August 2023

The codes are for the following paper: Chavleishvili, S. and S. Manganelli, Forecasting and stress testing with quantile vector autoregression.

The code is free to use, but we are not responsible for any damage it may create. It was written by S. Chavleishvili.

The package contains the following:

1. Data:
   DataQVAR.xlsx – Contains the data

2. MATLAB functions:

   QVAR.m – Evaluates the QVAR(1) and reports the results
   QR – The interior point algorithms http://www.econ.uiuc.edu/roger/research/rq/rq.html
   QVAR_Cov.m – Covariance matrix of multiple equations at multiple quantiles
   Q.m – Part of QVAR_Cov.m
   QVAR_Estim.m – Estimates parameters of QVAR(1) equation by equation
   VAR_Estim.m – Estimates parameters of VAR(1) equation by equation
   QuantileForecast.m – Quantile forecasting
   QuantileVAR System.m – Compiles the equation specific parameters into matrices
   Quantile_index.m – The position of chosen quantiles into the multiple quantile environment
   C_matrix.m – Calculates the matrices for the structural analysis
   QVAR_Long_Run_Identification.m – QIRFs based on the long-run identification
   QVAR_Short_Run_Identification.m – QIRFs based on the short-run identification

3. Stata functions:

   GARCH_Quantile.do – Estimates the triangular GARCH model