

Econometrics approach to Efficiency Analysis

Course title - Intitulé du cours	Econometrics approach to Efficiency Analysis
Level / Semester - Niveau /semestre	M2 / S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	CAZALS Catherine
Lecture Hours - Volume Horaire CM	15
TA Hours - Volume horaire TD	
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

Teaching staff contacts - Coordonnées de l'équipe pédagogique :

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T525

Preferred means of interaction: by email or by appointment

Course's Objectives - Objectifs du cours :

Efficiency analysis deals with the issue of the performance of productive units (benchmarking analysis) and is a very important tool for firms and any decision-making units with application in almost all economic sectors (banks, industries, education, health, ...). The aim is to estimate a frontier from observed quantities (production, cost, profit ...) and to derive some relative inefficiency scores for a set of productive units, as the departure to this frontier. Different approaches may be used.

We can assume a particular functional form for the frontier and then we adopt a "parametric" approach, or we can use a "nonparametric" approach. We can assume that all departure from the frontier is due to inefficiency ("deterministic" approach), or we can assume that the departure is due to inefficiency and also some random noise and then we deal with a "stochastic" approach.

Within these approaches different refinements about assumptions on various components in the models can be found but the two main families of efficiency analysis are the "deterministic nonparametric" approach, with mainly Data Envelopment Analysis (DEA) and Full Disposal Hull (FDH) methods, and the "stochastic parametric approach" (Stochastic Frontier Analysis, SFA).

The course gives analytical and econometric tools to be able to perform an efficiency analysis in any economic sector.

Prerequisites - Pré requis :

Intermediate econometrics

Grading system - Modalités d'évaluation :

Empirical project

Bibliography/references - Bibliographie/références :

Coelli T.J., Rao D.S.P, O'Donnell C.J and Battese G.E. (2005) : "An Introduction to Efficiency and Productivity Analysis", Springer.

Kumbhakar S.C. and Lovell C.A.K. (2000) : "Stochastic Frontier Analysis", Cambridge University Press.

Cooper W.W., Seiford L.M. and Zhu J. (2011) : "Handbook on Data Envelopment Analysis", Springer

Distance learning – Enseignement à distance :