

Course Outline

Economics 769

Applied Microeconometrics

Winter 2017

Instructor:

Dr P. Contoyannis

Location and Times:

Tuesday 6.00-7.20 KTH 334
Friday 1.00-2.20 KTH 334

(except computing classes: held in KTH 4th Floor student room/Library by Shaun Shaikh: shaikhsa@mcmaster.ca)

Contact Information:

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Department of Economics, KTH 416 x 26582

Office hours: Mon + Wed 3.30-4.20 or by appointment

Pre-requisites: Graduate standing in the Department of Economics or permission of the instructor. The course is intended primarily for graduate students in the Department of Economics. These students will be given enrolment priority. I will use Avenue to Learn to post material and you should check this regularly.

Course Description

This course is designed to introduce students to methods for the analysis of microeconomic data, with a particular focus on the use of survey datasets used in applied *micro-econometric* research. We start with an introduction to micro-econometrics and a consideration of issues in the analysis of survey data such as sample selection, clustering, and weighting. We then discuss the concepts of models, regression, and causality and their estimation including the use of a variety of instrumental variables approaches. We then consider some methods for linear panel data models, both including and excluding dynamics, and models for binary, ordered and count variables. At the end of the course students should be able to perform their own micro-econometric analysis, and interpret and evaluate related studies.

Brief Content

We will begin by introducing microeconometrics and discussing some issues in the analysis of survey data such as sample selection, clustering, and weighting. We will then discuss models, regression and causality, and the use of instrumental variables. Following reading week we will consider methods for linear panel data models, both including and excluding dynamics, and models for binary, ordered and count variables, again for both cross-sectional and panel data.

Readings

We will use as our primary text:

Cameron. C. and Trivedi. P. (2005) ‘Microeconometrics: Methods and Applications’ Cambridge.

Other texts I sometimes draw on and that you should be aware of are:

Angrist. JD. and Pischke. J-S (2009) ‘Mostly harmless Econometrics’ Princeton

Wooldridge, J. M. (2010) ‘Econometric Analysis of Cross Section and Panel Data’ 2nd Edition. Massachusetts: MIT Press.

Greene. W.H (2011) ‘Econometric Analysis’ 7th edition. Pearson

Morgan. S and Winship (2015) ‘Counterfactuals and Causal Inference: Methods and Principles for Social Research’ 2nd edition Cambridge

For less technical introduction and discussion of many topics in the course you should examine:

Kennedy, P. (2008) ‘A guide to Econometrics’ 6th Edition .MIT Press

and

Wooldridge. J.M (2016) ‘Introductory Econometrics: a Modern Approach’ 6th Edition CENGAGE Learning

For the computing classes we will use:

Cameron. C and Trivedi. P (2008) *Microeconometrics using STATA*,

and another text that combines STATA code and discussion of microeconomic methodology using health data:

Jones. A.M et al. (2013) ‘Applied Health Economics’. 2nd edition. Routledge.

These core materials will be supplemented by chapters from other texts and articles.

Educational Methods

The course is divided into sessions each lasting 1 hour 20 minutes. The first session of each week will normally be devoted to a lecture. The second session of each week will be devoted to a mixture of lectures, practical (computer-based) sessions using STATA, seminar style discussions of issues raised by the lecture and readings (which will include

empirical papers using the methods discussed in lectures), and to student presentations on their original empirical paper.

Evaluation of Students

Your grade will depend on your 15-20 page empirical paper (60%), in-class contribution (10%), paper presentation (10%), an exercise (10%) and a computing assignment (10%). The evaluation components are as follows:

1. *Empirical paper using microeconomic data on a topic of your choice (60%)*

There are a number of intermediate steps related to this assignment:

- a) Submit a one-page statement of an idea for your paper including identifying the data and an outline of the methodology you intend to use. **(by February 14th)**
- b) Meet to discuss and agree on the topic and approach **(by March 10th)**
- c) Present in class **(April 4th and 7th)**
- d) Submit paper. **(by June 30th)**

All papers must include appropriate referencing of all works cited with full acknowledgement of other people's ideas. You should ensure that you are familiar with university policies and procedures relating to academic integrity. This is available at:

<http://mcmaster.ca/academicintegrity/students/index.html>

If the paper or a portion of it is to be submitted as course requirements for another course, prior approval of both professors is required. **Late papers will be penalized at a rate of 10% of the final mark received for each week or part week that the paper is late.**

2. *In-class contribution (10%)*- This will be based on your attendance and in class contribution.
3. *Paper presentation (10%)*
4. *Exercise (10%)* The exercise will be distributed after reading week and will be due April 7th.
5. *Computer Exercise (10%)* A STATA dataset and related assignment will be distributed after reading week and will be due April 7th.

Key Dates

Paper Proposals due February 14th.

Exercise and Computer Exercise due April 7th

Full papers due: **June 30th.**

Course Evaluation

At the end of the course, five minutes will be set aside for students to complete written evaluation forms.

E-Mail Policy

Effective September 1, 2010, it is the policy of the Faculty of Social Sciences that all e-mail communication sent from students to instructors (including TAs), and from students to staff, must originate from the student's own McMaster University e-mail account. This policy protects confidentiality and confirms the identity of the student. It is the student's responsibility to ensure that communication is sent to the university from a McMaster account. If an instructor becomes aware that a communication has come from an alternate address, the instructor may not reply at his or her discretion.

Schedule and Topics

| | |
|------------------|---|
| JAN 10, 13, 17 | Microeconometrics and the Analysis of Survey Data |
| JAN 20 | Models, Regression, and Causality I |
| JAN 24 | STATA Session 1 |
| JAN 27, 31 | Models, Regression, and Causality II+ III |
| FEB 3, 7, 10, 14 | Instrumental Variables |
| FEB 17 | STATA session 2 |
| FEB 21, 24 | READING WEEK |
| FEB 28, MAR 3,7 | Linear Panel Data Models |
| MAR 10 | STATA session 3 |
| MAR 14, 17 ,21 | Binary and Categorical Outcome Models |
| MAR 24 | STATA session 4 |
| MAR 28, 31 | Count Models |
| APR 4,7 | Student Paper Presentations |

JAN 10, 13, 17 Microeconometrics and the Analysis of Survey Data

Cameron. C. and Trivedi. P. (2005) '*Microeconometrics: Methods and Applications*'
Cambridge

Chapter 1, p 3-10, Section 1.6
Chapter 3, Sections 3.2 and 3.5
Chapter 24.1-21.3

Jones. A.M et al. (2013) '*Applied Health Economics*'. Routledge Chapter 1.

JAN 20, 27, 31 Models, Regression, and Causality

Readings:

Required

Cameron. C. and Trivedi. P. (2005) '*Microeconometrics: Methods and Applications*'
Cambridge

Chapter 2
Chapter 3, Sections 3.3 and 3.4
Chapter 4, 4.1-4.5, 4.7
Chapter 25, Sections 25.1-25.3

Other

Angrist. JD. and Pischke. J-S (2009) '*Mostly harmless Econometrics*' Princeton, Ch 2, 3

Heckman J.J (2008) 'Econometric Causality' *International Statistical Review* 76, 1, 1-27

Kennedy., P., 2008 *A Guide to Econometrics*, Chapters 3, 11

JAN 24 STATA Session 1

You should ensure that you have worked through Cameron. C and Trivedi. P (2008) *Microeconometrics using STATA*- Chapters 1 and 2 **before** this session.

Reading:

Jones. A.M et al. (2013) '*Applied Health Economics*'. Routledge. Chapter 2

Feb 3, 7, 10, 14 Instrumental Variables

Readings:

Required

Cameron. C. and Trivedi. P. (2005) '*Microeconometrics: Methods and Applications*'
Cambridge

Chapter 4.8-4.10

Chapter 6.4

Chapter 8.4.3 and 8.4.4.

Chapter 25.7

Murray. M.P (2006) '*Avoiding Invalid Instruments and Coping with Weak Instruments*'
Journal of Economic Perspectives 20, 4, 111-132

Required for Feb 14th

Gardner. J and Oswald.(2007) '*Money and mental wellbeing: A longitudinal study of medium-sized lottery wins*' *Journal of Health Economics* (January 2007), 26 (1), pg. 49-60

Lindahl (2005) '*Estimating the Effect of Income on Health and Mortality using Lottery Prizes as an exogenous source of variation in Income*' *JHR* 2005 144-168

Other Readings

Angrist. JD. and Pischke. J-S (2009) '*Mostly harmless Econometrics*' Princeton, Ch 4

Kennedy., P., 2008 A Guide to Econometrics,
Chapters 3, 9, 11

FEB 17 STATA session 2

Cameron. C and Trivedi. P (2008) *Microeconometrics using STATA*- Chapter 6

FEB 28, MAR 3,7 Linear Panel Data Models

Readings:

Required

Cameron. C. and Trivedi. P. (2005) '*Microeconometrics: Methods and Applications*'
Cambridge Chapters 21, 22

Other

Angrist. JD. and Pischke. J-S (2009) '*Mostly harmless Econometrics*' Princeton, Ch 5

Kennedy., P., (2008) '*A guide to Econometrics*'
Chapter 18: Panel Data

Wooldridge J.M (2010) '*Econometric Analysis of Cross Section and Panel Data*'
Chapter 7: Example 7.2 and 7.8: The linear panel data model revisited
Chapter 10: Basic Linear Unobserved Effects Panel Data Models
Chapter 11: More Topics in Linear Unobserved Effects Models

MAR 10 STATA session 3

Jones. A.M et al. (2007) '*Applied Health Economics*'. Routledge. Chapter 8

MAR 14, 17,21 Binary and Categorical Outcome Models

Readings:

Required

Cameron. C. and Trivedi. P. (2005) '*Microeconometrics: Methods and Applications*'
Cambridge

Chapter 5, sections 5.2 and 5.6

Chapter 14, sections 14.1-14.4

Chapter 15, section 15.9.1

Cameron. C. and Trivedi. P. (2005) '*Microeconometrics: Methods and Applications*'
Cambridge Chapter 23.1-23.4

Required for MAR 21:

Heiss. F (2011) '*Dynamics of self-rated health and selective mortality*' *Empirical Economics* , 40,1 119-40

Contoyannis. P and Li. J (2011). "*The evolution of health outcomes from childhood to adolescence,*" *Journal of Health Economics*, 30(1), p 11-32

Other

Cameron. C. and Trivedi. P. (2005) '*Microeconometrics: Methods and Applications*'
Chapter 5 (remainder)

Kennedy. P. (2008) '*A guide to econometrics*' Chapter 16.1-3, 17.1, 17.3.

Wooldridge, J. M. (2010) '*Econometric Analysis of Cross Section and Panel Data*'
Chapter 15. Binary Response Models
Chapter 16.3. Ordered Response Models

MAR 24: STATA session 4

Jones. A.M et al. (2013) '*Applied Health Economics*'. Chapter 9

MAR 28, 31 Count Models

Readings:

Required

Cameron. C. and Trivedi. P. (2005) '*Microeconometrics: Methods and Applications*'

Chapter 20
Chapter 23.7

Other

Kennedy, P. (2008) *'A guide to econometrics'* Chapter 16.4

Wooldridge, J. M. (2010) Chapter 18.

APR 4.7: Student Paper Presentations