

Moh. Taufik, 2011. *Outliers Detection in the Exponential Generalized Autoregressive Conditional Heteroscedastic Models with Likelihood Ratio Test*. This final project is under guidance of Drs. H. Sediono M.Si. and Ir. Elly Ana, M.Si.. Departement of Mathematics. Faculty of Science and Technology . Airlangga University.

ABSTRACT

EGARCH (*Exponential Generalized Autoregressive Conditional Heteroscedastic*) models is one of the time series models which capture Leverage Effect, asymmetric effect that caused asset positive and negative return to varians. Varians of this models have high fluctuation so many events disturbing, especially in the field of finance. One of them is the appearance of outliers.

Outlier is a set of data that deviate from the others. The presence of outliers will provide an unfavorable impact in the process of data analysis. Unless it is treated immediately, in the financial field, the emergence of an outlier can cause a great loss, especially outliers AVO (Additive Volatility Outlier) and ALO (Additive Level Outliers) types.

This final project had purpose to detect the presence of outliers and to differentiate types of outliers in GARCH model by the Likelihood Ratio method that applied on the stock return of LQ45, 45 stock has high liquidity.

Based on the detection result, obtained by the Likelihood Ratio method, showed that the data contain outliers AVO types. The data then was analysis by Hampel identifier method to removing outliers and replace the detected outliers so new data formed. It was reconstruction then compared with fisrt model using AIC (Akaike's Information Criterion) and SBC (Schwarz's Bayesian Criterion) values of the fisrt and the new data models. AIC and SBC values obtained in the initial data are -5.638330 and -5.531491, while in the final data are -5.997094 and -5.909404, so it can be concluded that the model is the best after the removal of outliers.

Key Words : *EGARCH models, Outlier, Likelihood Ratio, Hampel Identifier.*