



CUB models and their extensions: statistical issues and empirical evidence

Domenico Piccolo
Department of Political Sciences
University of Naples Federico II

June 17, 2015, 16:00 (s.t.)
Department of Statistics, Ludwigstr. 33, Room 144, Munich

Mainly motivated by the psychological mechanism which generates discrete choices, a general framework for modelling ordinal data has been introduced. The rationale stems from the interpretation of the respondent's final choice as a weighted combination of a personal feeling and some intrinsic uncertainty. A mixture of these components (explained by discrete random variables) has been defined CUB model. Several generalizations of this approach have been successfully explored and the most relevant ones consist in the inclusion of subjects' covariates, a shelter modality of response, a further extension to cope with a possible overdispersion. The statistical interpretation of this framework will be discussed by focussing on the ability of this class of models to allow for an immediate visualization of the estimated results with a parsimonious number of parameters. Currently, CUB models have been applied in several contexts as Marketing, Medicine, Sensometrics, Sociology, Psychology, Political sciences, Linguistic analyses, Risk perception, Subjective probabilities, and so on. In addition, an R program is available for performing an effective statistical inference and graphical presentation of the results. Some empirical evidence referred to real data sets will be presented to support the usefulness of the approach.