

Market Sensitive Bayesian Portfolio Construction and Basel Backtesting using VaR and CVaR

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In this talk, a new way to integrate market information when constructing Bayesian mean-VaR and mean-CVaR efficient portfolios is suggested. The new method makes it possible to quickly adapt to changing market conditions, especially changes in volatility. This constitutes a great advantage in comparison to standard Bayesian portfolio selection methods. We also show how to perform backtesting of VaR and CVaR in the Bayesian framework according to the Basel recommendations. In an empirical study, we illustrate that the new portfolio construction method outperforms other well-known methods when using the Basel backtesting procedure for daily stock returns.

Flexible Fat-tailed Vector Autoregression

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We propose a general class of multivariate fat-tailed distributions which includes the normal, t and Laplace distributions as special cases as well as their mixture. Full conditional posterior distributions for the Bayesian VAR-model are derived and used to construct a MCMC-sampler for the joint posterior distribution. The framework allows for selection of a specific special case as the distribution for the error terms in the VAR if the evidence in the data is strong while at the same time allowing for considerable flexibility and more general distributions than offered by any of the special cases. As fat tails can also be a sign of conditional heteroskedasticity we also extend the model to allow for stochastic volatility. The performance is evaluated using simulated data and the utility of the general model specification is demonstrated in applications to macroeconomics and finance.