

Empirical Methods of Policy Evaluation

Course title – Intitulé du cours	Empirical Methods for Policy Evaluation
Level / Semester – Niveau /semestre	DEEQA/S1
School – Composante	Ecole d'Economie de Toulouse
Teacher – Enseignant responsable	Matteo Bobba – Augustin Tapsoba
Other teacher(s) – Autre(s) enseignant(s)	
Lecture Hours – Volume Horaire CM	30
TA Hours – Volume horaire TD	
TP Hours – Volume horaire TP	
Course Language – Langue du cours	English
TA and/or TP Language – Langue des TD et/ou TP	English

Teaching staff contacts:

- Matteo Bobba (MB): matteo.bobba@tse-fr.eu -
- Augustin Tapsoba (AT): augustin.tapsoba@tse-fr.eu - TSE building office T354
- office hours: TBD
- preferred means of interaction: after the classes, or during office hours with prior appointment

Course Objectives: newly acquired knowledge once the course completed should be well identified

This 10-week course is divided in two parts. In the first part, AT reviews recent methodological contributions in the econometrics literature of ex-post policy evaluation.

That is, methods that are applicable after the program has been implemented and data are available on persons who participated in the program and possibly also on a group of people who did not participate in the program. In the second part, MB examines methods for ex-ante policy evaluation. That is, methods for evaluating programs that do not yet exist or for evaluating alternative versions of existing programs. We illustrate the use of these tools for the evaluation of a variety of public policies in both developed and developing countries.

Prerequisites :

Students should be familiar with the content of compulsory M1 and M2 econometrics courses.

Practical information about the sessions:

Student should participate actively to each session. Laptops and tablets are tolerated if used for the sole purpose of following the course.

Grading system :

- Two small written exams (one for each part of the course) [50% of the grade]
- Two take-home assignments (one for each part of the course) that will involve some work using a programming language of your choice (R, Matlab, Python, etc..) and datasets that we will give out [40% of the grade]
- Class participation [10% of the grade]

Bibliography/references :

- See references in next section. Papers denoted with * are required readings and will be covered during the lectures. Students are strongly encouraged to read them before the corresponding lecture.

Session planning :

1. Recent advances in ex-post evaluation methods (AT)

This part of the course will discuss some of the most important/recent methodological contributions in the econometrics literature that have substantially enhanced the policy evaluation tools available to applied economists. It will cover the following topics:

1.1 Generalizations of Difference-in-Differences

* De Chaisemartin, Clement and Xavier D'Haultfoeuille. "Fuzzy Differences in Differences". The Review of Economic Studies, Volume 85, Issue 2, April 2018, Pages 999-1028

* Athey, Susan, and Guido W. Imbens. "Identification and inference in nonlinear differences in differences models." Econometrica 74.2 (2006): 431-497.

* Bonhomme, Stephane, and Ulrich Sauder. "Recovering distributions in difference-in-differences models: A comparison of selective and comprehensive schooling." Review of Economics and Statistics 93.2 (2011): 479-494.

D'Haultfoeuille, Xavier, Stefan Hoderlein, and Yuya Sasaki. "Nonlinear difference in differences in repeated cross sections with continuous treatments". No. CWP40/13. cemmap working paper, 2013.

* Callaway, Brantly and Sant'Anna, Pedro H. C.. "Difference-in-Differences with Multiple Time Periods". 2019

Ricardo Mora and Iliana Reggio, (2019) "Alternative diff-in-diffs estimators with several pretreatment periods", *Econometric Reviews* (2019) 38:5, 465-486

Angrist, Joshua D., and Jorn-Steffen Pischke. *Mostly harmless econometrics: An empiricist's companion*. Princeton university press, 2008.

1.2 Spatial Autocorrelation and Treatment Effect

* Kelly, Morgan, "The Standard Errors of Persistence" (June 3, 2019).

* McIntosh, Craig. "Estimating Treatment Effects from Spatial Policy Experiments: An Application to Ugandan Microfinance." *The Review of Economics and Statistics*, vol. 90, no. 1, 2008, pp. 15–28.

Delgado, Michael S., and Raymond JGM Florax. "Difference-in-differences techniques for spatial data: Local autocorrelation and spatial interaction." *Economics Letters* 137 (2015): 123-126.

1.3 Control function approach and IV

* Wooldridge, Jeffrey M. "Control function methods in applied econometrics." *Journal of Human Resources* 50.2 (2015): 420-445.

Navarro S. (2010) Control Functions. In: Durlauf S.N., Blume L.E. (eds) *Microeconometrics*. The New Palgrave Economics Collection. Palgrave Macmillan, London

* Abadie, Alberto. "Semiparametric instrumental variable estimation of treatment response models." *Journal of econometrics* 113.2 (2003): 231-263.

Abadie, Alberto, Joshua Angrist, and Guido Imbens. "Instrumental variables estimates of the effect of subsidized training on the quantiles of trainee earnings." *Econometrica* 70.1 (2002): 91-117.

Edin, Per-Anders, Peter Fredriksson, and Olof Aslund. "Ethnic enclaves and the economic success of immigrants: Evidence from a natural experiment." *The quarterly journal of economics* 118.1 (2003): 329-357.

Miguel, Edward, and Michael Kremer. "Worms: identifying impacts on education and health in the presence of treatment externalities." *Econometrica* 72.1 (2004): 159-217.

1.4 Treatment effect in presence of measurement error

* Schennach, Susanne M. "Recent advances in the measurement error literature." *Annual Review of Economics* 8 (2016): 341-377.

* Lewbel, Arthur. "Estimation of average treatment effects with misclassification." *Econometrica* 75.2 (2007): 537-551.

Hu, Yingyao, and Susanne M. Schennach. "Instrumental variable treatment of nonclassical measurement error models." *Econometrica* 76.1 (2008): 195-216.

Cunha, Flavio, James J. Heckman, and Susanne M. Schennach. "Estimating the technology of cognitive and noncognitive skill formation." *Econometrica* 78.3 (2010): 883-931.

* Agostinelli, Francesco, and Matthew Wiswall. Estimating the technology of children's skill formation. No. w22442. National Bureau of Economic Research, 2016.

Attanasio, Orazio, Cattan, Sarah, Fitzsimons, Emla, Meghir, Costas and Rubio-Codina, Marta (2020). "Estimating the Production Function for Human Capital: Results from a Randomized Control Trial in Colombia," *American Economic Review*, vol. 110(1), pages 48-85.

Attanasio, Orazio, Costas Meghir, and Emily Nix. Human capital development and parental investment in india. No. w21740. National Bureau of Economic Research, 2015.

2. Structural models for ex-ante policy evaluation (MB)

This part of the course showcases the use of economic models combined with micro-econometric methods as a tool to simulate the effects of potential policy interventions. We will discuss two workhorse empirical frameworks and cover a wide set of applications.

2.1 Discrete Choice Models^{[1][2]}_{SEP}

2.1.1 Full solution maximum likelihood and approximation methods

* Keane, Michael, Todd, Petra and Wolpin, Kenneth I., (2011). "The Structural Estimation of Behavioral Models: Discrete Choice Dynamic Programming Methods and Applications," *Handbook of Labor Economics*, ch 4, p. 331-461, Ashenfelter, O. and Card, D. eds., Elsevier.

Rust, J. (1987). "Optimal Replacement of GMC Bus Engines: An Empirical Model of Harold Zurcher," *Econometrica*, 55(5), 999-1033.

Keane, Michael and Wolpin, Kenneth I, (1994). "The Solution and Estimation of Discrete Choice Dynamic Programming Models by Simulation and Interpolation: Monte Carlo Evidence". *The Review of Economics and Statistics*, 76, issue 4, p. 648-72.

2.1.2 Combining ex-ante and ex-post approaches for policy evaluation

* Todd Petra E. and Kenneth I. Wolpin (2006). "Assessing the Impact of a School Subsidy Program in Mexico: Using a Social Experiment to Validate a Dynamic Behavioral Model of Child Schooling and Fertility," *American Economic Review*, vol. 96(5), pages 1384-1417, December.

* Attanasio Orazio P., Costas Meghir and Ana Santiago (2012). "Education Choices in Mexico: Using a Structural Model and a Randomized Experiment to Evaluate PROGRESA," *Review of Economic Studies*, vol. 79(1), pages 37-66.

Allende, Claudia, Francisco Gallego, and Neilson Christopher (2019). "Approximating the Equilibrium Effects of Informed School Choice," *IRS Working Paper*, No 628.

Bobba Matteo, and Veronica Frisancho (2019). "Perceived Ability and School Choices". TSE Working Paper, n. 16-660.

Duflo Esther, Rema Hanna and Stephen P. Ryan (2012). "Incentives Work: Getting Teachers to Come to School," American Economic Review, vol. 102(4), pages 1241-78, June.

Duflo Esther, Michael Greenstone, Rohini Pande and Nicholas Ryan (2018). "The Value of Regulatory Discretion: Estimates from Environmental Inspections in India," Econometrica, vol. 86, issue 6: 2123-2160.

Galiani Sebastian, Alwyn Murphy and Juan Pantano (2015). "Estimating Neighborhood Choice Models: Lessons from a Housing Assistance Experiment." American Economic Review, 105 (11): 3385-3415.

Fu, Chao, and Gregory, Jesse (2019). "Estimation of an Equilibrium Model with Externalities: Post-Disaster Neighborhood Rebuilding," Econometrica, 2019, 87 (2): 387-421.

Kreindler, Gabriel (2020). "Peak-Hour Road Congestion Pricing: Experimental Evidence and Equilibrium Implications," mimeo.

2.2 Empirical Job Search Models^[1]_{SEP}

2.2.1 Job search theory and classic identification results

* Rogerson, R., Shimer, R., and Wright, R. (2005). "Search-Theoretic Models of the Labor Market: A Survey". Journal of Economics Literature, Vol. 43, 959-988.

Pissarides, C.A. (1990). "Equilibrium Unemployment Theory". MIT Press.^[1]_{SEP}

* Burdett, K. and D. T. Mortensen (1998). "Wage Differentials, Employer Size, and Unemployment". International Economic Review 39 (2): 257-273.

* Flinn, C, and J. Heckman (1982). "New methods for analyzing structural models of labor force dynamics". Journal of Econometrics, vol. 18, issue 1, 115-168.

Eckstein, Z., and K. Wolpin (1995). "Duration to first job and return to schooling: estimates from a search-matching model". Review of Economic Studies 62, 263- 286.

* Van Den Berg, G., and G. Ridder (1998). "An Empirical Equilibrium Search Model of the Labor Market." Econometrica 66, no. 5: 1183-221.

Bontemps, C., J.M. Robin, van den Berg, G. J. (2000). "Equilibrium Search with Continuous Productivity Dispersion: Theory and Nonparametric Estimation". International Economic Review, vol. 41, no. 2, 2000, pp. 305-358.

Cahuc, Pierre, Fabien Postel-Vinay, and Jean-Marc Robin (2006). "Wage Bargaining with On-the-Job Search: Theory and Evidence." Econometrica 74, no. 2: 323- 64.

2.2.2 Informality and labor market policies

* Meghir, C., R. Narita and J.M. Robin (2015). "Wages and Informality in Developing Countries." *American Economic Review*, 105(4):1509-1546.

* Bobba, M., L. Flabbi, and S. Levy (2019). "Labor Market Search, Informality, and Schooling Investments." TSE Working Paper, n. 17-867.

Bobba, M., L. Flabbi, S. Levy and M. Tejada (2020). "Labor Market Search, Informality, and On-the-job Human Capital Accumulation." *Journal of Econometrics*, forthcoming.

Narita, Renata (2020), "Self-Employment in Developing Countries: A Search-Equilibrium Approach," *Review of Economic Dynamics*, volume 35, Pages 1-34.

Conti, G., R. Ginja and R. Narita (2018). "The Value of Health Insurance: A Household Job Search Approach". Mimeo

Dix-Carneiro, Rafael, Goldberg, Penelopi, Meghir, Costas, and Gabriel Ulyssea (2019). "Trade and Informality in the Presence of Labor Market Frictions and Regulations," mimeo.

Haanwinckel, Daniel, and Soares, Rodrigo (2017). "Workforce Composition, Productivity, and Labor Regulations in a Compensating Differentials Theory of Informality," mimeo.

Engbom, N. and Moser C. (2018). "Earnings Inequality and the Minimum Wage: Evidence from Brazil," mimeo.

Distance learning :

- Interactive virtual classrooms
- MCQ tests and other online exercises / assignments
- Chatrooms