

Technical Analysis Efficiency Enhancement in Moving Average Indicator Through Artificial Neural Network

Muhamad Sukor Jaafar, Ismail Ahmad, Zetty Zahureen Mohd Yusoff

Faculty Business and Management, Universiti Teknologi MARA, Shah Alam, Selangor.

Abstract — The technical approach to investment, essentially a reflection of an idea that prices move in trends which are determined by the changing attitudes of investors towards a variety of economy, monetary, political and psychological forces). The response of stock prices towards the changes in economic variables vary from one to another, hence, it makes trading decision to be very complex. Efficiency refers to the ability to produce an acceptable level of output using cost-minimizing input ratio. Thus, in technical analysis, efficiency refers to the ability of the indicators to indicate a good timing of entry and out of the market with profit. The levels of efficiencies are shown by actual output ratios versus expected output ratios. The higher the actual output ratios against the expected output ratios, the higher the efficiency level of the indicators. This research investigates several technical indicators and found none of the indicators reached the efficiency level. To improve the level, this study applies the Artificial Neural Network model that capable to learn the price and the moving average patterns and suggests a new pattern better than the previous, in term of efficiency level. This research found that the improvements are not just to the efficiency but also increase number of trading as per selected period hence, increase the changes of investor decisions to enter and to exit from the market with possibility of a better profit as compared to traditional technical analysis.

Keywords: MA, MACD, ROC, Stochastic, Technical analysis

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