Review Form 1.7

Journal Name:	**Asian Journal of Probability and Statistics**
Manuscript Number:	**Ms_AJPAS_97967**
Title of the Manuscript:	**Self-Exciting Threshold Autoregressive Model with Application to Crude Oil Production in Nigeria**
Type of the Article	**Original Research Article**

General guideline for 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.
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PART 1: Review Comments

	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)*
Compulsory REVISION comments **1. Is the manuscript important for scientific community?** (Please write few sentences on this manuscript) **2. Is the title of the article suitable?** (If not please suggest an alternative title) **3. Is the abstract of the article comprehensive?** **4. Are subsections and structure of the manuscript appropriate?** **5. Do you think the manuscript is scientifically correct?** **6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.** **(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)**	1. The authors used compares Self-Exciting Threshold Autoregressive (SETAM) and ARIMA models to predict the fluctuation in crude oil production in Nigeria. While the manuscript is important and could be beneficial to policy makers in Nigeria, there are some major considerations the authors must address before the paper is accepted for publication. 2. Yes 3. Yes. However, there should not be abbreviations in Abstract. It would be better to fully write the full meaning of SETAR and ARIMA 4. Yes 5. To a reasonable extent, yes 6. References seem sufficient, but the in-text citations are not orderly. **Additional comments:** 1. The in-text citations are not in chronological order. I would be good to fix this 2. It is understood that all the generic models presented in section 2 are extracted from a source, citing the source would be ideal 3. The Equation 19 was minimized to estimate the threshold parameter, however, the authors did not specify the software used. What software was used to solve the model parameters and why was it selected from a pool of available ones? 4. It would also be ideal to summarize the framework of the algorithm that does the objective function minimization. How is the software doing the minimization? 5. Also, it would guide the readership of the journal if the authors could tell the criterion/criteria that has to be met for the minimization to be regarded excellent? 6. What checks does the author put in place to really tell that the best job has been done by the algorithm's selection of the threshold variable? 7. In the results and discussion section, unit is missing in Figures 1,2,3,4, 5, and Tables 13. The readers cannot tell the unit of crude oil production. The authors should fix the unit of the crude oil production adapted in their manuscript. In addition, could the authors clarify why the data from CBN website is reproduced in their article? I assume everything in graph shown in Result section should depict original results from solutions to the model shown in the Methodology. 8. Can the authors comment on why the coefficient of determinant in Table 1 and Table far less than 1? What does this imply with accuracy of their prediction? 9. What is the physical interpretation of differencing the non-stationary data to achieve stationarity? The authors should comment on how it affect crude oil production in Nigeria. 10. Figure 7 was only show without interpretation throughout the text. The authors should try and interpret that data shown in Figure 7 for better understanding. Besides, the graphic's resolution is very poor and needs improvement 11. Regardless of other metrics (SC, SSR, AIC), any model with R^2 values as low as 0.105 as shown in Table 9 denotes the need to be skeptical of the entire solution procedure/algorithm. The author should comment while the R^2 value is lower than the	

	acceptable standard. 12. Accounting for model errors, it would be almost impossible to unequivocally prove that SETAR is better than ARIMA, considering that the AIC, SC and Log-Likelihood are essentially the same. The authors should comment on why such insignificant difference could lead a definitive conclusion that SETAR is better. If the author thing that this insignificant difference means a lot, a previously published works that observed the same poor similar should be cited. 13. Tables 13, Figures 9 and Figure 10 made a very key conclusion. It is important for the authors to link realistic situations such as pipeline vandalism, military actions etc. and tell how reliable the readership of the journal can hold true the model results reported in the article.	
Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	1. Yes	
Optional/General comments		

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)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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