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Asymptotic Confidence Intervals for the Difference of Coefficients of Variation in Gamma Distributions

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Abstract : In this paper, we proposed two new confidence intervals for the difference of coefficients of variation, CIw and CIs, in two independent gamma distributions. These proposed confidence intervals using the close form method of variance estimation which was presented by Donner and Zou (2010) based on concept of Wald and Score confidence interval, respectively. Monte Carlo simulation study is used to evaluate the performance, coverage probability and expected length, of these confidence intervals. The results indicate that values of coverage probabilities of the new confidence interval based on Wald and Score are satisfied the nominal coverage and close to nominal level 0.95 in various situations, particularly, the former proposed confidence interval is better when sample sizes are small. Moreover, the expected lengths of the proposed confidence intervals are nearly difference when sample sizes are moderate to large. Therefore, in this study, the confidence interval for the difference of coefficients of variation which based on Wald is preferable than the other one confidence interval.

Keywords : confidence interval, score's interval, wald's interval, coefficient of variation, gamma distribution, simulation study
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