Estimate Influence Function, $\widehat{\mathrm{IF}}(X_t)$

$$\widehat{\mathrm{IF}}(X_t) = n[T_n(X_1, \dots, X_n) - T_{n-1}(X_1, \dots, X_{t-1}, X_{t+1}, \dots, X_n)]$$

where, $t \in \{1, \dots, n\}$

Calculate Autocovariance Function, $\hat{R}(k)$

$$\hat{R}(k) = n^{-1} \sum_{t=1}^{N-|k|} \widehat{\mathrm{IF}}(X_t)\widehat{\mathrm{IF}}\left(X_{t+|k|}\right)$$

where, $k \in \{-n+1, \dots, n-1\}$

Calculate b_i values ($i = 1, 2, 3, 4$)

$$b_0 = n^{-1}$$

$$b_i = n^{-1/3}\left(\frac{\sum_{k=-n+1}^{n-1} \hat{R}(k)^2}{6\sum_{k=-n+1}^{n-1} w_{SC}(kb_{i-1}n^{4/21})^2 k^2\, \hat{R}(k)^2}\right)^{1/3}$$

Calculate $\hat{b}$

$$\hat{b} = n^{-1/3}\left(\frac{2\left(\sum_{k=-n+1}^{n-1} w_{TH}\left(kb_4 n^{4/21}\right)\hat{R}(k)\right)^2}{3\left(\sum_{k=-n+1}^{n-1} w_{SC}(kb_4 n^{4/21})|k|\hat{R}(k)\right)^2}\right)^{1/3}$$

Calculate Optimum Block Length, $\hat{l}$

$$\hat{l} = \left\lfloor {}^{1}/_{\hat{b}} \right\rfloor$$

Definitions of Window Functions

$$w_{SC}(x) = \begin{cases} 1\,; & (|x| \le 0.8) \\ (1 + \cos(5(x - 0.8)\pi))/2; & (0.8 \le |x| \le 1) \\ 0\,; & (|x| \ge 1) \end{cases}$$

$$w_{TH}(x) = \begin{cases} (1 + \cos(\pi x))/2\,; & (|x| \le 1) \\ 0\,; & (|x| \ge 1) \end{cases}$$