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# A flexible observed factor model with separate dynamics for the factor volatilities and their correlation matrix

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Our article considers a regression model with observed factors. The observed factors have a flexible stochastic volatility structure that has separate dynamics for the volatilities and the correlation matrix. The correlation matrix of the factors is time-varying and its evolution is described by an inverse Wishart process. The model specifies the evolution of the observed volatilities flexibly and is particularly attractive when the dimension of the observations is high. A Markov chain Monte Carlo algorithm is developed to estimate the model. It is straightforward to use this algorithm to obtain the predictive distributions of future observations and to carry out model selection. The model is illustrated and compared to other Wishart-type factor multivariate stochastic volatility models using various empirical data including monthly stock returns and portfolio weighted returns. The evidence suggests that our model has better predictive performance. The paper also allows the idiosyncratic errors to follow individual stochastic volatility processes in order to deal with more volatile data such as daily or weekly stock returns.

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