

Estimation in a class of nonlinear heteroscedastic time series models

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Abstract

Parameter estimation in a class of heteroscedastic time series models is investigated. The existence of conditional least-squares and conditional likelihood estimators is proved. Their consistency and their asymptotic normality are established. Kernel estimators of the noise's density and its derivatives are defined and shown to be uniformly consistent. A simulation experiment conducted shows that the estimators perform well for large sample size.

AMS 2000 subject classifications: Primary 62M10; secondary 62F12.

Keywords: Conditional least-squares estimation, Conditional likelihood estimation, Heteroscedastic models, Kernel density estimation, LATEX2 ϵ .



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