Simone Manganelli, ECB   Departmental Seminar on June 26, 2023   Host: Timo Dimitriadis

Forecasting and Stress Testing with Quantile Vector Autoregression*

Abstract

A quantile vector autoregressive (VAR) model, unlike standard VAR, traces the interaction among the endogenous random variables at any quantile. Forecasts of multivariate quantiles are obtained by factorizing the joint distribution in a recursive structure, but cannot be obtained from reduced form estimation. Quantile impulse response functions are derived as direct generalization of standard VAR impulse response functions. The model is estimated using real and financial variables for the euro area. The dynamic properties of the system change across quantiles. This is relevant for stress testing exercises, whose goal is to forecast the tail behavior of the economy when hit by large financial and real shocks.

*joint with Sulkhan Chavleishvili