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Bias of the sample Lorenz curve. (English) [Zbl 1338.62127](#)

Choudhary, Pankaj K. (ed.) et al., Ordered data analysis, modeling and health research methods. In honor of H. N. Nagaraja's 60th birthday. Selected papers based on the presentations at the international conference, Austin, TX, USA, March 7–9, 2014. Cham: Springer (ISBN 978-3-319-25431-9/hbk; 978-3-319-25433-3/ebook). Springer Proceedings in Mathematics & Statistics 149, 3-15 (2015).

Summary: Inequality is often underestimated using sample data. For several parent distributions it is possible to prove that the sample Lorenz curve is a positively biased estimate of the population Lorenz curve. In this paper, several sufficient conditions for such positive bias are investigated. An example shows that negative bias is not impossible, though apparently not common.

For the entire collection see [\[Zbl 1337.92005\]](#).

MSC:

- 62G10 Nonparametric hypothesis testing
- 62G15 Nonparametric tolerance and confidence regions
- 62E15 Exact distribution theory in statistics
- 62E20 Asymptotic distribution theory in statistics

Keywords:

[inequality](#); [majorization](#); [exponential distribution](#); [Gini index](#); [Pietra index](#); [Amato index](#)

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References:

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