

Checking Proportional Rates in the Two-Sample Transformation Model

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Abstract: Transformation models for two samples of censored data are considered. Main examples are the proportional hazards and proportional odds model. The key assumption of these models is that the ratio of transformation rates (e. g., hazard rates or odds rates) is constant in time. A method of verification of this proportionality assumption is developed. The proposed procedure is based on the idea of Neyman's smooth test and its data-driven version. The method is suitable for detecting monotonic as well as nonmonotonic ratios of rates.

Keywords: Neyman's smooth test; proportional hazards; proportional odds; survival analysis; transformation model; two-sample test;

AMS Subject Classification: 62N01; 62N03;

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