

## M2 ETE, Topics in Econometrics and Empirical Economics

### Teaching staff contacts - Coordonnées de l'équipe pédagogique :

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Jean-Pierre Florens : [jean-pierre.florens@tse-fr.eu](mailto:jean-pierre.florens@tse-fr.eu), T.507

François Poinas : [francois.poinas@tse-fr.eu](mailto:francois.poinas@tse-fr.eu), T.509

Office hours: By appointment.

Preferred means of interaction: After classes and during office hours.

### Course's Objectives - Objectifs du cours :

The course consists of four independent parts, each consisting of 7 hours and 30 minutes. It will be taught by Christian Bontemps, Pierre Dubois, Jean-Pierre Florens, and François Poinas.

- In part one, Christian Bontemps will introduce the recent literature on partial/set identification. This literature reintroduced by Manski and his coauthors, aims at relaxing some of the identifiable assumptions made in structural econometrics and still estimate the set of parameters which can rationalize the data. Usual examples are moment inequality models, models with missing information or games with multiple equilibria. The main examples, usual inference methods and main challenges will be introduced and discussed.
- In part two (taught in parallel of part one), 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 three, 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 four (taught in parallel of part three), Pierre Dubois will cover issues related to vertical relationships and advertising in empirical industrial organization. He will show how structural models of demand and supply can allow understand not only horizontal competition but also vertical relationships in markets such as food retailing, pharmaceuticals.

### Grading system – Modalités d'évaluation

Grading policy:

- Midterm (on week 6), 1 hour, 50%. The midterm covers the material presented in parts 1 and 2.
- Final exam, 1 hours, 50%. The final exam covers the material presented in parts 3 and 4.

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

The midterm and final exam will be open book, with possible access to any document.

### Bibliography/references - Bibliographie/références :

- For part 1:

Andrews, D.W.K., and G. Soares, 2010, "Inference for Parameters Defined by Moment Inequalities Using Generalized Moment Selection", *Econometrica*, 78:119-157.

Beresteanu, A., and F. Molinari, 2008, "Asymptotic Properties for a Class of Partially Identified Models", *Econometrica*, 76:763-814.

Bontemps, C., T. Magnac and E. Maurin, 2012, "Set Identified Linear Models", *Econometrica*, 138:2786-2807.

Chernozhukov, V., H. Hong and E. Tamer, 2007, "Estimation and Confidence Regions for Parameter Sets in Econometric Models", *Econometrica*, 75:1243-1284.

Ciliberto, F., and E. Tamer, 2009, "Market structure and multiple equilibria in airline markets", *Econometrica*, 77:1791-1828.

Manski, C.F., and E. Tamer, 2002, "Inference on Regressions with Interval Data on a Regressor or Outcome", *Econometrica*, 70:519-546.

Romano, J.P., and A.M. Shaikh, 2012, "Inference for the Identified Set in Partially Identified Econometric Models", *Econometrica*, 78:169-211.

- For part 2:

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

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

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.

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.

- For part 3:

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 4:

Bonnet Céline and Pierre Dubois (2010) "Inference on Vertical Contracts between Manufacturers and Retailers Allowing for Non Linear Pricing and Resale Price Maintenance", *RAND Journal of Economics*, Spring 2010, 41, 1, 139-164

Conlon Christopher T. and Julie Mortimer (2020) "Efficiency and Foreclosure Effects of Vertical Rebates: Empirical Evidence," Working Paper

Crawford Gregory S., Robin S. Lee, Michael D. Whinston, Ali Yurukoglu (2018) "The Welfare Effects of Vertical Integration in Multichannel Television Markets" *Econometrica*: 86, 3, 891-954

Dubois Pierre and Laura Lasio (2018) "Identifying Industry Margins with Price Constraints: Structural Estimation on Pharmaceuticals" *American Economic Review*, 2018, 108, 12, 3685-3724

Dubois Pierre and Rachel Griffith and Martin O'Connell (2018) "The Effects of Banning Advertising in Junk Food Markets", *Review of Economic Studies*, 2018, 1, 1, 396-436

Gowrisankaran, G., A. Nevo, and R. Town (2015): Mergers When Prices are Negotiated: Evidence from the Hospital Industry, *American Economic Review*, 105, 172—203

Grennan, M. (2013), "Price discrimination and bargaining: Empirical evidence from medical devices", *American Economic Review* 103(1), 145—177

Ho Kate and Robin Lee (2017) "Insurer Competition in Health Care Markets", March 2017, *Econometrica*, 85(2): 379-417

Villas-Boas, S. B. (2007) "Vertical Relationships between Manufacturers and Retailers: Inference with Limited Data," *Review of Economic Studies*, 74, 2, 625-652

### Sessions planning

Week	Date	Time	Lecture #	Part	Teacher
1	January 21	14:00 - 15:30	1	1	Christian Bontemps
		15:30 - 17:00	2	2	François Poinas
2	January 28	14:00 - 15:30	3	1	Christian Bontemps
		15:30 - 17:00	4	2	François Poinas
3	February 4	14:00 - 15:30	5	1	Christian Bontemps
		15:30 - 17:00	6	2	François Poinas
4	February 11	14:00 - 15:30	7	1	Christian Bontemps
		15:30 - 17:00	8	2	François Poinas
	February 18		Winter break		
5	February 25	14:00 - 15:30	9	1	Christian Bontemps
		15:30 - 17:00	10	2	François Poinas
6	March 4		Midterm (on parts 1 and 2)		
7	March 11	14:00 - 15:30	11	3	Pierre Dubois
		15:30 - 17:00	12	4	Jean-Pierre Florens
8	March 18	14:00 - 15:30	13	3	Pierre Dubois
		15:30 - 17:00	14	4	Jean-Pierre Florens
9	March 25	14:00 - 15:30	15	3	Pierre Dubois
		15:30 - 17:00	16	4	Jean-Pierre Florens
10	April 1	14:00 - 15:30	17	3	Pierre Dubois
		15:30 - 17:00	18	4	Jean-Pierre Florens
11	April 8	14:00 - 15:30	19	3	Pierre Dubois
		15:30 - 17:00	20	4	Jean-Pierre Florens
12	April 15		Exam (on parts 3 and 4)		