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

POSTAL RATE AND FEE CHANGES, 1997

Docket No. R97–1

RESPONSE OF UNITED STATES POSTAL SERVICE
WITNESS BARON TO INTERROGATORY OF
THE NEWSPAPER ASSOCIATION OF AMERICA
(NAA/USPS—NOI3–1)

The United States Postal Service hereby provides the response of witness Baron to the following interrogatory of the Newspaper Association of America: NAA/USPS—NOI3–1, filed on February 12, 1997.

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

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

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February 26, 1998

NAA/USPS-NOI3-1. Please refer to your discussion at page 1 of your supplemental statement where you state: "Further, I regarded this residual cost as a function of volume at a stop. I noted, for example, that residual cost falls to zero as volume falls to zero."

a. Do "residual costs" vary with volume? If no, please explain what you mean when you state that residual costs are a function of volume at a stop.

b. Using your proposed attribution method, are the "residual costs" attributed to the subclasses of mail? If yes, please explain how these costs are attributed to the subclasses of mail. If no, please explain why these costs are not attributed if the residual costs are a "function of volume at a stop."

c. As volume falls to zero, do the residual costs fall to zero at each stop because the stop is eliminated? Please explain your response.

d. Assume that the Commission chooses to attribute elemental load-time costs to subclasses of mail using your proposed method and also chooses to attribute "coverage-related" load costs to subclasses using its single subclass stop methodology. Would the "residual costs" you identify be included as part of the "coverage-related" load costs that would be attributed using the single subclass methodology? If no, please explain why not.

e. Would any other costs be included in "coverage-related" load costs? If yes, please identify these costs and explain how they are estimated in your equations.

RESPONSE:

(a) Yes. Please see my response to NAA/USPS-T17-13(d) and 13(e), and my direct testimony at pages 34-35.

(b) The residual costs are institutional costs, which by definition, are not part of the volume-variable pool of costs. The residual costs are therefore not allocated to subclasses of mail.

As I have stated in previous interrogatory responses, institutional costs are defined as accrued costs minus volume variable costs. See my responses to Docket No. R97-1 NAA/USPS-T17-5 and NAA/USPS-T17-13. Moreover, the residual load-time institutional costs referred to in my supplemental statement, like a large portion of the total institutional costs found throughout the 20 Postal Service cost segments, are still a function of volume.

The existence of institutional costs that are a function of volume can best be illustrated through a simple hypothetical. Suppose the cost equation for a hypothetical cost component with accrued cost of $100,000,000 is the simple constant elasticity equation:

ACCRUED COST = 0.70*LN(VOLUME)

Here, the elasticity of accrued cost with respect to volume is a constant 70%. Volume-variable cost is, by definition, 0.70 * $1,000,0000, or $700,000. Institutional cost is the accrued minus the volume variable, and equals $300,000. Now this entire $300,000 institutional cost is obviously a function of volume. If volume falls to zero, the institutional will obviously fall to zero as well, just as will the volume-variable amount.

This hypothetical is more than just speculation. As witness William Takis observes in his Docket No. R97-1 testimony (USPS-T-41), the Postal Service assumes that the underlying equations that produce less-than-100% volume variabilities in a number of cost components are exactly the type of constant elasticity equation as the one just illustrated.[1]

Moreover, the entire notion that large amounts of institutional cost, although not part of volume-variable costs that are distributed to mail subclasses, are still a function of volume is evident throughout much of the other analysis presented in the Takis testimony, as well as in the direct testimony of John Panzar (Docket No. R97-1, USPS-T-11). Consider the attached excerpt from page 4 of the Takis testimony. The graph in this excerpt depicts a typical marginal cost curve for a base year cost component that has a volume variability of under 100%. As Takis observes, if V^* is total volume and V_i is volume for mail subclass i, then $V^* - V_i$ equals the total volume remaining if subclass i volume falls to zero.

Now, clearly, the entire area of the marginal cost curve from V^* down to $V^* - V_i$ equals cost that varies with volume - in this case, volume for subclass i. This area also equals the sum of the lightly shaded rectangle and the darkly shaded rectangle. Yet

[1] See Docket No. R97-1, USPS-T-41 at pages 16-17.

only the lightly shaded rectangle is the volume variable cost of subclass i.[2] The sum of the lightly shaded rectangle and the darkly shaded rectangle – the area under the curve - equals what is known as the incremental cost of subclass i.[3] The darkly shaded rectangle by itself is the excess of the incremental cost over the volume variable cost. This excess is obviously a part of the total pool of costs that varies with volume V. If volume falls toward zero, this excess will obviously disappear. Yet it is not part of volume variable cost. Only the lightly shaded rectangle represents volume variable cost. By definition, the excess is institutional cost. To be precise, it is that subset of the total institutional cost in the component represented by the graph that equals the excess of incremental cost for subclass i over volume variable cost for subclass i.

As Takis shows, incremental cost for each subclass exceeds its volume variable cost in virtually all cost components in which volume variabilities are less than 100% due to declining marginal cost curves, such as the one depicted in the chart. Examples of this occurrence are presented throughout the Takis workpapers.[4] In all such cases, the excess of the incremental cost over the volume variable cost is obviously a part of the incremental cost. Therefore, it obviously is a function of volume, for it will fall to zero as volume for that subclass falls to zero, just as will the rest of the incremental cost. But the excess of the incremental over the volume-variable cost is just as obviously **not** part of the volume variable cost. It is the excess, and it is therefore, by definition, institutional cost.

Another example of costs that are institutional, and yet clearly vary with volume, are multiple subclass access costs. Both the Commission and the Postal Service agree that multiple subclass costs cannot be attributed to individual mail subclasses, either

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[2] Note, also, that the entire rectangle formed by the intersection of the dashed line and the Y-axis on the left and the marginal cost curve on the right is the volume variable costs of all subclasses combined.
[3] Incremental cost for subclass i might also include some amount of specific fixed cost.
[4] See Docket No. R97-1, Workpapers in Support of the Testimony of William M. Takis (USPS-T-41). An especially good example of a component in which incremental costs exceed volume variable costs as a result of volume variabilities of less than 100% is mail processing labor. The Takis workpapers at Section IV.A.1 through Section IV.A.5 show the incremental mail processing labor costs by subclass and the lower volume variable mail processing labor costs.

as volume-variable costs or as incremental costs. Yet clearly multiple subclass costs are a function of volume. It is easy to envision examples that show this. Suppose a multiple subclass stop is getting one piece of subclass i and one piece of subclass j. Volume of both then falls to zero. The stop will no longer be covered, and cost will fall by the amount of the access cost that had been incurred in delivering mail to that stop. Yet, both the Commission and the Postal Service do not regard this access cost that would be avoided if the stop weren't covered as either incremental or volume-variable. They view it as institutional cost.

To summarize, there are many examples of costs that change with volume and that are institutional, and that are therefore, by definition, excluded from the volume-variable pool. Some of these institutional costs are incremental costs for individual subclasses, such as the incremental cost for subclass i shown in the attached chart. Other institutional costs, such as multiple subclass stop costs, vary with volume in a general sense, but are not incremental costs. The only institutional costs that don't vary in any manner as volume varies are the truly fixed costs, which are costs that would remain in existence at their current observed levels even if total volume delivered by the entire postal system over all subclasses combined fell to zero.

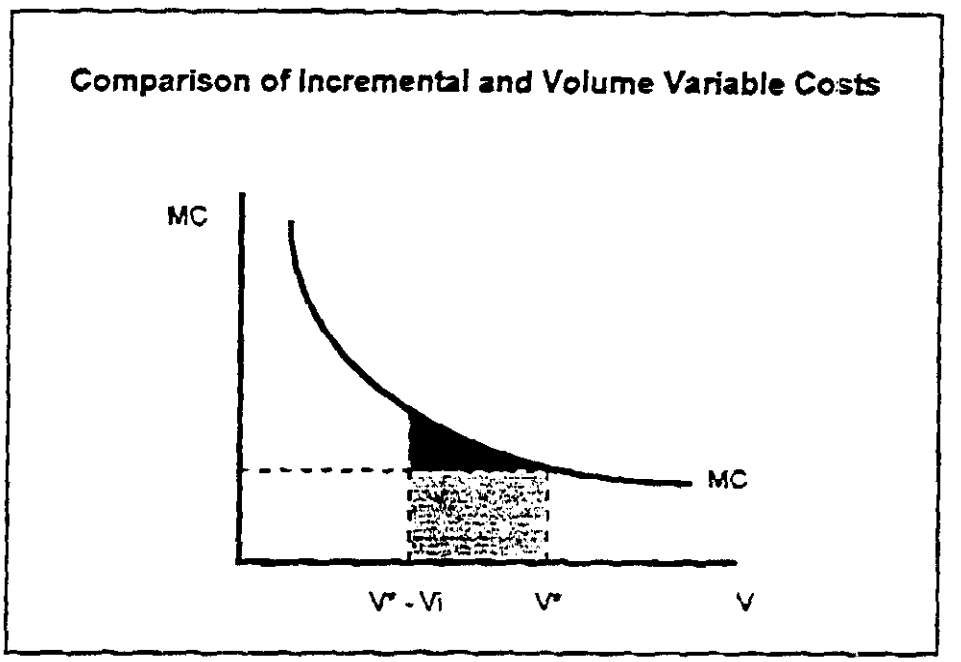
(c) The residual costs fall toward zero as volume at each actual stop falls toward zero, without actually reaching zero. Obviously, the total costs will not actually reach zero itself until all volume for all subclasses combined reaches zero, at which point there will be no actual stops.

(d) If the Commission defines the residual costs as coverage-related load costs, and if it then decides to allocate these costs to subclasses based on single subclass stops, then the answer is yes, that's what the Commission would be doing. As indicated in my testimony and prior interrogatory responses, I do not regard the residual costs as being part of any pool of dollars that should be considered fully or even partly volume-

variable. I regard the residual costs as institutional costs, which, by definition, equal accrued costs minus volume variable costs.

(e) This would depend on how the Commission would define coverage-related load costs.

The relationship between incremental costs, marginal costs, and in the case of the Postal Service, volume variable costs, can be seen in the following exhibit.



This graph depicts a marginal cost curve for a generic base year cost component. Specifically, it shows the effects of removing subclass (*i*) from total volume (V*). The total volume remaining after removing subclass (*i*) is given as ($V^* - V_i$) The lightly shaded rectangle is the volume variable costs associated with subclass (*i*). The sum of the darkly-shaded triangular area and the lightly shaded rectangle (i.e., the area under the marginal cost curve from ($V^* - V_i$) to V*) represents incremental costs (less any specific fixed costs associated with the subclass in question). The difference between volume variable costs and incremental costs depends (partially) on the size of the darkly-shaded triangular area. Its size will depend upon the curvature of the marginal cost curve and the distance we move along the curve. Even though the marginal cost curve may be sharply curved, if we only move a short distance along the curve, little of the curvature will come into play, and incremental costs will be close to volume variable costs.

DECLARATION

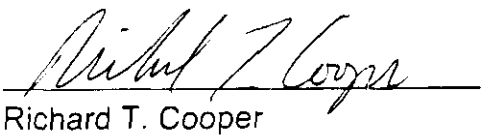
I, Donald M. Baron, declare under penalty of perjury that the foregoing answers are true and correct, to the best of my knowledge, information, and belief.

Donald M. Baron

Dated: 2-26-98

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon all participants of record in this proceeding in accordance with section 12 of the Rules of Practice.



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