Performance measurement

Meredith Jones of Strategic Financial Solutions LLC explores qualitative and quantitative performance measurement for hedge funds

Performance measurement for hedge funds can be a tricky proposition. While we all know past performance is not necessarily indicative of future results, it can be a powerful tool for evaluating managers when used correctly. If you generate a complete quantitative profile on a potential investment before you begin the qualitative analysis, you can formulate better due-diligence questions specific to the manager's history and strategy. In addition, you can identify capacity and risk control issues that could adversely have an impact your investment in the future.

The first step is to run a complete statistical analysis of the fund you are considering. This analysis should include a full complement of risk and return measures, including compound annualised returns, rolling returns over multiple time periods, standard deviation, correlation analysis, peer group analysis and Monte Carlo simulations.

Once you've completed the analysis, you can use it to generate qualitative questions that will enable you to better assess the manager's performance.

One simple graph that can yield a great deal of information is one showing the distribution of returns. Looking at a fictitious manager *(see graph 1)*, we notice there is a wide range of returns. During the months when the fund was up strongly, were the gains realised or unrealised? How much leverage was the manager using at the time? Is that leverage normal for their strategy? Did the manager take money off the table or add to the winning positions? How concentrated did they allow the portfolio to become as a result of the run-up? Was the run-up the result of a few homeruns in the portfolio or were gains across the entire portfolio? In months when the fund was down strongly, how did the manager unwind the losing positions? Did they use stop losses to limit the drawdown? Was there one position that was primarily responsible for the loss, or were losses across the board? Did any of the losers eventually become winners? Conversely, if performance appears uniform for a manager, you may want to ask if gains are actual or based on theoretical pricing models.

Drawdowns and benchmarks

Next we turn our attention to drawdowns the manager has experienced relative to their benchmarks *(see table 2)*. Certainly, given the market conditions of the recent past, it appears the manager has hedged away at least half of the market's volatility, however, they have also kept their investors under water for more than a year. What methods is the manager using to hedge against future market downturns? Do they believe their hedges have been effective? Many managers were impacted by market whipsaws – has this manager experienced problems from declaring a market bottom too early? If so, what do they intend to do

Graph 1: Distributive returns

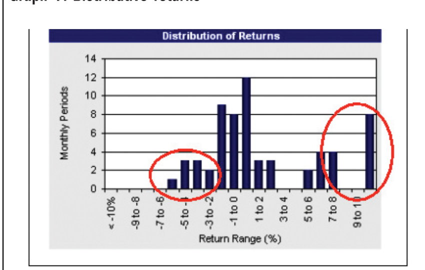


Table 2: Drawdown analysis

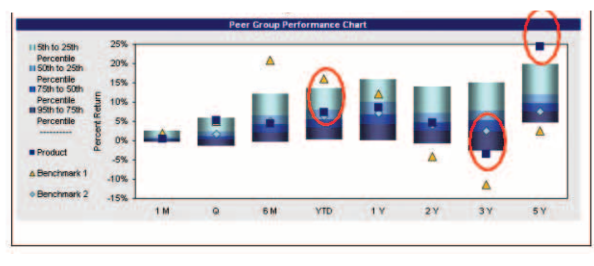
	XYZ Fund Ltd	Barra S&P500	HFRI Fund of Funds Composite Index
Maximum drawdown	-22.09%	-44.73%	-11.78%
Months in drawdown	15	25	4
Months to recover	0	0	8
Peak	Feb 00	Aug 00	Jun 98
Valley	May 01	Sep 02	Oct 98

about this in the future? In order to begin collecting their performance allocation, will the manager be taking additional risks in the future?

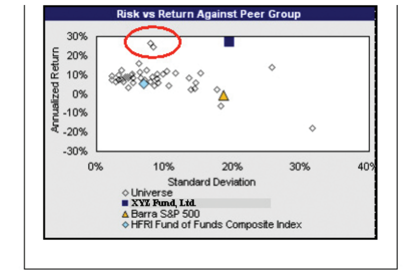
No manager review would be complete without conducting a thorough peer group analysis. After all, most investors are interested in finding the best manager, rather than finding one that has simply outperformed the market benchmarks. In graph 3, we see that although our fictitious manager outperformed all their peers over the past five years, over the past one, two and three years there were certainly better candidates for our allocation. Also note, however, the manager seems to have returned to form over the six-month and year-to-date time periods.

What, besides the market, has changed to cause this? You may want to ask the manager whom they see as their main competition and what sets them apart from that competition. Perhaps they take more risks, use more leverage or are less diversified and, as a result, has higher returns in up markets and lower returns in down markets than their peers. You may also want to graph the peer group into a risk-return scatterplot *(see graph 4)*. Note the manager has high returns, but also high volatility. Do they fit in with your investment mandate, or is there a better candidate?

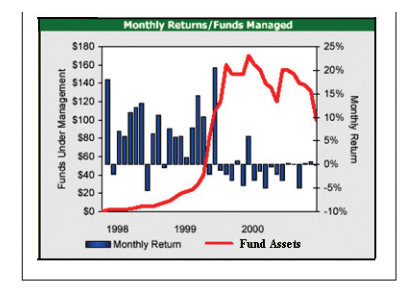
Graph 3: Peer group analysis



Graph 4: Peer group risk-returns



Graph 5: Assets vs performance



Importance of size

Finally, we have graphed the manager's assets vs their performance *(see graph 5)*. Notice that assets spiked significantly at the end of 1999, just before performance started to suffer. It seems undeniable that asset size is an important performance factor in evaluating and monitoring hedge funds. Many managers tend to post their best returns when their funds are small and nimble. As assets increase, managers may be forced to change the strategy that made them initially successful and may resort to one of the following tactics to keep capital in play:

- Look outside the manager's area of expertise for additional investment opportunities
- Concentrate more money into top-tier investment ideas
- Move from top investment ideas to second, third or fourth-tier opportunities
- Keep large amount of the fund in cash, thereby lowering returns
- Farm portions of the investment management process out to other sub-advisers
- Spend more time managing the organisation and less time managing the fund.

If you see that performance has trailed off as assets have grown, you may want to ask if the manager reached the limit of their capacity. Do they have ample staff to handle the additional capital, or are they spending more time on back-office duties and less on the actual money management? Does the manager believe they have reached their maximum capacity? Are there other funds in their stable that continue to grow which require more of the manager's attention? If the manager believes assets have not had an impact on performance, what is the explanation for current performance? There are a host of questions that can be generated, just from this one simple graph.

Statistical analysis of historical performance by itself cannot eliminate the need for qualitative due diligence. Likewise, without a sound statistical foundation, the due diligence process may miss important clues about the changing dynamics and relative standing of a manager. Using both, you can see not only into the past, but you also can get a glimpse of future risks and pitfalls stemming from the way the fund is managed.

Meredith Jones

Jones is director of market research for Strategic Financial Solutions LLC, a software company founded in 1996 whose mission is to provide solutions relating to the technological needs of the financial industry. She is responsible for researching, speaking and writing about alternative and traditional investments as well as developing and implementing marketing initiatives and strategic partnerships for SFS. Prior to joining SFS, Jones was vice-president and director of research for Van Hedge Fund Advisors International, Inc, a global hedge fund consultant with US$500m under management.