SUPPORTING INFORMATION for P. Dorian Owen and Nicholas King "Competitive Balance Measures in Sports Leagues: The Effects of Variation in Season Length", University of Otago, Economics Discussion Papers No. 1309, July 2013

Appendix A: Strength rating distributions used for simulations for different numbers of teams in the league (*N*)

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N = number of teams; K = number of rounds of matches; G = number of games played by each team; For 1000 simulations, *min* = minimum value; *mean* = arithmetic mean; $p5$, $p25$, $p50$, $p75$, and $p95$ are 5^{th}, 25^{th}, 50^{th}, 75^{th} and 95^{th} percentiles, respectively; *max* = maximum value

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F10: *ASD**, $R = 5$

Appendix A: Strength rating distributions used for simulations for different numbers of teams (*N*)

TABLE A1

Strength Rating Distributions Used for Simulations, $N = 10$

Team	$R = 0$	$R = 1.25$	$R = 2.5$	$R = 3.75$	$R = 5$
1	0	0.625	1.25	1.875	2.5
2	0	0.486111	0.972222	1.458333	1.944444
3	0	0.347222	0.694444	1.041667	1.388889
4	0	0.208333	0.416667	0.625	0.833333
5	0	0.069444	0.138889	0.208333	0.277778
6	0	–0.06944	–0.13889	–0.20833	–0.27778
7	0	–0.20833	–0.41667	–0.625	–0.83333
8	0	–0.34722	–0.69444	–1.04167	–1.38889
9	0	–0.48611	–0.97222	–1.45833	–1.94444
10	0	–0.625	–1.25	–1.875	–2.5

TABLE A2

Strength Rating Distributions Used for Simulations, $N = 15$

Team	$R = 0$	$R = 1.25$	$R = 2.5$	$R = 3.75$	$R = 5$
1	0	0.625	1.25	1.875	2.5
2	0	0.535714	1.071429	1.607143	2.142857
3	0	0.446429	0.892857	1.339286	1.785714
4	0	0.357143	0.714286	1.071429	1.428571
5	0	0.267857	0.535714	0.803571	1.071429
6	0	0.178571	0.357143	0.535714	0.714286
7	0	0.089286	0.178571	0.267857	0.357143
8	0	0	0	0	0
9	0	–0.08929	–0.17857	–0.26786	–0.35714
10	0	–0.17857	–0.35714	–0.53571	–0.71429
11	0	–0.26786	–0.53571	–0.80357	–1.07143
12	0	–0.35714	–0.71429	–1.07143	–1.42857
13	0	–0.44643	–0.89286	–1.33929	–1.78571
14	0	–0.53571	–1.07143	–1.60714	–2.14286
15	0	–0.625	–1.25	–1.875	–2.5

TABLE A3

Strength Rating Distributions Used for Simulations, $N = 20$

Team	$R = 0$	$R = 1.25$	$R = 2.5$	$R = 3.75$	$R = 5$
1	0	0.625	1.25	1.875	2.5
2	0	0.559211	1.118421	1.677632	2.236842
3	0	0.493421	0.986842	1.480263	1.973684
4	0	0.427632	0.855263	1.282895	1.710526
5	0	0.361842	0.723684	1.085526	1.447368
6	0	0.296053	0.592105	0.888158	1.184211
7	0	0.230263	0.460526	0.690789	0.921053
8	0	0.164474	0.328947	0.493421	0.657895
9	0	0.098684	0.197368	0.296053	0.394737
10	0	0.032895	0.065789	0.098684	0.131579
11	0	–0.03289	–0.06579	–0.09868	–0.13158
12	0	–0.09868	–0.19737	–0.29605	–0.39474
13	0	–0.16447	–0.32895	–0.49342	–0.65789
14	0	–0.23026	–0.46053	–0.69079	–0.92105
15	0	–0.29605	–0.59211	–0.88816	–1.18421
16	0	–0.36184	–0.72368	–1.08553	–1.44737
17	0	–0.42763	–0.85526	–1.28289	–1.71053
18	0	–0.49342	–0.98684	–1.48026	–1.97368
19	0	–0.55921	–1.11842	–1.67763	–2.23684
20	0	–0.625	–1.25	–1.875	–2.5

TABLE A4

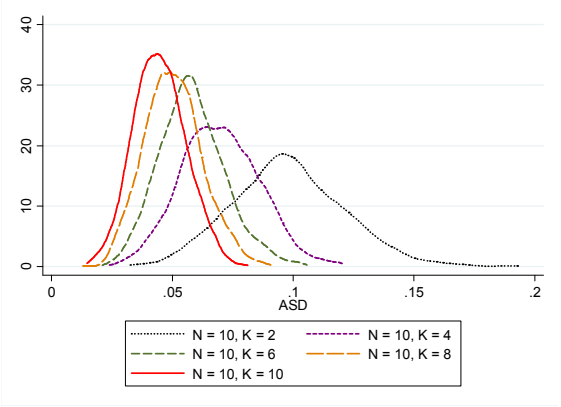
Strength Rating Distributions Used for Simulations, $N = 25$

Team	$R = 0$	$R = 1.25$	$R = 2.5$	$R = 3.75$	$R = 5$
1	0	0.625	1.25	1.875	2.5
2	0	0.572917	1.145833	1.71875	2.291667
3	0	0.520833	1.041667	1.5625	2.083333
4	0	0.46875	0.9375	1.40625	1.875
5	0	0.416667	0.833333	1.25	1.666667
6	0	0.364583	0.729167	1.09375	1.458333
7	0	0.3125	0.625	0.9375	1.25
8	0	0.260417	0.520833	0.78125	1.041667
9	0	0.208333	0.416667	0.625	0.833333
10	0	0.15625	0.3125	0.46875	0.625
11	0	0.104167	0.208333	0.3125	0.416667
12	0	0.052083	0.104167	0.15625	0.208333
13	0	0	0	0	0
14	0	–0.05208	–0.10417	–0.15625	–0.20833
15	0	–0.10417	–0.20833	–0.3125	–0.41667
16	0	–0.15625	–0.3125	–0.46875	–0.625
17	0	–0.20833	–0.41667	–0.625	–0.83333
18	0	–0.26042	–0.52083	–0.78125	–1.04167
19	0	–0.3125	–0.625	–0.9375	–1.25
20	0	–0.36458	–0.72917	–1.09375	–1.45833
21	0	–0.41667	–0.83333	–1.25	–1.66667
22	0	–0.46875	–0.9375	–1.40625	–1.875
23	0	–0.52083	–1.04167	–1.5625	–2.08333
24	0	–0.57292	–1.14583	–1.71875	–2.29167
25	0	–0.625	–1.25	–1.875	–2.5

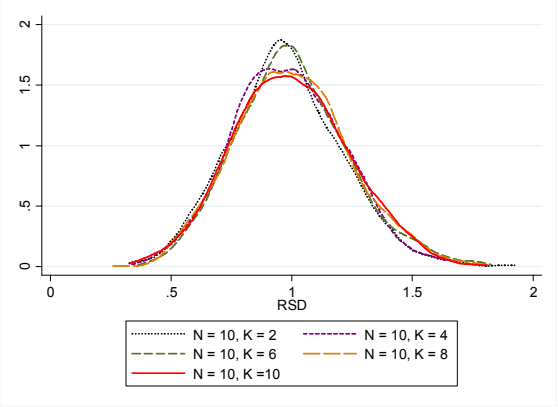
Appendix B: Density functions for competitive balance measures for the linear model, with draws, home advantage, and a (3,1,0) points allocation

FIGURE B1

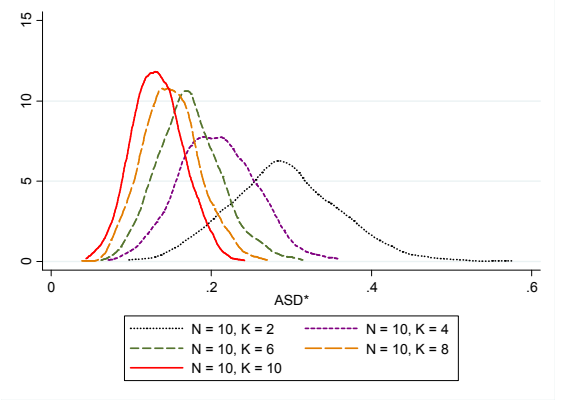
Density functions of balance measures for $R = 0$ (perfect balance), $N = 10$, varying K



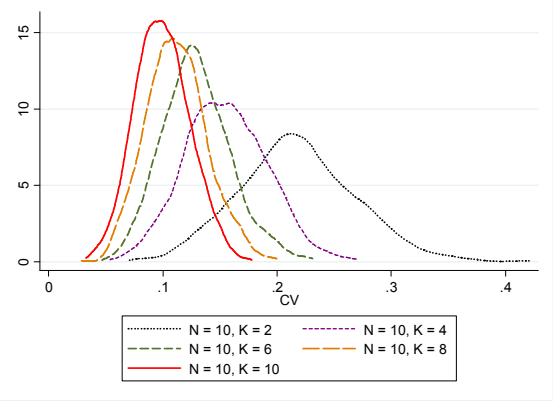
(a) *ASD*



(b) *RSD*



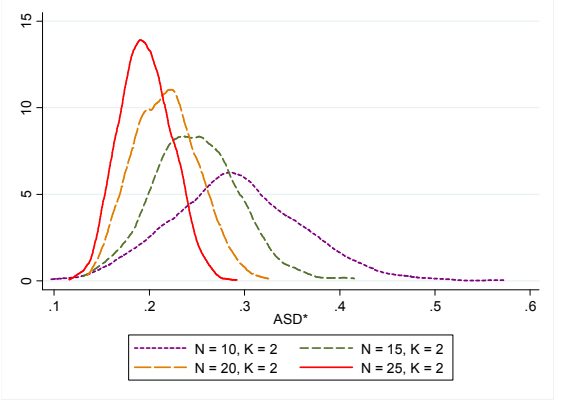
(c) *ASD**



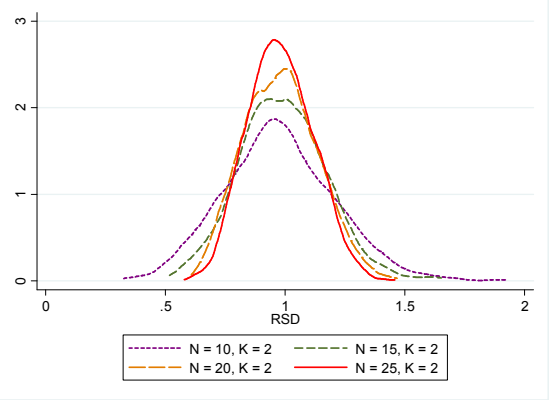
(d) *CV*

FIGURE B2

Density functions of balance measures for $R = 0$ (perfect balance), $K = 2$, varying N



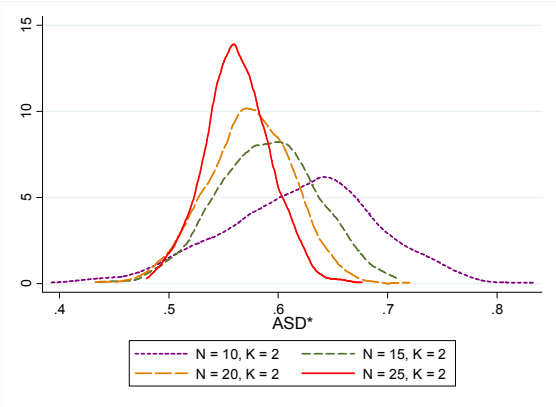
(a) *ASD**



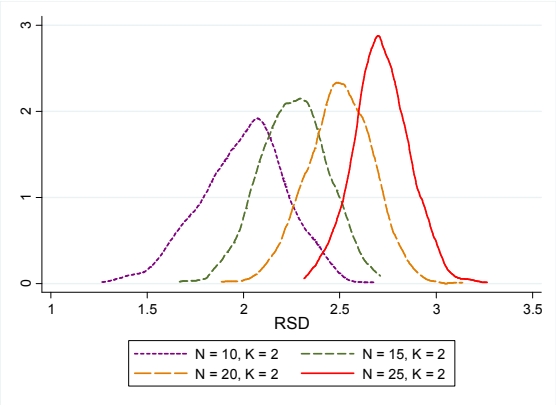
(b) *RSD*

FIGURE B3

Density functions of balance measures for $R = 2.5$ (moderate imbalance), $K = 2$, varying N



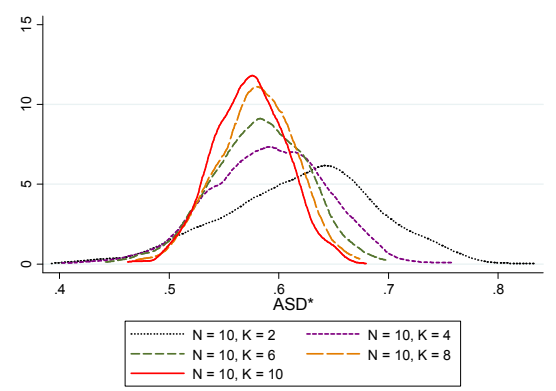
(a) *ASD**



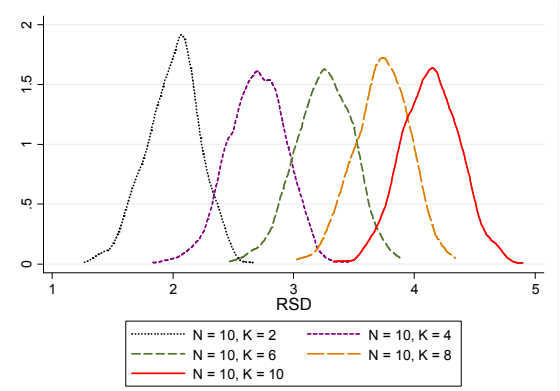
(b) *RSD*

FIGURE B4

Density functions of balance measures for $R = 2.5$ (moderate imbalance), $N = 10$, varying K



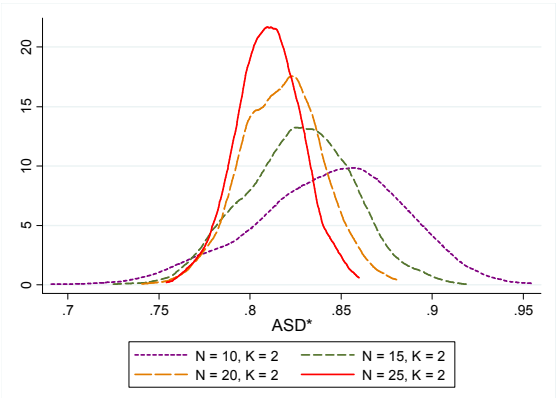
(a) *ASD**



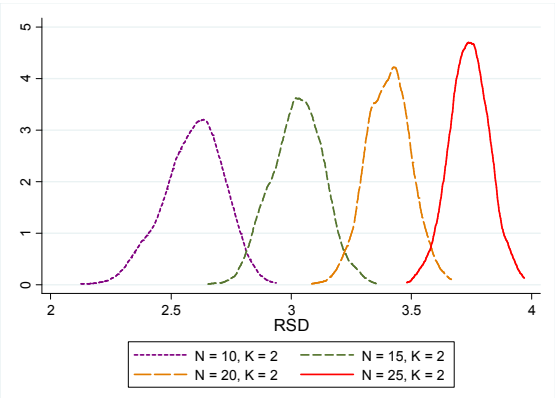
(b) *RSD*

FIGURE B5

Density functions of balance measures for $R = 5$ (severe imbalance), $K = 2$, varying N



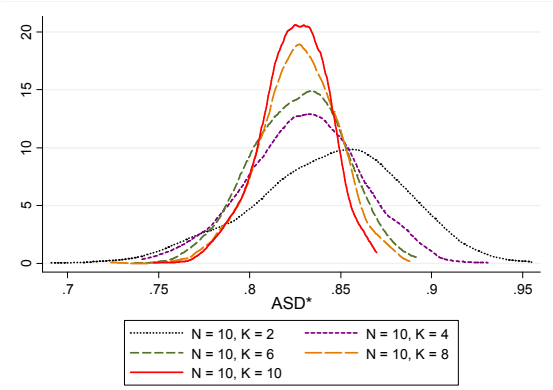
(a) *ASD**



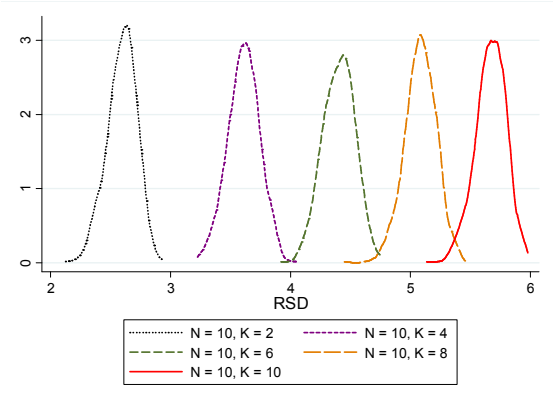
(b) *RSD*

FIGURE B6

Density functions of balance measures for $R = 5$ (severe imbalance), $N = 10$, varying K



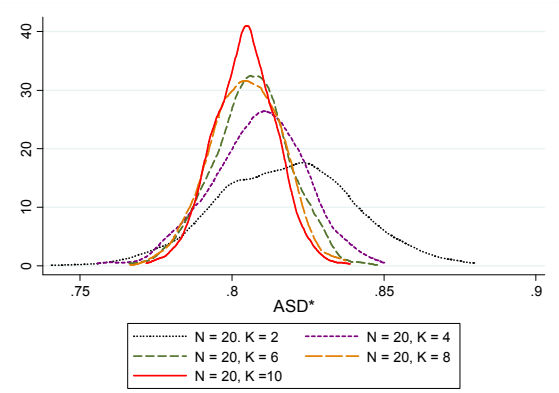
(a) *ASD**



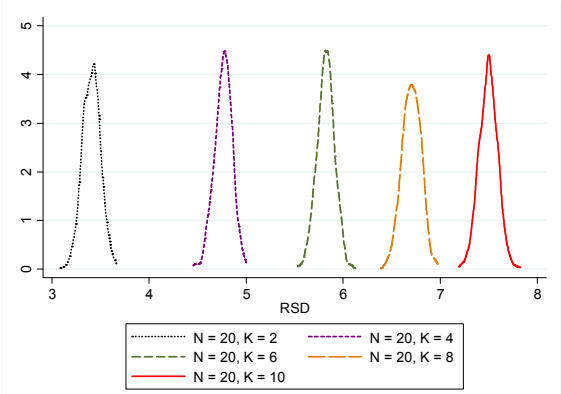
(b) *RSD*

FIGURE B7

Density functions of balance measures for $R = 5$ (severe imbalance), $N = 20$, varying K



(a) *ASD**

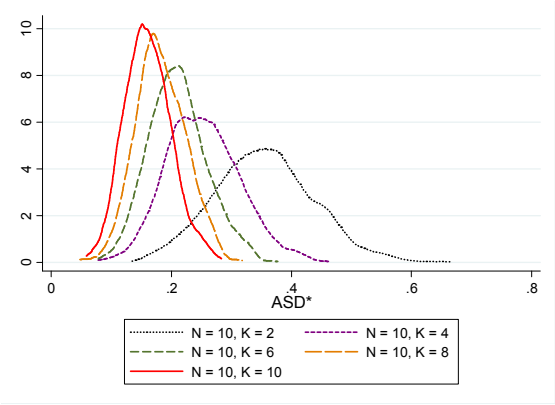


(b) *RSD*

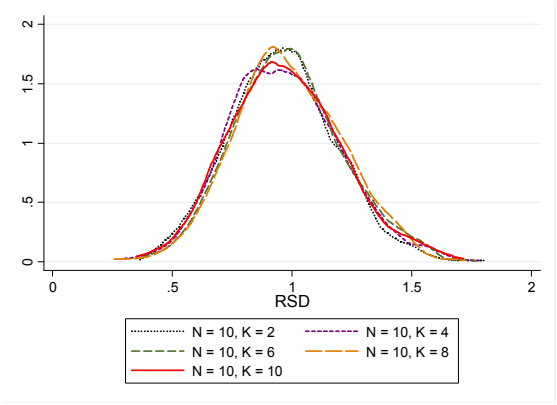
Appendix C: Density functions for competitive balance measures for the linear model, with no draws, no home advantage, and a (2,1,0) points allocation

FIGURE C1

Density functions of balance measures for $R = 0$ (perfect balance), $N = 10$, varying K



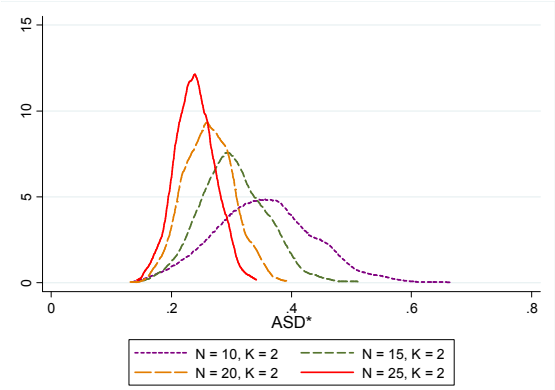
(a) *ASD**



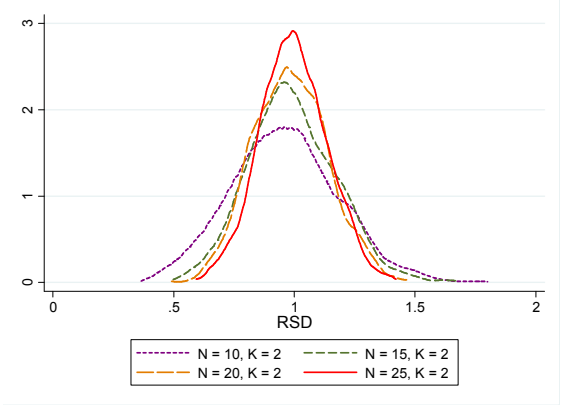
(b) *RSD*

FIGURE C2

Density functions of balance measures for $R = 0$ (perfect balance), $K = 2$, varying N



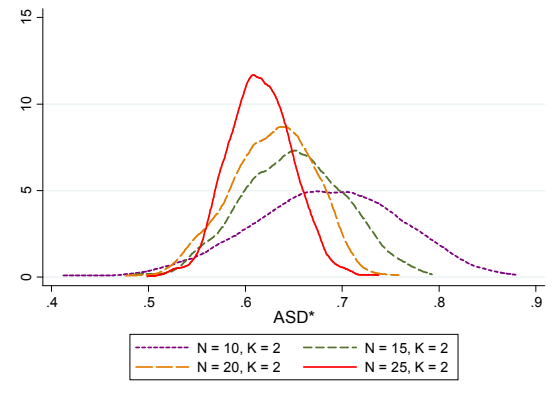
(a) *ASD**



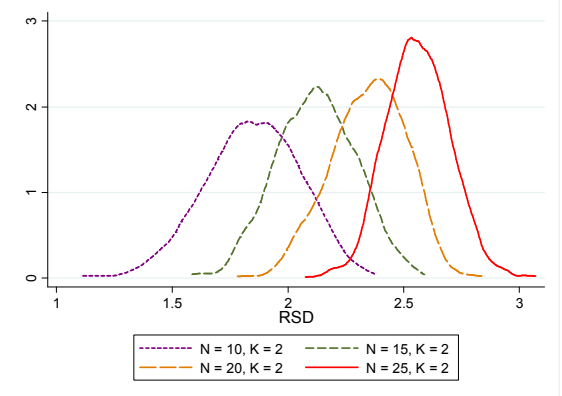
(b) *RSD*

FIGURE C3

Density functions of balance measures for $R = 2.5$ (moderate imbalance), $K = 2$, varying N



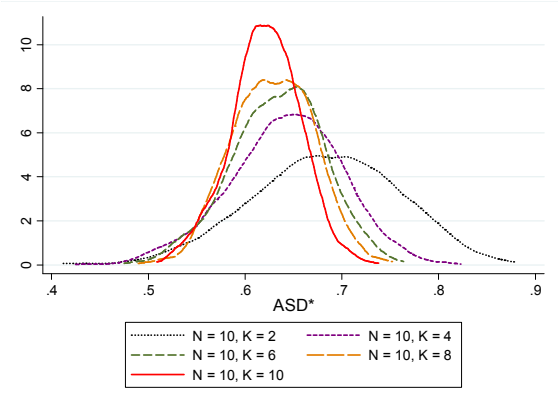
(a) *ASD**



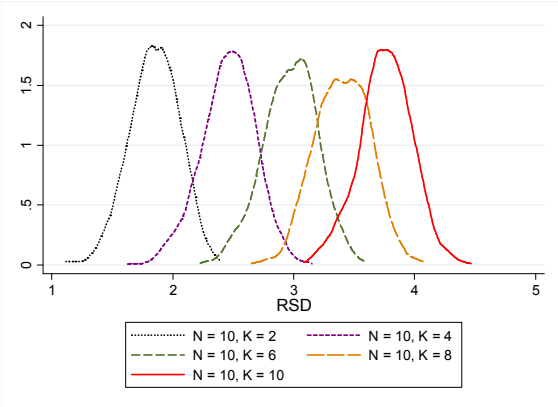
(b) *RSD*

FIGURE C4

Density functions of balance measures for $R = 2.5$ (moderate imbalance), $N = 10$, varying K



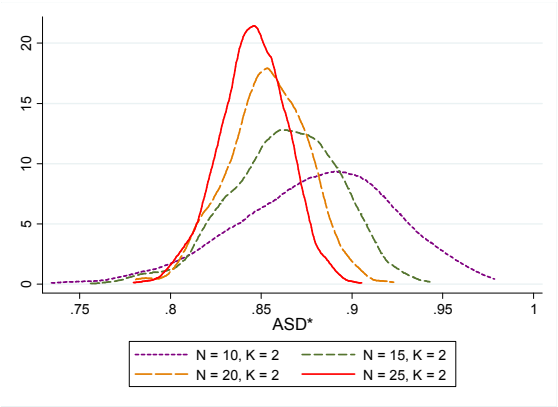
(a) *ASD**



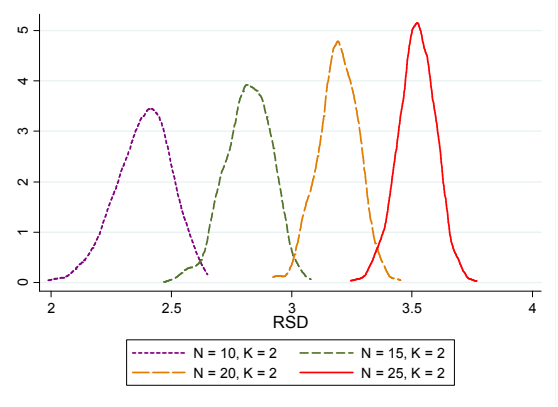
(b) *RSD*

FIGURE C5

Density functions of balance measures for $R = 5$ (severe imbalance), $K = 2$, varying N



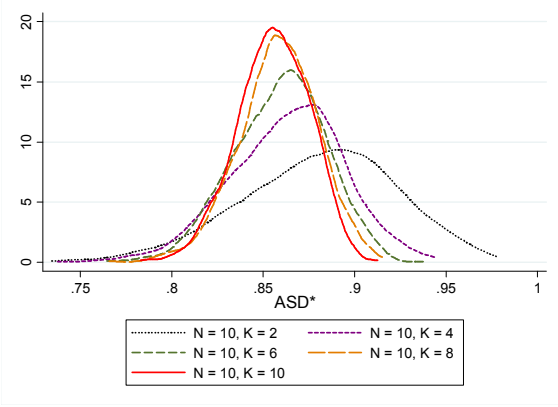
(a) *ASD**



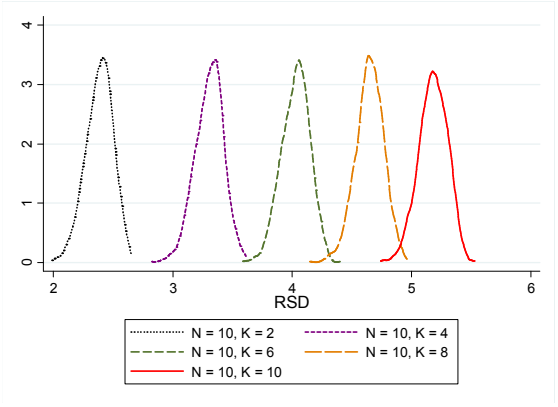
(b) *RSD*

FIGURE C6

Density functions of balance measures for $R = 5$ (severe imbalance), $N = 10$, varying K



(a) *ASD**



(b) *RSD*

Appendix D: Summary statistics for simulated density functions for *RSD* and *ASD for the Bradley-Terry model, with draws, home advantage, and a (3, 1, 0) points allocation**

TABLE D1

RSD for the Bradley-Terry Model, with Draws, Home Advantage, (3, 1, 0), $R = 0$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.33	0.60	0.80	0.96	0.95	1.10	1.37	1.89
10	4	36	0.40	0.61	0.80	0.96	0.96	1.11	1.33	1.77
10	6	54	0.31	0.61	0.79	0.96	0.95	1.11	1.35	1.98
10	8	72	0.42	0.60	0.79	0.95	0.94	1.10	1.31	1.98
10	10	90	0.36	0.57	0.79	0.95	0.94	1.10	1.31	1.65
15	2	28	0.47	0.67	0.83	0.95	0.95	1.07	1.24	1.52
15	4	56	0.43	0.68	0.83	0.96	0.95	1.08	1.24	1.53
15	6	84	0.45	0.66	0.82	0.95	0.95	1.08	1.26	1.61
15	8	112	0.42	0.67	0.82	0.95	0.94	1.07	1.25	1.57
15	10	140	0.38	0.67	0.83	0.95	0.94	1.06	1.25	1.61
20	2	38	0.52	0.70	0.85	0.95	0.95	1.07	1.22	1.45
20	4	76	0.52	0.71	0.84	0.95	0.95	1.05	1.21	1.45
20	6	114	0.55	0.70	0.84	0.95	0.94	1.05	1.22	1.45
20	8	152	0.52	0.71	0.85	0.95	0.95	1.05	1.23	1.49
20	10	190	0.43	0.70	0.83	0.94	0.94	1.04	1.18	1.39
25	2	48	0.57	0.73	0.85	0.95	0.95	1.04	1.18	1.44
25	4	96	0.59	0.74	0.86	0.96	0.95	1.05	1.19	1.60
25	6	144	0.56	0.73	0.85	0.94	0.94	1.03	1.18	1.46
25	8	192	0.57	0.73	0.86	0.95	0.94	1.04	1.20	1.44
25	10	240	0.53	0.74	0.85	0.95	0.95	1.04	1.19	1.38

TABLE D2

*ASD** for the Bradley-Terry Model, with Draws, Home Advantage, (3, 1, 0), $R = 0$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.10	0.18	0.24	0.29	0.28	0.33	0.41	0.56
10	4	36	0.08	0.13	0.17	0.20	0.20	0.23	0.28	0.37
10	6	54	0.05	0.11	0.14	0.16	0.16	0.19	0.23	0.34
10	8	72	0.06	0.09	0.12	0.14	0.14	0.16	0.20	0.29
10	10	90	0.05	0.08	0.11	0.13	0.13	0.15	0.17	0.22
15	2	28	0.12	0.17	0.21	0.24	0.24	0.27	0.31	0.38
15	4	56	0.08	0.12	0.15	0.17	0.17	0.19	0.22	0.27
15	6	84	0.06	0.10	0.12	0.14	0.14	0.16	0.18	0.23
15	8	112	0.05	0.08	0.10	0.12	0.12	0.13	0.16	0.20
15	10	140	0.04	0.08	0.09	0.11	0.11	0.12	0.14	0.18
20	2	38	0.11	0.15	0.19	0.21	0.21	0.24	0.27	0.32
20	4	76	0.08	0.11	0.13	0.15	0.15	0.16	0.19	0.23
20	6	114	0.07	0.09	0.11	0.12	0.12	0.13	0.16	0.19
20	8	152	0.06	0.08	0.09	0.11	0.10	0.12	0.14	0.16
20	10	190	0.04	0.07	0.08	0.09	0.09	0.10	0.12	0.14
25	2	48	0.11	0.15	0.17	0.19	0.19	0.21	0.23	0.29
25	4	96	0.08	0.10	0.12	0.14	0.13	0.15	0.17	0.23
25	6	144	0.06	0.08	0.10	0.11	0.11	0.12	0.14	0.17
25	8	192	0.06	0.07	0.09	0.10	0.09	0.10	0.12	0.14
25	10	240	0.05	0.07	0.08	0.08	0.08	0.09	0.11	0.12

TABLE D3

RSD for the Bradley-Terry Model, with Draws, Home Advantage, (3, 1, 0), $R = 1.25$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.54	0.87	1.10	1.29	1.29	1.47	1.71	2.25
10	4	36	0.73	1.13	1.38	1.57	1.57	1.77	2.04	2.32
10	6	54	0.87	1.38	1.65	1.84	1.83	2.04	2.33	2.79
10	8	72	1.04	1.54	1.80	2.03	2.02	2.25	2.52	2.94
10	10	90	1.29	1.76	2.06	2.24	2.25	2.44	2.73	3.00
15	2	28	0.68	1.03	1.26	1.40	1.40	1.54	1.74	2.02
15	4	56	1.02	1.38	1.58	1.74	1.73	1.89	2.09	2.41
15	6	84	1.31	1.62	1.86	2.01	2.02	2.18	2.39	2.79
15	8	112	1.54	1.92	2.13	2.29	2.28	2.45	2.66	2.92
15	10	140	1.79	2.11	2.35	2.51	2.51	2.67	2.90	3.24
20	2	38	0.94	1.18	1.36	1.49	1.49	1.62	1.80	2.19
20	4	76	1.36	1.58	1.76	1.90	1.90	2.04	2.24	2.48
20	6	114	1.62	1.88	2.07	2.21	2.21	2.35	2.52	2.89
20	8	152	1.95	2.19	2.37	2.51	2.51	2.65	2.86	3.13
20	10	190	2.14	2.46	2.65	2.79	2.78	2.92	3.12	3.39
25	2	48	1.08	1.31	1.46	1.59	1.59	1.70	1.88	2.25
25	4	96	1.40	1.76	1.92	2.03	2.02	2.13	2.31	2.61
25	6	144	1.82	2.11	2.28	2.39	2.39	2.52	2.68	2.94
25	8	192	2.25	2.44	2.60	2.72	2.72	2.84	3.03	3.27
25	10	240	2.47	2.72	2.89	3.01	3.01	3.13	3.33	3.63

TABLE D4

*ASD** for the Bradley-Terry Model, with Draws, Home Advantage, (3, 1, 0), $R = 1.25$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.16	0.26	0.33	0.39	0.39	0.44	0.52	0.68
10	4	36	0.15	0.24	0.29	0.33	0.33	0.37	0.43	0.49
10	6	54	0.15	0.24	0.29	0.32	0.32	0.35	0.40	0.48
10	8	72	0.16	0.23	0.27	0.30	0.30	0.34	0.38	0.44
10	10	90	0.17	0.24	0.28	0.30	0.30	0.33	0.37	0.40
15	2	28	0.17	0.26	0.32	0.35	0.35	0.39	0.44	0.51
15	4	56	0.18	0.25	0.28	0.31	0.31	0.34	0.38	0.43
15	6	84	0.19	0.24	0.27	0.29	0.29	0.32	0.35	0.41
15	8	112	0.20	0.24	0.27	0.29	0.29	0.31	0.34	0.37
15	10	140	0.20	0.24	0.27	0.28	0.28	0.30	0.33	0.37
20	2	38	0.21	0.26	0.30	0.33	0.33	0.36	0.40	0.49
20	4	76	0.21	0.25	0.28	0.30	0.30	0.32	0.35	0.39
20	6	114	0.21	0.24	0.27	0.28	0.29	0.30	0.32	0.37
20	8	152	0.22	0.24	0.26	0.28	0.28	0.30	0.32	0.35
20	10	190	0.21	0.25	0.26	0.28	0.28	0.29	0.31	0.34
25	2	48	0.22	0.26	0.30	0.32	0.32	0.34	0.38	0.45
25	4	96	0.20	0.25	0.27	0.29	0.29	0.30	0.33	0.37
25	6	144	0.21	0.25	0.27	0.28	0.28	0.29	0.31	0.34
25	8	192	0.23	0.25	0.26	0.27	0.27	0.29	0.31	0.33
25	10	240	0.22	0.24	0.26	0.27	0.27	0.28	0.30	0.33

TABLE D5

RSD for the Bradley-Terry Model, with Draws, Home Advantage, (3, 1, 0), $R = 2.5$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	1.13	1.45	1.67	1.84	1.85	1.98	2.22	2.78
10	4	36	1.56	2.03	2.28	2.45	2.46	2.62	2.85	3.21
10	6	54	2.10	2.50	2.77	2.94	2.95	3.12	3.34	3.77
10	8	72	2.44	2.92	3.17	3.35	3.34	3.52	3.78	4.16
10	10	90	2.84	3.31	3.56	3.73	3.72	3.89	4.14	4.57
15	2	28	1.43	1.72	1.91	2.05	2.04	2.18	2.37	2.62
15	4	56	2.20	2.46	2.64	2.78	2.78	2.92	3.10	3.36
15	6	84	2.67	3.00	3.20	3.34	3.33	3.48	3.70	4.04
15	8	112	3.26	3.50	3.70	3.83	3.84	3.96	4.16	4.53
15	10	140	3.65	3.94	4.15	4.28	4.28	4.42	4.61	4.90
20	2	38	1.70	1.95	2.15	2.26	2.26	2.38	2.55	2.76
20	4	76	2.59	2.83	2.99	3.11	3.10	3.22	3.40	3.62
20	6	114	2.92	3.45	3.63	3.74	3.74	3.86	4.04	4.30
20	8	152	3.64	4.00	4.17	4.29	4.30	4.41	4.59	4.84
20	10	190	4.22	4.51	4.66	4.78	4.78	4.91	5.05	5.37
25	2	48	1.96	2.21	2.35	2.46	2.45	2.56	2.70	2.93
25	4	96	2.91	3.09	3.26	3.37	3.37	3.48	3.63	3.87
25	6	144	3.61	3.83	3.99	4.10	4.10	4.20	4.36	4.55
25	8	192	4.17	4.45	4.60	4.70	4.69	4.80	4.96	5.28
25	10	240	4.76	4.99	5.13	5.24	5.24	5.34	5.48	5.76

TABLE D6

*ASD** for the Bradley-Terry Model, with Draws, Home Advantage, (3, 1, 0), $R = 2.5$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.35	0.45	0.51	0.57	0.57	0.61	0.68	0.85
10	4	36	0.34	0.44	0.50	0.53	0.53	0.57	0.62	0.70
10	6	54	0.37	0.44	0.49	0.52	0.52	0.55	0.59	0.67
10	8	72	0.38	0.45	0.49	0.52	0.51	0.54	0.58	0.64
10	10	90	0.39	0.46	0.49	0.51	0.51	0.54	0.57	0.63
15	2	28	0.37	0.44	0.50	0.53	0.53	0.57	0.61	0.68
15	4	56	0.40	0.45	0.48	0.51	0.51	0.54	0.57	0.62
15	6	84	0.40	0.45	0.48	0.50	0.50	0.52	0.55	0.60
15	8	112	0.42	0.45	0.48	0.50	0.50	0.51	0.54	0.59
15	10	140	0.42	0.46	0.48	0.50	0.50	0.51	0.53	0.57
20	2	38	0.39	0.44	0.49	0.52	0.52	0.54	0.58	0.63
20	4	76	0.42	0.46	0.48	0.50	0.50	0.52	0.55	0.58
20	6	114	0.38	0.45	0.48	0.49	0.49	0.51	0.53	0.57
20	8	152	0.41	0.46	0.48	0.49	0.49	0.50	0.52	0.55
20	10	190	0.43	0.46	0.47	0.49	0.49	0.50	0.51	0.55
25	2	48	0.40	0.46	0.48	0.51	0.50	0.53	0.56	0.60
25	4	96	0.42	0.45	0.47	0.49	0.49	0.51	0.53	0.56
25	6	144	0.43	0.45	0.47	0.49	0.49	0.50	0.52	0.54
25	8	192	0.43	0.46	0.47	0.48	0.48	0.49	0.51	0.54
25	10	240	0.44	0.46	0.47	0.48	0.48	0.49	0.50	0.53

TABLE D7

RSD for the Bradley-Terry Model, with Draws, Home Advantage, (3, 1, 0), $R = 3.75$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	1.55	1.87	2.09	2.22	2.23	2.36	2.51	2.73
10	4	36	2.19	2.69	2.91	3.04	3.05	3.19	3.35	3.84
10	6	54	3.12	3.34	3.56	3.69	3.70	3.83	4.01	4.29
10	8	72	3.57	3.93	4.11	4.25	4.25	4.38	4.58	4.92
10	10	90	4.07	4.40	4.60	4.73	4.72	4.86	5.06	5.33
15	2	28	1.99	2.28	2.44	2.55	2.55	2.65	2.79	3.04
15	4	56	3.02	3.25	3.41	3.52	3.52	3.64	3.78	3.95
15	6	84	3.67	3.99	4.16	4.27	4.27	4.38	4.54	4.72
15	8	112	4.41	4.65	4.81	4.91	4.92	5.03	5.17	5.38
15	10	140	4.91	5.22	5.37	5.49	5.50	5.62	5.77	6.09
20	2	38	2.33	2.59	2.74	2.83	2.84	2.93	3.07	3.20
20	4	76	3.41	3.69	3.86	3.95	3.95	4.04	4.17	4.46
20	6	114	4.29	4.55	4.69	4.79	4.79	4.89	5.01	5.22
20	8	152	5.07	5.28	5.43	5.52	5.53	5.62	5.74	5.89
20	10	190	5.64	5.93	6.05	6.15	6.16	6.26	6.39	6.55
25	2	48	2.71	2.88	3.02	3.10	3.11	3.19	3.30	3.47
25	4	96	3.95	4.12	4.24	4.32	4.33	4.41	4.52	4.73
25	6	144	4.77	5.05	5.18	5.26	5.27	5.34	5.45	5.60
25	8	192	5.69	5.84	5.98	6.07	6.06	6.15	6.28	6.46
25	10	240	6.41	6.56	6.68	6.77	6.76	6.86	6.98	7.13

TABLE D8

*ASD**for the Bradley-Terry Model, with Draws, Home Advantage, (3, 1, 0), $R = 3.75$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.49	0.59	0.66	0.70	0.70	0.75	0.79	0.86
10	4	36	0.49	0.60	0.65	0.68	0.68	0.71	0.75	0.86
10	6	54	0.57	0.61	0.65	0.67	0.67	0.70	0.73	0.78
10	8	72	0.56	0.62	0.65	0.67	0.67	0.69	0.72	0.78
10	10	90	0.57	0.62	0.65	0.67	0.67	0.69	0.71	0.75
15	2	28	0.53	0.60	0.65	0.68	0.68	0.70	0.74	0.81
15	4	56	0.57	0.61	0.64	0.66	0.66	0.68	0.71	0.74
15	6	84	0.56	0.61	0.64	0.65	0.65	0.67	0.70	0.72
15	8	112	0.59	0.62	0.64	0.65	0.65	0.67	0.69	0.71
15	10	140	0.58	0.62	0.64	0.65	0.65	0.67	0.68	0.72
20	2	38	0.54	0.60	0.64	0.66	0.66	0.68	0.72	0.75
20	4	76	0.56	0.61	0.64	0.65	0.65	0.67	0.69	0.74
20	6	114	0.58	0.61	0.63	0.64	0.65	0.66	0.67	0.70
20	8	152	0.59	0.62	0.63	0.64	0.64	0.66	0.67	0.69
20	10	190	0.59	0.62	0.63	0.64	0.64	0.65	0.67	0.68
25	2	48	0.57	0.61	0.63	0.65	0.65	0.67	0.69	0.73
25	4	96	0.59	0.61	0.63	0.64	0.64	0.66	0.67	0.70
25	6	144	0.58	0.61	0.63	0.64	0.64	0.65	0.66	0.68
25	8	192	0.60	0.62	0.63	0.64	0.64	0.65	0.66	0.68
25	10	240	0.60	0.62	0.63	0.64	0.64	0.65	0.66	0.67

TABLE D9

RSD for the Bradley-Terry Model, with Draws, Home Advantage, (3, 1, 0), $R = 5$

N	*K*	*G*	*min*	*p5*	*p25*	*mean*	*p50*	*p75*	*p95*	*max*
10	2	18	1.97	2.21	2.36	2.47	2.47	2.58	2.71	2.88
10	4	36	2.67	2.93	3.08	3.18	3.19	3.29	3.43	3.69
10	6	54	3.66	3.88	4.05	4.16	4.17	4.27	4.42	4.62
10	8	72	4.19	4.51	4.67	4.78	4.78	4.89	5.02	5.30
10	10	90	4.75	5.08	5.25	5.35	5.35	5.45	5.61	5.78
15	2	28	2.43	2.62	2.76	2.85	2.85	2.93	3.06	3.25
15	4	56	3.51	3.76	3.89	3.98	3.98	4.07	4.19	4.33
15	6	84	4.39	4.63	4.76	4.85	4.85	4.94	5.07	5.24
15	8	112	5.21	5.35	5.49	5.58	5.58	5.67	5.79	5.95
15	10	140	5.74	6.00	6.12	6.22	6.22	6.31	6.44	6.61
20	2	38	2.86	3.01	3.13	3.20	3.20	3.28	3.38	3.54
20	4	76	4.13	4.29	4.40	4.48	4.48	4.55	4.66	4.84
20	6	114	5.12	5.26	5.37	5.45	5.45	5.54	5.64	5.82
20	8	152	5.89	6.11	6.21	6.29	6.29	6.37	6.47	6.61
20	10	190	6.63	6.82	6.94	7.02	7.02	7.10	7.22	7.40
25	2	48	3.09	3.33	3.44	3.51	3.52	3.58	3.68	3.80
25	4	96	4.52	4.75	4.85	4.93	4.92	5.00	5.10	5.22
25	6	144	5.60	5.83	5.93	6.00	6.00	6.07	6.16	6.33
25	8	192	6.55	6.75	6.86	6.93	6.93	7.00	7.10	7.24
25	10	240	7.38	7.57	7.65	7.73	7.73	7.81	7.91	8.15

TABLE D10

*ASD** for the Bradley-Terry Model, with Draws, Home Advantage, (3, 1, 0), $R = 5$

N	*K*	*G*	*min*	*p5*	*p25*	*mean*	*p50*	*p75*	*p95*	*max*
10	2	18	0.63	0.71	0.76	0.80	0.80	0.83	0.87	0.93
10	4	36	0.65	0.72	0.75	0.78	0.78	0.80	0.84	0.90
10	6	54	0.68	0.72	0.75	0.77	0.77	0.79	0.82	0.86
10	8	72	0.68	0.73	0.75	0.77	0.77	0.79	0.81	0.85
10	10	90	0.68	0.73	0.76	0.77	0.77	0.78	0.81	0.83
15	2	28	0.66	0.71	0.75	0.77	0.77	0.79	0.83	0.88
15	4	56	0.67	0.72	0.75	0.76	0.76	0.78	0.80	0.83
15	6	84	0.69	0.72	0.74	0.76	0.76	0.77	0.79	0.82
15	8	112	0.70	0.72	0.74	0.76	0.76	0.77	0.78	0.80
15	10	140	0.69	0.73	0.74	0.75	0.75	0.76	0.78	0.80
20	2	38	0.68	0.72	0.74	0.76	0.76	0.78	0.80	0.84
20	4	76	0.69	0.72	0.74	0.75	0.75	0.77	0.78	0.81
20	6	114	0.70	0.72	0.74	0.75	0.75	0.76	0.77	0.80
20	8	152	0.70	0.73	0.74	0.75	0.75	0.76	0.77	0.79
20	10	190	0.70	0.73	0.74	0.75	0.75	0.75	0.77	0.79
25	2	48	0.66	0.72	0.74	0.75	0.75	0.77	0.79	0.82
25	4	96	0.69	0.72	0.74	0.75	0.75	0.76	0.77	0.79
25	6	144	0.69	0.72	0.73	0.74	0.74	0.75	0.76	0.78
25	8	192	0.70	0.72	0.74	0.74	0.74	0.75	0.76	0.78
25	10	240	0.71	0.73	0.73	0.74	0.74	0.75	0.76	0.78

Appendix E: Summary statistics for simulated density functions for *RSD* and *ASD for the linear model, with draws, home advantage, and a (3, 1, 0) points allocation**

TABLE E1

RSD for the Linear Model, with Draws, Home Advantage, (3, 1, 0), $R = 0$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.33	0.61	0.82	0.98	0.96	1.12	1.37	1.93
10	4	36	0.34	0.62	0.82	0.99	0.98	1.14	1.35	1.70
10	6	54	0.36	0.64	0.84	1.00	0.99	1.15	1.42	1.83
10	8	72	0.26	0.62	0.84	1.00	0.99	1.15	1.43	1.81
10	10	90	0.33	0.62	0.83	1.00	0.99	1.16	1.42	1.81
15	2	28	0.52	0.70	0.87	0.99	0.98	1.11	1.28	1.65
15	4	56	0.36	0.67	0.85	0.99	0.99	1.12	1.29	1.63
15	6	84	0.43	0.68	0.85	0.98	0.98	1.11	1.30	1.55
15	8	112	0.41	0.70	0.86	0.99	0.98	1.12	1.30	1.54
15	10	140	0.47	0.70	0.86	1.00	1.00	1.12	1.32	1.75
20	2	38	0.61	0.74	0.87	0.98	0.98	1.08	1.24	1.47
20	4	76	0.51	0.74	0.87	0.99	0.99	1.10	1.25	1.56
20	6	114	0.53	0.72	0.87	0.98	0.97	1.09	1.25	1.48
20	8	152	0.53	0.72	0.88	0.98	0.97	1.09	1.25	1.53
20	10	190	0.57	0.74	0.87	0.99	0.99	1.10	1.25	1.56
25	2	48	0.58	0.76	0.88	0.98	0.97	1.07	1.21	1.46
25	4	96	0.48	0.76	0.88	0.98	0.97	1.07	1.22	1.48
25	6	144	0.51	0.76	0.88	0.99	0.99	1.09	1.22	1.40
25	8	192	0.56	0.75	0.88	0.98	0.98	1.08	1.22	1.38
25	10	240	0.58	0.75	0.87	0.97	0.97	1.07	1.21	1.53

TABLE E2

*ASD** for the Linear Model, with Draws, Home Advantage, (3, 1, 0), $R = 0$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.10	0.18	0.25	0.29	0.29	0.33	0.41	0.57
10	4	36	0.07	0.13	0.17	0.21	0.21	0.24	0.29	0.36
10	6	54	0.06	0.11	0.15	0.17	0.17	0.20	0.24	0.31
10	8	72	0.04	0.09	0.12	0.15	0.15	0.17	0.21	0.27
10	10	90	0.04	0.08	0.11	0.13	0.13	0.15	0.19	0.24
15	2	28	0.13	0.18	0.22	0.25	0.25	0.28	0.32	0.42
15	4	56	0.06	0.12	0.15	0.18	0.18	0.20	0.23	0.29
15	6	84	0.06	0.10	0.12	0.14	0.14	0.16	0.19	0.22
15	8	112	0.05	0.09	0.11	0.12	0.12	0.14	0.16	0.19
15	10	140	0.05	0.08	0.10	0.11	0.11	0.13	0.15	0.20
20	2	38	0.13	0.16	0.19	0.22	0.22	0.24	0.28	0.33
20	4	76	0.08	0.12	0.14	0.15	0.15	0.17	0.20	0.24
20	6	114	0.07	0.09	0.11	0.13	0.12	0.14	0.16	0.19
20	8	152	0.06	0.08	0.10	0.11	0.11	0.12	0.14	0.17
20	10	190	0.06	0.07	0.09	0.10	0.10	0.11	0.12	0.15
25	2	48	0.12	0.15	0.18	0.20	0.19	0.21	0.24	0.29
25	4	96	0.07	0.11	0.12	0.14	0.14	0.15	0.17	0.21
25	6	144	0.06	0.09	0.10	0.11	0.11	0.13	0.14	0.16
25	8	192	0.06	0.08	0.09	0.10	0.10	0.11	0.12	0.14
25	10	240	0.05	0.07	0.08	0.09	0.09	0.10	0.11	0.14

TABLE E3

RSD for the Linear Model, with Draws, Home Advantage, (3, 1, 0), $R = 1.25$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.62	0.98	1.24	1.40	1.41	1.57	1.81	2.18
10	4	36	0.91	1.27	1.55	1.75	1.75	1.95	2.22	2.71
10	6	54	1.20	1.53	1.83	2.04	2.05	2.25	2.52	2.99
10	8	72	1.43	1.76	2.09	2.29	2.30	2.49	2.79	3.23
10	10	90	1.67	2.06	2.34	2.54	2.53	2.73	3.05	3.71
15	2	28	0.64	1.16	1.38	1.51	1.51	1.66	1.87	2.18
15	4	56	1.16	1.56	1.78	1.93	1.93	2.09	2.31	2.65
15	6	84	1.44	1.90	2.13	2.28	2.28	2.43	2.66	3.02
15	8	112	1.82	2.16	2.43	2.58	2.58	2.74	2.97	3.30
15	10	140	2.03	2.47	2.69	2.85	2.84	3.00	3.23	3.56
20	2	38	0.95	1.33	1.51	1.64	1.64	1.76	1.95	2.15
20	4	76	1.37	1.78	1.97	2.11	2.11	2.24	2.43	2.66
20	6	114	1.85	2.17	2.36	2.50	2.50	2.64	2.84	3.21
20	8	152	2.14	2.48	2.69	2.84	2.85	2.98	3.18	3.49
20	10	190	2.49	2.79	3.01	3.14	3.14	3.28	3.48	3.80
25	2	48	1.26	1.46	1.62	1.74	1.74	1.86	2.02	2.26
25	4	96	1.63	1.98	2.16	2.28	2.29	2.40	2.58	2.77
25	6	144	2.12	2.42	2.60	2.71	2.72	2.83	3.00	3.29
25	8	192	2.44	2.81	2.98	3.10	3.10	3.21	3.38	3.68
25	10	240	2.82	3.12	3.29	3.41	3.41	3.54	3.72	4.00

TABLE E4

*ASD** for the Linear Model, with Draws, Home Advantage, (3, 1, 0), $R = 1.25$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.19	0.29	0.37	0.42	0.42	0.47	0.55	0.66
10	4	36	0.19	0.27	0.33	0.37	0.37	0.42	0.47	0.58
10	6	54	0.21	0.27	0.32	0.36	0.36	0.39	0.44	0.52
10	8	72	0.22	0.27	0.32	0.35	0.35	0.38	0.42	0.49
10	10	90	0.23	0.28	0.32	0.34	0.34	0.37	0.41	0.50
15	2	28	0.16	0.29	0.35	0.39	0.38	0.42	0.48	0.56
15	4	56	0.21	0.28	0.32	0.35	0.35	0.38	0.42	0.48
15	6	84	0.21	0.28	0.31	0.34	0.33	0.36	0.39	0.44
15	8	112	0.23	0.28	0.31	0.33	0.33	0.35	0.38	0.42
15	10	140	0.23	0.28	0.31	0.32	0.32	0.34	0.37	0.41
20	2	38	0.21	0.30	0.34	0.37	0.37	0.40	0.44	0.48
20	4	76	0.22	0.28	0.31	0.33	0.34	0.35	0.38	0.42
20	6	114	0.24	0.28	0.31	0.32	0.32	0.34	0.37	0.41
20	8	152	0.24	0.28	0.30	0.32	0.32	0.33	0.36	0.39
20	10	190	0.25	0.28	0.30	0.31	0.31	0.33	0.35	0.38
25	2	48	0.25	0.30	0.33	0.35	0.35	0.38	0.41	0.46
25	4	96	0.23	0.28	0.31	0.33	0.33	0.34	0.37	0.40
25	6	144	0.25	0.28	0.30	0.32	0.32	0.33	0.35	0.38
25	8	192	0.25	0.28	0.30	0.31	0.31	0.32	0.34	0.37
25	10	240	0.26	0.28	0.30	0.31	0.31	0.32	0.34	0.36

TABLE E5

RSD for the Linear Model, with Draws, Home Advantage, (3, 1, 0), $R = 2.5$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	1.27	1.61	1.86	2.00	2.02	2.15	2.35	2.68
10	4	36	1.83	2.30	2.53	2.69	2.70	2.86	3.07	3.45
10	6	54	2.47	2.85	3.09	3.25	3.26	3.42	3.63	3.90
10	8	72	3.03	3.34	3.58	3.73	3.74	3.89	4.08	4.34
10	10	90	3.33	3.74	3.97	4.13	4.13	4.30	4.52	4.90
15	2	28	1.67	1.97	2.14	2.26	2.26	2.38	2.54	2.71
15	4	56	2.29	2.74	2.95	3.08	3.08	3.22	3.40	3.60
15	6	84	2.95	3.43	3.61	3.74	3.74	3.87	4.05	4.34
15	8	112	3.67	3.97	4.16	4.28	4.28	4.41	4.59	4.86
15	10	140	4.13	4.45	4.65	4.77	4.78	4.91	5.09	5.34
20	2	38	1.89	2.21	2.39	2.50	2.50	2.62	2.77	3.14
20	4	76	2.90	3.17	3.34	3.45	3.45	3.56	3.72	4.01
20	6	114	3.64	3.91	4.06	4.17	4.17	4.29	4.45	4.62
20	8	152	4.29	4.51	4.66	4.78	4.78	4.89	5.07	5.33
20	10	190	4.90	5.07	5.22	5.34	5.33	5.45	5.60	5.82
25	2	48	2.31	2.48	2.62	2.72	2.71	2.81	2.96	3.26
25	4	96	3.20	3.52	3.65	3.75	3.76	3.85	3.99	4.18
25	6	144	4.11	4.32	4.46	4.56	4.56	4.65	4.79	5.05
25	8	192	4.76	4.99	5.15	5.25	5.25	5.37	5.50	5.71
25	10	240	5.32	5.61	5.75	5.85	5.86	5.95	6.09	6.26

TABLE E6

*ASD** for the Linear Model, with Draws, Home Advantage, (3, 1, 0), $R = 2.5$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.39	0.50	0.58	0.62	0.63	0.67	0.73	0.83
10	4	36	0.40	0.51	0.55	0.59	0.59	0.63	0.67	0.76
10	6	54	0.44	0.51	0.55	0.58	0.58	0.61	0.65	0.70
10	8	72	0.47	0.52	0.56	0.58	0.58	0.60	0.63	0.67
10	10	90	0.46	0.52	0.55	0.57	0.57	0.60	0.63	0.68
15	2	28	0.44	0.51	0.56	0.59	0.59	0.62	0.66	0.71
15	4	56	0.42	0.51	0.55	0.57	0.57	0.60	0.63	0.67
15	6	84	0.44	0.52	0.54	0.56	0.56	0.58	0.61	0.65
15	8	112	0.48	0.52	0.54	0.56	0.56	0.58	0.60	0.63
15	10	140	0.48	0.52	0.54	0.56	0.56	0.57	0.60	0.62
20	2	38	0.43	0.51	0.55	0.57	0.57	0.60	0.64	0.72
20	4	76	0.47	0.52	0.54	0.56	0.56	0.58	0.60	0.65
20	6	114	0.48	0.52	0.54	0.55	0.55	0.57	0.59	0.61
20	8	152	0.49	0.52	0.53	0.55	0.55	0.56	0.58	0.61
20	10	190	0.50	0.52	0.54	0.55	0.55	0.56	0.58	0.60
25	2	48	0.48	0.51	0.54	0.56	0.56	0.58	0.61	0.68
25	4	96	0.47	0.52	0.54	0.55	0.55	0.56	0.58	0.61
25	6	144	0.49	0.52	0.53	0.55	0.55	0.56	0.57	0.60
25	8	192	0.49	0.52	0.53	0.54	0.54	0.56	0.57	0.59
25	10	240	0.49	0.52	0.53	0.54	0.54	0.55	0.56	0.58

TABLE E7

RSD for the Linear Model, with Draws, Home Advantage, (3, 1, 0), $R = 3.75$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	1.85	2.09	2.27	2.38	2.39	2.50	2.64	2.96
10	4	36	2.64	2.99	3.18	3.29	3.30	3.41	3.57	3.84
10	6	54	3.40	3.72	3.88	4.00	4.01	4.12	4.28	4.46
10	8	72	3.92	4.32	4.48	4.60	4.60	4.72	4.88	5.17
10	10	90	4.53	4.84	5.01	5.14	5.14	5.27	5.42	5.68
15	2	28	2.23	2.51	2.66	2.75	2.76	2.84	2.96	3.23
15	4	56	3.26	3.57	3.72	3.82	3.82	3.93	4.05	4.24
15	6	84	4.11	4.41	4.55	4.64	4.64	4.74	4.87	5.14
15	8	112	4.81	5.11	5.25	5.35	5.36	5.46	5.59	5.84
15	10	140	5.48	5.74	5.88	5.98	5.97	6.07	6.23	6.46
20	2	38	2.69	2.86	2.99	3.07	3.08	3.16	3.27	3.50
20	4	76	3.88	4.09	4.20	4.28	4.28	4.36	4.49	4.66
20	6	114	4.86	5.02	5.15	5.23	5.23	5.31	5.43	5.58
20	8	152	5.64	5.81	5.93	6.02	6.02	6.09	6.22	6.37
20	10	190	6.34	6.51	6.63	6.72	6.72	6.80	6.91	7.11
25	2	48	2.96	3.19	3.30	3.37	3.37	3.45	3.55	3.80
25	4	96	4.35	4.51	4.63	4.71	4.71	4.78	4.89	5.09
25	6	144	5.38	5.56	5.67	5.74	5.74	5.82	5.92	6.20
25	8	192	6.28	6.41	6.54	6.62	6.62	6.70	6.80	6.93
25	10	240	7.09	7.21	7.32	7.39	7.39	7.47	7.57	7.71

TABLE E8

*ASD** for the Linear Model, with Draws, Home Advantage, (3, 1, 0), $R = 3.75$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.59	0.67	0.72	0.76	0.76	0.80	0.84	0.94
10	4	36	0.60	0.67	0.71	0.74	0.74	0.77	0.80	0.86
10	6	54	0.63	0.68	0.71	0.74	0.74	0.76	0.79	0.82
10	8	72	0.62	0.69	0.71	0.73	0.73	0.75	0.78	0.82
10	10	90	0.65	0.69	0.71	0.73	0.73	0.75	0.77	0.81
15	2	28	0.60	0.67	0.71	0.74	0.74	0.76	0.79	0.86
15	4	56	0.62	0.68	0.71	0.72	0.72	0.74	0.77	0.80
15	6	84	0.64	0.68	0.70	0.72	0.72	0.73	0.75	0.80
15	8	112	0.64	0.68	0.70	0.72	0.72	0.73	0.75	0.78
15	10	140	0.66	0.69	0.70	0.72	0.72	0.73	0.75	0.77
20	2	38	0.63	0.67	0.70	0.72	0.72	0.74	0.77	0.82
20	4	76	0.65	0.68	0.70	0.71	0.71	0.73	0.75	0.78
20	6	114	0.66	0.68	0.70	0.71	0.71	0.72	0.74	0.76
20	8	152	0.66	0.68	0.70	0.71	0.71	0.72	0.73	0.75
20	10	190	0.67	0.69	0.70	0.71	0.71	0.72	0.73	0.75
25	2	48	0.63	0.68	0.70	0.72	0.72	0.73	0.75	0.81
25	4	96	0.65	0.68	0.70	0.71	0.71	0.72	0.73	0.77
25	6	144	0.66	0.68	0.69	0.70	0.70	0.71	0.73	0.76
25	8	192	0.67	0.68	0.70	0.70	0.70	0.71	0.72	0.74
25	10	240	0.67	0.68	0.70	0.70	0.70	0.71	0.72	0.73

TABLE E9

RSD for the Linear Model, with Draws, Home Advantage, (3, 1, 0), $R = 5$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	2.13	2.37	2.51	2.59	2.60	2.68	2.78	2.94
10	4	36	3.22	3.38	3.52	3.61	3.61	3.70	3.83	4.05
10	6	54	3.92	4.18	4.31	4.40	4.41	4.50	4.62	4.75
10	8	72	4.45	4.85	5.00	5.08	5.09	5.17	5.29	5.46
10	10	90	5.14	5.44	5.59	5.67	5.68	5.76	5.86	5.98
15	2	28	2.65	2.85	2.95	3.03	3.03	3.10	3.19	3.37
15	4	56	3.86	4.04	4.15	4.23	4.23	4.30	4.41	4.54
15	6	84	4.80	4.98	5.09	5.16	5.16	5.23	5.32	5.44
15	8	112	5.53	5.76	5.87	5.94	5.94	6.02	6.13	6.25
15	10	140	6.30	6.47	6.57	6.64	6.64	6.71	6.81	6.99
20	2	38	3.08	3.26	3.34	3.40	3.41	3.47	3.56	3.67
20	4	76	4.45	4.61	4.71	4.76	4.77	4.83	4.91	5.01
20	6	114	5.53	5.67	5.76	5.82	5.82	5.88	5.97	6.12
20	8	152	6.39	6.54	6.64	6.70	6.70	6.77	6.85	6.98
20	10	190	7.19	7.34	7.43	7.49	7.50	7.56	7.65	7.82
25	2	48	3.48	3.60	3.69	3.74	3.74	3.80	3.88	3.97
25	4	96	4.96	5.11	5.20	5.25	5.25	5.31	5.40	5.50
25	6	144	6.10	6.28	6.36	6.42	6.42	6.47	6.56	6.68
25	8	192	7.14	7.26	7.34	7.40	7.40	7.45	7.54	7.62
25	10	240	8.02	8.12	8.21	8.27	8.27	8.32	8.41	8.50

TABLE E10

*ASD** for the Linear Model, with Draws, Home Advantage, (3, 1, 0), $R = 5$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.69	0.77	0.82	0.84	0.85	0.87	0.91	0.95
10	4	36	0.74	0.78	0.81	0.83	0.83	0.85	0.88	0.93
10	6	54	0.74	0.78	0.81	0.83	0.83	0.84	0.87	0.89
10	8	72	0.72	0.79	0.81	0.83	0.83	0.84	0.86	0.89
10	10	90	0.75	0.79	0.81	0.82	0.83	0.84	0.85	0.87
15	2	28	0.73	0.78	0.81	0.83	0.83	0.85	0.87	0.92
15	4	56	0.75	0.78	0.80	0.82	0.82	0.83	0.85	0.88
15	6	84	0.76	0.79	0.80	0.81	0.81	0.82	0.84	0.86
15	8	112	0.75	0.79	0.80	0.81	0.81	0.82	0.84	0.85
15	10	140	0.77	0.79	0.80	0.81	0.81	0.82	0.83	0.85
20	2	38	0.74	0.78	0.80	0.82	0.82	0.83	0.85	0.88
20	4	76	0.76	0.78	0.80	0.81	0.81	0.82	0.83	0.85
20	6	114	0.77	0.79	0.80	0.81	0.81	0.81	0.83	0.85
20	8	152	0.77	0.79	0.80	0.80	0.80	0.81	0.82	0.84
20	10	190	0.77	0.79	0.80	0.80	0.80	0.81	0.82	0.84
25	2	48	0.75	0.78	0.80	0.81	0.81	0.82	0.84	0.86
25	4	96	0.76	0.78	0.80	0.80	0.80	0.81	0.83	0.84
25	6	144	0.76	0.79	0.80	0.80	0.80	0.81	0.82	0.83
25	8	192	0.77	0.79	0.79	0.80	0.80	0.81	0.82	0.82
25	10	240	0.78	0.79	0.80	0.80	0.80	0.81	0.81	0.82

Appendix F: Summary statistics for simulated density functions for *RSD* and *ASD for the linear model, with no draws, no home advantage, and a (2, 1, 0) points allocation**

TABLE F1

RSD for the Linear Model, with No Draws, No Home Advantage, (2, 1, 0), $R = 0$

N	*K*	*G*	*min*	*p5*	*p25*	*mean*	*p50*	*p75*	*p95*	*max*
10	2	18	0.37	0.60	0.82	0.96	0.94	1.10	1.33	1.80
10	4	36	0.30	0.61	0.80	0.97	0.95	1.13	1.37	1.78
10	6	54	0.37	0.63	0.83	0.98	0.97	1.12	1.39	1.77
10	8	72	0.26	0.63	0.84	0.99	0.97	1.14	1.38	1.72
10	10	90	0.35	0.61	0.81	0.97	0.96	1.12	1.39	1.72
15	2	28	0.50	0.70	0.87	0.99	0.98	1.11	1.29	1.67
15	4	56	0.39	0.68	0.85	0.98	0.98	1.12	1.30	1.80
15	6	84	0.51	0.69	0.85	0.98	0.98	1.11	1.29	1.77
15	8	112	0.45	0.69	0.85	0.98	0.98	1.11	1.30	1.59
15	10	140	0.49	0.69	0.87	1.00	1.00	1.12	1.32	1.78
20	2	38	0.49	0.74	0.86	0.98	0.98	1.09	1.25	1.47
20	4	76	0.49	0.73	0.88	0.99	0.98	1.09	1.25	1.50
20	6	114	0.56	0.73	0.87	0.99	0.99	1.10	1.26	1.51
20	8	152	0.57	0.73	0.88	0.99	0.98	1.09	1.26	1.57
20	10	190	0.53	0.74	0.88	0.99	0.98	1.08	1.25	1.50
25	2	48	0.59	0.77	0.90	1.00	0.99	1.09	1.23	1.42
25	4	96	0.48	0.74	0.89	0.98	0.99	1.08	1.21	1.51
25	6	144	0.55	0.76	0.90	1.00	1.00	1.08	1.24	1.47
25	8	192	0.56	0.75	0.89	0.99	0.99	1.09	1.23	1.42
25	10	240	0.52	0.76	0.89	0.99	0.98	1.08	1.23	1.54

TABLE F2

*ASD** for the Linear Model, with No Draws, No Home Advantage, (2, 1, 0), $R = 0$

N	*K*	*G*	*min*	*p5*	*p25*	*mean*	*p50*	*p75*	*p95*	*max*
10	2	18	0.13	0.22	0.30	0.35	0.35	0.40	0.49	0.67
10	4	36	0.08	0.16	0.21	0.25	0.25	0.29	0.36	0.47
10	6	54	0.08	0.13	0.18	0.21	0.21	0.24	0.30	0.38
10	8	72	0.05	0.12	0.15	0.18	0.18	0.21	0.25	0.32
10	10	90	0.06	0.10	0.13	0.16	0.16	0.19	0.23	0.28
15	2	28	0.15	0.22	0.27	0.30	0.30	0.34	0.39	0.51
15	4	56	0.08	0.15	0.18	0.21	0.21	0.24	0.28	0.39
15	6	84	0.09	0.12	0.15	0.17	0.17	0.20	0.23	0.31
15	8	112	0.07	0.11	0.13	0.15	0.15	0.17	0.20	0.24
15	10	140	0.07	0.10	0.12	0.14	0.14	0.15	0.18	0.24
20	2	38	0.13	0.20	0.23	0.26	0.26	0.29	0.33	0.39
20	4	76	0.09	0.14	0.17	0.19	0.18	0.21	0.24	0.28
20	6	114	0.09	0.11	0.13	0.15	0.15	0.17	0.19	0.23
20	8	152	0.08	0.10	0.12	0.13	0.13	0.15	0.17	0.21
20	10	190	0.06	0.09	0.11	0.12	0.12	0.13	0.15	0.18
25	2	48	0.14	0.19	0.22	0.24	0.24	0.26	0.29	0.34
25	4	96	0.08	0.13	0.15	0.17	0.17	0.18	0.21	0.26
25	6	144	0.08	0.11	0.12	0.14	0.14	0.15	0.17	0.20
25	8	192	0.07	0.09	0.11	0.12	0.12	0.13	0.15	0.17
25	10	240	0.06	0.08	0.10	0.11	0.11	0.12	0.13	0.16

TABLE F3

RSD for the Linear Model, with No Draws, No Home Advantage, (2, 1, 0), $R = 1.25$

N	*K*	*G*	*min*	*p5*	*p25*	*mean*	*p50*	*p75*	*p95*	*max*
10	2	18	0.63	0.92	1.17	1.32	1.33	1.49	1.70	2.09
10	4	36	0.83	1.18	1.45	1.63	1.63	1.83	2.06	2.45
10	6	54	0.93	1.42	1.68	1.88	1.88	2.08	2.33	2.92
10	8	72	1.23	1.61	1.93	2.11	2.12	2.30	2.59	3.06
10	10	90	1.38	1.84	2.11	2.32	2.32	2.51	2.79	3.16
15	2	28	0.73	1.08	1.31	1.44	1.45	1.59	1.78	2.07
15	4	56	0.98	1.45	1.67	1.82	1.82	1.98	2.18	2.46
15	6	84	1.39	1.74	1.98	2.13	2.14	2.28	2.51	2.77
15	8	112	1.62	2.00	2.25	2.40	2.41	2.56	2.79	3.18
15	10	140	1.88	2.28	2.49	2.65	2.64	2.80	3.02	3.31
20	2	38	1.02	1.26	1.45	1.57	1.57	1.70	1.87	2.08
20	4	76	1.28	1.67	1.85	1.99	2.00	2.13	2.30	2.56
20	6	114	1.69	2.01	2.21	2.35	2.34	2.49	2.67	3.01
20	8	152	2.01	2.32	2.53	2.66	2.67	2.80	2.99	3.31
20	10	190	2.31	2.60	2.81	2.94	2.94	3.08	3.28	3.61
25	2	48	1.16	1.39	1.55	1.67	1.68	1.78	1.92	2.25
25	4	96	1.58	1.87	2.04	2.16	2.17	2.29	2.47	2.79
25	6	144	1.96	2.28	2.44	2.56	2.56	2.68	2.85	3.12
25	8	192	2.14	2.64	2.81	2.92	2.92	3.03	3.21	3.45
25	10	240	2.53	2.90	3.09	3.21	3.21	3.34	3.53	3.74

TABLE F4

*ASD** for the Linear Model, with No Draws, No Home Advantage, (2, 1, 0), $R = 1.25$

N	*K*	*G*	*min*	*p5*	*p25*	*mean*	*p50*	*p75*	*p95*	*max*
10	2	18	0.23	0.34	0.43	0.49	0.49	0.55	0.63	0.77
10	4	36	0.22	0.31	0.38	0.43	0.42	0.48	0.54	0.64
10	6	54	0.20	0.30	0.36	0.40	0.40	0.44	0.50	0.62
10	8	72	0.23	0.30	0.36	0.39	0.39	0.42	0.48	0.56
10	10	90	0.23	0.30	0.35	0.38	0.38	0.42	0.46	0.52
15	2	28	0.22	0.33	0.40	0.44	0.44	0.49	0.55	0.63
15	4	56	0.21	0.31	0.36	0.39	0.39	0.43	0.47	0.53
15	6	84	0.25	0.31	0.35	0.38	0.38	0.40	0.44	0.49
15	8	112	0.25	0.31	0.34	0.37	0.37	0.39	0.43	0.49
15	10	140	0.26	0.31	0.34	0.36	0.36	0.38	0.41	0.45
20	2	38	0.27	0.34	0.39	0.42	0.42	0.45	0.50	0.56
20	4	76	0.24	0.32	0.35	0.38	0.38	0.40	0.43	0.48
20	6	114	0.26	0.31	0.34	0.36	0.36	0.38	0.41	0.47
20	8	152	0.27	0.31	0.34	0.36	0.36	0.37	0.40	0.44
20	10	190	0.28	0.31	0.34	0.35	0.35	0.37	0.39	0.43
25	2	48	0.28	0.33	0.37	0.40	0.40	0.43	0.46	0.54
25	4	96	0.27	0.32	0.35	0.37	0.37	0.39	0.42	0.47
25	6	144	0.27	0.32	0.34	0.36	0.35	0.37	0.40	0.43
25	8	192	0.26	0.32	0.34	0.35	0.35	0.36	0.39	0.41
25	10	240	0.27	0.31	0.33	0.35	0.34	0.36	0.38	0.40

TABLE F5

RSD for the Linear Model, with No Draws, No Home Advantage, (2, 1, 0), $R = 2.5$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	1.12	1.49	1.71	1.85	1.85	1.99	2.17	2.39
10	4	36	1.63	2.07	2.32	2.46	2.47	2.62	2.81	3.15
10	6	54	2.23	2.57	2.83	2.97	2.98	3.12	3.33	3.58
10	8	72	2.65	3.03	3.25	3.41	3.41	3.57	3.76	4.07
10	10	90	3.08	3.38	3.63	3.76	3.76	3.91	4.11	4.47
15	2	28	1.59	1.83	2.00	2.12	2.12	2.24	2.40	2.59
15	4	56	2.21	2.54	2.74	2.86	2.87	2.99	3.14	3.40
15	6	84	2.62	3.17	3.34	3.46	3.45	3.59	3.77	4.13
15	8	112	3.42	3.64	3.83	3.96	3.96	4.08	4.26	4.53
15	10	140	3.86	4.10	4.29	4.42	4.42	4.55	4.72	4.99
20	2	38	1.78	2.06	2.24	2.35	2.36	2.47	2.60	2.84
20	4	76	2.63	2.96	3.12	3.23	3.23	3.33	3.48	3.72
20	6	114	3.34	3.63	3.80	3.90	3.90	4.01	4.15	4.41
20	8	152	3.87	4.18	4.34	4.45	4.45	4.57	4.73	4.99
20	10	190	4.54	4.71	4.86	4.97	4.97	5.08	5.24	5.54
25	2	48	2.08	2.35	2.47	2.56	2.56	2.66	2.79	3.07
25	4	96	3.12	3.28	3.44	3.53	3.53	3.62	3.76	3.99
25	6	144	3.82	4.03	4.17	4.27	4.28	4.36	4.50	4.67
25	8	192	4.40	4.65	4.82	4.92	4.92	5.02	5.17	5.37
25	10	240	5.00	5.22	5.38	5.48	5.48	5.59	5.71	5.91

TABLE F6

*ASD** for the Linear Model, with No Draws, No Home Advantage, (2, 1, 0), $R = 2.5$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.41	0.55	0.63	0.68	0.68	0.73	0.80	0.88
10	4	36	0.42	0.54	0.61	0.64	0.65	0.68	0.73	0.82
10	6	54	0.47	0.55	0.60	0.63	0.64	0.67	0.71	0.76
10	8	72	0.49	0.56	0.60	0.63	0.63	0.66	0.69	0.75
10	10	90	0.51	0.56	0.60	0.62	0.62	0.65	0.68	0.74
15	2	28	0.49	0.56	0.61	0.65	0.65	0.69	0.74	0.79
15	4	56	0.48	0.55	0.59	0.62	0.62	0.65	0.68	0.74
15	6	84	0.46	0.56	0.59	0.61	0.61	0.63	0.67	0.73
15	8	112	0.52	0.56	0.59	0.61	0.61	0.63	0.65	0.69
15	10	140	0.53	0.56	0.59	0.61	0.61	0.62	0.65	0.68
20	2	38	0.48	0.55	0.60	0.63	0.63	0.66	0.69	0.76
20	4	76	0.50	0.56	0.59	0.61	0.61	0.63	0.66	0.70
20	6	114	0.51	0.56	0.59	0.60	0.60	0.62	0.64	0.68
20	8	152	0.52	0.56	0.58	0.60	0.60	0.61	0.63	0.67
20	10	190	0.54	0.56	0.58	0.59	0.59	0.61	0.63	0.66
25	2	48	0.50	0.56	0.59	0.62	0.61	0.64	0.67	0.74
25	4	96	0.53	0.56	0.58	0.60	0.60	0.62	0.64	0.68
25	6	144	0.53	0.56	0.58	0.59	0.59	0.60	0.62	0.65
25	8	192	0.53	0.56	0.58	0.59	0.59	0.60	0.62	0.64
25	10	240	0.54	0.56	0.58	0.59	0.59	0.60	0.61	0.63

TABLE F7

RSD for the Linear Model, with No Draws, No Home Advantage, (2, 1, 0), $R = 3.75$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	1.56	1.91	2.09	2.19	2.20	2.30	2.43	2.59
10	4	36	2.47	2.74	2.91	3.01	3.02	3.12	3.26	3.44
10	6	54	3.10	3.37	3.55	3.65	3.66	3.76	3.90	4.01
10	8	72	3.66	3.91	4.08	4.19	4.20	4.31	4.46	4.67
10	10	90	4.08	4.41	4.57	4.68	4.68	4.79	4.94	5.18
15	2	28	2.02	2.34	2.48	2.56	2.57	2.65	2.76	2.92
15	4	56	3.08	3.32	3.45	3.55	3.56	3.64	3.76	3.99
15	6	84	3.85	4.06	4.21	4.30	4.30	4.39	4.51	4.73
15	8	112	4.47	4.72	4.86	4.95	4.96	5.05	5.18	5.36
15	10	140	5.14	5.30	5.43	5.53	5.53	5.62	5.75	6.00
20	2	38	2.45	2.69	2.80	2.88	2.88	2.96	3.06	3.23
20	4	76	3.52	3.81	3.93	4.00	4.01	4.08	4.18	4.42
20	6	114	4.50	4.68	4.80	4.88	4.88	4.96	5.08	5.21
20	8	152	5.23	5.41	5.52	5.61	5.62	5.70	5.80	5.96
20	10	190	5.83	6.06	6.18	6.26	6.26	6.33	6.45	6.56
25	2	48	2.85	3.00	3.10	3.17	3.17	3.23	3.34	3.52
25	4	96	4.10	4.24	4.35	4.41	4.41	4.48	4.58	4.84
25	6	144	5.00	5.20	5.31	5.38	5.38	5.45	5.56	5.73
25	8	192	5.84	6.01	6.13	6.20	6.20	6.28	6.37	6.47
25	10	240	6.61	6.75	6.85	6.92	6.92	6.99	7.09	7.26

TABLE F8

*ASD** for the Linear Model, with No Draws, No Home Advantage, (2, 1, 0), $R = 3.75$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.58	0.71	0.77	0.81	0.81	0.85	0.90	0.96
10	4	36	0.65	0.72	0.76	0.79	0.79	0.81	0.85	0.90
10	6	54	0.66	0.72	0.76	0.78	0.78	0.80	0.83	0.85
10	8	72	0.68	0.72	0.75	0.77	0.78	0.80	0.82	0.86
10	10	90	0.67	0.73	0.75	0.77	0.77	0.79	0.82	0.86
15	2	28	0.62	0.72	0.76	0.78	0.79	0.81	0.85	0.89
15	4	56	0.67	0.72	0.75	0.77	0.77	0.79	0.81	0.86
15	6	84	0.68	0.72	0.74	0.76	0.76	0.78	0.80	0.84
15	8	112	0.68	0.72	0.74	0.76	0.76	0.77	0.79	0.82
15	10	140	0.70	0.73	0.74	0.76	0.76	0.77	0.79	0.82
20	2	38	0.65	0.72	0.75	0.77	0.77	0.79	0.82	0.86
20	4	76	0.66	0.72	0.74	0.76	0.76	0.77	0.79	0.83
20	6	114	0.69	0.72	0.74	0.75	0.75	0.76	0.78	0.80
20	8	152	0.70	0.72	0.74	0.75	0.75	0.76	0.77	0.80
20	10	190	0.70	0.72	0.74	0.75	0.75	0.76	0.77	0.78
25	2	48	0.69	0.72	0.75	0.76	0.76	0.78	0.80	0.85
25	4	96	0.70	0.72	0.74	0.75	0.75	0.76	0.78	0.82
25	6	144	0.69	0.72	0.74	0.75	0.75	0.76	0.77	0.80
25	8	192	0.70	0.72	0.74	0.74	0.74	0.75	0.77	0.78
25	10	240	0.71	0.73	0.74	0.74	0.74	0.75	0.76	0.78

TABLE F9

RSD for the Linear Model, with No Draws, No Home Advantage, (2, 1, 0), $R = 5$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	1.99	2.19	2.31	2.38	2.39	2.47	2.56	2.65
10	4	36	2.82	3.10	3.23	3.31	3.32	3.39	3.50	3.61
10	6	54	3.59	3.83	3.95	4.03	4.04	4.11	4.21	4.40
10	8	72	4.15	4.45	4.58	4.65	4.65	4.73	4.84	4.96
10	10	90	4.74	4.97	5.10	5.18	5.18	5.27	5.36	5.53
15	2	28	2.47	2.66	2.75	2.82	2.82	2.89	2.96	3.08
15	4	56	3.61	3.76	3.86	3.93	3.93	3.99	4.08	4.21
15	6	84	4.46	4.61	4.72	4.78	4.78	4.85	4.94	5.09
15	8	112	5.19	5.32	5.44	5.51	5.51	5.59	5.69	5.83
15	10	140	5.83	5.99	6.09	6.15	6.16	6.22	6.31	6.47
20	2	38	2.92	3.05	3.14	3.19	3.19	3.25	3.32	3.45
20	4	76	4.09	4.31	4.40	4.46	4.46	4.52	4.60	4.70
20	6	114	5.14	5.30	5.38	5.44	5.44	5.50	5.57	5.69
20	8	152	5.94	6.11	6.20	6.26	6.26	6.32	6.40	6.51
20	10	190	6.69	6.84	6.93	6.99	6.99	7.05	7.14	7.27
25	2	48	3.25	3.39	3.47	3.52	3.52	3.57	3.64	3.77
25	4	96	4.65	4.80	4.88	4.93	4.93	4.99	5.06	5.18
25	6	144	5.72	5.88	5.97	6.02	6.02	6.07	6.14	6.26
25	8	192	6.72	6.81	6.88	6.94	6.94	6.99	7.05	7.16
25	10	240	7.47	7.61	7.69	7.75	7.75	7.80	7.89	8.02

TABLE F10

*ASD** for the Linear Model, with No Draws, No Home Advantage, (2, 1, 0), $R = 5$

N	*K*	*G*	*min*	*p*5	*p*25	*mean*	*p*50	*p*75	*p*95	*max*
10	2	18	0.73	0.81	0.85	0.88	0.88	0.91	0.95	0.98
10	4	36	0.74	0.81	0.84	0.86	0.87	0.88	0.91	0.94
10	6	54	0.76	0.82	0.84	0.86	0.86	0.88	0.90	0.94
10	8	72	0.77	0.82	0.85	0.86	0.86	0.87	0.89	0.92
10	10	90	0.78	0.82	0.84	0.86	0.86	0.87	0.89	0.91
15	2	28	0.76	0.81	0.84	0.86	0.86	0.88	0.91	0.94
15	4	56	0.78	0.81	0.84	0.85	0.85	0.86	0.88	0.91
15	6	84	0.79	0.81	0.83	0.85	0.85	0.86	0.87	0.90
15	8	112	0.79	0.81	0.83	0.84	0.84	0.86	0.87	0.89
15	10	140	0.80	0.82	0.83	0.84	0.84	0.85	0.86	0.89
20	2	38	0.78	0.82	0.84	0.85	0.85	0.87	0.89	0.92
20	4	76	0.77	0.81	0.83	0.84	0.84	0.85	0.87	0.89
20	6	114	0.79	0.82	0.83	0.84	0.84	0.85	0.86	0.88
20	8	152	0.79	0.82	0.83	0.84	0.84	0.84	0.86	0.87
20	10	190	0.80	0.82	0.83	0.84	0.84	0.84	0.85	0.87
25	2	48	0.78	0.81	0.83	0.85	0.85	0.86	0.87	0.91
25	4	96	0.79	0.82	0.83	0.84	0.84	0.85	0.86	0.88
25	6	144	0.79	0.82	0.83	0.83	0.83	0.84	0.85	0.87
25	8	192	0.81	0.82	0.83	0.83	0.83	0.84	0.85	0.86
25	10	240	0.80	0.82	0.83	0.83	0.83	0.84	0.85	0.86