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THE PERFORMANCE OF ADAPTIVE KERNEL DENSITY ESTIMATOR FOR ACTUARIAL LOSS DISTRIBUTIONS

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Abstract

Kernel density estimation is a basic nonparametric method to estimate the probability density of data. Adaptive kernel estimation, however, is a preferable method when data are multimoded or heavy tailed. In this study, we examine the performance of the adaptive kernel estimator for density estimates of the loss distributions used mostly in different levels of claim severities. Simulation studies reveal that the performance of adaptive kernel estimator varies in terms of severity levels. The adaptive estimator has a good performance for high claim severity. However, its performance goes down for low claim severity.

Keywords and phrases: adaptive kernel estimator, density estimation, actuarial loss distribution.

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