

Review Form 3

Journal Name:	Asian Journal of Probability and Statistics
Manuscript Number:	Ms_AJPAS_123898
Title of the Manuscript:	REGRESSION-IMPUTATION AND EWMA-BASED MEMORY TYPE MEAN ESTIMATORS IN THE PRESENCE OF NON-RESPONSE
Type of the 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 <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p>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.</p>	<p>The manuscript appears to be scientifically robust and technically sound due to its well-defined methodology and the integration of innovative approaches for handling non-response in survey data. I appreciate this manuscript for its innovative approach and thorough analysis, which offers valuable insights and practical solutions for researchers dealing with non-response and time-based data challenges. Its contributions can enhance the reliability of survey data analyses and influence future research methodologies in this area.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The current title is quite technical and accurately reflects the key methodologies used in the paper. However, there are a few ways it could be improved for clarity and impact. For instance:</p> <ol style="list-style-type: none"> 1. Improving Mean Estimation with Regression-Imputation and Time-Based Data Integration in the Presence of Non-Response. 2. Memory-Type Mean Estimators for Surveys with Non-Response: A Regression-Imputation and EWMA Approach. <p>However, these are just my suggestions.</p>	
<p>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.</p>	<ol style="list-style-type: none"> 1. The abstract briefly mentions the challenge of missing information but could further elaborate on why non-response is a critical issue in sampling surveys. Including a sentence on how non-response can distort estimates would provide better context. Suggestion: Non-response in sampling surveys can lead to biased estimates and reduced efficiency, making it a significant issue that must be addressed to ensure accurate population parameter estimation. 2. The abstract could benefit from mentioning the potential practical applications of the methods or specific fields where the estimators would be particularly useful (e.g., longitudinal surveys, health surveys, or economic data collection). Suggestion: The proposed estimators are particularly well-suited for longitudinal surveys and other time-series data collection efforts where non-response is a recurrent issue. 3. Including a line about possible future research or the limitations of the current work would make the abstract more forward-looking. 	
<p>Are subsections and structure of the manuscript appropriate?</p>	<ol style="list-style-type: none"> 1. I recommend moving the text under the heading 'Existing Estimators in the Literature' to the methodology section and assigning it to section 2.1. Following that, the proposed estimators should be discussed in section 2.2. 2. Also add a paragraph at the end of conclusion section for future research. 	
<p>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.</p>	<p>The combination of regression-imputation techniques with exponentially weighted moving averages (EWMA) provides a novel solution for improving the accuracy of mean estimation over time, making it suitable for longitudinal studies. Additionally, the use of two real-life time-scaled datasets to validate the proposed estimators (Tp1 and Tp2) demonstrates that the authors conducted a thorough empirical analysis. The results, highlighting improvements in Mean Squared Error (MSE) and Percentage Relative Efficiency (PRE), further strengthen the manuscript's technical reliability, showing that the proposed methods outperform existing estimators across different scenarios.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>It is advisable to include more references, as the topic of missingness is a comprehensive field within statistical sciences.</p>	

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<p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>This article addresses non-response in the context of mean estimation. A thorough understanding of the assumptions regarding non-response mechanisms is essential. Specifically, it is crucial to determine whether the missing data is classified as Missing at Random (MAR), Missing Completely at Random (MCAR), or Missing Not at Random (MNAR). Additionally, clarification is needed as to whether the missingness pertains to the response variable or the auxiliary variable. It appears that these assumptions are either missing or not explicitly stated in the article. I suggest that the authors must provide a detailed discussion of these aspects in the introduction, clearly specifying the proposed estimators perform optimally for which missingness mechanisms are relevant for which variables (outcome or the auxiliary)?</p>	
<p>Optional/General comments</p>		

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>	

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