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UNITED STATES OF AMERICA
POSTAL REGULATORY COMMISSION
WASHINGTON, DC 20268-0001

Six-Day to Five-Day Street Delivery and Related Service Changes

Docket No. N2010-1

NOTICE OF ERRATUM

(Issued June 11, 2010)

On pages 7 and 9 of Chairman's Information Request No. 5, questions 9 and 12 should be corrected to reflect the formulas as follows:

Change

9. The Postal Service states that the system-wide carrier cost model $C = C(V, N, Z) = c(V/N, Z)N$ "will hold if the system-wide cost function is linear, but will generally not hold for nonlinear system-wide cost functions such as quadratic or translog." Response to CHIR No. 3, Question 9. Please consider and comment on the following constant elasticity system-wide cost function $C = N*a(Z)*(V/N)\varepsilon$ where cost per day is equal to $c = a(Z)*(V/N)\varepsilon$ and the shift parameter (a) is shown as a function of Z, the vector of control variables. Note that the system-wide cost function can also be shown as $C = N*a(Z)*V\ \varepsilon/N\varepsilon$, and therefore:

$$C = a(Z)*N(1-\varepsilon)*V\varepsilon.$$

(a) Would the Postal Service agree that the value for (ε) represents the system-wide volume variability for carrier costs? If not, please explain.

(b) Would the Postal Service agree that the value for $1 - \varepsilon$ represents the system-wide elasticity of carrier costs with respect to delivery days? If not, please explain.

To read:

9. The Postal Service states that the system-wide carrier cost model C = C(V, N, Z) = c(V/N, Z)N "will hold if the system-wide cost function is linear, but will generally not hold for nonlinear system-wide cost functions such as quadratic or translog." Response to CHIR No. 3, Question 9. Please consider and comment on the following constant elasticity system-wide cost function $C = N*a(Z)*(V/N)^{\varepsilon}$ where cost per day is equal to $c = a(Z)*(V/N)^{\varepsilon}$ and the shift parameter (a) is shown as a function of Z, the vector of control variables. Note that the system-wide cost function can also be shown as $C = N*a(Z)*V^{\varepsilon}/N^{\varepsilon}$, and therefore:

$$C = a(Z)*N^{(1-\varepsilon)}*V^{\varepsilon}.$$

(a) Would the Postal Service agree that the value for (ε) represents the system-wide volume variability for carrier costs? If not, please explain.

(b) Would the Postal Service agree that the value for 1 - ε represents the system-wide elasticity of carrier costs with respect to delivery days? If not, please explain.

Change:

12. Assume a week i cost function, homogenous of degree one, and of the form Ci = N*a(Zi)*(Vi/N)ε = a(Zi)*Vi ε *N(1- ε), where Vi is the week i system volume, N is the weekly delivery frequency and i ε {1,2,…,52}. Assume the current N = 6. Then using this constant elasticity function, cost savings for any week i from reducing delivery frequency by one day can be calculated as:

ΔCi = Six Day Cost – Five Day Cost

= a(Zi)*Vi ε *6(1- ε) - a(Zi)*Vi ε *5(1- ε)

= a(Zi)*Vi ε *6(1- ε)*(1 - (5/6)(1- ε))

= Ci*(1 - (5/6)(1- ε)).

The weekly cost savings can also be approximated by the following marginal cost with respect to delivery days:

$$(\partial Ci/\partial N)\big|N{=}6 \quad = a(Zi)*(Vi/6)\varepsilon*(1 - \varepsilon)$$

$$= (Ci/6)*(1 - \varepsilon).$$

where (1 - ε) is the cost elasticity with respect to delivery days and Ci/6 is the average daily cost. Please comment on the use of such a weekly cost function to determine cost savings per week, through either of the two methods presented above, and ultimately cost savings for the entire year when eliminating Saturday delivery service.

To read:

12. Assume a week i cost function, homogenous of degree one, and of the form $C_i = N*a(Z_i)*(V_i/N)^{\varepsilon} = a(Z_i)*V_i^{\varepsilon}*N^{(1-\varepsilon)}$, where V_i is the week i system volume, N is the weekly delivery frequency and i = 1,2,…,52. Assume the current N = 6. Then using this constant elasticity function, cost savings for any week i from reducing delivery frequency by one day can be calculated as:

$$\Delta C_i = \text{Six Day Cost} - \text{Five Day Cost}$$

$$= a(Z_i)*V_i^{\varepsilon}*6^{(1-\varepsilon)} - a(Z_i)*V_i^{\varepsilon}*5^{(1-\varepsilon)}$$

$$= a(Z_i)*V_i^{\varepsilon}*6^{(1-\varepsilon)}*(1 - (5/6)^{(1-\varepsilon)})$$

$$= C_i*(1 - (5/6)^{(1-\varepsilon)}).$$

The weekly cost savings can also be approximated by the following marginal cost with respect to delivery days:

$$(\partial C_i/\partial N)\big|N{=}6 \quad = a(Z_i)*(V_i/6)^{\varepsilon*(1-\varepsilon)}$$

$$= (C_i/6)^{*(1-\varepsilon)}.$$

where (1 - ε) is the cost elasticity with respect to delivery days and $C_i/6$ is the average daily cost. Please comment on the use of such a weekly cost function to determine cost savings per week, through either of the two methods presented above, and ultimately cost savings for the entire year when eliminating Saturday delivery service.

Shoshana M. Grove
Secretary