

$\tilde{\varepsilon}_{it}$: 有自相关(时间), 同方差(时间)

$$E[\tilde{\varepsilon}_{it} \tilde{\varepsilon}_{is}] = E[(\varepsilon_{it} - \bar{\varepsilon}_i)(\varepsilon_{is} - \bar{\varepsilon}_i)]$$

$$= -\frac{1}{T} \sigma_{\varepsilon}^2$$

$$T E[\tilde{\varepsilon}_{it}^2] = E[(\varepsilon_{it} - \bar{\varepsilon}_i)^2] = \sigma_{\varepsilon}^2 \left(1 - \frac{1}{T}\right)$$

$\sigma_{\varepsilon}^2(T-1)$

σ_{ε}^2 的估计

$$\frac{1}{N(T-1)} \sum_{i=1}^N \sum_{t=1}^T E[\tilde{\varepsilon}_{it}^2] = \sigma_{\varepsilon}^2$$

$$\hat{\sigma}_{\varepsilon}^2 = \frac{SSR}{N(T-1)-K}$$