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Minimum Distance Estimations in a Switching Regression Model

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Abstract

We propose the minimum distance estimators of parameters in a switching regression model under parametric error distributions with Cramér-von Mises type discrepancy. The main results of the proposed minimum distance estimator $\hat{\eta}$=($\hat{\beta}_2$, $\hat{\beta}_2$, $\hat{p}$, $\hat{\theta}_1$, $\hat{\theta}_2$)of η=(β_1, β_2, p, θ_1, θ_2) show that (i) $\hat{\eta}$ is a strongly consistent estimator of η, (ii) the limiting distribution of $\sqrt{n}$($\hat{\eta}$ - η) is 5-variste normal.

Keywords: Minimum Distance Estimation, Switching Regression Model, Strong Consistency, Asymptotic Normality.