

# Quantile-based Inference of Parametric Transformations between two Distributions

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In this paper, we compare the distributions of a continuous outcome between two groups. We focus on specifications such that the two distributions are related by some parametrized transformations of values and ranks. These specifications can be derived from a specific class of theoretical models.

We propose a quantile method to estimate the parameters and derive their asymptotic distribution. We also propose a test of the specification. Monte-Carlo simulations show that the estimators of the parameters perform very well when the number of observations in each group is at least a few thousands.

We finally apply our method to the wage differential between skilled males and females in a selection of sectors. We are able to quantify the respective effects of the glass ceiling and a uniform discrimination which may lower the wages of females.

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