

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 Servén (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.
3. Sequential dynamic equilibrium models : the state of the art and the problems with it. Cognitively and analytically simpler equilibrium assumptions.

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:

- Pakes, Porter, Ho and Ishii (2015); "Moment Inequalities and Their Application" *Econometrica*,83(1): 315-334.
- Pakes, A. "Alternative Models for Moment Inequalities", (2010), *Econometrica*;78 (6) :1783-1822.
- 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://www.columbia.edu/~kh2214/papers)

- Pakes A. (forthcoming) "Empirical Tools and Competition Analysis: Past Progress and Current Problems", *International Journal of Industrial Organization*. Available at

[http : //scholar.harvard.edu/files/pakes/files/](http://scholar.harvard.edu/files/pakes/files/)

- K. Ho and A. Pakes (2014) "Hospital Choices, Hospital Prices and Financial Incentives to Physicians" *American Economic Review* 104(12): 3841-84.
- A. Pakes and J. Porter (2015) "Moment Inequalities for Multinomial Choice with Fixed Effects", Working Paper, available at

[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:

- Tamer, Elie. 2010. "Partial Identification in Econometrics." *Annual Reviews in Economics*, 2, 1, 167-195.
- Chernozhukov, V., H. Hong and E. Tamer, 2007; "Estimation and Inference on Identified Parameter Sets," *Econometrica*, pp 1243-1284.
- Romano, J.P., A.M. Shaikh, and M. Wolf (2014): "A Practical Two-Step Method For Testing Moment Inequalities," *Econometrica*, 82, 1979-2002.

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.

Topic 3: Sequential Dynamic Models.

Related Readings:

- Section 3 of Akerberg D, Benkard L, Berry S, Pakes A. Econometric Tools for Analyzing Market Outcomes. In: Heckman J, Leamer E *The Handbook of Econometrics*. Vol. 6A. Amsterdam: North-Holland ; 2007. pp. 4171-4276.
- "Dynamic Games with Asymmetric Information: A Framework for Applied Work", 2012, *Quarterly Journal of Economics*. 2012;127 (4) :1611-1661 by Chaim Fershtman and Ariel Pakes
- "Methodological Issues in Analyzing Market Dynamics". In: *Advances in Dynamic and Evolutionary Games: Theory, Applications, and Numerical Methods* . F. Thuijsman & F. Wagener (eds.) . Switzerland: Springer International Publishing ; 2016. pp. 43-75.
- "Information Disclosure in Dynamic Auctions", (in process), by J.Asker, C. Fershtman, J. Jeon, and A. Pakes.

Subjects:

1. Static vs. dynamic analysis of markets.
2. Past uses of the Markov Perfect Assumptions.
3. Cognitive and analytic difficulties with Markov Perfection.
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):

Angrist, J. D. and A. B. Krueger (2000), “Empirical Strategies in Labor Economics,” in A. Ashenfelter and D. Card eds. *Handbook of Labor Economics*, vol. 3. New York: Elsevier Science. Sections 1 and 2.

Angrist, J. D. and J. S. Pischke (2009), *Mostly Harmless Econometrics: An Empiricist Companion*. Princeton University Press.

* Imbens, G.W. and J.M. Wooldridge (2009) “Recent Developments in the Econometrics of Program Evaluation,” *Journal of Economic Literature*, vol. 47(1), 5-86.

Wooldridge, J.M., (2010), *Econometric Analysis of Cross Section and Panel Data*, 2nd Edition. The MIT Press. (Chapter 21)

2 RANDOMIZED EXPERIMENTS

2.1 THE ADVANTAGES OF RANDOMIZED STUDIES

2.2 THREADS TO INTERNAL AND EXTERNAL VALIDITY

2.3 METHODOLOGY. TESTING IN LARGE SAMPLES: ASYMPTOTIC DISTRIBUTION. TESTING IN SMALL SAMPLES: FISHER'S EXACT TEST. PRE-ESTIMATION DIAGNOSTICS

2.4 EXAMPLES

READINGS:

- * Bloom, H. S., L. L. Orr, S. H. Bell, G. Cave, F. Doolittle, W. Lin and J. M. Bos (1997), "The Benefits and Costs of JTPA Title II-A Programs," *Journal of Human Resources*, vol. 32, 549-576.

Duflo, E., R. Glennerster and M. Kremer (2008), "Using Randomization in Development Economics Research: A Toolkit," in T.P. Schultz and J.A. Strauss eds. *Handbook of Development Economics*, vol. 4. New York: Elsevier Science.

Krueger, A. (1999), "Experimental Estimates of Education Production Functions," *Quarterly Journal of Economics*, vol. 114, 497-532.

LaLonde, R. (1986), "Evaluating the Econometric Evaluation of Training Programs with Experimental Data," *American Economic Review*, vol. 76, 604-620.

Rosenbaum, P. R. (1995), *Observational Studies*. New York: Springer-Verlag. Chapter 2.

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:

Abadie, A. and G. W. Imbens (2006), "Large Sample Properties of Matching Estimators for Average Treatment Effects," *Econometrica*, vol. 74, 235-267.

- Abadie, A. and G. W. Imbens (2008), “On the Failure of the Bootstrap for Matching Estimators,” *Econometrica*, vol. 76, 1537-1557.
- Abadie, A. and G. W. Imbens (2011), “Bias-Corrected Matching Estimators for Average Treatment Effects,” *Journal of Business and Economic Statistics*, vol. 29(1), 1-11.
- Cochran, W. G., (1968), “The Effectiveness of Adjustment by Subclassification in Removing Bias in Observational Studies,” *Biometrics*, vol. 24, 295-313.
- * Dehejia, R. H. and S. Wahba (1999), “Causal Effects in Non-Experimental Studies: Re-Evaluating the Evaluation of Training Programs,” *Journal of the American Statistical Association*, vol. 94, 1053-1062.
- Härdle, W and O. Linton (1994), “Applied Nonparametric Methods,” in R. F. Engle and D. L. McFadden eds. *Handbook of Econometrics*, vol. 4. New York: Elsevier Science.
- Heckman, J. J., H. Ichimura and P. E. Todd (1997), “Matching as an Econometric Evaluation Estimator: Evidence from Evaluating a Job Training Programme,” *Review of Economic Studies*, vol. 64, 605-654.
- Imbens, G.W. (2003), “Sensitivity to Exogeneity Assumptions in Program Evaluation,” *American Economic Review (Papers & Proceedings)*, vol. 93(2), 126-132.
- Imbens, G.W. (2004), “Nonparametric Estimation of Average Treatment Effects under Exogeneity: A Review,” *Review of Economics and Statistics*, vol. 86(1), 4-29.
- Pearl, J. (2009), *Causality* (second edition). Cambridge University Press.
- Rosenbaum, P. R. (1995), *Observational Studies*. New York: Springer-Verlag. Chapter 3.
- Rosenbaum, P. R., and D. B. Rubin (1983), “The Central Role of the Propensity Score in Observational Studies for Causal Effects,” *Biometrika*, vol. 70, 41-55.
- Rubin, D. B. (1977), “Assignment to Treatment Group on the Basis of a Covariate,” *Journal of Educational Statistics*, vol. 2, 1-26.
- White, H. (1980), “Using Least Squares to Approximate Unknown Regression Functions,” *International Economic Review*, vol. 21, 149-170.

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:

- Abadie, A. (2005), "Semiparametric Difference-in-Differences Estimators," *Review of Economic Studies*, vol. 72, 1-19.
- Abadie, A., A. Diamond and J. Hainmueller (2010), "Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California's Tobacco Control Program," *Journal of the American Statistical Association*, vol. 105, 493-505.
- * Abadie, A. and J. Gardeazabal (2003), "The Economic Costs of Conflict: A Case Study of the Basque Country," *American Economic Review*, vol. 93(1), 113-132.
- Ashenfelter, O. and D. Card (1985), "Using the Longitudinal Structure of Earnings to Estimate the Effects of Training Programs," *Review of Economics and Statistics*, vol. 67, 648-660.
- Card, D. (1990), "The Impact of the Mariel Boatlift on the Miami Labor Market," *Industrial and Labor Relations Review*, vol. 44, 245-257.
- * Card, D. and A. B. Krueger (1994), "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania," *American Economic Review*, vol. 84, 772-793.
- Duflo E. (2001), "Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment," *American Economic Review*, vol. 91, 795-813.
- Meyer, B. D. (1995), "Natural and Quasi-Experiments in Economics," *Journal of Business & Economic Statistics*, vol. 13, 151-161.

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:

- Abadie, A. (2003), "Semiparametric Instrumental Variable Estimation of Treatment Response Models," *Journal of Econometrics*, vol. 113, 231-263.
- * Angrist, J. D., G. W. Imbens and D. B. Rubin (1996), "Identification of Causal Effects Using Instrumental Variables," *Journal of the American Statistical Association*, vol. 91, 444-472.

Angrist, J. D. (1990), “Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records,” *American Economic Review*, vol. 80, 313-336.

Angrist J. D. and A. Krueger (1991), “Does Compulsory School Attendance Affect Schooling and Earnings?,” *Quarterly Journal of Economics*, vol. 106, 979-1014.

6 FURTHER TOPICS

6.1 DISTRIBUTIONAL EFFECTS

6.2 THE REGRESSION DISCONTINUITY DESIGN.

READINGS:

Abadie, A. (2002), “Bootstrap Tests for the Effects of a Treatment on the Distribution of an Outcome Variable,” *Journal of the American Statistical Association*, vol. 97, 284-292.

Abadie, A., J. D. Angrist and G. W. Imbens (2002), “Instrumental Variable Estimation of the Effects of Subsidized Training on the Quantiles of Trainee Earnings,” *Econometrica*, vol. 70, 91-117.

Hahn, J., P. Todd and W. van der Klaauw (2001), “Identification and Estimation of Treatment Effects with a Regression Discontinuity Design,” *Econometrica*, vol. 69, 201-209.

Imbens, G. W. and T. Lemieux (2008), “Regression Discontinuity Designs: A Guide to Practice,” *Journal of Econometrics*, vol. 142, 615-635.

Lee, D.S, and T. Lemieux (2010), “Regression Discontinuity Designs in Economics,” *Journal of Economic Literature*, vol. 48, 281-355.

Trochim, W. (1990), “The Regression-Discontinuity Design,” in L. Sechrest, E. Perrin and J. Bunker eds. *Research Methodology: Strengthening Causal Interpretations of Nonexperimental Data*. Washington, D.C.: U.S. Dept. of HHS, Agency for Health Care Policy and Research.

CEMFI SUMMER SCHOOL
COMPETITION, REGULATION, AND RISK-TAKING IN BANKING

29 August - 2 September 2016

Rafael Repullo

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

- Admati, A., and M. Hellwig (2013), *The Bankers' New Clothes: What's Wrong with Banking and What to Do about It*, Princeton University Press.
- Allen, F., and D. Gale (2000), *Comparing Financial Systems*, MIT Press.
- Allen, F., and D. Gale (2007), *Understanding Financial Crises*, Oxford University Press.
- Freixas, X., L. Laeven, and J. L. Peydró (2015), *Systemic Risk, Crises, and Macroprudential Regulation*, MIT Press.
- Freixas, X., and J.-C. Rochet (2008), *Microeconomics of Banking*, MIT Press.
- Gorton, G. (2010), *Slapped by the Invisible Hand: The Panic of 2007*, Oxford University Press.
- Shin, H. (2010), *Liquidity and Risk*, Oxford University Press.
- Tirole, J. (1988), *The Theory of Industrial Organization*, MIT Press.
- Vives, X. (2016), *Competition and Stability in Banking: The Role of Regulation and Competition Policy*, Princeton University Press.
- Basel Committee on Banking Supervision (2004), *International Convergence of Capital Measurement and Capital Standards. A Revised Framework*, Bank for International Settlements.
- Basel Committee on Banking Supervision (2010), *Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems*, Bank for International Settlements.
- Basel Committee on Banking Supervision (2010), *Basel III: International Framework for Liquidity Risk Measurement, Standards and Monitoring*, Bank for International Settlements.
- Beck, T., O. De Jonghe, and G. Schepens (2013), "Bank Competition and Stability: Cross-country Heterogeneity," *Journal of Financial Intermediation*, 22, 218-244.
- Bester, H. (1985), "Screening vs. Rationing in Credit Markets with Imperfect Information," *American Economic Review*, 75, 850-855.
- Bhattacharya, S., A. Boot, and A. Thakor, A (1998), "The Economics of Bank Regulation," *Journal of Money, Credit and Banking*, 30, pp. 745-770.
- Boyd, J., and G. De Nicolò (2005), "The Theory of Bank Risk-Taking and Competition Revisited," *Journal of Finance*, 60, 1329-1343.
- Brunnermeier, M. (2009), "Deciphering the Liquidity and Credit Crunch 2007--2008," *Journal of Economic Perspectives*, 23, 77--100.

- Calomiris, C., and C. Kahn (1991), "The Role of Demandable Debt in Structuring Optimal Banking Arrangements," *American Economic Review*, 81, 497-513.
- Carletti, E., G. Dell'Ariccia, and R. Marquez (2015), "Supervisory Incentives in a Banking Union," Working paper.
- De Meza, D., and D. Webb (1987), "Too Much Investment: A Problem of Asymmetric Information," *Quarterly Journal of Economics*, 102, 281-292.
- Diamond, D. (2007), "Banks and Liquidity Creation: A Simple Exposition of the Diamond-Dybvig Model," *Federal Reserve Bank of Richmond Economic Quarterly*, 93, 189-200.
- Diamond, D., and P. Dybvig (1983), "Bank Runs, Deposit Insurance, and Liquidity," *Journal of Political Economy*, 91, 401-419.
- Eisenbach, T., D. Lucca, and R. Townsend (2016), "The Economics of Bank Supervision," Federal Reserve Bank of New York Staff Report No. 769.
- Gordy, M. B. (2003), "A Risk-Factor Model Foundation for Ratings-Based Bank Capital Rules," *Journal of Financial Intermediation*, 12, 199-232.
- Gordy, M., and B. Howells (2006), "Procyclicality in Basel II: Can We Treat the Disease Without Killing the Patient?," *Journal of Financial Intermediation*, 15, 395-417.
- Hellmann, T. F., K. C. Murdock, and J. Stiglitz (2000), "Liberalization, Moral Hazard in Banking, and Prudential Regulation: Are Capital Requirements Enough?," *American Economic Review*, 90, 147-165.
- Holmström, B., and J. Tirole (1997), "Financial Intermediation, Loanable Funds, and the Real Sector," *Quarterly Journal of Economics*, 112, 663-691.
- Kashyap, A., and J. Stein (2004), "Cyclical Implications of the Basel II Capital Standards," *Federal Reserve Bank of Chicago Economic Perspectives*, 1st Quarter, 18-31.
- Keeley, M. (1990), "Deposit Insurance, Risk, and Market Power in Banking," *American Economic Review*, 80, 1183-1200.
- König, P. (2015), "Liquidity Requirements: A Double-Edged Sword," *International Journal of Central Banking*, 11, 129-168.
- Mankiw, G. (1986), "The Allocation of Credit and Financial Collapse," *Quarterly Journal of Economics*, 101, 455-470.
- Martinez-Miera, D., and R. Repullo (2008), "Does Competition Reduce the Risk of Bank Failure?," *Review of Financial Studies*, 23, 3638-3664.
- Martinez-Miera, D., and R. Repullo (2015), "Search for Yield," CEMFI Working Paper No. 1507.
- Perotti, E., and J. Suarez (2002): "Last Bank Standing: What Do I Gain if You Fail?," *European Economic Review*, 46, 1599-1622.

- Perotti, E., and J. Suarez (2011), "A Pigovian Approach to Liquidity Regulation," *International Journal of Central Banking*, 7, 3-41.
- Repullo, R. (2004), "Capital Requirements, Market Power, and Risk-Taking in Banking," *Journal of Financial Intermediation*, 13, 156-182.
- Repullo, R., (2013), "Cyclical Adjustment of Capital Requirements: A Simple Framework," *Journal of Financial Intermediation*, , 22, 608-626.
- Repullo, R., and J. Saurina (2012), "The Countercyclical Capital Buffer of Basel III: A Critical Assessment," in M. Dewatripont and X. Freixas (eds.), *The Crisis Aftermath: New Regulatory Paradigms*, CEPR, 45-67.
- Repullo, R., and J. Suarez (2004), "Loan Pricing Under Basel Capital Requirements," *Journal of Financial Intermediation*, 13, 496-521.
- Repullo, R. and J. Suarez (2013), "The Procyclical Effects of Bank Capital Regulation," *Review of Financial Studies*, 26, 452-490.
- Rochet, J.-C., and X. Vives (2004), "Coordination Failures and the Lender of Last Resort: Was Bagehot Right After All?," *Journal of the European Economic Association*, 2, 1116–1147.
- Stein, J. (2012), "Monetary Policy as Financial Stability Regulation," *Quarterly Journal of Economics*, 127, 57-95.
- Stiglitz, J. E., and A. Weiss (1981), "Credit Rationing in Markets with Imperfect Information," *American Economic Review*, 71, 393-410.
- Thakor, A. (2015), "The Financial Crisis of 2007-2009: Why Did It Happen and What Did We Learn?," *Review of Corporate Financial Studies*, 4, 155-205.
- Vasicek, O. (2002): "Loan Portfolio Value," *Risk*, 15, December, 160-162.

Jesper Lindé

August 11, 2016

IMF and Stockholm School of Economics

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:

Lecture (2.5 hours total): Present “Is There A Fiscal Free Lunch in a Liquidity Trap? “ (Erceg and Lindé, 2014).

Computer session (1 hour): Solving and reproducing the results in the small scale model in the Erceg-Lindé (2014) paper using the Dynare software.

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):

Bilbiie, Florin O., Monacelli, Tommaso, and Roberto Perotti (2015). "Is Government Spending at the Zero Lower Bound Desirable?" NBER Working Paper Series No. 20687.

*Blanchard, Olivier, Christopher J Erceg and Jesper Lindé (2016). "Jump-Starting the Euro Area Recovery: Would a Rise in Core Fiscal Spending Help the Periphery?" NBER Macroeconomics Annual, forthcoming.

Braun, R. Anton, Lena Mareen Körber, and Yuichiro Waki (2012), "Some unpleasant properties of log-linearized solutions when the nominal rate is zero," Working Paper 2012-05, Federal Reserve Bank of Atlanta.

Christiano, Lawrence J., Martin Eichenbaum, and Charles Evans (2005), "Nominal Rigidities and the Dynamic Effects of a Shock to Monetary Policy", *Journal of Political Economy* 113(1), 1--45.

Christiano, Lawrence J., Martin Eichenbaum, and Sergio Rebelo (2011). "When is the Government Spending Multiplier Large?" *Journal of Political Economy*, 119(1), 78-121.

Christiano, Lawrence J., Martin Eichenbaum, and Benjamin K. Johansson (2016), “Does the New Keynesian Model Have a Uniqueness Problem?,” manuscript, Northwestern University.

Coenen, G., Erceg C.J., Freedman, C., Furceri, D., Kumhof, M., Lalonde, R., Laxton, D., Lindé, J., Mourougane, A., Muir, D., Mursula, S., de Resende, C., Roberts, J., Roeger, W., Snudden, S., Trabandt, M., in't Veld, J., 2012. Effects of fiscal stimulus in structural models. *American Economic Journal: Macroeconomics* 4(1), 22--68.

Cogan, John F., Tobias Cwik, John B. Taylor, and Volker Wieland (2010). "New Keynesian versus Old Keynesian Government Spending Multipliers." *Journal of Economic Dynamics and Control*, 34, 281-295.

Corsetti, Giancarlo, André Meier and Gernot Müller (2012), “Fiscal stimulus with spending reversals,” *Review of Economics and Statistics* 94(4), 878-895.

Corsetti, Giancarlo, Keith Kuester, André Meier and Gernot Müller (2013), “Sovereign Risk, Fiscal Policy, and Macroeconomic Stability”, *The Economic Journal* 123: F99–F132.

Davig, Troy and Eric M. Leeper (2011). "Monetary-Fiscal Policy Interactions and Fiscal Stimulus." *European Economic Review*, 55(2), 211-227.

Drautzburg, Thorsten and Harald Uhlig (2015), "Fiscal Stimulus and Distortionary Taxation," *Review of Economic Dynamics*, Elsevier for the Society for Economic Dynamics, vol. 18(4), 894-920.

Eggertsson, Gauti (2010). "What Fiscal Policy Is Effective at Zero Interest Rates?" NBER *Macroeconomics Annual* 25, 59-112.

Erceg, Christopher J. and Jesper Lindé, (2010). "Asymmetric shocks in a currency union with monetary and fiscal handcuffs," NBER International Seminar on Macroeconomics 2010, 95-135.

*Erceg, Christopher J. and Jesper Lindé (2012), "Fiscal Consolidation in an Open Economy," *American Economic Review Papers & Proceedings* 102(3), 183-191.

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Werning, Ivan (2012), "Managing a Liquidity Trap: Monetary and Fiscal Policy," NBER Working Paper Series No. 17344.

Woodford, Michael (2011). "Simple Analytics of the Government Expenditure Multiplier." *American Economic Journal: Macroeconomics*, 3(1), 1-35.

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

	Small Scale Models	Large Scale Models
Linear	AR, VAR ML factor models Brigde Equations Mix Frequencies VARs	Factor Models PC
Non linear	Midas Markov Switching Threshold Models	

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.
 - Specification of large scale models using GRS (2008)

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

Course organization

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 Carlo (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

1. Uhlig, H. (1999). “A Toolkit for Analyzing Nonlinear Dynamic Stochastic Models Easily” in R. Marimón and A. Scott (eds) *Computational Methods for the Study of Dynamic Economies*. Oxford University Press.
2. Appendix B: Control and Filtering in Ljungvist, L. and T.J. Sargent (2004). *Recursive Macroeconomic Theory* (2nd edition), MIT Press.

3. Chapter 1, 4, 5, and 6 in Robert, C.P. (2001). *The Bayesian Choice* (2nd edition), Springer Verlag.
4. Chapter 6 in Robert, C.P. (2001). *The Bayesian Choice* (2nd edition), Springer Verlag.
5. Chapter 7 in Robert, C.P. and G. Casella (2004). *Monte Carlo Statistical Methods* (2nd edition), Springer Verlag.

3.2 Perturbation

1. Andreasen, M.M., J. Fernández-Villaverde and J.F. Rubio-Ramírez. “The Pruned State-Space System for Non-Linear DSGE Models: Theory and Empirical Applications.” *NBER Working Paper* 18983.
2. Fernández-Villaverde, J. and J.F. Rubio-Ramírez. (2006). “Solving DSGE Models with Perturbation Methods and a Change of Variables.” *Journal of Economic Dynamics and Control* 30, 2509-2531.

3.3 Sequential Monte Carlo

1. Fernández-Villaverde, J. and J.F. Rubio-Ramírez (2007). “Estimating Macroeconomic Models: A Likelihood Approach.” *Review of Economic Studies* 74, 1059-1087.

3.4 SVARs identified with sign and zero restrictions

1. Rubio-Ramírez J.F., D.F. Waggoner and T. Zha (2010). “Structural Vector Autoregressions: Theory of Identification and Algorithms for Inference.” *Review of Economic Studies* 77, 665-696.
2. Arias J.E., J.F. Rubio-Ramírez and D.F. Waggoner and T. Zha (2016). “Inference Based on SVARs Identified with Sign and Zero Restrictions: Theory and Applications .” *mimeo*.

GLOBALIZATION AND CRISES
CEMFI CSS 2016
Luis Servén

0. General background and facts

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- Jordá, O., M. Schularick and A. Taylor (2011): “Financial crises, credit booms and external imbalances: 140 years of lessons”, *IMF Economic Review* 59, 340-378.
- Milesi-Ferretti, G. and P. Lane (2007): “The external wealth of nations Mark II: Revised and extended estimates of foreign assets and liabilities, 1970–2004”, *Journal of International Economics* 73, 223-250.
- * Reinhart, C. and K. Rogoff (2008): “This Time is Different: A Panoramic View of Eight Centuries of Financial Crises”, NBER working paper 13882. [Also longer book version: Princeton University Press, 2010]
- Reinhart, C, V. Reinhart and C. Trebesch (2016): “Global cycles, capital flows, commodities and sovereign defaults 1815-2015”, NBER Working Paper 21958.
- Zucman, G. (2013): “The missing wealth of nations: are Europe and the U.S. net debtors or net creditors?”, *Quarterly Journal of Economics*, 1-44.

1. Financial globalization and its effects

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- Bonfiglioli, A. (2008): “Financial integration, productivity and capital accumulation,” *Journal of International Economics* 76, 337-355.
- Broner, F., T. Didier, A. Erce and S. Schmukler (2013): “Gross capital flows: dynamics and crises”, *Journal of Monetary Economics* 60, 113-133.
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- Coeurdacier, N., H. Rey and P. Winant (2015): “Financial integration and growth in a risky world”, NBER Working Paper 21817.
- Devereux, M. and C. Yu (2016): “International financial integration and crisis contagion”, unpublished manuscript.
- Hevia, C. and L. Servén (2016): “Partial consumption insurance and financial openness across the world”, unpublished manuscript (earlier version available as World Bank Policy Research Working Paper 6479).
- Kose, A., E. Prasad, K. Rogoff and S. Wei (2009): “Financial Globalization: A Reappraisal”, *IMF Staff Papers*, April 2009.
- Miranda-Agrippino, S. and H. Rey (2015): “World asset markets and the global financial cycle”, NBER Working Paper 21722.
- * Obstfeld, M. (2012): “Does the current account still matter?”, *American Economic Review* 102, 1-23.

2. Currency crises

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- Krugman, P. (1999): “Balance sheets, the transfer problem and financial crises”, *International tax and public finance*.
- * Lorenzoni, G. (2014): “International financial crises”, in *Handbook of International Economics*, vol 4.

Obstfeld, M. (1996): "Models of currency crises with self-fulfilling features". *European Economic Review*

3. Sovereign debt and default

- * Aguiar, M. and M. Amador (2014): "Sovereign debt", in *Handbook of International Economics*, vol 4.
- Arellano, C. (2008): "Default risk and income fluctuations in emerging economies", *American Economic Review* 98, 690-712.
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4. Bubbles

- Allen, F., S. Morris and H. Shin (2006): "Beauty Contests and Iterated Expectations in Asset Markets" *Review of Financial Studies* 19.
- Bacchetta, P., and E. van Wincoop (2008): "Higher order expectations in asset pricing", *Journal of Money, Credit and Banking*.
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- Caballero, R., and A. Krishnamurty (2006): "Bubbles and capital flow volatility: causes and risk management", *Journal of Monetary Economics* 53, 35-53.
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- Kindleberger, C. (2005): *Manias, Panics, and Crashes: A History of Financial Crises*. Wiley.
- Kocherlakota, N (2009): "Bursting bubbles: consequences and cures", at <http://www.imf.org/external/np/seminars/eng/2009/macro/pdf/nk.pdf>
- Martin, A. and J. Ventura (2012): "Economic growth with bubbles", *American Economic Review* 102, 3033-3078.
- Miao, J., P. Wang and J. Zhou (2015): "Asset bubbles, collateral and policy analysis", *Journal of Monetary Economics* 76, S57-S70

5. Crises, propagation and policy responses

- Bachetta, P., C. Tille and E. van Wincoop (2012): “Self-fulfilling risk panics”, *American Economic Review* 102, 3674-3700.
- Bianchi, J. (2011): “Overborrowing and systemic externalities in the business cycle”, *American Economic Review* 101, 3400-3426.
- Cetorelli, N. and L. Goldberg (2012): “Global banks and international shock transmission: evidence from the crisis”, *Journal of Finance* 67, 1811-1843.
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- Forbes, C. (2015): “Pick your poison: the choices and consequences of policy responses to crises”, NBER Working Paper 20987.
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- Van Wincoop, E. (2013): “International contagion through leveraged financial institutions”, *American Economic Journal: Macroeconomics* 5, 152–189.

The subprime crisis

- Brunnermeier, M. (2009): “Deciphering the 2007-2008 liquidity and credit crunch”, *Journal of Economic Perspectives*.
- Gorton, G. (2009): “Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007”.

The post-crisis

- Caballero, R. and E. Fahri (2016): “The safety trap”, unpublished manuscript.
- Teulings, C. and R. Baldwin (2014): *Secular stagnation: facts, causes and cures*. CEPR Press.

The Eurozone crisis and policy implications

- Bocola, L. (2015): “The pass-through of sovereign risk”, unpublished manuscript.
- Bolton, P. and O. Jeanne (2011): “Sovereign default risk and bank fragility in financially integrated economies”, *IMF Economic Review* 59, 162-194.
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- Farhi, E., G. Gopinath and O. Itskhoki (2014): “Fiscal devaluations”, *Review of Economic Studies* 81, 725–760
- Lane, P. (2012): “The European sovereign debt crisis”, *Journal of Economic Perspectives* 26, 49-68.
- Schmidt-Grohe, S. and M. Uribe (2016): “Downward nominal wage rigidity, currency pegs and involuntary unemployment”, *Journal of Political Economy* (forthcoming).
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- Tirole, J. (2015): “Country solidarity in sovereign crisis”, *American Economic Review* 105, 2333–2363

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/>