Intensive courses for academics and practitioners

22 – 26 August 2016
Structural Econometrics and Market Responses in Imperfectly Competitive Industries
Ariel Pakes (Harvard University)

29 August – 2 September 2016
Treatment Effects and the Econometrics of Program Evaluation
Alberto Abadie (MIT)

Competition, Regulation, and Risk-Taking in Banking
Rafael Repullo (CEMFI)

Fiscal Consolidation and Spillovers in a Currency Union: A Quantitative Approach
Jesper Lindé (Sveriges Riskbank)

5 – 9 September 2016
Causal Inference in Corporate Finance
Daniel Paravisini (London School of Economics)

Advances in Macroeconomic Forecasting: Nowcasting, Turning-Points, and Extreme Events
Gabriel Pérez-Quirós (Banco de España)

12 – 16 September 2016
Computational Tools for Macroeconomists
Juan Rubio-Ramirez (Emory University)

Globalization and Crises
Luis Serven (World Bank)

Panel Data Econometrics
Steve Bond (Oxford University)
CEMFI Summer School: Outline

Madrid, August, 2016.

by Ariel Pakes

Harvard University and the NBER.
Overview. The course assume some knowledge of discrete choice analysis and the tools used to analyze static equilibrium in markets (demand systems, Nash pricing assumptions, etc.).

We begin by introducing moment inequalities as a tool both for circumventing standard problems in discrete choice analysis and as a framework for analyzing multi-period models with weak assumptions. The econometric tools available for inference based on moment inequalities will be treated in this part of the course.

The final two lectures deal with sequential dynamic games. We first review what has been done and point out some of the analytic and cognitive difficulties with the standard Markov Perfect framework. We then introduce a new equilibrium which weakens its assumptions and show how to use it.
Topics

1. Assumptions that generate moment inequalities for both individual choice, and for equilibrium in games.

2. Econometrics issues in using moment inequalities.


Readings.
Readings are provided for each topic. I would not spend too much time on technical detail before the course, as that should be much easier to do after. However familiarizing yourself with the ideas behind the papers is likely to enhance what you can get out of the course.
Topic 1. Economic models underlying moment inequalities

Related Readings:
• Kate Ho, and Adam M. Rosen "Partial Identification in Applied Research: Benefits and Challenges" forthcoming in *The Tenth World Conference of the Econometric Society* Available at
  
  http : //www.columbia.edu/ kh2214/papers


  http : //scholar.harvard.edu/files/pakes/files/


  http : //scholar.harvard.edu/files/pakes/files/
Subjects

1. Behavioral assumptions that generate moment inequalities.

2. Properties of disturbances and their impact on the issues that arise in estimation.

3. Revealed preference for individuals and in models with interacting agents.

4. Applications in Industrial Organization
   - Product repositioning.
   - Lumpy investments.

5. A digression on the analysis of counterfactuals in situations where there may be multiple equilibria.
Topic 2. Econometrics of Moment Inequalities

Related Readings:

Subject.

1. The reason the inequality problem is not "standard".

2. Sets we might want to make inference on.

3. Construction of confidence sets;
   - Least Favorable,
   - Moment shifting and two step estimators
   - Conditional variances,
   - Conditional confidence sets.

4. Computational issues and linearity.

Related Readings:
Subjects:

1. Static vs. dynamic analysis of markets.

2. Past uses of the Markov Perfect Assumptions.


4. Experience Based Equilibrium; its relationship to prior approximations and some examples.
TREATMENT EFFECTS AND THE ECONOMETRICS OF PROGRAM EVALUATION
Alberto Abadie – MIT
CEMFI Summer School
August 29-September 2, 2016

Course Outline:
Program evaluation comprises a set of statistical tools designed to assess the causal impact of public interventions, such as job training programs, on outcomes of interest, such as earnings. This is a methodological course, developing skills in quantitative program evaluation. We will study a variety of evaluation designs, from random assignment to quasi-experimental evaluation methods, as well as the most relevant empirical applications. We will analyze the strengths and weaknesses of alternative evaluation methods.

1 Introduction

1.1 Evaluation Research for Public Policy: Purpose, Scope, Examples

1.2 The Fundamental Identification Problem: Causality, Counterfactual Responses, Heterogeneity, Selection

1.3 Statistical Prerequisites: Probability, Random Variables, Independence, Measures of location, Measures of dispersion, Conditional mean function, Inference

Readings (overviews of the material covered in the course):


2 Randomized Experiments

2.1 The Advantages of Randomized Studies

2.2 Threads to Internal and External Validity


2.4 Examples

Readings:


The New York Times, March 9, 1993, Tuesday, Late Edition - Final, Section C; Page 1; Column 5; Science Desk, “Like a New Drug, Social Programs Are Put to the Test,” By Peter Passell.

3 Observational Studies I: Matching and Regression (includes an introduction to Directed Acyclic Graphs)

3.1 Identification: Selection on Observables

3.2 Matching Estimators: Matching on Covariates. Propensity Score Methods

3.3 Regression

3.4 Directed Acyclic Graphs

3.5 Examples

Readings:


### 4 Observational Studies II: Difference-in-Differences Estimators

4.1 Identification: Selection on Time-Invariant Characteristics

4.2 Difference-in-Differences as a Fixed-Effects Estimator

4.3 Synthetic Control Methods

4.4 Examples
Readings:


5 Observational Studies III: Instrumental Variables

5.1 Identification: Using Exogenous Variation in Treatment Intake Given by Instruments. Imperfect Compliance in Randomized Studies

5.2 Methodology: The Wald Estimator. Local Average Treatment Effects. 2SLS

5.3 Causal Responses for Compliers

5.4 Examples

Readings:


6 FURTHER TOPICS

6.1 DISTRIBUTIONAL EFFECTS

6.2 THE REGRESSION DISCONTINUITY DESIGN.

Readings:


Course Outline

1. The Industrial Organization of Banking
   1.1. The perfect competition model
   1.2. Introducing reserve and capital requirements
   1.3. Cournot and Bertrand competition
   1.4. Monopolistic competition

2. Adverse Selection and Moral Hazard in Credit Markets
   2.1. An adverse selection model of the credit market
   2.2. A moral hazard model of the credit market

3. Banks as Liquidity Suppliers
   3.1. The model of Diamond and Dybvig
   3.2. Financial markets vs. financial institutions
   3.3. Self-fulfilling bank runs
   3.4. The global games approach to bank runs
   3.5. Effect of capital and liquidity requirements

4. Capital Requirements, Market Power, and Bank Risk
   4.1. Capital requirements and bank risk-taking
   4.2. Competition and bank risk-taking
   4.3. Charter values and bank risk-taking
   4.4. An alternative view

5. The Regulation of the Basel Committee
   5.1. From Basel I to Basel III
   5.2. Loan pricing under Basel capital requirements
   5.3. Cyclical adjustment of capital requirements
   5.4. Optimal regulation of liquidity risk

6. Recent Topics in Banking Research
   6.1. Search for yield
   6.2. Economics of bank supervision
   6.3. Supervisory incentives in a banking union
Reading List


Freixas, X., and J.-C. Rochet (2008), Microeconomics of Banking, MIT Press.


Jesper Lindé  
IMF and Stockholm School of Economics  

August 11, 2016

Course: Fiscal Consolidation and Spillovers in a Currency Union: A Quantitative Approach
Venue: CEMFI, Madrid
Instructor: Jesper Lindé, IMF and Stockholm School of Economics

http://www.riksbank.se/en/The-Riksbank/Research/People/People/Linde-Jesper/

Lectures and Computer Sessions:

Day 1:

Lecture (3 hours total): Go through the derivation of the small scale closed New Keynesian mod in detail and how it is amended to account for open economy aspects. Discuss the propagation of fiscal spending shocks in normal times and in a liquidity trap. Relate findings to the existing literature

Computer session (30 minutes): Solving and studying the effects of Government spending shocks using the Dynare software, which is a program based on Matlab.

Day 2:


Day 3:

Lecture (2.5 hours total): Fiscal Consolidation in an Open Economy (Erceg and Lindé, 2012). Derive the model under independent monetary policy and flexible exchange rates and in the currency union case.

Computer session (1 hour): Reproduce the main results in the small scale model in the paper using Dynare. Go through the large-scale two-country model in Dynare and discuss how this model can be used to simulate the effects of government spending shocks in normal times and in a liquidity trap under alternative assumptions about currency union membership.

Day 4:

Lecture (2.5 hours total): Fiscal Consolidation in a Currency Union: Spending Cuts vs. Tax Hikes (Erceg and Lindé, 2013). Present the model framework and the key results in the paper.

Computer session (1 hour): Reproduce the main results in the paper using Dynare.
Day 5:

**Lecture (3 hours):** “Jump-starting the Euro Area Recovery: Would a Rise in Core Fiscal Spending Help the Periphery?” (Blanchard, Erceg and Lindé, 2016). Present the model framework and the key results in the paper.

**Reading List (papers marked with * is mandatory to read prior to the lecture when it is taught):**


Lindé, Jesper and Mathias Trabandt (2014), ”Fiscal Policy in a Nonlinear World”, manuscript, Sveriges Riksbank.


Empirical Corporate Finance - Syllabus

Professor: Daniel Paravisini [d.paravisini@lse.ac.uk]

Requirements: Students need to be proficient in Ph.D. level econometrics. Jeffrey Wooldridge’s "Econometric Analysis of Cross Section and Panel Data" is a good reference.

Reading List: Each lecture’s slide packet will include a list of references.

Course Objectives: The course provides an introduction to the most common empirical methods used to answer counterfactual questions Corporate Finance.

Detailed Outline: This outline provides the econometric topics. Each topic will be illustrated with an application drawn, in most cases, from the literature that is broadly understood as corporate finance, but also includes financial development, banking, corporate governance, consumer finance, etc. When necessary the course will draw from simulated data or other subjects—labor economics, political economy—for illustration purposes. The topics will be taught in this order.

1. Introduction
   (a) The inference problem in corporate finance, randomized evaluations
   (b) Application: Financial constraints

2. The agnostic regression
   (a) Econometric topics: Conditional Expectation Function, omitted variable bias, regression, cluster samples
   (b) Application: Corporate leverage

3. Causal regressions 1
   (a) Econometric topics: Conditional independence assumption, biases, bad controls
   (b) Application: Investments

4. Causal regressions 2
   (a) Econometric topics: Controlling for covariates, extrapolation and matching, discontinuities
   (b) Applications: securitization, mergers, internal governance

5. Accounting for unobserved confounders
   (a) Econometric topics: Difference-in-differences (estimation and inference)
(b) Applications: culture, external governance

6. Instrumental Variables (IV)

(a) IV Mechanics (constant effects case)
(b) Application: Family firms
Nowcasting Short Term Forecasting and Turning Points and Structural Breaks Real Time Detection

Cemfi, September 5-9 2016
Gabriel Pérez Quirós
Objective of the course

• Give you tools for real time forecast.
  – Output growth
  – Turning points
  – Other features of the data
Short scheme of the forecasting menu

<table>
<thead>
<tr>
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<th>Small Scale Models</th>
<th>Large Scale Models</th>
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<tbody>
<tr>
<td><strong>Linear</strong></td>
<td>AR, VAR</td>
<td>Factor Models PC</td>
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<td>ML factor models</td>
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<td>Mix Frequencies VARs</td>
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<td><strong>Non linear</strong></td>
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<td>Markov Switching</td>
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<td>Threshold Models</td>
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Course organization

• Session 1: Kalman filter. A powerful tool
  – Brief review of standard techniques
  – Kalman filter
    • Some examples: Output gap, HP filters.
  – Small scale factor model. Stock and Watson (1991)
  – Homework: Application to your favourite country (Balanced panel)
  – Details to consider. What series do we have available?
Course organization

• Session 2: The Devil is in the details
  – Mixing data of different nature
  – Ragged ends
  – Mixing frequencies
  – Mixing time delays
  – Assessing the performance of our specified model
  – Homework: Address all these questions to your favourite country
Course organization

• Session 3: Other small scale models and large scale models
  – Mixed Frequencies VARs
  – MIDAS
  – Brigde Equations
  – Advantages and disadvantages of large scale models.
Course organization

• Session 4: Univariate Non-linear models
  – Linearity tests
  – Univariate non linear specifications
    • Markov Switching Models
    • Threshold Models
  – Hamilton (1989) MS Model
  – Some problems with the MS specifications. Structural breaks
  – Important advantages of MS specifications. The role of credit
  – Homework: Specify non-linear models to your country
Course organization

• Session 5: Multivariate Non-linear models
  – Advantages and disadvantages of multivariate specifications
  – Gains in forecasting recession periods.
  – Forecasting other moments
  – Real time properties
  – Non-linear impulse response functions
  – Forecasting other features of the data
  – MS Eurosting
  – Homework: Modify your specification in 2 to incorporate non-linearities
  – Forecast evaluation
ATTENTION: On Friday you are supposed to have a non-linear dynamic factor model to predict your series on interest.
Other things of interest

• Customer service:
  – 24 hours a day seven days a week for a year
• If something does not work or you need me this week, send me an email or call me
THANKS

- Thank you for choosing this course. I am aware that CEMFI provides a large set of courses and it is an honour for me that you chose my course.
Computational Tools for Macroeconomists

1 Course Outline and Overview

This course studies two main topics. First the computation and estimation of dynamic equilibrium models in macroeconomics. Second, the estimation of SVARs identified using sign and zero restrictions. When studying the first topic, the lectures begin with basic computation of dynamic equilibrium models in macroeconomics using linearization techniques. While doing that we will spend time reviewing the basic techniques of linearization, Kalman filtering, and Markov chain Monte Carlos (McMc). The main goal of the first topic is to learn how to solve dynamic equilibrium models using perturbation, how to build moments and to evaluate the likelihood of the model for the purpose of GMM and/or likelihood-based inference. During the lectures, numerous economic applications of this class of models will be discussed. When studying the second topic we will begin with SVARs identified using sign restrictions to add the zero restrictions at the end. We will use, as the main source for the class, my own lecture notes and several of my papers.

2 Outline of the Course

The course will be divided in 7 modules. The following program outlines the structure of the course:

- Module 1: Linear methods.
- Module 2: Perturbation.
- Module 3: Sequential Monte Carlo.
- Module 4: Method of moments method.
- Module 5: Introduction to change of variable theory.
- Module 6: SVARs identified with sign restrictions.
- Module 7: SVARs identified with sign and zero restrictions.

3 Reading List

3.1 Linear Methods


### 3.2 Perturbation


### 3.3 Sequential Monte Carlo


### 3.4 SVARs identified with sign and zero restrictions


GLOBALIZATION AND CRISSES
CEMFI CSS 2016
Luis Servén

0. General background and facts


1. Financial globalization and its effects


2. Currency crises


3. Sovereign debt and default


4. Bubbles

5. Crises, propagation and policy responses


The subprime crisis

The post-crisis

The Eurozone crisis and policy implications
CEMFI Summer School

Panel Data Econometrics

Steve Bond (University of Oxford)

12-16 September 2016

Provisional Programme

Monday 12 September  
Static models – Within Groups and related estimators  
Dynamic models I – Introduction to IV estimators

Tuesday 13 September  
Dynamic models I – Differenced GMM and related estimators  
Implementation in Stata

Wednesday 14 September  
Dynamic models II – System GMM and related estimators  
Implementation in Stata

Thursday 15 September  
Dynamic models II – Specification tests  
Application to production functions

Friday 16 September  
Application to production functions  
Exercises with Stata

Material for the course can be found at [http://www.nuffield.ox.ac.uk/users/bond/](http://www.nuffield.ox.ac.uk/users/bond/)