**Strategies for Boosting MCMC Estimation of Multivariate Factor Stochastic Volatility (SV) Models**

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Multivariate factor SV models are increasingly used for the analysis of multivariate financial and economic time series because they can capture the volatility dynamics by a small number of latent factors. The main advantage of such a model is its parsimony, where all variances and covariances of a time series vector are governed by a low-dimensional common factor with the components following independent SV models.

These approaches have recently been applied to important problems in financial econometrics such as asset allocation and asset pricing. They extend standard factor pricing models such as the arbitrage pricing theory and the capital asset pricing model. As opposed to SV factor models, standard factor pricing models do not attempt to model the dynamics of the volatilities of the asset returns and usually assume that the covariance matrix is constant. Empirical evidence suggests that multivariate factor SV models are a promising approach for capturing multivariate time-varying volatility, explaining excess asset returns, and generating optimal portfolio strategies.

For high dimensional problems of this kind, Bayesian MCMC estimation is a very efficient estimation method, however, it is associated with a considerable computational burden when the number of assets is moderate to large. To overcome this, we avoid the usual forward-filtering backward-sampling (FFBS) algorithm by sampling "all without a loop" (AWOL), consider various reparameterizations such as (partial) non-centering, and apply an ancillarity-sufficiency interweaving strategy (ASIS) for boosting MCMC estimation at an univariate level, which can be applied directly to heteroscedasticity estimation for latent variables such as factors.