

UNITED STATES OF AMERICA
Before the
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268-0001

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POSTAL RATE COMMISSION
OFFICE OF THE SECRETARY

Postal Rate and Fee Changes, 2000)

Docket No. R2000-1

OFFICE OF THE CONSUMER ADVOCATE
INTERROGATORIES TO UNITED STATES POSTAL SERVICE
WITNESS BOZZO (OCA/USPS-T15-1-20)
February 4, 2000

Pursuant to sections 25 and 26 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-1-14 to the United States Postal Service, dated January 24, 2000, are hereby incorporated by reference.

Respectfully submitted,


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OCA/USPS-T-15-1. USPS-LR-I-107 presents the programs and substantiation for your econometric work. You have provided a variety of files and comments in printed as well as electronic form. All of the analysis programs appear to be in TSP form.

- (a) Please indicate why you chose TSP as the programming language in place of SAS or, alternatively, RATS, SYSTAT, STATA, or SPSS.
- (b) Substantial analysis is available in the published literature on the computational and theoretical accuracy of SAS programs. Do you have such independent verification for TSP? If so, please provide it.

OCA/USPS-T-15-2. Please provide SAS versions in printed as well as electronic form of the TSP programs used in your work.

OCA/USPS-T-15-3. You have provided an Excel database of the data input to your programs in Library Reference USPS-L-I-107. You subsequently scrub the data in various TSP programs. Please provide an Excel database and documentation of the scrubbed data set as developed in your TSP programs.

OCA/USPS-T-15-4. Please refer to page 20 of your testimony, lines 14-15, in which you state, "Having concluded that some selection criteria were warranted...."

- (a) Please explain the basis for this statement.
- (b) Did you have a statistical test to substantiate the statement? If so, please provide the relevant information.

OCA/USPS-T-15-5. Please refer to page 20 of your testimony, lines 1-3, in which you state that, "The absence of evidence that Dr. Bradley's scrubs biased his estimated elasticities was not, however, sufficient to commend their continued use in my study."

- (a) If you are verifying that Dr. Bradley was correct in his approach, do you have a statistical measure of how much better your approach is?
- (b) If you are verifying that Dr. Bradley was wrong in his approach, please explain further.

OCA/USPS-T-15-6. You indicate in your testimony at page 21, lines 16-17, that, "First, I have fewer observations because of the use of quarterly data over a shorter time period...."

- (a) Please explain why you used quarterly data instead of following the procedures Dr. Bradley used in Docket No. R97-1.
- (b) Please explain why you chose to use a shorter calendar period of time than Dr. Bradley used in Docket No. R97-1 for your analysis.

OCA/USPS-T-15-7. You state in your testimony at page 21, line 22, "Therefore, I believe the updated sample selection criteria are not 'excessive.' " Do you have a statistical test to substantiate this statement? If so, please provide it.

OCA/USPS-T-15-8. Please refer to your discussion of the Manual Ratio at pages 23-25 of your testimony. Is it your conclusion that a computed manual ratio would measure the same degree of automation in small, medium, and large MODS sites, and that a computed manual ratio number would be comparable from site to site? Please explain your answer.

OCA/USPS-T-15-9. You indicate in your testimony at page 33, lines 2-4, that "The present analysis can be interpreted either in terms of the classical minimum cost function, or a generalized 'non-minimum cost function' with a generally similar structure." A review of standard economic theory indicates that economists derive a

variety of marginal relationships in analyzing production, cost, and input factor demand functions. You have empirical data input from a variety of mail processing facilities for a variety of functions. Some Postal mail processing facilities and functions may be operated on a cost minimization basis, and other Postal processing facilities and functions could conceivably be operated inefficiently. As you use data as input to your econometric analyses from all facilities, are your conclusions independent of whether the facilities are cost minimizers?

OCA/USPS-T-15-10. In your testimony at page 40, lines 10-12, you assert that "...capital and labor variabilities will be identical, in equilibrium, under the assumption that the cost pool-level production (or cost) functions are *homothetic*."

- (a) Do you have any proof or indication based on actual Postal operations that the functions are in fact homothetic? If so, please explain.
- (b) You quote Dr. Bradley's mail processing testimony in Docket No. R97-1 extensively; was homotheticity one of his assumptions?
- (c) Please provide a derivation of your assertion in your testimony at page 40, lines 12-14, that "Homotheticity implies that changing the level of output of the operation will not alter relative factor demands such as the capital /labor ratio, in equilibrium (and other things equal)."
- (d) What would be the impact of relaxing your assumption on homotheticity?
- (e) Does one normally assume homotheticity in developing an econometric cost study? If not, under what circumstances is the homotheticity assumption either assumed or not assumed?

OCA/USPS-T-15-11. You indicate in your testimony at pages 46-47 that the "manual ratio" variable is a measure of the degree of automation and is an indicator of the site's organization of mailflows in letter and flat sorting operations.

- (a) Is the manual ratio dependent on the location of the mail processing facility within the network of mail processing facilities?
- (b) Is the "manual ratio" dependent on the characteristics of the territory which the mail processing facility serves?
- (c) Is the "manual ratio" dependent on the characteristics of the sorting patterns within the mail processing plant? If your answer is "yes", please explain in detail how the "manual ratio" is dependent on the characteristics of the sorting patterns.
- (d) Is the "manual ratio" dependent on the amount of equipment in the mail sorting plant?

OCA/USPS-T-15-12. You appear to base your analysis on TPF (total pieces fed). Please provide FHP (first handled pieces) and TPH (total pieces handled) for all cases in which you provide TPF, including the relevant Excel spreadsheets.

OCA/USPS-T-15-13. You state in your testimony at pages 54-55 that, "The assumption implicit in the Postal Service's method that major changes in operations will not take the form of drastic intra-year changes is not very restrictive, given that most national deployments of new equipment and substantial changes to operations require years to complete." How many years are required for the national deployments and/or other activities to which you refer?

OCA/USPS-T-15-14. You state in your testimony at page 55, lines 3-6, that, "Likewise, it is hard to envision rapid and drastic changes in the average work content of

the mail subclasses in the absence of correspondingly drastic changes to worksharing discounts and other economic incentives facing mailers." In order to have a basis for the above envisioning, please indicate the length of time after which one might find such changes.

OCA/USPS-T-15-15. Your testimony at page 56, line 9, indicates that the manual ratio should be treated as non-volume-variable. Could the manual ratio depend upon,

- (a) the position of the mail processing facility in the network of mail processing facilities;
- (b) the internal layout of the mail processing facility;
- (c) the size of the mail processing facility as measured in TPF; and/or
- (d) the total TPF in a given operation?

OCA/USPS-T-15-16. You state in your testimony at page 65, lines 13-15, that your choice of a translog functions is chosen, at least in part, because, "This allows me to place as few mathematical restrictions as possible on the functional form of the underlying cost and production functions."

- (a) What are the underlying restrictions that you have avoided?
- (b) What are the underlying restrictions to which your study is subject?
- (c) Your discussion of the translog function specifically mentions a cost function, but at the bottom of the page in footnote 25 you indicate that you are not pre-supposing a translog cost function. It would appear that your technical point is contradictory to your testimony. Please explain.

OCA/USPS-T-15-17. In your discussion of translog cost and production functions you have not discussed a derived demand function--the labor demand function.

However, the estimation of such a function appears to be the key focus of your testimony. The demand for labor by a firm is generally expressed in terms of the value of the marginal product of labor with quantities being expressed in terms of a wage rate and units of labor.

- (a) What mathematical restrictions have you put on the function that you are trying to estimate?
- (b) Does this labor demand function derive from another function, possibly cost and production functions? Please show this derivation, with particular attention to mathematical restrictions and/or assumptions that subsequently may lead to conclusions similar to your conclusions about homotheticity.

OCA/USPS-T-15-18. You state in your testimony at page 66, lines 1-3, that, "Another important feature of the translog labor demand function is that it does not restrict the output elasticities (volume-variability factors) to be the same for every site or every observation...." Please state all additional important features of your translog labor demand function that have not been previously highlighted or stated.

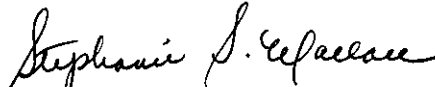
OCA/USPS-T-15-19. In reference to non-MODS operations, in your testimony at page 134, lines 17-19, you state, "I expect that the Postal Service will be able to provide quantitative evidence to bolster the quantitative analysis for some of these operations in the future." Given your knowledge of the Postal Service's work in this area, when will this evidence be available?

OCA/USPS-T-15-20. On page 135, line 7, of your prepared testimony, you indicate that time and resource constraints prevented the Postal Service from updating witness Bradley's BMC models presented in Docket No. R97-1.

- (a) How much time, as measured in person years, did you estimate that such an effort would require?
- (b) For purposes of comparison, how much time was spent in the development of the current analysis that you are presenting in this case, as measured in person years?

CERTIFICATE OF SERVICE

I hereby certify that I have this date served the foregoing document upon all participants of record in this proceeding in accordance with section 12 of the rules of practice.


Stephanie S. Wallace

Washington, D.C. 20268-0001
February 4, 2000