

## 國立台灣大學經濟學系計量經濟學 (II)

2023 Spring

任課老師：劉錦添教授 (Jin-Tan Liu)

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上課時間, 教室：星期四早上 9:10-12:10; 社科 406 室

助教: 星期四 12:10-13:00.

Office Hours：星期四下午 3:30-5:30，或另外約定

研究室 (office)：社科大樓 718 室

### 課程規定

平時作業 (20%)

期中考 (30%)，Open Book Test

期末考 (30%)，Open Book Test

學期實証報告 (20%)，Empirical research paper (Team members: 1-3 人)

March 2: Term paper topic, check data first.

March 30 : Literature Survey ( at least 5 pages)

April 27: Empirical Model, Basic Statistics, Results

June 16: 12:00 noon, 完整報告紙本交至

經濟系辦公室 三樓系上 Prof. Liu 的信箱.

### 教材

課本：1. Damodar N. Gujarati (2003), *Basic Econometrics*, McGraw Hill.

2. Jeffrey M. Wooldridge (2006), *Introductory Econometrics: A Modern Approach*, South-Western College.

3. James H. Stock and Mark W. Watson (2003), *Introduction to Econometrics*, Addison Wesley.

4. G. S. Maddala (1983), *Limited-dependent and Qualitative Variables in Econometrics*. New York: Cambridge University.

5. Jack Johnston and John DiNardo (1997), *Econometric Methods*, 4<sup>th</sup> ed. New York: McGraw Hill.
6. William Greene (2003), *Econometric Analysis*, New Jersey: Prentice Hall.
7. Joshua D. Angrist and J.S. Pischke (2009), *Mostly Harmless Econometrics*, Princeton University Press.
8. Kenneth G. Stewart (2005), *Introduction to Applied Econometrics*, Thomson Brooks/Cole.
9. Ani Katchova, Econometrics Academy;  
[www.youtube.com/user/econometricsacademy](http://www.youtube.com/user/econometricsacademy)
10. Matthew A. Masten, Duke University, Duke Mod. U  
(Causal Inference Bootcamp)
11. Ben Lambert: A full course in Econometrics: undergraduate level
12. Jorn-Steffen Pischke (LSE).
13. Doug McKee, Dept. of Economics, Cornell University (YouTube)
14. Ashley Hodgson: Identification Strategies

重要經濟學相關網站：

- \* 中央研究院學術調查研究資料庫 (Survey Research Data Archive, <http://srda.sinica.edu.tw>)
- \* 財團法人經濟資訊推廣中心 (Taiwan Economic Data Center, [aremos.org.tw](http://aremos.org.tw))
- \* [www.marginalrevolution.com](http://www.marginalrevolution.com) (Marginal Revolution) 經濟學最受歡迎的網站
- \* [mruniversity.com](http://mruniversity.com) (Marginal Revolution University)
- \* [www.nber.org](http://www.nber.org) (National Bureau of Economic Research)

NBER 係美國或全球最有影響力的經濟研究機構，每星期出版的 working papers 為經濟學界廣泛引用的文獻。

\* [rfe.org](http://rfe.org) (AEA web: Resources for Economics on the Internet)

\* [www.voxeu.org](http://www.voxeu.org) (VOX: Research-based policy analysis and commentary from leading economists; EU). 歐盟設立經濟政策網站

## 上課內容

### 1. Generalized Least Squares (GLS)

#### (1) Autocorrelation :

Gujarati: Chapter 12;

Johnston and DiNardo, Chapter 6,

Greene: Chapter 12.)

#### (2) Heteroscedasticity:

Gujarati: Chapter 11,

Johnston and DiNardo, Chapter 6,

Greene: Chapter 11)

#### (3) Panel data: Random Effect Model:

Gujarati: Chapter 16,

Johnston and DiNardo, Chapter 13,

Greene: Chapter 13.

#### (4) Seemingly Unrelated Regression (SURE)

Johnston and DiNardo, Chapter 9 (Appendix 9.1)

### 2. Autoregressive and Distributed-Lag Models

Gujarati: Chapter 17

Wooldridge: Chapter 18,

Greene: Chapter 19.

### 3. Time Series Econometrics: Stationary and Nonstationary time series data

**Gujarati: Chapter 21,  
Wooldridge: Chapter 10-11,  
Greene: Chapter 20.**

**4. Simultaneous Equation Models, Instrumental Variable Method,  
Identification Condition: Rank and Order conditions**

**Gujarati: Chapter 18-20,  
Wooldridge: Chapter 15-16,  
Stock and Watson: Chapter 10,  
Greene: Chapter 15.**

**5. Maximum Likelihood Method, Likelihood Ratio, Wald and LM tests  
Johnston and DiNardo, Chapter 5**

**6. Nonlinear Regression Models**

**Gujarati: Chapter 14,  
Maddala: Chapter 2,  
Greene: Chapter 9.**

**7. Discrete Choice Model: Linear Probability model, Logit, Probit,  
Multinomial Logit, Ordered Probit, Poisson model,**

**Gujarati: Chapter 15,  
Wooldridge: Chapter 17,  
Maddala: Chapter 2-3,  
Greene: Chapter 21**

**8. Limited Dependent Variable Model: Censored and Truncated Models,  
Sample selection model, Endogenous Switching model.**

**Gujarati: Chapter 15,  
Wooldridge: Chapter 17,  
Maddala: Chapter 6,  
Johnston and Dinardo, Chapter 12,  
Greene: Chapter 22.**

## **9. Meta Regression**

**Stanley and Jarrell (1989), “Meta-Regression Analysis: A Quantitative Method of Literature Survey,” *J. of Economic Surveys*, 3(2),161-170.**

**Viscusi and Aldy (2003), “The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World,” *J. of Risk and Uncertainty*, 27(1), 5-76.**

**Smith and Huang (1995), “Can Market Value Air Quality? A Meta-Analysis of Hedonic Property Value Models,” *J. of Political Economy*, 103(1), 209-227.**

## **10. Quantile Regression**

**Ani Katchova, Econometrics Academy; Quantile Regression  
Angrist and Pischke, Ch. 7**

## **11. Survival Model**

**Ani Katchova, Econometrics Academy; Survival Analysis**

## **12. Causal Effect: Instrumental Variable Method, Difference-in-Differences Model, Regression Discontinuity Design.**

**Angrist and Pischke (2009). Ch. 4-6**

**Matthew. Masten, Duke University, Duke Mod. U**

**(Causal Inference Bootcamp)**