INTISARI

MODEL *QUANTILE SELF-EXCITING THRESHOLD AUTOREGRESSIVE* UNTUK PERAMALAN DATA RUNTUN WAKTU

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Pada tesis ini, akan dibangun model *Quantile Self-Exciting Threshold Autoregressive* (QSETAR) yaitu gabungan dari model *Quantile Autoregression* (QAR) dan model *Self-Exciting Threshold Autoregressive* (SETAR). Model QSETAR adalah model nonlinier runtun waktu. Secara umum, beberapa kasus dimodelkan ke dalam SETAR, kemudian pada masing-masing *regime*-nya diberi pendekatan QAR dengan nilai kuantil (θ), $0<\theta<1$. Dalam model SETAR, data yang diamati digunakan untuk menentukan model fit. Model QSETAR digunakan untuk memprediksi data untuk beberapa periode ke depan. Kebaikan model fit diukur menggunakan MAPE.

Kata kunci: Peramalan, Data Runtun Waktu, Threshold, Kuantil, QSETAR.

ABSTRACT

QUANTILE SELF-EXCITING THRESHOLD AUTOREGRESSIVE MODELS FOR TIME SERIES PREDICTION

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In this paper, we will construct a Quantile Self-Exciting Threshold Autoregressive (QSETAR) model which is a combination of Quantile Autoregression (QAR) and Self-Exciting Threshold Autoregressive (SETAR) model. This model is nonlinear time series model. Generally, some cases is modelled by SETAR, furthermore each regime is approached by QAR with quantile-(θ), $0<\theta<1$. In SETAR model, observed data is used to determine fitted model. QSETAR model is used to predict data for some periods ahead. Goodness of fit model is measured using Mean Absolute Percentage Error (MAPE).
Keywords: Forecasting, Time Series, Threshold, Quantile, SETAR, QSETAR.