TED UNIVERSITY

ECON 532 – APPLIED ECONOMETRICS

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GENERAL INFORMATION

Catalog Description

Simultaneous equations. Instrumental variables. Ordered choice models. Panel data analysis. Applications of financial econometrics.

Course Structure/ECTS

(3+0+0) 3 TEDU Credits, 7.5 ECTS Credits

Prerequisites and co-requisites

ECON 331_O AND ECON 331

Course Objective

This course aims at presenting the advanced econometric methods, and their associated Stata commands, that can be used for the analysis of observational data which include surveys, firm data, or administrative data and can take the form of cross-section or panel data. This course relies on hands-on learning and offers a wide range of tools, which can be used in many research settings and topics, emphasizing applications and implementation procedures addressing real-world questions, econometric methods used in current empirical research.

Computer Usage

Students will use Stata and MS Office applications (Word, Excel, Access, Powerpoint) to work on their weekly assignments about 4 hours a week.

Extended Course Description

Causality. Correlation. Time series analysis. Vector Autoregression. Autoregressive Distributed Lag (ARDL) models. Cointegration. Granger Causality. Panel data models. Fixed effects. Random effects. Dynamic Panels. GMM Estimation. Limited Dependent variable models. Ordered Choice Models.

Teaching Material

Textbook

Baum, C. F. (2006). "An Introduction to Modern Econometrics Using Stata", Stata Press.

Becketti, S. (2013). "Introduction to Time Series Using Stata", Stata Press.

Woolridge, J. M. (2012). "Introductory Econometrics: A Modern Approach" 5th Edition. Cengage Learning.

Supplementary Textbooks

Cameron, A. C. and Trivedi, P. K. (2010) "Microeconometrics Using Stata, Revised Edition" 2nd Edition. Stata Press. (CT2)

Cameron, A. C. and Trivedi, P.K. (2005). "Microeconometrics: Methods and Applications". Cambridge University Press. (CT1)

Greene, W. (2011). "Econometric Analysis" 7th Edition. Pearson.

Stock, J. H. and Watson, M. W. (2012) " Introduction to Econometrics", Addison-Wesley. (SW)

Woolridge, J. M. (2010). "Econometric Analysis of Cross Section and Panel Data". 2nd Edition. The MIT Press.

We will also be covering some academic papers. The focus will be on the empirical techniques used in those papers.

Learning Outcomes of the Course

Upon successful completion of this course, a student will be able to

1. Identify different types of economic data sets and the analytic tools that are appropriate for each
2. be able to compare, implement and interpret different methods used to estimate causal effects
3. Be able to apply the proper tools to a given research question and data set
4. Write an applied econometrics project and present the results to the class.

ASSESSMENT METHODS

Assignments:

Reading, critical review of journal articles, and application assignments will be given periodically throughout the semester. They are crucial in helping you to understand the material taught in class, but they will also ask you to apply concepts from class to a variety of real world issues to develop your critical thinking skills. In addition, they help you in preparing for the exams.

You may work together to understand the concepts, but you need to submit your own work, with your own words.

Note that late assignments are not accepted!

Midterm Exam:

There will be one mid-term exam. Material for the exam will be taken from the assigned readings and class discussions.

Empirical Project:

The empirical project is a very important part of your learning experience in the class. It provides you with the opportunity to use the tools you learn in the class to answer a question that you come up with and that you care about. It is designed to guide you through the steps of answering a research question the way applied economists do.

Each student will identify and submit his/her research question by the end of the 4th week (March 5). During the 9th week (April 9), each group will pass in a document that quantitatively describes their sample and the relevant variables in it. During the last week of the classes (May 18), each group will do a poster presentation of their results, and June 8th 2020 groups will submit a written project report that includes a data, descriptive analysis, methodology, and discussion of the empirical analysis.

GRADING

The course grade will be based on the following:

	Weight
Assignments	30%
Midterm	30%
Project	40%

Grade Evaluation Scale:

A grade of less than 50% is an F. Everything above 50% will be evaluated on a curve according to class performance and will be awarded a letter grade of AA, BA, BB, CB, CC, DC or DD on the performance scale.

Student Workload

For 6 ECTS; the workloads are 56 hrs. for lectures; 40 hrs for course readings; 44 hrs. for exams and 40 hrs.for assignments and research. Total is 180 hrs.

Planned Learning Activities and Teaching Methods

Telling/Explaining, Computer Applications Discussions/Debates, Questioning, Reading, Demonstrating, Problem Solving, Case Study/Scenario Analysis, Oral Presentations/Reports, Web Searching, Videos, Experiments.

COURSE POLICIES

1. TAKE NOTES! That is crucial for you to learn.
2. Cell phones are not allowed to be used in class.
3. Do not come late to class!
4. All the announcements, assignments and important dates will be on Moodle Course Page. You are responsible from following those.
5. There will be no make-up for quizzes.
6. Make-up for Midterms will be given if you have a formal excuse accepted by FEAS.
7. Class attendance and active participation in the class discussions are very important and critical to the learning process. Attendance is required and will be taken at the beginning of the class meetings for days randomly selected. Being in attendance is defined as being present for the entire class period. If you leave early or come late your attendance will be marked as absent. A student with less than 75 per cent attendance will not be allowed to sit in the final examination

STUDENT CONDUCT

Academic Integrity:

Academic dishonesty in assignments, examinations, or other academic performance is prohibited and considered a violation of the Student Conduct Regulations. It includes `cheating' (the intentional use or attempted use of unauthorized materials, information or study aids); `fabrication' (the intentional falsification or invention of any information); `assisting in dishonesty or tampering' (intentionally of knowingly helping or attempting to help another commit an act of dishonesty or tampering with evaluation instruments and documents); and `plagiarism' (intentionally or knowingly representing the words or ideas of another person as one's own). Penalties for academic dishonesty may result in receiving an 'F' in the course, or referral to the Dean of the Faculty in which you are enrolled for further action.

Disruptive Behavior:

Behaviors that are disruptive to teaching and learning will not be tolerated, and will be referred to the Rector’s Office for disciplinary action. Behaviors that create a hostile, offensive or intimidating environment based on gender, race, ethnicity, color, religion, age, disability, marital status or sexual orientation will be referred to the Rector’s Office.

PLANNED SCHEDULE

COURSE CONTENT AND TEACHING SCHEDULE

	Topic
1	Introduction of Syllabus - Review of linear regression
2	Introduction/Review of Time Series data -- Covariance stationary processes: ARs, MAs and ARMA processes, and the correlogram, Forecasting, and Lag length selection, filtering.
3	Non-stationarity: trends (deterministic and stochastic) and unit root tests: consequences, detection, remedies.
4	Non-stationarity: breaks, and tests for a structural break at a known and at an unknown break date (Chow and Andrews' QLR tests).
5	VARs/ ARDL estimation, identification by recursive ordering, Impulse Responses, variance decomposition and forecasting.
6	Panel Data Models : Least Squares Dummy Variable Model Panel Data Models: Fixed Effects – Random Effects Models
7	Panel Data Models: IV IV/2SLS Dynamic Panels
8	GMM Estimation and IV: exactly identified and overidentified models, asymptotic properties and distribution, efficient GMM and tests for overidentifying restrictions.
9	Simultaneous Equation Models
10	Limited Dependent Variables
11	Review Presentations