
APPENDIX

A.1 Likelihood ratio test for misspecified nested models

[?] The observations Y are following the law with true density p_Y , and n samples are available $y = \{y_i\}$. We have a family of distributions $\{p_{Y|\theta}\}$. The quasi log-likelihood is

$$\mathcal{L}(\theta; y) = \frac{1}{n} \sum_{i=1}^n \log p_{Y|\theta}(y; \theta) \quad (\text{A.1})$$

$$A_n(\theta) = \frac{1}{n} \sum_{i=0}^n \frac{\partial^2 \log p_{Y|\theta}(y | \theta)}{\partial \theta_i \partial \theta_j} \quad (\text{A.2})$$

$$B_n(\theta) = \frac{1}{n} \sum_{i=0}^n \frac{\partial p_{Y|\theta}(y | \theta)}{\partial \theta_i} \frac{\partial p_{Y|\theta}(y | \theta)}{\partial \theta_j} \quad (\text{A.3})$$