Accurate value-at-risk forecasting based on the normal-GARCH model

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Abstract

A resampling method based on the bootstrap and a bias-correction step is developed for improving the Value-at-Risk (VaR) forecasting ability of the normal-GARCH model. Compared to the use of more sophisticated GARCH models, the new method is fast, easy to implement, numerically reliable, and, except for having to choose a window length L for the bias-correction step, fully data driven. The results for several different financial asset returns over a long out-of-sample forecasting period, as well as use of simulated data, strongly support use of the new method, and the performance is not sensitive to the choice of L.

Keywords

Bootstrap; GARCH; Value at risk