Tutorial #4: Using the 1-file Format

Latent GOLD Choice accepts data from several different file formats. The primary formats are:

1) The 3-file format: Response, Alternatives, and Sets files; and
2) the 1-file format: data containing response, alternatives, and set information together in a single file

Any of these files can be saved as an ASCII or SPSS .sav files. In addition, Latent GOLD Choice accepts data saved in the Sawtooth Software .cho file format.)

In tutorial #3, we illustrated some analyses on data from the Brand Pricing Experiment, where the data was input from a 3-file format. In this tutorial, we illustrate use of the program when the same data is provided in the 1-file format.

In this tutorial you will:

- Retrieve a previously saved model setup
- Re-estimate all models
- Determine the number of classes and name the segments
- Impose restrictions to simplify model
- Examine Output including share simulations for additional choice sets
- Include Brand x Price interactions in the model

LC Brand Pricing Example:

Participants in a choice-based conjoint study are administered six 3-alternative choice sets where each set poses a choice between alternative #1: Brand A (at a certain price), alternative #2: Brand B (at a certain price) and alternative #3: a None option. In tutorial #3, these sets were numbered 1,2,3,7,8, and 9:

Set_id	Alt#1	Alt#2	Alt#3
1	A1	B1	None
2	A2	B1	None
3	A3	B1	None
7	A1	B3	None
8	A2	B3	None
9	A3	B3	None

The data file BrandsAB.sav contains responses to each of these choice sets in the 1-file format. Figure 1 displays the first 19 records in this file.

Figure 1: The 1-file format for the Brand Pricing Data

Notice that the first 18 records correspond to respondent #1 (case_id =1), a lower income respondent (INCOME = 'lower'). The first 3 records correspond to the 3 alternatives included in set #1 (set_id = 1). These alternatives are labeled 'A1', 'A2' and 'No' by the unique identifier alt_id. The 3 identifier variables (named 'case_id', 'set_id', and 'alt_id' in this example) can be coded as numeric (as 'case_id' and 'set_id') or may be a character variable (as 'alt_id').

The variable CHOICE (shown in the 4th column) indicates the choice made by the respondent to the associated set of 3 alternatives (1, 2 or 3). This variable is included in the file for illustrative purposes only. It is not used by the program. Rather, the variable named SELECTED (shown in the right-most column) is used by the program to indicate which alternative was chosen. SELECTED contains a '1' for the selected alternative and a '0' for each of the other alternatives.

The remaining columns in the file define the attributes associated with each alternative. Our initial model in tutorial #3 estimated effects for the attributes BRAND, PRICE and NOBUY. Later, we replaced the PRICE effect with the separate price effects PRICE.A and PRICE.B.
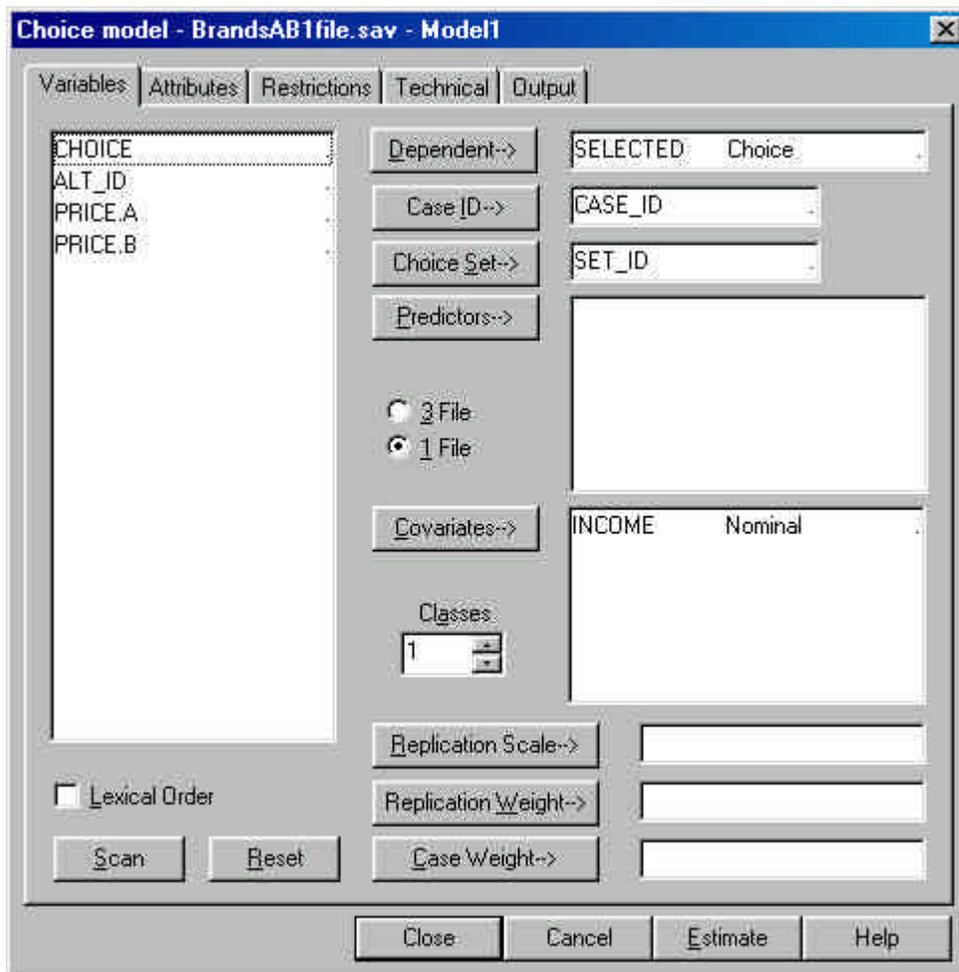
The '.' located throughout the file indicates missing values. For example, the BRAND and PRICE attributes are coded '.' (missing) for the 'No' alternative.

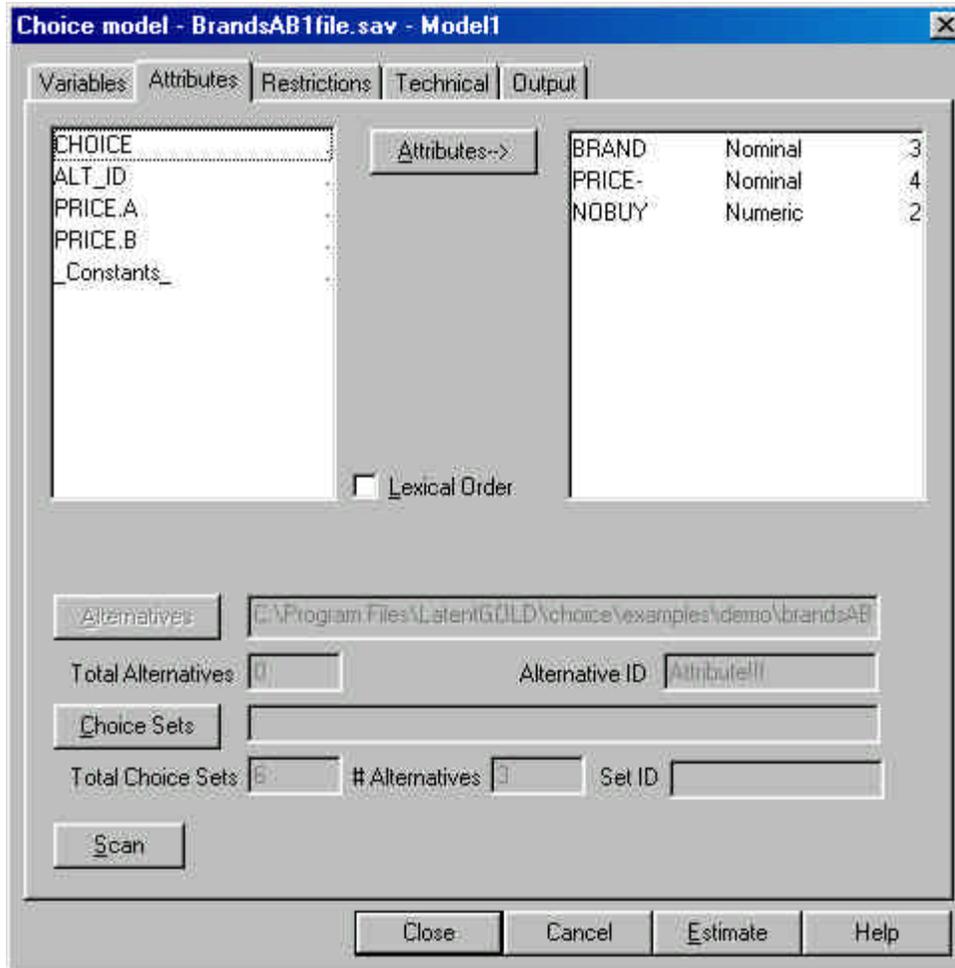To retrieve the previously saved model setup,

From the File Menu:
➢ Select Open

➤ Select AB1file.lgf
➤ Click the Open button
➤ Double click on 'Model1' to open the model setup window

Notice that the radial button for the 1-file format is chosen as opposed to the 3-file format. SELECTED is entered in the Dependent Variable box. Click Attributes to open the Attributes tab.

As opposed to the 3-file format where only attributes are visible in the attributes tab, for the 1-file format *all* variables on the file are visible both here and in the Variables tab. Our retrieved model setup specifies that effects for the attributes BRAND, PRICE and NOBUY are to be estimated, so these are entered into the Attributes box. The attribute PRICE is listed as 'PRICE-' to indicate that the descending restriction applies to the PRICE effects.

➢ Click Variables to return to the Variables tab
➢ Change the '1' to '3' in the 'Classes' box
➢ Click Estimate to estimate the 3-class model

When estimation has completed you may examine the various output files to confirm that the results are the same as obtained in tutorial #3 when we used the 3-file format. Before concluding this tutorial, we will examine the Importance output file. To open the Importance output,

➢ Click Importance

For each class, the Relative Effects indicate the proportion of the Maximum Effects that are explained by each attribute. This information can assist in understanding how the classes differ from each other. For example, for class 2 we see that the Relative Effect of PRICE is approximately 0 and the Relative Effect for BRAND is the highest (.684) among the 3 classes. Thus it is clear that class 2 represents the brand loyal segment. Brand is very important and price is not important for this segment.

In contrast, for class 3 we see that brand has very little importance (.0193) but price is *very* important. Thus, class 3 corresponds to the price sensitive segment. In tutorial #3, we examined the Parameters output and saw that the effect of PRICE for class 2 and the effect of BRAND for class 3 were not significant. While the Importance output is a less rigorous approach for examining the parameter effects, it can nevertheless provide important descriptive summary information, especially when the number of attributes and number of levels is large.

Regarding class 1, we note that the Maximum Effects tend to be smaller for this class. This suggests that class 1 corresponds to a 'middle' segment.

In our next tutorial, we will show how Latent GOLD Choice can be used to analyze various kinds of rankings.