



name: <unnamed>
 log: E:\16GBBACKUPUSB\BACKUP_USB_SEPTEMBER2014\May Baydoun_folder\HANDLS_PAPER65_HCY_COGN\OUTPUT\TRAJ.sm
 log type: smcl
 opened on: 28 Nov 2023, 10:34:59

```
1 .
2 . capture net from https://www.andrew.cmu.edu/user/bjones/traj
3 . capture net install traj
4 . help traj
5 .
6 . /////STEP 19A: TRAJECTORY OF HOMOCYSTEINE BETWEEN WAVES 1 AND 3//////////
7 . use HANDLS_PAPER65_HCY_COGN,clear
8 . keep if HNDwave==1
   (6,188 observations deleted)
9 . save HANDLS_PAPER65_HCY_COGN_wide, replace
   file HANDLS_PAPER65_HCY_COGN_wide.dta saved
10 .
11 . capture drop sampleHCY
12 . gen sampleHCY=.
   (3,720 missing values generated)
13 . replace sampleHCY=1 if (w1HCys~= . & w1Age~= . & w3Age~= . | w3HCys~= . & w1Age~= . & w3Age~= .)
   (1,532 real changes made)
14 . replace sampleHCY=0 if sampleHCY~=1
   (2,188 real changes made)
15 .
16 . tab sampleHCY
```

sampleHCY	Freq.	Percent	Cum.
0	2,188	58.82	58.82
1	1,532	41.18	100.00
Total	3,720	100.00	

```
17 . tab sampleHCY if HNDwave==1
```

sampleHCY	Freq.	Percent	Cum.
0	2,188	58.82	58.82
1	1,532	41.18	100.00
Total	3,720	100.00	

```
18 . tab sampleHCY if HNDwave==3
no observations
```

```
19 .
```

```
20 .
```

```
21 . su w1Age if sampleHCY==1 & HNDwave==1
```

Variable	Obs	Mean	Std. dev.	Min	Max
w1Age	1,532	47.9408	9.101418	30.1	66.2

```
22 . su w3Age if sampleHCY==1 & HNDwave==1
```

Variable	Obs	Mean	Std. dev.	Min	Max
w3Age	1,532	52.50483	9.102529	32.9	70.8

```
23 .
```

```
24 .
```

```
25 . su w1HCys if sampleHCY==1 & HNDwave==1
```

Variable	Obs	Mean	Std. dev.	Min	Max
w1HCys	1,428	9.141646	5.160256	2.88	112.59

```
26 . su w3HCys if sampleHCY==1 & HNDwave==1
```

Variable	Obs	Mean	Std. dev.	Min	Max
w3HCys	1,486	10.40221	10.36594	3.87	303.93

```
27 .
```

```
28 .
```

```
29 . **Log transformation of HCY**
```

```
30 .
```

```
31 . capture drop Lnw1HCys Lnw3HCys
```

```
32 . foreach x of varlist w1HCys w3HCys {
      2. gen Ln`x'=ln(`x')
      3. }
(2,260 missing values generated)
(2,234 missing values generated)
```

```
33 .
```

```
34 . save HANDLS_PAPER65_HCY_COGN_wide, replace
file HANDLS_PAPER65_HCY_COGN_wide.dta saved
```

```
35 .
```

```
36 . **w1w3HCysTRAJ**
```

```
37 .
```

```
38 . traj if sampleHCY==1, var(Lnw1HCys Lnw3HCys) indep(w1Age w3Age) model(cnorm) max1(400) order(1 1) sigmabygroup
```

```
==== traj stata plugin ==== Jones BL Nagin DS, build: May 2 2023
```

```
3720 observations read.
```

```
2188 excluded by if condition.
```

```
1532 observations used in the trajectory model.
```

```
Start
```

```
Parameter estimates
```

```
1.96204, 0.00000, 2.42901, 0.00000, 0.35022, 0.35022,
50.00000, 50.00000
```

	Neg. Log Likelihood	Percent Decrease
0	1079.4422452	
too big of a step		
too big of a step		
1	1029.2317206	4.65152488
2	1027.0233450	0.21456544
3	1026.5879937	0.04238962
4	1026.3556060	0.02263690
5	1026.1602992	0.01902916
6	1025.9272433	0.02271145
7	1025.6679297	0.02527603
8	1007.8950072	1.73281448
9	960.9372867	4.65898930
10	940.8491834	2.09046975
11	900.9439662	4.24140424
12	757.2465329	15.94965266
13	744.9715394	1.62100360
14	735.3427922	1.29249866
15	731.5916208	0.51012554
16	729.7387351	0.25326776
17	728.1844730	0.21298883
18	727.4525845	0.10050868
19	697.5177221	4.11502591
20	686.7944602	1.53734616
21	673.7246842	1.90301127
22	670.0338273	0.54782866
23	659.2231603	1.61345092
24	658.9060421	0.04810484
25	658.7852911	0.01832598
26	658.7584893	0.00406837
27	658.6979609	0.00918824
28	658.6565942	0.00628007
29	642.2026650	2.49810437
30	629.3443389	2.00222249
31	621.9398879	1.17653414
32	621.3331606	0.09755400
33	620.8570411	0.07662871
34	620.4697300	0.06238329
35	620.1592205	0.05004426
36	619.8899930	0.04341264
37	619.6410739	0.04015535
38	619.3666255	0.04429152
39	619.0113898	0.05735467
40	617.0639657	0.31460232
41	611.8540331	0.84430997
42	606.5863786	0.86093321
43	604.9774538	0.26524249
44	604.5991011	0.06253996
45	604.5485669	0.00835829
46	604.5369635	0.00191936
47	604.5354402	0.00025198
48	604.5353517	0.00001464
49	604.5353508	0.00000014
50	604.5353508	0.00000001

Maximum Likelihood Estimates
Model: Censored Normal (cnorm)

Group	Parameter	Standard		T for H0:	
		Estimate	Error	Parameter=0	Prob > T
1	Intercept	1.78122	0.02982	59.738	0.0000
	Linear	0.00698	0.00057	12.135	0.0000
2	Intercept	1.57905	0.20475	7.712	0.0000
	Linear	0.02302	0.00413	5.573	0.0000
1	Sigma	0.25015	0.00495	50.527	0.0000
2	Sigma	0.48367	0.02685	18.012	0.0000
Group membership					
1	(%)	89.32313	1.61715	55.235	0.0000
2	(%)	10.67687	1.61715	6.602	0.0000
BIC= -632.46 (N=2914)		BIC= -630.21 (N=1532)		AIC= -611.54	ll= -604.54

Parameter estimates for adding risk factors

1.78122, 0.00698, 1.57905, 0.02302, 0.25015, 0.48367,
-2.12418

Parameter estimates

1.78122, 0.00698, 1.57905, 0.02302, 0.25015, 0.48367,
89.32313, 10.67687

Entropy = 0.797

```

39 .
40 . trajplot, xtitle(Age (years)) ytitle(HCY) ci

41 .
42 . graph save "FIGURE2.gph",replace
    file FIGURE2.gph saved

43 .
44 . capture drop R_traj_*

45 .
46 . capture rename _traj_Group R_traj_GroupHCY

47 . capture rename _traj_ProbG1 R_traj_ProbG1HCY

48 . capture rename _traj_ProbG2 R_traj_ProbG2HCY

49 .
50 . save, replace
    file HANDLS_PAPER65_HCY_COGN_wide.dta saved

```

```
51 .
52 . corr R_traj_ProbG1HCY LnW1HCys LnW3HCys
    (obs=1,382)
```

	R_t~1HCY LnW1HCys LnW3HCys		
R_traj_~1HCY	1.0000		
LnW1HCys	-0.6281	1.0000	
LnW3HCys	-0.7105	0.6861	1.0000

```
53 . corr R_traj_ProbG2HCY LnW1HCys LnW3HCys
    (obs=1,382)
```

	R_t~2HCY LnW1HCys LnW3HCys		
R_traj_~2HCY	1.0000		
LnW1HCys	0.6281	1.0000	
LnW3HCys	0.7105	0.6861	1.0000

```
54 .
55 . bysort R_traj_GroupHCY: su LnW1HCys LnW3HCys if (sampleHCY==1 & HNDwave==1)
```

```
-> R_traj_GroupHCY = 1
```

Variable	Obs	Mean	Std. dev.	Min	Max
LnW1HCys	1,319	2.097209	.2559475	1.05779	2.895912
LnW3HCys	1,366	2.174376	.2570079	1.353255	2.942332

```
-> R_traj_GroupHCY = 2
```

Variable	Obs	Mean	Std. dev.	Min	Max
LnW1HCys	109	2.745746	.4580574	2.022871	4.723753
LnW3HCys	120	3.017167	.5094785	2.430098	5.716797

```
-> R_traj_GroupHCY = .
```

Variable	Obs	Mean	Std. dev.	Min	Max
LnW1HCys	0				
LnW3HCys	0				

```
56 .
57 .
```

```
58 . capture drop w1w3HCysTRAJ

59 . gen w1w3HCysTRAJ=R_traj_ProbG2HCY
    (2,188 missing values generated)

60 .
61 . save HANDLS_PAPER65_HCY_COGN_wide, replace
    file HANDLS_PAPER65_HCY_COGN_wide.dta saved

62 .
63 . keep HNDID R_traj* w1w3HCysTRAJ

64 .
65 . save HCY_TRAJ_DATA, replace
    file HCY_TRAJ_DATA.dta saved

66 . sort HNDID

67 . save, replace
    file HCY_TRAJ_DATA.dta saved

68 .
69 . use HANDLS_PAPER65_HCY_COGN,clear

70 . capture drop _merge

71 . sort HNDID

72 . save, replace
    file HANDLS_PAPER65_HCY_COGN.dta saved

73 .
74 . merge HNDID using HCY_TRAJ_DATA
    (you are using old merge syntax; see \[D\] merge for new syntax)
    variable HNDID does not uniquely identify observations in the master data

75 . save HANDLS_PAPER65_HCY_COGN, replace
    file HANDLS_PAPER65_HCY_COGN.dta saved

76 .
77 .
78 .
79 . capture log close
```