

**Goodness-of-fit tests for the extreme value  
distribution with unknown scale**

**Mir Nabi Pirouzi Fard**

**2009:1**



**LUND**  
UNIVERSITY

**DEPARTMENT OF  
STATISTICS**

S-220 07 LUND  
SWEDEN

**Goodness-of-fit tests for the extreme value distribution  
with unknown scale**

BY MIR NABI PIROUZI FARD

*Department of Statistics, Lund University, Box 743, S-220 07*

*Lund, Sweden*

mirnabi.pirouzifard@stat.lu.se

SUMMARY

In this paper, the relative efficiency between maximum likelihood estimator and best linear unbiased estimator of scale parameter type I extreme value distribution are studied. Goodness of fit tests based on regression and empirical distribution function are investigated. The power of the test statistics is examined. Results comparing the power of test statistics showed that the regression test statistic based on residuals is more powerful than the others test statistics in this study.

*Some key words:* weibull distribution; extreme value distribution; means, variances and covariances of order statistics.