

Econ 533  
Problem Set #1  
Due: January 28, 2008

1. Obtain the data set “hybrid.xls” off of the class webpage. This data set contains the following variables on whether or not a series of individuals have chosen to purchase a hybrid car (rather than a standard vehicle):

Variable	Description
BUY	=1 if the individual buys a hybrid vehicle; =0 otherwise
MALE	= 1 if the individual is male; = 0 otherwise
CONS	= 1 if the individual belongs to an environmental group (e.g., Nature Conservancy. etc); = 0 otherwise
FOREIGN	= if the vehicle being considered if foreign made; = 0 otherwise
AGE	= the age of the individual
COSTD	= the additional cost of the hybrid vehicle relative to a standard vehicle (\$1000's)
GAS	= the current price of gasoline

2. Using TSP:
  - a. Summarize the available data to insure that the available variables are within the anticipated ranges.
  - b. Estimate a Linear Probability Model of the probability of purchasing a hybrid vehicle as a function of cost differential (i.e., *costd*). Is the cost differential found to be a significant determinant of the purchase probability? Estimate the predicted probability of purchasing a hybrid vehicle for *costd*=0 and *costd*=10, along with the standard deviation of each probability.
  - c. Now estimate a LPM including the other explanatory variables. Is *costd* still a significant determinant of the hybrid purchase probability? Again, estimate the predicted probability of purchasing a hybrid vehicle for *costd*=0 and *costd*=10, along with the standard deviation of each probability. To do this, you will have to hold all the other explanatory variables fixed at their means. Are the predicted probabilities from this regression and those from the simpler model comparable? Why or why not?