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Notice of Price Adjustment) Docket No. R2009-2

PUBLIC REPRESENTATIVE COMMENTS IN RESPONSE TO NOTICE OF PRICE ADJUSTMENT FOR MARKET-DOMINANT PRICE ADJUSTMENT

(March 2, 2008)

The Public Representative hereby comments on the Postal Service's notice of price adjustment, effective May 11, 2009, for market-dominant postal products filed pursuant to 39 U.S.C. § 3622 and 39 CFR part 3010 (Adjustment Notice).[1] Apart from price adjustments, the Adjustment Notice also includes several mail classification changes and revisions to the Mail Classification Schedule reflecting the changes. The Commission's notice and order in this proceeding provided that comments on the Adjustment Notice are due March 2, 2009.[2]

I. OVERVIEW

Among the factors listed in section 3622 of the PAEA to be considered by the Commission is "the effect of rate increases upon the general public, business mail users, and enterprises in the private sector of the economy engaged in the delivery of

[1] United States Postal Service Notice of Market-Dominant Price Adjustment, February 10, 2009.

[2] Notice of Price Adjustment, Order No. 180, February 12, 2009 at 20.

mail matter other than letters." (§3622(c)(3).) Thus, the PAEA distinguishes the interests of the general public from the interests of business mail users and enterprises in the private sector engaged in the delivery of mail matter other than letters. Having been designated to represent the interests of the general public, the Public Representative focused on the interests of the general public as distinct from the interests of the other groups included in section 3622(c)(3) of the PAEA.

The mandatory annual limitation on changes in rates for this proceeding is 3.8 percent as provided by section 3010.11 of the Commission's rules, as calculated with the formula in section 3010.23(b). In summary, the Public Representative finds that given the billing determinants and cost and revenue estimates assumed by the Postal Service, the calculations of the planned price adjustment comply with the rate cap limitations in 39 U.S.C. § 3622(d). Overall, based on the information currently available, it appears that the price adjustment for each class of mail falls within the mandatory percentage limitation.

Four other issues require discussion:

1. The Postal Service's proposed worksharing discount methodology continues to utilize a benchmark other than the Commission approved Bulk Metered Mail (BMM) benchmark. The Commission should reject the Postal Service's alternative framework for measuring worksharing cost avoidance. If necessary, the methodology proposed by the Postal Service may be the subject of a separate proceeding.

2. The Public Representative believes additional information is needed to justify worksharing passthroughs that are either significantly greater or significantly less than 100 percent. If the justifications are insufficient, some adjustment to the inputs for

the rate cap calculation may be needed. Planned worksharing passthroughs at variance with the statutorily preferred level of 100 percent are inconsistent with the concept of Efficient Component Pricing (ECP) which is to maximize revenue through economically efficient pricing.

Because so many of the Postal Service's worksharing discounts vary significantly from a passthrough of 100 percent, the Public Representative has studied and measured the impact on contribution for First-Class Mail that results from this inefficient pricing. That method is described in detail below and supporting information is presented in the Appendix attached to these comments. The analytical method is applicable to other mail classes. From this methodology, the maximum l contribution that might be obtained from varying rates freely or within certain boundaries, subject to the price cap limitation, can be estimated. . . .

The sensitivity study presented herein for First-Class Mail displays and interprets results from several "what if" pricing scenarios limiting price movements to the overall cap and rates for Single Piece mail to certain upside limits. To the extent that there is worksharing across the products defined by the Postal Service, the approach calculates optimal discounts residually as differences between the optimal contribution maximizing rates. Generally, discounts can be expected to be close to ECP levels unless there are substantial differences in demand characteristics that would cause some non-trivial level of deviation to be optimal. The present study serves as a starting point for future analyses and understanding of the advantages of moving discount pricing in the right direction to increase social welfare.

3. These comments also address the need for additional filings and information regarding the Standard Mail Incentive Program. The Postal Service is initiating an incentive program for Standard Mail saturation letters and flats, including nonprofit. The program appears to amount to a special classification as specified in 39 U.S.C. 3632(c)(1) and for which the Commission's rules in section 3020.30 require the Postal Service to file a request to modify the market dominant product lists. Even if the incentive program is not deemed a special classification subject to section 3632(c)(1), the Postal Service's justification for the incentive program is insufficient and it must supply the Commission a considerable amount of significant information fully describing and justifying the incentive program.

4. Even after the price adjustment, the Periodicals class again fails to recover attributable costs. Appropriate steps should be initiated toward alleviating this situation.

II. BACKGROUND

This is the second annual notice of price adjustment filed by the Postal Service pursuant to section 3622 of the Postal Accountability and Enhancement Act, Pub L. 109-435, 120 Stat. 3198 (2006) (PAEA). The first review of price adjustments for market dominant products was filed February 11, 2008 and culminated with the Commission's Order No. 66 accepting all but one of the price adjustments. [3]

[3] Review of Postal Service Notice of Market Dominant Price Adjustment, Order No. 66, March 17, 2008.

It is useful to review the Commission's findings in that proceeding as well as the limits that the Order placed upon the issues ripe for consideration in price adjustment proceedings as it provides a guide that limits the issues pursued by the Public Representative in this proceeding.

The Commission concluded in Order No. 66 that the price adjustments were "within the annual limitation on changes in rates pursuant to 39 U.S.C. § 3622(d) and 39 CFR § 3010.11," that the "price adjustments properly reflect the statutory references set forth in 29 U.S.C. § 3626," and, with one exception regarding the discount for Standard Mail mixed AADC letters, the "Workshare discounts satisfy the requirements of 39 U.S.C. § 3622(e)."

First-Class Mail worksharing discounts approved in Order No. 66 were based upon the Postal Service's statements that reductions in discounts would impede the efficient operation of the Postal Service and that they are an incentive to create more efficiently handled mailings as well as maintain price stability and predictability needed for business customers' decisions. The Postal Service also recognized the cost avoidance figures are estimates and not precise, suggesting strict adherence to 100 percent passthroughs is "of not regulatory moment." Order No. 66 at 15.

In approving the price adjustments, the Commission:

- accepted several technical revisions and error corrections and added links from cells with hard data,[4]
- determined the Postal Service appropriately interpreted statutory preferences for Periodicals mailers, Order No. 66 at 26.

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[4] *See*, for instance, for Periodicals, pages 23-24.

- considered the size of a price increase not excessive in the case of Standard Mail Parcels and NFM product categories because it was an initial effort for rate adjustment, *Id.* at 41, and in the case of Single-Piece Parcel Post, particularly Intra-BMC mail, revenues “hover near cost.” *Id*. at 50-51.
- requested from the Postal Service, in the future, average price increases for individual Special Service products. *Id*. at 54.
- urged the Postal Service “to reclassify Special Services so that costs and revenues can be allocated correctly between market dominant and competitive products.” *Id*. at 56.
- obtained expanded justifications for worksharing passthroughs greater than 100 percent as well as links and formulas for appendices A and B and in the workbooks for the four primary mail classes. *Id*. at 4.
- accepted the Postal Service’s use of estimates where new rate categories were implemented during the year from which billing determinant were drawn. *Id*. at 12.

On the other hand, the Commission ruled that several issues raised by the participants in their comments are *not* relevant during review of price adjustments:

1. “Updates and modifications to cost avoidance models of a general nature are beyond the scope of a rate adjustment review and will be addressed in a future proceeding.” *Id*. at 19. However, the Commission would address arguments that

worksharing discounts are not consistent with the objectives, factors and policies of the PAEA.

2. Suggestions for discounts and new classifications "are beyond the scope of this price adjustment proceeding." *Id*. at 21.

3. Suggestions on "policy or methodological issues that may be appropriately addressed in future proceedings, but are beyond the scope of this rate adjustment proceeding." These suggestions included cost avoidance estimates that failed to consider inflation adjustments and thereby caused a timing mismatch, rate preferences between rate categories of First-Class Mail as well as anomalous rate increases, a worksharing methodology issue and arguments to de-link single-piece from worksharing rates in First-Class Mail. *Id.* at 21-2.

4. Disputes concerning the Postal Service's performance. The new procedures do not allow for discovery and without discovery there is no evidence of deteriorated performance. *Id*. at 56.

III. THE ADJUSTMENT NOTICE COMPLIES WITH THE FOLLOWING FILING REQUIREMENTS

Apart from correctly calculating the price cap, the Adjustment Notice has included the information required to conform with the applicable Commission rules for this Type 1-A price adjustment, the usual type of adjustment to rates of general applicability.[5] The Adjustment Notice conforms to the following applicable filing requirements in the Commission's rules:

[5] Part 3010 (§3010.3), issued pursuant to 39 U.S.C. 3622(d)(1)(D).

- Section 3010.2 (b). The Adjustment Notice includes a table of any remaining unused rate adjustment authority in each class for use in subsequent determinations of unused rate adjustment authority. Adjustment Notice at 6. As noted above, if volumes adjusted pursuant to the Annual Compliance Review are sufficient to impact any percentage price adjustment, the remaining unused rate adjustment authority must also be modified.

- Section 3010.3(b). The limitations on rate adjustments, by class, are determined by §3010.11 and §3010.12. The Adjustment Notice includes a table of proposed changes, by class, all of which are less than the mandatory annual limitation. Adjustment Notice at 5. The rate increases in each class appear to fall below the annual limitation.

- Section 3010.14(a) The Adjustment Notice includes four types of the required general information: proposed rate schedules and their effective dates, evidence of public notice of the rate adjustment, and the name of the Postal Service official who will respond to requests for additional information.

- Section 3010.14(b) Supporting technical information and justifications are included in the Adjustment Notice. The rule includes a list of ten types of information to be included in the notice. The Postal Service has provided the amounts, schedules and justifications required by the rule. However, as discussed below, the Commission must determine whether the justifications provided for some situations are compliant with the PAEA.

IV. WORKSHARING

A. Benchmarks

In Docket No. R2006-1, the Commission rejected the Postal Service's proposal to de-link the BMM (Bulk Metered Mail) benchmark from the First-Class single-piece letter rate. The Commission explained in two recent rate proceedings, this benchmark:

> …represents not only that mail most likely to convert to worksharing, but also, to what category current worksharing mail would be most likely to revert if the discounts no longer outweigh the cost of performing the worksharing activities.[6]

The impact of de-linking the BMM benchmark discount from the single-piece First-Class letter rate would be to separate commercial rates from the First-Class rates.

In the Commission's FY2007 Annual Compliance Report, the Commission rejected the Postal Service's attempt to deviate from using the BMM benchmark as the cost benchmark for workshared First-Class letters. In the ACR Report for FY2007, the Commission stated that a "decision to change the framework used for measuring worksharing cost avoidance should await a more complete airing of the pros and cons of the alternatives." ACR2007 at 63.

Once again in this proceeding, the Postal Service is attempting to digress from the approved framework for developing First-Class workshared discounts. The Postal Services claims that it has not changed the methodology for calculating the cost avoidance between BMM and Presort First-Class Mail and that the issue is definitional: that is, whether the relationship between two distinct MCS products constitutes worksharing, such that the provisions of section 3622(e) relating to worksharing

[6] Docket No. R2006-1, Op. at ¶ 5109; Docket No. R2000-1, Op. at ¶ 5089.

discounts apply to that relationship. The Postal Service says that section 3622(e) does not apply because the Commission has recognized presort and single piece First-Class Mail are separate products and, the Postal Service believes, it is necessary to read section 3622(e) “in a manner consistent with section 3652(b).[7]

However, as explained above, the Commission has consistently treated these services of presort and single-piece First-Class Mail for purposes of worksharing as inter-related and has not ruled otherwise. The Postal Service’s justification for its approach is not new and is without foundation. The Postal Service’s response to CIR #1 reads the request for information too narrowly and thereby contends that it has followed the Commission’s methodology. The Postal Service’s response to CIR #1 errs by assuming the phrase “cost avoidance methodology” refers only to calculating the cost avoidance and not to the appropriate application of the cost avoidance calculations. The application of the cost avoidance methodology that includes an initial starting point (the benchmark) is, of course, an integral part of the entire process and not disconnected from the underlying calculation.

Moreover, the Postal Service relies upon 3622(e) in support of its approach, but that section does not prohibit worksharing relationships between two distinct products as the Postal Service claims—there is no reference to products in section 3622(e). The Postal service recognized this deficiency in its argument and therefore contends that section 3622(e) must be read “in a manner consistent with section 3652(b).” *Id*. at 2. Although section 3652(b) refers to products, it does so only in connection with reporting costs avoided—that reporting section cannot be interpreted as a statutory mandate that

[7] Response of the United States Postal Service to Chairman’s Information Request No. 1 (CIR #1), February 20, 2009 at 2.

worksharing for presort First-Class Mail cannot be benchmarked to another product if the Commission determines it necessary and appropriate pursuant to section 3622(e).

Also, the Postal Service's response to CIR #1 incorrectly interprets the Commission's comments in 2007 ACD at 63-64 as suggesting a worksharing relationship may not exist if there are not substantially similar demand characteristics. Not only did the Commission's language state that whether there are worksharing relationships "may depend" on the situation, as well as whether demand characteristics are "substantially similar," the Commission quotation selected by the Postal Service in its response was addressing the intra-product application of worksharing relationships and did not address the separate task of establishing the initial benchmark as a starting point for applying the discounts. Moreover, the Commission's methodology recognizes the cost and price relationship between presort and single piece First–Class Mail which the Postal Service concedes. *Id*. at 2-3. The Postal Service further concedes that the starting point for First-Class rates is the single-piece first ounce rate and that "the presorted letters price are based on a series of decision beginning with the determination of what the *stamp price* should be." *Id*. at 3.

The Commission should reject the Postal Service's attempt to again present this method of establishing workshare discounts in this price adjustment docket. Instead, the Commission should require the Postal Service to file a request to address the issue separately. To do otherwise is to deny mailers an opportunity to comment on the requested change. A separate proceeding would also allow the Commission to deliberate, without haste, whether or not this change is reasonable and appropriate and in the best inters of all mailers and the Postal Service. In the meantime, it is important that the Commission reiterate its position to use the First-Class single-piece letter rate as the benchmark for calculating the BMM rate.

B. Sending the Right Price "Signals" Produces Positive Contribution and Social Welfare Effects under a Price Cap

1. The Importance of Contribution Increasing Rates to the Postal Sector

Previous comments by the Public Representative focused on the need for aggressive cost-cutting measures that reduced the rate of unit cost growth below the rate of inflation. The notion that ECP discounts send the correct price signals in a "first best" world was also discussed. However as mentioned previously, non-ECP discounts can be justified under the right set of demand conditions when the Postal Service is unable to price all products at marginal cost. In such a world, setting efficient rates (and therefore discounts) for worksharing and non-worksharing products becomes an extension of second best principles, where unit cost avoidance is one among several important factors to consider in the rate setting process. [8]

On a broader scale, when addressing an entire mail class, existing product rates, unit cost and demand elasticity data are all important in determining contribution increasing price movements, both across non-worksharing products and those products (or rate components) which entail some degree of worksharing. Therefore, along with a broad cost cutting agenda designed to reduce the rate of unit cost growth, "rationing" price changes consistent with class level caps should be at the top of the policy agenda so that the Postal Service can breakeven eventually and find the path to sustainable

[8] Public Representative Comments, January 30, 2009 and Reply Comments, February 17, 2009 in response to PRC Order No. 161, December 31, 2008 (PR Reply Comments).

profits. In fact, contribution increasing price changes have the important characteristic of increasing mailer welfare in aggregate and therefore social welfare. It is, therefore, no exaggeration to claim that financial health is a complementary attribute with respect to the Postal Service and mailers. The two are inseparable and go hand in hand.

Stated differently, by sending the right price signals, the Postal Service causes mailers to change their volume mix in such a way so as to improve both mailer and Postal Service profits. However, the wrong signals have the sure effect of decreasing Postal Service profits with no assurance that social welfare is improved. Indeed, in these difficult times, the very existence of the Postal Service as currently constituted might be jeopardized through a price induced misallocation of resources. Uncertainty itself is a negative contributor to social welfare, as recent experience in financial markets has more than made clear. We are all interested in a viable and financially healthy Postal Sector. The following is offered in that spirit.

2. How the Correct Price Signals Increase Contribution and Total Welfare

The importance of setting the right price "signals" can be illustrated through a two product example by contrasting welfare effects when both products are perfectly demand inelastic (constant volumes at any price) with the case where one product's volume is responsive to price, but the other product's volume remains constant. The contrast is most easily shown with a zero inflation rate, where nominal amounts and changes in all variables are equal to real (inflation adjusted) changes and amounts. However with appropriate adjustments, the same conclusions follow if inflation is introduced.

Consider what happens when rates change according to the cap and both product volumes are totally insensitive to price. The cap requires that total revenues before the price change equal total revenues after the price change, the latter calculated using the existing (before price change) volumes. But since volumes are constant, the actual revenues would equal the post-price change revenues, calculated according the price cap restriction. Further since volumes do not change, total costs do not change. All of this means that the Postal Service's net financial position (total contribution less institutional costs) remains the same.

Further because volume is constant, total mailer surplus must be unaffected as well. The price adjustments act to redistribute income to mailers paying lower rates from mailers paying higher rates, but the net effect from summing all income changes would still be zero. Therefore the effect on social welfare (the sum of Postal Service and mailer effects) from cap restricted rate movements would also be zero, when both product demands are unresponsive to price changes.

Now compare this zero sum result with outcomes when volume responds to price changes. In particular, assume that the second product's volume responds to own rate changes but that perfectly inelastic demand is retained for the first product. In this case, any volume increase resulting from a cap constrained price decrease for the latter would increase the Postal Service's existing contribution and total mailer surplus, as long as some positive unit contribution is retained.

Figure 1 below displays the effect on the Postal Service and mailers from a price decline for the volume responding product. The existing position is defined by P_0 and

V_0 with UC constant unit costs. Therefore the Postal Service's contribution from this product before cap restricted price changes is given by the area A+ B. Now suppose

Contribution Effects from a Price Decline

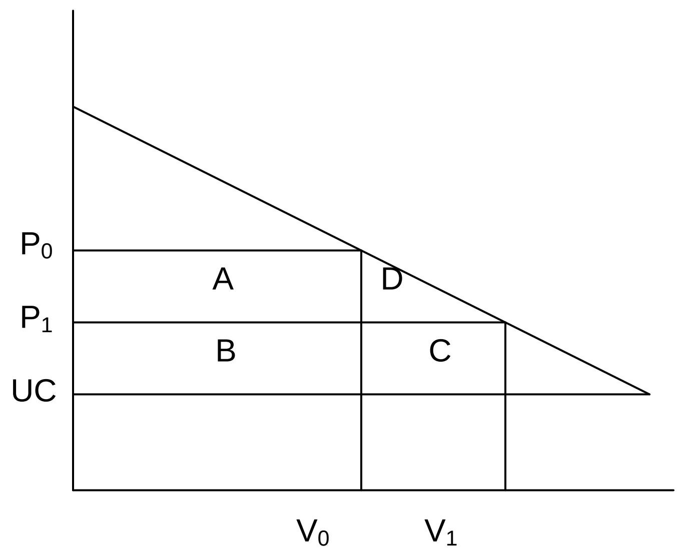

Figure 1

the price for the product with perfectly inelastic demand (not shown) is increased and the price for the second product is decreased to P_1 so as to leave revenues at the existing volumes the same. In this case, revenue and contribution from the second product, shown above, would decrease by A at the existing volume V_0. However this amount would be offset exactly by a contribution increase from the first product, per the cap restriction. Therefore if volume were to remain at V_0 for the second product, there would be no contribution effect on the Postal Service from the opposing price movements.

However, volume responds to the price decline along the existing demand curve by increasing from V_0 to V_1, thereby also increasing total contribution by the amount C . Therefore, it becomes clear that *any* volume increase signifies a contribution increase if the new price is between P_1 and UC. Further if the Postal Service were to profit maximize subject to the price cap restriction it would select a second product price to maximize area C.[9] The price for the perfectly inelastic product would be raised sufficiently to offset any contribution loss at the existing volume level from lowering the price to yield the maximum C. Of course at the two extremes represented by keeping the existing rate P_0 or pricing at UC, the Postal Service would only retain the existing total contribution.

The effect on mailers and the total postal sector from a second product volume increase is also unequivocal. Figure 1 establishes the total gain to product two mailers as A + D. However, since product one mailer profits decrease by A (because the Postal Service increases contribution for that product by that amount), the net increase to all mailers is D. Further, because the net gain to the Postal Service is C, this means that the total surplus increases by D + C by pricing at P_0. Mailers in aggregate and the Postal Service increase their surpluses because of consequences following the correct price signal-the reduction in the second product price.[10]

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[9] As explained in the next footnote, it turns out in this example using linear demand that the contribution maximizing rate is halfway between the existing rate and the constant unit cost. Thus a flatter (and more elastic) demand curve causes a greater volume response since the absolute price change is always the same.

[10] The graph can also be used to illustrate the effects mathematically. In particular notice that $-A_2 = V_{02}*(P_{12} - P_{02}) = V_2*\Delta P_2$ and $C_2 = (V_{12} - V_{02})*(P_{12} - UC_2) = \Delta V_2*(P_2 + \Delta P_2 - UC_2)$ where the subscript 2 is added to represent the second product. Thus the contribution change from product two following the price reduction can be shown as: $\Delta\pi_2 = C_2 - A_2 = \Delta V_2*(P_2 + \Delta P_2 - UC_2) + V_2*\Delta P_2$. Similarly, the contribution effect from product one (not shown above) can be indicated as $\Delta\pi_1 = C_1 - A_1 = \Delta V_1*(P_1 + \Delta P_1 - UC_1) + V_1*\Delta P_1$. The net effect on the Postal Service is then: $\Delta\pi_1 + \Delta\pi_2 = \Delta V_1*(P_1 + \Delta P_1 - UC_1) + V_1*\Delta P_1$

3. Contribution Increasing Price Changes for First-Class Mail

To show how rate structures might evolve with the goal of maximizing contribution, the Public Representative conducted an analysis of First-Class Mail to determine how mail contribution changes according to various cap restricted rates. The results obtained can be readily interpreted in broad terms by reference to the above discussion. The most recent demand elasticity data provided by the Postal Service was used for this analysis.[11] However, because the Postal Service developed its demand models according to the previous subclasses, it was necessary to develop the present analysis using the same structure. Thus, separate outputs were obtained for: a) single-piece letters, b) presort letters, c) single-piece cards, d) presort cards, and e) international First-Class Mail.

Results were obtained using the previously presented methodology with an added modification for the single piece rate constraints that form part of the analysis. PR Reply Comments in Appendix. In particular, in the two profit maximizing scenarios explained further below, all single piece rates were assumed fixed and all other price variables were allowed to vary to maximize contribution, subject to the cap restriction.

$+ \Delta V_2*(P_2 + \Delta P_2 - UC_2) + V_2*\Delta P_2$. However if the price cap is binding, the two rates must vary according to $V_1*\Delta P_1 + V_2*\Delta P_2 = 0$, so this means: $\Delta\pi_1 + \Delta\pi_2 = \Delta V_1*(P_1 + \Delta P_1 - UC_1) + \Delta V_2*(P_2 + \Delta P_2 - UC_2)$. But if product one volume is constant, then $\Delta V_1 = 0$, so $\Delta\pi_1 + \Delta\pi_2 = \Delta V_2*(P_2 + \Delta P_2 - UC_2)$, which is C in the graph. We can go further by noting that volume varies with respect to price according to the inverse of the slope of the shown demand line. That is $\Delta P_2/\Delta V_2 = 1/s$, so $\Delta V_2/\Delta P_2 = s$. Then substituting, $\Delta\pi_1 + \Delta\pi_2 = s*\Delta P_2*(P_2 + \Delta P_2 - UC_2) = s*\Delta P_2*(P_2 - UC_2) + s*(\Delta P_2)^2$. Notice that as price is reduced (ΔP_2 becomes more negative), the first term $s*\Delta P_2*(P_2 - UC_2)$ increases because the slope is negative. However, the second term $s*(\Delta P_2)^2$ decreases at the same time. Thus the maximum contribution (highest value for C in the graph) is found where the marginal effect of P_2 on contribution is zero or $d(\Delta\pi_1 + \Delta\pi_2)/d\Delta P_2 = s*(P_2 - UC_2) + 2*s*\Delta P_2 = 0$. Therefore the optimal (contribution maximizing) value for ΔP_2 is $\Delta P_2 = -(P_2 - UC_2)/2$. In this exceptional case, the slope of the line does not affect the pricing result, as long as that slope is non-zero.

[11] United States Postal Service FY 2008 Demand Analysis Materials Market Dominant, January 16, 2009.

TABLE 1 below shows the data inputs developed by the Public Representative for the analysis. Own and cross price demand elasticities were obtained by modifying the demand elasticities from the Postal Service's demand models. These modifications were necessary because the Postal Service estimates demand for each of the previous subclasses according to the subclass rate and the corresponding discount, and obtains elasticities for each of these variables. However, since the discount is just the difference between the single piece rate and the average presort rate for the corresponding subclass, the own price demand elasticity for each subclass presented in the analysis does not have the usual interpretation. Therefore, the Postal Service elasticities were modified to obtain the normal interpretation (effect on demand from changing price, holding the other product price constant). The Appendix describes in more detail how the indicated estimates were developed.

The unit costs were obtained using FY 2008 CRA attributable unit cost data. However because the flat and parcel products were previously under single piece and presort subclasses under the previous structure, an adjustment to the indicated CRA unit costs was required. The total unit costs shown in the CRA for flats and parcels were separately de-averaged using single piece-presort volume proportions for flats and parcels from the billing determinants.[12] The four separate unit costs that were obtained were then used to adjust the single piece and presort letter unit costs shown in the FY 2008 CRA in order to obtain comparable values under the previous subclass structure.

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[12] USPS-LR-R2009-2/1 Cap Compliance for First Class Mail Price Changes, February 10, 2009.

This adjustment procedure allowed proper alignment of price, unit cost and demand elasticity data for analysis using the previous subclass structure.[13]

Data Inputs to First Class Mail Contribution Analysis			
Category	Own Demand Elasticities	Cross Price Demand Elasticities	Average UVVC
SP Letters	-.397	.122	.320
Presort Letters	-.455	.301	.117
SP Cards	-.440	.244	.242
Presort Cards	-1.048	.281	.079
International	-.649	NA	.935

TABLE 1

TABLE 2 displays four scenarios with different percent price increases and resulting contributions under various price restriction combinations. The first column can be interpreted as the base case scenario where all rates increase by the 3.8 percent inflation rate. Under this case, the first class product contribution would be almost $21B.

[13] The Postal Service also included rate and volume data under the previous First Class subclass structure in USPS-LR-R2009-2/1. These were used as the relevant volume and average revenues per piece in the analysis.

First Class Percent Rate Increases by Product and Resulting Contributions				
Category	Equal Rate Increase	USPS Notice	Single Piece Limit	Single Piece Limit Plus One
SP Letters	3.8 %	4.36 %	4.36 %	7.14 %
Presort Letters	3.8 %	3.14 %	3.65 %	.68 %
SP Cards	3.8 %	3.79 %	3.79 %	7.14 %
Presort Cards	3.8 %	2.89 %	-15.50 %	-16.65 %
International	3.8 %	4.14 %	11.07 %	8.05 %
Contribution (M)	$20,981.3	$21,006.5	$21,043.6	$21,177.9
Contribution Δ		$25.2	$62.3	$196.6

TABLE 2

The second column shows that the Postal Service's plan would increase contribution by $25.2M over the base case. The contribution increase is consistent with the demand elasticities shown in TABLE 1. Both single-piece subclass rate increases are more than the 3.9 percent inflation rate while presort rate increases are less than the inflation rate. Therefore, contribution increases slightly as indicated because single-piece mail is less demand elastic than presort mail. Moreover, the positive cross price effects shown in TABLE 1 indicate that the single-piece volume losses caused by the greater than inflation rate increases in these two subclasses do not leak out of the system entirely. A portion of the volume decrements are shifted to presort mail. Without the cross price effects, the contribution gain would be even less than indicated.

The column three scenario maximizes contribution keeping the Postal Service's single piece rate increases constant. In this case, contribution increases by another $37M. The effect on the presort letter rate is slight, while the increase in international letters is significant. However as expected because of the high demand elasticity, the rate swing in presort cards is enormous, with a 15.5 percent decline from the existing rate now shown as optimal. The effect is largest on International letters and presort card rates because the percentage of total revenues in these two categories is very low. By contrast, presort letters comprises a very large percentage of total first class revenues. Therefore the cap restricts the price change in this subclass to a small percentage increase, even though its own demand elasticity is lower (in absolute value) than the value for international letters.

The last scenario shows the effect from loosening the price increase restriction in single piece letters and cards from 4.36 percent to 7.14 percent. The higher percentage equates to a new first class stamp rate of 45 cents, a penny increase over the Postal Service’s proposal. Now suddenly the contribution change jumps to slightly more than $170 million over the estimate produced using the Postal Service’s planned rates. This large change is caused by both the higher percentage price increase for single-piece letters, the most price inelastic subclass, and the lower percentage increase for presort letters, compared to the Postal Service plan. The cross price effects between these two subclasses also imply a sizeable volume shift from single-piece to presort categories, thereby reducing single piece volume leakage from the system, and contributing to the jump in First-Class contribution.

Also notice that the loosened constraint produces a reversal in the presort letter price change direction. Whereas the rate increased from 3.14 percent to 3.65 percent when moving from the Postal Service’s proposal to the third scenario, the percentage rate increase is now reduced to a 0.68 percent. Any sizeable rate increase for single piece mail now allows a sizeable rate decrease in presort letters that is still consistent with the cap because single-piece revenues are a large fraction of total revenues.

Moreover, the conclusions drawn from the earlier graphical analysis are evident here. The First Class contribution increases when increasing rates for single piece letters and decreasing rates for presort letters because the former is less price sensitive than the latter. Although the single piece subclass is not perfectly inelastic, the same principles discussed earlier come into play when establishing the contribution increasing direction for price changes. The Appendix provides more detailed results for each of the scenarios summarized in TABLE 2.

Last, it is important to note once again that the Postal Service's demand elasticity models are constructed at the subclass level, so optimal percentage rate increases can only be targeted at this level, and therefore corresponding rates (average per piece revenues) can only be estimated at the subclass level as well. Of course, if this "top down" approach to rate-making were adopted, rate component prices would need to be developed so as to meet the already developed average revenue per piece targets.

Additionally, all the issues relating to how component level rates should be linked by discounts remain. For example, the Appendix shows that the weighted average passthrough for all presort letter rate components compared to all single piece letter rate components is 88.32 percent under the Postal Service's proposed rates. This level is calculated by dividing the average per piece revenue difference between single-piece letters and presort letter subclasses (the weighted average discount) by the same difference for the unit costs appearing in TABLE 1 (the weighted average avoided unit costs).[14] However in the last scenario, where the first ounce single piece rate increases

[14] The pass-through appears low compared to most of the values calculated by the Postal Service at the rate component level for its filing. However the weighted average figure given above is based on a "top down" approach using CRA data for all cost components included in the Cost Segments and

to 45 cents, the passthough increases to 99.65 percent because the price difference between single-piece and presort letters widens. In order to meet the new passthrough target, the rate component prices (base prices less discounts) would need to be adjusted to meet the new subclass/product target.

Given the restrictions on single-piece rate increases, the Public Representative acknowledges that the indicated contribution increases are modest. However the process for searching for contribution increasing price changes (that is, sending out the correct price signals) is an important one, as explained earlier, and can be applied to other mail classes. A natural candidate for investigation is the Standard Mail Class, where total volumes are largest in the Postal System. Moreover, rate, changes here are not subject to the same restrictions as imposed on Single Piece First Class Mail. Indeed, the Postal Service plans a 16.4 percent price increase for the Parcels and NFMs to increase that product's cost coverage. Therefore, the Public Representative is investigating currently how much contribution might increase in the Standard Mail class if all rates are allowed to vary freely, subject only to the price cap restriction.

The following section provides a more detailed analysis of the Postal Service's planned worksharing discounts for first class mail. The analysis focuses on discounts exceeding 100 percent by a significant amount.

Components Report. Therefore it does not involve the use of piggyback ratios as required by the Postal Service's worksharing cost models. Also as mentioned above, the subclass unit cost figures include separate estimates developed for single piece and presort flats and parcels, because these are not available from the FY 2008 CRA reports directly.

4. Worksharing Passthroughs in Excess of 100 Percent

The Postal Service plans discounts substantially over 100 percent in various mail classes while providing scant justification and quantitative evidence that such discounts would be contribution increasing. With one exception, the Postal Service justifies these discounts as promoting “efficient operation.” This term is so broad that virtually any discount can be justified by reference to it. However, during this difficult period, the Postal Service cannot afford to lose contribution through discounts that are substantially larger than the 100 percent passthrough standard. Therefore such discounts should be rejected, unless quantitative evidence is presented to the Commission showing that such large discounts are contribution increasing per section 3622(e)(3)(A). Moreover, the Postal Service’s large discounts are not confined to one mail class. The effect would be system wide as explained below.

In general, the Postal Service argues that high passthroughs are permitted by section 3622(e)(2)(B) & (D) to maintain price relationships and promote more efficient operations. With respect to First-Class Mail, there are three worksharing discounts that exceed the 100 percent pass-through. These are: (1) First-Class Automation ADC flats, 145.2 percent, which is higher than the Docket No. R2008-1 passthrough of 95.2 percent,[15] (2) First-Class Nonautomation Presort Letters, 188.2 percent, up from the Docket No. R2008-1 passthrough of 98.5 percent, and (3) First-Class Mixed AADC nonautomation presort cards,187.5 percent, up from the Commission’s calculated passthrough of 67 percent. Docket No. R2008-1, Order No. 66, at 18. The Postal Service anticipates that higher discounts will keep more commercial mailers, who are

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[15] For the First-Class Docket No. R2008-1 passthrough percentages, refer to USPS library reference USPS-R2008-1-1.

seeking cost savings, as well as entice lower volume mailers to use more First-Class Mail services rather than migrate to electronic and other mail alternatives.[16] However, the Postal Service fails to demonstrate what, if any, volume increases will be achieved or the migration volumes that may be prevented by its actions. Thus, the Postal Service does not provide sufficient justification to allow discounts to exceed 100 percent.

For Standard Mail there is one flat discount and six parcel discounts that exceed the 100 percent passthrough . Automation Mixed ADC pre-barcoded flats have a passthrough percentage of 221.4, which is down from the Docket No. R2008-1 passthrough of 265.2 percent. Standard Mail carrier and high density drop shipped DSCF parcels have an excessive passthrough of 179.8 percent, which is higher than a similar Docket No. R2008-1 passthrough of 92.8 percent. Also, the DDU carrier route/high density drop shipped parcels have a passthrough of 200.3 percent, substantially higher than the 123.9 percent found in Docket No. R2008-1, Appendix B.

For Standard Mail BMC machinable parcels, the passthrough is 204.1 percent, again substantially higher than the 115.9 percent passthrough offered in Docket No. R2008-1. The Standard Mail 5-digit machinable parcels passthrough is 117.1, up slightly from the 116 percent passthrough in Docket No. R2008-1. Both DSCF machinable and irregular not-flat-machinables (NFM) have high passthroughs as well of 158.8 and 174.5 percent, respectively. Finally, DDU machinable and irregular non-flat-machinables have passthroughs of 198.7 and 224.7 percent. To justify all these seemingly large discounts, the Postal Service indicated that it refined the pricing

[16] Docket No. R2009-2, United States Postal Service Notice of Market-Dominant Price Adjustment at 13.

categories and aligned parcel pricing with the most efficient preparations and mail processing paths for parcels and NFMs. Adjustment Notice at 17.

The Postal Service also asserts that the high cost avoidance passthroughs are necessary to encourage more efficient transportation and entry practices. Adjustment Notice at 16. Yet, offering clients a larger discount than the cost savings realized by the Postal Service, when entering parcels further into the mail-stream, is not financially sound. Mailers tend to enter mail where it best suits their delivery needs. Standard Mail NFMs and parcels lost money in FY 2008. The logic of offering a discount higher than the associated cost savings in a period when the Postal Service is losing money overall is flawed. Without the Postal Service offering conclusive quantitative evidence showing contribution increases, these discounts with excessively high passthroughs for Standard Mail should be rejected.

In the Periodicals class, Periodicals outside county barcoded letters have three products with passthoughs in excess of 100 percent. These are automation ACD letters (235.3 percent), automation 3-digit automation letters (1000 percent) and automation 5-digit letters (333.3 percent). Periodicals mail did not cover its attributable costs in FY 2008. Yet, the Postal Service believes the excessive passthroughs are acceptable even though it is in conflict with the requirement that each class of mail cover its costs. Section 3622(c)(2). The rational used by the Postal Service to justify the excessive passthroughs relates to the value of the product to the public. Section 3622(e)(2)(C). While periodical mail has social value of the type claimed by the Postal Service, these excessive discounts, especially the one with a 1,000 percent passthrough, are not needed.

V. THE SATURATION MAIL VOLUME INCENTIVE PROGRAM MAY BE A NEW SPECIAL CLASSIFICATION REQUIRING AN MCS CHANGE REQUEST OR, AS A MINIMUM, SIGNIFICANT EXPLANATORY DESCRIPTIONS

The Postal Service's schedule of new prices for Standard Mail includes reference to a "Saturation Mail Volume Incentive Program" for Commercial and Nonprofit saturation letters and flats.[17] Based on the limited information provided by the Postal Service, it is fair to conclude that the program may be premised upon distinct market and/or cost characteristics and may, therefore, even if they are applied to existing products, create a special classification.[18] A new special classification requires a separate classification filing to modify the product list in the Mail Classification Schedule. 39 CFR 3020.30.

The Notice indicates that commercial saturation flats receive a credit of $0.04 per-piece "on incremental volume recorded during the established program period, for mailers that comply with the application and eligibility requirements of the program." A credit of $0.024 is received for nonprofit saturation flats for similar the same types of volumes by the same type of mailers. Similarly, Standard saturation letters receive credits of $0.037 and $0.022, respectively. Other than the proposed "credit" amount and references quoted above, the Postal Service's Notice does not include any further details about the program. The Notice states that specific standards "are included in the upcoming changes in the Domestic Mail Manual (DMM) posted on *Postal Explorer*," but

[17] Adjustment Notice, Attachment A at 15, 22.

[18] *See* Order Establishing Ratemaking Regulations for Market Dominant and Competitive Products, Docket No. RM2007-1, Order No. 43, October 29, 2007 at 57-58.

the Public Representative is unable to locate any reference to this program in the current DMM on *Postal Explorer*. Adjustment Notice at 16.

The Postal Service acknowledges that this program includes specific eligibility requirements that differ from those applicable to current mailers of the Standard Mail covered by the program. The separate rates determined by credits should reflect cost characteristics for the service provided that differs from the cost characteristics of the service provided to mailers not eligible for the credit. The service is available for a specific, but unknown, time period. A negotiated service agreement, a type of special classification, is also limited to a certain time period. Also, like many negotiated service agreements, the special classification applies to "incremental volumes."

On its face, this program appears to represent a "special classification" as provided for in section 3622(c)(10) of title 39.[19] The program provides for a new rate category rather than a price adjustment or revision in the terms of service of an existing rate category. The existing rate category remains the unchanged. This program adds an additional category with its own application and eligibility standards which are apparently more stringent than those available to obtain worksharing discounts. For new special classifications, the PAEA requires a showing that they either improve the financial position of the Postal Service or enhance certain performance of the Postal Service (3622(c)(10)(A)(i)), and not cause unreasonable harm to the

[19] Although section 3622(c)(10) is normally applied to negotiated service agreements between the Postal Service and postal users, that is only one type of special classifications to which section 3622(c)(10) applies. Section 3622(c) states: Factors.--In establishing or revising such system, the Postal Regulatory Commission shall take into account…(10) the desirability of special classifications for both postal users and the Postal Service in accordance with the policies of this title, *including agreements* between the Postal Service and postal users…." (Emphasis added.)

marketplace.[20](3622(c)(10)(A)(ii)). Section 3020.13(4) of the Commission's Rules implements this section of the PAEA. Pursuant to that section and 3020.32(b), the Postal Service must explain why the change is not inconsistent with each requirement of 3622(d), advances the objectives of 3622(b) and takes into account the factors in 3622(c). In the absence of authorization for a new special classification pursuant to section 3020 of the Commission's rules, the Commission must reject the notice of rate adjustment.

Even if the incentive program is not now deemed a special classification but is subject to review in this proceeding, as a minimum, the Postal Service must provide additional explanatory descriptions for these four new classifications. This additional information may demonstrate this program is a new special classification. For instance, the following information must be provided for each of the classifications: the "established" program time period; the details of the application required and whether it amounts to a contract for service; eligibility requirements of the program (and why this is not a worksharing discount); the coverage of the program—whether geographic, delivery frequency on existing routes, new routes, or other areas of coverage; the definition and method of determining "incremental" mail; the types of mailers expected to receive the credits under the program; the basis for the determination of each of the four incentive credits; the anticipated volumes; the expected revenue impact; the method for determining revenue leakage; and the impact of the discounts and resulting impact of adjustments to billing determinants on the rate cap calculation if incremental

[20] 39 U.S.C. 3622(c)(10)(A)(i) and (ii).

mail is forthcoming. These explanations must be accompanied by appropriate work papers showing the assumptions and calculations.

VI. Periodicals and Recovery of Attributable Costs

Periodicals again are not expected to recover attributable costs. Rule 3010.14(b)(7) requires a discussion demonstrating how the proposed rate adjustments are designed to “properly take into account the factors listed in 39 U.S.C. 3622(c).” One of those factors is the “requirement” that each class or type of mail bear the costs attributable to each class or type of mail. The Adjustment Notice indicates Periodicals rates do not recover their attributable costs in contradiction of the factor in section 3622(c)(2) of the PAEA.[21] However, the Adjustment Notice provides a rationale for the shortfall in the proposed Periodicals rates. Adjustment Notice at 18.

The Public Representative’s comments in Docket No. R2008-1 recommended that in view of the circumstances suggesting that Periodicals coverage might improve during FY2008, the Commission should refrain from considering remedial steps. In Order No. 66, the Commission accepted the Periodicals rate adjustment and did not find a reason to require an amended notice or to take other remedial steps. Order No. 66 at 28. However, the Public Representative’s comments also noted, and reiterated in Order No. 66:

> If the Periodicals situation does not improve after further experience with the new rate incentives, new processes, and the installation of new equipment, together with revenue from the proposed rate increases during this fiscal year, then the Commission should consider appropriate action. The remedial steps may be taken either

[21] *See* USPS Notice at 17-18. See also, “Summary of Revenue and Cost for Major Service Categories,” CRA FY2007 filed in ACR2007. Total Periodicals cost coverage is 83.01 percent.

> pursuant to a rate adjustment filing or an Annual Compliance Review or even pursuant to a complaint filing to bring Periodicals revenue in line with Periodicals attributable costs. Comments at 7.

Those comments remain valid. This matter is again before the Commission in this proceeding as well as in the ongoing proceeding on the Annual Compliance Report, 2008, Docket No. ACR2008. Procedures to realign the Periodicals rates to recover attributable costs should be addressed and a resolution initiated.

VII. CONCLUSION

The Public Representative respectfully submits the foregoing Comments for the Commission's consideration.

Respectfully submitted,

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APPENDIX

FINANCIAL OUTPUTS FROM FIRST CLASS CONTRIBUTION ANALYSIS

FY 2009 Estimated Financials for First Class Mail						
I. Scenario: Equal Rate Increase						
	Single Piece Letters	Presort Letters	Single Piece Cards	Presort Cards	Inter-National	Totals
% Price Change	3.80%	3.80%	3.80%	3.80%	3.80%	
% Volume Change	0.00%	0.00%	0.00%	0.00%	0.00%	
Average Rate	0.539	0.364	0.288	0.218	1.241	
Discount		0.175		0.070		
Avoided Unit Cost		0.204		0.163		
% Pass Through		85.76%		42.93%		
Volume (M)	36,711.881	49,162.965	1,845.860	3,555.997	720.064	91,996.767
Revenue (M)	19,777.498	17,903.425	530.726	774.360	893.912	39,879.921
Cost (M)	11,758.402	5,739.371	446.000	281.300	673.558	18,898.631
Contribution (M)	8,019.096	12,164.053	84.726	493.060	220.354	20,981.290

FY2009 Estimated Financials for First Class Mail

I. Scenario: USPS Notice

	Single Piece Letters	Presort Letters	Single Piece Cards	Presort Cards	Inter-National	Totals
% Price Change	4.36%	3.14%	3.79%	2.89%	4.14%	
% Volume Change	-0.30%	0.47%	-0.22%	0.95%	-0.22%	
Average Rate	0.542	0.362	0.287	0.216	1.245	
Discount		0.180		0.072		
Avoided Unit Cost		0.204		0.163		
% Pass Through		88.32%		44.08%		
Volume (M)	36,600.882	49,392.576	1,841.845	3,589.902	718.494	92,143.698
Revenue (M)	19,824.077	17,873.366	529.511	774.867	894.850	39,896.671
Cost (M)	11,722.850	5,766.177	445.030	283.982	672.090	18,890.128
Contribution (M)	8,101.227	12,107.189	84.481	490.885	222.760	21,006.542

1. FY2009 Estimated Financials for First Class Mail

B. Scenario: Single Piece Limit

	Single Piece Letters	Presort Letters	Single Piece Cards	Presort Cards	Inter-National	Totals
% Price Change	4.36%	3.65%	3.79%	-15.50%	11.07%	
% Volume Change	-0.24%	0.24%	-4.70%	20.23%	-4.72%	
Average Rate	0.542	0.364	0.287	0.177	1.328	
Discount		0.178		0.110		
Avoided Unit Cost		0.204		0.163		
% Pass Through		87.44%		67.82%		
Volume (M)	36,623.714	49,278.541	1,759.016	4,275.257	686.101	92,622.630
Revenue (M)	19,836.444	17,920.235	505.698	757.854	911.385	39,931.615
Cost (M)	11,730.163	5,752.864	425.017	338.198	641.789	18,888.030

Contribution (M)	8,106.281	12,167.371	80.682	419.656	269.596	21,043.585

FY2009 Estimated Financials for First Class Mail

Scenario: Single Piece Limit Plus One

	Single Piece Letters	Presort Letters	Single Piece Cards	Presort Cards	Inter-National	Totals
% Price Change	7.14%	0.68%	7.14%	-16.65%	8.05%	
% Volume Change	-1.71%	2.42%	-6.46%	22.37%	-2.76%	
Average Rate	0.556	0.353	0.297	0.175	1.292	
Discount		0.203		0.122		
Avoided Unit Cost		0.204		0.163		
% Pass Through		99.65%		75.02%		
Volume (M)	36,085.517	50,354.299	1,726.641	4,351.631	700.193	93,218.281
Revenue (M)	20,065.590	17,786.751	512.422	760.888	904.851	40,030.502
Cost (M)	11,557.784	5,878.450	417.194	344.239	654.971	18,852.639
Contribution (M)	8,507.805	11,908.301	95.228	416.648	249.880	21,177.864

CALCULATION OF DEMAND ELASTICITY ESTIMATES

The Postal Service's demand models for single piece and presort letters and cards were calibrated using own price and the corresponding discount rates. Therefore, the resulting elasticities needed to be adjusted in order to provide demand elasticities with respect to single piece and presort rates, fitting the normal interpretation of volume effects from changing one rate holding the other rate constant. The adjustment was performed as follows:

For single piece letter demand, the Postal Service's model takes the functional form:

$$V_{SL} = D^{SL}(P_{SL}, D_L, M_1, M_{2,\ldots,}M_n),$$

where:

V_{SL} = Single piece letter volume.

P_{SL} = Single piece letter "rate".

D_L = Average letter discount or difference between the single piece letter rate and the average presort letter rate.

$M_1, M_2,\ldots,M_n$ = all other n number of non-price variables affecting demand.

Similarly, for presort letter demand, the Postal Service's model in functional form is:

$$V_{PL} = D^{PL}(P_{PL}, D_L, M_1, M_{2,\ldots,}M_n),$$

where:

V_{PL} = Presort letter volume.

P_{PL} = Presort letter "rate".

The average letter discount rate is equal to $D_L = P_{SL} - P_{PL}$. Therefore the two demand functions can be restated as:

$$V_{SL} = D^{SL}(P_{SL}, P_{SL} - P_{PL}, M_1, M_{2,\ldots,}M_n), \qquad (1)$$

$$V_{PL} = D^{PL}(P_{PL}, P_{SL} - P_{PL}, M_1, M_{2,\ldots,}M_n), \qquad (2)$$

which shows that both demands are functions of both price variables and all other non-price variables.

From the first function, it is clear that changes in the single piece rate, holding the presort rate constant, affect V_{SL} both directly and indirectly by changing the discount rate. In particular, the marginal effect on V_{SL} with respect to P_{SL} is:

$$\partial V_{SL}/\partial P_{SL} = D^{SL}{}_{PSL} + D^{SL}{}_{DL}.$$

The single piece letter demand elasticity with respect to own price is then:

$$(\partial V_{SL}/\partial P_{SL})*P_{SL}/V_{SL} = D^{SL}{}_{PSL}*P_{SL}/V_{SL} + D^{SL}{}_{DL}*P_{SL}/V_{SL}$$

$$= D^{SL}{}_{PSL}*P_{SL}/V_{SL} + D^{SL}{}_{DL}*(D_L/V_{SL})*P_{SL}/D_L,$$

which is shown as the sum of $D^{SL}{}_{PSL}*P_{SL}/V_{SL}$, the demand elasticity with respect to the single piece price, holding the discount rate constant (but changing the presort rate by the same amount as the single piece rate), and the elasticity with respect to the discount rate, $D^{SL}{}_{DL}*(D_L/V_{SL})$, multiplied by the ratio P_{SL}/D_L.

The elasticity value $(\partial V_{SL}/\partial P_{SL})*P_{SL}/V_{SL}$ required for the analysis was then calculated using the Postal Service model estimates for $D^{SL}{}_{PSL}*P_{SL}/V_{SL}$ and $D^{SL}{}_{DL}*(D_L/V_{SL})$, and the FY 2008 Postal Service estimates for the average single piece revenue, P_{SL}, and the discount rate D_L. Therefore:

$$(\partial V_{SL}/\partial P_{SL})*P_{SL}/V_{SL} = -.397 = -.218 -.057*(.515/.164).$$

The presort rate effect on single piece volume is only indirect via a change in the discount rate. From (1), the marginal effect is:

$$\partial V_{SL}/\partial P_{PL} = - D^{SL}{}_{DL},$$

and the cross price elasticity is then:

$$(\partial V_{SL}/\partial P_{PL})*P_{PL}/V_{SL} = - D^{SL}{}_{DL}*P_{PL}/V_{SL}$$

$$= - D^{SL}{}_{DL}*(D_L/V_{SL})*P_{PL}/D_L.$$

Therefore:

$$(\partial V_{SL}/\partial P_{PL})*P_{PL}/V_{SL} = .122 = .057*(.351/.164).$$

By similar procedure, the own and cross price effects for presort letters can be estimated. These are shown below:

Presort letters Own Price Elasticity:

$$(\partial V_{PL}/\partial P_{PL})*P_{PL}/V_{PL} = D^{PL}{}_{PPL}*P_{PL}/V_{PL} - D^{PL}{}_{DL}*(D_L/V_{PL})*P_{PL}/D_L$$

$$(\partial V_{PL}/\partial P_{PL})*P_{PL}/V_{PL} = -.455 = - .250 - .096*(.351/.164).$$

Presort letters Cross Price Elasticity:

$$(\partial V_{PL}/\partial P_{SL})*P_{SL}/V_{PL} = D^{PL}{}_{DL}*(D_L/V_{PL})*P_{SL}/D_L$$

$$(\partial V_{PL}/\partial P_{SL})*P_{SL}/V_{PL} = .301 = .096*(.515/.164).$$

The functional forms for the first class cards demand models, and own and cross price effects can be formed as above. The related demand elasticities are then:

Single Piece Cards Own Price Elasticity:

$$(\partial V_{SC}/\partial P_{SC})*P_{SC}/V_{SC} = -.117 - .078*(.277/.067).$$

Single Piece Cards Cross Price Elasticity:

$$(\partial V_{SC}/\partial P_{PC})*P_{PC}/V_{SC} = .244 = .078*(.210/.067).$$

Presort Cards Own Price Elasticity:

$$(\partial V_{PC}/\partial P_{PC})*P_{PC}/V_{PC} = -1.048 = -.835 - .068*(.210/.067).$$

Presort Cards Cross Price Elasticity:

$$(\partial V_{PC}/\partial P_{SC})*P_{SC}/V_{PC} = .281 = .068*(.277/.067).$$