

ECO418H1F -- Empirical Applications of Economic Theory (UG)

Wednesday 2 pm – 4 pm

Instructor: Yao Luo

Office: Max Gluskin House, 322

Email: yao.luo@utoronto.ca

Office hours: Tue 10:30 am – 11:30 am, or by appointment

Teaching Assistant: TBA

Objectives

This course focus on topics in applied econometrics and empirical industrial organization, including estimation of demand and supply, estimation of production functions, estimation of single agent decision problems, estimation of auction models. It emphasizes on a balanced treatment of theory and econometric techniques used in empirical research in industrial organization.

This course will be based on published and working papers. There will be no text book. The papers which appear with an asterisk in the reference are required. Students are expected to read them before class. Students are expected to learn STATA. Learning a computing language such as Matlab, Gauss or Fortran is not necessary. But it will be useful if you plan to apply for graduate school and are interested in empirical work.

Prerequisite: ECO327Y/ECO374H1/ECO375H1

The Department of Economics checks whether students have the course prerequisites, and students are removed if they do not have them. It is the students' responsibility to read the calendar. The instructor cannot waive prerequisites.

Grading

There will be three problem sets, one term test and a final exam. Each problem set counts for 10%. The term test counts for 20%. The final exam counts for 50%. Collaboration on the problem sets is encouraged. But students should write and submit the answer individually, and acknowledge the help received in the upper right corner of the first page.

All problem sets must be typed except figures and equations. Make sure to put your name and student number in the front page. Students can either hand in the problem set to the instructor by the end of the lecture on the due date, or

hand in it to the receptionist of the economics department at least one day before the due date. No late problem sets will be accepted.

Students who fail to submit problem sets on time or miss the term test for medical reasons may seek special consideration by submitting an *acceptable* medical note within a week after the due date. (Note that petitions based on travel, employment or personal plans will not be considered.) Students who miss the final exam for reasonable reasons may initiate petitions to the Faculty of the Art and Science. See the website for details.

Only if the instructor accepts students' medical notes, their marks for the missed problem sets will be calculated as follows:

1. If you miss one problem set, your mark for the missed problem set is equal to the lowest mark for the other two problem sets.
2. If you miss two problem sets, you will get zero for the second missed problem set. Your mark for the first missed problem set is equal to the mark for the submitted problem set.
3. You will get zero for all your problem sets if you miss all the problem sets.

Only if the instructor accepts students' medical notes, their marks for the missed term test will be based on their marks of the makeup term test:

1. The makeup term test will be held on Nov 20th, 4:10 pm - 5:00 pm.
2. Consistent with university policy, there will be no "makeup" test for the makeup term test. No medical excuses will be accepted, and a grade of zero will be applied if the students fail to write the makeup test.
3. The makeup test covers all the materials covered by the lectures before Nov 13th.

Acceptable Medical Notes

The only acceptable medical note is a fully completed University of Toronto Medical Certificate. It must be original and completed by a qualified medical doctor (not an acupuncturist, chiropractor, or other health care professional). The doctor's OHIP registration number must be provided on the note.

When you miss a problem set, the note must clearly state that either on the due date of the problem set or one day before the due date, the student was too ill to work on the problem set. When you miss a term test, the note must clearly state the on the date of the term test, the student was too ill to write the test.

Important Dates

1. Term test: Nov 13th, 2013
2. Final exam: TBA

Academic Misconduct

Students should note that I do not tolerate any form of academic misconduct. Any student caught engaging in such activities will be subject to academic discipline ranging from a mark of zero to dismissal from the university as outlined in the academic handbook. Any student abetting or otherwise assisting in such misconduct will also be subject to academic penalties.

Email policy

I will respond to email within 24 hours on a week day, 48 hours on a weekend, according to these policies:

- a) I only respond to emails posing questions that can be answered in 1-3 sentences. For detailed questions, please come to my office hours.
- b) I do not respond to emails that request information that can be found on the website or the syllabus.
- c) For the results of the graded materials, please come to my office hours.

Test score appeals

- a) Please write a short paragraph explaining why you should obtain additional points. Turn in a hard copy of this by the end of the week following the week in which exams are first handed back. This holds regardless of whether you are in class when exams are returned.
- b) Conditional on this argument found persuasive by me, the entire exam will be re-graded. Your score may go up or down.

Course Outline

1. Introduction (1 week)
2. Demand and Supply Estimation (4 weeks)
3. Production Function Estimation (2 weeks)
4. Single Agent Dynamic Models (2 weeks)
5. Price Discrimination (1 week)
6. Auctions (1 week)

References

1. Introduction (1 week)

- a) ***Akerberg, D., Lanier Benkard, C., Berry, S., & Pakes, A. (2007). Econometric tools for analyzing market outcomes. *Handbook of econometrics*, 6, 4171-4276. --- ABBA, hereafter
- b) ***Reiss, P. C., & Wolak, F. A. (2007). Structural econometric modeling: Rationales and examples from industrial organization. *Handbook of econometrics*, 6, 4277-4415. – RW, hereafter

2. Demand and Supply Estimation (4 weeks)

- a) ***ABBA Section 1
- b) RW Section 5 – 7
- c) ***Berry, S., Levinsohn, J., & Pakes, A. (1995). Automobile prices in market equilibrium. *Econometrica*, 841-890.
- d) Nevo, A. (2001). Measuring market power in the ready-to-eat cereal industry. *Econometrica*, 69(2), 307-342.
- e) Fan, Y. (2012). Ownership consolidation and product quality: A study of the US daily newspaper market. *American Economic Review*, forthcoming.

3. Production Function Estimation (2 weeks)

- a) ***ABBA Section 2
- b) Olley, G. S., & Pakes, A. (1996). The Dynamics of Productivity in the Telecommunications Equipment Industry. *Econometrica*, 64(6), 1263-1297.
- c) Levinsohn, J., & Petrin, A. (2003). Estimating production functions using inputs to control for unobservables. *Review of Economic Studies*, 70(2), 317-341.
- d) Petrin, A., Poi, B. P., & Levinsohn, J. (2004). Production function estimation in Stata using inputs to control for unobservables. *Stata Journal*, 4, 113-123.

4. Single Agent Dynamic Models (2 weeks)

- a) ***Rust, J. (1987). Optimal replacement of GMC bus engines: An empirical model of Harold Zurcher. *Econometrica*, 999-1033.
- b) Hotz, V. J., & Miller, R. A. (1993). Conditional choice probabilities and the estimation of dynamic models. *The Review of Economic Studies*, 60(3), 497-529.
- c) Aguirregabiria, V., & Mira, P. (2010). Dynamic discrete choice structural models: A survey. *Journal of Econometrics*, 156(1), 38-67.
- d) Holmes, T. J. (2011). The Diffusion of Wal-Mart and Economies of Density. *Econometrica*, 79(1), 253-302

5. Price Discrimination (1 week)

- a) McManus, B. (2007). Nonlinear pricing in an oligopoly market: The case of specialty coffee. *The RAND Journal of Economics*, 38(2), 512-532.
- b) Busse, M., & Rysman, M. (2005). Competition and price discrimination in yellow pages advertising. *RAND Journal of Economics*, 378-390.
- c) Cohen, A. (2008). Package size and price discrimination in the paper towel market. *International Journal of Industrial Organization*, 26(2), 502-516.
- d) ***Leslie, P. (2004). Price discrimination in Broadway theater. *RAND Journal of Economics*, 520-541.
- e) Luo, Y., Perrigne, I., & Vuong, Q. (2012). *Multiproduct Nonlinear Pricing: Mobile Voice Service and SMS*. Working Paper, Pennsylvania State University.

6. Auctions (1 week)

- a) Guerre, E., Perrigne, I., & Vuong, Q. (2000). Optimal Nonparametric Estimation of First-price Auctions. *Econometrica*, 68(3), 525-574.
- b) Paarsch, H. J., & Hong, H. (2006). An introduction to the structural econometrics of auction data. *MIT Press*.