DOCKET SECTION

BEFORE THE
POSTAL RATE COMMISSION

POSTAL RATE AND FEE CHANGES, 1997	DOCKET NO. R97-1

ANSWERS OF UNITED PARCEL SERVICE WITNESS KEVIN NEELS TO INTERROGATORY OF THE UNITED STATES POSTAL SERVICE (USPS/UPS-T1-46 THROUGH 48)

(February 26, 1998)

Pursuant to the Commission's Rules of Practice, United Parcel Service ("UPS") hereby serves and files the responses of UPS witness Kevin Neels to interrogatories USPS/UPS-T1-46 through 48 of the United States Postal Service.

Respectfully submitted,

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USPS/UPS-T1-46. Please refer to your response to USPS/UPS-T1-40 in which you state that the question "cannot be answered." Your answer states:

> The question assumes a cross-sectional dataset. Therefore, the question assumes T=1. As a result, this model cannot be estimated as specified because the number of parameters exceeds the sample size.

(a) Please confirm that you estimated a cross-sectional version of witness Bradley's model in which T=1. If you do not confirm, please provide the value for T in your cross-sectional version of witness Bradley's model.

(b) Please confirm that you estimated a cross-sectional version of witness Bradley's model by dropping the site specific effects and then estimating the model with one observation for each site. If you do not confirm, please provide the estimated values for the site-specific effects from your cross-sectional model.

(c) Please confirm that it is possible to estimate the model (and in particular the β coefficients) presented in USPS/UPS-T1-40 by dropping the facility-specific variables and estimating the model by Ordinary Least Squares with one observation for each site. If you do not confirm, please demonstrate mathematically why this estimation procedure cannot be performed.

(d) Please answer USPS/UPS-T-1-40 assuming the usual procedure of dropping the facility specific effects in estimating the cross-sectional version of the model presented therein.

Response to USPS/UPS-T1-46.

(a) Confirmed.

(b) Confirmed.

(c) Not Confirmed. Dropping the facility-specific constants and applying Ordinary Least Squares results in the estimation of a different model. Specifically, the suggested procedure implies a model of the form:

$$Y_{it} = \beta X_{it} + \varepsilon_{it} \qquad (1)$$

This model differs from the model presented in interrogatory USPS/UPS-T1-40 in that it omits the site-specific constants δ_i.

Estimation of the model presented in interrogatory USPS/UPS-T1-40 requires that the right hand side variables include the variable X as well as a zero/one dummy variable for each of the sites in the sample. Attempting to include these variables in a regression to be estimated using a cross-section of data for a single time period would create a situation in which the number of parameters to be estimated would exceed the total number of degrees of freedom in the data set. The cross-products matrix constructed from that set of right hand side variables would not be full rank, and could not be inverted.

The model shown in equation (1) above, which is NOT the model posed in interrogatory USPS/UPS-T1-40, could be estimated using Ordinary Least Squares.

(d) The "usual procedure" in estimating cross-sectional models is to assume that the facility-specific error terms have a zero mean and are uncorrelated with the independent variables (or in this case, variable) in the model. Under this "usual procedure," the probability limit of the Ordinary Least Squares estimator is simply β. If the assumption is unwarranted, dropping the facility-specific effects would yield a misspecified model. I do not agree that the "usual procedure" in such a case would be to estimate a misspecified model.

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USPS/UPS-T1-47. Please refer to your response to USPS/UPS-T1-43 in which you state that "Random factors not explicitly accounted for by the model could cause workhours at facility X to be higher or lower than those at facility Y."

(a) Please confirm that the first two words of your answer are "not confirmed."

(b) Please confirm that USPS/UPS-T1-43 asks "If you do not confirm, please explain the increase in hours predicted by your Table 1 results." (Emphasis added).

(c) Please provide the increase in hours predicted by your Table 1 results and explain that prediction.

(d) Please confirm that the question asked if "workhours in the manual labor sorting operations in facility X would be expected to exceed those initially seen in facility Y." (Emphasis added).

(e) Please confirm that when using an econometric equation to make predictions, the expected values of "random factors not explicitly accounted for by the model" are typically set to zero. If you do not confirm, please explain how those expected values could be calculated in this case.

(f) Using the standard econometric assumption that the expected values of the "random factors not explicitly accounted for by the model" are zero when using an econometric equation, please answer the question.

Response to USPS/UPS-T1-47.

(a) Confirmed.

(b) Confirmed.

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(c) As I stated in my original response to USPS/UPS-T1-43:

"...if facilities X and Y wound up with the same volume, they would wind up with the same workhours."

The values for the dependent variable predicted by the model for the two facilities depend on the values taken by the independent variables for those two facilities. If the independent variables for the two facilities take identical values (including identical TPH), the model will generate identical predictions for them.

(d) Confirmed.

(e) Confirmed.

(f) See response to (c) above.

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USPS/UPS-T1-48. Please refer to USPS/UPS-T1-44. It appears that you did not provide an answer to part b of the question. Please provide that answer.

Response to USPS/UPS-T1-48. In economic discussions the "long run" is generally defined as that period of time required for factor ratios to adjust fully to changes in relative prices. In the context of manual letter sorting, the relevant factors of production are labor and capital in the form of plant and equipment. Adjusting inputs of plant and equipment could potentially take a period of a year or more. The exact time period required would depend upon institutional factors, such as the speed with which the Postal Service recognized and responded to changes in the economic environment. I cannot provide an exact figure.

It is likely that labor inputs could be adjusted more quickly. The time period required to adjust fully to changed economic circumstances would again depend upon institutional factors, such as the speed with which the Postal Service can recruit, hire, and train workers. Very likely, it depends also on factors such as the direction of change (i.e., whether circumstances call for an increase or a decrease in labor inputs) and the magnitude of the required change. Once again, I cannot provide an exact figure, although almost certainly a period of months would be required to effect a change.

DECLARATION

I, Kevin Neels, hereby declare under penalty of perjury that the foregoing answers are true and correct to the best of my knowledge, information, and belief.

Kevin Neels

Dated: February 26, 1998

CERTIFICATE OF SERVICE

I hereby certify that I have this date served the foregoing document in accordance with section 12 of the Commission's Rules of Practice.

JEM 2/26/98

John E. McKeever

Dated: February 26, 1998
Philadelphia, PA