

Comparison of Applicability of Time Series Forecasting Models VAR, ARCH and ARMA in Management Science: Study Based on Empirical Analysis of Time Series Techniques

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Abstract : Purpose: This study attempts to examine the best forecasting methodologies in the time series. The time series forecasting models such as VAR, ARCH and the ARMA are considered for the analysis. Methodology: The Bench Marks or the parameters such as Adjusted R square, F-stats, Durban Watson, and Direction of the roots have been critically and empirically analyzed. The empirical analysis consists of time series data of Consumer Price Index and Closing Stock Price. Findings: The results show that the VAR model performed better in comparison to other models. Both the reliability and significance of VAR model is highly appreciable. In contrary to it, the ARCH model showed very poor results for forecasting. However, the results of ARMA model appeared double standards i.e. the AR roots showed that model is stationary and that of MA roots showed that the model is invertible. Therefore, the forecasting would remain doubtful if it made on the bases of ARMA model. It has been concluded that VAR model provides best forecasting results. Practical Implications: This paper provides empirical evidences for the application of time series forecasting model. This paper therefore provides the base for the application of best time series forecasting model.

Keywords : forecasting, time series, auto regression, ARCH, ARMA

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