Tax revenue forecasting workshop II.

After the introductory workshop on tax revenue forecasting and analysis arranged in December 2020, this one day course aims at giving a deeper insight into advanced, multivariate non-structural econometric tax forecasting methods with a focus on Bayesian Vector Autoregressions. After familiarizing with the theory of these complex approaches, participants will receive extensive hands-on training on the application of these tax revenue forecasting techniques.

Proposed tentative course schedule (Armenia time, GMT+4)

Day 1.

12.30-13.45 Introduction: Advanced econometric models in tax revenue forecasting (1.25 hour)

- Recap on the Standard Vector Autoregression (VAR) Models
- Over-parametrization
- Bayesian VAR Models (BVAR)
- Application of VARs and BVARs in tax revenue forecasting
- Vector Error Correction Models (VECM)
- VECM in tax revenue forecasting

13.45-14.00 Coffee break

14.00-15.30 Theory of BVARs (1.5 hours)

- Methods of imposing parameter restrictions
- Prior residual covariance matrix
- Hyper-parameters, dummy implementation
- Basic types of priors (Minnesota, normal-Wishart, independent normal-Wishart)
- Choice of priors

15.45 – 16.00 Coffee break

16.00 – 17.00 Hands-on training on Bayesian VARs I. (1.25 hours)

- Set of EViews tools for estimating and working with BVARs
- Model selection, choice of priors
- Estimation of BVARs

Day 2.

12.30-13.45 Hands-on training on Bayesian VARs II. (1.25 hour)

- Understanding the estimation results
- Impulse response functions

13.45-14.00 Coffee break

14.00-15.15 Hands-on training on Bayesian VARs III. (1.25 hour)

- Forecasting with BVARs

- Predictive power assessment
- Model comparison

15.15 – 15.30 Coffee break

15.30 – 17.00 Hands-on training on Vector Error Correction Models (1.5 hour)

- Set of EViews tools for estimating and working with VECMs
- Imposing restrictions on the cointegrating vector and on the adjustment coefficients
- Model selection
- Estimation of VECM, understanding the estimation results
- Forecasting with a VECM
- Predictive power assessment
- Model comparison