ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to the Doctoral Seminar

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"Forecasting macroeconomic data with Bayesian VARs: Sparse or dense? It depends!"

V.1.02 Wednesday, 6 April 2022 10:00 a.m.

Abstract

Vectorautogressions (VARs) are widely applied when it comes to modeling and forecasting macroeconomic variables. In high dimensions they are prone to overfitting. Bayesian methods, more concretely shrinking priors, have shown to be successful in curing the curse of dimensionality. In this talk we introduce the recently developed R^2-induced Dirichlet-decomposition prior to the VAR framework and compare it to refinements of well-known priors in the VAR literature: Hierarchical Minnesota prior, Stochastic Search Variable Selection prior and Dirichlet-Laplace prior. We demonstrate the virtues of the proposed prior in an extensive simulation study and in an empirical application forecasting data of the US economy. Further we shed more light on the ongoing Illusion of Sparsity debate. We find that forecasting performances under sparse/dense priors vary across evaluated economic variables and across time frames; dynamic model averaging, however, can combine the merits of both worlds. All priors are implemented using the reduced-form VAR and all models feature stochastic volatility in the variance-

covariance matrix. (Joint work with Gregor Kastner)

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