



$$\omega \sim \text{Beta}(1, 1)$$

$$\kappa - 2 \sim \text{Gamma}(0.01, 0.01)$$

$$\theta_i \sim \text{Beta}(\omega((\kappa - 2) + 1), (1 - \omega)(\kappa - 2) + 1)$$

$$k_i \sim \text{Binomial}(\theta_i, N_i)$$