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CUB models and related issues: a framework for the analysis of ordinal data

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Mainly motivated by the cognitive 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.

In fact, the approach has been applied in different fields as Marketing, Medicine, Sensory analysis, Evaluation and Policy studies, Psychology, Urban emergencies, Linguistic analyses, Risk perception, Subjective probabilities, and so on. In addition, an R package is available for performing effective statistical inference and graphical presentations of the results.

In this area, several generalizations of this approach have been successfully explored and the most relevant ones consist in the inclusion of subjects' covariates, a refuge option of response, a varying uncertainty and a further extension to cope with a possible overdispersion.

The talk will focus on the statistical interpretation of this framework by exploiting also the ability of these models to allow for an immediate visualization of the estimated results.

Some empirical evidence referred to real data sets will be presented to support the usefulness of the approach.