INTISARI

Uji New Two-Sample Studentized Wilcoxon

Oleh

Ayu Widyawati
12/331000/PA/14420

Uji sum rank Wilcoxon banyak diaplikasikan pada berbagai disiplin ilmu, seperti ilmu ekonomi, dan lain-lain. Uji ini sangat populer karena kesederhanaan dalam penggunaannya. Meskipun demikian, kenyataan yang terjadi pada hampir semua aplikasi uji sum rank Wilcoxon pada berbagai jurnal akademik seringkali tidak tepat. Secara umum uji ini terlalu sering menolak H_0 sehingga tidak dapat mengontrol probabilitas kesalahan tipe I meskipun secara asimtotik. Selain itu, masalah yang melekat umum dari uji sum rank Wilcoxon, menolak H_0 bukan karena menerima H_1, tetapi karena asumsi pokok distribusi yang identik tidak dapat dipenuhi. Oleh karena itu, dilakukan modifikasi terhadap uji sum rank Wilcoxon yang disebut uji new two-sample studentized Wilcoxon, dengan mempertimbangkan distribusi dari populasi kedua sampel. Uji new two-sample studentized Wilcoxon tidak memerlukan asumsi distribusi yang identik untuk kedua sampel, selain itu juga dapat mengontrol probabilitas kesalahan tipe I secara asimtotik.

Kata kunci : mean dua sampel, uji permutasi, distribusi permutasi, uji sum rank Wilcoxon.

ABSTRACT

New Two-Sample Studentized Wilcoxon Test

By

Ayu Widyawati
12/331000/PA/14420

The Wilcoxon rank sum test has been widely used in a broad range of scientific research, including economics, etc. The test is very popular because the simplicity with which it can be performed. In spite of the fact that, most applications of the Wilcoxon rank sum test in accademic journals turn out to be inaccurate. Generally, the Wilcoxon rank sum test rejects the null hypothesis too often, therefore it fails to control the probability of the Type 1 error even asymptotically, thus often give inaccurate conclusion. In addition, common problem of the Wilcoxon rank sum test, rejecting the null hypothesis not because accept the alternative hypothesis, but because the fundamental assumption of the identical distributions fails to hold. Therefore, modified the Wilcoxon rank sum test which called new two-sample studentized Wilcoxon test, consider both of the populations distribution of the sample. The new two-sample studentized Wilcoxon test doesn't need identical distribution assumption of the two samples, in addition it can control the probability of the Type 1 error asymptotically.

Keywords : mean two sample, permutation test, permutation distribution, Wilcoxon rank sum test.