

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, 1997

Docket No. R97-1

**THE DIRECT MARKETING ASSOCIATION, INC.'S SEVENTH SET OF
INTERROGATORIES AND REQUESTS FOR PRODUCTION OF DOCUMENTS
DIRECTED TO USPS WITNESS BRADLEY (DMA/USPS-T14-46-59)**

Pursuant to Sections 25 and 26 of the Commission's Rules of Practice, the Direct Marketing Association, Inc. hereby submits the attached seventh set of interrogatories and requests for production of documents to USPS witness Bradley (DMA/USPS-T14-46-59). If the designated witness is unable to respond to this interrogatory, we request a response by some other qualified witness.

Respectfully submitted,



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September 17, 1997

Witness Bradley (USPS-T-14)

DMA/USPS-T14-46. Please refer to your response to DMA/USPS-T14-20b(ii)(a).

- (a) What proportion of mail processing labor hours is spent clocked into operations during temporary equipment breakdowns lasting ten minutes or less? Please specify by craft, CAG, and MODS operation code.
- (b) What proportion of mail processing labor hours is spent clocked into operations during temporary equipment breakdowns lasting more than ten minutes? Please specify by craft, CAG, and MODS operation code.

DMA/USPS-T14-47. Please refer to your response to DMA/USPS-T14-20b(ii)(d).

- (a) Please explain what you meant by "HOCR and TOCR would not be affected."
- (b) Please confirm that the value ascribed to TOCR would be unaffected while that ascribed to HOCR would be larger by N times the length of additional time that it took to complete the sortation of the mail due to the breakdown (i.e., as a result of having to wait for the OCR to be fixed, move the mail to another machine, etc.). If not confirmed, please explain.

DMA/USPS-T14-48. Please refer your response to DMA/USPS-T14-22, bearing in mind that the question referred you to your discussion of the choice of the *dependent variable* in a cost function.

- (a) Confirm that in common English parlance, the term "cost" refers to magnitudes of value denominated in dollars (or other currency units), not work hours or other "quantity" units. If you do not confirm, please explain.
- (b) Confirm that in the economic theory of production, the term "cost" refers to magnitudes of value denominated in dollars (or other currency units), not work hours or other "quantity" units. If you do not confirm, please explain.
- (c) Confirm that the economic theory of production derives the cost function from the behavioral model of a firm minimizing its costs subject to the wages, prices, and technical possibilities it faces. If you do not confirm, please explain.
- (d) Confirm that the results of the cost-minimization exercise described in subpart (c) include a cost function of the general form $C=f(p, w, Q)$, where C is the minimum cost of producing the desired quantity (or quantities) of the relevant good(s) and/or service(s), Q is said desired quantity (quantities), $f(\cdot)$ is a function, p represents the relevant input price(s), and w represents the relevant

wage(s). If you do not confirm, please explain.

- (e) Do you believe that the U.S. Postal Service strives to minimize its costs:
 - (i) In its mail processing operations?
 - (ii) In its other activities?

Please explain fully.

DMA/USPS-T14-49. Please refer to Table 7 of your direct testimony.

- (a) Confirm that the coefficient on “Manual Ratio” is negative and statistically significant in the Manual Letters, Manual Flats, and LSM cost pool regressions.
- (b) If subpart (a) is confirmed, please provide a qualitative interpretation of these results; since you interpret the manual ratio as an indicator of “the average quality of the mail remaining in the manual activities,” please address what would appear to be an anomalous result. If subpart (a) is not confirmed, please explain.
- (c) Confirm that the coefficient on “Time Trend 1” is negative and statistically significant, and the coefficient on “Time Trend 2” is positive and statistically significant, in the Manual Letters, OCR, BCS, LSM, and FSM cost pool regressions.
- (d) If subpart (c) is confirmed, please provide a qualitative interpretation of these results. If subpart (c) is not confirmed, please explain.
- (e) Confirm that the coefficients on “Time Trend 1” and “Time Trend 2” are positive and statistically significant in the SPBS and Manual Priority cost pool regressions.
- (f) If subpart (e) is confirmed, please provide a qualitative interpretation of these results. If subpart (e) is not confirmed, please explain.

DMA/USPS-T14-50. Please refer to your response to DMA/USPS-T14-24b, which suggests that inclusion of a trend variable in your mail processing cost equations “could pick up...autonomous changes in the quality of the labor force, improved efficiency of the machinery, or more effective integration of the machine into the operating system....”

- (a) Could a trend variable also pick up variations over time in the numbers of excess workers clocked into an operation, assuming such a phenomenon exists? (In answering, please bear in mind that surplus labor in an operation need not

be manifested by workers being obviously "idle": another possible manifestation could be, e.g., excessive breaks and personal time as a percentage of total hours clocked into an operation.)

- (b) In light of the results cited in subpart (c) of DMA/USPS-T14-49, is it likely that the coefficient on Time Trend 2 reflects improvements in the quality of the labor force, the efficiency of the machinery used, or the integration of said machinery into the operating system over the FY93-FY96 period in the Manual Letters, OCR, BCS, LSM, and FSM cost operations? Please explain whether the coefficient might also reflect increases over time in the number of excess workers clocked into these operations.
- (c) In light of the results cited in subpart (e) of DMA/USPS-T14-49, is it likely that the coefficients on Time Trend 1 and Time Trend 2 reflect improvements in the quality of the labor force, the efficiency of the machinery used, or the integration of said machinery into the operating system over the FY88-FY96 period in the SPBS and Manual Priority operations? Please explain whether the coefficient might also reflect increases over time in the number of excess workers clocked into these operation.

DMA/USPS-T14-51. Please refer to page 25 of your direct testimony, Library Reference H-148 at page H148-4, and your response to DMA/USPS-T14-26a, all of which emphasize the "great value" MODS brings to your econometric analysis because it is an "operational data set...used for management decisions." Please list all Postal Service planning and management functions or decisions you are aware of which rely, or have relied, on MODS data, and describe the role(s) MODS data plays (or played) in each.

DMA/USPS-T14-52. Please refer to your response to DMA/USPS-T14-28. Did you experiment with inclusion of a time-trend interaction terms in your allied activities regressions? If so, please provide the regression log and listing files from these runs.

DMA/USPS-T14-53. In preparing the regression results that you reported in your direct testimony, did you experiment with any specifications that omitted lagged piece handlings, the manual ratio, or both? If so, please provide the regression log and listing files from all such runs.

DMA/USPS-T14-54. In preparing the regression results that you reported in your direct testimony, did you experiment with any specifications that used a functional form other than the translog? If so, please provide the regression log and listing files from all such runs.

DMA/USPS-T14-55. Please refer to your response to DMA/USPS-T14-29b, where you state that the goal of your research was "to estimate the volume variability for a single national cost pool for each activity."

- (a) Please confirm that by “national cost pool” you meant the aggregate costs (i.e., work hours) for all facilities that perform mail processing activities within each cost pool. If you do not confirm, please explain.
- (b) Please confirm that, for a given cost pool, the set of observations in your data set from any one facility reflects the work hours and associated total piece handlings not of the entire “national cost pool,” but rather of a component thereof. If you do not confirm, please explain.
- (c) Confirm that the costs (i.e., work hours) for the “national cost pool for each activity” may be obtained by aggregating work hours for said activity over all facilities within a cost pool by AP, that the total piece handlings for the “national cost pool for each activity” may be obtained in similar fashion, and that the manual ratio for the “national cost pool for each activity” may be obtained by aggregating the numerator and the denominator values of said ratio over all facilities within a cost pool by AP and then forming the ratio for each AP and cost pool. If you do confirm, please provide any weights or other ancillary information necessary to properly aggregate across facilities within a cost pool. If you do not confirm, please explain.
- (d) Did you run any mail processing labor cost (i.e., work hours) variability regressions using aggregate time series data on hours and piece handlings rather than the panel data you used for the analysis you presented in your direct testimony? If so, please provide the log and listing files from all such runs.

DMA/USPS-T14-56. Please refer to pages 41-42 of your direct testimony, and to your response to DMA/USPS-T14-30a.

- (a) Confirm that, to generate the OLS residuals used in the GNR regressions to test for site-specific effects, you regressed the mean-centered natural logarithm of work hours on the mean-centered natural logarithm of total piece handlings and its square, the mean-centered natural logarithm of the manual ratio and its square, and the interaction of the logarithms of the mean-centered piece handlings and manual ratio variables, thereby omitting the time trends, AP dummies, and the lagged piece handling variables. If you do not confirm, please explain.
- (b) Which omitted variables listed in subpart (a) “account for [the] facility-specific effects” mentioned in your response?
- (c) Is it a fair characterization of the method used to generate the parameter estimates reported in Tables 1 and 7 to say that the fixed facility-specific effects were “swept out” of the data, and not considered further except insofar as they shifted the individual facility intercept terms up or down? If not, please

explain fully.

- (d) If your response to subpart (c) is anything other than an unqualified “no,” please explain how any of the included variables in your final model “account for” the facility-specific effects.

DMA/USPS-T14-57. Please refer to your response to DMA/USPS-T14-30b and confirm that “the point of the GNR procedure” you performed was to test for the presence of facility-specific fixed effects, not “to test if the variables [listed in DMA/USPS-T14-56 subpart (a) as having been omitted] should be included in the final specification.” If you do not confirm, please explain.

DMA/USPS-T14-58. In witness Moden’s response to DMA/USPS-T14-1, he stated that Postal managers at mail processing facilities generally have “adequate flexibility to size the workforce to the work-load”: *within a shift*, by clocking out Casual and Part-Time Flexible employees, polling Full-Time Regular employees for those willing to take Annual Leave or Leave Without Pay, or rescheduling non-pref volumes for immediate processing; *within an AP*, by planning “week-by-week their estimated casual and Part Time Flexible needs;” and *over the course of a year*, through attrition and “contractual provisions for reassignment and termination.”

- (a) Were you provided with witness Moden’s expert opinion prior to specifying and estimating your variability regressions, similar to the presentation to you of exogenous information about the “fundamental restructuring of Postal Service operations in FY 1993” as noted on page 15, lines 13-14, of your direct testimony?
- (b) If your answer to subpart (a) is “no,” would you have included a lag term in total piece handlings if you had been? Please explain your response fully. If your answer to subpart (a) is “yes,” please explain fully your reasons for including a lag term in total piece handlings despite Moden’s response.
- (c) Please refer to your response to DMA/USPS-T4-33, subpart c., where you state that “examination of the coefficients on the contemporaneous and lagged terms shows how much of the adjustment takes place in current period and how much takes place in the subsequent period.” Please confirm that the figures contained in the following table are the lagged piece handling coefficients as a percentage of their corresponding current piece handling coefficients, based on Table 7 of your direct testimony:

MODS Sorting Operation	Lagged TPH Coefficient As Percent of Current TPH Coefficient
Manual Letters	3.3
Manual Flats	15.8
OCR	25.2
BCS	22.2
LSM	4.1
FSM	17.6
SPBS Priority	29.5
SPBS Non-Priority	26.5
Manual Priority	11.1
Manual Parcels	31.7
Cancel & Mtr. Prep	15.7

If not confirmed, please provide the correct figures.

- (d) Based upon your response to subpart (c), do you find any contradiction between your econometric results and Moden's response concerning the applicability of a lagged TPH coefficient? Please explain your response fully.
- (e) In light of witness Moden's response, how would you explain your finding of large, statistically significant lagged effects for a number of MODS operations?
- (f) Please discuss the possible existence of other possible phenomena besides staffing rigidities that might explain the significant lagged terms in your regressions. In responding, please consider (but do not limit yourself to) both statistical issues (e.g., misspecification of the functional form, failure to adequately model the error structure, failure to include one or more regressors in the model) and managerial/operational issues (e.g., misreporting of MODS data, workers being clocked into operations that they are not really working on, use of outdated or incorrect conversion factors).


DMA/USPS-T14-59. Please refer to your response to DMA/USPS-T14-33, subpart a., where you state that your "understanding" is that "on average, part time and casual workers are already working close to a full work week" and where you rely on "DMA-T4-26" [sic].

- (a) Please confirm that witness Moden's response to DMA/USPS-T4-26 does not concern the workhours of part time and casual workers.
- (b) Please provide a complete list of all citations to the record where support for your statement exists. If this statement is supported by information outside of the record, please describe such information and provide it as a library

reference.

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 Rule 12 (section 3001.12) of the Postal Rate Commission's Rules of Practice and Procedure and Rule 3 of the Commission's Special Rules of Practice in this proceeding.


Michael D. Bergman

September 17, 1997