

Asymptotic Properties of Some Estimators for Income Inequality Measures- a Simulation Study

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It is well known that unequal income distribution, yielding poverty, stratification and polarization, can be a serious economic and social problem. The reliable inequality analysis of both, total population of households and subpopulations classified by different characteristics, can be a helpful piece of information for economists and social policy-makers. Among many income inequality measures the Gini index based on the Lorenz curve is the most popular. Another interesting measure of income inequality is the Zenga index, based on the relation between income and population quantiles. In the paper some nonparametric estimators of Gini and Zenga inequality measures are presented and analyzed from a point of view of their statistical properties. In particular, the bias, efficiency and normality of the estimators are considered. The Monte Carlo experiments include the cases of heavy-tailed and light-tailed distributions as theoretical models. Finally, the estimators are applied to the data on income distributions in Poland.

Keywords: income distribution, income inequality.