Choose Parameter Values

$r = 1$ for bias, variance

$r = 2$ for distribution, quantiles

$$c_2 = \begin{cases} 1; & \text{for } r = 1 \\ 0.1; & \text{otherwise} \end{cases}$$

Calculate Bootstrap Estimates

Initial block size, $\ell = n^{\frac{1}{r+4}}$, where *n* is th sample size

(1) Calculate $\hat{\varphi}_n(\ell)$

(2) Calculate $\hat{\varphi}_n(2\ell)$

Estimate $\widehat{\mathrm{VAR}}$

(1) Set $m = c_2 n^{1/3} \ell^{2/3}$ (no. of blocks to be deleted)

(2) Calculate the Jackknife-after-Bootstrap (JAB) Variance estimator $\widehat{\mathrm{VAR}}$ using $\hat{\varphi}_n(\ell)$

(i) Collect the indices set:

$I_i^* = \{k\colon 1 \le k \le K, \{{}_kB_1^*, \dots, {}_kB_b^*\} \cap \{B_i, \dots, B_{i+m-1}\} = \emptyset\}$

(ii) $\hat{\varphi}_n^{(i)}$: *i*-th block-deleted jackknife point value, calculated using $k \in I_i^*$

(iii) $\tilde{\varphi}_n^{(i)} = m^{-1}\left[N\hat{\varphi}_n - (N-m)\hat{\varphi}_n^{(i)}\right]$

(iv) $\widehat{\mathrm{VAR}}_{\mathrm{JAB}}(\hat{\varphi}_n) = \frac{m}{N-m}\frac{1}{M}\sum_{i=1}^{M}(\tilde{\varphi}_n^{(i)} - \hat{\varphi}_n)^2$,

where, N = No. of all possible blocks, and $M = N - m + 1$

Calculate $\hat{C}_1$ and $\hat{C}_2$

$$\hat{C}_1 = n\ell^{-r}\widehat{\mathrm{VAR}}$$

$$\hat{C}_2 = 2\ell\{\hat{\varphi}_n(\ell) - \hat{\varphi}_n(2\ell)\}$$

Calculate Optimal Block Length, $\hat{\ell}^0$

$$\hat{\ell}^0 = \left[\frac{2\hat{C}_2^2}{r\hat{C}_1}\right]^{\frac{1}{r+2}} n^{\frac{1}{r+2}}$$