Topics in Econometrics and Empirical Economics

Course title – Intitulé du cours	Topics in Econometrics and Empirical Economics
Level / Semester – Niveau /semestre	Master 2 in Economic Theory and Econometrics
School – Composante	Toulouse School of Economics
Teachers – Enseignants responsables	Jean-Pierre Florens, Pascal Lavergne, François Poinas
Lecture Hours – Volume Horaire CM	30
TA Hours – Volume horaire TD	0
TP Hours – Volume horaire TP	0
Course Language – Langue du cours	English
TA and/or TP Language – Langue des TD et/ou TP	-

Teaching staff contacts:

Jean-Pierre Florens : jean-pierre.florens@tse-fr.eu, T.507
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François Poinas : francois.poinas@tse-fr.eu, T.509

Course Objectives:

The course consists of three independent parts. Part 1 consists of 15 hours and is taught by François Poinas. Parts 2 and 3 consists of 7 hours and 30 minutes each. Part 2 is taught by Jean-Pierre Florens and Part 3 by Pascal Lavergne.

- In Part 1, François Poinas' lectures will focus on dynamic discrete choice models and subjective expectations. This section of the course will be an introduction to the estimation of structural models in the fields of labor economics and economics of education. It will focus on dynamic discrete choice models and introduce how elicited data on subjective expectations can be used in such models to avoid assuming agents form rational expectations.
- In Part 2, Jean-Pierre Florens will cover topics in structural econometrics and inverse problems. He will present regularized solutions of linear functional equations; non parametric inference of instrumental regression and extensions; functional linear regression; non linear problems and applications to game theoretic models and to non randomized treatments models.
- In Part 3, we will focus on bootstrap methods. Such methods are now widely used in empirical economics. The objective of the course is for students to understand the basics of these methods, both in theory and in practice. We will review principles, conditions for validity, and properties. We will look at application and implementation in some econometric models. We will use R to illustrate the methods. Students are required to install R on their laptop (detailled instruction will be given beforehand).

Prerequisites:

Economics and Econometrics at the level of M2 ETE, first semester.

Practical information about the sessions:

Students are expected to read the papers that will be discussed in class and to actively participate in class.

Grading system:

Grading policy:

- Midterm (on week 6), 1.5 hours, 50%. The midterm covers the material presented in Part 1.
- Final exam, 1.5 hours, 50%. The final exam covers the material presented in Parts 2 and 3.

For each part, exam questions will preferably be related to specific papers covered (not necessarily in depth) during the lectures. The papers are announced at the end of each part.

Bibliography/references:

- For Part 1:

Aguirregabiria, V., and P. Mira. 2010. "Dynamic discrete choice structural models: A survey." Journal of Econometrics, 156:38–67.

Arcidiacono, P. 2005. "Affirmative Action in Higher Education: How Do Admission and Financial Aid Rules Affect Future Earnings?" Econometrica, 73(5): 1477-1524

Arcidiacono, P., V.J. Hotz, and S. Kang. 2012. "Modeling college major choices using elicited measures of expectations and counterfactuals." *Journal of Econometrics*, 166:3–16.

Belzil, C., and J. Hansen. 2002. "Unobserved Ability and the Return to Schooling." *Econometrica*, 70:2075–2091.

Keane, M.P., P.E. Todd, and K.I. Wolpin. 2011. "The Structural Estimation of Behavioral Models: Discrete Choice Dynamic Programming Methods and Applications." *Handbook of Labor Economics*, 4a:331–461, section 3.1

Keane, M.P., and K.I. Wolpin. 1997. "The Career Decisions of Young Men." *The Journal of Political Economy*, 105:473–522.

Manski, C.F. 2004. "Measuring Expectations." *Econometrica*, 72:1329–1376.

Wiswall, M., and B. Zafar. 2015. "Determinants of College Major Choice: Identification using an Information Experiment." The Review of Economic Studies, 82:791–824.

- For Part 2:

Carasco, M., Florens, J.P., Renault, E., 2007, “Linear Inverse Problems in Structural Econometrics. Estimation based on Spectral Decomposition and Regularization”, *Handbook of Econometrics*, J. Heckman and E. Leamer, 6B, chapter 77, 5633-5751.

Carasco, M., Florens, J.P., Renault, E., 2014, “Asymptotic Normal Inference in Linear Inverse Problems”, *Handbook of Non Parametric Statistics,* J. Racine, L. Su and A. Ullah (eds.), Oxford, 65-96.

- For Part 3:

Horowitz, J.L. (2001) “The Bootstrap,” *Handbook of Econometrics*, vol. V, Chap. 52, North Holland.

Session planning :

To be announced in class.

Distance learning :

Teaching will be done in-person. It will be replaced by remote teaching if the sanitary situation requires it.