Lecture: T.Th 11:00AM–12:50PM, AAH 3245

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Course Description: This course is the second quarter in the graduate econometrics sequence. It is divided in three parts. Part I presents different notions of asymptotic optimality of tests and estimators. Part II covers the topic of uniformity with some emphasis on inference in moment inequality models. Part III covers the foundations of permutation and randomization tests with some recent developments.

Grading: There will be no exams in this class. Grading will consist on weakly reports (submitted via Blackboard), three problem sets (with due dates TBD) and a topic presentation (on one of the topics labeled with a *). Weakly reports should avoid displays and formulas and be limited to a maximum of two pages. For the topic presentation you must present lecture notes (maximum 8 pages) and a slide presentation. The weighting scheme for the final grade will be:

- Weakly Reports: 20%
- Problem Sets: 30%
- Topic Presentation: 50%

Lecture Notes: I will provide lecture notes every week with related references you are supposed to read. The readings listed below include most of the articles we will discuss in class.
Course Outline

Part I: Asymptotic Optimality

1. Asymptotic Comparisons of Tests I (Local)
2. Danger of Extrapolating Local Power
3. Asymptotic Comparisons of Tests II (Large Deviations)
4. Contiguity
5. Local Asymptotic Normality
6. Asymptotic Comparisons of Estimators

Part II: Uniformity

8. The Bahadur-Savage Problem
9. The Uniform Behavior of the t-test
10. A Problem with Subsampling
11. Moment Inequality Models I
12. Moment Inequality Models II
13. Pretesting using a Hausman test
15. Misspecification in Moment Inequality Models*
16. Correct Inference after Consistent post-model Selection.*
Part III: Randomization Tests

17. Randomization Tests

18. Asymptotic Behavior of Randomization Tests

19. Randomization with Imperfect Randomized Trails

Readings


[22] McCloskey, A. Powerful procedures with correct size for test statistics with limit distributions that are discontinuous in some parameters. manuscript, 2012.


