

# **Sharpe Ratio for skew-normal distributions: A skewness-dependent performance trade-off**

Martin Eling, Luisa Tibiletti\*

*Abstract:* Main academic criticism on the Sharpe ratio concerns its lack in incorporating skewness in performance evaluation. In this note we rewrite the classical Sharpe ratio for skew normal distributions. This new skew-normal Sharpe ratio consistently moves with skewness and no distorted information on performance is provided. An empirical investigation illustrates skew-normality of mutual and hedge fund returns. When investors are concerned about skewness, the use of the skew-normal Sharpe ratio thus seems a proper choice for making performance rankings.

*Keywords:* Optimal Asset Allocation; Sharpe Ratio; Azzalini's skewness coefficient, Skew-Normal returns.

*JEL Classification:* G10, G11, G19, G32.

---

\* Martin Eling (martin.eling@unisg.ch), Institute of Insurance Economics, University of St. Gallen, Switzerland.

*Corresponding Author:* Luisa Tibiletti (luisa.tibiletti@unito.it), Department of Statistics and Mathematics, University of Torino, Corso Unione Sovietica, 218/bis, 10134 Torino, Italy. Tel. 0039-011-6705749, Fax 0039-011-6705784.