

**The power of tail independence tests in extreme value models.
An application for stock exchange markets**

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Abstract

Dependencies of extreme events are attracting an increasing attention in modern risk management. In practice, the concept of tail dependence represents the current standard to describe the amount of extremal dependence. This paper presents some of the important issue of testing for tail independence. Applied tests are based on Extreme Value Theory. While Extreme Value Theory allows to construct estimators of the tail dependence coefficient and to derive tests for tail independence, the determination of the threshold where the tails begin remains a fundamental statistical problem. One important feature of this paper is carrying out an simulation study (according to percentage of extreme observations) to compare results of analyzed tests. Given the results of the simulation, the application part is concerned on time series from selected worldwide stock exchange.

Keywords: extreme value theory, extreme dependence, tail dependence coefficient