

Notes: The columns represent the pairs being compared (A, B), p-value (pval), and CLES. Values in bold indicate significant differences at $p < 0.05$ with the better performer highlighted based on CLES. “*” indicates missing p-values due to lack of variability in data.

Table 1. Games-Howell Test Results Account-I3

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C_1	A2C_2	0.00000	0.50000	A2C_1	greedy	*	0.50000	PPO	allRound	0.00606	0.66200
A2C_1	PPO	0.00000	0.82500	A2C_1	random	*	0.50000	PPO	greedy	0.00000	0.17500
A2C_1	RecurrentPPO	0.00000	0.93800	A2C_2	PPO	0.00000	0.82500	PPO	random	0.00000	0.17500
A2C_1	allRound	*	1.00000	A2C_2	RecurrentPPO	0.00000	0.93800	RecurrentPPO	allRound	0.99700	0.47500
A2C_2	allRound	*	1.00000	A2C_2	greedy	*	0.50000	RecurrentPPO	greedy	0.00000	0.06250
A2C_2	random	*	0.50000	allRound	greedy	*	0.00000	RecurrentPPO	random	0.00000	0.06250

Table 2. Games-Howell Test Results Account-I4

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C_1	A2C_2	0.38312	0.55000	A2C_1	RecurrentPPO	0.00000	0.82500	PPO	RecurrentPPO	0.00000	0.81281
A2C_1	PPO	0.95097	0.51250	A2C_1	allRound	*	1.00000	PPO	allRound	*	1.00000
A2C_1	greedy	0.78096	0.52500	A2C_1	random	0.95097	0.51250	PPO	greedy	0.99714	0.51250
A2C_2	PPO	0.80753	0.46250	A2C_2	RecurrentPPO	0.00000	0.77625	PPO	random	1.00000	0.50000
A2C_2	allRound	*	1.00000	A2C_2	greedy	0.97953	0.47500	RecurrentPPO	allRound	*	0.98750
A2C_2	random	0.80753	0.46250	RecurrentPPO	greedy	0.00000	0.19938	RecurrentPPO	random	0.00000	0.18719
allRound	greedy	0.00000	0.00000	allRound	random	0.00000	0.00000	greedy	random	0.99714	0.48750

Table 3. Games-Howell Test Results Account-I5

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C_1	A2C_2	*	0.50000	A2C_1	PPO	0.00000	1.00000	PPO	RecurrentPPO	0.15937	0.62063
A2C_1	RecurrentPPO	0.00000	1.00000	A2C_1	allRound	*	1.00000	PPO	allRound	0.00000	1.00000
A2C_1	greedy	0.00000	0.90000	A2C_1	random	0.00000	0.92500	PPO	greedy	0.02151	0.58031
A2C_2	PPO	0.00000	1.00000	A2C_2	RecurrentPPO	0.00000	1.00000	PPO	random	0.01672	0.59438
A2C_2	allRound	*	1.00000	A2C_2	greedy	0.00000	0.90000	RecurrentPPO	allRound	0.00000	1.00000
A2C_2	random	0.00000	0.92500	RecurrentPPO	greedy	0.07787	0.56844	RecurrentPPO	random	0.06683	0.58781
allRound	greedy	0.00000	0.00000	allRound	random	0.00000	0.00000	greedy	random	1.00000	0.47313

Table 4. Games-Howell Test Results Account-I10

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.97749	0.57219	A2C.1	PPO	0.00000	0.00000	A2C.1	RecurrentPPO	0.00000	0.00000
A2C.1	allRound	0.00000	0.95000	A2C.1	greedy	0.00462	0.71313	A2C.1	random	0.00284	0.72000
A2C.2	PPO	0.00000	0.00000	A2C.2	RecurrentPPO	0.00000	0.00000	A2C.2	allRound	0.00000	0.91250
A2C.2	greedy	0.30428	0.59781	A2C.2	random	0.24433	0.60500	PPO	RecurrentPPO	0.99974	0.48094
PPO	allRound	0.00000	1.00000	PPO	greedy	0.00000	1.00000	PPO	random	0.00000	1.00000
RecurrentPPO	allRound	0.00000	1.00000	RecurrentPPO	greedy	0.00000	1.00000	RecurrentPPO	random	0.00000	1.00000
allRound	greedy	0.00000	0.00000	allRound	random	0.00000	0.00000	greedy	random	0.99997	0.51250

Table 5. Games-Howell Test Results Budget-I3

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.78096	0.52500	A2C.1	PPO	0.00000	0.81250	PPO	RecurrentPPO	0.89527	0.56500
A2C.1	RecurrentPPO	0.00000	0.85000	A2C.1	allRound	*	0.50000	PPO	allRound	0.00000	0.18750
A2C.1	greedy	*	0.50000	A2C.1	random	*	0.50000	PPO	greedy	0.00000	0.18750
A2C.2	PPO	0.00000	0.79125	A2C.2	RecurrentPPO	0.00000	0.83125	PPO	random	0.00000	0.18750
A2C.2	allRound	0.78096	0.47500	A2C.2	greedy	0.78096	0.47500	RecurrentPPO	allRound	0.00000	0.15000
A2C.2	random	0.78096	0.47500	RecurrentPPO	greedy	0.00000	0.15000	RecurrentPPO	random	0.00000	0.15000
allRound	greedy	*	0.50000	allRound	random	*	0.50000	greedy	random	*	0.50000

Table 6. Games-Howell Test Results Budget-I4

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.00000	0.97438	A2C.1	PPO	0.00000	0.99625	PPO	allRound	0.00000	0.16250
A2C.1	RecurrentPPO	0.00000	1.00000	A2C.1	allRound	0.00000	1.00000	PPO	greedy	0.00000	0.00000
A2C.1	greedy	0.00738	0.33188	A2C.1	random	0.01495	0.34250	PPO	random	0.00000	0.00000
A2C.2	PPO	0.00002	0.78875	A2C.2	RecurrentPPO	0.00000	0.95031	RecurrentPPO	allRound	0.00000	0.01250
A2C.2	allRound	1.00000	0.50000	A2C.2	greedy	0.00000	0.00094	RecurrentPPO	greedy	0.00000	0.00000
A2C.2	random	0.00000	0.00125	PPO	RecurrentPPO	0.00009	0.77469	RecurrentPPO	random	0.00000	0.00000
allRound	greedy	0.00000	0.00000	allRound	random	0.00000	0.00000	greedy	random	0.99970	0.51250

Table 7. Games-Howell Test Results Budget-I5

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.34053	0.63844	A2C.1	PPO	0.00001	0.80500	A2C.1	RecurrentPPO	0.00000	0.84656
A2C.1	allRound	0.00000	1.00000	A2C.1	greedy	0.85159	0.58813	A2C.1	random	0.37016	0.62813
A2C.2	PPO	0.02063	0.69281	A2C.2	RecurrentPPO	0.00102	0.73719	A2C.2	allRound	0.00000	1.00000
A2C.2	greedy	0.99852	0.47281	A2C.2	random	1.00000	0.48844	PPO	RecurrentPPO	0.99047	0.53438
PPO	allRound	0.00000	1.00000	PPO	greedy	0.02200	0.30906	PPO	random	0.01427	0.29969
RecurrentPPO	allRound	0.00000	1.00000	RecurrentPPO	greedy	0.00243	0.27344	RecurrentPPO	random	0.00059	0.25719
allRound	greedy	0.00000	0.00000	allRound	random	0.00000	0.00000	greedy	random	0.99927	0.51969

Table 8. Games-Howell Test Results Budget-I10

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.00000	0.14813	A2C.1	PPO	0.00000	0.01156	A2C.1	RecurrentPPO	0.00000	0.00094
A2C.1	allRound	0.00000	0.92500	A2C.1	greedy	0.00000	0.92500	A2C.1	random	0.00000	0.92000
A2C.2	PPO	0.00000	0.07469	A2C.2	RecurrentPPO	0.00000	0.02281	A2C.2	allRound	0.00000	1.00000
A2C.2	greedy	0.00000	1.00000	A2C.2	random	0.00000	0.99969	PPO	RecurrentPPO	0.00000	0.18812
PPO	allRound	0.00000	1.00000	PPO	greedy	0.00000	1.00000	PPO	random	0.00000	1.00000
RecurrentPPO	allRound	0.00000	1.00000	RecurrentPPO	greedy	0.00000	1.00000	RecurrentPPO	random	0.00000	1.00000
allRound	greedy	*	0.50000	allRound	random	0.95097	0.48750	greedy	random	0.95097	0.48750

Table 9. Games-Howell Test Results Transaction-I3

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.00000	0.17469	A2C.1	PPO	0.00000	0.81281	A2C.1	RecurrentPPO	0.00000	0.96688
A2C.1	allRound	0.00000	0.07500	A2C.1	greedy	0.00000	0.07500	A2C.1	random	0.00000	0.07500
A2C.2	PPO	0.00000	0.96125	A2C.2	RecurrentPPO	0.00000	0.99625	A2C.2	allRound	0.00068	0.28750
A2C.2	greedy	0.00068	0.28750	A2C.2	random	0.00068	0.28750	PPO	RecurrentPPO	0.00001	0.79500
PPO	allRound	0.00000	0.01250	PPO	greedy	0.00000	0.01250	PPO	random	0.00000	0.01250
RecurrentPPO	allRound	0.00000	0.00000	RecurrentPPO	greedy	0.00000	0.00000	RecurrentPPO	random	0.00000	0.00000
allRound	greedy	*	0.50000	allRound	random	*	0.50000	greedy	random	*	0.50000

Table 10. Games-Howell Test Results Transaction-I4

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.00001	0.08344	A2C.1	PPO	0.82583	0.57813	A2C.1	RecurrentPPO	0.12482	0.65406
A2C.1	allRound	0.00000	0.10000	A2C.1	greedy	0.00034	0.09469	A2C.1	random	0.00000	0.06406
A2C.2	PPO	0.00000	0.95250	A2C.2	RecurrentPPO	0.00000	0.95875	A2C.2	allRound	0.01612	0.68750
A2C.2	greedy	0.99616	0.44438	A2C.2	random	0.89278	0.42594	PPO	RecurrentPPO	0.75878	0.58344
PPO	allRound	0.00000	0.05000	PPO	greedy	0.00001	0.06875	PPO	random	0.00000	0.03469
RecurrentPPO	allRound	0.00000	0.05000	RecurrentPPO	greedy	0.00000	0.06875	RecurrentPPO	random	0.00000	0.03000
allRound	greedy	0.99746	0.23750	allRound	random	0.00006	0.22500	greedy	random	0.90858	0.47969

Table 11. Games-Howell Test Results Transaction-I5

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.00003	0.21563	A2C.1	PPO	0.06510	0.67531	A2C.1	RecurrentPPO	0.00001	0.80719
A2C.1	allRound	0.00000	0.02500	A2C.1	greedy	0.00000	0.04063	A2C.1	random	0.00000	0.02375
A2C.2	PPO	0.00000	0.89281	A2C.2	RecurrentPPO	0.00000	0.97281	A2C.2	allRound	0.00001	0.17500
A2C.2	greedy	0.00000	0.15438	A2C.2	random	0.00001	0.10688	PPO	RecurrentPPO	0.18607	0.62750
PPO	allRound	0.00000	0.00000	PPO	greedy	0.00000	0.01500	PPO	random	0.00000	0.00625
RecurrentPPO	allRound	0.00000	0.00000	RecurrentPPO	greedy	0.00000	0.00188	RecurrentPPO	random	0.00000	0.00000
allRound	greedy	0.01288	0.30000	allRound	random	0.00005	0.22500	greedy	random	0.70765	0.41219

Table 12. Games-Howell Test Results Transaction-I10

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.58400	0.40125	A2C.1	PPO	0.94483	0.44625	A2C.1	RecurrentPPO	0.60755	0.39688
A2C.1	allRound	0.00001	1.00000	A2C.1	greedy	0.00000	1.00000	A2C.1	random	0.00001	1.00000
A2C.2	PPO	0.98631	0.55000	A2C.2	RecurrentPPO	1.00000	0.49906	A2C.2	allRound	0.00001	1.00000
A2C.2	greedy	0.00001	1.00000	A2C.2	random	0.00000	1.00000	PPO	RecurrentPPO	0.99173	0.44344
PPO	allRound	0.00001	1.00000	PPO	greedy	0.00000	1.00000	PPO	random	0.00001	1.00000
RecurrentPPO	allRound	0.00001	1.00000	RecurrentPPO	greedy	0.00000	1.00000	RecurrentPPO	random	0.00000	1.00000
allRound	greedy	0.56994	0.46250	allRound	random	0.78096	0.47500	greedy	random	0.99928	0.51250

Table 13. Games-Howell Test Results Calculator-I3

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.00000	1.00000	A2C.1	PPO	0.46776	0.60031	A2C.1	RecurrentPPO	0.00000	0.99344
A2C.1	allRound	0.00000	1.00000	A2C.1	greedy	0.00803	0.32438	A2C.1	random	0.00193	0.30375
A2C.2	PPO	0.00000	0.00000	A2C.2	RecurrentPPO	0.00000	0.02250	A2C.2	allRound	0.00000	0.00000
A2C.2	greedy	0.00000	0.00000	A2C.2	random	0.00000	0.00000	PPO	RecurrentPPO	0.00000	0.97750
PPO	allRound	0.00000	0.93750	PPO	greedy	0.00012	0.24000	PPO	random	0.00004	0.22250
RecurrentPPO	allRound	0.00000	0.12500	RecurrentPPO	greedy	0.00000	0.00000	RecurrentPPO	random	0.00000	0.00000
allRound	greedy	0.00000	0.00000	allRound	random	0.00000	0.00000	greedy	random	0.99388	0.47500

Table 14. Games-Howell Test Results Calculator-I4

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.00000	1.00000	A2C.1	PPO	0.99996	0.51781	A2C.1	RecurrentPPO	0.00000	0.85156
A2C.1	allRound	0.00531	0.71250	A2C.1	greedy	0.03454	0.69188	A2C.1	random	0.00269	0.73063
A2C.2	PPO	0.00000	0.00313	A2C.2	RecurrentPPO	0.00000	0.04188	A2C.2	allRound	0.00000	0.00000
A2C.2	greedy	0.00000	0.02844	A2C.2	random	0.00000	0.03000	PPO	RecurrentPPO	0.00000	0.84688
PPO	allRound	0.01507	0.71250	PPO	greedy	0.06704	0.67938	PPO	random	0.00650	0.72125
RecurrentPPO	allRound	0.00001	0.16250	RecurrentPPO	greedy	0.08134	0.33500	RecurrentPPO	random	0.20404	0.35094
allRound	greedy	0.98857	0.52500	allRound	random	0.62212	0.57500	greedy	random	0.99770	0.52781

Table 15. Games-Howell Test Results Calculator-I5

A	B	pval	CLES	A	B	pval	CLES	A	B	pval	CLES
A2C.1	A2C.2	0.00007	0.78250	A2C.1	PPO	0.37848	0.60813	A2C.1	RecurrentPPO	0.99484	0.54313
A2C.1	allRound	0.00000	0.82500	A2C.1	greedy	0.93669	0.56313	A2C.1	random	0.83938	0.58781
A2C.2	PPO	0.00323	0.31000	A2C.2	RecurrentPPO	0.00056	0.26750	A2C.2	allRound	0.38312	0.55000
A2C.2	greedy	0.00163	0.30250	A2C.2	random	0.00581	0.29625	PPO	RecurrentPPO	0.81056	0.43938
PPO	allRound	0.00004	0.73750	PPO	greedy	0.96244	0.46438	PPO	random	0.99560	0.48156
RecurrentPPO	allRound	0.00003	0.77500	RecurrentPPO	greedy	0.99961	0.52313	RecurrentPPO	random	0.99341	0.54125
allRound	greedy	0.00008	0.26250	allRound	random	0.00032	0.25000	greedy	random	1.00000	0.51719