ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to the Doctoral Seminar

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"Dynamic Sparsity in Factor Stochastic Volatility Models"

N.1.43 | Wednesday, 13 December 2023 | 10:00 a.m.

Abstract

Appropriately selecting the number of factors in a factor model is a challenging task, and even more so if the number of factors changes over time. In our approach, we estimate a factor stochastic volatility (FSV) model through Markov chain Monte Carlo (MCMC) methods and then post-process the draws from the posterior to achieve sparsity in the factor loadings matrix. Recasting the FSV model as a homoskedastic factor model with time-varying loadings enables us to sparsify the loadings for each point in time and across MCMC draws. This enables us to back out the posterior distribution of the number of factors over time. We illustrate in simulations that our techniques accurately detect the true number of factors and apply the model to US stock market returns.

Gregor Kastner and the Department of Statistics look forward to seeing you at the talk!