ABSTRACT

This paper introduces a robust method applied in the Value at Risk forecasts of a GARCH-type model in two stages. One is to use a robust M-estimator in the estimation of parametric GARCH models. And the other is to apply a robust semiparametric bootstrap method to estimate predictive return distribution and then calculate value at risk forecast. A Monte Carlo simulation shows that our method not only achieves more accurate estimate of the parametric GARCH model, but also outperforms the filtered historical sampling method in VaR prediction, when a heavy tail distribution of innovations, such as a student-t distribution, is used in the simulation.