



Priors

$\mu_i^A \sim \text{Gaussian}(0, 100)$, $\sigma_i^A \sim \text{Exponential}(0.01)$

$\mu_i^b \sim \text{Gaussian}(0, 100)$, $\sigma_i^b \sim \text{Exponential}(0.01)$

$k_i^{ran} \sim \text{Exponential}(0.01)$, $\lambda_i^{ran} \sim \text{Exponential}(10)$

$k_i^{det} \sim \text{Exponential}(0.01)$, $\lambda_i^{det} \sim \text{Exponential}(10)$

Subject specific parameters

$A_{is} \sim \text{Gaussian}(\mu_i^A, \sigma_i^A)$

$B_{is} \sim \text{Gaussian}(\mu_i^B, \sigma_i^B)$

$\sigma_{is}^{ran} \sim \text{Gamma}(k_i^{ran}, \lambda_i^{ran})$

$\sigma_{is}^{det} \sim \text{Gamma}(k_i^{det}, \lambda_i^{det})$

Deterministic noise for repeated game

$n_{isg}^{det} \sim \text{Logistic}(0, \sigma_{is}^{det})$

Random noise for each game

$n_{isgr}^{ran} \sim \text{Logistic}(0, \sigma_{is}^{ran})$

Observed choices

$\Delta Q_{isgr} \leftarrow \Delta R_{isg} + A_{is} \Delta I_{isg} + b_{is} + n_{isgr}^{ran} + n_{isg}^{det}$

$c_{isgr} \sim \text{Bernoulli}(Q_{isgr} > 0)$