

Analysis	core model	core model with $\Omega = \widehat{\Omega}_{\text{HSA}}^{\text{benv}}$	STD model with $\Omega = \widehat{\Omega}_{\text{HSA}}^{\text{benv}}$	AUX model with $\Omega = \widehat{\Omega}_{\text{HSA}}^{\text{benv}}$
$ \beta_i = 0.05$	2.90 (2.30)	2.65 (1.65)	0.75 (1.00)	0.90 (0.95)
$ \beta_i = 0.1$	36.3 (13.5)	32.3 (4.80)	0.65 (0.95)	0.50 (0.85)
$ \beta_i = 0.2$	100 (86.3)	99.2 (34.7)	1.40 (1.15)	1.40 (1.10)

Table S1: True Positive Rates (TPR) at the 1% POD threshold as a function of the simulated $|\beta_i|$ values for four different model parameterizations. TPR are given in % and were computed by combining results over the ten replicate data sets for each SpaH (and SpaB given in parenthesis) scenarios.