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Original Articles

Testing Lack-of-fit for a Polynomial Errors-in-variables Model

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摘要 When a regression model is applied as an approximation of underlying model of data, the model checking is important and relevant. In this paper, we investigate the lack-of-fit test for a polynomial error-invariables model. As the ordinary residuals are biased when there exist measurement errors in covariables, we correct them and then construct a residual-based test of score type. The constructed test is asymptotically chi-squared under null hypotheses. Simulation study shows that the test can maintain the significance level well. The choice of weight functions involved in the test statistic and the related power study are also investigated. The application to two examples is illustrated. The approach can be readily extended to handle more general models.

关键词 bias correction lack-of-fit test

分类号

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Key words bias correction lack-of-fit test

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