# Wavelet-Neural-Fuzzy Conjunction Modeling of Nifty India Consumption Stock of National Stock Exchange (NSE)

RASHMI BHARDWAJ*
AASHIMA BANGIA**

## Abstract

The study introduces new prototype through coupling neural networks, fuzzification and wavelet for prediction of economic growth with the help of stock prices in National Stock Exchange (NSE). Wavelet transformation improves capability of prototype as it encapsulates necessary info at many resolution steps. Daily forecasting of Nifty India Consumption Stock Opening and Closing prices monitored at National Stock Exchange of India based on the data taken from April 1, 2016 to July 31, 2017 is analyzed. Using statistical facets of wavelet domain constituents, it is observed that average value of open stock is 3867.01 whereas for closed stock is 3865.46. It is concluded that wavelet neural-fuzzy coupled (WNFC) model has less forecasting error as compared to other techniques which efficiently forecasted the volatility in the stock prices through Opening and Closing prices of Nifty India Goods Consumption Stock, as an overview of economic growth in the 330 days of the period under consideration.

## I. Introduction

NSE OF INDIA is settled at Maharashtra, founded in 1992. It is an archetypical de-mutualized electronic exchange of the nation. Estimation of stock prices variation is considered to be an arduous task. Also, the price movement varying with time depicts a randomized walk. In these changing times, stockbrokers and future traders have been shifting their focus on various types of intelligent mechanisms to declare their decisions based on non-linear characterization models which involve artificially intelligent systems.

*   Professor, Guru Gobind Singh Indraprastha University (GGSIPU), University School of Basic and Applied Sciences (USBAS), Non-linear Dynamics Research Lab (NLDRL), Dwarka, Delhi, INDIA

**  Doctoral (Ph.D.) Research Scholar, Guru Gobind Singh Indraprastha University (GGSIPU), University School of Basic and Applied Sciences (USBAS), Non-linear Dynamics Research Lab (NLDRL), Dwarka, Delhi, INDIA

makes neural-fuzzy less efficient in comparison to WNFC prototype. It is observed that error percentage of Opening and Closing prices for training and testing is 0.4601, 0.4847 and 0.2321, 3.7257 respectively, which shows noticeable changes. It is concluded that WNFC prototype efficiently forecasted the volatility for Nifty India Goods Consumption Stock prices. The prototype gave an overview of economic growth in a much better perspective. This may boost the confidence of investors and money holders to invest in Indian stock markets on long-term basis as the returns can be guaranteed through accuracy in prediction. Since, it is essential to identify a model to show the trend with adequate information for the investor to make a decision.

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