

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

POSTAL RATE AND FEE CHANGES
PURSUANT TO PUBLIC LAW 108-18

Docket No. R2005-1

RESPONSES OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF GCA (GCA/USPS-T7-1 - 11)
(May 26, 2005)

The United States Postal Service hereby provides the responses of witness Thress to the following interrogatory of GCA, filed on May 12, 2005: GCA/USPS-T7-1 - 11. Partial objections to GCA/USPS-T7-6 and 7 were filed on May 23, 2005.

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

Respectfully submitted,

UNITED STATES POSTAL SERVICE

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May 26, 2005

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

GCA/USPS-T7-1

Please refer to your testimony, USPS-T-7, p.22.

- a) In general in applied econometrics, do you agree that substituting one variable for another one may affect the estimated coefficients whether the variable is conceptually relevant or not, and even if it is highly significant statistically? If your answer is not an unequivocal "yes," please explain.
- b) Please confirm that in the current rate case you replaced the income variable you used in R2001-1, with an employment variable.
- c) Please confirm that employment variable is used as a proxy for economic activity.
- d) Please explain the economic rationale for the substitution noted in b) above, in light of the fact that in prior testimony (R2000-1, USPS-T7, starting at page 92) you spent considerable effort justifying the income variable, for example, with reference to the permanent income hypothesis.
- e) Please state why you did not use GDP (or Industrial Production) as a proxy for economic activity instead of employment.
- f) Please explain whether the inclusion of GDP (or Industrial Production) could have resulted in a different effect on the coefficients.

RESPONSE

- a) Yes.
- b) Confirmed.
- c) Confirmed.
- d) As explained in my testimony at page 22, line 21, through page 23, line 7,

Employment is an excellent measure of the overall level of business activity in the economy. In many cases, mail volume is not affected by the dollar value of economic transactions, so much as by the number of such transactions. For example, the number of credit card bills one receives does not necessarily go up as the total amount charged per card goes up. While variables like retail sales may be good measures of the total dollar amount of economic activity (e.g., the total amount charged per credit card), employment appears to be a better measure of the number of business transactions (e.g., number of credit card bills received).

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

Ultimately, the choice of which macroeconomic variables to use in the demand equations discussed here was largely an empirical decision. In those cases where employment is used as an economic variable in the Postal demand equations, its inclusion clearly improved the econometric fit for these equations.

e) First-Class letters are primarily consumer-driven, so my focus in modeling the relationship between the economy and First-Class Mail volume has tended to focus on consumer variables such as income, consumption, sales, and employment, as opposed to business variables such as GDP, investment, or industrial production. Econometric results using several possible economic variables in the single-piece First-Class letters equation are presented in Library Reference LR-K-65 in this case at pages 812 – 985.

I have experimented with Industrial Production as a possible explanatory variable in the past. My recollection is that Industrial Production did a relatively poor job of explaining the demand for First-Class Mail.

The general bases by which I decide which variables to include in my demand equations are described in Library Reference LR-K-65 at pages 2 - 3.

f) Yes. Replacing employment with GDP could be expected to affect not only the coefficient of GDP, but also the other coefficients in the single-piece First-Class letters equation. In my opinion, such coefficients would be less accurate than the coefficients to which I am testifying in this case.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

GCA/USPS-T7-2

Please refer to your testimony, USPS-T-7, Section III., starting at p. 254. Please confirm that you have tested for the normality assumption that is required for the t-tests you have given for the coefficients to hold. If confirmed please provide the tests. If not confirmed, please conduct the tests and provide them.

RESPONSE

Formal tests for normality have been periodically administered by me and others on Postal demand equations in the past. Such tests were not conducted for the specific equations presented in my testimony. The formal results of several normality tests for each of the twenty-seven demand equations presented in my testimony are presented on the next page.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

Results of Tests for Normality in the Residuals (AR-Corrected)

Null hypothesis: Residuals are Normally Distributed

Rejection of the null hypothesis at the 5% significant level is in bold)

	Jarque-Bera Test	Shapiro- Wilk	Shapiro- Francia
First-Class Letters			
Single-Piece	0.599	0.988	0.989
Workshared	0.446	0.982	0.985
First-Class Cards	0.416	0.994	0.995
Priority Mail	3.310	0.967	0.968
Express Mail	0.454	0.989	0.991
Mailgrams	120.143	0.878	0.866
Periodical Mail			
Within-County	14.091	0.955	0.952
Nonprofit & Classroom	3.646	0.984	0.981
Regular Rate	0.726	0.988	0.989
Standard Mail			
Regular Rate	2.703	0.973	0.977
Enhanced Carrier-Route	0.948	0.990	0.994
Bulk Nonprofit	0.045	0.990	0.990
Package Services			
Parcel Post			
Non-Destination-Entry	0.932	0.972	0.974
Destination-Entry	0.681	0.980	0.987
Bound Printed Matter	0.821	0.986	0.988
Media & Library Rate	0.680	0.984	0.987
Postal Penalty	0.143	0.996	0.995
Free-for-the-Blind	10.102	0.980	0.977
Special Services			
Registered	2.742	0.972	0.968
Insurance	34.040	0.967	0.963
Certified	35.695	0.965	0.959
COD	4.997	0.979	0.977
Money Orders	5.408	0.962	0.962
Return Receipts	0.405	0.954	0.957
Delivery Confirmation	1.540	0.947	0.951
Stamped Cards	0.100	0.979	0.978
Post Office Boxes	2.052	0.970	0.978

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

GCA/USPS-T7-3

Please refer to your testimony USPS-T-7, Section III., starting at p. 254.

- a) Please confirm that it is a required condition in your regression analysis that variables be stationary.
- b) Please confirm that if variables are non-stationary, the results may be spurious.
- c) Please confirm that if the regression result is spurious, the estimated coefficients may not be correct.
- d) Please confirm that you have conducted the appropriate tests for the stationary character of the variables. If confirmed, please provide those tests. If not confirmed, please conduct the tests and provide the tests results.
- e) Please confirm you have corrected for the non-stationary character of the data if present. If confirmed, please explain how you accomplished that. If not confirmed, then explain on what basis you conducted your regressions.

RESPONSE

- a) Not confirmed. The properties of Generalized Least Squares should be satisfied so long as some stationary linear relationship exists between variables. It is a sufficient condition, therefore, to have stationary dependent variables. The Generalized Least Squares assumptions may be satisfied even with non-stationary variables, however, so long as a stationary linear relationship exists between the dependent and independent variables using in the equation. In such a case, the true residuals in the regression specification should be stationary.
- b) Confirmed.
- c) Confirmed.
- d) Confirmed. I have performed stationarity tests on the data which I use in my demand analysis on several occasions in the past. Results of investigating the stationarity of mail volumes using a Dickey-Fuller test which were conducted in the fall of 2004 are presented below. A more comprehensive investigation of

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

possible stationarity and co-integration issues was conducted by my staff in
2002.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO INTERROGATORIES OF GCA

Dickey-Fuller Test of Unit Root (Volume variable only)

	Starting Date	Constant and Trend		Constant and no Trend		No Constant no Trend	
		t-Statistic	Test Critical Values	t-Statistic	Test Critical Values	t-Statistic	Test Critical Values
FIRST-CLASS MAIL							
First-Class Letters & Flats	1970:1	-8.7004	-3.4427	-5.0723	-2.8824	-1.6284	-1.9432 *
-- Single-Piece	1970:1	-9.8483	-3.4427	-4.3528	-2.8824	-4.2629	-1.9432
-- Workshared	1976:1	-5.5570	-3.4508	-6.6716	-2.8877	-7.2127	-1.9437
First-Class Cards	1970:1	-4.8732	-3.4427	-2.5708	-2.8824 *	-0.4168	-1.9432 *
-- Single-Piece	1970:1	-4.6343	-3.4427	-4.4955	-2.8824	0.2011	-1.9432 *
-- Workshared	1976:1	-9.3641	-3.4508	-3.6390	-2.8877	-1.4649	-1.9437 *
Priority Mail	1970:1	-3.1121	-3.4427 *	-1.3124	-2.8824 *	-0.8010	-1.9432 *
Express Mail	1977:1	-4.2688	-3.4512	-7.7846	-2.8879	-4.0479	-1.9438
Mailgrams	1974:4	-4.1088	-3.4480	-0.7004	-2.8859 *	0.9002	-1.9435 *
PERIODICAL MAIL							
Within County	1970:1	-3.3855	-3.4427 *	-0.9144	-2.8824 *	1.4071	-1.9432 *
Nonprofit	1970:1	-7.0748	-3.4427	-2.7774	-2.8824 *	0.3635	-1.9432 *
Classroom	1970:1	-7.9730	-3.4427	-6.9952	-2.8824	-0.1735	-1.9432 *
Classroom and Nonprofit	1970:1	-6.8543	-3.4427	-2.6355	-2.8824 *	0.3980	-1.9432 *
Regular Rate	1970:1	-6.0134	-3.4427	-3.3244	-2.8824	0.6131	-1.9432 *
STANDARD MAIL							
Regular Rate Bulk							
Regular	1970:1	-3.1386	-3.4427 *	-1.3964	-2.8824 *	-1.0240	-1.9432 *
-- Basic ECR Letters	1993:1	-4.2457	-3.5107	-1.8553	-2.9266 *	-0.8357	-1.9481 *
-- Basic ECR Nonletters	1993:1	-3.9919	-3.5107	-3.6527	-2.9266	-0.5430	-1.9481 *
Enhanced Carrier-Route	1979:2	-5.9155	-3.4549	-6.6924	-2.8903	-4.3511	-1.9440
High Density/Saturation Letters	1993:1	-2.9320	-3.5107 *	-2.5089	-2.9266 *	-0.4549	-1.9481 *
High Density/Saturation Nonletters	1993:1	-6.2134	-3.5107	-4.3347	-2.9266	-0.3698	-1.9481 *
Nonprofit Rate Bulk							
Nonprofit	1970:1	-8.5504	-3.4427	-6.3978	-2.8824	-0.5999	-1.9432 *
-- Basic ECR Letters	1993:1	-8.3013	-3.5107	-8.3914	-2.9266	-0.1453	-1.9481 *
-- Basic ECR Nonletters	1993:1	-5.4841	-3.5107	-4.2095	-2.9266	-0.0956	-1.9481 *
Nonprofit ECR	1980:3	-6.6764	-3.4573	-6.5317	-2.8919	-1.7707	-1.9442 *
High Density/Saturation Letters	1993:1	-4.7210	-3.5107	-3.5663	-2.9266	-0.9662	-1.9481 *
High Density/Saturation Nonletters	1993:1	-3.8398	-3.5107	-1.7962	-2.9266 *	-0.4224	-1.9481 *
PACKAGE SERVICES							
Parcel Post							
Non-Destination Entry	1970:1	-4.0578	-3.4427	-3.9722	-2.8824	0.0013	-1.9432 *
Destination Entry	1970:1	-7.1372	-3.4427	-2.9272	-2.8824	0.3877	-1.9432 *
Bound Printed Matter	1991:2	-3.9801	-3.4970	-4.4542	-2.9177	-2.1577	-1.9471
Media Mail	1970:1	-14.0523	-3.4427	-5.7088	-2.8824	-0.8554	-1.9432 *
Library Rate	1970:1	-4.4472	-3.4427	-2.2023	-2.8824 *	0.4633	-1.9432 *
Media Mail and Library Rate	1970:1	-5.6592	-3.4427	-3.4052	-2.8824	0.0998	-1.9432 *
Postal Penalty	1970:1	-6.3774	-3.4427	-2.3755	-2.8824 *	0.4023	-1.9432 *
Postal Penalty	1988:1	-6.2140	-3.4794	-4.0298	-2.9062	-0.0206	-1.9458 *
Free-for-the-Blind	1970:1	-10.4610	-3.4427	-6.6492	-2.8824	-0.5139	-1.9432 *
Registered Mail	1970:1	-3.4053	-3.4427 *	-0.0482	-2.8824 *	1.7457	-1.9432 *
Insurance	1970:1	-5.8137	-3.4427	-4.0626	-2.8824	0.1121	-1.9432 *
Certificated Mail	1970:1	-6.1692	-3.4427	-2.2587	-2.8824 *	-0.9805	-1.9432 *
COD	1970:1	-3.7933	-3.4427	-0.2569	-2.8824 *	1.8375	-1.9432 *
Return Receipts	1970:1	-4.6968	-3.4427	-4.6965	-2.8824	-0.1878	-1.9432 *
Money Orders	1970:1	-2.1205	-3.4427 *	-2.2071	-2.8824 *	0.7204	-1.9432 *
Delivery and Signature Confirmation	1999:2	-8.3619	-3.6450	-6.6799	-3.0124	-3.2418	-1.9581
Post-Office Boxes	1993:1	-3.9806	-3.5107	-3.1235	-2.9266	0.1902	-1.9481 *
Stamped Cards	1970:1	-3.5371	-3.4427	-2.4179	-2.8824 *	0.6065	-1.9432 *
Stamped Envelopes	1993:1	-4.0725	-3.5107	-4.0488	-2.9266	-0.0034	-1.9481 *

(*) Unit root hypothesis is not rejected at 5%

Asymptotic critical values for unit root test by Davison and MacKinnon:

%5 critical value	
t_ct	-3.4100
t_c	-2.8600
t_nc	-1.9400

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

e) The results of the reports cited in my response to d above suggested that stationarity did not appear to be a particular concern in the analysis of mail volume demand equations. In addition, Dickey-Fuller tests on the residuals from my regressions indicate the presence of no unit roots. Hence, to the extent some of the dependent variables may appear non-stationary, there appears to nevertheless exist a non-stationary linear relationship between the dependent and independent variables in every case here.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

GCA/USPS-T7-4

Please refer to your testimony, USPS-T-7, Section III, starting at p. 254.

- a) Please confirm that one requirement for using regression is the absence of heteroscedasticity.
- b) Please confirm that the presence of heteroscedasticity would affect the coefficients and the test results.
- c) Please confirm that you have conducted the appropriate tests for heteroscedasticity. If confirmed, please provide the tests results. If not confirmed, please conduct the tests and provide them.
- d) In your opinion, have the estimated coefficients you have provided in your testimony been stable over the whole period of 1983-2004? State the full basis for your opinion if you confirm, or if you do not confirm, including current or prior tests done.

RESPONSE

- a) Confirmed.
- b) A failure to correct for the presence of heteroscedasticity may lead to inefficient coefficient estimates and may invalidate the statistical properties of the sample variance. In general, however, coefficient estimates will still be unbiased even in the presence of heteroscedasticity.
- c) Heteroscedasticity tends to be more of a problem when using cross-sectional data than when using time series data. Because my demand equations are built using time series data, heteroscedasticity is less likely to be problematic than autocorrelation, for example. Hence, I do not conduct tests for the presence of heteroscedasticity on a regular basis. I have, however, conducted such tests in the past, and, at your request, have done so for the demand equations presented in my testimony. The results of using a Breusch-Pagan test to test for heteroscedasticity are presented on the next page.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

Results of Breusch-Pagan Test for Heteroscedasticity

Resids = a + b*Trend

90% Significance Level = 2.706

(significant results in bold)

First-Class Letters	
Single-Piece	0.010
Workshared	0.003
First-Class Cards	0.018
Priority Mail	0.010
Express Mail	0.005
Mailgrams	1.945
Periodical Mail	
Within-County	0.146
Nonprofit & Classroom	0.143
Regular Rate	0.031
Standard Mail	
Regular Rate	0.005
Enhanced Carrier-Route	0.009
Bulk Nonprofit	0.007
Package Services	
Parcel Post	
Non-Destination-Entry	0.015
Destination-Entry	0.003
Bound Printed Matter	0.140
Media & Library Rate	0.123
Postal Penalty	0.427
Free-for-the-Blind	4.861
Special Services	
Registered	0.118
Insurance	0.292
Certified	0.328
COD	0.648
Money Orders	0.010
Return Receipts	0.012
Delivery Confirmation	0.058
Stamped Cards	0.282
Post Office Boxes	0.015

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

d) Yes. I undertook a project last fall which estimated each demand equation over a series of sample periods, each of which started at the same time, but which ended at various times through the end of the full sample period. Comparing the elasticity estimates across these sample periods can be helpful in identifying possible changes in elasticities over time. This exercise led, for example, to the decision to allow the elasticity with respect to employment in the single-piece First-Class letters equation to decline over time.

Summary results for single-piece and workshared First-Class letters estimated over various sample periods which parallel this project using the R2005-1 demand equation specifications are presented in my response to ABA&NAPM/USPS-T7-2.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

GCA/USPS-T7-5

- a) Please confirm that during the period of 1983-2004, there have been certain structural changes. If confirmed, please explain how you have accounted for all these changes.
- b) Please explain whether and how the structural changes can affect the coefficients (in other words the elasticities you have calculated).

RESPONSE

a - b) Confirmed to the extent that I understand your use of the term “structural changes.” Certainly, many things have occurred since 1983 which have affected mail volume.

In some cases, these things are simply included as explanatory variables in the demand equation. For example, the effect of the seven changes to the nominal price charged for a one-ounce First-Class single-piece letter is simply modeled in the single-piece letters equation by including the real price of single-piece First-Class letters.

In other cases, where the relationship between mail volume and a particular factor appear to have changed over time, the changing nature of this relationship may be explicitly modeled. Examples of this include the negative time trend in the estimated employment elasticity in the single-piece First-Class letters equation and the changes to the own- and cross-price elasticities with respect to Priority Mail associated with the expansion of FedEx Ground.

Changes which led to level shifts in mail volume but did not appear to otherwise affect the underlying relationship between mail volume and other explanatory variables are modeled through the inclusion of simply dummy variables. Examples of this include dummy variables for classification reform (MC95-1) in the First-Class letters equations.

Finally, when there is evidence of significant changes in the underlying structure of the demand for a Postal product, the sample period over which elasticities are estimated may be truncated, if possible, to remove older data which may reflect an older, less-relevant relationship. Hence, for example, the single-piece First-Class letters equation is estimated starting in 1983Q1, because

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

the demand for single-piece First-Class letters in the years just preceding this was driven in large measure by shifts from single-piece to workshared First-Class letters. The workshared First-Class letters equation in this case is estimated over a sample period which begins in 1991Q1 because the factors which drove the significant growth in workshared First-Class letters volume throughout the 1980s do not appear to have affected workshared letters volume in the same way during the 1990s and 2000s.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

GCA/USPS-T7-6

- a) Would you agree that many changes have occurred since 1995 which have affected FCLM? If your answer is not an unequivocal "yes," please explain.
- b) If many changes have occurred since 1995 that affect FCLM, please confirm that there must have been relatively more structural changes since 1995 than prior to 1995.
- c) Please state how you tested for such structural breaks. If you conducted these tests, please provide the results of those tests. If you have not conducted those tests, please conduct the appropriate tests and provide them. Specifically, please divide the sample data for FCLM into 1983Q1-1994Q4 and 1995Q1-2004Q4 and run your regressions for these two periods and provide the results, including estimated elasticities.
- d) After running the regression for the above two periods please examine and discuss the coefficients' stability.

RESPONSE

- a) Please see my response to GCA/USPS-T7-5 above.
- b) Not confirmed.
- c) Please see my responses to GCA/USPS-T7-4(d) and GCA/USPS-T7-5 above. One formal way to test the stability of the coefficient estimates in a time-series equation is to use "Chow's predictive test" to compare the residuals over different sample periods. See, for example, Elements of Econometrics, second edition, by Jan Kmenta, page 576.

This test involves dividing the sample period into a series of mutually exclusive groups and comparing the sum of squared errors across groups. For example, for single-piece First-Class letters, consider the two groups 1983Q1 – 1994Q4, and 1995Q1 – 2005Q1. If the sum of squared residuals from 1983Q1 – 1994Q4 is called s_1 and the sum of squared residuals from 1995Q1 – 2005Q1 is called s_2 , then the test statistic would be defined as follows:

$$\text{Test Statistic} = [(s_2 - s_1) / 41] / [s_1 / (48 - 23)] = 0.117848$$

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

where 41 is the number of observations from 1995Q1 – 2005Q1, 48 is the number of observations from 1983Q1 – 1994Q4, and 23 is the number of explanatory variables (less restrictions) included in the single-piece First-Class letters demand equation presented in my testimony.

In this case, a test statistic in excess of 0.997 would be needed to reject the null hypothesis that the coefficients are equivalent before and after 1995 at even a 50 percent confidence level. Obviously, these results are overwhelmingly supportive of the notion that my coefficient estimates are not significantly different before and after 1995.

d) Based on my response to part c above, it seems apparent that my coefficient estimates are sufficiently stable.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

GCA/USPS-T7-7

- a) Please confirm that, in order to preserve the power of the model, for example in the case of First Class single piece letter mail, one should include a variable which is the multiplication of a dummy variable representing post and pre-1995 by the SP price.
- b) Please confirm that the sum of resulting coefficient of this cross-multiplication variable and the coefficient of SP price, would be the SP own price elasticity for the period 1995-2004.
- c) Please conduct the above regression and provide the results.

RESPONSE

- a) Not confirmed.
- b) Confirmed.
- c) Objection filed.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

GCA/USPS-T7-8

Please refer to your testimony, USPS-T-7, p. 57.

- a) Please explain the economic rationale for including a variable which is the cross multiplication of the employment variable and the time trend.
- b) Please explain whether the time trend variable included in this form in the regression model reflects the technological and other changes that may not have been captured by the other variables.
- c) Please confirm that the inclusion of this variable, whether it is economically relevant or not, can affect the size of other coefficients and/or their sign, as well as other test results.

RESPONSE

- a) As I explained in my testimony in this case, at page 55, lines 7 – 10:

The relationship between the economy and single-piece letters volume has lessened over time. This is reflected here in the fact that the elasticity of single-piece letters volume with respect to employment has declined over time.

Mathematically, single-piece First-Class letters volume is modeled as being affected by employment as follows:

$$\text{Volume} = a \cdot (\text{Employment})^{(e_0 - e_1 \cdot \text{Trend})} \cdot \dots$$

Converting to log-log form, then, the natural logarithm of volume would relate to employment as follows:

$$\text{Ln}(\text{Volume}) = \text{Ln}(a) + e_0 \cdot \text{Ln}(\text{Employment}) - e_1 \cdot [\text{Trend} \cdot \text{Ln}(\text{Employment})] + \dots$$

- b) This variable is intended to reflect the declining relationship between the economy (as modeled through employment) and single-piece First-Class letters volume. The reasons for this declining relationship likely include technological changes that make the use of First-Class letter mail less vital for economic transactions.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

c) Confirmed.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

GCA/USPS-T7-9

Please refer to your testimony, USPS-T-7, p. 254.

- a) Please confirm that you have used a log-log form model (in other words, a constant elasticity of substitution (CES) model) in estimating the elasticities.
- b) Please confirm that one does not necessarily have to use a CES functional form to estimate elasticities.
- c) Please confirm that you could have used a linear regression or other variable elasticity of substitution demand function to estimate the coefficients and then calculated different values of price and quantity to calculate point elasticities. Please confirm that this would provide you with a time series of elasticities that reflect changing structural conditions.

RESPONSE

- a) Confirmed
- b) Confirmed
- c) Confirmed that I could have used a linear regression. I can further confirm that a linear regression specification would have resulted in elasticity estimates which varied as prices and volumes changed. Your last sentence, however, does not seem to me to be correct. While it would be true that these elasticities would change as volumes and prices changed, they would do so in a purely mechanical way which would be driven entirely by the *a priori* assumptions of the modeler in selecting the model.

Had I simply modeled First-Class letters volume as a linear function of First-Class letters price, the First-Class letters price elasticity would, in fact, be a function of the price and volume of First-Class letters, but the relationship between these variables would still be assumed to remain constant throughout the sample period of estimation.

This is no different from the constant-elasticity case used in my testimony. Deviations from the constant-elasticity assumption can be made on a case-by-case basis, as I did, for example, in the cases of the employment elasticity with

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

respect to single-piece First-Class letters and the own- and cross-price elasticities associated with Priority Mail.

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INTERROGATORIES OF GCA

GCA/USPS-T7-10

Please refer to your testimony, USPS-T-7, p. 29.

- a) Please confirm that the ISP-Experience variable you constructed was on an ad-hoc basis.
- b) Please confirm that a different construct would have given different results and that the choice of this construct was made on the basis of whether it was generating a stronger statistical relationship with the quantity demanded.

RESPONSE

a) Not confirmed. The ISP Experience variable was constructed on the basis of a very specific theoretical and mathematical foundation as a measure of the total on-line experience of the Internet population of the United States. The basis upon which I constructed this variable is described in detail in my testimony in this case at pages 26 – 29.

b) Confirmed that a different construct would have given inferior results. As explained in my testimony, the Internet Experience variable was constructed to measure the total amount of Internet experience of the on-line population. Once this variable was constructed, it was then tested as a candidate explanatory variable in the First-Class Mail demand equations against other Internet variables. Comparisons of econometric results using alternate Internet measures in the single-piece First-Class letters equation are described in Library Reference LR-K-65 at pages 4 – 66.

RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

GCA/USPS-T7-11

Please refer to your testimony, USPS-T-7, especially Section II. B., **and** the table showing the history of rate case own price elasticities for FCLM attached as a separate page and designated Exhibit A.

- a) On average over the history of those rate case elasticity calculations for FCLM, please explain why the higher postal rates have become, the more price inelastic the rate case CES demand curve has become?
- b) Do you agree that there is persuasive empirical evidence of (i) increasing use of the Internet as a competitive substitute for FCLM and (ii) increasing use of electronic payments as a competitive substitute for postal services? If your answer is not an unqualified "yes," please explain how you would reconcile the history of increasingly inelastic rate case CES demand curves with such empirical evidence.

How do you reconcile this history of increasingly inelastic rate case CES demand curves with the statement made at recent Senate committee hearings by PMG Potter to the contrary, viz. "Electronic diversion continues to erode First-Class Mail volume, this product will become more price-sensitive than ever. Higher rates will likely increase the pace of change, accelerating the volume decline, resulting in falling revenue...."

RESPONSE

a) I see no evidence in Exhibit A that your statement that "the higher postal rates have become, the more price inelastic the ... demand curve has become" is true.

The price elasticities presented by me in this and earlier rate cases (as well as those presented by Dr. George Tolley prior to R97-1) were estimated using real Postal prices. The real price of single-piece First-Class letters, as used by me in this case, has declined from 44.01 cents in 1983Q1 (expressed in 2000 dollars) to 41.74 cents in 2005Q1 (again expressed in 2000 dollars).

Further, my current First-Class letters demand equations are estimated using sample periods which begin in 1983Q1 (single-piece) and 1991Q1 (workshared). Looking at your Exhibit A and removing those rate changes which took place prior to 1983Q1 (R80-1 and earlier), about which I have never provided any testimony regarding price elasticity, there appears to me to be no

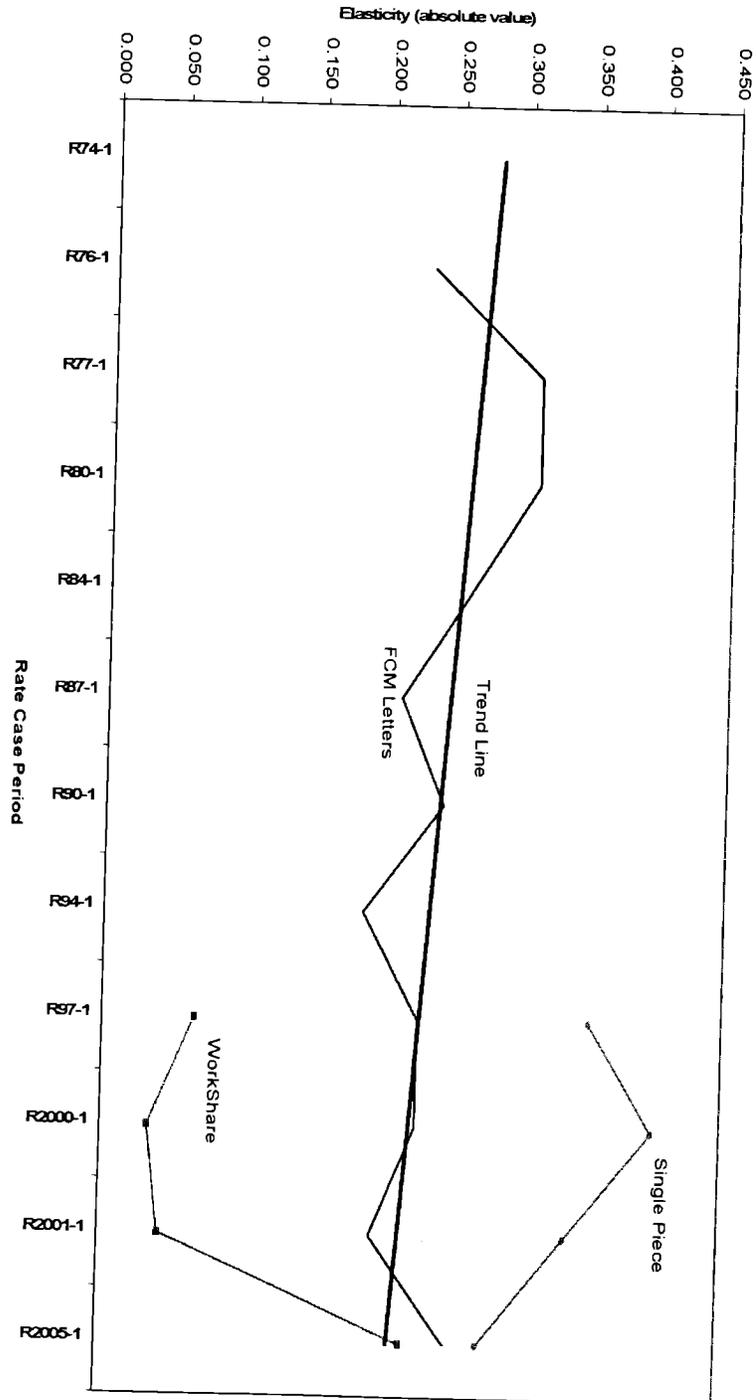
RESPONSE OF POSTAL SERVICE WITNESS THRESS TO
INTERROGATORIES OF GCA

evidence of any discernible trend in the estimated own-price elasticity of First-Class letters presented in Postal Service rate cases.

b) Yes.

With respect to the issue of reconciling “this history of increasingly inelastic rate case CES demand curves with the statement made at recent Senate committee hearings by PMG Potter to the contrary”, I would direct you to my responses to GCA/USPS-T7-11(a) and ABA&NAPM/USPS-T7-2 and to Maura Robinson’s response to GCA/USPS-T1-1.

Figure 6. - Postal Rate Case Own Price Elasticity of Demand Single Piece, Work Share, & Total First Class Mail Letters



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.

Eric P. Koetting

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May 26, 2005