

## Reviewer Report

### Title: A Modified Class of Exponential Ratio Estimator in Simple random Sampling.

The originality and quality of the paper is good. Field are important, style & overall representation are also good. Even the following revisions are necessary:

1. Page 1, in Abstract of 1<sup>st</sup> & 2<sup>nd</sup> lines: Have, 'mean is still ... sampling', replace by, 'mean's are dominating in survey sampling'.
2. Page 1, in Abstract of 3<sup>rd</sup> line: Have, 'existing one', replace by, 'existing estimators'.
3. Page 1, in Background, 2<sup>nd</sup> line: Have, 'been on with', replace by, 'been used with'.
4. Page 1, 6<sup>th</sup> line from last: Have, 'so much ... authors to', replace by, 'several authors have studied to'.
5. Page 1, 5<sup>th</sup> line from last: Have, 'and also', replace by, 'as well as'.
6. Page 2, 6<sup>th</sup> line: Have, 'variable', replace by, 'variable is known or easily to be known'.
7. Page 2, 8<sup>th</sup> line: Have, 'is', replace by, 'exists'.
8. Page 2, 8<sup>th</sup> line: Have, 'and', replace by, 'and the'.
9. Page 2, 11<sup>th</sup> & 12<sup>th</sup> lines: In  $\bar{X}$  &  $\bar{Y}$ , why divided by  $N - 1$  instead of  $N$ ?
10. Page 3, 2<sup>nd</sup> line in Heading: Have, 'of Proposed Estimators', replaced by, 'of Estimators'.
11. Page 3, 6<sup>th</sup> line: Have, 'This estimator', replace by, 'which is'.
12. Page 3, 8<sup>th</sup> line: Have, 'the estimator', replace by, 'the proposed estimator'.
13. Page 3, 8<sup>th</sup> line: Have, 'where', replace by, 'and'.
14. Page 3, 9<sup>th</sup> line: Omit, ' $e_x = \frac{\bar{x}-\bar{X}}{\bar{X}}$ ,  $e_y = \frac{\bar{y}-\bar{Y}}{\bar{Y}}$ ,  $\lambda = \frac{(1-f)}{n}$ '.
15. Page 3, eq. (1): In eq. (1) Taylor's series expansion up to second order approximation is considered. What about for higher order expansion?
16. Page 3, eq. (1): For the second part of eq.(1), just give the reference of the first part and write the eq.(3).
17. Page 4, eq.(5): Have, '=', replace by, '≅'.
18. Page 5, 4<sup>th</sup> line: Have, 'shows the members', replace by, 'shows some existing estimators derived as the members'.
19. Page 6, 3<sup>rd</sup> line: Have, ' $MSE_{opt}(\bar{y}_{pr})$ ', replace by, ' $MSE(\bar{y}_{pr})_{opt}$ ' and do the same in subsequent position.
20. Page 6, 3<sup>rd</sup> line: '{' starts but where it ends?
21. Page 6, eq.(10) & eq.(11): The two normal equations are same and truly there are one equation in two variables ( $\delta_1, \delta_2$ ). Why consider two different equations? Two variables in one equation can have infinite number of many solutions. Even if you try to find  $A^{-1}$  (9<sup>th</sup> line from the last) it will be  $A^g$  ( $g$  is generalized inverse) because of less than full rank and result of  $A^g$  may be written just by giving appropriate reference, *i.e.*, the part after eq.(11) and up to Page 9 are irrelevant.
22. Taking consideration the above (item #21) recheck the section 2.
23. Page 12, Subsection 3.1 of section 3: Eq.(26) also gives the condition  $\rho \neq \frac{C_x}{C_y}$  for more efficiency.
24. Similar conditions may be written for eq.(27) & eq.(28).
25. From Table 3 (page 15), Table 4 (page 15) and Table 5 (page 16), it is observed that proposed estimators have less MSE than the first three ( $\bar{y}_{clR}$ ,  $\bar{y}_{exp(R)}$ ,  $\bar{y}_{chR}$ ) estimators

but equal to the  $\bar{y}_{LR}$ . Whereas,  $\bar{y}_{LR}$  is unbiased and proposed estimators are biased. How it can be comment that proposed estimators are more efficient in general and used as an alternative.

26. All equation numbers may be written to the right margin or as per journal expected to publish.

Final comment:

Considering the above revision the paper may be resubmitted for further review.