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Confidence Band for Expectation Dependence with Applications

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Abstract

Motivated by the applications of the concept of expectation dependence in economics and finance, we propose a method to construct uniform confidence band for expectation dependence. It is derived based on Hoeffding's inequality. Our proposed confidence band can be explicitly expressed and thus it is very easy to implement. Our method has applications to demand for a risky asset and first-order risk aversion problems. Simulations suggest our proposed confidence interval can control the coverage probabilities very well, and the average lengths are very short. Two empirical applications are presented to illustrate the usefulness of the constructed confidence band of expectation dependence.

Key words: Expectation dependence; Confidence band estimation; Demand for a risky asset; First-order risk aversion.

JEL classification: C14, C13, D81

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