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1 //ディレクトリの指定(データの保存先)
2 cd c:¥data
3
4 *****
5 *****
6 *****
7 //第1講
8 //データ読み込み
9 use data_xt_1.dta, clear
10 //パネルデータと識別
11 xtset idcode year
12 xtdescribe
13 describe
14 xtsum
15
16 //遷移行列
17 xttab union
18
19 //時系列オペレータ
20 sort idcode year
21 bysort idcode : g L1_ln_wage=L1.ln_wage
22 bysort idcode : g L2_ln_wage=L2.ln_wage
23 bysort idcode : g F1_ln_wage=F1.ln_wage
24 bysort idcode : g F2_ln_wage=F2.ln_wage
25 bysort idcode : g D1_ln_wage=D1.ln_wage
26 bysort idcode : g D2_ln_wage=D2.ln_wage
27 browse idcode year ln_wage L1_ln_wage L2_ln_wage F1_ln_wage
   F2_ln_wage D1_ln_wage D2_ln_wage
28
29 //図
30 xtline wage if idcode<=6, saving(wage, replace)
31 xtline wage if idcode<=6, overlay saving(wage_o, replace)
32 graph combine wage.gph wage_o.gph
33
34 ssc install xtgraph
35 xtgraph wage , av(am) group(city)
36
37 *****
38 //貧困動態の確認
39 sort idcode year
40 //賃金無回答サンプルを除く
41 drop if wage==.
42
43 //G_wage 0=第 I 五分割、1=第 II 五分割、2=第 III 五分割、
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44 //          3=第Ⅳ五分割、4=第Ⅴ五分割
45 foreach i in 1980 1981 1982 1983 1984 1985 1987 1989 1990 /*
46 */1992 1994 1995 1997 1999 2000{
47 egen G_wage `i'=cut(wage) if year==`i', group(5)
48 }
49 gen G_wage=.
50 foreach i in 1980 1981 1982 1983 1984 1985 1987 1989 1990 /*
51 */1992 1994 1995 1997 1999 2000{
52 replace G_wage=G_wage `i' if year==`i'
53 }
54 //遷移行列 (1980年→1981年)
55 xttrans G_wage if year==1980 | year==1981
56
57 *****
58 //Tips(1)調査初年度情報の活用
59 sort idcode year
60 list idcode year f_eduba in 1/5, noobs
61
62 sort idcode year
63 bysort idcode : gen s_f_eduba=sum(f_eduba)
64 list idcode year f_eduba s_f_eduba in 1/5, noobs
65 *****
66 //OLS
67 reg ln_wage age age2 tenure tenure2 eduba city married sum_child train
68 //Fixed
69 xtreg ln_wage age age2 tenure tenure2 eduba city married sum_child
70 train, i(idcode) fe
71 estimates store fe
72
73 //LSDV
74 areg ln_wage age age2 tenure tenure2 eduba city married sum_child
75 train, absorb(idcode)
76
77 //Random
78 xtreg ln_wage age age2 tenure tenure2 eduba city married sum_child
79 train, i(idcode) re
80 estimates store re
81 xttest0
82
83 //Hausman
84 hausman fe re
85
86 *****

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85 //Tips(2)推計結果のまとめかた
86 ssc install outreg2
87 quietly reg ln_wage age age2 tenure tenure2 eduba city married
sum_child train
88 outreg2 using panel, ctitle(OLS) replace
89 quietly xtreg ln_wage age age2 tenure tenure2 eduba city married
sum_child train, i(idcode) fe
90 outreg2 using panel, ctitle(FE) append
91 quietly xtreg ln_wage age age2 tenure tenure2 eduba city married
sum_child train, i(idcode) re
92 outreg2 using panel, ctitle(RE) append
93
94 outreg2 using sum, replace sum(log)
95
96 *****
97 //二元配置
98 xi: xtreg ln_wage age age2 tenure tenure2 eduba city married
sum_child train i.year, i(idcode) fe
99 xi: testparm i.year
100 *****
101 //一階差分
102 foreach var in incity outcity marri divo join leave {
103 gen d_`var'=0
104 }
105 replace d_incity=1 if D.city>0
106 replace d_outcity=1 if D.city<0
107 replace d_marri=1 if D.married>0
108 replace d_divo=1 if D.married<0
109 replace d_join=1 if D.union>0
110 replace d_leave=1 if D.union<0
111
112 reg D.ln_wage D.age D.tenure D.eduba d_incity d_outcity d_marri d_divo
D.sum_child d_join d_leave, noconstant
113 predict res, residual
114 reg res L.res
115
116 findit xtserial
117 net sj 3-2 st0039
118 net install st0039
119 xtserial ln_wage age age2 tenure tenure2 eduba city married sum_child
train, output
120
121 *****
122 //演習

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123 g univ=1 if eduba>=16 & eduba!=.
124 replace univ=0 if eduba<16
125 tab eduba univ
126
127
128 *****
129 *****
130 *****
131 //第2講
132 cd c:¥data
133 use data_xt_1.dta, clear
134 xtset idcode year
135
136 xtlogit train age age2 eduba married union city, fe nolog or
137 estimates store FE
138 margins, dydx(*) atmeans
139 margins, dydx(married union) at(age=(20 30 40))
140 marginsplot, noci
141
142 //加入している累計年数÷unionの設問に回答している累計年数
143 //_n 累計回答年数
144 //_N 合計回答件数
145 //browse idcode year union frac d_n d_N
146 //回答最終年度以外は fracをnullに
147 //全年度無加入であれば0、全年度無加入であれば1
148 bysort idcode : g frac=sum(train) / sum(train<.)
149 bysort idcode : replace frac=. if _n < _N
150 tabulate frac
151
152 quietly logit train age age2 eduba married union city, or
153 hausman FE ., eq(1:1)
154
155 xtlogit train age age2 eduba married union city, re nolog or
156 hausman FE ., eq(1:1)
157 margins, dydx(*) atmeans
158
159 *****
160 //演習
161 cd c:¥data
162 use data_xt_1.dta, clear
163 xtset idcode year
164 //調査初年度(1980年だけじゃない)、無配偶者を未婚者と仮定する
165 bysort idcode : g d_n=_n
166 g unm = 1 if d_n==1 & married==0 & sum_child==0

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167 bysort idcode : g s_unm=sum(unm)
168 tab s_unm
169 //初年度未婚サンプルに限定
170 keep if s_unm==1
171 bysort idcode : g s_married=sum(married)
172 //結婚2年目以降のサンプルは削除
173 drop if s_married>=2
174
175
176
177
178
179 *****
180 *****
181 *****
182 //第3講
183 //Open "data_xt_2.DTA"
184 save data_xt_2, replace
185 use data_xt_2, clear
186 xtset fcode year
187
188 keep if year<=1988
189
190 //1998年以降にgrantを受けたかどうかしか情報がない
191 //そのため、1997年はgrantがないため、
192 //全ての企業がgrant=0という結果になる
193 //ここでは、1998年に補助を受けるかどうかという
194 //情報を反映させ、treatment groupとcontrol groupを作る("treat")
195
196 g treat=1 if (F1.grant==1&year==1987) | (grant==1& year==1988)
197 replace treat=0 if (F1.grant==0&year==1987) | (grant==0& year==1988)
198
199 tab treat year, sum(scrap)
200 display 4.1917143 -4.7554286
201 display 3.0436842 - 4.3468421
202 display -1.3031579 +.5637143
203
204 g treat_88=treat*d88
205 reg scrap treat d88 treat_88
206 reg D.scrap D.grant
207
208
209 *****
210 //演習

```

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211
212
213
214 *****
215 *****
216 //Tips(3)データの配列変換
217 use data_xt_1, clear
218 list idcode year ln_wage in 1/10
219 keep idcode year ln_wage
220 reshape wide ln_wage, i(idcode) j(year)
221 list idcode ln_wage1980-ln_wage1985 ln_wage1983 in 1/10
222 *****
223
224
225
226
```