ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to a Guest Lecture

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"Bayesian Mixed-Frequency Quantile Vector Autoregression"

Z.0.19 | Tuesday, 23 May 2023 | 3:15 p.m.

Abstract

Timely characterizations of risks in economic and financial systems play an essential role in both economic policy and private sector decisions. However, the informational content of low-frequency variables and the results from conditional mean models provide only limited evidence to investigate this problem. We propose a novel mixed-frequency quantile vector autoregression (MF-QVAR) model to address this issue. Inspired by the univariate Bayesian quantile regression literature, the multivariate asymmetric Laplace distribution is exploited under the Bayesian framework to form the likelihood. A data augmentation approach coupled with a precision sampler efficiently estimates the missing low-frequency variables at higher frequencies under the state-space representation. The proposed methods allow us to nowcast conditional quantiles for multiple variables of interest and to derive quantile-related risk measures at high frequency, thus enabling timely policy interventions. The main application of the model is to nowcast conditional quantiles of the US GDP, which is strictly related to the quantification of Value-at-Risk and the Expected Shortfall.

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