

Review Form 3

Journal Name:	Asian Journal of Probability and Statistics
Manuscript Number:	Ms_AJPAS_127333
Title of the Manuscript:	Comparative Analysis of stochastic process in forecasting key macroeconomic variables in Nigeria
Type of the Article	Research Article

General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	This manuscript is important for the scientific community because it addresses a critical gap in the predictive modeling of macroeconomic variables in developing economies, specifically Nigeria. By comparing ARIMA, GARCH, and VAR models, it offers valuable insights into model accuracy and effectiveness for economic forecasting, a crucial aspect for policymakers seeking data-driven solutions to economic instability. I appreciate the manuscript's relevance and comprehensive approach to comparing these models, as it provides empirical evidence that can inform future research and policy. However, the manuscript's readability and clarity could be improved with a more focused narrative and stronger theoretical integration.	
Is the title of the article suitable? (If not please suggest an alternative title)	The current title, " <i>Comparative Analysis of Stochastic Process in Forecasting Key Macroeconomic Variables in Nigeria</i> ," is informative but could be improved for clarity and specificity. It effectively conveys the focus on comparing stochastic processes for macroeconomic forecasting but would benefit from minor refinements to better align with the content's emphasis on ARIMA, GARCH, and VAR models. Suggested Alternative Title: "Comparative Analysis of ARIMA, GARCH, and VAR Models for Forecasting Macroeconomic Variables in Nigeria"	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract is fairly comprehensive, providing an overview of the research context, the models compared (ARIMA, GARCH, and VAR), and a summary of the findings. However, it could be improved for clarity, focus, and completeness. <i>"The Nigerian economy faces significant volatility in key macroeconomic variables, posing challenges to economic stability and growth. This study compares the performance of ARIMA, GARCH, and VAR models in forecasting GDP, exchange rates, interest rates, inflation, and unemployment, using annual data from [mention years]. Results show that while ARIMA and GARCH models capture certain dynamics, the VAR model consistently delivers the highest forecast accuracy across all variables. These findings offer valuable insights for policymakers seeking data-driven strategies to stabilize the economy and manage macroeconomic uncertainty."</i>	
Are subsections and structure of the manuscript appropriate?	The manuscript's structure and use of subsections are generally appropriate, as they provide a logical flow from the introduction to methodology, results, and discussion.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	The manuscript demonstrates scientific robustness by employing a comparative analysis of well-established econometric models—ARIMA, GARCH, and VAR—for forecasting macroeconomic variables. The study's methodology, including data partitioning for training and testing and the use of error metrics like RMSE and MAE for model evaluation, adheres to standard practices in time-series analysis, enhancing the reliability of its conclusions. Furthermore, by focusing on Nigeria's macroeconomic context, the manuscript addresses a real-world problem with substantial implications, using empirically sound techniques to generate policy-relevant insights. However, further clarity and expansion of theoretical justifications could strengthen the scientific rigor even more.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The references included in the manuscript are generally relevant, with a combination of recent and foundational sources that support the study's focus on forecasting macroeconomic variables using ARIMA, GARCH, and VAR models.	

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<p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The language quality of the manuscript needs improvement to meet the standards expected for scholarly communication.</p>	
<p>Optional/General comments</p>	<p>Thank you for providing me with the opportunity to review the manuscript titled “Comparative Analysis of Stochastic Process in Forecasting Key Macroeconomic Variables in Nigeria”. The manuscript focuses on comparing ARIMA, GARCH, and VAR models for forecasting key macroeconomic variables in Nigeria, aiming to identify the best-suited model for predictive purposes. This research is timely and relevant given Nigeria’s macroeconomic volatility, and the analysis provides insights beneficial for policymakers. Although the manuscript provides a good foundation but needs major revisions. The following are my comments and suggestions that need to be addressed:</p> <ol style="list-style-type: none"> (1) Many sentences throughout the manuscript are lengthy and difficult to follow, making the narrative less accessible to readers. There is a need for sentence restructuring for clarity. (2) There are several typographical errors and grammatical issues (e.g., "rick" instead of "risk," "achieved" instead of "achieve"). Proofreading is strongly recommended. For example, the sentence "Policies build on evidence predictions help to achieved sustainable growth..." needs to be revised for grammatical accuracy. (3) There is limited theoretical discussion regarding the selection of ARIMA, GARCH, and VAR models. Providing more context on why these models were chosen, and a stronger connection to existing literature, would enhance the theoretical rigor. (4) The data description requires more detail, particularly on the sources and reliability of macroeconomic indicators (e.g., GDP, inflation). Clarifying why data from 1981 to 2023 was chosen would also be helpful. (5) While the manuscript presents results for ARIMA, GARCH, and VAR models, the interpretation of findings could be more in-depth. Explaining why certain models outperform others, with potential theoretical or empirical justifications, would improve the discussion. (6) The VAR model's outperformance should be elaborated on further with comparisons to relevant literature. (7) The manuscript touches on policy implications but could do more to connect empirical findings with actionable recommendations for Nigerian policymakers. (8) Consistency in formatting (e.g., spacing, headings) and accurate citations (especially page references and dates in the references list) is essential. There is a lack of in-depth literature engagement in some sections, and some references appear outdated or inadequately linked to the manuscript's objectives. 	

PART 2:

	Reviewer’s comment	Author’s comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

Reviewer Details:

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