

utility

$$u_j^* = \boldsymbol{\beta}^{*'} \mathbf{x}_j - \alpha^* p_j + \varepsilon_j^*, \quad \varepsilon_j^* \sim \text{Gumbel} \left( 0, \sigma^2 \frac{\pi^2}{6} \right)$$

utilityPreferenceScaled

$$\left( \frac{u_j^*}{\sigma} \right) = \left( \frac{\boldsymbol{\beta}^*}{\sigma} \right)' \mathbf{x}_j - \left( \frac{\alpha^*}{\sigma} \right) p_j + \left( \frac{\varepsilon_j^*}{\sigma} \right), \quad \left( \frac{\varepsilon_j^*}{\sigma} \right) \sim \text{Gumbel} \left( 0, \frac{\pi^2}{6} \right)$$

utilityPreference

$$u_j = \boldsymbol{\beta}' \mathbf{x}_j - \alpha p_j + \varepsilon_j, \quad \varepsilon_j \sim \text{Gumbel} \left( 0, \frac{\pi^2}{6} \right)$$

utilityWtpScaled

$$\left( \frac{u_j^*}{\alpha^*} \right) = \left( \frac{\boldsymbol{\beta}^*}{\alpha^*} \right)' \mathbf{x}_j - p_j + \left( \frac{\varepsilon_j^*}{\alpha^*} \right), \quad \left( \frac{\varepsilon_j^*}{\alpha^*} \right) \sim \text{Gumbel} \left( 0, \frac{\sigma^2}{(\alpha^*)^2} \frac{\pi^2}{6} \right)$$

utilityWtp

$$u_j = \lambda (\boldsymbol{\omega}' \mathbf{x}_j - p_j) + \varepsilon_j, \quad \varepsilon_j \sim \text{Gumbel} \left( 0, \frac{\pi^2}{6} \right)$$

wtpHatComputed

$$\hat{\boldsymbol{\omega}} = \frac{\hat{\boldsymbol{\beta}}_j}{\hat{\alpha}_j}$$

wtpComputed

$$\boldsymbol{\omega} = \frac{\boldsymbol{\beta}_j}{\alpha_j} \quad \lambda = \alpha$$

betaNormal

$$\hat{\boldsymbol{\beta}} \sim \mathcal{N}(\boldsymbol{\mu}, \boldsymbol{\Sigma})$$

alphaNormal

$$\hat{\alpha} \sim \mathcal{N}(\mu, \sigma^2)$$