
A SAS macro for fitting an extension of the Dale (1986) regression model to bivariate ordinal data is provided. The macro is described in detail and examples from Dale (1986) and McMillan, Hanson, Bedrick, and Lapham (2005) are discussed.

**Key Words:** Contingency table; Ordinal regression; SAS macro.


MNP is a publicly available R package that fits the Bayesian multinomial probit model via Markov chain Monte Carlo. The multinomial probit model is often used to analyze the discrete choices made by individuals recorded in survey data. Examples where the multinomial probit model may be useful include the analysis of product choice by consumers in market research and the analysis of candidate or party choice by voters in electoral studies. The MNP software can also fit the model with different choice sets for each individual, and complete or partial individual choice orderings of the available alternatives from the choice set. The estimation is based on the efficient marginal data augmentation algorithm that is developed by Imai and van Dyk (2005).

**Key Words:** Data augmentation; Discrete choice models; Markov chain Monte Carlo; Preference data.


We present a link that allows R, S-PLUS and Excel to call the functions in the lp.solve system. lp.solve is free software (licensed under the GNU Lesser GPL) that solves linear and mixed integer linear programs of moderate size (on the order of 10,000 variables and 50,000 constraints). R does not include this ability (though two add-on packages offer linear programs without integer variables), while S-Plus users need to pay extra for the NwOPT library in order to solve these problems. Our link manages the interface between these statistical packages and lp.solve.

Excel has a built-in add-in named Solver that is capable of solving mixed integer programs, but only with fewer than 200 variables. This link allows Excel users to handle substantially larger problems at no extra cost. While our primary concern has been the Windows operating system, the package has been tested on some Unix-type systems as well.

**Key Words:** Excel; Linear programming; lp.solve; R; S-Plus.


The absence of user-friendly software has long been a major obstacle to the routine