We have all heard the disclaimer, “past performance is not indicative of future results.” Yet, akin to sailors before the Songs of Sirens, or a moth before a flame, many of us are guilty of gravitating towards historical performance, formulating biases and extrapolating future performance and risk characteristics.

Why do we put so much emphasis on descriptive statistics, such as returns, beta, correlation, and volatility? Is it merely a convenience factor that provides us comfort in knowing that we can quantify the complexities, nuances and intricacies that go into running an asset management firm with concrete numbers that are easy to derive and understand?
"If you challenge conventional wisdom, you will find ways to do things much better than they are currently done." — Bill James

When we analyze the investment prospects of a company, we employ numerous metrics for valuation, profitability, quality, carry, and various sentiment indicators. The metrics utilized differ widely, depending on the underlying characteristics of the business. Yet, when it comes to evaluating investment managers, there appears to be a tendency to settle for “one size fits all” universal risk/return metrics to guide the decision-making process.

Perhaps we have become too reliant on these headline risk/return metrics to guide our manager research and selection process. Just as we shouldn’t judge a book by its cover, we shouldn’t preemptively form views on a manager based solely on the fund’s numbers. In previous publications, we have highlighted asset managers’ ability to generate excess return via position sizing and security selection skills. In this paper, we examine how inefficiencies can arise from overdependence on traditional risk/return metrics and offer a framework for identifying active management skill by taking a closer look at a manager’s ability to manage exposures at both the market and sector levels.

“Lies, Damned Lies and Statistics”
— Mark Twain

As investors, what do we ultimately expect from our active fund managers? Some of the universal characteristics we seek out from managers are low correlation and beta to the broader equity market. But are these statistics effective at capturing the riskiness of a portfolio?

Imagine a long/short equity manager that runs a net 70% exposure on average. The long portfolio comprises low beta stocks – 0.8 on average – and the short portfolio comprises high beta stocks – 1.4 on average. A manager running an 85/15 long/short exposure would have a market beta of 0.47. This gets amplified as leverage is utilized. A manager can run the same 70% net exposure portfolio at a 200% gross exposure (135/65 long/short) and have a market beta of 0.17.

Does this necessarily make this hypothetical portfolio a less risky portfolio? At first glance, a portfolio with a historical market beta of 0.17 would appear to have limited systematic risk exposure, but that would be an inconsistent conclusion for a portfolio with net 70% exposure. A lot would depend on the portfolio construction process and the rationale behind the decision to be long low beta stocks and short high beta stocks.

Given the industry preference for products with low equity beta, fund managers may be deliberately “window dressing” to create a low equity beta portfolio. A manager may not have any fundamental view, but may be consciously screening for low beta stocks on the long side and high beta stocks on the short side, to create a more attractive portfolio with a low historical equity beta. Or perhaps the manager has made a systematic bet that low beta stocks will outperform high beta stocks in the near term and has deliberately constructed the portfolio this way.

Another possibility is that the manager’s implicit bet against beta stems “organically” based on individual stock selection. The manager’s portfolio construction could be purely based on fundamentals and the long portfolio happens to be low beta, while the short portfolio is higher beta.

**Bottom line is that statistics can be manipulated.** The three cases above will have identical historical equity beta and correlation, yet the rationale behind the portfolio construction is entirely different. The “advertised” risk profile
“Don’t confuse lack of volatility with stability, ever.”
— Nassim Nicholas Taleb

may appear identical, but the true risk will be quite different.

If we all understand past performance is not indicative of future results, why do we extrapolate that realized volatility and correlation to markets are indicative of future volatility and correlation? As market environments change and opportunity sets evolve, pairwise correlation and dispersion levels will fluctuate. In turn, active managers may need to make tactical shifts in their capital allocation decisions in conjunction with the evolving market. Depending on the regime, a high market beta and high realized volatility may be desirable, as long as the manager is compensated for the incremental risk undertaken. But in no way does this attribute alone encapsulate a manager’s risk profile or ability to manage risk. A portfolio’s realized volatility and correlation to the market are a product of the market environment and the portfolio manager’s conscious decision to participate under the given circumstances. As markets evolve, so will managers’ risk appetite and desired participation levels. Standard deviation allows us to compare the periodical variations in a portfolio’s returns relative to the benchmark, but cannot be relied upon as guideposts for future volatility on a standalone basis.

The biggest drawback to traditional measures of risk, such as standard deviation and value at risk, is that they’re backward looking. Measures such as value at risk are simply “peace-time statistics,” and hence are worthless when complexities arise and cross asset correlations all converge towards one – precisely when risk management is most valuable. The recent low volatility of asset prices does not necessarily mean that all is well in the world. Conversely, just because a fund historically has had high market correlation or realized volatility, it does not necessarily mean that it’s a risky portfolio. All it means is that we must ask ourselves why the manager’s realized volatility has been high/low and whether it has fluctuated depending on the market dynamics.

Speaking of low realized volatility, this takes us to a strategy that has been gaining a lot of attention recently – selling volatility. Given the unprecedented low realized volatility environment we are currently in, shorting the VIX and selling equity puts have very much been in vogue. Given that “things have not been bouncing around a lot lately,” selling volatility has been a very profitable, “low risk strategy.” Yet there is an asymmetric risk profile embedded in such a strategy. But such a strategy also exhibits very desirable risk/return metrics – low realized volatility and hence, high risk-adjusted returns.

Long Term Capital Management (LTCM) exhibited such desirable characteristics – that is until it didn’t. In fact, if we overlay LTCM’s monthly return profile against the strategy of selling out of the money puts (Riteput') (Fig. 1), the resemblance is uncanny.

As former Citigroup CEO Charles Prince put it, “As long as the music is playing, you’ve got to get up and dance.” Bottom line is that as attractive as low realized volatility and high Sharpe Ratio may be, there may be unknown risks embedded within those numbers that have not shown up that are lurking in the background. In the case of LTCM, the fund was essentially long liquidity and short volatility in massive scale with leverage. Similar to selling insurance, most of the time you make money with low realized volatility. But when crisis erupts and liquidity dries up, “you discover who’s been swimming naked.”

“I skate to where the puck is going to be, not where it has been.” — Wayne Gretzky

Aside from low correlation to the broader equity market and high risk-adjusted returns, investors generally want managers that can generate excess positive returns during “normal periods,” while protecting capital and preserving the optionality to provide liquidity during periods of distress. Put another way, we want managers to take risk when returns are robust and de-risk when risk/reward profile is less compelling.

If this is indeed the case, since inception numbers, such as beta and standard deviation, are not necessarily the best metrics to evaluate a manager. We are advocating that the industry needs to evaluate performance and risk management in different regimes, i.e. how did the manager’s exposure correspond with future market returns? Does the manager increase/decrease exposures in rising/falling market environments?

Historical betas and correlations fail to depict the entire narrative. After all, historical numbers are averages and averages do not capture the fluctuations that occur within the time frame. Below is the forward 3-month return of the S&P 500 overlaid with Heard Capital’s monthly change in long exposure (Fig. 2). Even to the naked eye, one can immediately see that there is a positive correlation between changes in long exposure and forward 3-month returns.

Simple linear regression confirms the statistically significant and positive relationship between Heard Capital’s long exposure management and forward market returns.

2 Source: Heard Opportunity Strategy Composite

FIG 2 - S&P 500 FWD 3 MONTH RETURNS VS CHANGE IN LONG EXPOSURE
\[ E(R_{\text{Fund 3-mo S&P 500}}) = 0.037 + 0.08 \times \Delta \text{Long Exp.} \]

Heard Capital’s willingness and ability to manage its exposure has translated into high variability in its rolling equity beta, depending on the acuteness of the market environment. Heard Capital’s trailing 3-month beta has been as low as -2 and as high as +5. The result of participating in robust markets while paring back risk in adverse environments is 27% contribution to performance from active exposure management.

Heard Capital’s average market beta and correlation to the S&P 500 since inception of 0.54 and 0.66, respectively, may appear high at first glance. But Heard has effectively managed risk and exposure by participating in strong equity market environments, while protecting capital in adverse markets. And isn’t this what we ultimately ask of managers managing our money?

Efficient exposure management should translate into a high upside/downside capture ratio. To be perfectly clear, upside/downside capture is defined as the upside/downside an investment captures when a benchmark is up/down. It is the investment’s return when the benchmark was up/down, divided by the benchmark’s return when the benchmark was up/down. Ideally, we want to see upside/downside capture ratio to be greater than one. Utilizing hedge fund managers’ public filings, we examine two managers’ upside/downside capture ratios in particular (Fig. 3).

Fund A not only has a longer track record, but it also has superior upside and downside capture ratios. That is, when the S&P 500 is up, Fund A has historically captured more upside, and when the S&P 500 is down, Fund A has captured less of the downside. But when we analyze Fund A’s trailing 3-year upside/downside capture ratio (Fig. 4), we see a downward trend since mid-2008.

The decline in upside/downside ratio has mainly been a function of diminishing upside capture, as the downside capture stayed relatively stable until 2016, when it crossed above one and has stayed elevated. The decline is concerning and one must ask whether this trend will continue and what’s driving this trend. Has there been key personnel turnover? Is it poor stock selection or the challenging macro environment? As impressive as Fund A’s historical performance has been, one must carefully examine why exposure management has failed to contribute to returns and whether it can be turned around.

Even though Fund B’s since inception upside/downside capture ratio is not as impressive as that of Fund A, exposure management has been consistent in recent years (Fig. 5), even amidst a challenging macro environment for hedge fund managers, as evidenced by its steady rolling 3-year upside/downside ratio.

\footnote{Return statistics for both “Fund A” and “Fund B” were derived based on public 13-F data. As such, net returns are not available for the comparison adviser performance.}

<table>
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<th>FIG 3 - CAPTURE RATIO COMPARISON</th>
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<tr>
<td><strong>Fund A</strong></td>
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<tr>
<td>Inception Date</td>
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<td>Upside Capture</td>
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<tr>
<td>Downside Capture</td>
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<td>Upside Downside Ratio</td>
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Like many active equity managers, Fund B suffered a drawdown from the Chinese stock market crash in August 2015, as evidenced by the uptick in downside capture in September 2015. Following the acute drawdown, it appears that Fund B made a deliberate decision to reduce its long equity exposure. The green line, which traces the fund’s trailing 3-year long equity beta, begins to trend downwards in September 2015. Conjunctively, both the upside and downside captures declined relative to the previous period from 2014 to 2015. However, the upside/downside ratio actually increased in the subsequent regime. Even though Fund B reduced its long equity exposure, its long portfolio continued to outperform the S&P 500 TR Index on a rolling three-year basis (Fig. 6).

Is the outperformance as great in magnitude as in previous regimes? No. But we believe this is a great example of a manager deliberately shifting focus to return of capital as opposed to return on capital. Only time will tell whether this is the prudent tactical shift, but we cannot argue...
with the manager’s ability to maintain a strong upside/downside ratio in a challenging macro environment.

Aside from market exposure management, fund managers may be very proficient at managing industry or sector exposure. How proficient is the manager at allocating capital at the sector level during periods of structural change?

Energy sector has exhibited very acute cycles in recent years and examining a manager’s ability to manage exposure to the sector in conjunction with the cycle may be a very powerful indicator of his/her ability to manage risk.

We can clearly see that Heard Capital decisively cut its energy exposure in the fall of 2014, just as the sector performance began to erode, and maintained a neutral/net negative exposure until March 2016 (Fig. 7). In fact, if you regress the forward 12-month S&P 500 Energy sector’s total return against Heard Capital’s change in net exposure to the energy sector, you get a statistically significant positive relationship between exposure management and forward 12 month returns.

\[
\text{Energy } R_{1\text{-}12} = 0.04 + 2.51 \times \Delta \text{Net Exposure}_{\text{Energy}}
\]

As investors, what do we ultimately demand from our fund managers? To provide positive carry and take risk during “normal periods” while preserving liquidity and protecting capital during periods of distress. Heard Capital has shown the ability to achieve these qualities at both the market and sector levels, indicating the ability to pivot away from return on capital to capital preservation as market regimes shift.

Based on SEC 13F public filings, Hound Partners is another hedge fund that appears to actively manage the sector exposures of their long book. Using Hound’s quarterly public positions, we constructed a chart of their monthly long exposure to the Consumer Discretionary sector relative to the sector’s forward 12 month returns (Fig. 8).

The main observation is that Hound’s long Discretionary exposure significantly decreased from 2006 (prior to the Financial Crisis) to virtually 0% by the summer of 2008. It wasn’t until December 2008 that Hound’s long Discretionary exposure started increasing just months ahead of the market recovery. Based on public filings

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4 Source: Heard Opportunity Strategy Composite

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**Fig 6 - Rolling 3 Year Return**
and monthly simulated pricing, active sector allocation in the Consumer Discretionary sector has added approximately 229% of excess returns since inception, relative to the S&P 500 Consumer Discretionary Index. When we conduct a simple regression analysis of Hound’s change in the Discretionary sector exposure against forward 12-month discretionary sector excess returns, we find a statistically significant positive relationship.

\[
\text{Discretionary Sector Excess Return}_{t+12} = 0.04 + 1.12 \times \Delta \text{Long Exposure}_{\text{Cons Disc}}
\]

That is, for every 1% change in exposure to the discretionary sector, the discretionary sector is expected to outperform the S&P 500 by 1.1% in the next 12 months.

From 2010 to 2016, Hound’s allocation to the discretionary sector stayed relatively stable, as did forward 12 month returns. In the last twelve months, the fund has drastically increased its allocation to the sector. Time will tell whether this turns out to be a prudent capital allocation decision, but given the sector expertise they have demonstrated historically, we would conjecture investors will be rewarded by the recent sector tilt.

Financial sector has been arguably the most challenging sector to navigate in the last ten to twenty years due to the acuteness of both the ascent and collapse of the sector. Out of the S&P 500 GICS I sectors, Financials is the only sector that has yet to establish a new high-water mark since the Financial Crisis. We also analyzed the public regulatory filings of Appaloosa Management, and focused on the Financials exposure shifts.

Appaloosa has only been overweight the benchmark sector weight on 4 occasions since its inception in 1999—Dot Com Bubble in late 1999, briefly in late 2003, during the aftermath of the Financial Crisis and in 2012-2013 following the European Sovereign Debt Crisis. In all but one occasion (2003), the S&P 500 Financials index outperformed the broader S&P 500 Index on a forward 12-month basis. In nearly all other time periods, it appears that Appaloosa has been underweight Financials, often running a 0% long exposure to the sector (Fig. 9). This opportunistic approach to sector exposure management has rewarded investors tremendously.

5 Pure Sector Allocation Effect = \[\sum_{i=1}^{n} (w_{p,i} - w_{B,i}) (r_{B,i} - r_{p,i})\]

6 Discretionary Sector Excess Return = \[\text{Fwd 12mo Return}_{\text{Cons Disc}} - \text{Fwd 12mo Return}_{\text{S&P 500 TR Index}}\]

7 Source: Bloomberg; As of 9/30/2017
Using Appaloosa’s public position-level data, we estimate that the fund has generated over 1000% excess returns since inception relative to the benchmark. Granted, a large chunk of the outperformance came from Appaloosa’s high exposure after the 2008 market crash, in which the fund’s Financials exposure as a percentage of its total public long portfolio was over 90%. However, Appaloosa had zero public long exposure to the Financials throughout the 2000s - a period in which Financials performed in line with the market until the beginning of the Financial Crisis. Appaloosa’s sector exposure management appears both swift and decisive, and it has rewarded investors thus far. Lastly, it is interesting to note that based on their public filings, Appaloosa has not participated materially in the Financials’ most recent outperformance of 2016. It is puzzling that the fund has not chosen to allocate capital to the sector. Again, only time will tell whether this was a prudent decision.

Data points suggest that there are managers who have repeatedly shown the ability to generate superior risk adjusted returns by participat-
ing in robust markets while avoiding downturns by actively managing exposure, both at market and sector levels. Could it be luck? Certainly, but it could also be skill. This is precisely why understanding the manager’s thought process and ability to think through known and unknown risks is so vital to manager due diligence.

Truly understanding sources of a fund manager’s returns is no simple task. Just as a company management team can manage earnings, give conservative guidance, and manage financial statements to avoid "red flag" items, fund managers can also disguise true levels of risk to make the product more appealing.

As convenient as it would be to be able to utilize a set formula to identify true locks, both for fund managers and companies, no such formulas exist. Confusing formulas with good decision making can have disastrous effects, especially if we get too fixated on a set of numbers that don’t tell the whole story. Critical information can be left behind from overreliance on descriptive statistics.

We all sometimes need to be reminded of the perils of our behavioral biases. What we are advocating is that we, as fiduciaries, need to go beyond the universal measures of risk/return to better understand both known and unknown risks embedded in a fund’s returns. What type of risk is the manager really undertaking? Is the manager aware of embedded risks within the portfolio? What form of active management are we getting from the manager? Does the manager have a game plan to adapt in response to unforeseen exogenous shocks? And ultimately, can the manager be entrusted with our capital to navigate through the rolling tides with conviction and acumen?

No, these are not easy questions to answer. But perhaps the first step is shedding ourselves from the confinement of traditional measures of risk and return that don’t encapsulate the fund’s risk characteristics. Perhaps it’s time to rethink how we evaluate and measure risk. With the proliferation of publicly available data, increasing transparency of hedge fund managers, and the right framework, we can take the first step in tackling this daunting task.

About Heard Capital

Heard Capital LLC is a global asset management firm based in Chicago, IL. The firm invests in six sectors, technology, media, telecommunications, financial, industrial, and energy, guided by fundamental strategies. The firm’s two strategies are long/short and high conviction long-only. The long/short strategy seeks to generate superior risk-adjusted returns while preserving capital in any market condition. The high conviction long only strategy embraces concentration and reflects a long-term, private equity approach to public investing. Heard Capital’s investment philosophy recognizes that regulatory structures, the competitive landscape, demographics, and historical biases create inefficiencies in these six sectors. They construct a global portfolio utilizing a “bottom up” approach that identifies and provides an acute understanding of opportunities where the perception of value is not in line with the intrinsic value of the asset or situation. Across both strategies, the firm actively manages exposures and uses position-sizing as a means to both manage risk and express conviction.

"It's not supposed to be easy. Anyone who finds it easy is stupid."
— Charlie Munger
11 DETECTING FALSE NEGATIVES

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