Negative_Simulations_Testing

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2020-04-25

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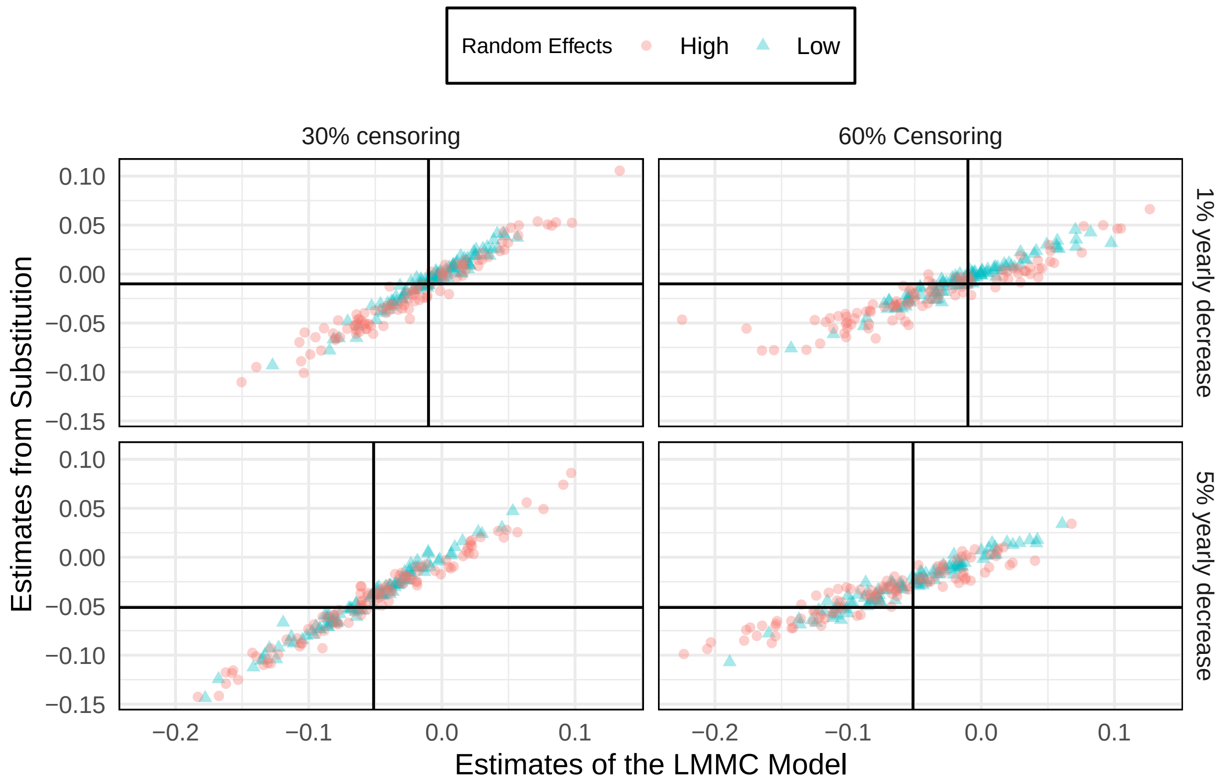


Figure 8: Plotting the estimated slopes for the substitution method and the LMMC model against eachother set to high. The vertical and horizontal lines correspond to the true value of the slope.

Table 1: Summary statistics of simulations at 30% censored data and a 1% yearly decrease

Individual Sd	Random Effect	Method	$(\hat{\beta}-\beta)^2$	Coverage	$\text{Var}(\hat{\beta})$	MSE	$\text{Se}(\hat{\beta})$
0.05	High	Substitution	0.0014	0.97	0.0014	0.0028	0.0037
		LMMC	0.0024	0.98	0.0024	0.0049	0.0049
	Low	Substitution	0.0003	0.08	0.0000	0.0003	0.0000
		LMMC	0.0000	0.93	0.0000	0.0000	0.0000
0.50	High	Substitution	0.0015	0.95	0.0013	0.0028	0.0036
		LMMC	0.0024	0.97	0.0022	0.0046	0.0047
	Low	Substitution	0.0001	0.95	0.0001	0.0003	0.0010
		LMMC	0.0002	0.96	0.0002	0.0003	0.0014
1.40	High	Substitution	0.0017	0.99	0.0016	0.0033	0.0040
		LMMC	0.0029	0.99	0.0028	0.0058	0.0053
	Low	Substitution	0.0007	0.98	0.0006	0.0013	0.0024
		LMMC	0.0010	0.99	0.0010	0.0021	0.0032

Table 2: Summary statistics of simulations at 30% censored data and a 5% yearly decrease

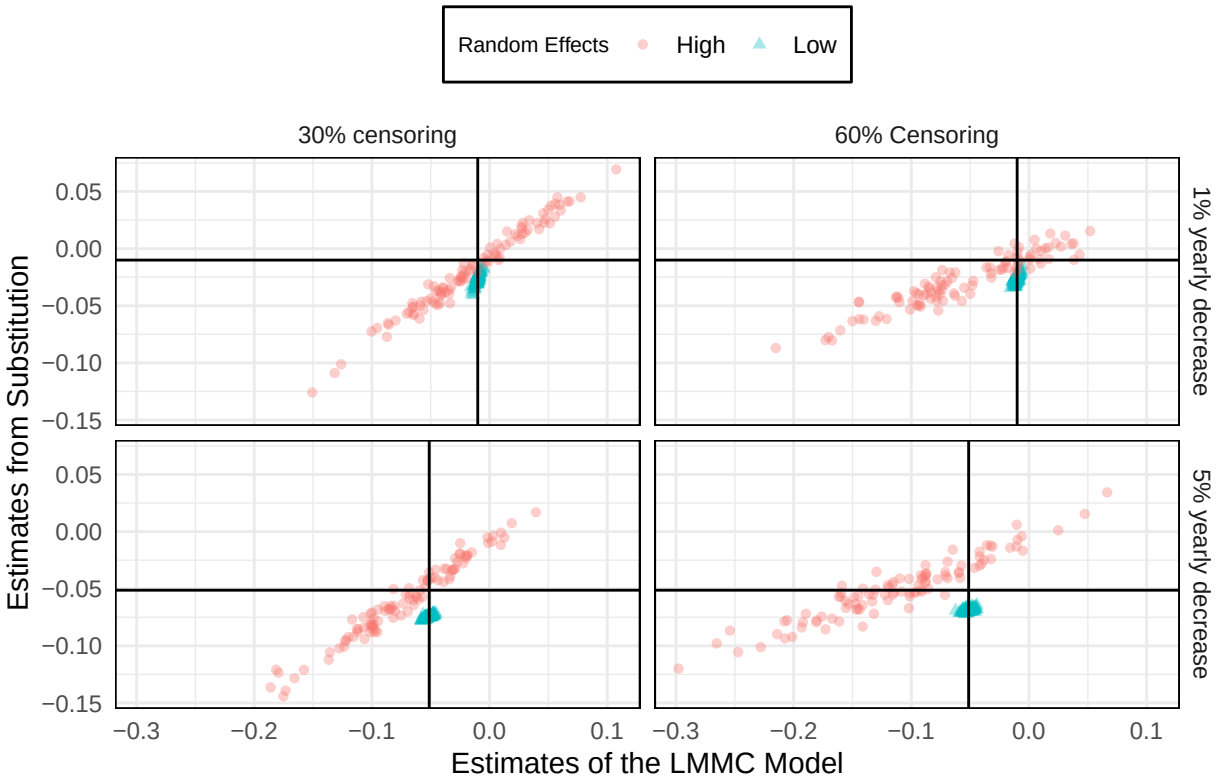
Individual Sd	Random Effect	Method	$(\hat{\beta}-\beta)^2$	Coverage	$\text{Var}(\hat{\beta})$	MSE	$\text{Se}(\hat{\beta})$
0.05	High	Substitution	0.0012	0.97	0.0012	0.0024	0.0035
		LMMC	0.0027	0.97	0.0023	0.0050	0.0048
	Low	Substitution	0.0005	0.00	0.0000	0.0005	0.0000
		LMMC	0.0000	0.97	0.0000	0.0000	0.0000
0.50	High	Substitution	0.0016	0.99	0.0016	0.0033	0.0040
		LMMC	0.0033	0.99	0.0030	0.0063	0.0055
	Low	Substitution	0.0002	0.91	0.0002	0.0004	0.0014
		LMMC	0.0002	0.95	0.0002	0.0005	0.0014
1.40	High	Substitution	0.0022	0.97	0.0021	0.0044	0.0046
		LMMC	0.0037	0.98	0.0037	0.0075	0.0061
	Low	Substitution	0.0013	0.91	0.0012	0.0025	0.0035
		LMMC	0.0020	0.95	0.0020	0.0040	0.0045

Table 3: Summary statistics of simulations at 60% censored data and a 1% yearly decrease

Individual Sd	Random Effect	Method	$(\hat{\beta}-\beta)^2$	Coverage	$\text{Var}(\hat{\beta})$	MSE	$\text{Se}(\hat{\beta})$
0.05	High	Substitution	0.0009	0.97	0.0005	0.0014	0.0022
		LMMC	0.0053	0.96	0.0033	0.0086	0.0057
	Low	Substitution	0.0003	0.06	0.0000	0.0003	0.0000
		LMMC	0.0000	0.98	0.0000	0.0000	0.0000
0.50	High	Substitution	0.0007	0.98	0.0005	0.0012	0.0022
		LMMC	0.0044	0.98	0.0033	0.0077	0.0057
	Low	Substitution	0.0001	0.93	0.0001	0.0002	0.0010
		LMMC	0.0002	0.98	0.0002	0.0005	0.0014
1.40	High	Substitution	0.0009	0.98	0.0009	0.0018	0.0030
		LMMC	0.0049	0.99	0.0043	0.0092	0.0066
	Low	Substitution	0.0005	0.93	0.0005	0.0009	0.0022
		LMMC	0.0018	0.96	0.0018	0.0035	0.0042

Table 4: Summary statistics of simulations at 60% censored data and a 5% yearly decrease

Individual Sd	Random Effect	Method	$(\hat{\beta}-\beta)^2$	Coverage	$\text{Var}(\hat{\beta})$	MSE	$\text{Se}(\hat{\beta})$
0.05	High	Substitution	0.0007	0.98	0.0007	0.0014	0.0026
		LMMC	0.0081	0.91	0.0045	0.0126	0.0067
	Low	Substitution	0.0003	0.00	0.0000	0.0003	0.0000
		LMMC	0.0000	0.96	0.0000	0.0000	0.0000
0.50	High	Substitution	0.0007	0.99	0.0007	0.0014	0.0026
		LMMC	0.0058	0.98	0.0040	0.0098	0.0063
	Low	Substitution	0.0003	0.75	0.0001	0.0004	0.0010
		LMMC	0.0003	0.97	0.0003	0.0006	0.0017
1.40	High	Substitution	0.0010	0.99	0.0007	0.0017	0.0026
		LMMC	0.0041	0.99	0.0036	0.0078	0.0060
	Low	Substitution	0.0012	0.74	0.0006	0.0018	0.0024
		LMMC	0.0022	0.97	0.0022	0.0044	0.0047



ed slopes for the substitution method and the LMMC modelagainst eachother having the variance of individual specin set to low. The vertical and horizontal lines correspond to the true value of the slope.

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