ECON 7033 Topics in Econometrics: Part I

National Tsing Hua University

Spring 2015

Instructor: CY SIN

Contact Information: Office: TSMC-804

Email: cysin@mx.nthu.edu.tw

Phone: (03)516-2134

Time and Location: Tuesday 9:00am-12:00noon, TBA

Office Hours: By appointment

Teaching Assistant: TBA

Teaching Assistant Office Hours: Not Offered

Course Description: This course is designed for the first-year Ph.D. Economics graduate students. The basic asymptotic theory will be visited after reviews on master level econometrics. And then the popular estimation methods, especially those developed for time series economic data will be discussed.

Prerequisites: ECON 5033 or an equivalent graduate level Econometrics

Textbooks:

(1) Bai, J. (2006): Lecture Notes on Time Series Econometrics.

(2) Beriens, H. (2004): Lecture Notes on Time Series Econometrics.

(3) Greene, W.H. (2003): Econometric Analysis, 5th Edition. NJ: Prentice Hall.

Software: You are welcome to use any econometric or statistic software such as Matlab, TSP, Gauss, Stata, Eviews, or Limdep.

Grading: There will be assignments (20%) including both problem solving and computer tasks. We will also have an evaluation examination (80%).

Tentative Topics in Econometrics: Part I

(1) Review on Linear Regression Models: Multicollinearity and Normality Test

(2) Basics of Time Series Econometrics: The Stable Case

(3) VAR (Vector Autoregression) and Impulse Response Analysis: The Stable Case

(4) Basics of Time Series Econometrics: The Unstable Case and Unit Root

(5) Cointegration: Times Series and Panel Data Analyses

(6) VAR (Vector Autoregression) and Impulse Response Analysis: The Stable Case

(7) Time Series Econometrics: GARCH (Generalized Autoregressive Conditional Autoregression) and ACD (Autoregressive Conditional Duration)

- End of Part I -

ECON 7033 Topics in Econometrics [Part II]

National Tsing Hua University

Spring 2015

Instructor: Eric S. Lin

Contact Information: Office: CTM–712, Email: `slin@mx.nthu.edu.tw`, Phone: 574-2729

Time and Location: Tuesday 9:00–noon, CTM–832

Office Hours: Thursday 11:00–12:00 pm or by appointment

Course Webpage: iLMS – `http://lms.nthu.edu.tw/`

Teaching Assistant: Larry Huang

Teaching Assistant Hours: TBA

Course Description:
   This course is designed for the first-year Ph.D. Economics graduate students. The basic asymptotic theory will be visited. And then the popular estimation methods such as GMM and MLE will be introduced. Some of the hot issues in the field of microeconometrics will be touched as well. In addition to theoretical derivation, it will provide an initial opportunity for you to develop the skills to conduct and understand empirical works. The coursework will be theoretical in nature, but students will also be required to use the (relatively) more advanced methods to estimate certain models and test certain hypotheses.

Prerequisites:
   ECON 5033 or an equivalent graduate level Econometrics

Grading: A couple of problem sets will be passed out during the semester. There will be some theoretical derivation and comupter assignments with real or simulated data. Note that overdue assignment will **NOT** be accepted. There will be a final evaluation exam. Your final grade is computed as follows.

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\begin{array}{ll}
\text{Assignments} & 50\% \\
\text{Final Exam} & 50\%
\end{array}
$$

Course Organization:

1. **Asymptotic Theory**

2. **GMM and MLE**

3. **Discrete Choice Model**

4. **Numerical Optimization**

5. **SUR Model**

6. **Panel Data Model**
   June 16: Final Exam