

1 Equation 1

$$\min_{\beta_0, \boldsymbol{\beta}} -\frac{1}{N} \sum_{i=1}^N w_i L(y_i, \beta_0 + \mathbf{x}_i^T \boldsymbol{\beta}) + \lambda \left(\frac{1-\alpha}{2} \|\boldsymbol{\beta}\|_2^2 + \alpha \|\boldsymbol{\beta}\|_1 \right)$$

subject to: $\sum_{j=1}^p \beta_j \stackrel{!}{=} 0$

2 Equation 2

$$y_i \sim \beta_0 + \sum_{j=1}^p \beta_j \log(\gamma_i x_{ij})$$
$$y_i \sim \beta_0 + \sum_{j=1}^p \beta_j \log(\gamma_i) + \sum_{j=1}^p \beta_j \log(x_{ij})$$
$$y_i \sim \beta_0 + \log(\gamma_i) \sum_{j=1}^p \beta_j + \sum_{j=1}^p \beta_j \log(x_{ij})$$

3 Equation 3

$$\sum_{j=1}^p v_j \cdot \left(\frac{1-\alpha}{2} \beta_j^2 + \alpha |\beta_j| \right)$$

4 Equation 4

$$\sum_{j=1}^p u_j \cdot \beta_j \stackrel{!}{=} 0$$