MARC-MARS: Modeling Asset Returns via Conditional Multivariate Asymmetric Regime-Switching

Marc Paolella

The University of Zurich, Switzerland
marc.paolella@bf.uzh.ch

Abstract

A multivariate regime-switching model for asset returns is motivated and studied. It allows for volatility clustering, excess kurtosis, asymmetry, and dynamics in the dependency between assets over time. It nests several models previously proposed in the literature, and is demonstrated to outperform them in out-of-sample exercises. A new estimation procedure is developed which is far faster than existing methods, and thus crucial for use with a large number of assets.

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