Econometrics [ECO-2400] [ECO-2400-1]

Faculty Name

Partha Bandopadhyay [partha.bandopadhyay@ashoka.edu.in] ,Prachi Singh [prachi.singh@ashoka.edu.in] ;

Office timing

Class Timing:
Wednesday - 4:30-6 PM
Friday - 11:50 AM to 1:20 PM
Office Timing - Wednesday: 10-11 AM

Overview

This course is an undergraduate level introduction to Econometrics, which is used to explore and estimate economic relationships. The course will begin with the Classical Linear Regression Model, extend to cases where the model assumptions are violated and will cover non-linear models as well. Data analysis is going to be a key component throughout the course so STATA will be used often for exploring various datasets.

Learning Outcomes

1) Developing an understanding of Econometrics as a tool to explore socio-economic relationships
2) Understand the basic classical regression model to estimate relevant economic parameters, predict economic outcomes, and test economic hypotheses using quantitative data; extend to cases when the assumptions of the model are violated.
3) Understanding of non-linear models (Logit/Probit), special cases (truncation/censoring/count data) etc
4) Using STATA to conduct independent regression analysis.

Requirements (Reading List and other materials)

Introductory Econometrics by Jeffery Woolridge (4th Edition)

Prerequisites (If Any)

Statistics

Grading Rubric

Mid Term - 30 %
End Term - 50 %
STATA Test/Assignment - 20 %

Attendance Policy

In an online semester attendance will not be compulsory. I will take live online lectures and will be posting some pre-recorded lectures as well.

Econometrics [ECO-2400] [ECO-2400-2]

Faculty Name

Partha Bandopadhyay [partha.bandopadhyay@ashoka.edu.in] ,Prachi Singh [prachi.singh@ashoka.edu.in] ;

Office timing

Class Timing:
Wednesday - 2:50 to 4:20 PM
Friday - 2:50 to 4:20 PM
Office Timing - Wednesday: 11 AM-12 PM

Overview

This course is an undergraduate level introduction to Econometrics, which is used to explore and estimate economic relationships. The course will begin with the Classical Linear Regression Model, extend to cases where the model assumptions are violated and will cover non-linear models as well. Data analysis is going to be a key component throughout the course so STATA will be used often for exploring various datasets.

Learning Outcomes

1) Developing an understanding of Econometrics as a tool to explore socio-economic relationships
2) Understand the basic classical regression model to estimate relevant economic parameters, predict economic outcomes, and test economic hypotheses using quantitative data; extend to cases when the assumptions of the model are violated.
3) Understanding of non-linear models (Logit/Probit), special cases (truncation/censoring/count data) etc
4) Using STATA to conduct independent regression analysis.

Requirements (Reading List and other materials)

Introductory Econometrics by Jeffery Woolridge (4th Edition)

Prerequisites (If Any)

Statistics

Grading Rubric

Mid Term - 30 %

End Term - 50 %
STATA Test/Assignment - 20 %

Attendance Policy

In an online semester attendance will not be compulsory. I will take live online lectures and will be posting some pre-recorded lectures as well.

Econometrics [ECO-2400] [ECO-2400-5]

Faculty Name

Kanika Mahajan [kanika.mahajan@ashoka.edu.in] ,Rishita Sankrit [rishita.sankrit_tf@ashoka.edu.in] ;

Office timing

Office Hours: 9 a.m.-10.00 a.m. (Monday)

Overview

This will be an introductory course in econometrics. It will build on the concepts of statistical inference with the aim to apply them to data and enable understanding of economic relationships. The course will have both a theoretical and an application-based part. The theory will involve understanding the method of least squares estimation and the application part will involve data visualization and analyses using STATA computing software.

Learning Outcomes

The crux of econometrics is to be able to test hypothesis about a population using a sample. We begin by building on our understanding of a population and a sample and the basics of hypothesis testing. The course then moves onto the methods of estimation to understand causal relationships between variables. These methods are not just restricted to economics but are also relevant to the study of political science, sociology and public policy in general. The emphasis will be on inferring causality throughout the course. By the end of this course you should be able to understand and apply the taught econometric methods to test a relevant hypothesis of interest using data, interpret the results and draw appropriate conclusions.

Requirements (Reading List and other materials)

Textbooks and Articles
Jeffrey M. Wooldridge [JMW], Introductory Econometrics: A Modern Approach, 4th or 5th edition
Cameron, A.C. and Trivedi, P.K [CT]. Microeconometrics using Stata, 2nd ed., Stata Press, 2010

Course Outline
Chapter 1-7 of JMW will form the core of this course. Below is topic wise course outline.

1. Review of Statistics: Random variables, Joint distribution, Probability Distributions, Sampling, Estimation, Hypothesis Testing
Appendix A, B and C [JMW]

2. Nature of Econometrics:
Chapter 1 [JMW] and Chapter 1 [Mastering Metrics by Joshua Angrist and Jörn Steffen Pischke, this will be circulated]

3. Simple Regression Model: Estimation, Inference
Chapter 1 and 2 [JMW]

4. Multiple Regression Model: Estimation, Inference
Chapter 3 (exclude appendix 3A), 4, and 6(exclude prediction interval and prediction error, Appendix 6A) [JMW]

5. Dummy Variables in a Regression Model
Chapter 7 (exclude testing for difference in Regression functions across Groups and section 7.5) [JMW]

Prerequisites (If Any)

Statistics; Hard Work
Calculus and algebra will be used in the theory.

Grading Rubric

Home-assignments: 20%
Class quizzes: 20% (only if in person class instruction begins next semester, else the marks for quizzes will be transferred to assignments and number of assignments will increase)
Mid-term: 30%
Final: 30%

Homework problems will generally be assigned from Wooldridge. Homework assessments will be submitted individually. Group discussions are allowed but plagiarism will be dealt with a fail grade on the assessment. For STATA based assessments, printouts of output should be accompanied with proper explanations and do/log file must be emailed. Assignments must be submitted in time. Late submission will not be graded. The quizzes will not be announced and no make-up will be allowed for missed quizzes.

Tutorials will be held by the Teaching Assistant for one hour per week from week 2. The time and location will be announced later.

Attendance Policy

Attendance will not be used as an eligibility to sit for exams and will not count towards any assessment but is highly encouraged. Class participation is also recommended. This course forms the basis for electives that follow in the coming semesters and conceptual gaps that remain will snowball later.

Attachment

Course_Structure.pdf