

Random samples generation with Stata from continuous and discrete distributions

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Abstract

Simulations are nowadays a very important way of analyzing new improvements in different areas before the physical implementation, which may require hard resources which could only be afforded in case of a high probability of success. The use of random samples from different distributions are a must in simulations.

In this talk we introduce new Stata functions for generating random samples from continuous and discrete distributions that are not considered in the defined Stata random-number generation functions. In addition, we will also introduce new Stata functions for generating random samples as an alternative of the build-in Stata functions.

The goodness of the generated samples will be checked using the mean squared error (MSE) of the differences between the frequencies of the sample and the theoretical expected ones. We will also provide bar charts which will allow the user to compare graphically the sample with the exact distribution function of the random distribution which is being sampled.