**Finite Mixture and Latent Class Models**

Presented by [Prof. William Greene](http://people.stern.nyu.edu/wgreene/), New York University

**Date:** Wednesday 21st June 2017

**Time:** 17.00-18.30

**Location:** rm1.11 [Institute for Transport Studies](http://www.its.leeds.ac.uk/map/), University of Leeds

**Booking:** For planning purposes, please confirm a place by emailing [Zoe Clough](mailto:Z.Clough@leeds.ac.uk).

We are delighted to announce that Prof. William Greene (Robert Stansky Professor, Stern School of Business, New York University) will be visiting ITS in mid-June and as part of his visit will be presenting on Finite Mixture and Latent Class models, with particular respect to Health Economics, Transport and Production/Efficiency modelling, at 17:00 on Wednesday 21st June. All welcome, refreshments will be available after the presentation at 18:00

**Abstract**

Finite mixture models and latent class models are often described as equivalent frameworks for econometric analysis.  In this presentation, we will draw a substantive distinction between them, then develop several applications from the literature and our recent research.  We define a “finite mixture model” (of a population) as a single model constructed as a weighted sum of like component models.  Objects of estimation consist of the parameters of the components and the weights. The so-called mixture of normals model that dates back to Pearson’s 1894 examination of crab species in the Bay of Naples is an example (Karl Pearson, Contributions to the Mathematical Theory of Evolution).  In this framework, the “mixing” aspect of the model is simply a matter of functional form.  As we define it, the “latent class” model is based on a meaningful definition of latent class membership – existing in the population, but not directly observable by the analyst.  Possibly different models might be applicable to the different subpopulations.  Switching regressions, zero inflation models and models of attribute nonattendance are all applications from the received literature. Objects of estimation consist of the model components, the weights, and often, the class memberships. In this discussion, we will develop the background theory then examine several applications from Health Economics, Transport and Production/Efficiency modelling.

**Bio**

William Greene is Robert Stansky Professor, Stern School of Business, New York University. Professor Greene is widely regarded as one of the foremost experts in micro-econometrics with a strong interest in firm performance and efficiency analysis, discrete choice analysis and sample selection modelling. He is editor-in-chief of the leading field journal in efficiency analysis, namely the *Journal of Productivity Analysis*, and developer of one of the leading econometrics software packages (*LIMDEP/NLOGIT*). His textbook “Econometric Analysis” is ranked #34 on Google Scholar’s list of the top 100 cited works from all fields of all time, with over 48,000 citations.

*All welcome. Refreshments will be available after the presentation*

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