

Econometrics 678 Syllabus (Spring, 2016)

Instructor: Qi Li

Office: ALLN 3100

Phone: 845-9954

Email: qi-li@tamu.edu

Office Hour: 1:00-2:30pm on Tuesdays, or stop by.

Lecture Time/Room: 2:40am-3:55pm on Mondays and Wednesdays at ALLN 3033.

This course consists of two parts. Part I introduces to students the nonparametric and semiparametric methods and their applications in economics. We will show that nonparametric methods can help us solving problems that can be difficult to handle using some parametric specifications. We will mainly discuss the nonparametric kernel method with independent data. Other nonparametric methods such as series (spline) and k-nearest-neighbor methods will be briefly discussed. We will discuss various applications (in macroeconomics, financial economics, etc.) using nonparametric estimation methods.

Part II studies panel data econometrics. Panel data allow researchers to analyze some important economic questions that cannot be addressed using cross-sectional or time-series data sets alone. Therefore, panel data has found wide applications in both micro- and macroeconomics. Due to its different structures from cross-sectional and time-series datasets, panel dataset requires new development of econometric methodologies. We will study nonlinear panel data models including discrete choice models, Tobit-type models, quantile regression models, among others, estimation of average treatment effects using panel data models. We will also discuss interactive factor models.

The assignments include theoretical problems, computer simulations, and empirical works. You can use R, Gauss, Matlab, Stata, or any other software to do the computer assignments.

Grade: Your grade will be determined by various homework assignments (30%), an exam on March 23 (40%, Monday) and a final exam on April 27 (30%, Monday). It is possible to substitute the final exam by a research project. But the topic of your research project must get my approval.

The textbook (for part I)

“Nonparametric Econometrics: Theory and Practice” by Li, Q. and Racine, J. (Princeton University Press, list price \$130)

You can purchase it from me with more than 40% discount. It is \$70 per book.

A Reference book (for part II)

“Econometric Analysis of Cross Section and Panel Data” by Wooldridge, J. (MIT Press).

Course Outline

Part I

1. Nonparametric density and regression function estimations.
2. Conditional CDF and conditional quantile function estimations.
3. Partially linear model and other semiparametric models.
4. Nonparametric model specification tests.
5. Nonparametric series and Knn methods.

Part II

1. Panel discrete choice models.
2. Panel Tobit-type models.
3. Panel quantile regression models.
4. Interactive factor models.
5. Average treatment effects estimation with panel data.

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life/Services for Students with Disabilities, in Cain Hall. The phone number is 845-1637.

Academic Integrity

For additional information please visit: <http://aggiehonor.tamu.edu> “An Aggie does not lie, cheat, or steal, or tolerate those who do.”