

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

RESPONSE OF UNITED STATES POSTAL SERVICE WITNESS BRADLEY
(USPS-T-14) TO INTERROGATORIES OF THE OFFICE OF THE CONSUMER
ADVOCATE
(OCA/USPS-T14-2-3, AND 6(b)-8)

The United States Postal Service hereby provides responses of witness Bradley (USPS-T-14) to the following interrogatories of the Office of the Consumer Advocate: OCA/USPS-T14-2-3 and 6(b)-8, filed on September 3, 1997. Interrogatories OCA/USPS-T14-4, 5 and 6(a) have been redirected to witness Degen.

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

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

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OCA/USPS-T14-2. Suppose that an operation is so poorly managed or inefficient that workhours do not vary regardless of expected mail volumes to be processed. Under this scenario, is it possible that estimated variabilities would be lower than an otherwise similar operation that is well-managed? Please explain.

OCA/USPS-T14-2 Response:

If, for any reason, "workhours [in an activity] do not vary regardless of expected mail volumes" then it is a tautology to state that the variability for that activity is zero. Moreover, it is a mathematical certainty that if the variability for the similar and so-called "well-managed" activity was greater than zero, than any activity that had a zero variability would have a lower variability.

More generally, there is not a unique effect of inefficiency on variability. That is to say, the existence of inefficiency does not necessarily cause a lower or higher variability. For example, an inefficiently managed enterprise may find it more difficult than an efficiently managed enterprise to constrain costs as volume rises. If so, the volume variability would be higher at the inefficient enterprise than at the efficient enterprise.

It is important not to confuse average productivity with volume variability. To determine the effect of excess capacity on variability, one must have a model of how that excess capacity, itself, varies with volume. It is quite possible, for example, that inefficiency is

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correlated with volume. That is, large activities could be more inefficient than small activities. If this is so, and not controlled for, then the estimated variabilites would overstate the variabilities associated with well-managed operations.

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OCA/USPS-T14-3. Please refer to page 2 of the December 1996 National Coordination Audit of Allied Workhours contained in library reference H-236. This report states, "Our review of opening unit operations (110-117 and 180-189) at the 25 P&DCs disclosed management inefficiencies regarding these workhours representing 36 percent of total LDC 17 workhours." Table 8 of your testimony indicates that the elasticities for "Opening Pref." and "Opening BBM" to be 0.720 and 0.741, respectively.

- a. If opening unit inefficiencies account for 36 percent of workhours, please confirm that your elasticity estimates would understate variabilities for well-managed opening unit operations. If you do not confirm, please explain.
- b. Suppose that at an average volume level about a third of the workhours in opening unit operations are not utilized. If expected mail volumes for the next day are up by ten percent, then please confirm that there is no need to increase staffing level for that day.
- c. Do your econometric models take into account the fact that some operations are run inefficiently? If so, how do you model this inefficiency?

OCA/USPS-T14-3 Response:

- a. Not confirmed. First of all, I believe you misunderstood the sentence. The sentence states that total opening unit workhours (which contain some inefficiencies) represent 36 percent of total LDC workhours, not that opening unit inefficiencies represent 36 percent of total LDC workhours. Had you read on to page 14, you would have found a sentence which clarifies this issue. On page 14, the report states:

Review of LDC17 operations disclosed opening units still accounted for 36 percent of total LDC 17 workhours.

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Secondly, and more importantly, there is not determinative link between inefficiency and variability. It is quite possible, for example, that inefficiency is correlated with volume. That is, large activities could be more inefficient than small activities. If this is so, and not controlled for, then the estimated variabilites would overstate the variabilities associated with well-managed operations.

Also, please recognize that the econometric estimates of volume variability do not require equal efficiencies across offices. In fact, the variability estimates are designed to control for varying degrees of productivity in which the "inefficient" sites differ from the "efficient" sites, in that the former requires more hours for the same workload. This is because the site-specific effects included in the specification control for such site-specific variations in productivity.

- b. Not confirmed. The flow of mail to opening units is closely tied to dock activity, which, in turn, is determined by truck arrivals. These truck arrivals are not entirely predictable and staffing on the platform and in the opening units must be such that the mail can be processed on a timely basis. This is the essential characteristic of a "gateway" operation. Because of this characteristic a single snapshot on a given day may appear to reveal "unused capacity." This is not to say, however, that

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“unused capacity” measured in this way does not increase with expected volume. I would caution you, though, to not use day-to-day variations in hours to understand the estimated variabilities. Those variabilities are estimated on accounting period data or even annual data and the day-to-day variations in productivity are subsumed in the overall volume and hours for the entire period. Thus the volume variability measures the response in cost to sustained change in volume, not a day-to-day variation.

- c. Yes. As explained in my response to part a., variations in efficiency across the activities at different sites would be captured by the site-specific variables in the panel data model. On the other hand, if all sites always have the same degree of inefficiency, then its existence has no impact on the measure of volume *variability*.

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OCA/USPS-T14-4. Please refer to page 4 of your response to OCA/USPS-T14-1. This breaks out accrued cost by Non-MODS sub-pools. Please break out these accrued costs by:

- a. Facilities with mechanized mail processing equipment but no automated mail processing equipment.
- b. Facilities with automated mail processing equipment but no mechanized mail processing equipment.
- c. Facilities with neither mechanized mail processing equipment nor automated mail processing equipment.
- d. Facilities with both mechanized mail processing equipment and automated mail processing equipment.

OCA/USPS-T14-4 Response:

This interrogatory has been redirected.

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OCA/USPS-T14-5. Please refer to page 4 of your response to OCA/USPS-T14-1. This breaks out accrued cost by Non-MODS sub-pools. Please break out these accrued costs by:

- a. Facilities with mechanized mail processing dollars but no automated mail processing dollars.
- b. Facilities with automated mail processing dollars but no mechanized mail processing dollars.
- c. Facilities with neither mechanized mail processing dollars nor automated mail processing dollars.
- d. Facilities with both mechanized mail processing dollars and automated mail processing dollars.

OCA/USPS-T14-5 Response:

This interrogatory has been redirected.

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OCA/USPS-T14-6. Please refer to page 10 of the December 1996 National Coordination Audit of Allied Workhours contained in library reference H-236. This states, "At the P&DCs, LDC 17 supervisors generally expressed that their focus was to keep the employees in budgeted positions 'busy', and minimize overtime hours."

- a. Please confirm that LDC 17, Other Direct Operations, refers to MODS allied activities in your testimony. If you do not confirm, please explain the differences between the terms "allied activities" and "LDC 17 operations."
- b. Please confirm that if the above quote reflects the typical LDC 17 supervisor focus, the effect on variabilities would be to decrease them from what they otherwise would be if employees were clocked in to LDC 17 operations only when really needed.

OCA/USPS-T14-6 Response:

- a. This part of the interrogatory has been redirected.
- b. Not confirmed. As explained in my responses to OCA/USPS-T14-2 and OCA/USPS-T14-3, there is no basis for presuming that excess capacity (if it exists) causes the measured volume variability to be below what it otherwise would be. To determine the effect of excess capacity on variability, one must have a model of how that excess capacity, itself, varies with volume. Finally, if the term "busy" is used to mean employing workers productively during the waiting time between truck arrivals, it is a productivity-enhancing practice. Platform and allied operations inherently involve some waiting time and must be staffed to handle the discrete workload associated with truck arrivals and departures and the flow of mail in and out of the facility.

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OCA/USPS-T14-7. Please refer to the December 1996 National Coordination Audit of Allied Workhours contained in library reference H-236.

- a. Are the data at any of the 25 sites reviewed in this audit so unreliable that they should be excluded from your variability analysis? Please explain.
- b. Are the data scrubs described at pages 31-33 of your testimony designed to identify and eliminate the types of errors identified by this audit? Please explain.

OCA/USPS-T14-7 Response:

- a. The report itself is not sophisticated enough to serve as a basis for excluding data. However, to the extent the data from any of the sites reviewed in the report happened to be unreliable, they were removed from my analysis via the scrubbing process. Please recall that a stringent scrub was put into place in the case of the allied activities. If a site had a single accounting period in which its allied labor productivity (as measured by total direct piece handlings relative to allied labor hours) was in the one-percent tail of the distribution of productivities, then the entire data series for the site was eliminated from the econometric analysis.

It is worth considering, nonetheless, what the effects of unreliable data would imply for the econometric estimation. The statistical embodiment of unreliable clock rings is a large unexplained variations in hours. If the clock rings do not bear a reliable relationship to the driver of cost, piece handlings, then any equation that attempts

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to explain variations in hours as a result of variations in piece handlings will fail. Failure will be detected by large unexplained variation in hours that would be revealed, for example, by an extremely low R^2 statistic. In fact, if the data were totally unreliable, then the R^2 statistic should be zero. As a review of my results will indicate, the models do a good job explaining the variations in hours and this is strong evidence that the MODS data are suitable for my purposes.

- b. I was not aware of the National Coordination Audit of Allied Workhours when I performed my analysis, so I cannot say the scrubs were designed to identify and eliminate exactly the types of errors identified by the audit. However, I would say that the scrubs were designed generally to identify and eliminate, *inter alia*, data generated through misreporting errors.

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OCA/USPS-T14-8. Please refer to page 2 of the December 1996 National Coordination Audit of Mail Volume Measurement and Reporting Systems, included in library reference H-220.

- a. Are the data at any of the 20 sites reviewed in this audit so unreliable that they should be excluded from your variability analysis? Please explain.
- b. Are the data scrubs described at pages 31-33 of your testimony designed to identify and eliminate the types of errors identified by this audit? Please explain.

OCA/USPS-T14-8 Response:

- a. *The report itself is not sophisticated enough to serve as a basis for excluding data.*
However, to the extent that data from any of the sites reviewed in this study happened to be unreliable, they would have been removed from my analysis via the scrubbing process. Please also recall that the scrubs were performed separately for each of the activities, so that each sites data were examined repeatedly on an activity basis.

I would also note that several of the report's findings are irrelevant for my analysis because much of the data set used in my analysis is not based upon FHPs, but rather on the end-of-run data and machine counts. This is true for all automated and mechanized activities. The issues of measurement error due to inaccurate weighing and/or conversion factors is an issue only in the manual activities.

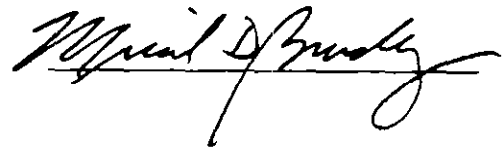
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Because of this additional source of possible measurement error, I pursued an errors-in-variables analysis for those activities.

- b. To the extent these measurement errors cause extreme values (high and low) in measured productivities, the data based upon the measurement error would be removed from my econometric analysis. However, given the anecdotal nature of the report and the fact that the report focuses on FHP rather than the TPH data that I use, it is not possible to conclude from the report that there are serious errors in the data I use in my analysis.

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.

A handwritten signature in cursive script that reads "Michael D. Bradley". The signature is written in black ink and is positioned to the right of the declaration text.

Dated: Sept 12, 1997

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.



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