Table 1: Comparison of Monte Carlo Simulation Maximum Likelihood Estimates (BFGS) and Markov Chain Monte Carlo Estimates (MCMC) : for each number of observations, we used 1,000 number of simulations and the true parameter values are $\beta_0 = 1$, $\beta_1 = 3.5$, $\gamma_0 = -2$, $\gamma_1 = 2$ and $\gamma_2 = 3$.

#Obs.	Model	$\hat{\beta}_0$	SE($\hat{\beta}_0$)	MCSE($\hat{\beta}_0$)	RMSE($\hat{\beta}_0$)	CP($\hat{\beta}_0$)	$\hat{\beta}_1$	SE($\hat{\beta}_1$)	MCSE($\hat{\beta}_1$)	RMSE($\hat{\beta}_1$)	CP($\hat{\beta}_1$)
1,000	Exp	1.238	0.061		0.239	0.036	3.468	0.009		0.032	0.083
	Wei	1.311	0.072		0.311	0.009	3.467	0.011		0.034	0.100
	OF-Exp	1.008	0.067		0.053	0.944	3.499	0.010		0.008	0.946
	OF-Wei	1.007	0.067		0.054	0.947	3.499	0.010		0.008	0.942
	B-OF-Exp	1.006		4.80e-04	0.086	0.285	3.499		6.52e-05	0.011	0.273
	B-OF-Wei	0.008		4.80e-04	0.992	0.392	3.499		6.85e-05	0.008	0.247
1,500	Exp	1.243	0.049		0.244	0.002	3.467	0.008		0.033	0.018
	Wei	1.321	0.059		0.321	0.000	3.465	0.009		0.035	0.023
	OF-Exp	1.006	0.054		0.043	0.944	3.500	0.008		0.006	0.945
	OF-Wei	1.006	0.054		0.043	0.947	3.500	0.008		0.006	0.949
	B-OF-Exp	1.005		2.96e-04	0.148	0.188	3.500		4.24e-05	0.016	0.236
	B-OF-Wei	0.006		3.02e-04	0.990	0.326	3.500		4.38e-05	0.006	0.242
2,000	Exp	1.224	0.043		0.227	0.002	3.470	0.007		0.031	0.007
	Wei	1.290	0.050		0.293	0.000	3.469	0.008		0.032	0.011
	OF-Exp	1.009	0.048		0.038	0.945	3.499	0.007		0.005	0.944
	OF-Wei	1.006	0.048		0.038	0.943	3.499	0.007		0.005	0.959
	B-OF-Exp	1.008		2.46e-04	0.183	0.201	3.499		3.37e-05	0.019	0.271
	B-OF-Wei	0.008		2.43e-04	0.992	0.311	3.499		3.53e-05	0.005	0.260

#Obs.	Model	$\hat{\gamma}_0$	SE($\hat{\gamma}_0$)	MCSE($\hat{\gamma}_0$)	RMSE($\hat{\gamma}_0$)	CP($\hat{\gamma}_0$)	$\hat{\gamma}_1$	SE($\hat{\gamma}_1$)	MCSE($\hat{\gamma}_1$)	RMSE($\hat{\gamma}_1$)	CP($\hat{\gamma}_1$)	$\hat{\gamma}_2$	SE($\hat{\gamma}_2$)	MCSE($\hat{\gamma}_2$)	RMSE($\hat{\gamma}_2$)	CP($\hat{\gamma}_2$)
1,000	OF-Exp	-1.781	1.233		0.933	0.967	2.166	0.501		0.410	0.954	3.450	0.726		0.642	0.963
	OF-Wei	-1.778	1.230		0.931	0.967	2.159	0.500		0.414	0.953	3.438	0.723		0.649	0.962
	B-OF-Exp	-1.286		0.083	1.019	0.335	1.855		0.044	0.477	0.072	3.077		0.051	0.664	0.061
	B-OF-Wei	-2.150		0.088	0.849	0.329	1.843		0.045	0.467	0	3.123		0.050	0.631	0.065
1,500	OF-Exp	-1.457	0.980		0.835	0.941	2.050	0.383		0.314	0.949	3.406	0.578		0.541	0.953
	OF-Wei	-1.458	0.978		0.834	0.940	2.040	0.381		0.315	0.945	3.389	0.574		0.539	0.948
	B-OF-Exp	-1.166		0.057	0.915	0.291	1.864		0.029	0.335	0.046	3.163		0.036	0.474	0.050
	B-OF-Wei	-2.069		0.060	0.610	0.262	1.858		0.030	0.311	0	3.202		0.037	0.431	0.058
2,000	OF-Exp	-1.554	0.917		0.792	0.938	2.066	0.363		0.292	0.959	3.374	0.517		0.481	0.948
	OF-Wei	-1.550	0.917		0.793	0.937	2.065	0.363		0.293	0.958	3.378	0.518		0.481	0.951
	B-OF-Exp	-1.256		0.070	1.323	0.280	1.890		0.038	0.840	0.054	3.165		0.042	1.323	0.040
	B-OF-Wei	-2.180		0.074	1.044	0.272	1.885		0.041	0.664	0	3.197		0.046	0.990	0.036

Table 2: Comparison of Monte Carlo Simulation Maximum Likelihood Estimates (BFGS) and Markov Chain Monte Carlo Estimates (MCMC) : for each number of observations, we used 1,000 number of simulations and the true parameter values are $\beta_0 = 1$ and $\beta_1 = 3.5$.

#Obs.	Model	$\hat{\beta}_0$	SE($\hat{\beta}_0$)	MCSE($\hat{\beta}_0$)	RMSE($\hat{\beta}_0$)	$\hat{\beta}_1$	SE($\hat{\beta}_1$)	MCSE($\hat{\beta}_1$)	RMSE($\hat{\beta}_1$)
	Exp	0.999	0.066		0.051	3.500	0.010		0.007
	Wei	0.999	0.066		0.052	3.500	0.010		0.007
1,000	OF-Exp	0.998	0.066		0.051	3.499	0.010		0.007
	OF-Wei	0.997	0.066		0.052	3.500	0.010		0.007
	B-OF-Exp	0.997		0.003	0.051	3.500		3.55e-04	0.007
	B-OF-Wei	-0.000		0.003	1.000	3.500		3.83e-04	0.007
	Exp	1.002	0.053		0.042	3.500	0.008		0.006
	Wei	1.002	0.054		0.042	3.500	0.008		0.006
1,500	OF-Exp	1.002	0.053		0.042	3.500	0.008		0.006
	OF-Wei	1.002	0.054		0.042	3.500	0.008		0.006
	B-OF-Exp	1.001		0.002	0.042	3.500		2.40e-04	0.006
	B-OF-Wei	0.002		0.002	0.998	3.500		2.62e-04	0.006
	Exp	1.000	0.047		0.036	3.500	0.007		0.005
	Wei	0.999	0.047		0.036	3.500	0.007		0.005
2,000	OF-Exp	1.000	0.047		0.036	3.500	0.007		0.005
	OF-Wei	1.006	0.048		0.036	3.500	0.007		0.005
	B-OF-Exp	0.999		0.001	0.036	3.500		1.82e-04	0.005
	B-OF-Wei	0.000		0.001	1.000	3.500		1.99e-04	0.005