

BEZIER CURVE SMOOTHING OF THE KAPLAN-MEIER ESTIMATOR*

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Abstract. Estimation of a survival function from randomly censored data is very important in survival analysis. The Kaplan-Meier estimator is a very popular choice, and kernel smoothing is a simple way of obtaining a smooth estimator. In this paper, we propose a new smooth version of the Kaplan-Meier estimator using a Bezier curve. We show that the proposed estimator is strongly consistent. Numerical results reveal that the proposed estimator outperforms the Kaplan-Meier estimator and its kernel weighted smooth version in the sense of mean integrated square error.

Key words and phrases: Bandwidth, censored data, kernel smoothing, strong consistency.

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