

ABSTRACT

PT.X is a company engaged in investment management and public fund management with total investment value of up to ten billion Rupiah. The profit generated by PT.X are obtained from the results of managing digital assets trading, namely Bitcoin (BTC). Based on data PT.X's profit report in the period December 2017-May 2018 it can be seen that the profit generated by PT.X decrease every month. Therefore, PT.X decided to diversify its investment by adding investment in one digital asset that will be managed by PT.X namely Ethereum (ETH). Diversification is carried out to increase the profit obtained by PT. X and reduce investment risk. This research discusses the investment portfolio of digital assets that are appropriate for PT.X with maximum return and minimum risk. This research uses time series data forecasting method, namely ARIMA and EGARCH model to forecast the volatility of BTC and ETH. Based on the results of data processing it was found that BTC volatility forecasting can use ARIMA(0,0,1)-EGARCHM(2,1) model and ETH volatility forecasting can use EGARCHM(2,1). The results of this research indicate that the optimal investment portfolio of digital assets for PT.X is portfolio with investment fund allocation BTC of 8,512,287,509.25 IDR and investment fund allocation ETH of 2,208,477,615.75 IDR. The portfolio produces daily return on investment of 31,419,925.27 IDR and daily investment risk of 140,285,581.48 IDR.

Keywords: investment portfolio,digital asset ,ARIMA-EGARCHM, optimization, value at risk