

Methods of Economic Investigation (Ec 402)

Lent Term

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Office Hour: Monday 3:30-4:30

This part of the course will build on what you learned in the first term but with a heavier emphasis on the empirical applications of the techniques. The goal is to build a strong link between the theoretical foundations and practical use of many of the techniques that are commonly used by economists. In addition, the course is structured to allow you to become critical consumers of empirical research by investigating the practical limitations of many techniques.

The course is set up with 3 1-hour lectures each week, on Monday, Tuesday, and Thursday. On Monday and Tuesday, we will cover the theoretic foundations of particular techniques. Each Thursday we will explore a specific application that has policy or economic significance.

Statistical software and Data

The data used in the course, lectures, classes and assignments, will be provided to you in STATA format. STATA is a statistical software program commonly used by economists. You can use the data we provide to follow along the lecture as well as complete your assignments

Readings:

Each week we will cover a set of topics that have useful empirical applications. While these applications are not contained in any particular text, you may find it useful to have:

Angrist and Pischke *Mostly Harmless Econometrics* Princeton University Press

You may also wish to purchase following texts for your reference or review :

Jack Johnston and John DiNardo *Econometric Methods*, McGraw-Hill

William H. Greene *Econometric Analysis* (4th Edition), Pearson

Angus Deaton *The Analysis of Household Surveys* The World Bank

You will also need to read and understand the following papers to participate in class and take the final exam.

Week 1: Introduction

Angrist and Pischke, Chapters 1 and 2

(*) Heckman (2008) "Econometric Causality" *NBER Working Paper* No. 13934

<http://www.nber.org/papers/w13934>

(for a more detailed look read:

Heckman, Lalonde and Smith "The Economics and Econometrics of Active Labor Market Programs " In *Handbook of Labor Economics* Vol 3.)

Week 2: Experimental Vs. Non-Experimental Methods

Angrist and Pischke, Chapters 3

(*) Blundell and Costa Dias (2000) "Evaluation Methods for Non-Experimental Data" *Fiscal Studies* Vol 21, no. 4 pp. 427-468

Application: Mandatory Arrest Laws

(*) Angrist (2005) "Instrumental variables methods in experimental criminological research: what, why, and how" *Journal of Experimental Criminology* 2:1-22

(*) Iyengar (2008) "Does the Certainty of Arrest Reduce Domestic Violence? Evidence from Mandatory and Recommended Arrest Laws" *Journal of Public Economics* (forthcoming)

Week 3: Omitted Variable Bias and Error-Component Models

Angrist and Pischke, Chapter 5

Application: Returns to Schooling

(*) Griliches, Z (1977) "Estimating the Returns to Schooling: Some Econometrics Problems" *Econometrica* Vol 45, Issue 1, pp. 1-22

(*) Card (1999) "The Causal Effect of Education on Earnings" *Handbook of Labor Economics* Vol 3

Week 4-5: Difference-in-Differences and Propensity-Score Matching

Angrist and Pischke, Chapter 5

(*) Meyer (1995) "Natural and Quasi-Experiments in Economics" *Journal of Business and Economic Statistics* 13:2

(*) Dehejia and Wahba (2002) "Propensity Score Matching Methods for Nonexperimental Causal Studies" *Review of Economics and Statistics* Vol 84 no 1 pp 151-161

(*) Smith and Todd (2001) "Reconciling Conflicting Evidence on the Performance of Propensity-Score Matching Methods" *American Economic Review* 91:2

Application: School Drop-out Programs

Week6: Instrumental Variables

Angrist and Pischke, Chapter 4

(*) Angrist and Krueger (2001) "Instrumental Variables and the Search for Identification: From Supply and Demand to Natural Experiments" *The Journal of Economic Perspectives*, Fall 2001, 69-85.

Application: Determinants of Growth and Development

(*) Acemoglu, Johnson and Robinson (2001) "Colonial Origins of Comparative Development: An Empirical Investigation" *American Economic Review* vol 91 no. 5

Week 7: Discrete Choice Models

No assigned Reading

Week 8: Time Series Processes and Unit Roots

Johnston and Dinardo, Chapter 2.5

(*) Geweke, J. and R. Meese (1981) "Estimating Regression Models of Finite but Unknown Order" *International Economic Review* 22 No. 1, 55-70

Application: The Financial Crisis (no readings but handouts will be provided)

Week 9: Forecasting and Regression Discontinuity

Angrist and Pischke, Chapter 6

(*) Diebold, FX and RS Mariano (1995) "Comparing Predictive Accuracy" *Journal of Business and Economic Statistics*

Application: Using Stock Returns to Understand Changes in markets

DellaVigna and Ferrara (2007) "Detecting Illegal Arms Trade" *NBER Working Paper No. 13355*

Week 10: GMM Estimators and Vector Autoregression

(*) Watson, MW "Vector Autoregressions and Cointegration" *Handbook of Econometrics*, Volume IV, Section 4

(*) Application: What does increasing the interest rate do?

Bernanke, B and A Blinder (1992) "The Federal Funds Rate and Channels of Money Transmission" *American Economic Review* vol. 82, issue 4, pp. 901-921

(*) Olivei, Giovanni and Tenreyro, Silvana (2007) The timing of monetary policy shocks. *American Economic Review*, 97 (3). pp. 636-663.