

323 M6140
Fall 2007
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Econometric Theory I

經大講堂

Wednesday 10:20-12:10

- Office Hour: Wednesdays 3-4pm.
- Class Webpage: <http://ccms.ntu.edu.tw/~luohm/metrics2007f/metrics2007f.htm>
- Textbooks:
 - (SW) Stock and Watson (2006), *Introduction to Econometrics*, Addison Wesley, 2nd edition.
- Other References:
 - (W) Wooldridge (2006), *Introductory Econometrics— A Modern Approach*, 3rd edition, South-Western College Publishing.
 - Johnston and DiNardo (1997), *Econometric Methods*, 4th ed., McGraw-Hill.
 - Wooldridge (2002), *Econometric Analysis of Cross Section and Panel Data*, MIT press.
- Classes:
 - 2007/9/19, 26,
 - 10/3, 17, 24, 31,
 - 11/7,
 - 11/14, midterm**
 - 11/21, 28
 - 12/5, 12, 19, 26,
 - 2008/1/2, 9,
 - 1/16, final**
- Grade: problem sets 20%, midterm 35%, final 45%.

- Topics:
 1. Bivariate Regression (SW 4, SW 5, SW 17).
 - Probability framework.
 - Estimation and hypothesis testing.
 - Homoskedasticity.
 2. Multiple Regression (SW 6, SW 7, SW 18).
 - Omitted variable bias.
 - Multiple regression model.
 3. Nonlinear Regression Models (SW 8).
 - Modeling nonlinear regression functions.
 - Interactions between independent variables.
 4. Assessing Regression Studies (SW 9).
 - Internal and external validity.
 - Threats to internal validity.
 5. Panel Data (SW 10, W14).
 - Panel data with two periods.
 - Fixed effects regression.
 - Random effects regression.
 6. Instrumental Variables Regression (SW 12, W15, W16).
 - General IV regression model.
 - Checking instrument validity.
 - Where do IV come from?
 7. Experiments and Quasi-Experiments (SW 13, W13).
 - Difference-in-difference estimator.
 - Quasi-experiments.
 - Average treatment effect.
 8. Limited Dependent Variable Models (SW 11, W17).
 - Binary dependent variable models.
 - Censored regression models.
 - Sample selection corrections.