

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

Postal Rate and Fee Changes, 2006
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Docket No. R2006-
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**INTERROGATORIES OF THE GREETING CARD ASSOCIATION
TO POSTAL SERVICE WITNESS THOMAS E. THRESS (USPS-T7-10-16)**

(June 29, 2006)

Pursuant to Sections 25 and 26 of the Postal Rate Commission's rules of practice, Greeting Card Association hereby submits interrogatories. If necessary, please redirect any interrogatory to a more appropriate Postal Service witness.

Respectfully submitted,

/s/ James Horwood _____

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GCA/USPS-T7-10

For interrogatories 10-14, please refer to the following attachment, Table One, which is compiled from your econometric estimation results for the First-Class Single-Piece equation, and from your experimentation with the Internet variable(s), as reported in R2006-1, USPS, LR-L-65, pages 65-3 to 65-6 and 65-198 to 65-290. Column 1 shows the page number for each experiment; Column 2 shows the Internet variable(s) you included in the equation; Columns 3 and 4 show the estimated SP own price elasticity and the corresponding t-statistic; Columns 5 and 6 show the R-squared and adjusted R-squared for each run. Table-2 is similar to Table-1 but ranked by the elasticity from the largest negative value to the largest positive value.

- a. Please confirm that the information in these tables is correct. If you cannot confirm, please provide the correct information.
- b. Please confirm that own price elasticity for the First-Class Single-Piece mail ranges from +0.101 to -0.319. If you cannot confirm, please provide the correct numbers.
- c. Please confirm on grounds of textbook economic theory that model number 20 with the positive elasticity should be ignored. If you cannot confirm, please explain why.
- d. Please confirm that different Internet variable(s) or variations of those variables results in a different own price elasticity. If you cannot confirm, please explain why.
- e. Please confirm that based on levels of the R^2 , or the adjusted R^2 , practically speaking there is no material difference in statistical significance among these models. If you cannot confirm, please explain why and provide the appropriate tests.
- f. Please confirm that the differences among the R^2 in these models are so minimal that for forecasting purposes any one of these models could be used. If you cannot confirm, please explain why and provide the appropriate tests.

From the attached Table One, please refer to model #7 and your chosen model for the single piece demand equation, model #23. The own price elasticity for model #7 is -0.287 which is significantly higher than -0.184 for your chosen model. These two models seem to have, practically and statistically, the same R^2 values (0.986 for model #7 and 0.990 for model #23). With respect to the t-statistic, however, model #7 greatly outperforms your chosen model #23 (-3.194 vs. -2.354).

- a. Please confirm that with regard to the t-statistic for the elasticity coefficient, model #7 outperforms model #23, the final model you chose for R2006-1. If you cannot confirm, please explain why and provide the appropriate tests.
- b. Please explain fully why you did decide to choose model #23 over model #7, since it appears that the latter model has an essentially equivalent R^2 and a much higher t-statistic.

GCA/USPS-T7-12.

- a. Please confirm that none of the Internet variables that you have experimented with can capture the pure textbook substitution effect due to the declining relative price of the substitute product. If you cannot confirm, please explain why and provide the appropriate tests.
- b. Please confirm that none of the Internet variables you have experimented with reflects the price of the substitute product. If you cannot confirm, please explain why and provide the appropriate tests.

GCA/USPS-T7-13.

Please refer to model #1 which is similar to R2005-1 and model #7 which is similar to your R2005-1 model but includes the cumulative Broadband variable. Please confirm that the inclusion of the broadband variable almost doubles the FCLM single piece own price elasticity of demand.

GCA/USPS-T7-14.

Please refer to model #1 and model #6. Model #1 is similar to your R2005-1 model and model #6 is similar to model #1 but you have replaced the ISP_CUM with BROADBAND_CUM. However, model #6 has an elasticity over twice that for model #1 (-0.319 vs -0.154).

- a. Since broadband technology seems to have the most dramatic effect on mail volume, and since it is the most rapidly growing type of Internet service replacing dial-up, please confirm that you did the same experiment with the broadband variable in R2005-1, and if so why you did not choose a model like #6 in that case rather than a model like #1.
- b. Given the paramount importance of Broadband, why did you not choose a model like #6 for this case instead of the a model you did choose?
- c. Given the seriousness of the persistent fall in single piece FCLM in recent years due to competition from the Internet, wouldn't it be better to err on the side of having too high an own price elasticity than too low a figure?

**Table One
Econometric Choice Trail
First-Class Single-Piece Mail
Ranked by Elasticity**

Model Number	Page	Internet Variables	Elasticity	T-Statistic	R ²	Adjusted R ²
6	65-215	BROADBAND_LCOEF	-0.319	-2.247	0.987	0.981
5	65-210	CS_ISP_LCOEF BROADBAND_LCOEF	-0.292	-2.274	0.987	0.983
7	65-220	ISP_CUM_LCOEF BB_CUM_LCOEF	-0.287	-3.194	0.989	0.986
4	65-206	ISP_CUM_LCOEF ISP_CUM_LCOEF_T ISP_CUM_LCOEF_T2	-0.224	-2.794	0.992	0.989
16	65-258	CS_ISP_LCOEF BROADBAND_LCOEF	-0.209	-2.334	0.989	0.986
3	65-202	ISP_CUM_LCOEF ISP_CUM_LCOEF_T02	-0.196	-2.569	0.992	0.989
23	65-287	CS_ISP_LCOEF CS_ISP_LCOEF_T CS_ISP_LCOEF_T2	-0.184	-2.354	0.992	0.990
12	65-241	CS_ISP_LCOEF CS_ISP_LCOEF_T CS_ISP_LCOEF_T2	-0.183	-3.128	0.993	0.990
8	65-224	CS_ISP_LCOEF CS_ISP_LCOEF_T	-0.182	-2.338	0.992	0.990
11	65-236	CS_ISP_LCOEF CS_ISP_LCOEF_T CS_ISP_LCOEF_D2	-0.178	-3.083	0.993	0.990
13	65-246	ISP_CUM_LCOEF ISP_CUM_LCOEF_T	-0.177	-2.127	0.991	0.988
14	65-250	ISP_CUM_LCOEF ISP_CUM_LCOEF_T	-0.177	-2.331	0.992	0.989
10	65-232	CS_ISP_LCOEF CS_ISP_LCOEF_T	-0.154	-2.014	0.992	0.989
1	65-3	ISP_CUM_LCOEF	-0.154	-1.896	0.991	0.988
15	65-254	ISP_CUM_LCOEF ISP_CUM_LCOEF_T ISP_CUM_LCOEF_T2	-0.143	-1.789	0.992	0.990
9	65-228	CS_ISP_LCOEF CS_ISP_LCOEF_D	-0.130	-1.674	0.991	0.988
21	65-279	CS_ISP_LCOEF CS_ISP_LCOEF_T02	-0.129	-1.694	0.991	0.989
19	65-270	CS_ISP_LCOEF CS_ISP_LCOEF_T	-0.124	-1.405	0.990	0.987
2	65-198	ISP_CUM_LCOEF ISP_CUM_LCOEF_T	-0.123	-1.499	0.992	0.990
22	65-283	CS_ISP_LCOEF CS_ISP_LCOEF_T CS_ISP_LCOEF_D2	-0.101	-1.142	0.990	0.987
18	65-266	ISP_CUM_LCOEF BB_CUM_LCOEF	-0.100	-1.176	0.991	0.988
17	65-262	ISP_CUM_LCOEF BROADBAND_LCOEF	-0.095	-1.149	0.991	0.988
20	65-274	CS_ISP_LCOEF CS_ISP_LCOEF_D	0.019	0.163	0.987	0.983

Note: #1 is similar to R2005-1 and #23 is the final estimation for R2006-1.

Source: R2006-1, USPS witness Thress, LR-L-65, Pages 65-3 to 65-6 and 65-198 to 65-290.

Please refer to the following table compiled from R2005-1, USPS LR-K-64, pages 64-1 to 64-10 and LR-K-65, pages, 65-22 to 26, 65-57 to 61, and 65-62 to 65-65.

Model #	Page	Internet Variable	Elasticity	T-Statistic	R ²	Adjusted R ²
1	64-1	ISP_CUM	-0.1747	-2.1755	0.989	0.986
2	65-22	BROADBAND_CUM	-0.4162	-2.6315	0.983	0.976
3	65-57	COMPPAY	-0.3797	-2.8713	0.984	0.977
4	65-62	NACHA	-0.3269	-3.7625	0.987	0.983

As you have defined these variables on page 65-4, ISP_CUM is Internet experience, BROADBAND is the number of broadband subscribers, COMPPAY is the percentage of households which paid at least one bill via computer, and NACHA is automated clearing house transactions. Model #1 is the final model you chose in R2005-1.

- a. Please confirm that the information given in the above table is correct. If you cannot confirm, please provide the correct information.
- b. Please confirm that models 2-4 all have elasticity values several times larger than the model you decided to choose in R2005-1. If you cannot confirm, please explain why.
- c. Please confirm that models 2-4 also have larger t-statistic values than model #1, your chosen model for R2005-1. If you cannot confirm, please explain why.
- d. Please confirm that, as far as the t-statistic is concerned, any one of the models 2-4 is superior to model #1, your chosen model. If you cannot confirm, please explain why.
- e. Please confirm, that with respect to R², there is essentially no difference among the four models given in this table. If you cannot confirm, please explain why.
- f. Please confirm that, as far as the adjusted R² is concerned, there does not seem to be much of the difference among these models; more specifically, between your chosen model #1 and model #4. If you cannot confirm, please explain why.
- g. Please confirm that considering the t-statistic and R² or adjusted R², model #4 is superior to your chosen model #1. If you cannot confirm, please explain why.
- h. Please confirm that had you chosen model #4, with the NACHA as the Internet variable instead of model #1, with your ISP Internet experience variable, the elasticity would have been -0.3269 rather than -0.1747. If you cannot confirm, please explain why.
- i. Please confirm that had you chosen model #2, with the BROADBAND as the Internet variable instead of model #1, with your ISP Internet experience variable,

the elasticity would have been -0.41629 rather than -0.1747 . If you cannot confirm, please explain why.

GCA/USPS-T7-16.

Please refer to R2006-1, USPS LR-L-65, pages 65-3 to 65-6 and 65-198 to 65-290, specifically to the coefficient for the worksharing discount variable, D1_3WS.

- a. Please confirm that the estimated values of D1_3WS coefficient in all 23 model runs you have conducted for FCLM single piece mail are different. If confirmed, please fully explain why the estimated coefficient of D1_3WS variable differs across these 23 model runs. If you cannot confirm, please explain why.
- b. Please confirm that the coefficient of the D1_3WS variable is not directly estimated in any of the 23 FCLM single piece model runs, that instead it is a predetermined fixed value which is obtained from your worksharing equation and essentially converted to a negative sign and inserted into the FCLM single piece equation. If you cannot confirm, please explain why.
- c. If your answer to (b) is affirmative, please confirm that given the apparent fixed nature of the coefficient of the D1_3WS variable when estimating the FCLM single piece equation, this coefficient will not change. If you cannot confirm, please explain why. If this is a recursive process, please explain how it is conducted.
- d. For comparing these models shouldn't the value of this coefficient for the D1_3WS variable, be kept constant across these runs? Please fully explain.
- e. If you had kept the value of this coefficient for the D1_3WS variable, the same across these models, wouldn't it have a different effect on the estimated own price elasticity of FCLM single piece mail? Please fully explain.
- f. To be econometrically appropriate, should you not first finalize the worksharing model with an Internet variable assumption, and then experiment with the FCLM single piece equation? Please fully explain.