

Table 1. Simulation Study Results: Broader priors

η	Inference	UpDown?	Truth	Mean	Median	Error	Bias	Relative HPD width	95% HPD accuracy
\mathcal{R}_0	Deter.Coal.SIR	No	1.50	2.06	1.75	0.40	0.35	0.86	79.00%
\mathcal{R}_0	Deter.Coal.SIR	Yes	1.50	2.06	1.76	0.40	0.35	0.87	80.00%
\mathcal{R}_0	Deter.Coal.SIR	No	2.50	3.31	2.85	0.34	0.24	1.43	94.00%
\mathcal{R}_0	Deter.Coal.SIR	Yes	2.50	3.32	2.86	0.34	0.25	1.42	93.00%
γ	Deter.Coal.SIR	No	0.30	0.31	0.23	0.37	-0.12	1.69	85.00%
γ	Deter.Coal.SIR	Yes	0.30	0.30	0.23	0.38	-0.12	0.87	80.00%
γ	Deter.Coal.SIR	No	0.30	0.31	0.25	0.33	-0.09	1.59	95.00%
γ	Deter.Coal.SIR	Yes	0.30	0.31	0.25	0.32	-0.10	1.65	94.00%
$S_{(0)}$	Deter.Coal.SIR	No	499.00	2040.5	249.27	1.40	0.49	7.75	85.00%
$S_{(0)}$	Deter.Coal.SIR	Yes	499.00	2066.28	252.13	1.41	0.50	8.04	84.00%
$S_{(0)}$	Deter.Coal.SIR	No	999.00	3028.13	716.46	1.05	0.33	6.60	94.00%
$S_{(0)}$	Deter.Coal.SIR	Yes	999.00	3063.46	709.24	1.04	0.32	6.56	92.00%
$z_{(0)}$	Deter.Coal.SIR	No	(varies)	65.10	62.01	0.04	0.03	0.25	86.00%
$z_{(0)}$	Deter.Coal.SIR	Yes	(varies)	64.95	61.98	0.04	0.03	0.24	87.00%
$z_{(0)}$	Deter.Coal.SIR	No	(varies)	40.97	39.85	0.03	-6.78E-4	0.08	81.00%
$z_{(0)}$	Deter.Coal.SIR	Yes	(varies)	40.97	39.84	0.03	-7.64E-4	0.08	82.00%