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**A lack-of-fit test for quantile regression models with high-dimensional covariates.** (English)

Zbl 06921450

Comput. Stat. Data Anal. 88, 128-138 (2015).

Summary: A new lack-of-fit test for quantile regression models, that is suitable even with high-dimensional covariates, is proposed. The test is based on the cumulative sum of residuals with respect to unidimensional linear projections of the covariates. To approximate the critical values of the test, a wild bootstrap mechanism convenient for quantile regression is used. An extensive simulation study was undertaken that shows the good performance of the new test, particularly when the dimension of the covariate is high. The test can also be applied and performs well under heteroscedastic regression models. The test is illustrated with real data about the economic growth of 161 countries.

**MSC:**

62 Statistics

**Keywords:**

quantile regression; lack-of-fit testing; high-dimensional covariates

**Full Text:** [DOI](#)

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