Applied Econometrics – Fall 2013

Peking University HSBC Business School

General Information

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Office hours: Monday 4:00 PM – 5:00 PM or by appointment
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Class Hours: Monday & Thursday, 1:30PM – 3:20PM, November 14th, 2013– January 13th, 2014.

Course Description

Outline: This class aims to teach students to start their own empirical projects. We illustrate how to apply previously-acquired econometrics concepts and theories in real-life data analysis. Students are expected to develop intuitive familiarity with various econometric tools through illustrated examples covered in class. Furthermore, through the completion of a group empirical project, students are asked to demonstrate the ability to understand, replicate, and extend a previous academic research.

Format: Lectures mainly cover illustrated examples with real data. These are designed to demonstrate how to apply econometric tools to solve real-life problems, rather than to teach students econometric theories. Homework assignments ask students to answer questions by analyzing data. Students will learn to use the statistical software Stata throughout the class. The main task students are expected to accomplish is to finish a group empirical project. Students are going to select a published empirical paper, replicate the main results of the paper, and then extend the paper in some dimension.

Prerequisites: Advanced Econometrics I, or familiarity with the setup and concepts of the classical multiple linear regression model.

Class Materials:
Required text:
Jeffrey M. Wooldridge, "*Introductory Econometrics: A Modern Approach*"
Lecture notes and supplemental materials will be provided to students.

References:
- James D. Hamilton, "*Time Series Analysis*"
- Jeffrey M. Wooldridge, "*Econometric Analysis of Cross Section and Panel Data*"
- William H. Greene, "*Econometric Analysis*"

Course Works and Grading

Grade determinants: final grade will be determined according to the following schedule.

Component	Weight
Homework assignment	20%
Proposal, peer review 1	20%
Project: Presentation, paper, peer review 2	50%
Class participation	10%

Homework assignments: there will be 5 homework sets, and the homework with the lowest grade will be dropped. Each of the rest four carries 5% weight. Data will be provided, and student will be asked to do empirical analysis using Stata. You can discuss the homework assignments within group, or seek help from other students, but each student must submit an individual copy of the homework.

Proposal: Project proposal is due December 12th, at the beginning of class. The proposal should contain a summary of the empirical paper you intend to replicate and extend. The main table containing the key results to be replicated should be provided within the proposal. By this time, you should have collected the necessary data and you should provide the basic data description and summary statistics in the proposal. You should discuss how you would like to extend the paper, and explain why you think this is necessary and/or interesting.

Presentation: Presentations will take place in the last two weeks of the semester. Each presentation will be approximately 30 minutes. The presentation should contain: 1. Summary of the paper you are replicating. 2. Empirical framework and replication results. 3. Your idea of extending the paper. 4. Preliminary results on the extension part of the project, if any. You can select one or more persons to present the group project. You should be prepared to answer any question regarding the original paper or your own replication and extension. Any group member can choose to answer a specific question.

Paper: Due on Jan. 18th, by 6PM in the afternoon. Please follow the *project guidelines* and make sure you meet all the requirements for the paper.

Class participation: Class attendance is expected. Students who miss class beyond reasonable frequency will automatically lose the class participation grade. In-class discussion and participation are strongly encouraged, and will contribute to your participation grade.

Class Schedule*

Date	*Class Coverage*
Nov. 14	Course introduction Simple guide: Reading an empirical paper
Nov. 18	Review: Classical linear regression model Basic multiple linear regression model Inferences
Nov. 21	Further issues on multiple linear regression model
Nov. 25	Dummy variables and linear probability model
Nov. 28	Heteroskedasticity Other violations of classical MLR assumptions
Dec. 02	Introduction: Time series analysis
Dec. 05	Introduction: Panel data methods
Dec. 09 &12	Issues in time series
Dec. 16 &19	Issues in panel data
Dec. 23	Instrumental variables and 2SLS
Dec. 26	Illustrated empirical papers
Jan. 02, 06, 09, 13	Student presentation
(Dec. 18)	Tentative make-up class, coverage TBD

* Tentative and subject to change

IMPORTANT DEADLINES:

Nov. 21, beginning of class: Submit group members form
Dec. 12, beginning of class: Proposal due (verified the availability of data)
Dec. 26, beginning of class: Replication part of the group project due
Jan. 18, by 6PM in the afternoon: Final group project due