Econometrics II

Module 4, 2018-19

Lecturer: Grigory Kosenok
New Economic School, Moscow
gkosenok@nes.ru

Course information

Course Website: http://www.nes.ru/ru/programs/econ/acad-progr/

Instructor's Office Hours: by appointment

Class Time: TBA

Room Number: TBA

TAs: TBA

Course description

The objective of the course is to familiarize students with basic concepts of econometric analysis. During the course students learn how to apply basic econometric models to time series and panel data. Also the participants of the course will employ basic commands in STATA software and will do practical exercises.

Course requirements, grading, and attendance policies

Students are assumed to have sufficient background in statistics, calculus, matrix algebra and introductory cross-sectional econometrics. There are 14 lectures and 7 seminars. During first six weeks each week a problem set will be distributed. Best 5 problem sets will be counted for 20% of the final grade. The final written format A4 exam will give 80% of the final grade. The final exam lasts 3 hours and contains 4 problems. On the exam no exit is permitted but questions are allowed. The format A4 makeup exam lasts 2 hours and contains 2 problems. The second makeup is carried out in oral form.

Course contents

Week 1: Introduction. Basic regression analysis with time series data. (Ch. 10).

Week 2: Further issues in using OLS with time series data. (Ch. 11).

Week 3: Serial correlation and heteroskedasticity in time series regressions. (Ch. 12).

Week 4: Pooling cross sections across time: simple panel data methods. (Ch. 13).

Week 5: Advanced panel data methods. (Ch. 14).

Week 6: Limited dependent variable models and sample selection. (Ch. 17).

Week 7: Advanced time series topics. (Ch. 18).

Description of course methodology

A typical lecture includes a theoretical part on course material. During the second part of the lecture we discuss how a new econometric method can be applied for practical cases.

Sample tasks for course evaluation

Problem 1. Evaluate the following claims:
(a) "Suppose that you have a cross section. The return to education OLS (ordinary least squares) estimate is likely to be downward biased."
(b) "Suppose that you have a panel. The return to education FE (fixed effects) estimate is likely to be downward biased.".

Problem 2.
(a) Derive the ACF (auto-correlation function) for stable AR(1) process and state assumptions you need.
(b) Do you think it is likely to obtain AR(1) coefficient close to 1 for returns on S&P500?

Problem 3.
(a) Derive the ACF of a random walk (without a drift) and comment on the result.
(b) If some economic variable, say yearly GDP, follows a random walk, why it matters for policy makers?

Course materials

Required textbooks and materials

"Introductory Econometrics: A Modern Approach" by Jeffrey Wooldridge (4th edition), South-Western Cengage Learning, 2009.

Additional materials

Wooldridge, J. "Econometric Analysis of Cross Section and Panel Data", MIT Press, 2002
Cameron, A. Colin and Pravin K. Triverdi "Microeconometrics: Methods and Applications", (8th edition), Cambridge University Press, 2009
STATA software, Version 11, http://www.stata.com/
Further references will be provided during the course.

Academic integrity policy

Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.