



$$\Omega \sim \text{LKJ}(1)$$

$$\sigma \sim \text{Cauchy}^+(0, 4)$$

$$\Sigma = \sigma \Omega$$

$$\Delta_s^{37} \sim \text{MvNormal}(0, \Sigma)$$

$$cr_0 \sim N(0, 1)$$

$$\lambda_0^{2-12} \sim N(0, 1)$$

$$\lambda_0^1 \sim N(4, 1)$$

$$\beta_0^{2-12} \sim N(0, 1)$$

$$\beta_0^1 \sim N(2, 1)$$

$$\delta_0^{2-12} \sim N(0, 1)$$

$$\delta_0^1 \sim N(0.3, 0.1)$$

$$d_{s,l,c} = \lambda_{s,c} * (1 - e^{-(pt - \alpha_{s,c}) * \beta_{s,c}}), pt_{s,l,c} > \alpha_{s,c}, \text{ else } : 0$$

$$\delta_{s,l,c}^f = \Phi(-\frac{1}{2}d_{s,l,c} - c_s)$$

$$\delta_{s,l,c}^h = \Phi(\frac{1}{2}d_{s,l,c} - c_s)$$

$$nF_{s,l,c} \sim \text{Binomial}(nL_{s,l,c}, \delta_{s,l,c}^f)$$

$$nH_{s,l,c} \sim \text{Binomial}(nT_{s,l,c}, \delta_{s,l,c}^h)$$