Problem Set #1: Demand Estimation

Econ 356: Empirical IO

To answer the questions in this part of the problem set you need to use the dataset verboven_cars.dta. Use this dataset to implement the estimations describe below. Please, provide the STATA code that you use to obtain the results. For all the models that you estimate below, impose the following conditions:

- For market size (number of consumers) use Population/4, i.e., pop/4.

- Use prices measured in euros (eurpr).

- For the product characteristics in the demand system include the characteristics: hp, li, wi, cy, le, and he.

- Include also as explanatory variables the market characteristics log(pop) and log(gdp).

- In all the OLS estimations include fixed effects for market (ma), year (ye), and brand (brd).

- Include the price in logarithms, i.e., ln(eurpr).

- Allow the coefficient for log-price to be different for different markets (countries). That is, include as explanatory variables the log price, but also the log price interacting (multiplying) each of the market (country) dummies except one country dummy (say the dummy for Germany) that you use as a benchmark.

Questions:

- (a) Obtain the OLS-Fixed effects estimator of the Standard logit model. Interpret the results.

- (b) Test the null hypothesis that all countries have the same price coefficient.

- (c) Based on the estimated model, obtain the average price elasticity of demand for each country evaluated at the mean values of prices and market shares for that country.