

Review Result

Paper ID (UMI): 10IJ09ASN18256

Title: Forecasting the Philippine Stock Exchange Index using Time Series Modeling Techniques

Authors: Rodolfo Scottie A. Cordero

Originality

Good

Presentation

Very Good

Applicability

Good

Overall Status

Very Good

STRENGTHS

This study demonstrates strong methodological rigor by applying multiple time-series forecasting techniques, including polynomial regression, moving averages, exponential smoothing, and autoregressive models, allowing for a comprehensive comparison of predictive approaches. The use of long-term historical data (2004–2023) enhances the reliability and depth of analysis, capturing both stable growth periods and major economic disruptions such as the global financial crisis and COVID-19 pandemic. Additionally, the study effectively balances theoretical and practical perspectives by integrating the Adaptive Market Hypothesis with empirical modeling. The use of accessible tools like Microsoft Excel ensures transparency and reproducibility, while the clear evaluation metrics (R^2 and standard error) strengthen the validity of findings.

WEAKNESSES

Despite its strengths, the study has several limitations that may affect the generalizability and accuracy of its findings. The use of annual averaged data reduces the dataset to only 20 observations, which limits statistical robustness and may overlook short-term market fluctuations and volatility patterns. Additionally, the reliance on basic tools like Microsoft Excel restricts the application of more advanced econometric and machine learning techniques that could improve forecasting accuracy. The study also excludes external macroeconomic variables such as inflation, interest rates, and geopolitical factors, which significantly influence stock market behavior. Furthermore, higher-order polynomial models show signs of overfitting, potentially leading to unrealistic long-term predictions.

SUGGESTIONS

Future research should focus on enhancing the robustness and predictive accuracy of the model by incorporating higher-frequency data such as monthly or quarterly observations instead of annual averages. This would allow better capture of short-term volatility and market dynamics. Researchers are also encouraged to integrate external macroeconomic variables such as inflation rates, interest rates, GDP growth, and geopolitical indicators to improve model reliability. Additionally, the use of advanced statistical software or programming tools like R or Python can enable the application of more sophisticated techniques, including ARIMA, GARCH, and machine learning models. Developing hybrid models that combine polynomial, autoregressive, and smoothing approaches is highly recommended to balance accuracy and adaptability.

Final Recommendation

Accepted