ABSTRACT

In this research, the stock price index prediction with two-stages Support Vector Regression (SVR) method will be discussed. This study uses Compotition Stock Price Index (CSPI) index of Indonesia's stock market. These experiments are based on historical daily data in 5 years. Prediction done using one-stage SVR and two-stages SVR to predict closing price of the period ahead $(t + 1)$, two periods ahead $(t + 2)$, three periods ahead $(t + 3)$, four period ahead $(t + 4)$, and five period ahead $(t + 5)$. By using two-stages Support Vector Regression (SVR) method, it is obtained testing Mean Absoute Percentage Error (MAPE) of five scenarios, there are MAPE for $(t + 1)$ scenario is 9.2099%, MAPE for $(t + 2)$ scenario is 16.4214%, MAPE for $(t + 3)$ scenario is 7.308%, MAPE for $(t + 4)$ scenario is 7.1856%, and MAPE for $(t + 5)$ scenario is 8.8449%. At the same time using the one-stage Support Vector Regression (SVR) it is obtained testing MAPE of five scenarios, there are MAPE for $(t + 1)$ scenario is 15.316%, MAPE for $(t + 2)$ scenario is 15.026%, MAPE for $(t + 3)$ scenario is 15.453%, MAPE for $(t + 4)$ $scenario\ is$ 15.605%, and MAPE for $(t + 5)$ scenario is 15.7007%. So it can be concluded that the two-stages Support Vector Regression (SVR) method has better accuracy in every scenario except in the $(t + 2)$ scenario.

Keywords: Prediction of stock, Compotition Stock Price Index (CSPI), Support Vector Regression (SVR)