

Before the  
POSTAL REGULATORY COMMISSION  
Washington, DC 20268-0001

Rate Adjustment Due to :  
Extraordinary or Exceptional : Docket R2013-11  
Circumstances :

MOTION OF THE GREETING CARD ASSOCIATION  
FOR ISSUANCE OF AN INFORMATION REQUEST

The Greeting Card Association (GCA), pursuant to Rules 3001.21(a) and 3007.3(c), hereby moves for issuance of an Information Request concerning, for the most part, various aspects of the Postal Service's econometric studies in this Docket.

The Postal Service documents relevant to the questions proposed in this Motion are Mr. Thress's "Further Statement", Mr. Nickerson's "Statement", the public Library References USPS-R2010-4R/9 and R2010-4R/10, the Postal Service's document, filed July 1, 2013, entitled "Narrative Explanation of Econometric Demand Equations for Market Dominant Products Filed with Postal Regulatory Commission on January 22, 2013", and the 2012 annual narrative filed January 20, 2012, "Econometric Demand Equations for Market Dominant Products as of January, 2012".<sup>1</sup> GCA believes that an Information Request incorporating the suggested questions below will usefully clarify the Postal Service's estimates of volume and contribution lost on account of the recession, and particularly the novel aspects of those estimates, including filtered macroeconomic data, Intervention Analysis, the substitution of trends in place of any explicit Internet variable(s), and, in the case of Single-Piece First-Class

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<sup>1</sup> We give the document numbers as they appeared in the Postal Service's Request, before this proceeding was re-captioned as R2013-11. The July 1 filing, which in the Suggested Questions, below, is cited as "July 1 Narrative," is referred to in Thress, "Further Statement", Technical Appendix II, page II-1, para. 1.

volumes, the substitution of letters and cards volume data in place of letters, flats and parcels in the calculation of own-price elasticities. The magnitude of the estimated losses and the analysis and reasoning underlying the ascription of those losses to the claimed exigency are significant issues for comment by participants and decision by the Commission. Some of our suggested questions address aspects of the estimates for Single-Piece First-Class Letters, but many are relevant to other mail products or to the whole spectrum of market-dominant products for which price increases are proposed in this Docket. There is only one question at this time for witness Nickerson.

### SUGGESTED QUESTIONS

1. This question refers to the Postal Service's library reference USPS-R2010-4R-9, filed on September 26, 2013:
  - a. Please provide the stationarity tests of the variables used in the Single-Piece First-Class letters and cards estimation which are given in the Eviews data set.
  - b. Please state and explain which variables are stationary or non-stationary at the 5% and 10% significance level.
  - c. In case the test found non-stationary variables, please state and explain in detail how the non-stationary variables were treated in the estimation.
  - d. Please state and explain what type(s) of stationarity tests were conducted and whether other types of tests would have given different results.
  
2. This question also refers to library reference USPS-R2010-4R-9:
  - a. Please refer to the R-squared values of the estimation for Single-Piece First-Class letters and cards. Please confirm that it is almost 100% (0.9982).
  - b. Please state and explain whether such a high R-squared could be due to non-stationary variables in the model.

3. This question also refers to library reference USPS-R2010-4R-9:
- a. Please provide the correlation and partial correlation matrix for the variables used in the Single-Piece First-Class letters and cards estimation.
  - b. Please provide the multi-collinearity tests which were conducted. Was any multi-collinearity among the variables found? And if so, how were they treated?
  - c. Please state whether such a high R-squared (0.9982) could be due to multi-collinearity among certain variables and explain the reasons for the answer.

4. This question also refers to library reference USPS-R2010-4R-9:
- a. Please state and explain whether any non-positivity constraint was imposed on the own price elasticity.
  - b. Please state whether without imposing the non-positivity condition, the estimated own price elasticity becomes positive, and, if so, please provide the value of this positive own price elasticity.
  - c. If part a. above was answered in the affirmative, please explain fully whether this imposition of a non-positivity condition might econometrically push the estimated elasticity toward or close to zero.
  - d. Please explain in detail whether the reason for a positive own price elasticity without any condition could be due to missing variable(s) (such as e-substitution variables).

5. This question also refers to library reference USPS-R2010-4R-9:
- a. Please explain the reason(s) for choosing to estimate the combined elasticity of Single-Piece First-Class letters and cards.
  - b. Please provide the estimated model for Single-Piece First-Class Letters.

6. This question also refers to library reference USPS-R2010-4R-9:

Please confirm that the slope of the three linear diversion trends for Single-Piece First-Class Letter Mail, correcting for other factors, are as follows: first trend - 0.009895, second trend -0.001067; third trend -0.01275. If this is not confirmed, please state what those trends are and in what folders and files and cells they appear in library reference USPS-R2010-4R-9.

7. This question refers to the July 1 Narrative:

- a. The starting date of the last trend in workshared First-Class Letter Mail is 2008Q3. However, in Mr. Thress's statement in Docket R2013-11, p. II-6, this trend is described as having started in 2008Q1. What factor(s) explain the difference?
- b. For workshared First-Class Letters the July 1 Narrative states that the second trend started in 2002Q2 whereas in Mr. Thress's statement in Docket R2013-11, it starts in 2002Q4. What factor(s) explain the difference?
- c. For other mail categories, please state whether there are shifts in the starting dates of new trends, as between the July 1 Narrative and Mr. Thress's "Further Statement." If there are, please identify them and provide reasons in the same manner as for the previous parts.

8. This question refers to Technical Appendix II of Mr. Thress's "Further Statement," at p. 10:

The Technical Appendix explains the inclusion of a dummy variable "to account for significant unexplained declines in Standard Regular mail volume in FY 2012." Please state whether such declines could reflect the improved ability of advertisers to use the Internet effectively?

9. This question refers to the July 1 Narrative, at pp. 9-13.

The Narrative explains that “Intervention Analysis” as the term is used on page 9 includes “trends.”

- a, Are the linear time trends for Internet diversion considered to be an Intervention Analysis?
- b. If so, was this linear trend a result derived from using a transfer function for Single-Piece First-Class Letter Mail and other products which allows for all types of outcomes?
- c. If so, why are they distinguished in a separate section of the Narrative as trends instead of Intervention in the Narrative? If not, what is the difference between trends and Intervention Analysis?

10. This question refers to Thress “Further Statement”, Technical Appendix II, at p. II-5:

The "Further Statement" there explains that the analysis only used the cyclical component of the employment variable in the workshared demand equation because the trend component of the employment variable “was not found to have a statistically significant impact on First- Class workshared mail volume.” On page 2 of Technical Appendix II it is stated that the analysis only used the trend component of the employment variable in the Single-Piece demand equation, but there is no explanation of why it did not use the cyclical component. Please provide an explanation.

11. This question refers to the July 1 Narrative, at p. 11:

The Narrative states there that Intervention Analysis “is used to model unique aspects of the ‘Great Recession’ on several classes of mail, most significantly, Standard Mail.” Where else in the demand equations is Intervention Analysis used to model unique aspects of the “Great Recession” and what, in each case, are these unique aspects? Please be specific in each case.

12. This question refers to the July 1 Narrative, at p. 4:

On page 4 of the July 1 Narrative the statement is made that “[i]n all cases, the overriding goal of the Postal Service’s econometric work is to produce the most accurate volume forecasts possible.”

- a. To what degree is an accurate own-price elasticity of demand necessary to produce the most accurate forecasts possible?
- b. To what degree does the analysis described in the July 1 Narrative use any forward looking data or input (as opposed to historical data or input) to produce volume forecasts other than that provided by Global Insight?
- c. Does the analysis employ any Bayesian statistical techniques to produce volume forecasts? If not, why not?
- d. Are the demand equations described in the July 1 Narrative constrained to have non-positive own price elasticities?

13. This question refers to the July 1 Narrative, at p. 5:

The Narrative asserts that it is better to account for cross price elasticities with (essentially) non-price approaches such as “either simple dummy variables or non-linear intervention analysis.” Please state for each demand equation where the analysis substitutes such a non-price variable for a cross price variable and how if at all that sharpens the own-price elasticity in that demand equation as well as, or better than, a cross price variable would.

14. This question refers to the July 1 Narrative, at p. 8:

The Narrative states that the recent recession “had a larger than expected negative impact on many categories of mail volume.” Please list in order of importance each category of mail volume that falls into this category and the volume affected.

15. Please confirm that both the Trend and Intervention Analysis approaches to Internet diversion presented in this case and in the econometric demand models submitted January 22, 2013 do not capture the price impact of Internet diversion, but only the non-price and price impact of diversion combined. If not confirmed, please explain how the price impact of Internet diversion is captured by either or both of these approaches.

16. This question refers to library reference USPS-R2010-4R-9, filed on September 26, 2013:

a. Please explain the decision to estimate the combined elasticity of Single-Piece letters and Cards in place of the traditional use of a letters-flats-and parcels measure for Single-Piece First-Class Letter Mail.

b. Please provide the estimated model for the First-Class Single-Piece letters (LFP), including the own-price elasticity.

c. Please confirm that the traditional own-price elasticity measure for single-piece is higher than the measure of letters and cards now being used.

17. This question refers to the July 1 Narrative, at p. 15:

a. Please provide the slopes of the “three linear trend lines, which start in 1993Q4, 2002Q4, and 2007Q4” that were used to estimate mail volume diversion in your Single-Piece demand equation(s), correcting for other factors.

b. Please provide the three slopes without the use of the “filtered macroeconomic data” technique described on pages 7-8 of the Narrative.

c. Please provide the three slopes for the three linear diversion trends noted in part a. of this question in the two Single-Piece demand equation equations inferred from the discussion of filtered macro data on pages 7-8 of the Narrative, one focused on the trend component of the macroeconomic variables in that equation,  $T_t$ , the other focused on the cyclical component,  $C_t$ .

18. This question also refers to the July 1 Narrative, at p. 15:

The Narrative there states that the first diversion rate trend leads to an average annual loss of -3.8% in Single-Piece First-Class Letter Mail volume, the second diversion trend a loss of -4.7%, and the third diversion trend a loss of -9.7%.

- a. Is this a loss in First-Class Single-Piece letters and cards or Single-Piece LFP?
- b. To what degree is each of these percentages affected by use of “filtered macroeconomic data” as described on pages 7-8 of the July 1, 2013, Narrative?

19. This question references the economic demand work that flows from the July 1 Narrative, specifically the description of using macroeconomic filters:

- a. For the Single-Piece demand equation work, and the workshared demand equation work in First-Class Letter Mail, please provide the demand equation using just the trend component of the macro variables,  $T_t$ , and state at what level the employment variable is throughout the time series data by quarter.
- b. For the single piece demand equation work and the workshared demand equation work in FCLM, please provide the demand equation using just the cyclical component,  $C_t$ , of the macro variables, and state what level the employment variable is throughout the time series data by quarter.

20. This question refers to the July 1 Narrative:

In the Narrative, it is stated on page 4 that “In all cases, the overriding goal of all of the Postal Service’s econometric work is to produce the most accurate volume forecasts possible.”

- a. Please explain how this goal impacts the choice of lag variables in any given year in the demand equations, especially those for Single-Piece First-Class Letter Mail and workshared First-Class Letter Mail.
- b. Given the fact that changes were made in which lags (1, 2, 3, or 4) were used in any given year, please explain in detail the reason(s) for expecting consumer behavior, and, separately, business behavior, to react so differently in one model year, but not the next model year?

21. This question refers to the July 1 Narrative:

- a. Are the trend lines for diversion for Single-Piece First-class Letter Mail estimated using the “transfer function” noted in the discussion of Intervention Analysis on pages 7-8 of the July 1 Narrative?
- b. If yes, please provide the computer output which shows that for Single-Piece, it reverts to a linear trend, not a step function, pulse function or non-linear trend. If no, please explain the reason(s) for not using the transfer function and Intervention Analysis for Single-Piece First-Class Letter Mail?

22. This question refers to the July 1 Narrative, at p. 12:

The July 1 Narrative there states that “it is not sufficient to merely plug linear time trends into all of one’s econometric equations and project these trends to continue unabated throughout the forecast period.” Rather, “it is important to evaluate every demand equation individually and determine the appropriate trend specification for each equation, if any.”

- a. Please explain in detail how this was done for the Single-Piece First-Class Letter Mail demand equation(s), and for workshared First-Class Letter Mail equation(s).
- b. For demand equations where there are multiple trends, for example the three Internet trends in the Single-Piece First-Class Letter Mail equation (and the

trends in the workshared First-Class Letter Mail equation), please state the reason(s) for including the data past the end of the first Single-Piece trend in the estimation of that trend, and for including the data past the end of the second Single-Piece trend in the estimation of that trend, since the data used in the estimation of the third and final trend to date by definition can only be for the length of that trend to date?

23. This question refers to the July 1 Narrative:

Why do the starting dates for the three trends in diversion of Single-Piece First-Class Letter Mail in the January 22, 2013 demand equations all begin in the fourth quarter of a year, whereas for other products such as workshared First-Class Letter Mail they do not?

24. This question refers to the July 1 Narrative, at p. 16:

Beyond simply adding more data for the estimates of the Single-Piece and workshared First-Class Letter Mail demand equations, why for each trend line estimated are they “projected to continue forward at the same rate” until the end of the historical time series?

25. This question references witness Thress’ statement on page 4 of the July 1 Narrative that the sole purpose of his econometric demand modeling is to get the best forecasts possible.

Please refer to the table below in answering the following questions.

a. Please confirm that the volume forecast for First-Class letters, flats and parcels was less accurate in the demand equation model in R2010-4 over the

period 2010:2 through 2010:4 than it was in the demand equation model in R2006-1.

b. Please confirm that the forecast in R2010-4, only one year out for 2011, was hundreds of millions in error in each quarter compared to the forecast made at the start of 2011 and filed at the Commission on January 20, 2011.

c. Please confirm that in each of the two foregoing cases the deviations were in the direction of overestimating volumes.

d. Please confirm that the volume forecast for 2012 filed at the Commission on January 20, 2012 was (i) off by hundreds of millions of pieces, and (ii) in the direction of underestimating volumes in each quarter...

e. If any of the above are not confirmed, please explain fully.

Actual vs Forecast Volumes of FCM SP Letters, Flats, and Parcels						
Time	Actual SP Letters, Flats, & Parcels Volume	Forecast SP Letters, Flats, & Parcels Volume R2005-1	Forecast SP Letters Flats, & Parcels Volume R2006-1	Forecast SP Letters, Flats, & Parcels Volume R2010-4	Forecast SP Letters, Flats, & Parcels Volume 1-20-2011	Forecast SP Letters, Flats, & Parcels Volume 1-20-2012
2005.2	10,660	10,804				
2005.3	10,311	10,767				
2005.4	10,028	10,328				
2006.1	11,531	11,744	11,841			
2006.2	10,690	10,406	10,110			
2006.3	10,161	10,366	9,939			
2006.4	9,547	9,943	9,521			
2007.1	11,333	11,320	11,127			
2007.2	9,888	10,313	9,790			
2007.3	9,855	10,033	9,347			
2007.4	9,047	9,605	8,841			
2008.1	10,620		10,556			
2008.2	9,310		9,192			
2008.3	8,906		8,904			
2008.4	7,875		8,554			
2009.1	9,520		10,128			
2009.2	8,224		8,689			
2009.3	7,703		8,558			
2009.4	7,338		8,198			
2010.1	8,983		8,794			
2010.2	7,088		7,129	7,487		
2010.3	7,084		7,072	7,314		
2010.4	6,554		6,532	6,732		
2011.1	7,857			8,133	7,908	
2011.2	6,539			7,025	6,757	
2011.3	6,439			6,833	6,665	
2011.4	5,962			6,362	6,195	
2012.1	7,166					6,685
2012.2	5,976					5,634
2012.3	5,772					5,528
2012.4	5,520					5,108

Sources:

- R2005-1 volume forecasts from file vf\_ar.xls in USPS, R2006-1, LR-K-66.
- R2006-1 volume forecasts from file vf\_ar.xls in USPS, R2006-1, LR-L-66.
- R2010-4 volume forecasts from, After-Rates Jan11 V&R Forecast Public.xls in library reference, USPS-R2010-4/8 filed on 7-6-2010
- 2011 forecasts from volume forecasting, VF-Jan2011(m-d).xls in md-1-20-2011.zip filed on 1-20-2011.
- 2012 forecasts from volume forecasting, fv2012.xls in Market\_Dominant.zip filed on 1-20-2012.

26. This question references Postal Service witness Nickerson's testimony.

This question references the table below.

<b>R2010-4 and R2013-11, Exigency Revenue Request</b>				
	<b>R2010-4 % Change</b>	<b>R2010-4 \$ Change</b>	<b>R2013-11 % Change</b>	<b>R2013-11 \$ Change</b>
<b>FCM:</b>				
Single-Piece Letters & Cards	4.652%	\$616,855,582	4.276%	\$464,152,564
Presort Letters and Cards	5.927%	\$969,667,277	4.291%	\$659,642,333
Flats	6.256%	\$207,095,541	4.627%	\$123,052,260
Parcels	5.415%	\$61,871,846	4.349%	\$29,385,529
DVD Mail	0.000%	\$0	4.297%	\$2,904,379
FCM International	4.973%	\$46,297,704	2.391%	\$13,600,018
<b>Total Change</b>	<b>5.433%</b>	<b>\$1,901,787,950</b>	<b>4.281%</b>	<b>\$1,292,737,084</b>
<b>Standard Mail:</b>				
LFP	5.985%	\$727,803,168	4.264%	\$500,485,891
ECR	4.681%	\$224,761,942	4.266%	\$230,917,685
<b>Total Change</b>	<b>5.616%</b>	<b>\$952,565,110</b>	<b>4.264%</b>	<b>\$731,403,576</b>
<b>Periodicals:</b>	<b>8.035%</b>	<b>\$154,315,980</b>	<b>4.297%</b>	<b>\$73,938,480</b>
<b>Package Services:</b>	<b>6.700%</b>	<b>\$105,454,416</b>	<b>4.303%</b>	<b>\$37,287,443</b>
<b>Overall Change:</b>	<b>5.6%</b>	<b>\$3,114,123,456</b>	<b>4.3%</b>	<b>\$2,135,366,583</b>
<b>Sources:</b>				
Docket No. R2010-4, FCM_Worksheets_Revised_Aug62010.xls				
Docket No. R2010-4, Standard_Mail_Wrkshts_Rev_Aug62010.xls				
Docket No. R2010-4, Periodicals Worksheet Exigent Request, USPS-R2010-4/3				
Docket No. R2010-4, Package Services Mail Worksheet, USPS-R2010-4/4				
Docket No. R2010-4R (9-26-2013), First-Class Mail Workdheets, WP-FCM-R2010-4R.xls, USPS-LR-R2010-4R/2				
Docket No. R2010-4R (9-26-2013), Standard Mail Workdheets, WP-STD-R2010-4R.xls, USPS-LR-R2010-4R/3				
Docket No. R2010-4R (9-26-2013), Periodicals Workdheets, WP-PER-R2010-4R.xls, USPS-LR-R2010-4R/4				
Docket No. R2010-4R (9-26-2013), Package Services Workdheets, WP-PSVC-R2010-4R.xls, USPS-LR-R2010-4R/5				

Please confirm that the rate requests in this case are the following percentages of the corresponding rate increases requested in R2010-4:

First-Class Mail total: 68%

Standard total: 77%

Periodicals: 48%  
Package services: 35%.

If you do not confirm, please explain.

October 18, 2013

Respectfully submitted,

**GREETING CARD ASSOCIATION**

David F. Stover  
2970 S. Columbus St., No. 1B  
Arlington, VA 22206-1450  
(703) 998-2568  
(703) 998-2987 fax  
E-mail: [postamp@crosslink.net](mailto:postamp@crosslink.net)