

Simulation detailed results for each parameter and condition

Table 1 Summary of the simulation results for the parameter β_1

Sample size	Estimation method	Rel. mean bias	Rel. median bias	MSE	Coverage	Power
30	Maximum likelihood	0.066	0.040	0.037	0.932	0.261
30	Bayes default prior	-0.011	-0.005	0.029	0.947	0.215
30	Bayes reasonable prior	-0.010	-0.009	0.029	0.949	0.211
30	Bayes experts prior	-0.011	-0.005	0.029	0.949	0.209
50	Maximum likelihood	-0.015	-0.022	0.019	0.946	0.306
50	Bayes default prior	-0.053	-0.053	0.016	0.958	0.274
50	Bayes reasonable prior	-0.053	-0.056	0.016	0.960	0.277
50	Bayes experts prior	-0.054	-0.052	0.016	0.957	0.272
100	Maximum likelihood	-0.023	-0.038	0.010	0.942	0.532
100	Bayes default prior	-0.044	-0.038	0.009	0.951	0.512
100	Bayes reasonable prior	-0.044	-0.044	0.009	0.950	0.514
100	Bayes experts prior	-0.044	-0.040	0.009	0.949	0.509
500	Maximum likelihood	-0.012	-0.012	0.002	0.950	0.996
500	Bayes default prior	-0.016	-0.016	0.002	0.945	0.996
500	Bayes reasonable prior	-0.016	-0.012	0.002	0.943	0.995
500	Bayes experts prior	-0.016	-0.012	0.002	0.951	0.996

Note: Rel. = Relative; MSE = Mean Square Error.

Table 2 Summary of the simulation results for the parameter β_2

Sample size	Estimation method	Rel. mean bias	Rel. median bias	MSE	Coverage	Power
30	Maximum likelihood	0.038	0.043	0.035	0.923	0.631
30	Bayes default prior	0.014	0.047	0.028	0.954	0.535
30	Bayes reasonable prior	0.013	0.047	0.027	0.951	0.540
30	Bayes experts prior	0.005	0.046	0.026	0.951	0.545
50	Maximum likelihood	-0.006	0.004	0.020	0.940	0.769
50	Bayes default prior	-0.030	0.002	0.016	0.961	0.727
50	Bayes reasonable prior	-0.031	0.000	0.016	0.960	0.724
50	Bayes experts prior	-0.037	-0.008	0.016	0.957	0.725
100	Maximum likelihood	-0.003	0.012	0.009	0.942	0.964
100	Bayes default prior	-0.004	0.007	0.008	0.951	0.959
100	Bayes reasonable prior	-0.005	0.007	0.008	0.948	0.958
100	Bayes experts prior	-0.010	0.003	0.008	0.951	0.962
500	Maximum likelihood	0.000	0.001	0.002	0.963	1.000
500	Bayes default prior	-0.002	0.004	0.001	0.963	1.000
500	Bayes reasonable prior	-0.002	0.005	0.001	0.960	1.000
500	Bayes experts prior	-0.004	0.004	0.001	0.962	1.000

Note: Rel. = Relative; MSE = Mean Square Error.

Table 3 Summary of the simulation results for the parameter β_3

Sample size	Estimation method	Rel. mean bias	Rel. median bias	MSE	Coverage	Power
30	Maximum likelihood	-0.034	-0.015	0.033	0.941	0.147
30	Bayes default prior	-0.108	-0.124	0.027	0.959	0.112
30	Bayes reasonable prior	-0.037	-0.050	0.021	0.970	0.117
30	Bayes experts prior	0.148	0.096	0.009	0.993	0.153
50	Maximum likelihood	0.030	0.014	0.019	0.939	0.195
50	Bayes default prior	-0.025	-0.001	0.017	0.950	0.164
50	Bayes reasonable prior	0.013	0.034	0.014	0.954	0.172
50	Bayes experts prior	0.140	0.132	0.008	0.978	0.247
100	Maximum likelihood	-0.009	-0.028	0.008	0.954	0.295
100	Bayes default prior	-0.030	-0.049	0.008	0.960	0.278
100	Bayes reasonable prior	-0.012	-0.025	0.007	0.963	0.294
100	Bayes experts prior	0.070	0.049	0.005	0.972	0.364
500	Maximum likelihood	-0.016	-0.025	0.002	0.952	0.871
500	Bayes default prior	-0.021	-0.033	0.002	0.951	0.862
500	Bayes reasonable prior	-0.017	-0.034	0.002	0.953	0.875
500	Bayes experts prior	0.003	-0.011	0.002	0.957	0.904

Note: Rel. = Relative; MSE = Mean Square Error.