Designs with Intercept only.

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The simulation and the plots shown here are the same as in the vignette *lmrob_simulation* of the R-package *robustbase*, Koller (2011). The difference is, that here all the designs have an intercept column. See also Koller and Stahel (2011).

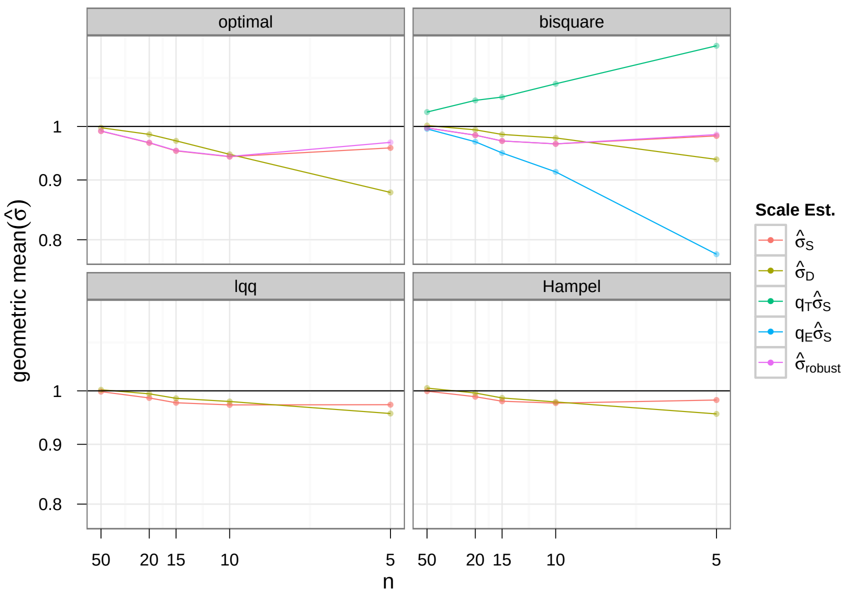

Figure 1: Mean of scale estimates for normal errors. The mean is calculated with 10% trimming. The lines connect the median values for each simulated ratio p/n. Results for random designs only.

References

Koller, M. (2011). *Simulations for Sharpening Wald-type Inference in Robust Regression for Small Samples*. vignette of robustbase: Basic Robust Statistics, R package version 0.7-0.

Koller, M. and W. A. Stahel (2011). Sharpening wald-type inference in robust regression for small samples. *Computational Statistics & Data Analysis 55*(8), 2504–2515.

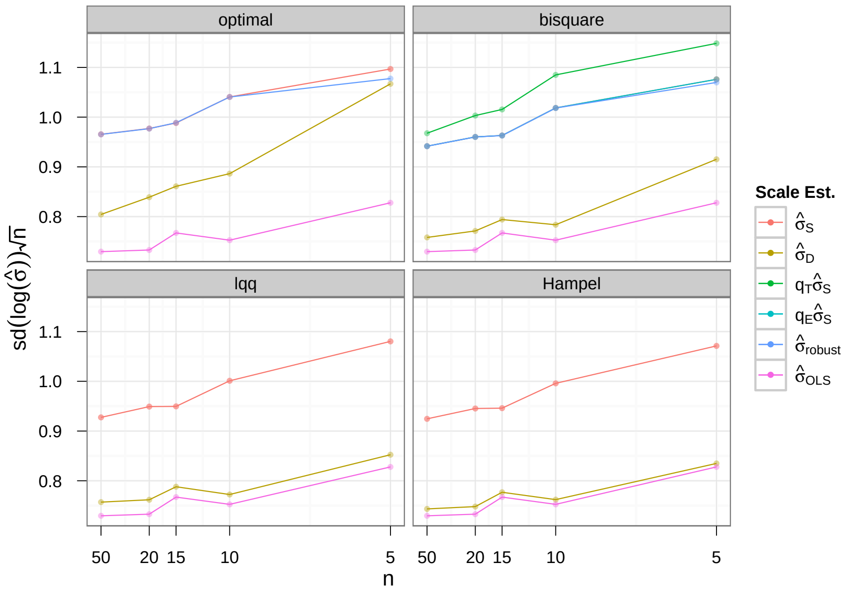

Figure 2: Variability of the scale estimates for normal errors. The standard deviation is calculated with 10% trimming.

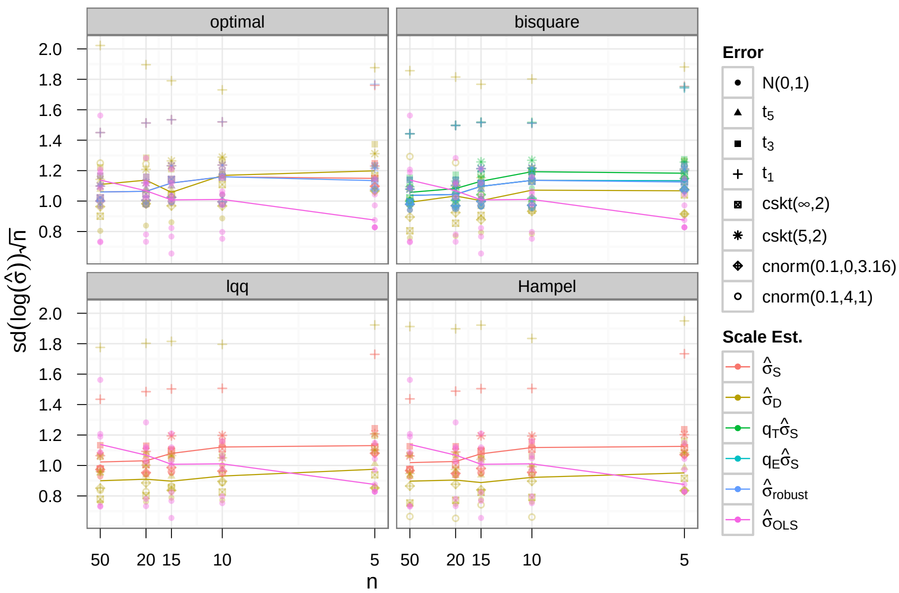

Figure 3: Variability of the scale estimates for all simulated error distributions.

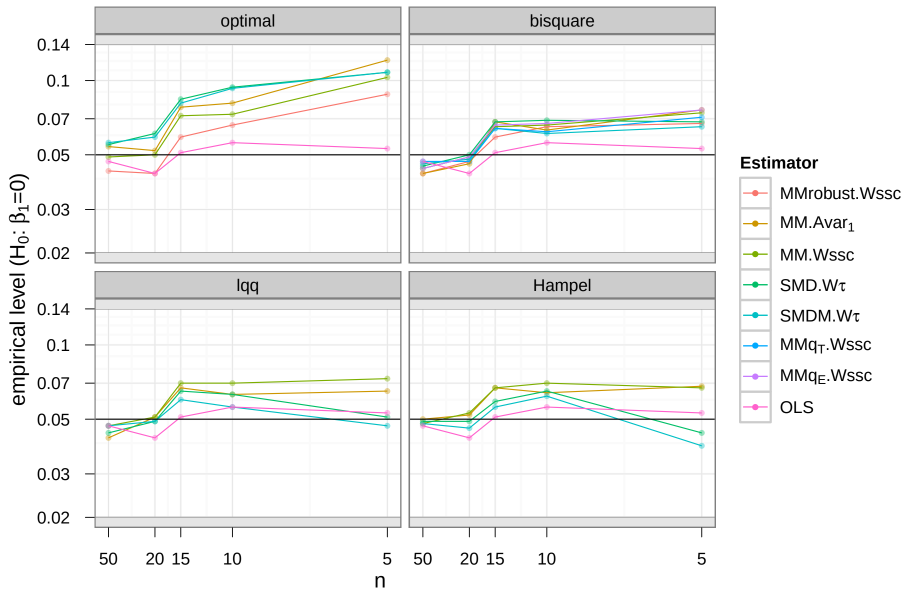

Figure 4: Empirical levels of test $H_0 : \beta_1 = 0$ for normal errors. The y-values are truncated at 0.02 and 0.14.

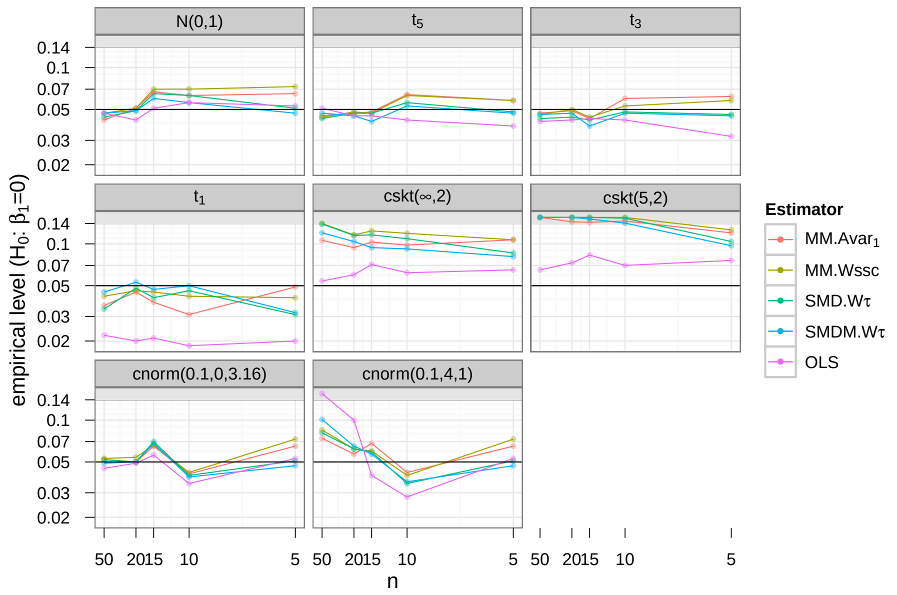

Figure 5: Empirical levels of test $H_0 : \beta_1 = 0$ for *lqq* ψ-function and different error distributions.

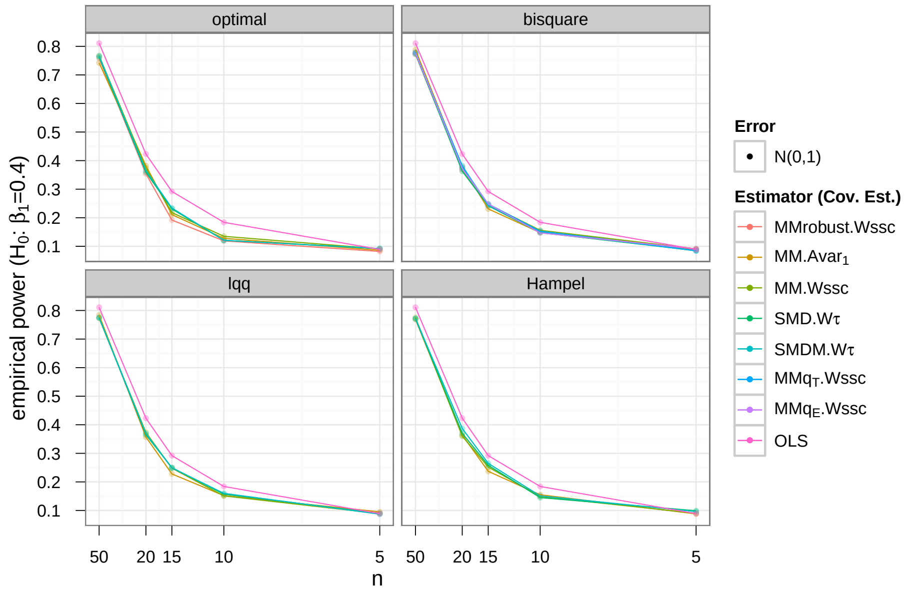

Figure 6: Empirical power of test $H_0 : \beta_1 = 0.4$ for different ψ-functions and normally distributed errors.

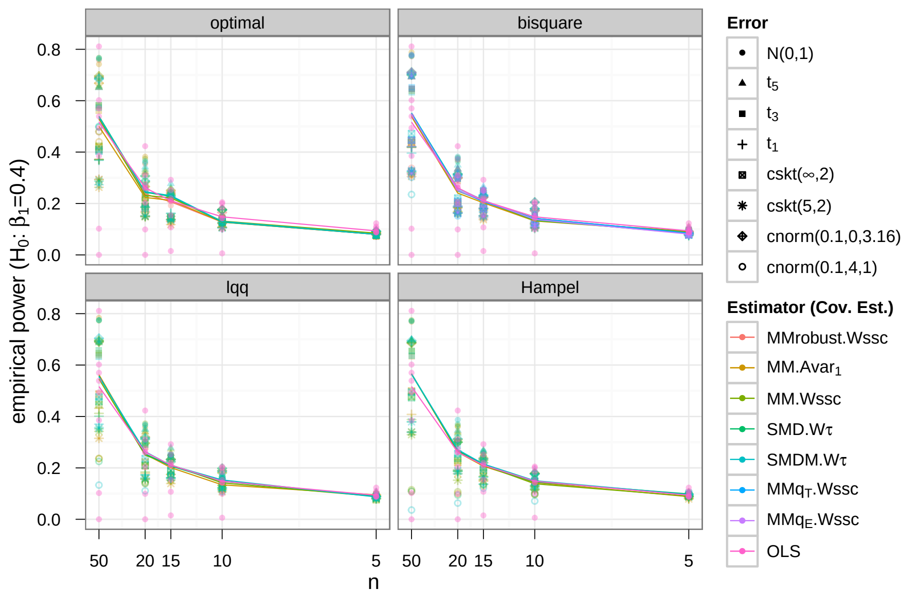

Figure 7: Empirical power of test $H_0 : \beta_1 = 0.4$ for different ψ-functions and different error distributions.

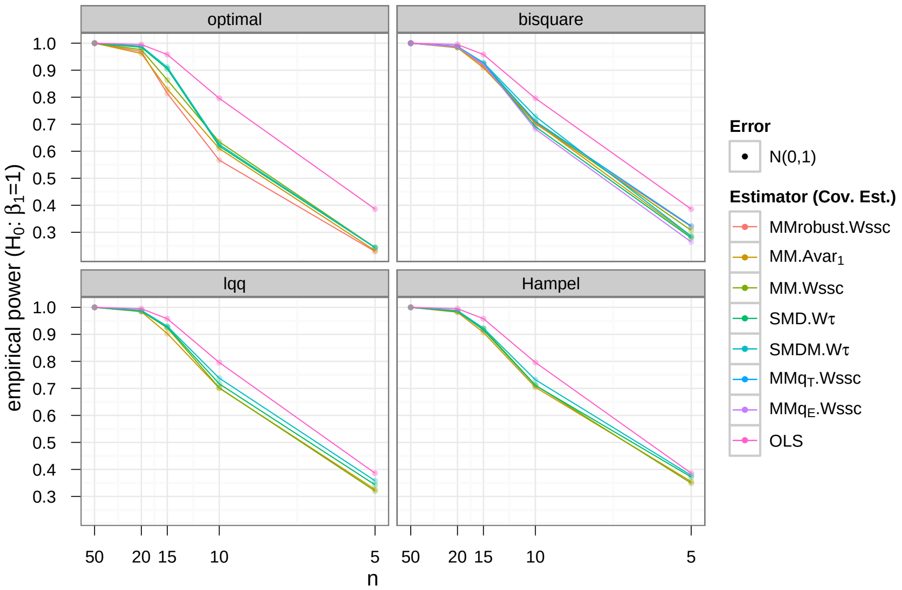

Figure 8: Empirical power of test $H_0 : \beta_1 = 1$ for different ψ-functions and normally distributed errors.

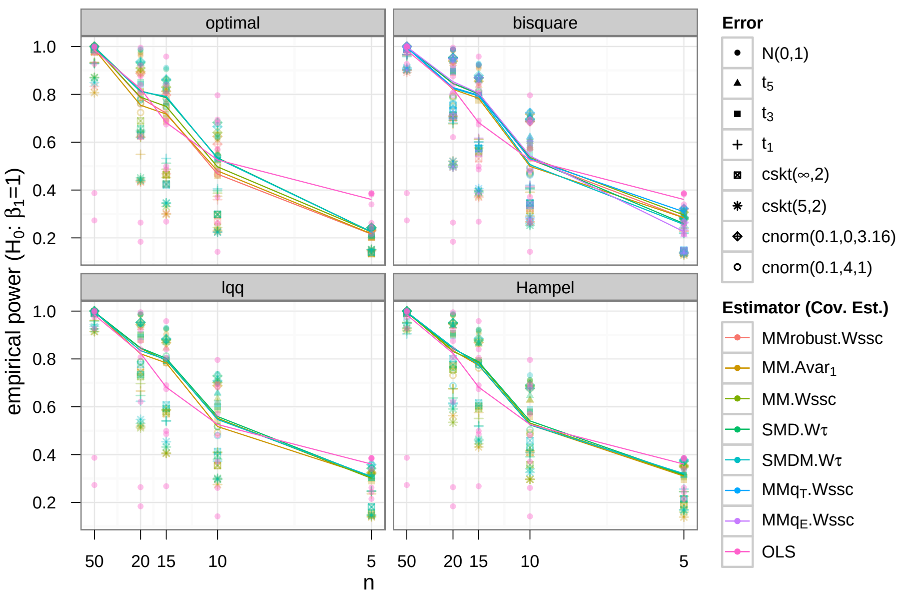

Figure 9: Empirical power of test $H_0 : \beta_1 = 1$ for different ψ-functions and different error distributions.