Analysing Monthly Volatilities using Index Prices and their Differential with GARCH Framework

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Abstract
The Mumbai (Bombay) Stock Exchange (BSE) and National Stock Exchange (NSE) are by far the most academically-researched national indices reflecting the economic status of Indian capital markets. The present paper is an extension of the notion by analyzing the Pure index differential (i.e. Difference between the BSE and NSE monthly prices). The underline objective is to compare the performance of Index-differential with that of Individual Index values by using different econometric modeling framework. The paper used the simple Equal weighted moving average (EQMA), Exponential weighted moving average (EWMA) models to more sophisticated GARCH Generalized Autoregressive Conditional Heteroscedasticity Model (1,1), modeling framework. The paper clearly highlighted that Index differential and individual index movements go separately and their volatility patterns across different time series models provide enough opportunities for trading and investment for stock market players and technical analysts.

Key Words: Index Differential, Value-at-risk, EQMA, EWMA, GARCH, MLE-AIC framework