

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

RESPONSE OF UNITED STATES POSTAL SERVICE
WITNESS BRADLEY TO INTERROGATORIES OF
MAGAZINE PUBLISHERS OF AMERICA
(MPA/USPS-T18-1-8 and 10)

The United States Postal Service hereby provides the responses of witness Bradley to the following interrogatories of Magazine Publishers of America: MPA/USPS-T18-1-8 and 10, filed on March 21, 2000. Interrogatory MPA/USPS-T10-9 was redirected to witness Xie.

Each interrogatory is stated verbatim and is followed by the response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

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April 4, 2000

Response of United States Postal Service Witness Bradley
to
Interrogatories of MPA

MPA/USPS-T18-1. Please refer to your Testimony at page ii. Aside from your work for the Postal Service and foreign postal administrations, please itemize and describe work you have performed for transportation providers.

MPA/USPS-T18-1 Response:

To the best of my recollection, all my transportation work (except when I was employed as a dump truck driver) has been for postal administrations.

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to
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MPA/USPS-T18-2 Please refer to your Testimony at pages 14-15. Please provide documentation of the changes in performance requirements for purchased highway transportation that have resulted from the "restructuring" that you describe.

MPA/USPS-T18-2 Response:

As it turns out, the term "performance requirements" does not appear on pages 14-15 of my testimony. In fact, the term does not appear in my testimony at all. The restructuring that I was referring to on pages 14-15 was a restructuring of the purchased highway transportation accounts so that they were consistent with the Postal Service organizational structure. The only documentation I have of this change is the memo entitled "Miscellaneous Account Number Changes (F-8-2000-04)" that is attached to my testimony as Appendix B.

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MPA/USPS-T18-3. For each of the 17 econometric equations you estimate for purchased highway transportation, please provide the proportion of (BY98) contracts that were also active in FY96.

MPA/USPS-T18-3 Response:

The HCSS data set that I use does not record this information. One could approximate these proportions, however, by the following steps:

- Step 1: Identify the contracts included in each of the 17 econometric regressions.
- Step 2: For each of the contracts determine the value in the HCSS database of the "REN" variable. If this variable has the value "Y", then the contract has been renewed.
- Step 3: Assume, on the basis that contracts last up to 4 years, that any contract that had been renewed at least once in 1998 was active in 1996.
- Step 4: Divide the number of contracts with a "Y" value for "REN" by the total number of contracts in the equation's data set.

The accuracy of this ratio is critically dependent, of course, on the accuracy of the assumption.

Alternatively, one could approximate the contracts that were active in FY96 with the contracts that were active in 1995. To do this one could obtain a copy of the HCSS data submitted by the Postal Service in docket number R97-1. (See Library Reference H-148, Docket No. R97-1 available on the Commission's website, www.prc.gov). One could then

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attempt to see which contract that are included in the instant HCSS data set were also included in the 1995 data set. Again, caution is required to be sure that the contract number contained in both data sets actually refers to the same contract. It is possible that a contract expired and its HCRID was assigned to a new contract.

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to
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MPA/USPS-T18-4 Please refer to your Testimony at pages 19-20, and at page 23. Please provide copies of – or references to – all documents on which you rely for specifying separate models for vans and tractor trailers within the intra-P&DC, intra-CSD, inter P&DC, inter-cluster and inter-area account categories.

MPA/USPS-T18-4 Response:

The decision to investigate the possibility that the van and tractor trailer portions of these accounts was based upon my specifying and testing a similar hypotheses for the intra-SCF and inter-SCF accounts in Docket No. R97-1. See Direct Testimony of Michael D. Bradley on Behalf of the United States Postal Service, USPS-T-13, Docket No. R97-1, at pages 35-40. The research relative to this hypothesis demonstrated that different variabilities were obtained for van and tractor trailer contract cost segments within the accounts and this approach was accepted by the Commission. See Opinion and Recommended Decision, Docket No. R97-1, at pages 210-211.

Because the contract cost segments listed in your question came from the intra-SCF and inter-SCF it seemed appropriate to pursue a similar approach when estimating variabilities for the new accounts.

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MPA/USPS-T18-5. Please refer to your testimony at page 27. Please provide documentation of the "TOFC specifications" that substantiate your assumption of 2700 cf per trailer for all plant load power-only contracts.

MPA/USPS-T18-5 Response:

My assumption was based upon discussion with Postal Service transportation experts and not upon any specific document. I would note that the results are not sensitive to this assumption. Under the assumption of 2700 cube, the variability is 89.8%. If one uses a larger size, say 3300 cube, the variability is again 89.8%. If one uses a smaller cube, say 2400 cube, the variability is 89.7%.

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MPA/USPS-T18-6. Please refer to your Testimony at page 28, lines 14-19. Please supply the numerical values to implement the listed criteria in each of the 17 data sets.

MPA/USPS-T18-6 Response:

The approach that I take to handling unusual observations in the current analysis is the same as I took, and was accepted by the Commission, in Docket No. R97-1. This question is essentially the same as MPA/USPS-T13-2 b in Docket No. R97-1 and I refer you to that response. However, for convenience, I will reiterate the essence of that response here:¹

My identification of unusual observations was judgmental rather than statistical. That is why I have identified these observations as "unusual" rather than "outliers." Below I will describe the process that I followed to identify these observations, and it will become clear why it is not meaningful to provide exact numerical boundaries. Although such boundaries can always be provided *ex poste*, they would not reflect the true method of identification.

For each analysis data set, the goal of this particular analysis was to investigate the possibility that some observations were unusual relative to that data set. Because each of the analysis data sets is quite different from the others, *a priori* numerical boundaries across data sets could not be applied in this exercise.

¹ See Docket No. R97-1, Tr. 7/3641.

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MPA/USPS-T18-7. Please refer to your Testimony at page 34.

- a. Please supply the results of all tests for "equation heterogeneity" that you may have applied including the "Chow test."
- b. Please provide a reference to a standard econometric textbook or other equivalent source regarding the application and interpretation of the "Chow test" in the presence of heteroskedasticity.
- c. Please explain how the presence of heteroskedastic errors affects the variances you refer to on line 15.

MPA/USPS-T18-7 Response:

- a. The tests of regression heterogeneity that I performed are presented in Table 8 on page 37 of my testimony. As explained on page 36 of my testimony, the calculations supporting those tests are presented in my Workpaper 2, "Calculation of Wald Statistics."
- b. Please see, Schmidt, Peter and Sickles, Robin, "Some Further Evidence on the Use of the Chow Test under Heteroskedasticity," Econometrica, Vol. 45, No. 5, (July 1977) at pages 1293-1298.
- c. In classical linear regression, it is assumed that the disturbance variance is constant across observations. This is known as homoskedasticity. When the disturbance

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variance is non-constant, we say that the regression is heteroskedastic (or sometimes heteroscedastic). Mathematically, homoskedasticity implies that:

$$E(\epsilon_i^2) = \sigma^2 \quad \text{for all } i.$$

On the other hand, heteroskedasticity implies that:

$$E(\epsilon_i^2) = \sigma_i^2.$$

This means that the variance of the disturbance may vary from observation to observation. This also means that when the data are collected into subsets, as in the instant case, the variance of the disturbances may be different across the subsets.

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MPA/USPS-T18-8. Please provide a reference to a standard econometric textbook or other equivalent source for the formulae and methods you use to compute the values in the column labeled "Wald Statistic" in Table 8 on page 37 of your Testimony.

MPA/USPS-T18-8 Response:

Please see Econometric Analyses, (2nd Edition), William H. Greene, Macmillan, (1993) at Section 6.5, "Statistical Inference," pages 184-190.

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MPA/USPS-T18-9. Please refer to your Testimony at page 56. Please provide complete documentation showing the derivation of the figure 11.2 that appears on line 4. Please provide separate estimates for each highway contract type.

MPA/USPS-T18-9. Response:

This interrogatory has been redirected to witness Xie.

Response of United States Postal Service Witness Bradley
to
Interrogatories of MPA

MPA/USPS-T18-10. Please refer to your Workpaper WP-3 at page 5. Please supply the definitions of the different values taken by the following variables in HCSS:

- a. REN
- b. CONTYPE.

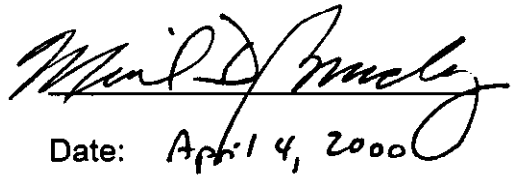
MPA/USPS-T18-10 Response:

- a. The variable REN refers to whether or not the contract has been renewed or is in the process of being renewed. A value for "Y" means that the contract has been renewed or is in the process of being renewed; a value for "N" means that the contract has not been renewed.

- b. The variable CONTYPE indicates whether the contract is a regular contract, an emergency contract, or a temporary contract. A value of "1" means that it is a regular contract; a value of "2" means that it is an emergency contract; a value of "4" means that it is a temporary contract.

DECLARATION

I, Michael D. Bradley, declare under penalty of perjury that the foregoing answers are true and correct, to the best of my knowledge, information and belief.


Date: April 4, 2000

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon all participants of record in this proceeding in accordance with section 12 of the Rules of Practice.

A handwritten signature in black ink, appearing to read "Susan M. Duchek", is written over a horizontal line.

Susan M. Duchek

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