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Sharpe Point: Risk Gauge Is Misused

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WILLIAM F. SHARPE was probably the biggest expert in the room when economists from around the world gathered in Sonoma, Calif., to hash out a pressing problem in July: How to gauge hedge-fund risk.

About 40 years ago, Dr. Sharpe, now a retired professor from Stanford University, created a simple calculation for measuring the return that investors should expect for the level of volatility they are accepting. In other words: How much money do they stand to make compared with the size of the up-and-down swings they will lose sleep over?

The so-called Sharpe Ratio became a cornerstone of modern finance, as investors used it to help select money managers and mutual funds. But at the Sonoma meeting, the use of the ratio was criticized by many prominent academics -- including Dr. Sharpe himself.

The ratio is commonly used -- "misused," Dr. Sharpe says -- for promotional purposes by hedge funds. Bayou Management LLC, the Connecticut hedge-fund firm under investigation for what authorities suspect may have been a massive fraud, touted its Sharpe Ratio in marketing material. Investment consultants and companies that compile hedge-fund data also use it, as does a new annual contest for the best hedge funds in Asia, by a newsletter called AsiaHedge.

"That is very disturbing," says the 71-year-old Dr. Sharpe. Hedge funds, loosely regulated private investment pools, often use complex strategies that are vulnerable to surprise events and elude any simple formula for measuring risk. "Past average experience may be a terrible predictor of future performance," Dr. Sharpe says.

Dr. Sharpe, who won a Nobel Prize in 1990 for another model he helped create to price securities, designed the ratio to evaluate portfolios of stocks, bonds and mutual funds. It is derived from a simple equation: First, the rate of return of Treasury bills -- which are virtually risk-free -- is subtracted from the portfolio's rate of return. The average difference between those two figures over a given period of time is then divided by how much the portfolio strayed from that average. That so-called standard deviation is a measure of volatility -- those worrisome ups and downs.

The higher the Sharpe Ratio, the better a fund is expected to perform over the long term. A ratio of more than 1 is considered pretty good because that means the portfolio is producing relatively high returns with relatively low volatility.

At a time when smaller investors and pension funds are pouring money into hedge funds, the ratio can foster a false sense of security, some experts say. There are now 8,000 hedge funds world-wide handling nearly $1 trillion.

"This is becoming more of a problem because there is a movement to offer retail versions of hedge funds," says Andrew Lo, a Massachusetts Institute of Technology finance professor and a partner in the AlphaSimplex Group, a hedge fund that manages $350 million. "The typical retail investor might very well be misled by amazing looking Sharpe Ratios."

"Hedge funds can manipulate the ratio to misrepresent their performance," adds Dr. Sharpe, a founder of Financial Engines, a Palo Alto, Calif., investment adviser and manager. He is on the board of a private family fund, but doesn't use his own ratio to evaluate hedge funds. "Anybody can game this," he says. "I could think of a way to have an infinite Sharpe Ratio."

In a recent study, Dr. Lo found that the annual Sharpe Ratio for hedge funds can be overstated by as much as 65%. "You can legitimately generate very attractive Sharpe Ratios and still, in time, lose money," he says. "People should not take the Sharpe Ratio at face value."

Even if it isn't manipulated, Dr. Sharpe says, it doesn't foreshadow hedge-fund woes because "no number can." The formula can't predict such troubles as the inability to sell off investments quickly if they start to head south, nor can it account for extreme unexpected events. Long-Term Capital Management, a huge hedge fund in Connecticut, had a glowing Sharpe Ratio before it abruptly collapsed in 1998 when Russia devalued its currency and defaulted on debt.

Plus, hedge funds are generally secretive about their strategies, making it difficult for investors to get an accurate picture of risk. "For hedge funds, we have no standards to measure risk," says James Van Horne, a Stanford business-school professor who attended the Sonoma gathering.

Even sophisticated investors have discovered this the hard way. The Art Institute of Chicago cited a good Sharpe Ratio when it explained why it invested in a small Texas hedge fund called Integral Investment Management. In 2001, the institute sued the hedge fund in a state court in Dallas, saying that it lost at least $20 million. The case remains in litigation.

The quest for a new measure of risk is confounding experts around the world. At a popular virtual community for hedge-fund investors called Albourne Village, more than 2,000 members recently downloaded a document called "A Critique of the Sharpe Ratio," by a London-based money manager warning hedge-fund investors away from it.

In Hong Kong, the government bars hedge funds from opening unless they can prove they aren't going to fail -- and yet there is no adequate measure, says Sally Wong, executive director of the Hong Kong Investment Funds Association.

Her problem with the Sharpe Ratio is that it assumes that a fund's returns will remain even over time. "Many hedge-fund strategies have greater downside events," Ms. Wong says. She favors another measure, the Sortino Ratio. That is similar to the Sharpe Ratio, but instead of using the standard deviation as the denominator, it uses downside deviation -- the amount a portfolio strays from its average downturn -- to distinguish between "good" and "bad" volatility.

But even the namesake of that ratio is troubled by its use for evaluating hedge funds. "I think it's used too much because it makes hedge funds look good," says Frank Sortino, who developed the ratio 20 years ago and is director of the Pension Research Institute in San Francisco. "It's misleading to say the least," he adds. "I hate that they're using my name."

Dr. Sharpe feels similarly. "I never named it the Sharpe Ratio," he says of his formula. "I called it the Reward-to-Variability ratio."