Advanced Microeconometrics (Eco 789), 2020 Spring

Time and venue: 09:00 - 11:45, Friday, PS&E 502

Instructor: Sang Soo Park, MK Center 402, 3290-2227, email: starpac@korea.ac.kr, office hours: by appointment

Course Objective and Description: The purpose of this course is to introduce advanced econometric techniques that may be used by students while doing researches in the future.

   o **Prerequisite:** Eco 508 (Econometric Analysis) and Eco 707 (Micro-Econometrics)

   o **Course organization:** There will be introductory lectures on topics that are listed in the syllabus for a few weeks. After the lecture period, each student will present:

- one or two lectures on a part of listed topics or papers;

- his/her term paper proposal;

- his/her term paper during the final exam week.

Lecture language and means of communication: The lecture is done in English. Students can use Korean at any time. Main means of communication are the electronic bulletin board on the Blackboard system and the email. Students are going to check out the board and their email frequently in order not to miss out important notices.

Evaluation: There may be assignments and take-home tests in addition to a mandatory term paper.

   o **Term paper:** Every student is going to write a mandatory term paper. If you do not submit a term paper, your letter grade will be an F. Submission deadline is the Tuesday in the next week of the final exam week. Late submission is not allowed.

   o **Term paper proposal:** Your proposal should include: title; main research question(s); literature review; (tentative) econometric model(s); source(s) of data if your project is empirical; anticipated results.

Literature related to topics to be covered or introduced

1. General references

   - Cameron, C. and P. Trivedi (2005). *Microeconometrics: Method and Application.* Cambridge University Press.
   - Lee, M-J. (2010). *Micro-Econometrics.* Springer.
   - Pearl, J. (2009). *Causality (2ed.).* Cambridge University Press.
   - Pearl, J. (2018). *The Book of Why.* Basic Books.
   - Wooldridge, J. (2002). *Econometric Analysis of Cross Section and Panel Data.* The MIT Press.

2. Inequality indices and their estimation and statistical inference

   - Barrett, G. and S. Donald (2009). "Statistical Inference with Generalized Gini Indices of Inequality, Poverty, and Welfare", *Journal of Business and Economic Statistics* 27. pp. 1-17.
   - Chakravarty, S. (2009). *Inequality, Polarization and Poverty, Advances in Distributional Analysis.* Springer.
   - Hampel, F., E. Ronchetti, P. Rousseeuw, and W. Stahel (1986). *Robust Statistics, The Approach Based on Influence Functions.* John Wiley & Sons.
   - Mas-Colell, A., M. Whinston, and J. Green (1995). *Microeconomic Theory.* Oxford University Press.
     - First- and second-order stochastic dominances (pp.194-199)
     - Social welfare functions (pp.825-838)
   - Sen, A. (1997). *On Economic Inequality, Expanded Edition with a Substantial Annexe by James E. Foster and Amartya Sen.* Clarendon Press.
   - Silber, J. (ed. 1999). *Handbook on Income Inequality Measurement.* Springer.
     - Papers therein

3. Indirect inference

   - Bruins, M., J. Duffy, M Keane, and A Smith Jr. (2015). "Generalized Indirect Inference for Discrete Choice Models", https://arxiv.org/abs/1507.06115
   - Frazier, D. and E. Renault (2019). "Indirect Inference: Which Moments to Match?" *Econometrics* 7. https://doi.org/10.3390/econometrics7010014
   - Gouriéroux, A. and A. Monfort (1999). *Simulation Based Econometrics.* Oxford University Press.
   - Gouriéroux, C., A. Monfort, and E. Renault (1993). "Indirect Inference", *Journal of Applied Econometrics 8, Supplement: Special Issue on Econometric Inference Using Simulation Techniques.* pp. S85-S118.

- Kouki, M., S.S. Park, and E. Renault (2014). "Estimating Scale Economies in Financial Intermediation: a Doubly Indirect Inference", *Journal of Productivity Analysis* 41(3). pp.351-365.

- Train, K. (2009). *Discrete Choice Methods with Simulation (2ed).* Cambridge University Press.

4. Partial identification and distributional treatment effects

- Fan, Y. and S. Park (2009). "Partial Identification of the Distribution of Treatment Effects and Its Confidence Sets", *Advances in Econometrics* 25. pp. 3-70.

- Fan, Y. and J. Wu (2010). "Partial Identification of the Distribution of Treatment Effects in Switching Regime Models and Its Confidence Sets", *The Review of Economic Studies* 77. pp. 1002-1041.

- Fan, Y. and S. Park (2010a). "Confidence Intervals for the Quantile of Treatment Effects in Randomized Experiments", *Journal of Econometrics* 167. pp. 330-344.

- Fan, Y. and S. Park (2010b). "Confidence sets for some partially identified parameters". *MPRA 37149.*

- Fan, Y. and S. Park (2010c). "Sharp Bounds on the Distribution of Treatment Effects and Their Statistical Inference", *Econometric Theory* 26. pp. 931-951.

- Firpo, S. and G. Ridder (2019). "Partial identification of the treatment effect distribution and its functionals", *Journal of Econometrics* 213. pp. 213-234.

- Imbens, G. and C. Manski (2004). "Confidence Intervals for Partially Identified Parameters", *Econometrica* 72. pp. 1845-1857.