

```

1  clear all
2  set more off, perm
3
4  cap log close
5
6  log using "C:\Users\Nmath_000\Documents\Code\courses\econ 675\ps_6_tex\pset6_stata.smcl",
  replace
7
8  *****
9  *** Q2: The Effect of Head Start on Child Mortality ***
10 *****
11 use "C:\Users\Nmath_000\Documents\MI school\Second Year\675 Applied
  Econometrics\hw\hw6\HeadStart.dta", clear
12 cd "C:\Users\Nmath_000\Documents\Code\courses\econ 675\ps_6_tex\"
13
14 global y mort_related_post
15 global z mort_injury_post
16 global yf mort_related_pre
17 global x povrate60
18 gen treat = ($x > 0)
19 forvalues p = 0/6 {
20   gen p`p' = $x^`p'
21   gen tp`p' = $x^`p'*treat
22   gen up`p' = $x^`p'*(1-treat)
23 }
24 order povrate60 mort* treat* p* t* u*
25
26 * Q2.1.1 RD Plots
27
28 * Evenly spaced bins, IMSE-optimal
29 rdplot $yf $x, c(0) binselect(es) ///
30   graph_options(title("Evenly-spaced binning, IMSE-optimal"))
31
32 graph save temp1.gph, replace
33
34 * Quantile-spaced bins, IMSE-optimal
35 rdplot $yf $x, c(0) binselect(qs) ///
36   graph_options(title("Quantile-spaced binning, IMSE-optimal"))
37
38 graph save temp2.gph, replace
39
40
41 * Evenly spaced bins, IMSE-optimal
42 rdplot $yf $x, c(0) binselect(esmv) ///
43   graph_options(title("Evenly-spaced binning, Minimum-variance"))
44
45 graph save temp3.gph, replace
46
47 * Quantile-spaced bins, IMSE-optimal
48 rdplot $yf $x, c(0) binselect(qsmv) ///
49   graph_options(title("Quantile-spaced binning, Minimum-variance"))
50
51 graph save temp4.gph, replace
52
53 * Now combine all graphs
54
55 gr combine temp1.gph temp2.gph ///
56   temp3.gph temp4.gph, col(2) iscale(.5)
57
58 graph export $resdir/q211a_stata.png, replace
59
60 * Q2.1.2 Falsification Tests
61 * Histograms
62 twoway (hist $x if treat, freq width(2) bcolor("0 100 0 0")) ///
63   (hist $x if !treat, freq width(2) bcolor("100 0 0 0") xline(0)), ///
64   legend(label(1 "Treated") label(2 "Untreated"))
65
66 graph export $resdir/q211b_stata.png, replace
67
68 * Local Randomization

```

```

69 rdwinselect $x
70
71 * Continuity in Density
72 rddensity $x
73
74 */
75 * Q2.2 Global and Flexible Parametric Methods
76
77 * 2.2.1
78 eststo clear
79 * Run regressions, save beta and se, graph residuals
80 forvalues pol = 3/6 {
81   eststo: reg $y treat p1-p`pol', vce(hc2)
82   capture drop pred
83   predict pred
84   twoway scatter pred $x, title("Order `pol'")
85   graph save temp`pol'.gph, replace
86 }
87
88 * Export graph
89 graph combine temp3.gph temp4.gph ///
90   temp5.gph temp6.gph, col(2) iscale(.5)
91
92 graph export pset6_q221_stata.png, replace
93
94 * Export table
95 esttab using table_q221_stata.tex, b se keep(treat) ///
96   noobs nostar nonote mtitles("p:3" "p:4" "p:5" "p:6") nonumbers replace
97
98
99 *****
100 * 2.2.2
101 *****
102 eststo clear
103
104 * Run regressions, save beta and se, graph residuals
105 forvalues pol = 3/6 {
106   eststo: reg $y treat tp1-tp`pol' up1-up`pol', vce(hc2)
107   capture drop pred
108   predict pred
109   twoway scatter pred $x, title("Order `pol'")
110   graph save temp`pol'.gph, replace
111 }
112
113 * Export graph
114 graph combine temp3.gph temp4.gph ///
115   temp5.gph temp6.gph, col(2) iscale(.5)
116
117 graph export pset6_q222_stata.png, replace
118
119 * Export table
120 esttab using pset6_q222_stata.tex, se keep(treat) ///
121   noobs nostar nonote mtitles("p:3" "p:4" "p:5" "p:6") nonumbers replace
122
123 *****
124 * 2.2.3
125 *****
126
127 * Run regressions, save beta and se, graph residuals
128 foreach h of numlist 1 5 9 18 {
129   eststo clear
130   forvalues pol = 0/2 {
131     eststo: reg $y treat p0-p`pol' if abs($x) < `h'
132     capture drop pred
133     predict pred
134     twoway scatter pred $x, title("Order `pol', h = `h'")
135     graph save temp`h'`pol'.gph, replace
136   }
137   * Export table
138   esttab using pset6_q223h`h'_stata.tex, b se keep(treat) ///

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```

139         noobs nostar nonote mtitles("p:0" "p:1" "p:2") nonumbers replace
140     }
141
142     * Export graph
143     graph combine temp10.gph temp11.gph temp12.gph ///
144             temp50.gph temp51.gph temp52.gph ///
145             temp90.gph temp91.gph temp92.gph ///
146             temp180.gph temp181.gph temp182.gph, ///
147             col(3) iscale(.5)
148
149     graph export pset6_q223_stata.png, replace
150
151
152     * Q2.3.1
153     eststo clear
154     eststo: rdrobust $y $x, p(0) q(1) all
155     eststo: rdrobust $y $x, p(1) q(2) all
156     eststo: rdrobust $y $x, p(2) q(3) all
157
158     esttab using pset6_q231_stata.tex, b ci ///
159         noobs nostar nonote nonumbers replace mtitles("p:0" "p:1" "p:2")
160
161     * Q2.3.2a
162     rdrobust $yf $x, p(0) q(1) all
163     rdrobust mort_injury_post $x, p(0) q(1) all
164     di "Looks like there is no effect on the placebo outcomes"
165
166
167     * Q2.3.2b
168     foreach k in tri uni epa {
169         eststo clear
170
171         foreach h of numlist 1/10 {
172             eststo: rdrobust $y $x, p(1) q(2) h(`h') kernel(`k') all
173         }
174
175         esttab using pset6_q232b`k' stata.tex, b ///
176             noobs nostar nonote nomtitles replace
177     }
178
179     * Q2.3.2c
180     sort order
181
182     eststo clear
183     forvalues l = 1/10 {
184         eststo: rdrobust $y $x if _n > `l', p(1) q(2) all
185     }
186
187     esttab using pset6_q232c_stata.tex, b ///
188         noobs nostar nonote nomtitles replace
189
190     * Q2.3.2d
191     eststo clear
192     forvalues c = -10(2)10 {
193         eststo: rdrobust $y $x, p(1) q(2) c(`c') all
194     }
195
196     esttab using pset6_q232d_stata.tex, ///
197         noobs nostar nonote nomtitles replace
198
199
200     *****
201     * 2.4
202     *****
203
204     * Q2.4.3
205     eststo clear
206     forvalues w = .8(.2)2.6 {
207         rrandinf $y $x, wl(-`w') wr(`w') seed(123)
208         // estadd scalar beta_bc = e(tau_bc)
209         // estimates store m`l'
210     }
211
212     esttab using $resdir/pset6_q243_stata.tex, ///
213         nonote replace

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```
209
210
211
212  log close
213
214  translate pset6_stata.smcl pset6_stata.pdf
215
```