Discrete Choice Modeling
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Lab Session 6
Ordered Choice Modeling

This assignment will explore a few variants of the ordered probit/logit model and some of the extensions of the Poisson regression model for count data..

These exercises will use the health care data, healthcare.lpj

1. **Ordered probit vs. ordered logit**. Fit ordered probit and ordered logit models and compare the results. Does the functional form appear to matter in the results? Compare both coefficients and marginal effects. The computation is based on the health status variables, which is coded 0-10. We will transform it so that it takes only four values, 0-3, again, just to simplify our computations.

```
?
Setpanel ; Group = id ; Pds = ti $
?
? 1.  Ordered Probit Models
?
Sample  ; All $
Hist    ; Rhs = Hsat $
Create  ; HS = HSAT $
Recode  ; HS ; 0/4=0;5/6=1;7/8=2;9/10=3$
Hist    ; Rhs = HS $
OProbit ; Lhs = HS ; Rhs = one,demogrfc ; Margin $
Reject  ; year # 1988 $ (Speed it up by using a subsample)
Oprobit ; Lhs = hs ; Rhs = one,income,income*income,educ,age*educ $
Partials; outcome=3 ; effects: income & age=25(3)65 ; plot(ci) $
Sample  ; All $
OLogit  ; Lhs = HS ; Rhs = one,demogrfc ; Margin ; full$
```

2. **Ordered probit with sample selection**. An ordered probit model for the transformed health status variable is specified below. Selection is based on whether the individual has public insurance. Is there evidence of 'selectivity?'

```
Sample  ; all $
Reject  ; ti < 7 $
Probit  ; Lhs = Public ; Rhs = One,Income,Hhkids ; Hold $
OProbit ; Lhs = HS ; Rhs = one,age,educ,income,married ; Selection $
```

3. **Ordered probit with fixed and random effects**. Fit the ordered probit with no effects, with fixed effects and with random effects. Does the incorporation of the individual effects lead to large changes in the estimates?

```
Sample ; All $
Orde ; Lhs = HS ; Rhs = one,income,hhkids,age $
Orde ; Lhs = HS ; Rhs = one,income,hhkids,age ; panel ; FEM $
Orde ; Lhs = HS ; Rhs = one,income,hhkids,age ; panel ; Random $
```