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Nonlinear Predictability of Stock Returns Using Financial and Economic Variables

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Abstract

Inspired by the linear predictability and nonlinearity found in the finance literature, this article examines the nonlinear predictability of the excess returns. The relationship between the excess returns and the predicting variables is recursively modeled by a neural-network model, which is capable of performing flexible nonlinear functional approximation. The nonlinear neural-network model is found to have better in-sample fit and out-of-sample forecasts compared to its linear counterpart. Moreover, the switching portfolio based on the recursive neural-network forecasts generates higher profits with lower risks than both the buy-and-hold market portfolio and the switching portfolio based on linear recursive forecasts.

KEY WORDS:

Ex ante forecasting | Neural networks | Recursive modeling | Stock-market prediction | Switching portfolio | Trading profits

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