Title: Volatility Estimation and Forecasting for the Stock Returns of Banking Group in the Stock Exchange of Thailand

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Abstract*

This study examined the impact of volatility on the return of stocks in banking group in the Stock Exchange of Thailand and determined the most suitable equations to forecast the return of those stocks. The study used time series data of daily closing price of the stocks in total of 1,242 operating days from 2 January 2013 to 31 January 2018. With the conditional volatility, the study employed ARIMA-GARCH and ARIMA-GARCH-M models and utilized Box-Jenkins method. The scopes of study considered the ARCH and GARCH coefficients with the highest order of 2.

The Unit Root Test and ADF statistics found the data is stationary at 1st difference level and reported the appropriate models for each stock as follow: the model for BAY was AR(10) MA(4) with GARCH-M(1,2), the model for BBL was AR(2)AR(3)AR(8)AR(9)AR(10) MA(3)MA(7) with GARCH-M(1,1), the model for CIMBT was AR(1) MA(1)MA(3) with GARCH-M(1,2), the model for KBANK was AR(1)AR(2)AR(4) MA(1)MA(2)MA(4)MA(6)MA(7)MA(9) with GARCH(2,2), the model for KKP was AR(10) MA(10) with GARCH(2,1), the model for KTB was AR(1)AR(3)AR(8) MA(1)MA(3) with GARCH(1,2), the model for LHFG was AR(1)AR(4)AR(8) MA(1)MA(2)MA(4) with GARCH(1,2), the model for SCB was AR(1)AR(2)AR(3)AR(4) AR(8) MA(1)MA(3)MA(4) with GARCH(1,1), the model for TCAP was AR(3)AR(5)AR(6)AR(8) MA(2)MA(3)MA(5)MA(6) MA(8) with GARCH(1,1), the model for TISCO was AR(3)AR(4)AR(6)AR(9) MA(1) MA(3)MA(4) with GARCH(1,1), and the model for TMB was AR(2)AR(3)AR(7)AR(8)AR(9)

MA(1)MA(2)MA(3)MA(7)MA(8)MA(10) with GARCH(1,1). All selected models did not have autocorrelation and effectively forecasted the returns due to the consistency of the actual and forecasted returns, while there was no contradicting statistics result regarding the forecasting effectiveness. Forecasting was less accurate as forecast period increased.

The recommendations for investors/analysts are (1) the deliberate study should use a variety of models to find the equation model that is appropriate and effective in forecasting (2) Investors should be aware that the forecasting results are accurate over a short period of time and (3) Investors must consider the fundamentals of securities in order to make effective investment decisions.

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