**Supplemental File 2**

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\* Supplemental File 2 – GBTM Example Do-File (Stata)

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\*\* download *traj* package for Stata (Jones & Nagin, 2013)

net from http://www.andrew.cmu.edu/user/bjones/traj

net install traj, force

help traj

\*\* Square Root Transform Outcome (Step 2)

\*Alcohol

gen alcsq1 = sqrt(alcohol1)

gen alcsq2 = sqrt(alcohol2)

gen alcsq3 = sqrt(alcohol3)

gen alcsq4 = sqrt(alcohol4)

gen alcsq5 = sqrt(alcohol5)

gen alcsq6 = sqrt(alcohol6)

gen alcsq7 = sqrt(alcohol7)

gen alcsq8 = sqrt(alcohol8)

gen alcsq9 = sqrt(alcohol9)

gen alcsq10 = sqrt(alcohol10)

gen alcsq11 = sqrt(alcohol11)

gen alcsq12 = sqrt(alcohol12)

gen alcsq13 = sqrt(alcohol13)

gen alcsq14 = sqrt(alcohol14)

\* Marijuana

gen mjsq1 = sqrt(marijuana1)

gen mjsq2 = sqrt(marijuana2)

gen mjsq3 = sqrt(marijuana3)

gen mjsq4 = sqrt(marijuana4)

gen mjsq5 = sqrt(marijuana5)

gen mjsq6 = sqrt(marijuana6)

gen mjsq7 = sqrt(marijuana7)

gen mjsq8 = sqrt(marijuana8)

gen mjsq9 = sqrt(marijuana9)

gen mjsq10 = sqrt(marijuana10)

gen mjsq11 = sqrt(marijuana11)

gen mjsq12 = sqrt(marijuana12)

gen mjsq13 = sqrt(marijuana13)

gen mjsq14 = sqrt(marijuana14)

\*\*\*\* Censored Normal Models \*\*\*\* (Step 3)

\*\* Alcohol - 4 Trajectories

\* All cubic

traj, model(cnorm) var(alcsq\*) indep(t\_\*) order(3 3 3 3) min(0) max(6)

\* Plotting

trajplot, ci

\* Mixed

traj, model(cnorm) var(alcsq\*) indep(t\_\*) order(3 3 3 2) min(0) max(6)

\* Mixed

traj, model(cnorm) var(alcsq\*) indep(t\_\*) order(3 3 2 2) min(0) max(6)

\*\* Alcohol - 5 Trajectories

\* All cubic

traj, model(cnorm) var(alcsq\*) indep(t\_\*) order(3 3 3 3 3) min(0) max(6)

\* Mixed

traj, model(cnorm) var(alcsq\*) indep(t\_\*) order(3 3 3 3 2) min(0) max(6)

\* Mixed

traj, model(cnorm) var(alcsq\*) indep(t\_\*) order(3 3 3 2 2) min(0) max(6)

\*\* Marijuana - 4 Trajectories

\* All cubic

traj, model(cnorm) var(mjsq\*) indep(t\_\*) order(3 3 3 3) min(0) max(6)

\* All quadratic

traj, model(cnorm) var(mjsq\*) indep(t\_\*) order(2 2 2 2) min(0) max(6)

\* Mixed

traj, model(cnorm) var(mjsq\*) indep(t\_\*) order(1 2 2 2) min(0) max(6)

\*\* Marijuana - 5 Trajectories

\* All cubic

traj, model(cnorm) var(mjsq\*) indep(t\_\*) order(3 3 3 3 3) min(0) max(6)

\* All quadratic

traj, model(cnorm) var(mjsq\*) indep(t\_\*) order(2 2 2 2 2) min(0) max(6)

\* Mixed

traj, model(cnorm) var(mjsq\*) indep(t\_\*) order(1 2 2 2 2) min(0) max(6)

\*\*\* ZIP Models \*\*\* (Step 3)

\*\* Alcohol - 4 Trajectories

\* All cubic

traj, model(zip) var(alcohol\*) indep(t\_\*) order(3 3 3 3) iorder(1 1 1 1)

\* Mixed

traj, model(zip) var(alcohol\*) indep(t\_\*) order(3 3 3 2) iorder(1 1 1 1)

\* Mixed

traj, model(zip) var(alcohol\*) indep(t\_\*) order(3 3 2 2) iorder(1 1 1 1)

\*\* Alcohol - 5 Trajectories

\* All cubic

traj, model(zip) var(alcohol\*) indep(t\_\*) order(3 3 3 3 3) iorder(1 1 1 1 1)

\* Mixed

traj, model(zip) var(alcohol\*) indep(t\_\*) order(3 3 3 3 2) iorder(1 1 1 1 1)

\* Mixed

traj, model(zip) var(alcohol\*) indep(t\_\*) order(3 3 3 2 2) iorder(1 1 1 1 1)

\*\* Marijuana - 4 Trajectories

\* All cubic

traj, model(zip) var(marijuana\*) indep(t\_\*) order(3 3 3 3) iorder (1 1 1 1)

\* Mixed

traj, model(zip) var(marijuana\*) indep(t\_\*) order(1 2 3 2) iorder (1 1 1 1)

\* Mixed

traj, model(zip) var(marijuana\*) indep(t\_\*) order(1 2 2 2) iorder (1 1 1 1)

\*\* Marijuana - 5 Trajectories

\* All quadratic

traj, model(zip) var(marijuana\*) indep(t\_\*) order(1 2 3 3 3) iorder (1 1 1 1 1)

\* Mixed

traj, model(zip) var(marijuana\*) indep(t\_\*) order(1 2 2 2 3) iorder (1 1 1 1 1)

\* Mixed

traj, model(zip) var(marijuana\*) indep(t\_\*) order(1 2 2 2 2) iorder (1 1 1 1 1)

\*\*\* Addition of Covariates to "Best" Models (Step 4) \*\*\*

\*\* Alcohol

\* Censored Normal

traj, model(cnorm) var(alcsq\*) indep(t\_\*) order(3 3 3 3 3) min(0) max(6) risk(black hispanic other)

\*\* ZIP

traj, model(zip) var(alcohol\*) indep(t\_\*) order(3 3 3 3 2) iorder(1 1 1 1 1) risk(black hispanic other)

\*\* Marijuana

\* Censored Normal

traj, model(cnorm) var(mjsq\*) indep(t\_\*) order(1 2 3 2 2) min(0) max(6) risk(black hispanic other)

\*\* ZIP

traj, model(zip) var(marijuana\*) indep(t\_\*) order(1 2 2 2 2) iorder(1 1 1 1 1) risk(black hispanic other)