"Using stated-preference questions to investigatevariations in willingness to pay for preserving marble monuments: classical heterogeneity random parameters, and mixture models"

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Instructions for Gauss code

The program, Mixmodel.cmd, estimates the Mixture Model in Morey and Rossmann, "Using stated-preference questions to investigate variations in willingness to pay for preserving marble monuments: classical heterogeneity random parameters, and mixture models."

The code was developed and made available to us by Kenneth Train (http://elsa.berkeley.edu/~train/software.html) and has been modified to fit our data.

The primary code is Mixmodel.cmd: This is an RPL model which estimates nine coefficients, all nonrandom, except a4 and a7, which are assumed random normal with cov(a4,a7) not equal to zero.

Mixmodel.cmd requires as input the data file XMAT, the file YVEC which indicates which choice was made for each choice occasion in XMAT, and the file TIMES which indicates the number of choice occasions for each individual.

The following describes in more detail the contents of the three data files: XMAT, YVEC, and TIMES.

XMAT
Columns: 18 (2 alternatives X 9 variables in model)
Rows: 2568 (choice occasions from 259 individuals)
The columns are:

AP / 9
BP / 9
Gender * AP / 6.5
Gender * BP / 6.5
LowIncome * AP / 2
LowIncome * BP / 2
AQ
BQ
Age * AQ / 10
Age * BQ / 10
Ethnicity * AQ * 8
Ethnicity * BQ * 8
$AQ^{½}$
$BQ^{½}$
Age * $AQ^{½}$ /10
Age * $BQ^{½}$
Ethnicity * $AQ^{½}$ * 8
Ethnicity * $BQ^{½}$ * 8

Each observation represents one choice occasion–including two alternatives, A and B–for an individual. The choice-specific data are AP, BP, AQ and BQ, where AP is the price of alternative

A; BP the price of alternative B; AQ the quantity of preservation for alternative of A; and BQ the quantity of preservation for alternative B. These alternative specific variables are interacted with Gender (0 = male, 1 = female); LowIncome (0 = annual household income > $12,000; 1 = annual household income <= $12,000); Ethnicity (0 = Caucasian, 1 = Non-Caucasian); and Age (in years). The numerical values are scaled which enables the Gauss code to run more efficiently. The data set is sorted by individual.

YVEC
The YVEC data file includes either a 1 or a 2 for each observation in XMAT. A "1" indicates that the individual chose alternative A; a "2" indicates that the individual chose alternative B.

TIMES
The TIMES data file includes one observation for each of the 259 individuals; the data is the number of choice alternatives included in the XMAT for each individual. Like XMAT, this file is sorted by individual. This file is used by the RPL program to indicate which choice observations in XMAT come from the same individual.