

Week 6 Assignment

Applied Econometrics

1. In logit model, as the odds ratio increases from 1 to infinity, the logit becomes;
 - a. Negative
 - b. Equal to 0
 - c. Fraction
 - d. Increasingly large and positive
 - e. None of the above
2. The error term in linear probability model follows
 - a. Normal distribution
 - b. Standard normal distribution
 - c. Bernoulli distribution
 - d. Poisson distribution
 - e. None of the above
3. The slope coefficient in the Logit model measures
 - a. The change in the average value of the regressand for a unit change of the regressor
 - b. The change in the probability of an event occurring as a result of a unit change in value of a regressor
 - c. Elasticity of change
 - d. The change in the log-odds ratio associated with a unit change in the value of the regressand
 - e. The change in the log-odds ratio associated with a unit change in the value of the regressor
4. In the Probit model, the decision of the i^{th} family to own a house or not depends on an unobservable utility index I_i that is determined by one or more explanatory variables say income X_i such that larger the value of the index I_i , the greater the probability of family owning a house. ($I_i = \alpha + \beta X_i$) This I_i is also known as
 - a. Critical index
 - b. Latent variable
 - c. Threshold variable
 - d. Cumulative distribution function
 - e. Both A and C
5. Suppose, you want to estimate the probability of owning a house given individuals socio-economic and demographic factors.
If 90% of the individuals do not own the house and other 10% own the house, the suitable model will be,
 - a. Logit Model.
 - b. Tobit Model.
 - c. Probit model.
 - d. Both A & C.

- e. Both A & B
6. Suppose you are travelling from Chennai to Bangalore. There are 3 modes of transportation is available; Bus, Train, and Air. Which of the following will be the best suitable econometric model to measure the relative probability of choosing Train and Air in relation to choosing bus given only choice specific features?
- Multinomial Logit/Probit model
 - Conditional Logit/Probit Model**
 - Mixed Logit/Probit model
 - Tobit Model
 - Probit model
7. We cannot use conventional method of Goodness for fit for Qualitative response model because
- Independent variable will be either 0 or 1, thus conventional R^2 will be much lower for these models.
 - Dependent variable will be either 0 or 1 and therefore we don't get proper scatter plot from the distribution of the dependent variable, thus conventional R^2 may be much lower for these models.**
 - Dependent variable will be greater than 1, thus conventional R^2 will be much lower for these models.
 - Dependent variable will be lower than 0, thus conventional R^2 will be much lower for these models.
 - Independent variable will be greater than 1, thus conventional R^2 will be much lower for these models.
8. Overall significance of Qualitative Response model is;
- $2(L_1 + L_0)$ where $L_1 = \log \log$ likelihood value when all explanatory variables are included
 - $(L_1 - L_0)$ where $L_1 = \log \log$ likelihood value when all explanatory variables are included**
 - $2 + (L_1 - L_0)$ where $L_1 = \log \log$ likelihood value when all explanatory variables are included
 - $2(L_1 - L_0)$ where $L_0 = \log \log$ likelihood value when all explanatory variables are included
 - None of the above**
9. Using the data CPS91, for married women, run the following probit model to estimate the probability of a married woman participating in the labour force;
- $$inlf = \alpha + \beta_0 nwifeinc + \beta_1 kidlt6 + \beta_2 educ + \beta_3 exper + \beta_4 expersq + \beta_5 black + \beta_6 hispanic$$
- Which of the following variable has significant impact in married woman labour force participation?
- nwifeinc*
 - expersq*
 - black*
 - Both A & B**
 - Both B & C
10. What fraction of the women report being in the labour force?
- 59%
 - 55%

- c. 41.6%
- d. 60.5 %
- e. None of the above.