

Asset Returns Density Forecasting with MCD Algorithms

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Abstract

A new approach for multivariate modeling of asset returns is proposed which accounts for all the major stylized facts, and also lends itself to portfolio optimization. It is based on a two-component multivariate normal mixture model, estimated using a new variation of the minimum covariance determinant (MCD) method. An empirical application demonstrates the viability of the proposed method, in terms of estimation speed and out of sample density prediction.

Keywords: Density Forecasting, GARCH, MCD, Normal Mixture, Outlier Detection

JEL Classification: C51; C53; G11; G17.