. nop y5 pb spread houst gdp in 5/214, zn(spread gdp) zp(pb spread) infcat(3) ~~correlated~~ **endoswitch**

~~Estimating NOP (without correlation)~~ **Run estimation of three-part nested ordered probit (NOP) model with endogenous switching**

**Computing starting values:**

~~1-stage~~ ~~OP: z-p-n~~ **Upper-level decision**

Iteration 0: f(p) = -196.03763

Iteration 1: f(p) = -193.31102

Iteration 2: f(p) = -193.303

Iteration 3: f(p) = -193.303

~~2 stage OP on positive only~~ **Lower-level decision for y>0**

Iteration 0: f(p) = -20.919298

Iteration 1: f(p) = -15.052132

Iteration 2: f(p) = -14.890202

Iteration 3: f(p) = -14.88807

Iteration 4: f(p) = -14.888069

~~2 stage OP on negative only~~ **Lower-level decision for y<0**

Iteration 0: f(p) = -31.012099

Iteration 1: f(p) = -29.70562

Iteration 2: f(p) = -29.703691

Iteration 3: f(p) = -29.703691

Estimating NOP ~~core stage~~  **with exogenous switching**

Attempt 0

Iteration 0: f(p) = -374.6872

Iteration 1: f(p) = -190.58502

Iteration 2: f(p) = -156.27964

Iteration 3: f(p) = -150.9763

Iteration 4: f(p) = -150.96378

Iteration 5: f(p) = -150.96378

Calculation completed

~~NOP estimation successful~~ **Estimation of** **NOP** **with exogenous switching successful**

~~Seeking rhos~~ **Computing starting values for correlation coefficients**

1 2 3

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

1 | Best correlations Starting values for correlation coefficients .19 .19 |

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

Estimating ~~NOPC core~~ **NOP** **with endogenous switching**

Attempt 0

Iteration 0: f(p) = -150.86556

Iteration 1: f(p) = -150.28807

Iteration 2: f(p) = -150.23364

Iteration 3: f(p) = -150.23253

Iteration 4: f(p) = -150.23252

~~Calculation~~ **Estimation** completed

**Three-part nested ordered probit model with endogenous switching**

**Number of observations =**

**Log likelihood =**

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

y5 | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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~~select~~ **Upper-level decision** |

pb | .8733051 .1596553 5.47 0.000 .5603864 1.186224

spread | 1.626627 .224085 7.26 0.000 1.187429 2.065826

houst | 2.370716 .4309437 5.50 0.000 1.526082 3.21535

gdp | .2583802 .0726963 3.55 0.000 .1158981 .4008623

**delete this line** -------------+----------------------------------------------------------------

**/cut1** |

~~\_cons~~ | 3.31599 .6781686 4.89 0.000 1.986804 4.645176

**delete this line** -------------+----------------------------------------------------------------

**/cut2** |

~~\_cons~~ | 6.522859 .8276045 7.88 0.000 4.900784 8.144934

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

~~y5\_positive~~ **Outcome equation (+)** |

pb | 2.241513 .8656273 2.59 0.010 .5449146 3.938111

spread | 1.738493 .6426339 2.71 0.007 .4789538 2.998033

**delete this line** -------------+----------------------------------------------------------------

**/cut1**  |

~~\_cons~~ | 3.418267 .9253395 3.69 0.000 1.604634 5.231899

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

~~y5\_negative~~ **Outcome equation (-)** |

spread | 1.220589 .4028179 3.03 0.002 .4310803 2.010098

gdp | .2099337 .1127657 1.86 0.063 -.011083 .4309504

**delete this line** -------------+----------------------------------------------------------------

**/cut1** |

~~\_cons~~ | -.629235 .4179397 -1.51 0.132 -1.448382 .1899117

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

~~rho n~~ **Corrrelation coefficients** |

~~\_cons~~ **rho(-)** | .5371229 .4635611 1.16 0.247 -.3714403 1.445686

**delete this line** -------------+----------------------------------------------------------------

~~rho p~~ |

~~\_cons~~ **rho(+)** | .4950238 .7379745 0.67 0.502 -.9513797 1.941427

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end of do-file