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Original Articles

Backtesting lambda value at risk

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ABSTRACT

A new risk measure, lambda value at risk (ΛVaR), has been recently proposed as a generalization of value at risk (VaR). ΛVaR appears attractive for its potential ability to solve several problems of VaR. This paper provides the first study on the backtesting of ΛVaR. We propose three nonparametric tests which exploit different features. Two tests are based on simple results of probability theory. One test is unilateral and is more suitable for small samples of observations. A second test is bilateral and provides an asymptotic result. A third test is based on simulations and allows for a more accurate comparison among ΛVaRs computed with different assumptions on the asset return distribution. Finally, we perform a backtesting exercise that confirms a higher performance of ΛVaR in respect to VaR especially when it is estimated with distributions that better capture tail behavior.

KEYWORDS:

backtesting hypothesis testing model validation risk management

JEL CLASSIFICATIONS:

C12 C52 G32

Disclosure statement

No potential conflict of interest was reported by the authors.

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