DEPARTMENT OF POLITICAL AND SOCIAL SCIENCES

2nd Term, Academic Year 2024-2025

Time-Series Cross-Section Data Analysis

Given by Filip Kostelka

Friday 9:00-13:00 (on following dates: 17/01, 31/01, 14/02, 28/02, 14/03)

This seminar aims to introduce doctoral researchers to regression methods for longitudinal data, which are frequently used in comparative social science research and offer key analytical advantages over cross-sectional methods. While different types of longitudinal data will be presented (rolling cross-sections, panel data, etc.), the seminar will focus on time-series cross-sections (TSCS), consisting in a moderate number of units (e.g., countries, parties, etc.) observed over a moderate to large number of time points (years, months, etc.). The seminar will explain the pitfalls of TSCS analyses and equip doctoral researchers with a range of estimation strategies. It will present the properties and assumptions of the simple OLS, fixed effects, random effects, and first-difference estimators, and will introduce strategies to detect and deal with dynamic issues such as panel heteroscedasticity, serial correlation, contemporaneous correlation, and non-stationarity. The seminar will also delve into advanced topics such as hybrid estimators, and causal inference with TSCS data. The sessions will be practically orientated with emphasis on implementation in statistical software (STATA). The only prerequisites are the successful completion of an introductory class in quantitative research methods (Intermediate Quantitative Methods, or Introduction to Quantitative Methods), basic command of any statistical software, and strong motivation. To get credits for this class, doctoral researchers need to meet the departmental attendance requirements and submit a well-executed final assignment due after session 5.