Asset allocation under higher moments with the GARCH filter

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Abstract

In this article, we charactrize an asset allocation problem for risk averse investors considering the third moments of returns. The asset allocation optimizations using approximated utility functions are conducted. The expected utility functions are approximated by the Taylor expansion up to the second and third moments. The time varying conditional covariance and co-skewness matrix with GARCH effects are estimated. Alternative portfolios are measured using the differences of its realized utilities and tested using the Diebold and Mariano test. For several values of risk aversion, portfolios which consider the third moments are preferred but those are not statistically significant.

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