

Robustness and Predictive Performance of Artificial Neural Networks in Identifying Investors' Trading Strategies: Evidence from the Stock Exchange of Thailand

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Abstract

This research aims at examining the trading behavior of each group of stock traders to explain price formation in the Stock Exchange of Thailand (SET) by categorizing them as momentum traders, the liquidity demander and contrarian traders, the liquidity suppliers. The data used for the analysis are obtained from Stock Exchange of Thailand database and include the daily SET total return index and daily buy and sell value of each investor group from November 2009 to December 2025. The study uses the traditional linear econometric models, Vector Autoregression (VAR) to provide economic reasoning and the Artificial Neural Networks (ANNs) which could learn complicated patterns of data with no limit of the traditional techniques which could not capture the complex, nonlinear relationship in financial market to evaluate the predictive relevance of independent variables in the VAR. The findings exhibit that the explanatory variables provide meaningful information. The statistical results from the Root Mean Squared Error (RMSE) and R-squared indicate that the ANNs have superior predictive performance compare with the VAR.

Keywords: artificial neural networks; contrarian trading; momentum trading; stock exchange of Thailand; trading behavior