Logistic Regression Citizen-Candidate

Dario Trujano-Ochoa

December 2020

Regressions by variables in the games

I ran a random effects logit regression considering the treatments: PL, PH, RL, RH. Since they share the same positions (20, 30, 80) they are comparable and the regressions reflect the effect of the variables that change between the treatments. For the other two treatments the regression can only include the comparisson with early periods since they chare the same parameters and only defer in the positions they are holding.

In table 1, we can observe that the interaction effect between cost and voting rule is not significative, which means that the effect of the cost and voting rule could be independent. In table two, I present the same regression but considering only the first 15 trials in table 2.

In table 3, we observe that there is no effect of the behavior before and after the 8th trial, and only the constant is significative.

Table 1: Logit regressions for treatments: PL, PH, RL, RH

	Dependent variable:					
	se_postula					
	20	30	80	20	30	80
	(1)	(2)	(3)	(4)	(5)	(6)
HighCost	−1.221***	0.072	−1.875***	−1.683***	0.228	−2.621***
	(0.277)	(0.321)	(0.284)	(0.387)	(0.394)	(0.412)
RunOff	−0.199	1.896***	−2.862***	−0.583*	2.080***	−3.490***
	(0.269)	(0.348)	(0.293)	(0.348)	(0.446)	(0.394)
Period_dum	−0.984***	1.118***	−1.922***	−0.991***	1.121***	−1.937***
	(0.133)	(0.221)	(0.154)	(0.133)	(0.221)	(0.154)
HighCostTRUE:RunOff				0.950*	−0.457	1.411**
				(0.550)	(0.668)	(0.554)
Constant	0.237	2.043***	3.695***	0.447*	1.968***	4.088***
	(0.236)	(0.277)	(0.294)	(0.264)	(0.294)	(0.343)
Observations	1,918	1,918	1,918	1,918	1,918	1,918
Log Likelihood	−1,009.365	−449.080	−892.903	−1,007.858	−448.848	−889.610
Akaike Inf. Crit.	2,028.730	908.160	1,795.807	2,027.716	909.695	1,791.221
Bayesian Inf. Crit.	2,056.525	935.955	1,823.602	2,061.070	943.049	1,824.575

Note: *p<0.1; **p<0.05; ***p<0.01

Table 2: Logit regressions for treatments: PL, PH, RL, RH, consideering only the first 15 trials.

	Dependent variable:					
	se_postula					
	20	30	80	20	30	80
	(1)	(2)	(3)	(4)	(5)	(6)
HighCost	−0.992***	−0.033	−1.281***	−1.499***	0.156	−1.651***
	(0.287)	(0.333)	(0.265)	(0.406)	(0.411)	(0.408)
RunOff	0.043	1.729***	−2.229***	−0.398	1.966***	−2.556***
	(0.281)	(0.369)	(0.282)	(0.372)	(0.484)	(0.397)
earlyperiod	0.677***	−0.844***	0.784***	0.679***	−0.843***	0.782***
	(0.169)	(0.249)	(0.176)	(0.169)	(0.250)	(0.177)
HighCostTRUE:RunOff				1.037*	−0.548	0.650
				(0.576)	(0.695)	(0.532)
Constant	−0.408	2.690***	2.360***	−0.170	2.594***	2.580***
	(0.256)	(0.341)	(0.280)	(0.287)	(0.356)	(0.342)
Observations	1,055	1,055	1,055	1,055	1,055	1,055
Log Likelihood	−626.336	−322.659	−552.124	−624.675	−322.349	−551.367
Akaike Inf. Crit.	1,262.673	655.318	1,114.247	1,261.350	656.699	1,114.735
Bayesian Inf. Crit.	1,287.479	680.124	1,139.054	1,291.118	686.466	1,144.502
Note:						*p<0.1; **p<0.05; ***p<0.01

Table 3: Logit regressions for treatments: PLCS, PLCA

	Dependent variable:					
	se_postula					
	30	50	70	30	50	80
	(1)	(2)	(3)	(4)	(5)	(6)
earlyperiod	−0.449	0.108	0.556	−0.449	0.108	0.234
	(0.319)	(0.216)	(0.551)	(0.319)	(0.216)	(0.362)
Constant	3.234***	0.764***	2.776***	3.234***	0.764***	0.063
	(0.377)	(0.197)	(0.437)	(0.377)	(0.197)	(0.265)
Observations	660	660	330	660	660	330
Log Likelihood	−185.893	−388.324	−102.176	−185.893	−388.324	−204.794
Akaike Inf. Crit.	377.786	782.647	210.351	377.786	782.647	415.589
Bayesian Inf. Crit.	391.263	796.124	221.749	391.263	796.124	426.986
Note:						*p<0.1; **p<0.05; ***p<0.01

Regressions by relative positions

Table 4: Logit regressions for relative positions

	Dependent variable:		
	se_postula		
	Left	Center	Right
	(1)	(2)	(3)
TreatmentPH	-1.415^{***}	0.002	-1.872^{***}
	(0.383)	(0.404)	(0.345)
TreatmentRL	-0.550	2.080^{***}	-2.946^{***}
	(0.347)	(0.450)	(0.329)
TreatmentRH	-1.146^{***}	1.706^{***}	-3.814^{***}
	(0.402)	(0.513)	(0.371)
TreatmentPLCS	3.167^{***}	-2.566^{***}	0.106
	(0.418)	(0.372)	(0.369)
TreatmentPLCA	3.243^{***}	-0.518	-2.465^{***}
	(0.420)	(0.379)	(0.339)
Constant	-0.086	2.503^{***}	2.596^{***}
	(0.254)	(0.282)	(0.264)
Observations	2,578	2,578	2,578
Log Likelihood	$-1,223.867$	-805.266	$-1,312.756$
Akaike Inf. Crit.	2,461.734	1,624.533	2,639.511
Bayesian Inf. Crit.	2,502.717	1,665.516	2,680.494
Note:			*p<0.1; **p<0.05; ***p<0.01

PLCS and PLCA regression

Regression 2 letters

Table 5: Logit regressions for relative positions

	Dependent variable:		
	se_postula		
	Left	Center	Right
	(1)	(2)	(3)
TreatmentPLCA	0.079	2.048***	−2.444***
	(0.304)	(0.238)	(0.239)
treatment_codePLCS/PLCA	0.765	−0.488	0.385
	(0.589)	(0.448)	(0.315)
Constant	2.732***	0.177	2.325***
	(0.441)	(0.328)	(0.279)
Observations	660	660	660
Log Likelihood	−185.926	−341.896	−322.878
Akaike Inf. Crit.	379.852	691.792	653.755
Bayesian Inf. Crit.	397.821	709.761	671.724
Note:			*p<0.1; **p<0.05; ***p<0.01

Table 6: Logit regressions for relative positions

	Dependent variable:		
	se_postula		
	Left	Center	Right
	(1)	(2)	(3)
HighCost	−1.221***	0.072	−1.875***
	(0.277)	(0.321)	(0.284)
RunOff	−0.199	1.896***	−2.862***
	(0.269)	(0.348)	(0.293)
Period_dum	−0.984***	1.118***	−1.922***
	(0.133)	(0.221)	(0.154)
Constant	0.237	2.043***	3.695***
	(0.236)	(0.277)	(0.294)
Observations	1,918	1,918	1,918
Log Likelihood	−1,009.365	−449.080	−892.903
Akaike Inf. Crit.	2,028.730	908.160	1,795.807
Bayesian Inf. Crit.	2,056.525	935.955	1,823.602
Note:			*p<0.1; **p<0.05; ***p<0.01