Application of ARCH Family Models on Volatility and Forecasting Evaluation of Stock Market Indices

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Abstract

The application of ARCH family models is employed to investigate the daily volatility changes of six indices such as S&P CNX NIFTY, IBOVESPA, KOSPI, SHANGHAI, TAIWAN, and NASDAQ. The study period for the investigation is 2014-2018 to test the changes in volatility behavior. The ARCH effect found amid 2016-2018, EGARCH was considered to be the best model in the case of all the indices. Given the recent development in the financial market, the objective of this study is to analyze the performance of all six indices by utilizing the econometric model that considers the heteroskedasticity of the financial data series. The Schwarz Information Criterion (SIC) and Akaike Information Criterion (AIC) will be utilized to decide the best fitted ARCH family model. The paper is organized as a brief review of the literature review, methodology, data analysis, and interpretation results in the discussion and conclusion of the study.

I. Introduction

THE HISTORIC BACKDROP of the Indian capital market has dependably been a market which is presented to various times of typical and anomalous volatility. Such times of instability were not constantly identified with global economic situations but rather additionally identified with political, financial and economic-related authorizations. Indian government witnessed a steady government for the last five year (2015-2019). The Foreign Direct Investment (FDI), bonds and equities inflows were carefully regulated by the monetary authorities. Every one of these elements resulted in volatility which thus affected the risk-return perception of both domestic and foreign investors.

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