

**MaCCI Summer School 2013: Introduction to Empirical Legal Studies
(Applied Econometrics)**

Syllabus

1. Lecturers

Patrick Andreoli-Versbach, MSc (London School of Economics)
International Max Planck Research School for Competition and Innovation (IMPRS-CI),
Munich Center for Innovation and Entrepreneurship Research (MCIER) and Ludwig
Maximilian University of Munich.
patrick.andreoli-versbach@imprs-ci.ip.mpg.de

Prof. Dr. Andreas Engert, LL.M. (Univ. Chicago)
Lehrstuhl für Bürgerliches Recht, Deutsches und Europäisches Wirtschaftsrecht und
Unternehmenssteuerrecht
engert@uni-mannheim.de

2. Aim of the course

Introduce students with a non-quantitative background to the fundamentals of applied econometrics. The focus will be to provide students with the necessary instruments to properly interpret and understand the (simple) statistical models and critically assess the econometric concept of causality. The course is mostly designed for lawyers who work in fields where quantitative analysis is gaining importance. Lawyers in almost every area of practice deal routinely with business and economics problems and concepts. How long should a patent last? Should a merger be allowed? How large were the damages of predatory pricing or collusion? Does the certainty of arrest reduce domestic violence? Do tickets reduce traffic accidents? Does the death penalty reduce crime? Are juries both more likely to apply the death penalty and more influenced by the race and age of the victim and of the offenders than are judges? The answer of such questions has strong policy implications. To understand such questions requires an understanding of both law and economics. Without such knowledge it is not possible to effectively contribute to the current policy debates. To facilitate the comprehension of econometrics for non-economists this course will provide both the fundamentals in probability and statistics required to understand the meaning of a “regression” and the actual tools to be able to critically assess and understand the regression results of empirical papers. Besides understanding the estimation results students will be encouraged to come up with their own empirical research ideas and discuss them in class.

3. Time & Location

This intensive one-week course will be held at MaCCI during the first week of June 2013, from Monday the 3rd of June to Friday the 7th of June 2013. We will have 2 lectures a day (morning and afternoon) except of Friday where we will have only one lecture in the morning. The morning lectures will last 120 minutes while the afternoon lectures will last 90 minutes.

4. Textbooks

There is no required textbook for this course as the lectures will be based on non-technical, example-based slides and papers. The content of this course is based on a (highly recommended) book:

Joshua Angrist and Jörn-Steffen Pischke “Mostly Harmless Econometrics”, Princeton University Press. Available [here](#).

In addition we recommend chapter 8 and 9 of the following textbook which is especially designed for legal studies:

Jackson, Kaplow, Shavell, Viscusi and Cope “Analytical Methods for Lawyers”, Foundation Press, 2003. Available [here](#).

For a more general introduction to econometrics and a concise review of probability and statistics please refer to:

James H. Stock and Mark Watson “Introduction to Econometrics”, Addison-Wesley Longman. Available [here](#).

5. Course outline

I. Monday

Suggested Readings: A&P Chapter 1&2; S&W Chapter 1&2

Morning: PAV & AE

- Everything starts with a question: What is econometrics?
- What are the questions we can answer and what type of data do we need?
- Correlation vs. causality: why are natural experiments great? But, do we always need an experiment?
- Probabilistic versus deterministic approach

Afternoon: PAV

- Basic concepts in probability
 - Discrete/continuous variable, distributions, cumulative density function, joint-distribution
 - Mean, Variance, Standard Deviation, Independent and identically distributed
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II. Tuesday

Suggested Readings: A&P Chapter 1&2; S&W Chapter 1&2

Papers:

Heidi L. Williams, 2013. "Intellectual Property Rights and Innovation: Evidence from the Human Genome," *Journal of Political Economy*, University of Chicago Press, vol. 121(1), pages 1 - 27.

Assunção, Juliano J., Efraim Benmelech, and Fernando SS Silva. "Repossession and the Democratization of Credit". No. w17858. National Bureau of Economic Research, 2012.

Morning: PAV

- Basic concepts in statistics
- Population Mean, Test Hypothesis and Confidence Intervals
- All we need to understand: Conditional Expectation Function (CEF)

Afternoon: PAV

- Fundamentals of regression analysis: what is it, how does it work, a bit of geometry
 - Key concepts: Ordinary Least Squares (OLS), dependent variable, independent variable, parameter, error term, standard deviation
 - Examples: Do intellectual property (IP) rights on existing technologies hinder subsequent innovation? (Williams 2013); How important is the legal right to repossess collateral to the provision of credit? (Assuncao et al. 2013)
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III. Wednesday

Suggested Textbook Readings: A&P Chapter 3

Papers to be discussed in class:

a) Natural Experiment:

Anwar, Shamena, Patrick Bayer, and Randi Hjalmarsson. "The Impact of Jury Race in Criminal Trials." *The Quarterly Journal of Economics* 127.2 (2012): 1017-1055.

b) Field Experiment:

Bertrand, Marianne and Sendhil Mullainathan. "Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination," *American Economic Review*, 2004, v94(4,Sep), 991-1013

c) Policy Natural experiment:

Fisman, Raymond, and Edward Miguel. "Corruption, norms, and legal enforcement: Evidence from diplomatic parking tickets." *Journal of Political Economy* 115.6 (2007): 1020-1048.

Morning: PAV

- The core of modern applied econometrics (1)
- Experiments: Natural, field and policy
 - Causality
- Key problems with regression analysis: endogeneity, omitted variables, reverse causality, selection bias, heterogeneity, heteroskedasticity, non-linearity and functional form.

Afternoon: PAV

- Discussion of three key papers that use “experimental” methods
- Three kinds of natural experiment: “natural”, “field” and “policy”

IV. Thursday

Suggested Readings: A&P Chapter 4&5

Papers to be discussed in class:

a) Instrumental Variables

Levitt, Steven D. "Using Electoral Cycles in Police Hiring to Estimate the Effect of Police on Crime." *The American Economic Review*, 1997, 87(3), pp. 270-90.

Makowsky, Michael D., and Thomas Stratmann. "More Tickets, Fewer Accidents: How Cash-Strapped Towns Make for Safer Roads." *Journal of Law and Economics* 54.4 (2011): 863-888.

b) Difference in Differences

Jin, Ginger Zhe, and Phillip Leslie. "The effect of information on product quality: Evidence from restaurant hygiene grade cards." *The Quarterly Journal of Economics* 118.2 (2003): 409-451.

Ferraz, Claudio, and Frederico Finan. "Exposing Corrupt Politicians: The effects of Brazil's publicly released audits on electoral outcomes." *The Quarterly Journal of Economics* 123.2 (2008): 703-745.

Qi, Yaxuan, and John Wald. "State laws and debt covenants." *Journal of Law and Economics* 51.1 (2008): 179-207.

Mansi, Sattar A., William F. Maxwell, and John K. Wald. "Creditor protection laws and the cost of debt." *Journal of Law and Economics* 52.4 (2009): 701-717.

Morning: PAV

- The core of modern applied econometrics (2)
- Instrumental variables
- Difference in Differences models for panel data

Afternoon: PAV & AE

- Discussion of some key papers that use these methods
 - Students' empirical research ideas
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V. Friday

Morning: PAV & AE

- Final review
- What have we learned?
- Students' empirical research ideas