

Title: Skew normal distribution

Author: František Helebrand

Department: Department of Probability and Mathematical Statistics

Supervisor: RNDr. Šárka Hudecová, Ph.D., Department of probability and mathematical statistics

Abstract: In this paper, the skewed normal probability distribution is studied. First, the density is proposed and the basic properties of this distribution are proved. Then the thesis deals with the moment and cumulative generating functions. These functions are used in deriving the mean, variance and skewness of the skew normal distribution. In the third chapter, two parameter estimators are proposed and their properties are derived. Finally, these estimators are empirically investigated in a simulation study and on real data.

Keywords: normal distribution, skewness, point estimators