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STATA PROGRAMMING OF CONFIDENCE REGIONS FOR THE RATIO OF TWO PERCENTILES

Abstract:

In the wood industry, it is common practice to compare in terms of the ratio of the same strength properties for lumber of two different dimensions, grades or species. Because United States lumber standards are given in terms of population fifth percentile, and strength problems arised from the weaker fifth percentile rather than the stronger mean, the ratio should be expressed in terms of the fifth percentiles rather than the means of two strength distributions.

Stata is an useful tool of handling the big data because the upper limit of number of observations in its SE version is 2,147,583,646. In this paper, an ado-file will be written for Stata programming of non parametric confidence regions for the ratio of two percentiles. In Stata, a scalar is used to save a value rather than a variable. The variable name is suggested to contain only small letters. A matrix will be used to save the Gaussian kernels contributed by all observations and the percentile when the confidence region is being constructed.

Keywords:

Strength of lumber, Ratio of percentiles, Stata programming, Confidence region.

JEL Classification: C15