



---

## EXERCISE SESSION 2

The objectives of this session are to :

- Continue to become familiar with BIOGEME,
  - Estimate *Binary Logit* models with the data of your choice,
  - Introduce the first home-work assignment
1. Select a data set of your choice among *Airline Itinerary Choice (Boeing)*, *Choice-Lab Marketing*, *Mode Choice in the Netherlands* and *Residential Telephone Services*.
  2. Download the file (.zip) corresponding to the case study of your choice from the web site (under Laboratories).  
This file contains some models we propose (.mod), a data file (.dat), and some descriptions and interpretations of the proposed models (.pdf).
  3. For each model (following the order of the .pdf file):
    - Study the proposed model (.mod) with the aid of the description. Estimate the model and interpret the obtained results.
    - Compare your interpretations with the ones we have provided.
  4. Develop some new model specifications using your own hypotheses. Estimate these models and interpret the obtained results. Compare with the proposed models to see if there is any improvement. In order to help you in your work, we propose the following improvements :
    - Test some alternative specific parameters instead of generic ones, and,
    - Add some socio-economic variables.

**Your first lab assignment:**

You have all been assigned to a group. Along with your team members you have to develop your own specification of a Binary Logit on the *Optima* data set and try to find the best specification you can. Please send your results by e-mail (one per group) to the teaching assistants by Friday October 5, 2012 before noon.

The email should have the subject line assignment 1 MMB and needs to include the following attachments:

- the .html file,
- the specification as a .mod file and
- a .pdf document containing a description of the chosen model specification along with the reasoning behind the formulation and testing of your model hypothesis (file length = maximum one double-sided page).

**Remarks and hints:**

- The files containing the model specifications can be modified using GNU-Emacs or Wordpad, Notepad is not recommended.
- Under the ‘Utilities’ section of the BIOGEME website (<http://biogeme.epfl.ch>), you can find an excel file which helps you to perform the statistical test in order to compare two nested models, the ‘Loglikelihood ratio test’.
- Descriptions of the variables contained in the different data sets can be found in the .pdf files which describe the different case studies (cf. exercise session 1).
- Use the “Exclude” section to estimate a Binary Logit. In the *Optima* dataset, there are 3 possible choices. Just consider public transport and private modes, i.e., exclude the observation when “Choice” takes the value of 2.

---

mbi/tr-jn