

Before the
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268-0001

Postal Rate and Fee Changes, 2006)

Docket No. R2006-1

OFFICE OF THE CONSUMER ADVOCATE
INTERROGATORIES TO UNITED STATES POSTAL SERVICE
WITNESS MICHAEL D. BRADLEY (OCA/USPS-T14-9-12)
(June 15, 2006)

Pursuant to Rules 25 through 28 of the Rules of Practice of the Postal Rate Commission, the Office of the Consumer Advocate hereby submits interrogatories and requests for production of documents. Instructions included with OCA interrogatories OCA/USPS-T32-1-7, dated June 2, 2006, are hereby incorporated by reference.

Respectfully submitted,

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OCA/USPS-T14-9. In USPS-T-14, Docket No. R2006-1 you have referenced your work in USPS-T-14, Docket No. R2005-1. The purpose of this interrogatory is to understand your treatment of heteroscedasticity in USPS-T-14, filed in R2005-1. You state at 33, lines 15-17, "Because of the large cross sectional variation in the data, it is likely that the econometric estimates for the delivery equations suffer from heteroscedasticity."

- (a) Did you test for the existence of heteroscedasticity? If so, please indicate where you have presented the test and/or please present the test. If your answer is negative, please explain why you did not test for heteroscedasticity.
- (b) You present the HC standard error and HC t-statistic in various tables in your testimony, e.g. Table 3 at 35. Please state where the SAS or other program presenting the computations may be found in your testimony. Alternatively, please provide the program and/or the detailed computations if available or, alternatively, explain the unavailability of the program.

OCA/USPS-T14-10. The purpose of this interrogatory is to obtain additional understanding of marginal cost and volume variability in the unrestricted and restricted quadratic equations supporting your testimony in USPS-T-14, filed in R2005-1. You have generated the equations based on a dataset of 1545 Zip code days. Suppose that the number of letters were different than is the case in the database. For example, suppose the total number of letters was 50 percent greater for each Zip code day, with all other data unchanged. Alternatively, suppose the number of letters was 50 percent less for each Zip code day, with all other data unchanged.

- (a) Would the volume variability change for letters? Please explain your answer.
- (b) Would the marginal cost for letters change? Please explain your answer.

- (c) Suppose that in general the numbers of letters, flats, sequenced mail, collection volume, and parcels changed simultaneously. Would this affect volume variabilities and/or marginal costs? Please explain your answer

OCA/USPS-T14-11. The purpose of this interrogatory is to obtain a better understanding of the full quadratic and restricted quadratic functions used in your testimony in USPS-T-14, filed in R2005-1.

- (a) Please explain what economic type of function is being estimated—e.g., cost function, production function, factor demand function, or other type of function. .
- (b) Please provide literature citation(s) that define the type of function you reference in (a).

OCA/USPS-T14-12. The purpose of this interrogatory is to obtain additional information on your estimation procedure in reference to the full quadratic and restricted quadratic functions in the analysis of City Carrier Costs. On page 37 of your testimony in USPS-T-14 in Docket R2005-1 you indicate “The usual procedure is to drop unnecessary variables in an attempt to maintain the integrity of the regression while reducing the impact of the multicollinearity.” The results for the Full Quadratic dropping only small parcel cross products are presented in Table I-4 of Appendix I of the *Opinion and Recommended Decision, Docket R2005-1*. The concept of deleting variables in the presence of multicollinearity is well known. For example, you dropped all of the cross products in the full quadratic, arriving at a reduced quadratic. One could, however, have dropped fewer variables based on the VIF factors. For example, five of the cross product variables have VIF values less than 10. Only 6 of the cross product variables

had VIF values greater than 43.3, the VIF value for the variable letters, which you retained.

- (a) Is there any basis for dropping and/or retaining variables based on the VIF values? Please explain.
- (b) Why would an equation retaining some of the low VIF value cross product variables be worse than an equation in which all of the cross product variables had been dropped? Please provide citations to the literature as appropriate.