

Abstract: The tail index of a distribution plays a central role in extreme value theory, because it determines the asymptotic distribution of e.g. the sample maximum. Whereas the variance is too crude a measure for tail thickness, the tail index more adequately describes the tail behavior.

Often in time series from finance the assumption of tail index constancy over time seems unwarranted. This motivated Kim and Lee (Metrika 74:297-311, 2011) to propose a change point test for the tail index of stationary β -mixing random variables. Their test is based on the popular Hill estimator. Under similar conditions we were able to extend their results to a whole range of other estimators of the tail index, like, e.g., the Pickands estimator, using the theory of statistical functionals.