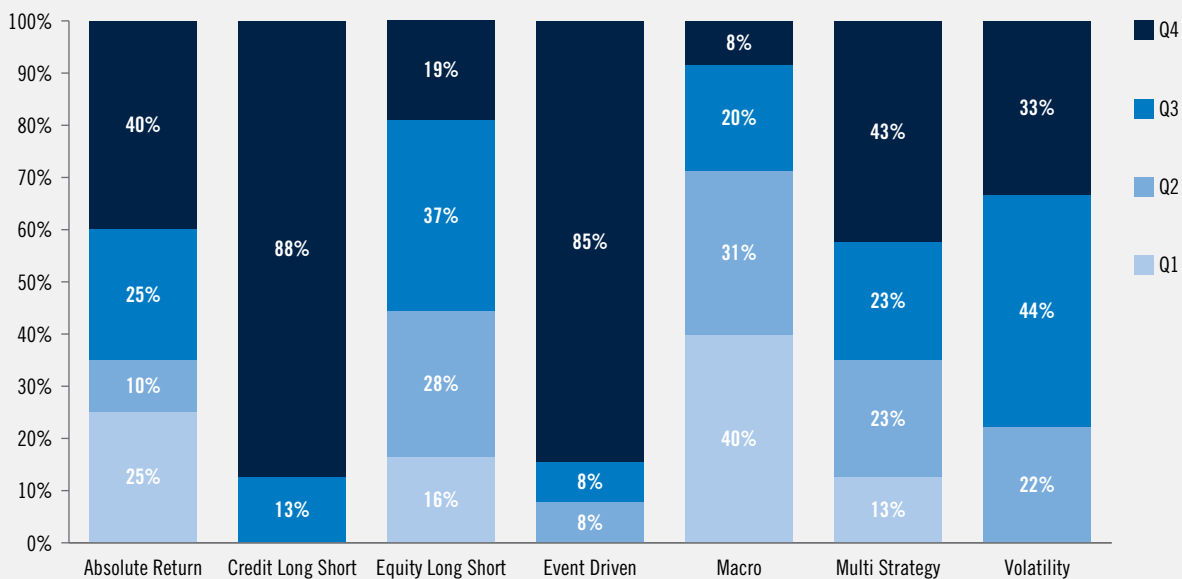
Please note that the Macro group represents primarily (a) Discretionary Macro and (b) Managed Futures; the number of eligible funds in GTAA, Systematic Macro, Fixed Income Relative Value and Foreign Exchange sub-strategies were fewer than five each; as such, the results presented here are not meant to be representative of those sub-strategies. Source: PGIM IAS, eVestment. For illustrative purposes only.

Consistency of performance is a frequently sought characteristic of absolute return strategies and has also been shown to be a potential indicator of manager skill. Since the AR addresses this question of sustainability it may also help to identify managers with greater outperformance. Just as an anchor batsman in cricket plays long innings and often ends up as the high runs scorer, we might expect to find superior performance associated with the funds in the top AR quartile.

We analyze performance results by AR quartiles to study if any patterns emerge. We plot the average return for each strategy, by AR quartile (Figure 2). We observe that average returns were higher, in aggregate, for funds with top quartile (Q4) AR, despite the fact that calculation of the AR does not incorporate the magnitude of performance.

Figure 2: Average Return Sorted by Anchor Ratio Quartile
(USD returns, January 2008 – December 2016)
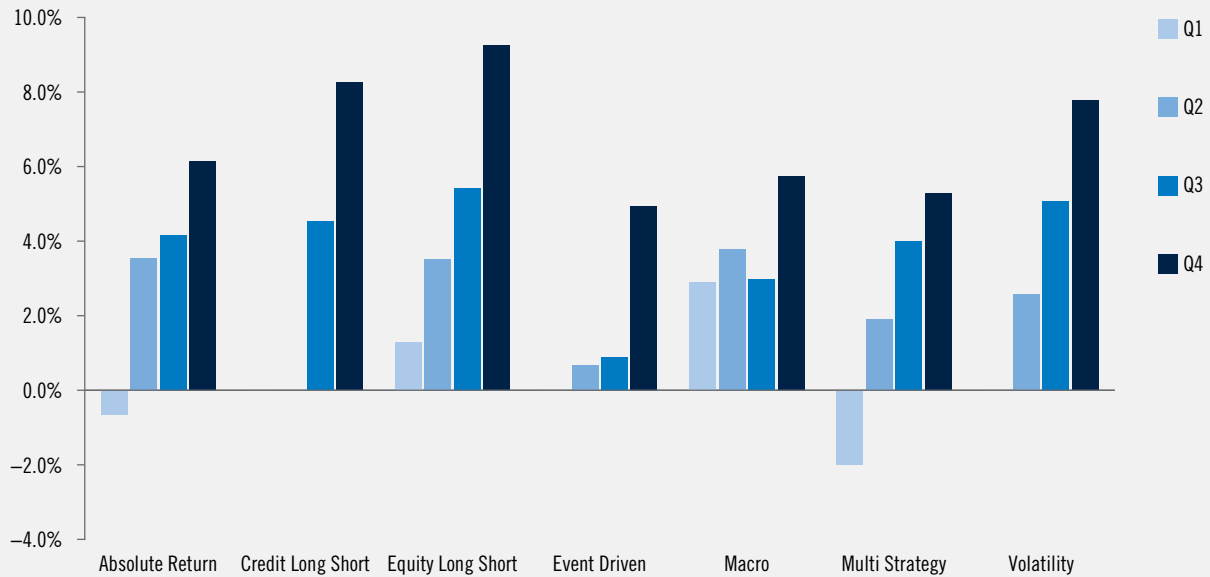
Note: We rank all funds across all asset classes based on their Anchor ratio in ascending order and then take performance averages in each quartile. The returns and volatility are annualized averages. Please note that the Macro group represents primarily (a) Discretionary Macro and (b) Managed Futures; the number of eligible funds in GTAA, Systematic Macro, Fixed Income Relative Value and Foreign Exchange sub-strategies were fewer than five each; as such, the results presented here are not meant to be representative of those sub-strategies. Source: PGIM IAS, eVestment. For illustrative purposes only.

Summary of Results

Figure 3

Objective	Performance Sustainability	Lower Tail Risk	Downside Diversification	Risk-Adjusted Return
Measure	Anchor Ratio	95% CVaR	Downside Equity Correlation	Sharpe Ratio
Absolute Return	w	w		w
Multi Strategy	w	w		
Event Driven	w	w		w
Volatility	w			
Credit Long Short	w			w
Equity Long Short				w
Macro*				
Discretionary Macro		w		
Managed Futures			w	

Note: An "x" indicates relatively favorable results for the given strategy when evaluated based on the given measure. In each case, an "x" is marked if (a) the strategy-level average of that measure was greater than the overall average of that measure (of all funds evaluated across strategies) and (b) if more than 30% of the individual funds evaluated in that strategy were associated with top quartile results of the given measure. Quartile results for the Sharpe ratio measure, not presented in the paper, are available upon request.

*Macro results are presented at the sub-strategy level here for (a) Discretionary Macro and (b) Managed Futures, given the relatively large number of funds and unique characteristics in each of these categories. The number of eligible funds in GTAA, Systematic Macro, Fixed Income Relative Value and Foreign Exchange sub-strategies were fewer than five each, and therefore were not reported at the sub-strategy level, and overall "Macro" strategy-level results are not meant to represent the characteristics of these sub-strategies.

Source: PGIM IAS, eVestment. For illustrative purposes only.

We summarize our findings in Figure 3, with an indication of the relative attractiveness of each strategy when evaluated under each of the three absolute-return-oriented metrics we employed, as well as the Sharpe ratio. Results are provided at the sub-strategy level for Macro, given the large number of funds and distinct characteristics observed in this group. We note that most of the strategies evaluated had at least one area of relative strength, and some were strong in more than one area.

Strategies except for Equity Long Short and Macro were attractive from an AR perspective. Managed Futures alone stood out for downside diversification, while Discretionary Macro demonstrated success in controlling tail risk, as measured by 95% CVaR.

While the results can serve as a guide to help investors understand how different strategies might broadly fit relative to objectives, the importance of understanding a specific manager's characteristics cannot be overemphasized. The same measures used here to evaluate the overall (or average) characteristics for groups of funds can, and should, be applied at the individual manager level as well. Manager-level results can then be compared to help determine which might be more likely to help fulfill a particular objective, or to diversify existing exposures.

Important Information

Past performance is no guarantee or reliable indicator of future results. All investments involve risk, including the possible loss of capital.