

The DCC Model and the Asymmetric Multivariate Laplace Distribution"

Abstract

In this paper we propose a multivariate (GARCH) asymmetric generalised dynamic conditional correlation (AGDCC) model where the vector of standardised residuals is assumed to follow an asymmetric multivariate Laplace (AML) distribution. This multivariate distribution is able to capture leptokurtosis and asymmetry which characterise returns from financial assets. It preserves, under general conditions, desirable properties such as finiteness of moments and stability under geometric summation. The empirical validity of this form is tested in the context of a Value-at-Risk (VaR) model. We illustrate the methodology by fitting a sample of 21 FTSE All-World stock indices and 12 bond return indices. We provide clear evidence that in our data set this distribution overwhelmingly outperforms the case in which we assume normality of innovations.