

**BEFORE THE
POSTAL RATE COMMISSION**

POSTAL RATE AND FEE CHANGES, 2006

DOCKET NO. R2006-1

**RESPONSES OF UNITED PARCEL SERVICE WITNESS NEELS
TO INTERROGATORIES OF UNITED STATES POSTAL SERVICE
(USPS/UPS-T1-13 through 20)
(October 13, 2006)**

Pursuant to the Commission's Rules of Practice, United Parcel Service hereby files the responses of UPS witness Kevin Neels to the following interrogatories of the United States Postal Service: USPS/UPS-T1-13 through 20.

Respectfully submitted,

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USPS/UPS-T1-13. Please refer to your testimony, UPS-T-1, Table 11 (page 32). Please refer also to UPS-WP-1, program WP Chow_Big vs Rest.do and its accompanying output log.

a. Please confirm that the specification tests you report are based on the entire set of coefficients from the translog models for the listed cost pools, excluding the site-specific intercepts. If you do not confirm, please explain fully.

b. Please confirm that, for the translog models, the output elasticities or volume variability factors are functions of subsets of the coefficients and certain data elements. Please see, e.g., Tr. 10/2557-8. If you do not confirm, please explain.

c. Please confirm that you did not compute output elasticities for the subsamples you developed for the analysis reported in Table 11. If you do not confirm, please explain where the results appear in the Stata program referenced above or elsewhere in your workpapers.

d. If you believe it is inappropriate to employ results from full-sample models, what method or methods would you recommend for combining results from subsamples to apply at the cost pool level or other level of cost aggregation you consider appropriate?

e. Please consider the following table of volume variabilities for the subsamples in your Table 11 analysis.

Cost Pool	Variability, "Big Plants" Sub-sample	"Big Plants" Share of FY05 Hours	Variability, "Small Plants" Sub-sample	"Small" Share of FY05 Hours	Weighted Average Variability, Cost Pool	USPS BY05 Variability, Cost Pool (USPS-T-12)
OCR	0.71 (0.07)	0.87	0.91 (0.07)	0.13	0.73 (0.06)	0.78 (0.05)
FSM 1000	0.75 (0.04)	0.79	0.68 (0.06)	0.21	0.73 (0.03)	0.72 (0.03)
SPBS	0.84 (0.06)	0.92	0.91 (0.08)	0.08	0.86 (0.05)	0.87 (0.05)
Incoming D/BCS	0.85 (0.09)	0.83	0.69 (0.11)	0.17	0.82 (0.08)	0.82 (0.07)
Outgoing D/BCS	0.97 (0.07)	.89	1.07 (0.07)	0.11	0.98 (0.07)	1.06 (0.06)

Standard errors in parentheses. Subsample variabilities are assumed uncorrelated in calculating the standard errors of the weighted average variabilities.

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Please confirm that the table reflects the correct results for your Table 11 subsamples. If you do not confirm, please provide the results you believe to be correct, and provide the associated econometric code and output log(s).

RESPONSE:

- a. Confirmed.
- b. Confirmed.
- c. Confirmed.
- d. It would be appropriate in such a case to combine the volume variabilities for the various subsamples into a calculation of the volume variability of the overall population. Such a calculation should reflect both differences in variabilities among the various subgroups, as well as differences in their respective contributions to volume growth.
- e. See below. Note that I was not able to replicate exactly the coefficient estimates of Dr. Bozzo. I believe that the differences between my version of Dr. Bozzo's model and Dr. Bozzo's actual model stem largely from differences between Stata and TSP in their implementations of the autocorrelation correction. Columns 2 and 4 contain the variabilities implied by my subsample results. Column 7 presents the variabilities that result when these subsample results are combined using the methodology employed in preparing the table contained in Interrogatory USPS/UPS-T-T-13(e). The program *WP_Chow_Big vs Rest_var.do* and output log *Chow_Big vs Rest_var.log* included in Library Reference UPS-LR-2 contain the calculations upon which this table is based.

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[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Cost Pool	Variability, "Big Plants" Sub-sample	"Big Plants" Share of FY05 Hours	Variability, "Small Plants" Sub-sample	"Small" Share of FY05 Hours	Weighted Average Variability, Cost Pool	Neels replication of USPS BY05 Variabilities	USPS BY05 Variability, Cost Pool (USPS-T-12)
OCR	0.72 (0.06)	0.87	0.91 (0.06)	0.13	0.74 (0.05)	0.80 (0.04)	0.78 (0.05)
FSM 1000	0.74 (0.03)	0.79	0.67 (0.04)	0.21	0.73 (0.02)	0.72 (0.02)	0.72 (0.03)
SPBS	0.87 (0.04)	0.92	0.92 (0.07)	0.08	0.87 (0.04)	0.88 (0.03)	0.87 (0.05)
Incoming D/BCS	0.86 (0.06)	0.83	0.69 (0.07)	0.17	0.83 (0.05)	0.82 (0.04)	0.82 (0.07)
Outgoing D/BCS	1.00 (0.06)	0.89	1.08 (0.05)	0.11	1.01 (0.05)	1.06 (0.04)	1.06 (0.06)

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USPS/UPS-T1-14. Please refer to your testimony, UPS-T-1, section 3(b) and section 6. In the course of preparing your testimony, did you conduct any of the specification tests you describe in section 3(b) on the alternative model you present in section 6? If so, please provide all results, the associated econometric code, and output log(s). If not, why not?

RESPONSE:

No. As I stated in my direct testimony, given the known problems with the MODS data, the highly restricted subsample upon which the alternative models discussed in Section 6 of my testimony were based, and the fact that the dependent variables for these models included only a subset of plant-level work hours, I was not prepared to argue that the Commission should adopt the variability estimates produced by these models as definitive. These were instead intended to be illustrative of the direction I believe empirical research into mail processing volume variability should take. Given the limited purpose for which these estimates were intended, it did not seem necessary to test them exhaustively.

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USPS/UPS-T1-15. Please refer to your testimony, Section 6 (pages 49-54) and to your response to USPS/UPS-T1-5. Please also refer to Docket No. R2000-1, Tr. 46-E/22041, lines 12- 18.

a. In Docket No. R2000-1, Prof. Greene testified (Tr. 46-E/22041, lines 12-18):

[I]t is a maxim in econometrics that micro level data are always better than aggregates. The reason is almost self-evident. Aggregation almost always discards information contained in micro level data, and never creates new information. On the other hand, if it is genuinely believed that the micro level data contain no useful independent information, then they can be aggregated. This process cannot be reversed.

Do you agree or disagree with Prof. Greene? Please explain fully the basis for any disagreement.

b. Please provide all results, econometric estimation code, and output log(s) for the shape-level models you referenced in response to USPS/UPS-T1-5(b).

c. Please confirm that your Section 6 model includes SPBS handlings in the "Parcel" volume category. If you do not confirm, please describe fully your treatment of SPBS handlings, and provide detailed citations to the Stata code in your workpapers.

d. Does your treatment of SPBS differentiate handlings of bundles of flat-shape pieces and handlings of parcels or IPPs? If so, please explain your methods in full. If not, why not?

e. Do you believe that a unit of letter FHP will have the same effect on workhours in letter-shape operations and non-letter-shape operations? Please explain your response.

f. Do you believe that a unit of flat FHP will have the same effect on workhours in flatshape operations and non-flat-shape operations? Please explain your response.

g. Do you believe that a unit of parcel FHP will have the same effect on workhours in parcel-shape operations and non-parcel-shape operations? Please explain your response.

RESPONSE:

a. I agree that micro-level data contain more information than aggregated data. I agree that micro data (if they are complete) can be aggregated, allowing an analyst to

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choose whether to work at an aggregate level or a micro level. I agree that possession of such flexibility is, in general, an advantage. Such flexibility can come at a price, however. Micro data files will in general be larger, more complex, and more cumbersome to work with.

I do not believe that a micro-level approach is always superior to a more aggregated approach. Econometric analyses based upon micro-level data are often more complex than analyses based upon aggregated data, requiring more “nuisance” parameters in order to account properly for micro-level behavioral effects. For example, accounting for seasonal effects requires only three extra parameters in a model based upon quarterly data. A monthly model, in contrast, would require eleven, while a weekly model might require fifty-one. A daily model could require as many as 1,460 if leap years are taken carefully into account. In addition, in models based upon high-frequency data it is often necessary to explore and estimate complex lag structures. In many instances analyses based upon more aggregated data provide a much simpler and more direct way to measure parameters of interest.

I note that Dr. Bozzo may share this belief. Dr. Bradley’s original mail processing volume variability study from Docket No. R97-1 relied upon data at the accounting period level. However, Dr. Bozzo’s Docket No. R2000-1 study and all of his subsequent studies of this topic have relied upon data aggregated to the quarterly level.

b. These items are provided in *WP_Plant-Level_Regression_final_shape.do* and *output_shape.log* provided in Library Reference UPS-LR-3.

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- c. Confirmed.
- d. No. I followed the methodology of Dr. Bozzo on this point, and I am unaware of any aspect of his treatment that draws such a distinction.
- e. No. A unit's shape will influence the manner in which it is handled, and the activities within which labor hours are recorded.
- f. See response to USPS/USP-T1-15 (e).
- g. See response to USPS/USP-T1-15 (e).

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USPS/UPS-T1-16. Do you agree that automation-compatible, letter-shape mail pieces have distinct cost-causing characteristics for Postal Service sorting operations from nonmachinable lettershape pieces? If you do not agree, please explain your position.

RESPONSE:

Yes.

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USPS/UPS-T1-17. Do you agree that automation-compatible letter-shape pieces may be sorted in the Postal Service's automation letter-shape mailstream at lower marginal cost than otherwise identical pieces processed in the manual letter-shape mailstream? If you do not agree, please explain your position.

RESPONSE:

Yes.

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USPS/UPS-T1-18. Do you agree that automation-compatible, flat-shape mail pieces have distinct cost-causing characteristics for Postal Service sorting operations from nonmachinable flatshape pieces? If you do not agree, please explain your position.

RESPONSE:

Yes.

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USPS/UPS-T1-19. Do you agree that automation-compatible flat-shape pieces may be sorted in the Postal Service's automation flat-shape mailstream at lower marginal cost than otherwise identical pieces processed in the manual flat-shape mailstream? If you do not agree, please explain your position.

RESPONSE:

Yes.

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USPS/UPS-T1-20. Please refer to Tables 21 and 22 in your testimony, UPS-T-1. Please provide the marginal time (workhours) per FHP implicit in each of the coefficients you report on $\log(\text{FHP}_{\text{IN}})$ and $\log(\text{FHP}_{\text{OUT}})$. Please show your calculations.

RESPONSE:

Not applicable. There are no coefficients reported in Table 21 or Table 22 for $\log(\text{FHP}_{\text{IN}})$ or $\log(\text{FHP}_{\text{OUT}})$.