

## Empirical and Structural Econometrics

Course title – Intitulé du cours	Empirical and Structural Econometrics
Level / Semester – Niveau / semestre	Semester 2
School – Composante	Ecole d'Economie de Toulouse
Teacher – Enseignant responsable	Paul Diegert
Other teacher(s) – Autre(s) enseignant(s)	
Lecture Hours – Volume Horaire CM	15
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:**

Paul Diegert

Office hours by appointment (via email)

### **Course Objectives:**

This course covers recent advances in structural econometrics and empirical economics with a focus on applications to wage dynamics and inequality. The goals of the course are to understand the sources of identification in structural models with unobserved heterogeneity and to build experience with the practical modelling decisions involved in structural estimation. We will review recent approaches to identifying and estimating unobserved heterogeneity in skills and preferences in models of wage determination, and study how different approaches to structural modelling can be used to analyse sources of wage inequality.

### **Prerequisites :**

Economics and econometrics at the level of M2 ETE.

### **Practical information about the sessions:**

Students are expected to participate actively in class sessions, and prepare by reading all required material.

**Grading system :**

Grading will be based on contributions to class discussions and a final project. The project will consist of two parts. First, students will choose an empirical paper and write a brief analysis of a minimal version of the model estimated in the paper which captures the main features the paper seeks to study. Second, the student will propose an extension or alternative approach to the research question studied in the paper.

**Bibliography/references :**

**1. Identification of Unobserved Heterogeneity / Latent Variables**

Hu, Y., and Schennach, S. M. (2008). Instrumental variable treatment of nonclassical measurement error models. *Econometrica*, 76(1), 195-216.

Hu, Y., and Shum, M. (2012). Nonparametric identification of dynamic models with unobserved state variables. *Journal of Econometrics*, 171(1), 32-44.

Sasaki, Y. (2015), Heterogeneity and selection in dynamic panel data, *Journal of Econometrics* 188(1), 236–249

Freyberger, J., (2018). Non-parametric panel data models with interactive fixed effects. *The Review of Economic Studies*, 85(3), pp.1824-1851.

Bonhomme, S., Lamadon, T., & Manresa, E. (2019). A distributional framework for matched employer employee data. *Econometrica*, 87(3), 699-739.

**2. Structural Estimation of Models of Wage Determination**

Postel-Vinay, F., and Robin, J. M. (2002). Equilibrium wage dispersion with worker and employer heterogeneity. *Econometrica*, 70(6), 2295-2350.

Lee, D. and K.I. Wolpin (2006) "Intersectoral Labor Mobility and the Growth of the Service Sector," *Econometrica* , Vol. 74, No. 1, 1–46

Yamaguchi, S. (2012). Tasks and heterogeneous human capital. *Journal of Labor Economics*, 30(1), 1-53.

Lise, J., C. Meghir and J.-M. Robin (2016). Mismatch, Sorting and Wages. *Review of Economic Dynamics*. Volume 19, Pages 1-246.

Cunha, F., and Heckman, J. (2016). Decomposing trends in inequality in earnings into forecastable and uncertain components. *Journal of Labor economics*, 34(S2), S31-S65.

Taber, C., & Vejlín, R. (2020). Estimation of a Roy/search/compensating differential model of the labor market. *Econometrica*, 88(3), 1031-1069.

**Session planning :**

1) Identification of Unobserved Heterogeneity / Latent Variables

2) Structural Estimation of Models of Wage Determination