. do "F:\18-19-MicroII\NormalModel-ML.do"

. capture program drop nml

.

. \*Define likelihood function for individual i

. program define nml

1. args ll xb sigma2

2. quietly replace `ll'=-0.5\*ln(2\*\_pi\*`sigma2')-(ecolbs-`xb')^2/(2\*`sigma2')

3. end

. \*Define the model and the other arguments

. ml model lf nml (xb:ecolbs=ecoprc regprc faminc hhsize) (sigma2:)

. \*Estimate the model

. ml maximize

…

Number of obs = 660

Wald chi2(4) = 27.03

Log likelihood = -1534.2754 Prob > chi2 = 0.0000

------------------------------------------------------------------------------

ecolbs | Coef. Std. Err. z P>|z| [95% Conf. Interval]

-------------+----------------------------------------------------------------

xb |

ecoprc | -2.902999 .5859784 -4.95 0.000 -4.051496 -1.754503

regprc | 3.030618 .7081358 4.28 0.000 1.642698 4.418539

faminc | .0028292 .0027166 1.04 0.298 -.0024953 .0081538

hhsize | .0536591 .0635463 0.84 0.398 -.0708893 .1782075

\_cons | 1.962837 .4486839 4.37 0.000 1.083433 2.842241

-------------+----------------------------------------------------------------

sigma2 |

\_cons | 6.119267 .3368546 18.17 0.000 5.459044 6.77949

------------------------------------------------------------------------------

.

end of do-file

. reg ecolbs ecoprc regprc faminc hhsize

Source | SS df MS Number of obs = 660

-------------+---------------------------------- F(4, 655) = 6.71

Model | 165.420804 4 41.3552009 Prob > F = 0.0000

Residual | 4038.71598 655 6.16597859 R-squared = 0.0393

-------------+---------------------------------- Adj R-squared = 0.0335

Total | 4204.13678 659 6.37957023 Root MSE = 2.4831

------------------------------------------------------------------------------

ecolbs | Coef. Std. Err. t P>|t| [95% Conf. Interval]

-------------+----------------------------------------------------------------

ecoprc | -2.902999 .5882107 -4.94 0.000 -4.058005 -1.747993

regprc | 3.030618 .7108334 4.26 0.000 1.634831 4.426405

faminc | .0028292 .002727 1.04 0.300 -.0025254 .0081839

hhsize | .0536591 .0637884 0.84 0.401 -.0715953 .1789134

\_cons | 1.962837 .4503931 4.36 0.000 1.078449 2.847226

------------------------------------------------------------------------------