ECON 7800, Qualitative Response Variable *Dr. Haimanti Bhattacharya*
Total 45 points

1. Use "LOANAPP"

Test for discrimination in the mortgage loan market:

i. Regress approve on white. Interpret the result. (2 points)

ii. Regress approve on white, hrat, obrat, loanprc, unem, male, married, dep, sch, cosign, chist, pubrec, mortlat1, mortlat2 & vr. Interpret the results. Is there still evidence of discrimination against nonwhites? (5 points)

iii. Allow race to interact with obrat. Is the interaction significant? What is the effect of being white on the probability of approval when obrat = 32? (3 points)

iv. What is the effect of being white on the probability of approval when obrat = 64? (1 point)

v. What is the effect of being non-white on the probability of approval when obrat = 64? (1 point)

vi. Estimate the model ii. using Logit and Probit. Compare these with the LPM results. (5 points)

2. Use "401KSUBS"

i. Estimate a linear probability model explaining 401k eligibility in terms of income, age, and gender. (2 points)

ii. Now add income and age in quadratic form to the above model and report the results. (5 points)

iii. Is 401k eligibility independent of income and age? What about gender? Explain. (2 points)

iv. Estimate the model ii. using Logit and Probit. Compare these with the LPM results. (5 points)

3. Use "APPLE"

i. Define a binary variable as ecobuy =1 if ecolbs >0 and ecobuy = 0 if ecolbs =0. In other words, ecobuy indicates whether, at the given prices, a family would buy any ecologically friendly apples.What fraction of families claim they would buy ecolabled apples? (2 points)

ii. Estimate a linear probability model explaining ecobuy in terms of ecoprc, regprc, faminc, hhsize, educ, age. Interpret the effect of price variables. (5 points)

iii. Are the non-price variables jointly significant? (2 points)

iv. Estimate the model ii. using Logit and Probit. Compare these with the LPM results. (5 points)