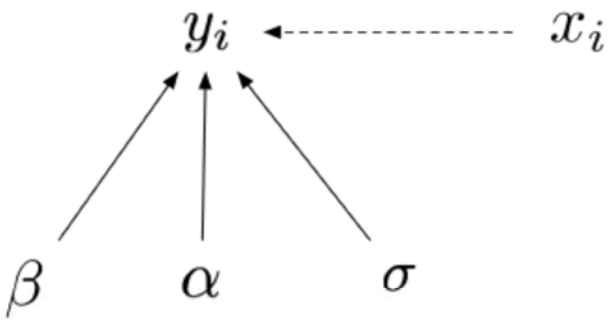
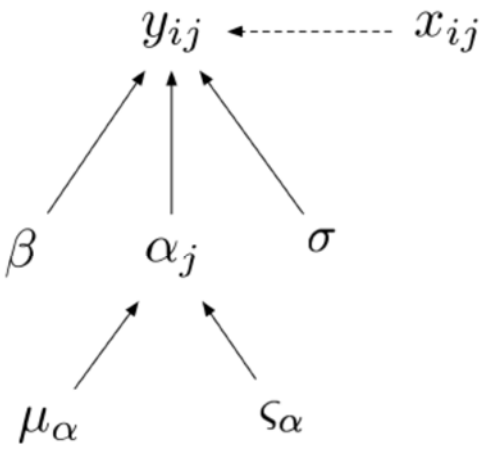
Pooled model



$$
\begin{aligned}
\mu_i &= \gamma x^{\beta} \\
\alpha &= \log(\gamma) \\
\log(\mu_i) &= \alpha + \beta \log(x_i) \\
g(\alpha, \beta, x_i) &= \alpha + \beta \log(x_i) \\
[\alpha, \beta, \sigma \mid y_i] &\propto [\log(y_i) \mid g(\alpha, \beta, x_i), \sigma^2][\alpha][\beta][\sigma]
\end{aligned}
$$

Intercepts for each site



$$
\begin{aligned}
g(\alpha_j, \beta, x_{ij}) &= \alpha_j + \beta \log(x_{ij}) \\
[\alpha_j, \beta, \mu_\alpha, \sigma, \varsigma_\alpha \mid y_{ij}] &\propto [\log(y_{ij}) \mid g(\alpha_j, \beta, x_{ij}), \sigma^2] [\alpha_j \mid \mu_\alpha, \varsigma_\alpha^2] [\beta] [\sigma] [\mu_\alpha] [\varsigma_\alpha]
\end{aligned}
$$