

The 23rd International Seminar on Experiments and Surveys in Economics and Related Social Sciences

Date: February 19, 2009(Thu), 15:00~16:30

Venue: W-9 Building, 6th floor, Room #626, Ookayama-campus, Tokyo Institute of Technology

Title: Improving Multi-Site Benefit Functions Via Bayesian Model Averaging: A New Approach To Benefit Transfer

The speaker: Roberto Leon Gonzalez, Associate Professor of Economics, National Graduate Institute for Policy Studies

Abstract: A Benefit Function Transfer obtains estimates of Willingness-to-Pay (WTP) for the evaluation of a given policy at a site by combining existing information from different study sites. This has the advantage that more efficient estimates are obtained, but it relies on the assumption that the heterogeneity between sites is appropriately captured in the Benefit Transfer model. A more expensive alternative to estimate WTP is to analyze only data from the policy site in question while ignoring information from other sites. We make use of the fact that these two choices can be viewed as a model selection problem and extend the set of models to allow for the hypothesis that the benefit function is only applicable to a subset of sites. We show how Bayesian Model Averaging (BMA) techniques can be used to optimally combine information from all models.

The Bayesian algorithm searches for the set of sites that can form the basis for estimating a Benefit function and reveals whether such information can be transferred to new sites for which only a small dataset is available. We illustrate the method with a sample of 42 forests from U.K. and Ireland. We find that BMA benefit function transfer produces reliable estimates and can increase about 8 times the information content of a small sample when the forest is 'poolable'.

Moderator: Noboru Hidano