1015-62-139   **Wenbo Hu*** (`whu@math.fsu.edu`), Bell Trading, 111 W Jackson Blvd, Suite 1122, Chicago, IL 60604, and **Alec Kercheval** (`kercheva@math.fsu.edu`), Department of Mathematics, Florida State University, Tallahassee, FL 32306-4510. *Portfolio Optimization Based On Generalized Hyperbolic Distributions.*

The distributions of many financial quantities are well-known to have heavy tails, exhibit skewness, and have other non-Gaussian characteristics. We study an especially promising family: the multivariate generalized hyperbolic distributions (GH). EM algorithm is used to calibrate the GH distributions including their limiting distributions: skewed t and Student t. We calculate an efficient frontier for equity portfolio optimization under the skewed-t distribution and using Expected Shortfall as the coherent risk measure. Here, we show that the Gaussian efficient frontier is actually unreachable if returns are skewed t distributed. The same framework can be applied to other generalized hyperbolic distributions. (Received February 02, 2006)

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