

Risk-Adjusted Performance of Funds of Hedge Funds Using a Modified Sharpe Ratio

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The assessment of portfolio performance is fundamental for both investors and fund managers, and this also applies to hedge funds and funds of hedge funds. Traditional portfolio measures present some limitations when applied to hedge funds. For instance, the Sharpe ratio uses the excess reward per unit of risk as measure of performance, with risk represented by the variance (standard deviation).

The mean-variance approach to the portfolio selection problem developed by Markowitz [1952] has frequently been the subject of undue criticism due to its utilization of variance as a measure of risk exposure when examining the non-normal returns of funds of hedge funds. The value-at-risk (VaR) measure for financial risk has recently grown to be accepted as a traditional measure in investment firms, large banks, and pension funds. As a result of the recurring frequency of down markets since the collapse of Long-Term Capital Management (LTCM) in August of 1998, VaR has played a paramount role as a risk management tool and is considered as a mainstream technique to estimate and convey the exposure a hedge fund has to market risk.

With the large acceptance of VaR, and specifically, of modified VaR as a relevant risk management tool, a more suitable portfolio performance measure for FOFs can be formulated in terms of a modified Sharpe ratio.*

Using the traditional Sharpe ratio to rank funds of hedge funds will underestimate the tail

risk, and then, overestimate performance. Therefore, the greater the distribution is far from the normal, the greater is the risk underestimation.

In this article, we rank 30 funds of hedge funds according to the Sharpe and modified Sharpe ratios. Our results indicate that the modified Sharpe is lower and more accurate when examining non-normal returns.

LITERATURE REVIEW

Many hedge fund managers produce statistical reports for clients using the traditional Sharpe ratio which can be misleading because funds will look better in terms of risk-adjusted returns. The drawback of using a traditional Sharpe ratio is that it does not make a distinction between upside and downside risk, but rather penalizes upside risk specifically as downside risk and does not distinguish the irregular losses as opposed to the repeated losses.

VaR has progressively emerged in the finance literature as a dominant measure of risk. However, its simple version also presents some limitations. Methods to measure VaR such as the delta-normal method developed by Jorion [2000] are simple and very easy to apply, but the formula has its drawbacks since the assumptions of normality of the distributions are violated due to the use of short-selling and derivatives strategies such as futures contracts and options frequently used by hedge funds.

Recent methods have been proposed to correctly assess the VaR for non-normal returns