Our first survival example (script 2)!

Model

$$\boldsymbol{marr} \sim \text{multinomial}(\boldsymbol{rel}, \boldsymbol{p})$$

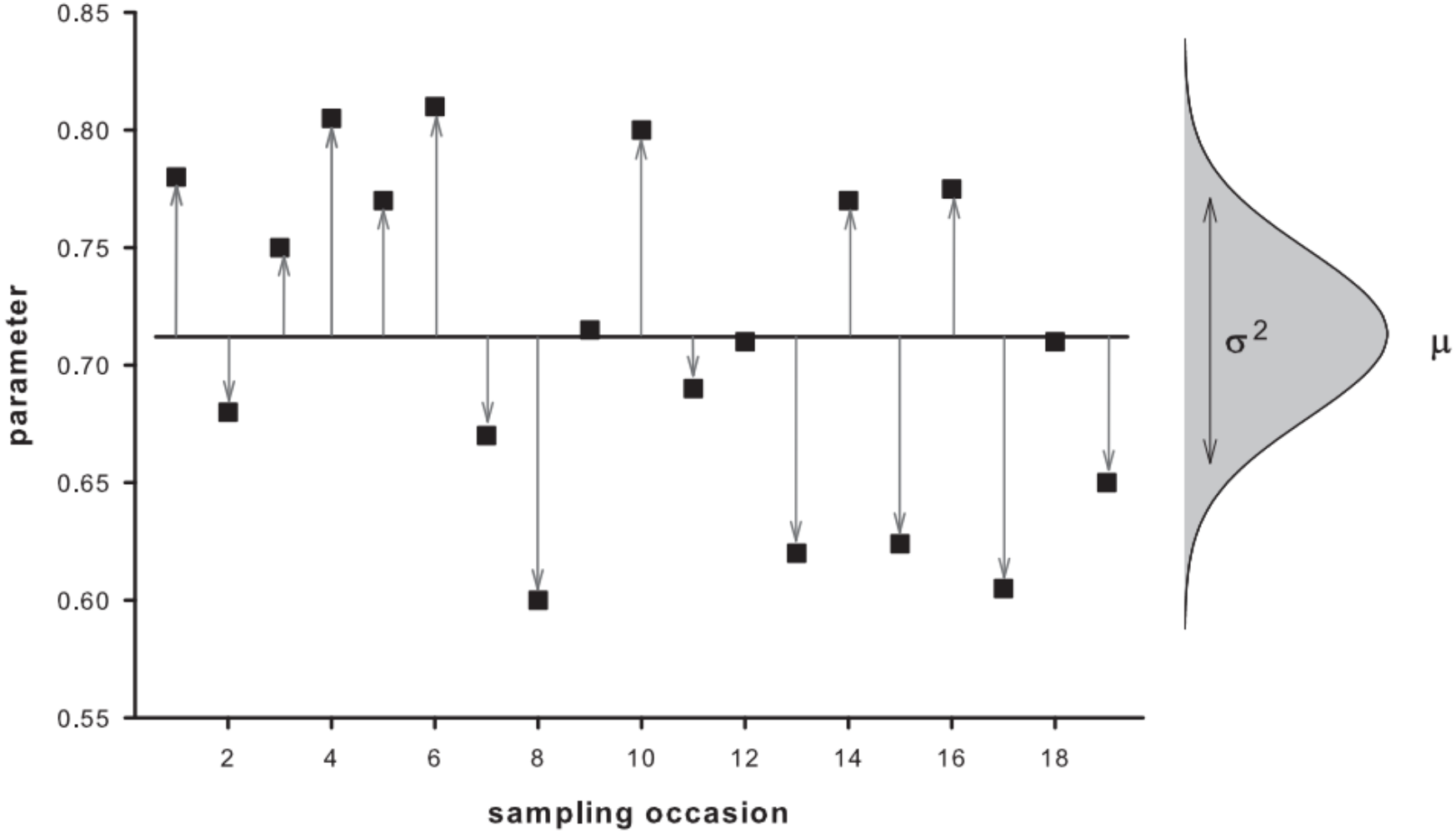
Prior

$$\boldsymbol{S} \sim \text{beta}(1,1)$$
$$\boldsymbol{f} \sim \text{beta}(1,1)$$

$$P = \begin{bmatrix} f_1 & S_1 f_2 & 1 - f_1 - S_1 f_2 \\ 0 & f_2 & 1 - f_2 \end{bmatrix}$$

Script 2

Random effects (script 3)



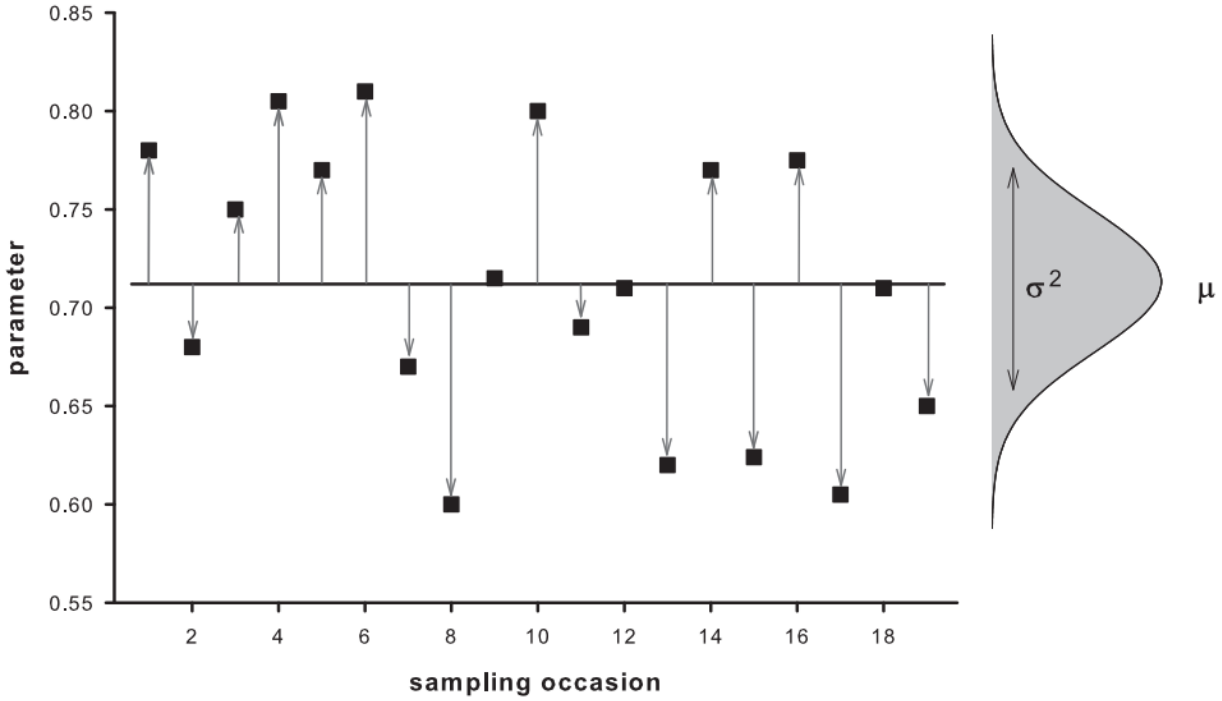
Random effects (script 3)

Model

$$\boldsymbol{marr} \sim \text{multinomial}(\boldsymbol{rel}, p)$$
$$\text{logit}(\boldsymbol{S}) = \mu_S + \varepsilon_{S,t}$$
$$\text{logit}(\boldsymbol{f}) = \mu_f + \varepsilon_{f,t}$$

Priors

$$\varepsilon_{S,t} \sim \text{Normal}(0, \sigma_S^2)$$
$$\varepsilon_{f,t} \sim \text{Normal}(0, \sigma_f^2)$$
$$\sigma_S \sim \text{Gamma}(1,1)$$
$$\sigma_f \sim \text{Gamma}(1,1)$$



Script 3

Covariates (script 4; m4a)

Model

$$\boldsymbol{marr} \sim \text{multinomial}(\boldsymbol{rel}, p)$$

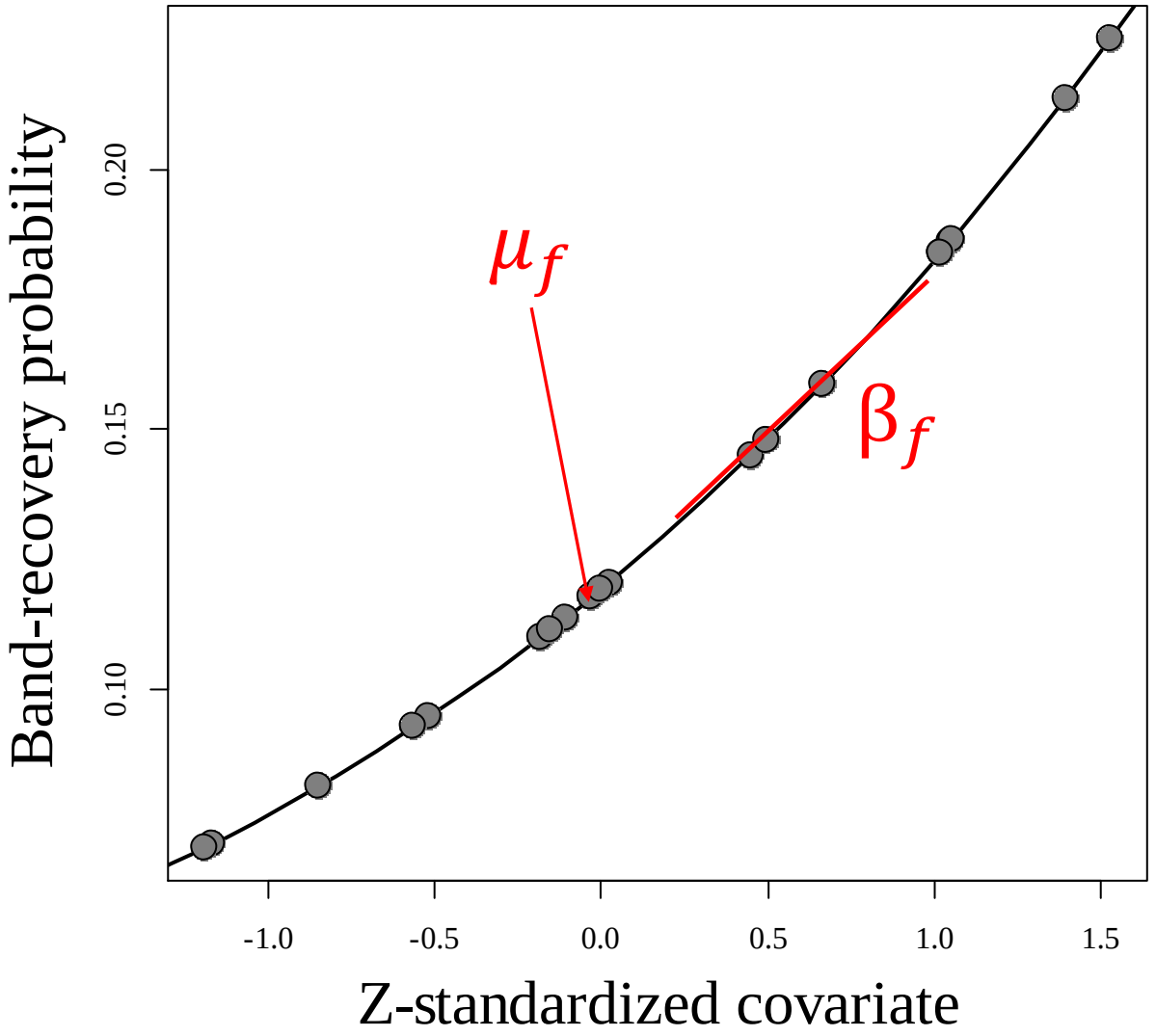
$$\text{logit}(\boldsymbol{f}) = \mu_f + \beta_f \times D_t$$

Priors

$$\boldsymbol{S} \sim \text{beta}(1,1)$$

$$\mu_f \sim \text{Logistic}(0,1)$$

$$\beta_f \sim \text{Normal}(0,1)$$



Script 4

Covariates (script 4; m4b)

Model

$$\boldsymbol{marr} \sim \text{multinomial}(\boldsymbol{rel}, p)$$

$$\text{logit}(\boldsymbol{f}) = \mu_f + \beta_f \times D_t + \varepsilon_{f,t}$$

Priors

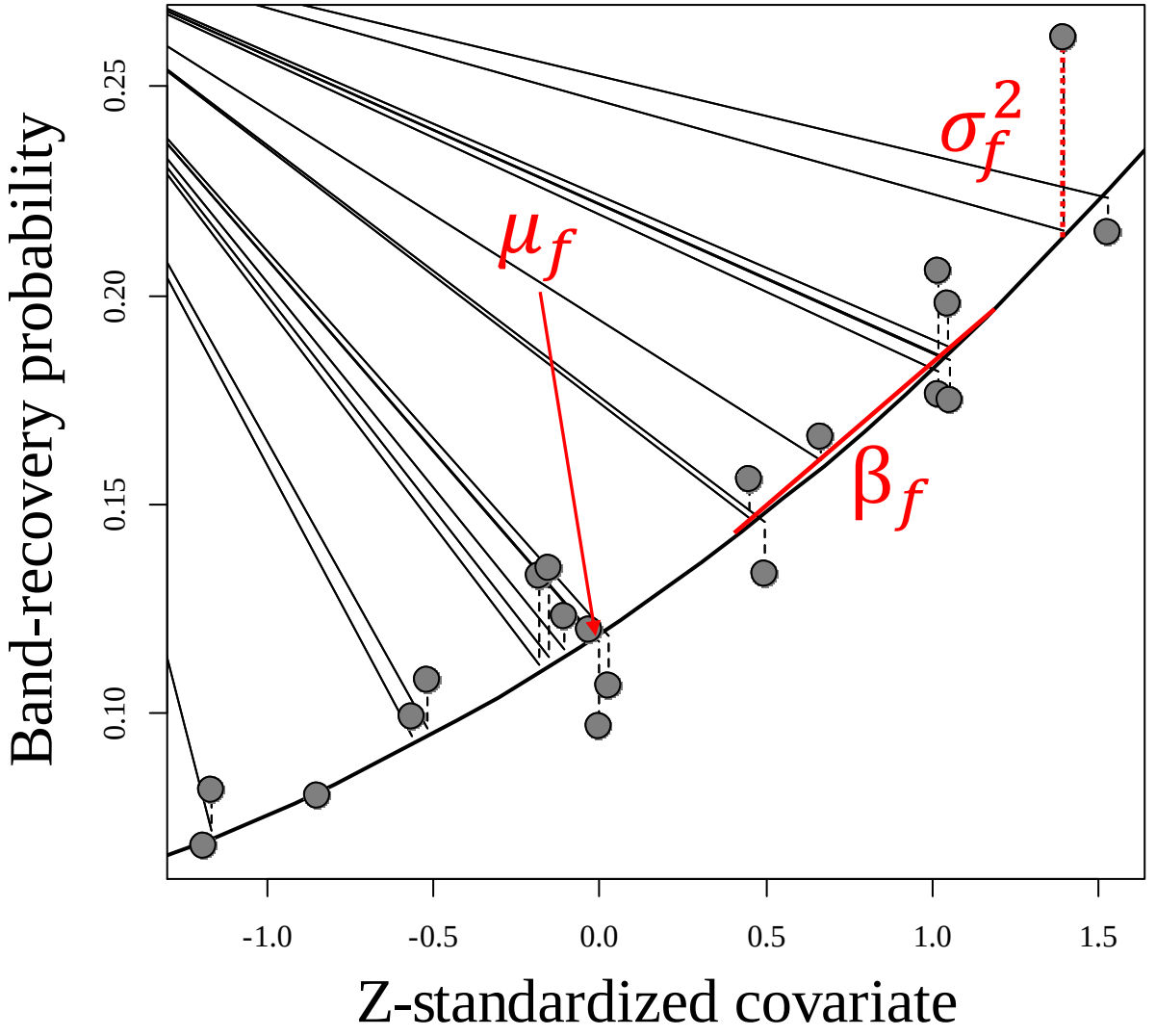
$$\boldsymbol{S} \sim \text{beta}(1,1)$$

$$\varepsilon_{f,t} \sim \text{Normal}(0, \sigma_f^2)$$

$$\sigma_f \sim \text{Gamma}(1,1)$$

$$\mu_f \sim \text{Logistic}(0,1)$$

$$\beta_f \sim \text{Normal}(0,1)$$



Script 4