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1  /*****
   *****/
2          University of Oklahoma
3          PhD. Econometrics II: Problem set 3
4
5          Emilien Akotenou
6
7          Due date:   April 4, 2023
8  *****/
9          setting-up
10 *****/
   *****/
11 clear all
12 cap log close
13 version 16
14 macro drop _all
15 set more off
16 *=====
   =====*
17 *          COLLABORATION ON THE
   CODE          *
18 *-----
   -----*
19 global user 1 // change the number to your user number
20
21
22 if $user== 1 {
23     global workdir
24     "/Users/emilienakotenou/Downloads/Econometrics II/code"
25 }
26
27 if $user== 2 {
28     global projectfolder " " // Enter the file path to your
   projectfolder here
29 }
30 *=====
   =====*
31 *          WORKING DIRECTORIES & DATA
   LOADING          *
32 *-----
   -----*
33 cd "$workdir"
34
35 *cap mkdir "metrics2_data_work" //create metrics2_data_work
   folder in the directory
36 global do "$workdir/do"
37 global data "$workdir/data"
38 global docs "$workdir/docs"
39 cap{
40     mkdir "$do"

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41     mkdir "$data"
42     mkdir "$docs"
43 }
44
45 **Package
46 *ssc install asdoc
47
48 *data loading
49
50 log using "$do/Prolem3_Emilien.smcl", replace
51
52 /*****
53 *****
54 Problem 1: data managment
55 *****/
56
57 *1.1)
58 set seed 1
59 set obs 1000
60
61 *generate ID
62 gen id = _n
63 order id, first
64 sort id
65
66 *create 88 variables with value on (11, 99)
67
68 forvalues i= 1/88 {
69     gen uniform_var_`i' = runiform(11,99)
70 }
71
72 save"$data/HW6_Ex3_preperiod", replace
73
74 preserve
75 clear
76 *1.2)
77 set seed 1
78 set obs 1000
79
80 *generate ID
81 gen id = _n
82 order id, first
83 sort id
84
85 *create 88 variables with value on (11, 99)
86
87 forvalues i= 1/88 {
88     gen uniform_var_`i' = runiform(11,99) + 15
89 }
90
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91 }
92
93 save"$data/HW6_Ex3_postperiod", replace
94
95 restore
96
97 *1.3) combine data set
98
99 *a)
100 gen period = 0
101 *append data
102 append using "$data/HW6_Ex3_postperiod.dta"
103 codebook period
104 replace period = 1 if period==.
105 save "data/HW6_Ex3_long_data", replace
106
107 *b)
108
109 *c) difference in the variable values
110 forvalues i= 1/88 {
111
112 ttest uniform_var_`i',by(period)
113
114 }
115
116 *1.4) combining dataset using merge and the wide data format
117
118 *a)
119 use "$data/HW6_Ex3_preperiod.dta"
120
121 global X uniform_var_*
122
123 foreach var in $X {
124
125     ren `var' `var'_0
126
127 }
128
129
130 *b)
131 preserve
132
133 use "$data/HW6_Ex3_postperiod.dta"
134
135 foreach var in $X {
136
137     forvalues i =1/88{
138         rename `var' uniform_var_`i'_1
139     }
140 }
141 }
142 save "$data/HW6_Ex3_postperiod2" replace
```

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143 restore
144
145 *c) Merge data from a and b
146 merge id 1:1 using "$data/HW6_Ex3_postperiod2.dta"
147
148 *d) reshape wide data to long data
149
150 reshape long uniform_var_*, i(id) j(period)
151
152
153 *e) difference
154 forvalues i= 1/88 {
155
156 ttest uniform_var_`i',by(period)
157
158 }
159
160
161
162
163
164
165
166
167
168
```