

Multivariate ordered discrete response models

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Abstract

We introduce multivariate ordered discrete response models with general rectangular structures, which allow for two different layers of dependence across decision dimensions. From the perspective of behavioral economics, these non-lattice models correspond to broad bracketing in decision making, whereas lattice models, which researchers typically estimate in practice, correspond to narrow bracketing. In these models, we specify latent processes as a sum of an index of covariates and an unobserved error, with unobservable for different latent processes potentially correlated. We provide conditions that are sufficient for identification under the independence of errors and covariates and outline an estimation approach. We present simulations and empirical examples, focusing on popular probit specifications. We argue that our models can be useful in disentangling adverse selection and moral hazard in discrete choice models of insurance choice and healthcare usage and present an application to support that.