

Power BI Plots for Skewness and CV of Small Samples

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Extended Abstract

In a small sample case, a method to construct a confidence interval for the lower percentile is to find a reasonable $Y_{(0)}=Y_{(1)}/k$, which is smaller than the original positive minimum observation. The selection of k depends on the population skewness and the population coefficient of variation (CV).

One hundred replications of X_1, X_2, \dots, X_{10} are simulated from $U(0, 1)$. They are treated as cumulative distribution functions to derive observations from different distributions. However, it is still hard to tell the population distribution of a given sample Y_1, Y_2, \dots, Y_{10} even though that the dot plot is drawn.

In this paper, Power BI is applied to create scatter plots for skewness and coefficient of variation (CV) of those 100 small samples. It can be concluded that comparing to skewness, coefficient of variation (CV) is a better way to judge the population distribution. The larger the coefficient of variation is, the larger the value of k is.

Keywords

Power BI, Skewness, Coefficient of variation (CV), Small sample.