Getting a handle on true performance

By Lars N. Kestner

Evaluating the performance of a trading manager can be a tricky task. Numerous measures are used to compare the performance of one manager to another, and the calculations are as diverse as their names. The Sharpe, Sterling and Calmar ratios are familiar to most people, but the mechanics behind each are commonly unknown or misunderstood.

Exactly what goes into calculating each measure — and why? The objective of performance ratios is to evaluate returns vs. the risk taken to achieve them. If we lived in a world that was completely risk-neutral, then the risks associated with investments would be irrelevant and investment decisions would be made simply by choosing investments with the largest average returns.

Unfortunately the world doesn’t function this way. We care about the risks taken with our money. If two assets have equal returns, the decision will focus on which asset possesses less risk. This principle is applicable to managed futures where leverage can manipulate returns higher or lower depending on how large a position the manager takes.

Consider two managers trading the same system and markets, except that manager A trades twice as large as manager B. Consequently manager A’s average return is twice as large. Is manager A a better manager because of higher average returns? Not necessarily. Managers have different trading styles. Some trade large positions relative to the size of funds under management, while others prefer to keep returns and risk at lower levels by holding smaller positions. Performance ratios attempt to place all managers on a level playing field by adjusting returns for risk. The return part of the calculation is generally agreed upon, but defining risk is another matter. Each ratio divides return by its own measure of risk to arrive at a standardized value for comparing traders.

Look Sharpe The most popular ratio for evaluating performance is the Sharpe ratio, a measure created by Nobel-laureate William Sharpe. The Sharpe ratio is composed of two statistical measures: average return and standard deviation. First, monthly returns are adjusted by subtracting the monthly return of a risk-free asset, such as Treasury bills, from the total return. If a manager returned 5% but 1% came from posting T-bills as margin, then the adjusted monthly return would be 4%. (This is logical because the return from T-bills is not dependent on the manager’s skill.)

Return in the Sharpe ratio is defined as the average adjusted monthly return; risk is defined as the standard deviation of corrected monthly returns. Standard deviation measures how close or far returns vary from the average. Returns dispersed closer to the average have a lower standard deviation and are considered less risky than returns varying further from the average.

To demonstrate this principle, consider two managers. Manager A has 30 months of +15% returns and 30 months of -10% returns, while manager B returns +5% for 30 months and 0% the other 30 months. Both managers have identical average returns, but manager A’s returns show higher dispersion around the average than manager B’s returns. As a result, manager A has a standard deviation of 13% while manager B has a standard deviation of 2.5%. Although both managers return 2.5% per month, manager B accomplishes the feat with much less risk as measured by standard deviation. As a result, manager B will have a higher Sharpe ratio (2.5%/2.5% = 1.0) than manager A (2.5%/13% = 0.19).

Typically, a Sharpe ratio is calculated using three or five years of monthly data.

The Sharpe ratio is not without faults. Critics have

A tale of two managers

Although the two traders have the same ultimate return, D’s returns are more stable than C’s, and more desirable from a risk standpoint.