Econometrics for Macroeconomists using Stata (CF Baum)
15–19 October 2018

Session 1 (approx. 3 hours)
Using Stata for data management and reproducible research

- Overview of the Stata environment
- Working with the command line
- Data management: principles of organization and transformation
- Reading external data
- Writing external data
- Combining data sets
- Reconfiguring data sets

Session 2 (approx. 3 hours)
Estimation and forecasting: OLS, IV, IV-GMM

- Linear regression methodology
- Regression with factor variables
- Instrumental variables estimators
- Tests of overidentifying restrictions
- Testing for weak instruments
- Testing for i.i.d. errors in an IV context

Session 3 (approx. 2.5 hours)
Panel data estimation and forecasting

- Panel data management
- Estimation for panel data
- Fixed effects, between effects, random effects models
- First difference models
- Seemingly unrelated regressions (SURE) models
- Instrumental variables panel models
- Dynamic panel data (DPD) models and diagnostics
- Panel unit root tests

Session 4 (approx. 4.5 hours)
Time series estimation and forecasting

- Time series data management
- Rolling-window estimation
- Time series smoothing and filtering
- Unobserved components models
- ARIMA and ARMAX models
- Forecast comparison statistics
- ARCH, GARCH, MGARCH models
- Vector autoregressive (VAR) models
- Vector error correction (VECM) models
- Panel vector autoregression (PVAR) models
- Model specification, solution and dynamic forecasting

Session 5 (approx. 2 hours)
Automation and Programming with Stata

- Production of summary statistics
- Production of estimates tables
- Producing documents within Stata
- Production of sets of tables and graphs
- Should you be a Stata programmer?
- Tools for do-file authors
- Ado-file programming: a primer
- Examples of ado-file programming
- Introduction to Mata

All datasets referenced in the slides are accessible via the `bcuse` command, which can be installed from SSC, or the built-in `webuse` or `sysuse` commands.