323 M6140
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Department of Economics
National Taiwan University

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Econometric Theory I

經大講堂

Wednesday 10:20-12:10

- Office Hours: Wed. 3-4.
- Class Webpage: http://ccms.ntu.edu.tw/∼luohm/metrics2005f/metrics2005f.htm
- Textbooks:
  - (**SW**) Stock and Watson (2003), *Introduction to Econometrics*, Addision Wesley.
- Other References:
  - (**W**) Wooldridge (2003), *Introductory Econometrics— A Modern Approach*, 2nd ed., 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:
  9/21, 28;
  10/5, 12, 19, 26;
  11/2, [**9, midterm**], 16, 23, 30;
  12/7, 14, 21, 28;
  1/4, [**11, final**].
- Grade: problem sets 20%, midterm 35%, final 45%.

- Topics:

  1. Bivariate Regression (**SW** 4, **SW** 15).
     - Probability Framework.
     - Estimation and hypothesis testing.
     - Homoskedasticity.
  2. Multiple Regression (**SW** 5, **SW** 16).
     - Omitted variable bias.
     - Multiple regression model.
  3. Nonlinear Regression Models (**SW** 6).
     - Modeling nonlinear regression functions.
     - Interactions between indpendent variables.
  4. Assessing Regression Studies (**SW** 7).
     - Internal and external validity.
     - Threats to internal validity.
  5. Panel Data (**SW** 8, **W**14).
     - Panel data with two periods.
     - Fixed effects regression.
     - Random effects regression.
  6. Instrumental Variables Regression (**SW** 10, **W**15, **W**16).
     - General IV regression model.
     - Checking instrument validity.
     - Where do IV come from?
  7. Experiments and Quasi-Experiments (**SW** 11, **W**13).
     - Difference-in-difference estimator.
     - Quasi-experiments.
     - Average treatment effect.
  8. Limited Dependent Variable Models (**SW** 9, **W**17).
     - Binary dependent variable models.
     - Censored regression models.
     - Sample selection corrections.