

**Appendix D. Full Latent Class Models**

Table D1. Four-segment latent class logit model-treatment group<sup>1</sup>

Variable (Choice Eq.)	Class 1 (Slot Supporter)	Class 2 (Mini Size)	Class 3 (SQ)	Class 4 (Reference)
Annual Cost	-0.0327*** (0.00364)	-0.0168*** (0.00389)	-0.0392*** (0.00488)	-0.000268 (0.0122)
Moratorium	-1.488*** (0.376)	-3.246*** (0.495)	-1.497*** (0.418)	2.150 (2.174)
Slot limit narrow (16" to 19")	0.408* (0.202)	0.208 (0.301)	-1.049*** (0.236)	1.258 (1.348)
Slot limit wide (16" to 21.5")	0.819** (0.255)	0.378 (0.265)	-0.181 (0.231)	-0.258 (0.559)
ASC – Option A	0.0494 (0.163)	-0.935*** (0.167)	0.615** (0.192)	2.260*** (0.470)
Status Quo (above 16")	-1.234*** (0.227)	-2.611*** (0.336)	1.759*** (0.310)	-0.837 (0.832)
Daily possession limit	0.507*** (0.0817)	-0.453*** (0.0699)	0.159* (0.0742)	0.0202 (0.136)
Season reduced by 10 days	-0.307* (0.126)	0.124 (0.107)	0.416* (0.204)	-0.0603 (0.264)
Season earlier by 6 days	0.122 (0.130)	0.197 (0.134)	-0.407* (0.187)	0.00323 (0.263)
Number of Enforcers	-0.00268 (0.00300)	0.000462 (0.00397)	-0.000853 (0.00388)	0.000921 (0.00747)
Class share <sup>2</sup>	0.271	0.231	0.365	0.133
Membership Eq.	Class 1	Class 2	Class 3	Reference
Female	-0.0406 (1.527)	0.374 (1.438)	0.438 (1.328)	-
Male	-0.0302 (1.300)	0.120 (1.255)	-0.0952 (1.162)	-
Fifty or above	-0.177 (0.306)	-0.0552 (0.308)	0.220 (0.279)	-
No Response on Demographics	-3.237* (1.428)	-2.196 (1.349)	-2.153 (1.250)	-
Bachelor or above	-0.460 (0.336)	-0.524 (0.321)	-0.930** (0.295)	-
Income 100k or above	0.227 (0.337)	-0.0756 (0.317)	-0.375 (0.286)	-
White	-0.531 (0.496)	-0.386 (0.477)	-0.528 (0.436)	-
Child fishing	-1.083* (0.436)	-1.064* (0.437)	-0.950* (0.413)	-
constant	2.473 (1.379)	2.102 (1.351)	2.929* (1.253)	-

LL= -4612.32, AIC = 9358.63, BIC = 9701.16, CAIC = 9768.16

<sup>1</sup> Estimation is based on 5613 choices from 1227 survey respondents. Standard errors are in parentheses. \*, \*\*, \*\*\* indicate p<0.1, p<0.05, p<0.01, respectively. Constant is added to each membership equation, but not displayed.

<sup>2</sup> The class shares are mean predicted class membership probabilities based on the membership equations.

Table D2. Four-segment latent class logit model-control group<sup>1</sup>

Variable (Choice Eq.)	Class 1 (Slot Supporter)	Class 2 (Mini Size)	Class 3 (SQ)	Class 4 (Reference)
Annual Cost	-0.0630*** (0.0106)	-0.0192*** (0.00510)	-0.0229*** (0.00647)	-0.0178** (0.00554)
Moratorium	-3.331*** (0.473)	-2.699*** (0.673)	-0.0822 (0.491)	-0.999 (0.856)
Slot limit narrow (16" to 19")	0.565* (0.272)	-0.173 (0.371)	-0.712** (0.246)	0.225 (0.435)
Slot limit wide (16" to 21.5")	0.918*** (0.272)	0.289 (0.260)	-0.543 (0.301)	0.880** (0.276)
ASC – Option A	0.135 (0.178)	-0.806*** (0.182)	0.311 (0.216)	1.212*** (0.221)
Status Quo (above 16")	-0.854* (0.332)	-2.497*** (0.442)	2.158*** (0.333)	-1.548** (0.523)
Daily possession limit	0.289** (0.0933)	-0.303*** (0.0712)	0.390*** (0.105)	0.142* (0.0626)
Season reduced by 10 days	-0.0667 (0.193)	0.224 (0.119)	0.552* (0.221)	-0.0519 (0.112)
Season earlier by 6 days	-0.156 (0.149)	0.263* (0.119)	-0.187 (0.204)	-0.00696 (0.126)
Number of Enforcers	-0.00243 (0.00434)	0.00609 (0.00432)	-0.00460 (0.00435)	0.0112* (0.00458)
Class share <sup>2</sup>	0.233	0.190	0.376	0.201
Membership Eq.	Class 1	Class 2	Class 3	Reference
Female	0.0578 (0.918)	-	1.079 (0.918)	0.321 (0.988)
Male	-0.184 (0.746)	-	1.157 (0.791)	0.193 (0.811)
Fifty or above	0.621* (0.257)	-	0.545* (0.221)	0.143 (0.275)
No Response on Demographics	-2.502 (1.335)	-	1.396 (0.827)	0.515 (0.893)
Bachelor or above	-0.420 (0.263)	-	-0.880*** (0.232)	-0.349 (0.288)
Income 100k or above	0.252 (0.274)	-	-0.00316 (0.236)	0.259 (0.300)
White	0.330 (0.473)	-	-0.344 (0.335)	0.189 (0.466)
Child fishing	-0.142 (0.270)	-	0.0457 (0.237)	0.151 (0.306)
constant	0.0321 (0.752)	-	-0.115 (0.802)	-0.429 (0.854)

LL= -4423.3, AIC = 8980.59, BIC = 9323.5, CAIC = 9390.5

<sup>1</sup> Estimation is based on 5589 choices from 1234 survey respondents. Standard errors are in parentheses. \*, \*\*, \*\*\* indicate p<0.1, p<0.05, p<0.01, respectively. Constant is added to each membership equation, but not displayed.

<sup>2</sup> The class shares are mean predicted class membership probabilities based on the membership equations.

Table D3. Six-segment latent class logit model – full sample<sup>1</sup>

Variable (Choice Eq.)	Class 1 (Slot Supporter)	Class 2 (Mini Size)	Class 3 (SQ)	Class 4 (Slot Wide1)	Class 5 (Slot Wide2)	Class 6 (Reference)
Annual Cost	-0.0789*** (0.00863)	-0.0396*** (0.00604)	-0.210* (0.0874)	-0.0119*** (0.00348)	-0.00955 (0.00611)	-0.0143** (0.00443)
Moratorium	-3.629*** (0.480)	-4.675*** (0.646)	-7.258 (3.766)	0.105 (0.542)	-0.917 (0.798)	-1.397*** (0.405)
Slot limit narrow (16" to 19")	1.204*** (0.317)	0.882 (0.461)	-0.924 (0.733)	0.532 (0.284)	0.788 (0.475)	-1.215*** (0.227)
Slot limit wide (16" to 21.5")	1.093*** (0.299)	0.239 (0.423)	-0.267 (0.667)	0.695*** (0.168)	1.275** (0.448)	-0.311 (0.199)
ASC – Option A	-0.279 (0.189)	0.199 (0.215)	0.368 (0.399)	1.289*** (0.136)	-2.115*** (0.344)	0.543*** (0.148)
Status Quo (above 16")	-1.260*** (0.365)	-2.125*** (0.553)	2.049** (0.774)	-1.442*** (0.292)	-2.192*** (0.548)	0.402 (0.236)
Daily possession limit	0.470*** (0.0763)	-0.856*** (0.127)	0.0415 (0.251)	0.207*** (0.0426)	0.113 (0.0907)	0.218*** (0.0603)
Season reduced by 10 days	-0.406** (0.153)	0.240 (0.171)	-0.00841 (0.529)	-0.0653 (0.0810)	0.378 (0.220)	0.233 (0.133)
Season earlier by 6 days	-0.0980 (0.157)	0.571*** (0.172)	0.664 (0.508)	-0.0630 (0.0863)	0.276 (0.201)	-0.414** (0.141)
Number of Enforcers	0.00206 (0.00478)	-0.00453 (0.00708)	-0.00649 (0.00715)	0.00571 (0.00294)	0.00977 (0.00545)	-0.00113 (0.00293)
Class share <sup>2</sup>	0.157	0.123	0.271	0.200	0.101	0.148
Membership Eq.	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
Female	-0.693 (0.667)	0.110 (0.734)	-	-0.189 (0.648)	-0.553 (0.794)	1.635 (1.106)
Male	-0.581 (0.527)	0.0720 (0.621)	-	-0.115 (0.540)	-0.366 (0.643)	1.263 (1.031)
Fifty or above	-0.180 (0.182)	-0.515** (0.193)	-	-0.453** (0.168)	-0.436* (0.217)	-0.333 (0.212)
No Response on Demographics	-2.497** (0.790)	-1.532* (0.749)	-	0.172 (0.561)	-0.0700 (0.669)	-0.203 (1.048)
Bachelor or above	0.707*** (0.184)	0.602** (0.194)	-	0.675*** (0.166)	0.685** (0.225)	0.154 (0.207)
Income 100k or above	0.400* (0.186)	0.276 (0.199)	-	0.526** (0.172)	0.368 (0.239)	0.581** (0.217)
White	0.462 (0.302)	0.124 (0.287)	-	0.311 (0.260)	0.196 (0.335)	-0.242 (0.293)
Child fishing	-0.224 (0.184)	-0.172 (0.198)	-	0.334 (0.182)	0.152 (0.237)	0.0411 (0.221)
constant	-0.467 (0.517)	-0.797 (0.611)	-	-0.957 (0.547)	-1.127 (0.655)	-1.684 (1.003)

LL= -8896.63, AIC = 18003.26, BIC = 18613.13, CAIC = 18718.13

<sup>1</sup> Estimation is based on 11202 choices (i.e., occasions) from 2461 survey respondents. Standard errors are in parentheses. \*, \*\*, \*\*\* indicate p<0.1, p<0.05, p<0.01, respectively. Constant is added to each membership equation, but not displayed.

<sup>2</sup> The class shares are mean predicted class membership probabilities based on the membership equations.

Table D4. Statistics on Latent Class Models of Different Latent Classes - Full Sample

Classes	Log(likelihood)	No. of parameters	AIC	BIC	CAIC
Panel A - Treatment Group					
2	-9532.594	29	19123.1	19291.6	19320.6
			9	3	3
3	-9303.358	48	18702.7	18981.5	19029.5
			2	2	2
4	-9083.522	67	18301.0	18690.2	18757.2
			4		
5	-9006.912	86	18185.8	18685.3	18771.3
			2	4	4
6	-8896.628	105	18003.2	<b>18613.1</b>	<b>18718.1</b>
			6	<b>3</b>	<b>3</b>
7	-8860.435	124	17968.8	18689.1	18813.1
			7		

If we estimate a latent class model on the full sample, the optimal class number becomes six (Table D4). The estimates are shown in Table D3, with some classes having similar features as the classes in the by-group latent class estimates, while others seem to be identified differently than any of the classes in the by-group latent class model. The stable classes across different models (full, treated only, and control only) show similar choice patterns, while these classes have larger shares in the by-group estimates. The reference groups and a proportion of each of the stable classes in the by-group estimates present in the full sample estimates as three different groups having slightly different patterns – two of these groups show strong preference for the wide slot limit. Since the survey is done in a fashion that the treated and controls are presented with different choice questions, the more meaningful way is to estimate latent class models per group. However, comparing the full sample latent classes with the per group models, we can infer that the provision of outcome does affect how certain subgroups are segregated and make choices.