Bayesian Probit Random Choice Model under Choice Set Heterogeneity *

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Abstract

We propose to estimate a new multivariate Bayesian Probit random choice model that incorporates choice set heterogeneity. We would like to match and explain the changes in random choice probabilities when the size of the choice set is changing via addition or subtraction of new alternatives. We will consider varying correlation structures for the errors and allow decision makers to have prior beliefs about the expected utilities and correlations of the different alternatives in the choice set. The main contribution is to estimate a model that can explain both attraction and similarity effects and contrary to all existing random utility models allow for violations of monotonicity when the probability of choosing one alternative increases with an addition of a new alternative.

Keywords: choice set heterogeneity, non-monotonic random choice model.

JEL classification: C1

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