Dynamic Equicorrelation Stochastic Volatility

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Abstract

A multivariate stochastic volatility model with dynamic equicorrelation and cross leverage effect is proposed and estimated. Using a Bayesian approach, an efficient Markov chain Monte Carlo algorithm is described where we use the multi-move sampler, which generates multiple latent variables simultaneously. Numerical examples are provided to show its sampling efficiency in comparison with the simple algorithm that generates one latent variable at a time given other latent variables. Furthermore, the proposed model is applied to the multivariate daily stock price index data.

Key words: Asymmetry, cross leverage effect, dynamic equicorrelation, Markov chain Monte Carlo, multi-move sampler, multivariate stochastic volatility.