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References

Cribari-Neto et al.: Inference under heteroskedasticity and leveraged data

CribariNeto-Souza-Vasconcellos-2007

Francisco Cribari-Neto, Tatiene C. Souza, and Klaus L. P. Vasconcellos. “Inference under heteroskedasticity and leveraged data”. In: *Communications in Statistics - Theory and Methods* 36.10 (Aug. 2007), pp. 1877–1888. DOI: [10.1080/03610920601126589](https://doi.org/10.1080/03610920601126589).

Abstract: We evaluate the finite-sample behavior of different heteroskedasticity-consistent covariance matrix estimators, under both constant and unequal error variances. We consider the estimator proposed by Halbert White (HC0), and also its variants known as HC2, HC3, and HC4; the latter was recently proposed by Cribari-Neto (2004). We propose a new covariance matrix estimator: HC5. It is the first consistent estimator to explicitly take into account the effect that the maximal leverage has on the associated inference. Our numerical results show that quasi- t inference based on HC5 is typically more reliable than inference based on other covariance matrix estimators.

MacKinnon et al.: Confidence limits for the indirect effect: Distribution of the product and resampling methods

MacKinnon-Lockwood-Williams-2004

David P. MacKinnon, Chondra M. Lockwood, and Jason Williams. “Confidence limits for the indirect effect: Distribution of the product and resampling methods”. In: *Multivariate Behavioral Research* 39.1 (Jan. 2004), pp. 99–128. DOI: [10.1207/s15327906mbr3901_4](https://doi.org/10.1207/s15327906mbr3901_4).

Abstract: The most commonly used method to test an indirect effect is to divide the estimate of the indirect effect by its standard error and compare the resulting z statistic with a critical value from the standard normal distribution. Confidence limits for the indirect effect are also typically

based on critical values from the standard normal distribution. This article uses a simulation study to demonstrate that confidence limits are imbalanced because the distribution of the indirect effect is normal only in special cases. Two alternatives for improving the performance of confidence limits for the indirect effect are evaluated: (a) a method based on the distribution of the product of two normal random variables, and (b) resampling methods. In Study 1, confidence limits based on the distribution of the product are more accurate than methods based on an assumed normal distribution but confidence limits are still imbalanced. Study 2 demonstrates that more accurate confidence limits are obtained using resampling methods, with the bias-corrected bootstrap the best method overall.