

BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268-0001

POSTAL RATE AND FEE CHANGES

Docket No. R2006-1

**RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS BOZZO,
USPS-T-12, TO INTERROGATORIES OF UNITED PARCEL SERVICE:
UPS/USPS-T12-30 through 46
(July 28, 2006)**

The United States Postal Service hereby provides the responses of witness Bozzo (USPS-T-12) to the above-referenced interrogatories, filed on July 14, 2006.

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

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

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July 28, 2006

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-30. Refer to USPS-T-12, section VII.F, "Alternative Capital Series," pages 100-104.

(a) In Table 27 on page 101 you show that the number of records where using the alternative capital variable results in cases where $\text{hours} > 0$ & $\text{Capital} = 0$ are reduced. Explain in detail how the use of the alternative capital measure changes the values of capital measure for the records with non-zero capital measures using the original specification.

(b) Explain in detail why you continue to use for your recommended variabilities the original specification if it produces more cases of mismatches between capital and hours.

Response.

a. The alternative capital series more frequently update the equipment data from PPAM and PEAS than the original method, and thus may pick up the presence of newly deployed equipment sooner, given the limitations of reporting lags in the data systems.

b. I investigated the matter in response to Prof. Roberts's March 2006 paper, which was released after the relevant CRA production deadlines. The alternative capital series would be preferred for future analysis.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-31. Refer to USPS-LR-L-56, section IV, "Data and Programs Pertaining to Roberts Model Update and Related Analysis," page 40.

- (a) Explain in detail your understanding of why Roberts did not perform his analysis on parcels?
- (b) Do the data provided in section IV permit estimating Roberts model for parcels?
- (c) If the answer to (b) is no, provide any additional data elements that would be required to extend the Roberts (2006) analysis to parcels.
- (d) Have you performed any analysis on parcels using Roberts methodology or some update to Roberts methodology?
- (e) If your response to (d) above is affirmative, provide the estimated variabilities resulting from such an analysis.

Response.

a. I have no particular insight into anything Prof. Roberts may have considered but did not report in his papers.

b.-c. Possibly. The data requirements would depend on which operations not covered by the MODS plant data set (e.g., BMC parcel sorting) were to be included in the model. Since Prof. Roberts has not specified a "parcel" model, it would be speculation on my part as to what operations should be included.

d. No.

e. Not applicable.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-32. Explain why the following MODS activities are not logged by any facility based on the data in the USPS-LR-L-56 dataset

Section1\Data\vv9905.xls:

- (a) 19 (Metered); and
- (b) 36 (Total Metered and Cancellations).

Response.

My analysis does not include the Meter Prep cost pool, so the Metered Mail Prep data (group 19) are not reported in the USPS-LR-L-56 dataset. Group 36 is an aggregate of the reported group 18 (Cancellations) and group 19. For the aggregate MODS volumes and hours in the Meter Prep operations, please see the response to TW/USPS-T11-1b/c.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-33. Refer to USPS-LR-L-56, file Section1\Programs\BY2005 Programs\varmp_tpf_OTHAUTO_by2005.out, lines 95-104, where you have the comment "Sets TPF = TPH if TPH>TPF, Then replaces the TPH variable with TPF." Explain in detail why you replace TPH with TPF.

Response.

The purpose of this assignment had been to make use of common data transformation and estimation code—based on TPH variable names—for automated operations (where TPF is the MODS piece handling concept employed) and manual operations (where TPH is the MODS piece handling concept employed).

Recall that in earlier incarnations of the analysis (cf. Docket No. R2000-1, USPS-T-15), manual and automated operations employed substantially similar translog estimating equations. The manual programs had been written first, and it was more convenient and less error-prone for the automated operation programs to substitute TPF into the TPH variable rather than to attempt to change every instance of TPH to TPF in the data transformation and estimation loop.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-34. Refer to all tsp programs provided in USPS-LR-L-56, folders Section1\Programs\BY2005 Programs and Section1\Programs\Alternative Runs.

(a) Provide the rationale behind coming up with the numbers that determine implausibly low and high productivities for different cost pools. As a specific case, see varmp_tpf_OTHAUTO_by2005, lines 77-82: high04=15, low04=0.5 for OCR; high06=2, low06=0.15 for FSM1000; and high34=0.725, low34=0.05 for Total SPBS/LIPS.

(b) Have you checked the sensitivity of your results to different selection criteria?

Response.

a. Please see Docket No. R2000-1, USPS-T-15 at 80-82, 101-102, and 110-112.

b. In my analysis for Docket No. R2000-1, I found that eliminating the screens did not qualitatively alter the results. See Docket No. R2000-1, USPS-T-15 at 140. I have not done further sensitivity checks of this screen.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-35. Refer to USPS-LR-L-56, section I.A.3., "Definition of analysis variables and elasticity functions," pages 5-7, which describes your calculation of elasticities.

- (a) Do your calculations take into account the significance of the coefficients produced from estimation equations before the coefficients are utilized in elasticity calculations?
- (b) If your answer to (a) is yes, explain in detail how this is done, including an explication of the method used and any code used to perform the calculation.
- (c) Have you computed confidence intervals around these estimated variabilities?
- (d) If your answer to (c) is yes, explain in detail how this is done, including an explication of the method used and any code used to perform the calculation.

Response.

- a. The estimated regression coefficients are not pretested in any way prior to being used in the elasticity calculations.
- b. Not applicable.
- c. No, but it would be possible to construct confidence intervals for the elasticities based on the reported standard errors, which take into account the covariance matrix of the estimated coefficients.
- d. Since the elasticity estimates are linear combinations of certain regression coefficients and data, the TSP "analyz" command computes the variance of the linear combination using the covariance matrix of the coefficients, conditional on the data.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-36. Refer to USPS-T-12, section V.C.1., "Delivery Network Data – AIS, ALMS," pages 57-58. For converting monthly delivery network data (AIS, ALMS) to quarterly data, the month closest to the end of the quarter is employed to represent the postal quarter. Why is this preferred over averaging out the three months that makes up a quarter? Explain your reasoning in detail.

Response.

Since the data continue to use the 'old' postal quarters until there is sufficient data available under the government fiscal year calendar, months do not map to quarters as easily as the question suggests. Such time as the data set is converted to the GFY calendar, a midpoint or average value would be straightforward to calculate and may subsequently be employed.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-37. Refer to USPS-T-12, section I.V.D., "Estimating Equation Specifications," page 52, where you define your variable WAGE as "the Relative wage for the LDC associated with cost pool i versus the LDC 14 wage, for site n , and time t " for D/BCS Incoming, D/BCS Outgoing, FSM 1000, OCR, and SPBS cost pools. Refer also to TSP output file "varmp_tpf_OTHAUTO_by2005.out", line 73, where you define the relative wage for cost pool 34 (Total SPBS/LIPS) relative to LDC 17 wage. Explain in detail.

Response.

The testimony at the cited section should have clarified that the manual equivalent to SPBS bundle handling work is carried out in LDC 17, rather than LDC 14 (as is the case for the other listed operations), so the relative wage used for SPBS is that between LDC 13 and LDC 17, as implemented in the TSP code.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-38. A number of sites in the dataset Section1\Data\vv9905.xls from USPS-LR-L-56 seem to have an intermittent presence of various MODS operations. For example, site # 3 has an intermittent presence of SPBS & LIPS Priority (MODS group 10) and of Priority (MODS group 14); and site # 27 has an intermittent presence of Manual Letters (MODS group 12) and of Priority (MODS group 14). Explain in detail why various MODS operations appear only intermittently throughout the dataset.

Response.

The term "intermittent presence" is vague, and limits my ability to comment on the causes of specific instances that the question may intend to encompass.

Note that certain operations, particularly Priority Mail and parcel sorting, may only be present in some facilities at periods such as seasonal peaks.

I am informed that site #3's "intermittent" data in Priority Mail operations correctly reflects its operations.

Regarding site #27, I am informed that its "intermittent" Priority Mail data reflect seasonal operations. Also, given the extremely small number of MODS workhours for manual letters (7 hours over all quarters) and the absence of recorded manual letters TPH, I would conclude that the manual letters operation was not present and that the hours represent very minor clocking noise. Note also that site 27 is a non-plant facility which does not enter the regression samples.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-39. The following sites in the dataset Section1\Data\vv9905.xls from USPS-LR-L-56 have no piece handlings in any of the MODS operations at the start of the 28 periods, but appear with positive piece handlings elsewhere in the dataset: Sites 18, 41, 44, 177, 315, 324-329, 331-347, and 352-368. For each of these sites, explain in detail whether: (a) the site is a new site which came into existence during the time period sampled; (b) the site did not report data into the MODS system; or (c) there is some other explanation for the zero piece handlings across all MODS groups at the start of the sample. If your answer for any site is (c), explain in detail.

Response.

Please note that site 41, contrary to the claim in the interrogatory, reported some piece handlings and hours in PQ1 of FY1999, and did not report any MODS data subsequently; that site is a post office no longer reporting MODS data.

Sites 18, 44, 177, 357, 364, and 365, also contrary to the claim in the interrogatory, report no piece handlings (or other MODS data) in any of the sorting operations in any period. Site ID 18 currently has no facility assigned to it. See Docket No. R2000-1, Tr. 15/6390, for sites 44 and 177. I am informed that site 357 ceased operation prior to FY 1999. I am informed that sites 364 and 365 started operation during the sample period and report MODS data, but are non-plant facilities that do not have the piece sorting operations covered by vv9905.xls.

For other sites, please see the table in the attachment.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

Attachment 1, Response to UPS/USPS-T12-39

Site ID	Explanation
315	Site existed as of PQ1 FY1999, but did not report MODS data
324	Site existed as of PQ1 FY1999, but did not report MODS data
325	Site existed as of PQ1 FY1999, but did not report MODS data
326	Site existed as of PQ1 FY1999, but did not report MODS data
327	Site existed as of PQ1 FY1999, but did not report MODS data
328	Site existed as of PQ1 FY1999, but did not report MODS data
329	Site existed as of PQ1 FY1999, but did not report MODS data
331	New facility
332	New facility
333	New facility
334	New facility
335	New facility
336	New facility
337	New facility
338	New facility
339	New facility
340	New facility
341	New facility
342	New facility
343	New facility
344	New facility
345	Site existed as of PQ1 FY1999, but did not report MODS data
346	New facility
347	New facility
352	New facility
353	New facility
354	New facility
355	New facility
356	New facility
358	New facility
359	Site existed as of PQ1 FY1999, but did not report MODS data
360	Site existed as of PQ1 FY1999, but did not report MODS data
361	New facility
362	Site existed as of PQ1 FY1999, but did not report MODS data
363	Site existed as of PQ1 FY1999, but did not report MODS data
366	New facility
367	New facility
368	New facility

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-40. The following sites in the estimation dataset Section1\Data\vv9905.xls from USPS-LR-L-56 have no piece handlings in any of the MODS operations at the end of the 28 periods: Sites 13, 14, 18, 27, 33, 34, 41, 44, 54, 56, 57, 117, 160, 177, 324, 327, 349, 350, 351, 356, 357, 364, 365, and 368. For each of these sites, explain in detail whether (a) the site closed down its operations; (b) the site did not report data into the MODS system; or (c) there is some other explanation for the zero piece handlings across all MODS groups at the end of the sample. If your answer for any site is (c), explain in detail.

Response.

For sites 18, 41, 44, 177, 357, 364, and 365, please see the response to UPS/USPS-T12-39.

Contrary to the claim in the interrogatory, site 368 reports piece handlings and other MODS data in PQ4 of FY 2005. As noted in the response to UPS/USPS-T-12-40, this is a new facility.

For other sites, please see the table below.

Site ID	Explanation
13	Post office that stopped reporting data to MODS
14	Post office that stopped reporting data to MODS
33	Post office that stopped reporting data to MODS
34	Post office that stopped reporting data to MODS
54	Post office that stopped reporting data to MODS
56	Post office that stopped reporting data to MODS
57	Post office that stopped reporting data to MODS
117	Post office that stopped reporting data to MODS
160	Post office that stopped reporting data to MODS
324	Post office that stopped reporting data to MODS
327	Post office that stopped reporting data to MODS
349	Post office that stopped reporting data to MODS
350	Facility closed
351	Post office that stopped reporting data to MODS
356	Facility closed

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-41. Refer to USPS-T-12, pages 70-73, Tables 10-13 and USPS-LR-L-56, Section1\Data\vv9905.xls. Identify the records of Section1\Data\vv9905.xls used for the analyses presented in each of the tables by IDNUM and quarter.

Response.

The records may be identified using the following sample selection variables

defined in the estimation code:

- BCS (incoming and outgoing), AFSM, OCR, FSM 1000, SPBS:

F[group]_not145.

- Manual letters, flats, parcels, Priority, cancellations: F[group]_not14.

Where [group] is the operation group code used in the TSP programs.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-42. Refer to USPS-LR-L-56, dataset Section1\Data\vv9905.xls, where site # 40 has only 0.2 FHP in the 1st quarter of 2003 for Total FSM (MODS group 33) and no other recorded activity for that MODS group in the 28 periods in the dataset. Explain in detail.

Response.

Site 40 has no FSM equipment, so the FHP entry appears to be the result of a trivial (200 piece) error in an FHP transaction.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-43. Refer to USPS-LR-L-56, dataset Section1\Data\vv9905.xls, where site # 324 and site # 327 have recorded activity (i.e., HRS, TPH, TPF, or FHP) between the 3rd quarter of 1999 and 1st quarter of 2000, and between the 1st quarter of 2000 and the 3rd quarter of 2003 respectively, with no other recorded activity for the 28 periods in the dataset. Explain in detail.

Response.

Please see the responses to UPS/USPS-T12-39-40.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-44. Refer to USPS-LR-L-56, dataset Section1\Data\vv9905.xls, where site # 356 has only 1 FHP in the 4th quarter of 2001 for AFSM 100 and AFSM INCOMING (MODS group 39 and 93 respectively) and only 8 HRS in the 3rd quarter of 2003 for MPBCS and MPBCS OUTGOING (MODS group 1 and 72 respectively), and no other recorded activity for those MODS groups in the 28 periods in the dataset. Explain in detail.

Response.

Site 356 has neither AFSM nor MPBCS equipment; the observations indicated appear to be the result of trivial clocking and FHP transaction errors. Note also that site 356 is a non-plant facility that does not appear in the regression samples.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-45. Refer to USPS-T-12, page 52, lines 14-15.

- (a) Explain in detail why you employ relative wages rather than using the operation specific LDC wages.
- (b) Explain in detail how your WAGE variable accounts for differences in cost over time due to inflation.

Response.

- a. Please see Docket No. R2005-1, USPS-T-12 at 30-32 (Section II.B.6).
- b. The wage variables are not intended to account for effects of wage inflation.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12)
To Interrogatories of United Parcel Service

UPS/USPS-T12-46. Refer to USPS-T-12, page 54, line 14-15, where you state that "the estimation procedure does not adjust for serially correlated errors." Explain in detail any potential consequences of not adjusting for serially correlated errors in your analysis.

Response.

Statistical consistency of the instrumental variables (IV) estimates is unaffected, but the covariance matrix of the estimates may be incorrect. In the presence of serial correlation, a generalized instrumental variables estimator such as generalized two-stage least squares can be shown to be asymptotically efficient, though efficiency improvements are not guaranteed in finite samples. See, e.g., Russell Davidson and James G. MacKinnon, *Estimation and Inference in Econometrics*, Oxford University Press 1993, p. 369-371.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

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Frank R. Heselton

CERTIFICATE OF SERVICE

I hereby certify that I have this date served the foregoing document in accordance with Section 12 of the Rules of Practice and Procedure.

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