On Asymptotics of T-type Regression Estimation in Multiple Linear Model

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Abstract

We consider a robust estimator (t-type regression estimator) of multiple linear regression model by maximizing marginal likelihood of a scaled t-type error t-distribution. The marginal likelihood can also be applied to the de-correlated response when the within-subject correlation can be consistently estimated from an initial estimate of the model based on the independent working assumption. This paper shows such t-type estimator is consistent. Furthermore, its asymptotic normality is followed from He, Cui and Simpson (2003) directly.
AMS. 2000 Subject Classification: 62J05, 62G35, 62G20.
KEY WORDS: T-type regression estimator, M-estimator, one-step estimate, consistency, asymptotic normality