

BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, DC 20268-0001

Postal Rate and Fee Changes,
2006

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Docket No. R2006-1

FIRST SET OF INTERROGATORIES OF
MAGAZINE PUBLISHERS OF AMERICA, INC.,
AND ALLIANCE OF NONPROFIT MAILERS
TO OCA WITNESS SMITH
(MPA/ANM/OCA-T3-1-25)
(October 4, 2006)

Pursuant to sections 25, 26 and 27 of the rules of practice, Magazine Publishers of America, Inc., and Alliance of Nonprofit Mailers direct the following interrogatories to United States Postal Service witness J. Edward Smith (OCA-T-3). If the witness cannot answer a question or subpart, we request that the Postal Service answer through another witness or submit an institutional response.

Respectfully submitted,

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QUESTIONS

MPA/ANM/OCA-T3-1. Please refer to the SAS program file ND1 contained in OCA LR L-4. Confirm that the SAS data set NEWDOIS_FNLVOLUME referenced atop the first page and the final data set VOLUME created in your REMPALUME SAS program, also filed within the same library reference, contain the same data. If you cannot confirm, please explain fully any differences and provide the data file VOLUME created in the REMPALUME.SAS program.

MPA/ANM/OCA-T3-2. Please refer to the SAS program file ND1 contained in OCA LR L-4.

(a) On the first page, please confirm that the variable SPR formed for each zip-route-day observation is the sum of PRCL, small and large parcels, and PRI, priority volume. If you cannot confirm, please explain.

(b) If you do confirm, please explain your rationale for combining parcels and priority mail into a single variable.

(c) To your knowledge does the priority mail data contained in the DOIS database, which you used to form the SPR variable account for all priority mail handled by the city carrier at delivery points? Please explain fully.

MPA/ANM/OCA-T3-3. Please refer to the SAS program file ND1 contained in OCA LR L-4.

(a) On the "Create Zip Code - Day Data Set for Estimation" section of the program, also on the first page, please confirm that the volume variables contained in SAS data set POOLR are the sum of the respective volumes differentiated by shape and/or bundle handling characteristic for all routes within particular zip-days. If you cannot confirm, please explain.

(b) If you do agree to (a), please confirm that these sums contain a number of zero valued route-zip-day observations to which you had pre-assigned these values in the REMPALUME.SAS program when DOIS data for these observations were missing. If you cannot confirm, please explain.

MPA/ANM/OCA-T3-4. Please refer to SAS output for the ND6 model filed as part of the OCA-LR-L-4.

(a) Please confirm that the standard errors and associated t statistics, shown for the full quadratic model are not the same as those indicated in TABLE 4 of your testimony.

(b) Please confirm that the standard errors and t-statistics shown in the SAS output assume homoscedastic error terms. If you cannot confirm, please explain fully.

(c) Please confirm that all other reported standard errors and t-statistics for all other SAS regression output filed as part of OCA-LR-L4 are based on homoscedastic assumptions. If you cannot confirm, please explain fully.

(d) Please provide HC corrected statistics for all presented models in your testimony.

MPA/ANM/OCA-T3-5. In evaluating all models presented in testimony did you use HC corrected standard errors and t- values to judge statistical significance for the estimated coefficients? Please explain fully, and produce the data and results of any tests of statistical significance that were actually performed in connection with your testimony.

MPA/ANM/OCA-T3-6. Referring to the (OCA LR L-4, Section 3) MEANS Procedure results associated with each of your DOIS model runs:

(a) Please confirm that there are zip-code-day observations where there are no (cased, automated, or DPS) letters delivered. If you cannot, please explain why not.

(b) Please confirm that there are zip-code-day observations where there are no (cased or automated) flats delivered.

(c) Did you do any checking on why there are such observations as in (a) and (b) above? Please explain.

(d) If you did not check, is that because you believe there are entire zip codes for which there are either zero letters or zero flats delivered in a day? Please explain.

MPA/ANM/OCA-T3-7. Referring again to the (OCA LR L-4, Section 3) MEANS Procedure results associated with each of your DOIS model runs:

(a) Please confirm that there are zip-code-day observations where there are no curblin deliveries.

(b) Please confirm that there are zip-code-day observations where there are no central deliveries.

(c) Please confirm that there are zip-code-day observations where there are no NDCBU deliveries.

(d) Please confirm there are zip-code-day observations where there are no "other" deliveries.

(e) Did you do any checking on why there are such observations as in (a) – (d)? Please explain.

MPAOCA-T3-8. In response to OCA/USPS-T14-8, the USPS provided the data in USPS-LR-L-160.

(a) Please confirm that LR L-160 has 739,396 route-day observations while fnlvoldj (i.e., newdois.fnlvolume?) contains 492,097 route-day observations. If this incorrect, please explain fully.

(b) Did you determine how many of the L-160 route-day observations with zero delivery time were simply for days on which the routes were not covered (e.g., Sundays and holidays)? If so, please explain how you determined that information and provide the number of such days.

(c) Does DOIS consistently include a zeroed observation for each Sunday and holiday? Please explain.

(d) Please explain how you determined when zero Saturday observations were errors and when they were simply because the observations were for business routes that do not run on Saturdays.

MPA/ANM/OCA-T3-9. With respect to the USPS-LR-L-160 data, please explain fully your efforts to review the data and determine what, if any, data quality and data manipulation activities were needed before you could use the data for modeling purposes.

MPA/ANM/OCA-T3-10. For the DOIS data you used in your DOIS models:

(a) Please list and describe all the quality control procedures you applied in the ReadVolume SAS program in OCA LR L-4 Section 2.

(b) Please explain the necessity of each quality control procedure you describe in (a) above.

(c) If there were any quality control procedures applied in the OCA LR L-4 Section 3 SAS programs, please list and describe each and explain the necessity for it.

(d) Please quantify the number of route/carrier-day observations eliminated through each of your quality control procedures.

(e) Please quantify the number of route/carrier-day observations retained as a result of “corrections” performed with your quality control procedures and explain each type of “correction.”

(f) With sufficient time for analysis, please identify the types of quality control procedures and tests you believe would be appropriate to perform on the DOIS data in USPS LR L-160.

MPA/ANM/OCA-T3-11. With respect to the USPS LR L-160 data and your data cleaning efforts:

(a) Please provide the number of routes, days and zips by quarter and year provided in USPS LR L-160.

(b) Please provide the number of routes, days and zips by quarter and year included in OCA LR L-4, Section 2, fnlvoladj SAS data set.

(c) Please identify and explain all the reasons why there is a difference in the (a) and (b) counts.

(d) Please explain how you determined the total number of city (letter or letter plus special delivery) routes that belonged in each DOIS zip for each quarter.

(e) Please provide the number of zip-code-days in USPS LR L-160 for which some (non-Sunday/holiday) route days were missing and explain fully how you treated those zip-code-day observations.

(f) For the 21,700 zip code days used for the DOIS models, please provide the number of (non-Sunday/holiday) zip code-days for which some DOIS routes were missing.

MPA/ANM/OCA-T3-12. In response to OCA/USPS-T14-8, the USPS provided the data in the USPS LR L-160.

(a) Please explain fully why you specified the particular dates itemized in OCA/USPS-T14-8.

(b) Please explain fully why you specified the particular zips itemized in OCA/USPS-T14-8.

(c) For each year and quarter, what portion of total zip codes and city carrier [letter or letter plus special purpose] routes is represented by the data in LR L-160? Please explain.

(d) For each year and quarter, what portion of total zip codes and city carrier [letter or letter plus special purpose] routes is represented by the data used in your DOIS models? Please explain

(e) Have you checked whether the zip codes in your DOIS data set all still belong to their original strata, as described by USPS witness Kelley in F2005 in response to OCA/USPS-T16-2? If so, please provide the results.

(f) Have you checked whether total USPS zip codes in each year have either changed in number or changed in their positioning within the three strata developed by USPS witness Kelly (USPS-T-16) in R05-1? If so, please provide the results.

(g) Do you believe that the sample weights for these DOIS data should be the same sample weights developed by USPS witness Kelly (USPS-T-16) and used by witness Stevens (USPS-T-15) in R05? Please explain fully.

(h) If your response to the previous question is negative, please explain how you would develop sample weights for your DOIS data.

(i) Have you attempted to determine coefficients of variation for any of your DOIS model variables (comparable to USPS witness Kelley's responses to OCA/USPS-T16-1 and 4 in R05)? If so, please provide them. If not, please explain why not.

(j) If your response to the previous question is negative, please explain how you would determine the coefficients of variation for your DOIS model variables.

MPA/ANM/OCA-T3-13. For each quarter represented in the OCA LR L-4, Section 2, fnlvoladj SAS data set used to develop your models, please provide the following, using

either the R05-1 strata or any new set of strata developed by the OCA:

- (a) Number of route/carrier-day observations by stratum
- (b) Number of zip-code-day observations by stratum
- (c) Number of routes by stratum
- (d) Number of zip codes by stratum

MPA/ANM/OCA-T3-14. Did you consider sample-weighting the zip-route-day observations in any way? Please explain your considerations on this point. If you performed any calculations or analysis as part of your decision-making process, please produced them.

MPA/ANM/OCA-T3-15. In response to OCA/USPS-T14-8 in this case, the USPS provided the data in USPS LR L-160. In that response, the USPS provided MSP Scan data for only a few time periods.

- (a) Please explain what the MSP Scan data represent.
- (b) Please explain how the MSP Scan data were collected.
- (c) Please explain why you requested the data.
- (d) Please state whether you used the MSP Scan data in some way and, if so, how you used the data.
- (e) If you used the data in any way, please produce all documents reflecting that use.

MPA/ANM/OCA-T3-16. On page 16, lines 7-10, of your testimony, you state: “The database has only been available for a short time, and significantly more time would be required for a thorough analysis. Due to the limited amount of time, I have been able to apply minimal quality control procedures and have not yet made full use of all of the data.”

- (a) Please provide your assessment of the extent to which the DOIS model results you include in your testimony could change as additional, appropriate quality control procedures are applied to the DOIS data.
- (b) Please explain whether you believe that you would continue to recommend the ND6 DOIS model once you had conducted all the additional,

appropriate quality control procedures you believe are appropriate.

(c) Under what circumstances would additional, appropriate quality control procedures applied to the data affect the specification of an econometric model? Please explain.

MPA/ANM/OCA-T3-17. On page 21 (lines 7-9) of your testimony, you state that: “Future work could consider whether some type of economic model, involving minimization of costs subject to some type of constraint could be developed.”

(a) What types of constraints do you believe would be appropriate for city delivery carrier out-of-office cost model? Please explain.

(b) Please explain how each constraint in (a) would be used to explain actual out-of-office time behavior in the system? Please explain fully.

MPA/ANM/OCA-T3-18. In general, within a ZIP code, please explain your thoughts on the following, assuming no change in any other variables. Please provide any operational/behavioral understanding you may have that supports your thoughts.

(a) If volume of a particular delivered shape were to increase or decrease, how would its average unit incremental time change?

(b) If volume of a particular delivered shape were to increase or decrease, how would the average unit incremental time for volume of different delivered shape change?

(c) If collected volume were to increase or decrease, how would the average unit incremental time for that volume change?

(d) If collected volume were to increase or decrease, how would the average unit incremental time for delivered volume change?

(e) If there were an increase or decrease in possible delivery points, how would average unit incremental time for a particular shape volume change?

(f) If there were an increase or decrease in zip square area, how would average unit incremental time for a particular shape volume change?

(g) If there were an increase in possible delivery points, how would total delivery time change?

(h) If there were an increase in zip square area, how would total delivery time

change?

MPA/ANM/OCA-T3-19. In your restricted quadratics, you eliminate all cross-product terms.

(a) Please explain provide all reasons why you eliminate all cross-product terms.

(b) Do you believe the delivery time for one specific shape volume is completely unaffected by the presence of other shape volumes? Please explain.

(c) Do you believe that the volumes-by-shape multiplied by possible deliveries terms are conceptually inappropriate in the delivery model? Please explain.

(d) Do you believe that the density multiplied by possible deliveries term is conceptually inappropriate in the delivery model? Please explain.

(e) When one eliminates variables that conceptually explain the dependent variable, how does one test for bias in the coefficients for the remaining variables? Please explain.

MPA/ANM/OCA-T3-20. Please identify any other variables (not now in any of your models) that you have considered to be important in explaining carrier out-of-office time and please explain your reasoning.

MPA/ANM/OCA-T3-21. On page 23ff, you provide your conclusions on the modeling efforts. On page 23, lines (13-15), you state “. . . I advocate that the Commission view Carrier Cost volume variability as an open question: improvement is needed.” Do you believe any of your models provide unbiased estimates of marginal city carrier street or delivery times? Please explain fully.

MPA/ANM/OCA-T3-22. On page 22 (lines 12 ff), you state that the DOIS data are autoregressive but that you have not made an adjustment for autocorrelation because “a variety of possible adjustments were attempted and yielded unsatisfactory results.”

(a) Please provide all autocorrelation analyses and tests you have made on the DOIS data (either the USPS L-160 or the fnlvoldj SAS data set), including all machine-readable data, programs, and logs.

(b) What do you believe is the reason for the difficulty in making an autocorrelation adjustment? Please explain.

(c) Please provide your assessment of the extent to which the DOIS model results you include in your testimony could change if the autocorrelation was properly treated.

(d) Please explain whether you believe that you would continue to recommend the ND6 DOIS model once you had properly treated for the autocorrelation.

(e) Under what circumstances would a proper adjustment for autocorrelation affect the specification of an econometric model? Please explain.

MPA/ANM/OCA-T3-23. You have noted “sign problems” in both CCSTS and DOIS models, particularly with respect to the parcels variable and especially in the unrestricted (full) quadratic specification. You attribute these problems in the CCSTS to underlying deficiencies in the database (page 23, lines 7-13).

(a) Please explain what you mean by “sign problems” – i.e., do you mean signs on the estimated model coefficients or signs on the marginal times or both?

(b) How do you view the several situations (in your models) where the sign of the estimated coefficient for a specific volume variable differs from that of the marginal time for that specific volume type? Please explain.

(c) Please identify what you believe the underlying CCSTS database deficiencies are that cause these “sign problems” and explain why they cause “problems.”

(d) Please explain what you believe causes the sign deficiencies in the DOIS models and why.

(e) Please provide your understanding of how the problems discussed in (c) and (d) above can be corrected.

MPA/ANM/OCA-T3-24. On page 23 (lines 11-13), you state: “In the consideration of restricted quadratic models, one frequently obtains relationships among the costs that, on an a priori basis, do not appear to be reasonable.”

(a) Are you discussing restricted quadratic models in general or do you only mean the ones presented in your analysis or do you mean restricted quadratic models

that have database multi-collinearity problems? Please explain.

(b) Please explain why restricted quadratic models frequently produce a priori unreasonable cost relationships. Please include in your explanation whether the unreasonableness comes from the use of the quadratic form, from the restrictions, or from the data that are best explained through the use of a non-linear form.

MPA/ANM/OCA-T3-25. All of your models are quadratic – either full or restricted.

Did you consider the use of any other functional form for your models? Please explain your considerations on this point, and produce any calculations relating to functional forms that you considered but did not adopt.