NEURAL NETWORK MODELS USING SAS ENTERPRISE MINER

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ABSTRACT

Neural network is advocated to outperform traditional methods in time series analysis. This paper intends to investigate the dominance of neural network to methods such as exponential smoothing, regression and Box-Jenkins using the same ground rules. The models are developed using large number of historical data with dynamic patterns to predict future by dividing the data set into training and validating set. Models are then compared based on their forecast accuracy in the validation sample, and model with the least forecast error is selected. Significant emphasis in this paper is on the use of one of the powerful data-mining method in SAS module called Enterprise Miner. The modeling process incorporates the Enterprise Miner SEMMA methodology which stands for Sampling, Exploring, Modifying, Modeling, and Assessing data. Lastly, this paper will conclude with a brief summary of the advantages and disadvantages of using neural network model in time series forecasting.

Keywords: SAS Enterprise Miner, neural network, time series.