A Appendix

A.1 Independent Random Effects (Baseline)

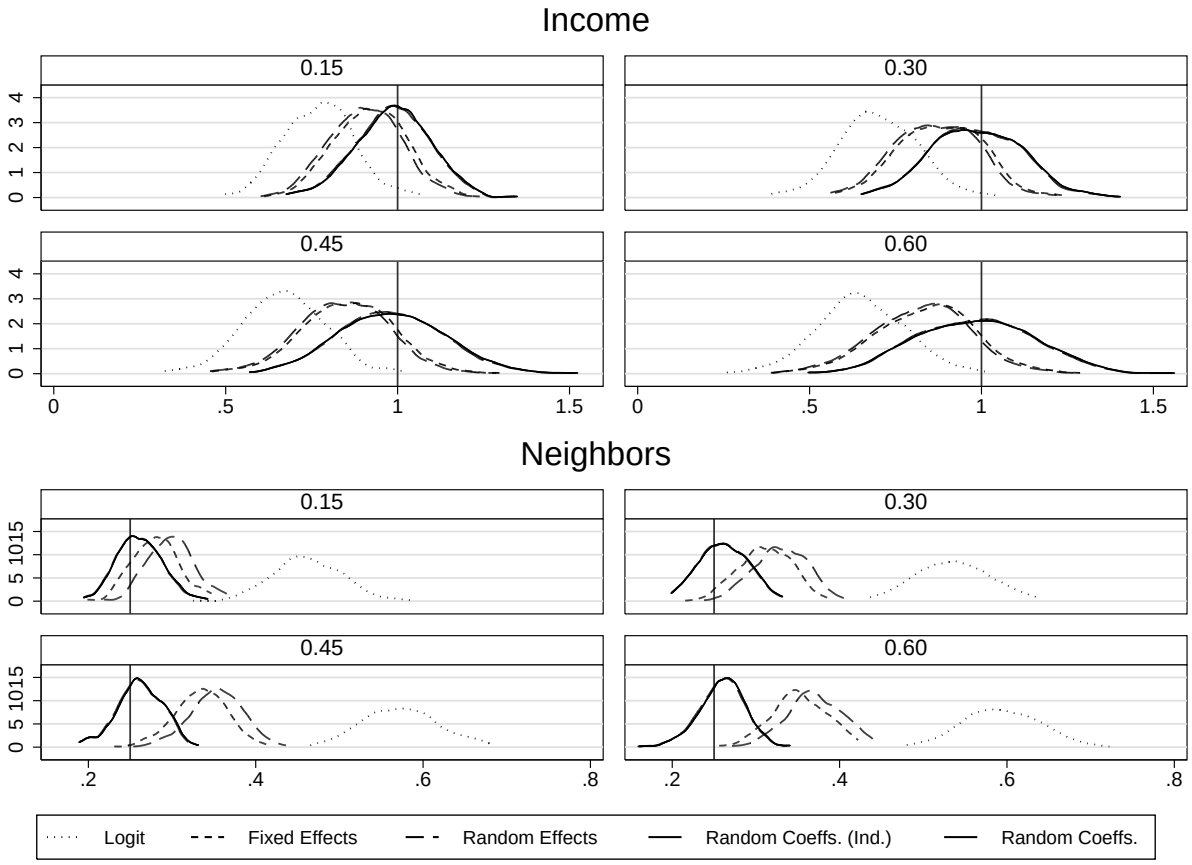
Table 2: Detailed Monte Carlo Results

		Logit			Fixed Effects			Clustered			Random Effects			Random Coefficients		
	c	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD
Ideology	1	0.8106	0.0785	0.1013	0.9350	0.0795	0.1047	0.8106	0.0970	0.1013	0.9206	0.0795	0.1036	0.9867	0.1043	0.1066
	2	0.7583	0.0825	0.1138	0.9047	0.0838	0.1203	0.7583	0.1110	0.1138	0.8916	0.0838	0.1189	0.9860	0.1284	0.1287
	3	0.7404	0.0856	0.1245	0.8923	0.0873	0.1331	0.7404	0.1217	0.1245	0.8805	0.0872	0.1314	0.9859	0.1488	0.1497
	4	0.7341	0.0883	0.1321	0.8869	0.0902	0.1441	0.7341	0.1312	0.1321	0.8762	0.0901	0.1421	0.9857	0.1669	0.1691
Income	1	0.3911	0.0337	0.0628	0.4583	0.0350	0.0773	0.3911	0.0620	0.0628	0.4503	0.0349	0.0756	0.4986	0.0775	0.0804
	2	0.3534	0.0341	0.0745	0.4264	0.0357	0.0985	0.3534	0.0745	0.0745	0.4194	0.0356	0.0962	0.5003	0.1044	0.1075
	3	0.3317	0.0344	0.0837	0.4027	0.0362	0.1136	0.3317	0.0838	0.0837	0.3964	0.0361	0.1110	0.5023	0.1258	0.1292
	4	0.3159	0.0348	0.0921	0.3837	0.0367	0.1257	0.3159	0.0913	0.0921	0.3779	0.0366	0.1228	0.5048	0.1439	0.1476
Neighbors	1	0.4482	0.0230	0.0388	0.2809	0.0257	0.0283	0.4482	0.0376	0.0388	0.3003	0.0260	0.0282	0.2619	0.0268	0.0280
	2	0.5226	0.0221	0.0411	0.3117	0.0258	0.0317	0.5226	0.0410	0.0411	0.3315	0.0260	0.0317	0.2621	0.0272	0.0275
	3	0.5617	0.0216	0.0431	0.3364	0.0258	0.0321	0.5617	0.0427	0.0431	0.3562	0.0260	0.0322	0.2626	0.0274	0.0267
	4	0.5842	0.0213	0.0436	0.3542	0.0258	0.0327	0.5842	0.0440	0.0436	0.3739	0.0260	0.0328	0.2623	0.0276	0.0267
Time	1	-0.0325	0.0074	0.0083	-0.0105	0.0076	0.0076	-0.0325	0.0086	0.0083	-0.0131	0.0076	0.0076	-0.0066	0.0078	0.0073
	2	-0.0470	0.0076	0.0099	-0.0180	0.0080	0.0090	-0.0470	0.0099	0.0099	-0.0210	0.0080	0.0090	-0.0072	0.0082	0.0080
	3	-0.0569	0.0078	0.0110	-0.0248	0.0083	0.0099	-0.0569	0.0110	0.0110	-0.0279	0.0083	0.0100	-0.0078	0.0086	0.0085
	4	-0.0643	0.0080	0.0117	-0.0306	0.0085	0.0108	-0.0643	0.0118	0.0117	-0.0338	0.0085	0.0108	-0.0084	0.0089	0.0089
Intercept	1	-3.3891	0.1502	0.1799	-3.6804	0.2343	0.6879	-3.3891	0.1895	0.1799	-3.6805	0.1917	0.1840	-3.8156	0.1997	0.1815
	2	-3.1333	0.1538	0.2162	-3.5031	0.2467	0.8856	-3.1333	0.2218	0.2162	-3.5076	0.2169	0.2210	-3.7918	0.2380	0.2143
	3	-2.9540	0.1571	0.2430	-3.3411	0.2573	1.0186	-2.9540	0.2461	0.2430	-3.3516	0.2341	0.2549	-3.7679	0.2693	0.2487
	4	-2.8169	0.1602	0.2579	-3.2002	0.2682	1.1099	-2.8169	0.2627	0.2579	-3.2161	0.2477	0.2760	-3.7448	0.2962	0.2777

Note. Results based on 500 draws for each value of the scale variable. Column c gives the scalar used to multiply the variance of the random effects matrix. See text for the specification of the initial covariance matrix.

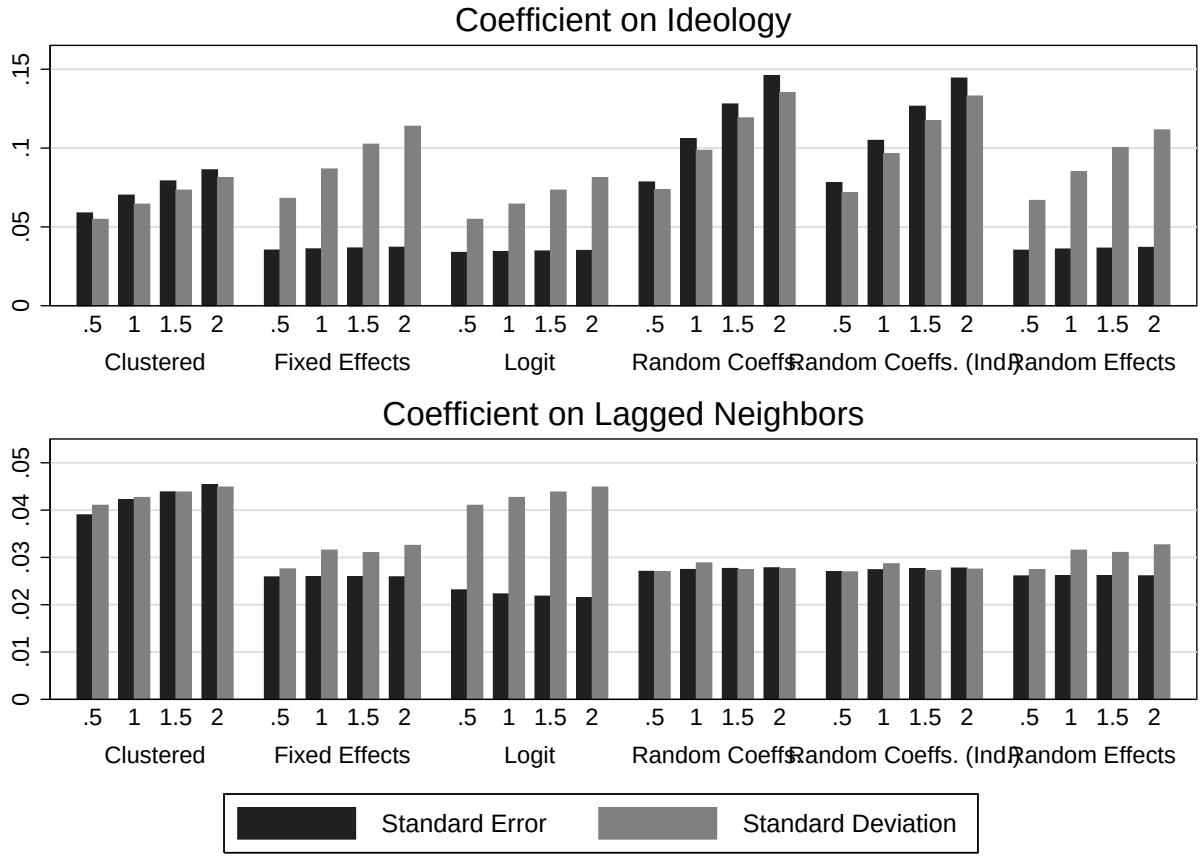
A.2 Correlated Random Effects

Figure 5: Kernel Density Plots of Estimates of Select Coefficients, Varying Magnitude of the Random Effects



Notes: Results obtained from 250 draws for each value of the variance of the random effects.

Figure 6: Comparison of Standard Errors and Standard Deviation for Select Coefficients, Varying Magnitude of Random Effects



Notes: Results obtained from 250 draws for each value of the scale parameter. Standard deviation calculated from the sampling distribution of the 500 estimated coefficients while the standard errors represent the average of the 250 standard errors.

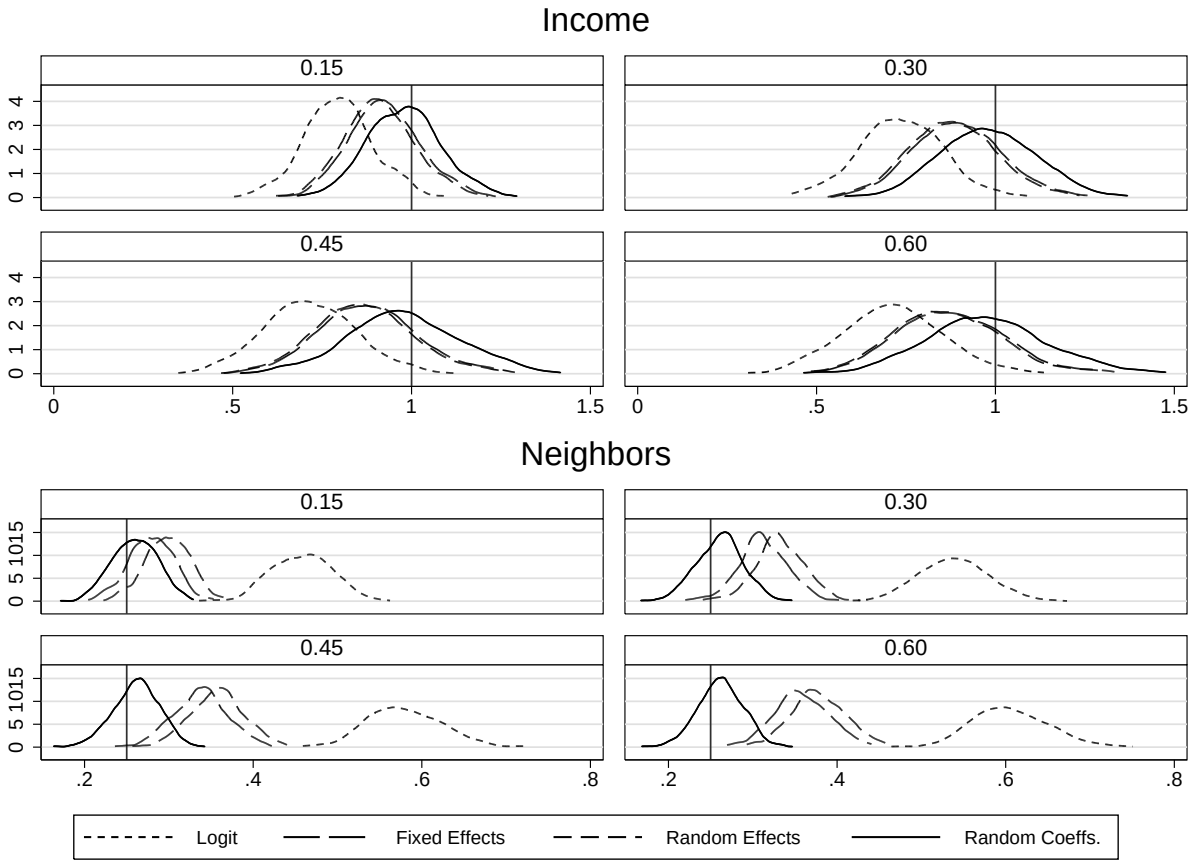
Table 3: Detailed Monte Carlo Results

		Logit			Fixed Effects			Clustered			Random Effects			Random Coeff. (Ind,)			Random Coeff. (Corr.)		
	c	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD
Ideology	.5	-3.4441	0.1514	0.1640	-3.7517	0.2384	0.7645	-3.4441	0.1766	0.1640	-3.7628	0.1999	0.1751	-3.8319	0.2026	0.1766	-3.7888	0.2013	0.1773
	1	-3.2457	0.1554	0.1944	-3.6325	0.2531	0.9553	-3.2457	0.2014	0.1944	-3.6456	0.2264	0.2106	-3.8104	0.2405	0.2097	-3.7586	0.2398	0.2075
	1.5	-3.1000	0.1590	0.2147	-3.5273	0.2721	1.1068	-3.1000	0.2220	0.2147	-3.5338	0.2440	0.2348	-3.7897	0.2718	0.2387	-3.7345	0.2715	0.2372
	2	-2.9934	0.1623	0.2336	-3.4376	0.2897	1.2109	-2.9934	0.2387	0.2336	-3.4323	0.2570	0.2634	-3.7669	0.2989	0.2655	-3.7085	0.2994	0.2643
Income	.5	0.4621	0.0231	0.0410	0.2806	0.0259	0.0276	0.4621	0.0390	0.0410	0.2989	0.0261	0.0274	0.2610	0.0270	0.0270	0.2618	0.0271	0.0270
	1	0.5354	0.0223	0.0427	0.3114	0.0259	0.0316	0.5354	0.0422	0.0427	0.3300	0.0262	0.0315	0.2612	0.0274	0.0287	0.2618	0.0275	0.0288
	1.5	0.5733	0.0218	0.0438	0.3344	0.0259	0.0310	0.5733	0.0439	0.0438	0.3531	0.0262	0.0311	0.2609	0.0276	0.0272	0.2619	0.0277	0.0274
	2	0.5937	0.0215	0.0449	0.3515	0.0259	0.0326	0.5937	0.0454	0.0449	0.3701	0.0261	0.0327	0.2590	0.0278	0.0275	0.2602	0.0278	0.0277
Neighbors	.5	-0.0313	0.0074	0.0079	-0.0085	0.0076	0.0075	-0.0313	0.0081	0.0079	-0.0109	0.0076	0.0074	-0.0059	0.0078	0.0074	-0.0070	0.0078	0.0074
	1	-0.0435	0.0077	0.0094	-0.0145	0.0080	0.0087	-0.0435	0.0091	0.0094	-0.0171	0.0080	0.0087	-0.0063	0.0082	0.0082	-0.0076	0.0082	0.0082
	1.5	-0.0519	0.0079	0.0101	-0.0198	0.0083	0.0095	-0.0519	0.0100	0.0101	-0.0225	0.0083	0.0095	-0.0065	0.0086	0.0087	-0.0078	0.0086	0.0088
	2	-0.0578	0.0081	0.0109	-0.0243	0.0085	0.0107	-0.0578	0.0108	0.0109	-0.0271	0.0086	0.0107	-0.0066	0.0089	0.0093	-0.0080	0.0089	0.0094
Time	.5	0.3819	0.0338	0.0548	0.4699	0.0353	0.0681	0.3819	0.0589	0.0548	0.4605	0.0353	0.0668	0.4995	0.0780	0.0717	0.4971	0.0785	0.0736
	1	0.3520	0.0343	0.0645	0.4492	0.0361	0.0868	0.3520	0.0702	0.0645	0.4408	0.0360	0.0850	0.5027	0.1049	0.0965	0.4988	0.1060	0.0986
	1.5	0.3356	0.0348	0.0734	0.4354	0.0367	0.1025	0.3356	0.0792	0.0734	0.4274	0.0366	0.1004	0.5079	0.1266	0.1173	0.5030	0.1280	0.1192
	2	0.3229	0.0351	0.0813	0.4217	0.0371	0.1139	0.3229	0.0862	0.0813	0.4141	0.0370	0.1116	0.5090	0.1444	0.1330	0.5027	0.1460	0.1351
Intercept	.5	0.7709	0.0790	0.1000	0.9216	0.0802	0.1042	0.7709	0.0941	0.1000	0.9055	0.0802	0.1029	0.9846	0.1063	0.1076	0.9885	0.1057	0.1078
	1	0.7018	0.0832	0.1132	0.8824	0.0847	0.1220	0.7018	0.1055	0.1132	0.8667	0.0847	0.1206	0.9839	0.1304	0.1306	0.9877	0.1308	0.1318
	1.5	0.6698	0.0865	0.1188	0.8563	0.0883	0.1335	0.6698	0.1155	0.1188	0.8415	0.0883	0.1316	0.9812	0.1505	0.1531	0.9847	0.1514	0.1553
	2	0.6499	0.0893	0.1268	0.8385	0.0914	0.1434	0.6499	0.1253	0.1268	0.8247	0.0913	0.1411	0.9807	0.1683	0.1695	0.9846	0.1696	0.1719

Note. Results based on 500 draws for each value of the scale variable. Column c gives the scalar used to multiply the variance of the random effects matrix. See text for the specification of the initial covariance matrix.

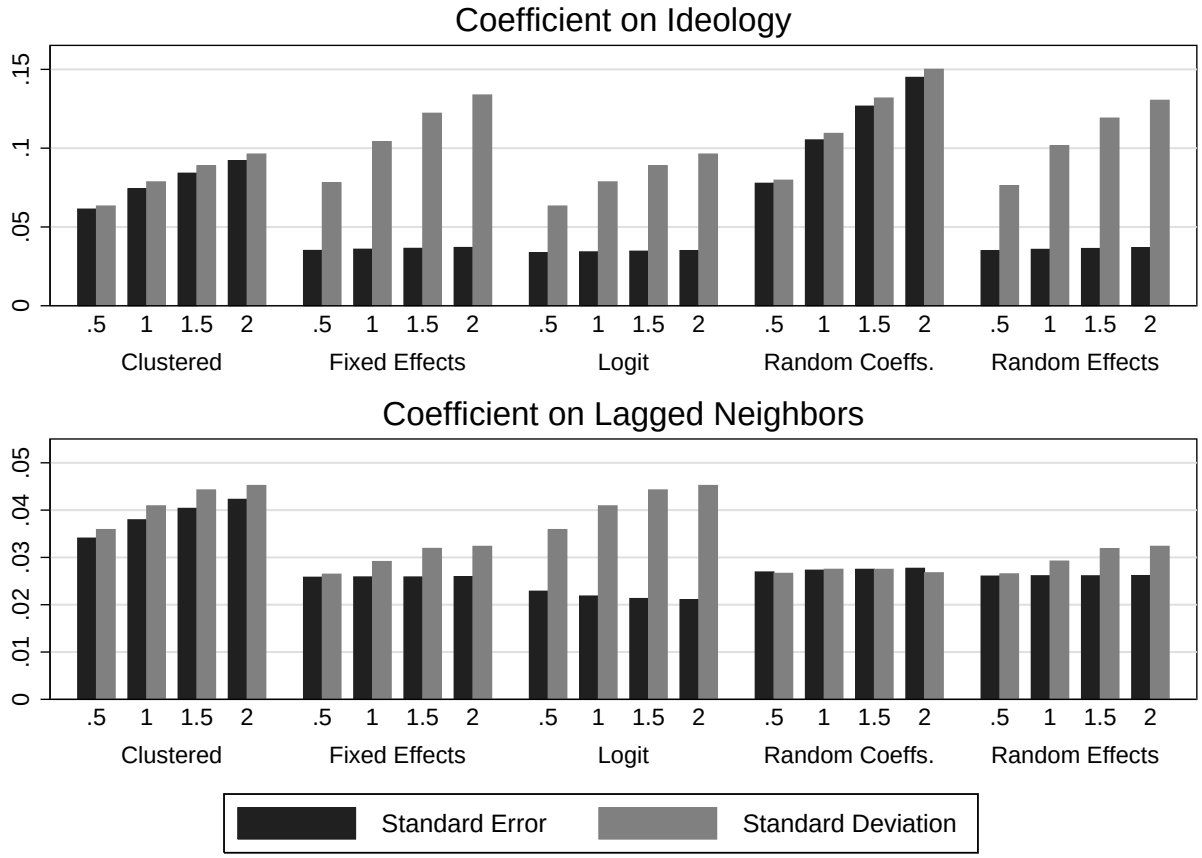
A.3 Bimodal Random Effects

Figure 7: Kernel Density Plots of Estimates of Select Coefficients, Varying Magnitude of the Random Effects



Notes: Results obtained from 500 draws for each value of the variance of the random effects.

Figure 8: Comparison of Standard Errors and Standard Deviation for Select Coefficients, Varying Magnitude of Random Effects



Notes: Results obtained from 500 draws for each value of the scale parameter. Standard deviation calculated from the sampling distribution of the 500 estimated coefficients while the standard errors represent the average of the 500 standard errors.

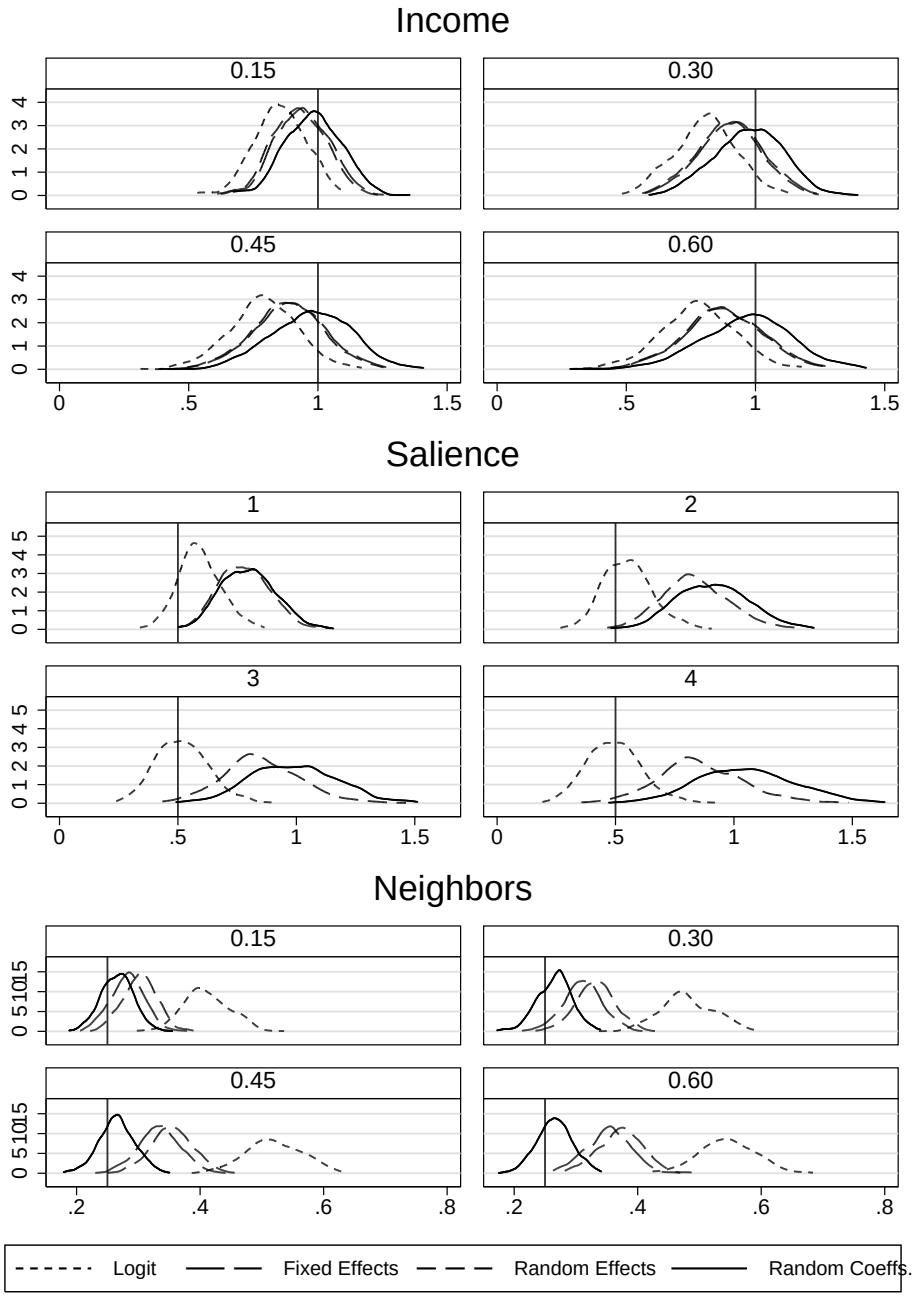
Table 4: Detailed Monte Carlo Results

		Logit			Fixed Effects			Clustered			Random Effects			Random Coefficients		
	c	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD
Ideology	.5	-3.3882	0.1509	0.1778	-3.7402	0.2381	0.7149	-3.3882	0.1789	0.1778	-3.6906	0.1934	0.1886	-3.8244	0.2021	0.1939
	1	-3.1254	0.1554	0.2117	-3.5706	0.2533	0.9070	-3.1254	0.2127	0.2117	-3.5110	0.2197	0.2207	-3.8013	0.2443	0.2211
	1.5	-2.9296	0.1594	0.2402	-3.4010	0.2691	1.0136	-2.9296	0.2408	0.2402	-3.3474	0.2383	0.2513	-3.7822	0.2796	0.2552
	2	-2.7723	0.1633	0.2670	-3.2523	0.2769	1.0988	-2.7723	0.2638	0.2670	-3.1979	0.2524	0.2770	-3.7604	0.3106	0.2878
Income	.5	0.4577	0.0229	0.0359	0.2792	0.0258	0.0265	0.4577	0.0341	0.0359	0.2990	0.0261	0.0265	0.2597	0.0269	0.0267
	1	0.5386	0.0219	0.0409	0.3124	0.0259	0.0291	0.5386	0.0380	0.0409	0.3327	0.0261	0.0292	0.2607	0.0273	0.0275
	1.5	0.5798	0.0213	0.0443	0.3372	0.0259	0.0319	0.5798	0.0404	0.0443	0.3575	0.0261	0.0319	0.2615	0.0275	0.0275
	2	0.6057	0.0211	0.0452	0.3578	0.0259	0.0324	0.6057	0.0423	0.0452	0.3781	0.0262	0.0324	0.2619	0.0277	0.0268
Neighbors	.5	-0.0331	0.0074	0.0080	-0.0102	0.0076	0.0078	-0.0331	0.0079	0.0080	-0.0128	0.0077	0.0078	-0.0062	0.0078	0.0080
	1	-0.0485	0.0077	0.0096	-0.0185	0.0081	0.0087	-0.0485	0.0092	0.0096	-0.0214	0.0081	0.0087	-0.0071	0.0083	0.0084
	1.5	-0.0593	0.0080	0.0107	-0.0258	0.0084	0.0096	-0.0593	0.0103	0.0107	-0.0289	0.0084	0.0096	-0.0076	0.0088	0.0089
	2	-0.0681	0.0082	0.0119	-0.0327	0.0087	0.0106	-0.0681	0.0113	0.0119	-0.0359	0.0087	0.0106	-0.0083	0.0092	0.0096
Time	.5	0.3913	0.0338	0.0633	0.4616	0.0351	0.0782	0.3913	0.0614	0.0633	0.4535	0.0350	0.0763	0.5024	0.0778	0.0797
	1	0.3550	0.0343	0.0787	0.4286	0.0359	0.1042	0.3550	0.0743	0.0787	0.4218	0.0358	0.1016	0.5051	0.1053	0.1094
	1.5	0.3331	0.0347	0.0889	0.4022	0.0365	0.1222	0.3331	0.0842	0.0889	0.3963	0.0364	0.1191	0.5073	0.1267	0.1319
	2	0.3160	0.0351	0.0963	0.3783	0.0370	0.1338	0.3160	0.0922	0.0963	0.3732	0.0369	0.1304	0.5069	0.1450	0.1501
Intercept	.5	0.7956	0.0789	0.0964	0.9256	0.0800	0.0997	0.7956	0.0992	0.0964	0.9109	0.0800	0.0985	0.9801	0.1050	0.1029
	1	0.7367	0.0835	0.1160	0.8939	0.0851	0.1233	0.7367	0.1155	0.1160	0.8800	0.0851	0.1220	0.9803	0.1293	0.1335
	1.5	0.7150	0.0873	0.1272	0.8792	0.0892	0.1375	0.7150	0.1281	0.1272	0.8663	0.0891	0.1360	0.9779	0.1501	0.1540
	2	0.7128	0.0906	0.1384	0.8762	0.0928	0.1498	0.7128	0.1391	0.1384	0.8642	0.0927	0.1480	0.9764	0.1688	0.1699

Note. Results based on 500 draws for each value of the scale variable. Column c gives the scalar used to multiply the variance of the random effects matrix. See text for the specification of the initial covariance matrix.

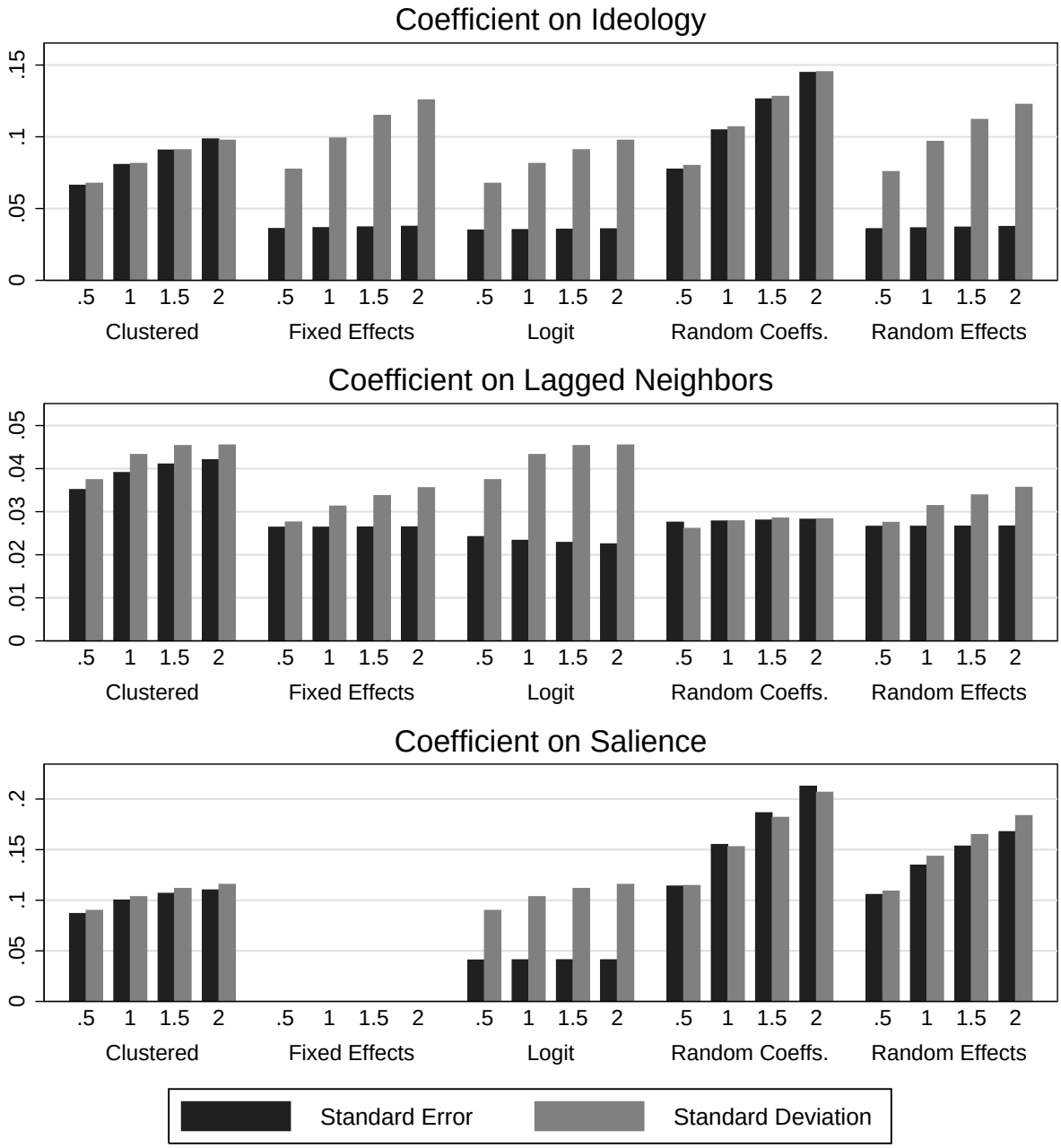
A.4 Random Effects Correlated with Exogenous Variable

Figure 9: Kernel Density Plots of Estimates of Select Coefficients, Varying Magnitude of the Random Effects



Notes: Results obtained from 500 draws for each value of the variance of the random effects.

Figure 10: Comparison of Standard Errors and Standard Deviation for Select Coefficients, Varying Magnitude of Random Effects



Notes: Results obtained from 500 draws for each value of the scale parameter. Standard deviation calculated from the sampling distribution of the 500 estimated coefficients while the standard errors represent the average of the 500 standard errors.

Table 5: Detailed Monte Carlo Results

		Logit			Fixed Effects			Clustered			Random Effects			Random Coefficients		
	c	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD	Coeff.	SE	SD
Ideology	.5	-3.4445	0.1578	0.1972	-4.8051	0.3059	0.6757	-3.4445	0.1976	0.1972	-3.7051	0.1869	0.1896	-3.7945	0.1957	0.1853
	1	-3.1847	0.1614	0.2374	-4.7232	0.3460	0.8792	-3.1847	0.2322	0.2374	-3.5477	0.2070	0.2288	-3.7698	0.2265	0.2136
	1.5	-2.9921	0.1646	0.2582	-4.5768	0.3712	1.0230	-2.9921	0.2559	0.2582	-3.3928	0.2216	0.2540	-3.7345	0.2520	0.2376
	2	-2.8523	0.1676	0.2731	-4.4456	0.3921	1.1089	-2.8523	0.2709	0.2731	-3.2592	0.2332	0.2669	-3.7142	0.2741	0.2567
Income	.5	0.4105	0.0242	0.0375	0.2827	0.0264	0.0276	0.4105	0.0352	0.0375	0.3028	0.0266	0.0275	0.2660	0.0276	0.0262
	1	0.4800	0.0234	0.0433	0.3116	0.0264	0.0313	0.4800	0.0391	0.0433	0.3319	0.0266	0.0314	0.2655	0.0279	0.0279
	1.5	0.5198	0.0229	0.0454	0.3344	0.0265	0.0338	0.5198	0.0411	0.0454	0.3547	0.0267	0.0339	0.2654	0.0281	0.0285
	2	0.5452	0.0225	0.0455	0.3524	0.0265	0.0356	0.5452	0.0421	0.0455	0.3728	0.0267	0.0357	0.2656	0.0283	0.0284
Salience	.5	0.5917	0.0410	0.0901				0.5917	0.0870	0.0901	0.7807	0.1058	0.1091	0.7974	0.1141	0.1147
	1	0.5518	0.0413	0.1036				0.5518	0.1003	0.1036	0.8372	0.1348	0.1436	0.9115	0.1552	0.1530
	1.5	0.5185	0.0413	0.1118				0.5185	0.1069	0.1118	0.8544	0.1536	0.1651	0.9898	0.1866	0.1820
	2	0.4948	0.0413	0.1158				0.4948	0.1103	0.1158	0.8608	0.1679	0.1838	1.0540	0.2128	0.2069
Neighbors	.5	-0.0294	0.0078	0.0090	-0.0104	0.0080	0.0080	-0.0294	0.0090	0.0090	-0.0134	0.0080	0.0079	-0.0078	0.0082	0.0077
	1	-0.0438	0.0080	0.0109	-0.0172	0.0084	0.0093	-0.0438	0.0105	0.0109	-0.0204	0.0084	0.0092	-0.0081	0.0086	0.0084
	1.5	-0.0542	0.0082	0.0119	-0.0238	0.0086	0.0100	-0.0542	0.0116	0.0119	-0.0273	0.0087	0.0100	-0.0091	0.0090	0.0088
	2	-0.0616	0.0084	0.0126	-0.0294	0.0089	0.0107	-0.0616	0.0123	0.0126	-0.0330	0.0089	0.0107	-0.0094	0.0093	0.0093
Time	.5	0.4279	0.0351	0.0677	0.4709	0.0362	0.0775	0.4279	0.0663	0.0677	0.4641	0.0361	0.0758	0.4963	0.0775	0.0801
	1	0.3937	0.0354	0.0815	0.4431	0.0368	0.0992	0.3937	0.0808	0.0815	0.4371	0.0367	0.0969	0.4969	0.1049	0.1070
	1.5	0.3706	0.0357	0.0911	0.4199	0.0373	0.1150	0.3706	0.0908	0.0911	0.4145	0.0371	0.1122	0.4975	0.1265	0.1282
	2	0.3534	0.0360	0.0977	0.4000	0.0377	0.1258	0.3534	0.0986	0.0977	0.3951	0.0376	0.1227	0.4983	0.1449	0.1454
Intercept	.5	0.8543	0.0832	0.1004	0.9400	0.0841	0.1023	0.8543	0.1002	0.1004	0.9262	0.0841	0.1014	0.9827	0.1089	0.1085
	1	0.8063	0.0873	0.1183	0.9071	0.0884	0.1237	0.8063	0.1153	0.1183	0.8951	0.0883	0.1226	0.9757	0.1334	0.1314
	1.5	0.7888	0.0904	0.1316	0.8904	0.0917	0.1404	0.7888	0.1274	0.1316	0.8803	0.0917	0.1389	0.9744	0.1540	0.1544
	2	0.7766	0.0931	0.1444	0.8787	0.0946	0.1550	0.7766	0.1365	0.1444	0.8698	0.0945	0.1532	0.9653	0.1726	0.1741

Note. Results based on 500 draws for each value of the scale variable. Column c gives the scalar used to multiply the variance of the random effects matrix. See text for the specification of the initial covariance matrix.