Econometrics Lab 6

1. Labor Participation for Women in the US In this exercise we use the dataset mroz87.txt, which is from Mroz (1987) study of labor supply behavior of married women. The definitions of variables are inside the data file. We use the following variables,

lfp	A dummy variable $= 1$ if woman worked in 1975, else 0
wa	Wife's age
we	Wife's educational attainment, in years
$faminc$	Family income, in 1975 dollars
$kl6$	Number of children less than 6 years old in household
$k618$	Number of children between ages 6 and 18 in household
mtr	The marginal tax rate facing the wife

(1) Define a binary variable called "kids", which takes 1 if there are children under 18 in the family and 0 otherwise. And estimate a linear probability model,

$$lfp = \beta_0 + \beta_1 wa + \beta_2 wa^2 + \beta_3 we + \beta_4 faminc + \beta_5 kids + u. \tag{1}$$

Remember to choose White procedure to obtain heteroscedasticity-robust standard errors.

(2) Discuss the marginal effects of age, education, family income, and having kids.

(3) For a woman at age 50 with 20 years' of education, if she has no kids and her family income is 100000, what is the probability for her to participate the labor force? Does the number make sense?

(4) Estimate a probit model with the same variables as in Equation (1). Calculate the probability of being in labor force for the woman in (3). What if she has a kid under 18?

(5) For a woman with average age, education, family income, and with no kids, calculate the marginal effect of education on her probability of labor force participation. What if she has kids?

(6) For the "average" woman in (5), calculate the marginal effect of age on her probability of labor force participation.

(7) Calculate the marginal effect of education for the woman in (3).

(8) By now you may find that family income does not have a significant influence on women's labor participation decision. From now on we do not include it in our model. Instead, you may conjecture that the marginal tax rate probably has some influence. Test this conjecture.

(9) Estimate the logit model with the same variables in (8). Calculate the marginal effect of mtr on the probability of being in labor force for a woman with average age, education, mtr, and with no kids. What if she has kids?