Study on Universal Postal Service and the Postal Monopoly

Appendix F

Section 4

Quantitative Analysis of the Value of the Postal and Mailbox Monopolies

Robert H. Cohen

Contents

1   Quantitative Analysis of the Value of the Postal and Mailbox Monopolies

1.1 Value of the Combined Postal Letter and Mailbox Monopolies

The value of a monopoly is the loss of net income to a post if its monopoly were eliminated while holding its USO constant according to the methodology laid out in Section 2 of Appendix F.[1] This section deals with the combined letter and mailbox monopoly of the Postal Service in order to see the impact of a competitive postal market on Postal Service profits. The next section deals with the case where the mailbox monopoly alone is eliminated but not the letter monopoly because the United States is unique in being the only country in the world with a mailbox monopoly. Therefore it is of interest to see how much profit the Postal Service would lose if it were eliminated while keeping the letter monopoly.

This analysis employs an updated model that was originally developed by the PRC staff and used in a staff paper to test the hypothesis that liberalization of the U.S. postal market would cause the USPS to enter a graveyard spiral.[2] The model is one of a family belonging to the "entry pricing" methodology in the postal economic literature. It is used here to estimate the volume that would be captured by an entrant from the incumbent (USPS) and the impact of the lost volume on the Postal Service's net revenue (or profits) under the assumption that the letter and mailbox monopoly are both eliminated. All elements of the USO are retained. The model is used with 2007 data in this analysis.

The letter monopoly in the U.S. is a delivery monopoly. Mailers or third parties are allowed to barcode, sort and transport mail as long as the Postal Service delivers it. The USPS has adopted an extensive array of discounts called worksharing discounts that are, to the extent practical, set equal to the Postal Service's avoided cost. At each point in the value chain mailers and third parties make a choice to do the work themselves or let the

---

[1] This subject is discussed further in Section 1.1.3

[2] Cohen, R., Robinson, M., Sheehy, R., Waller, J. and Xenakis, S. "An Empirical Analysis of the Graveyard Spiral"; Competitive Transformation of the Postal and Delivery Sector; Eds. Michael A. Crew and Paul R. Kleindorfer; Kluwer Academic Publishers, 2003.

Postal Service do it. The decision is based on a comparison of their cost to do the work with the discount. If the mailer's cost is smaller than the discount, the mailer or third party will decide to do the work itself and collect the discount. Otherwise, it will let the Postal Service do the work. In short, the lowest cost producer does the work. The result is a competitive upstream postal market that greatly simplifies our analysis of the profits that the Postal Service will lose if the combined monopolies are eliminated. We need only consider the delivery portion of the postal value chain since we already have a competitive upstream market.

The model examines a delivery firm (or entrant) that attempts to cream-skim volume from the U.S. Postal Service. Very simply, the model examines data on USPS delivery routes to see if an entrant could profitably deliver the contestable mail (i.e. the mail for which an entrant could compete) on the routes. In the model the entrant only delivers mail but it does have to sort the mail into delivery sequence and do the other in-office activities required of letter carriers to prepare their mail for delivery. It relies on workshared volumes that are presorted and entered locally by mailers or third parties. It is assumed that entry will occur wherever it is profitable. When it does occur, the entrant is said to have skimmed the route by capturing volume and as a result the net income of the Postal Service declines. We refer to a single entrant, but there is no *a priori* reason why there could not be multiple entrants. It is the total impact of entry on the Services' net revenue that matters. The model assumes that the entrant has access to the mail box.

1.1.1   Contestable Volumes

The value of the monopolies is most sensitive to the estimate of the volumes for which the entrant could compete. In this section the estimate of contestable volumes is based on an analysis of how mailers and third party consolidators presort and dropship mail. This information is used to quantify the volumes for which a delivery entrant could compete. An empirical and reproducible estimate is the goal.

Not all the 212 billion pieces delivered by the Postal Service in 2007 could be captured by a delivery entrant. For example, single piece first class mail could not be captured because by definition, a delivery entrant does not have an upstream infrastructure to

collect, consolidate, sort and transport mail. Mail is contestable if it is presorted and dropshipped locally so that it needs no upstream work prior to preparation for delivery.

Presort requirement--letters

The basic sorting of mail to the carriers delivery sequence is necessary to any delivery operation. A delivery entrant would be able to capture *letters* that are presorted to the 5 digit, or ECR level, and dropped at the SCF[3] or DDU[4]. The USPS uses machines that sort this mail to the carriers delivery sequence in one pass and does not have to sort them twice (once to the carrier route and once to the delivery sequence). It is assumed for the purpose of this analysis that entrants have similar machines but we include no cost for the entrant.[5]

Presort requirement--flats

In 2007 there were no machines in general use that could sequence *flats*. Consequently entrants could only capture ECR presorted flats because five digit flats still need upstream processing to allow them to be sorted to the carrier's delivery sequence. Unlike letters, flats must first be sorted to the carrier route level and then they can be sequenced for delivery on the route. If they are given to the USPS when they are presorted to the 5 digit level only, the cost to the mailer of presorting them to the carrier route level and giving them to the entrant would be higher than the cost (to the mailer) of giving them to the Postal Service as 5 digit mail. In summary, all mail that is given to the Postal Service at some upstream point[6] to sort and/or to transport to the SCF/DDU is not contestable and is not available to the entrant.

Dropship estimates

Standard mail has cost based discounts for presorting and transportation. First class has no dropship discounts and periodicals have dropship discounts based on the advertising

---

[3] SCF (sectional center facilities) are mail processing and local transportation hubs.

[4] A DU is a delivery unit where carriers pickup and prepare their mail for delivery. DDU refers to a destination delivery unit where highly presorted mail is dropped by mailers (or third parties).

[5] This contributes to the model generating an upper bound estimate.

[6] An upstream sorting point for letters is prior to the 5 digit presort level and for flats its prior to the carrier route presort level.

portion of periodicals only and not on the editorial portion. The table below shows the dropship volumes for standard mail. It can be seen that a large preponderance of the volume is dropshipped to the SCF level or DDU (local delivery unit.)

Table F4-1: Distribution of Standard Regular and ECR Mail by Drop Entry Point (2007)

	Volume (billions)	**Distribution of Volume (%)**
Non-Dropshipped	1.6	4.6
BMC Entry	2.9	8.3
SCF Entry	21.4	61.3
DDU Entry	9.0	25.9
Total	**34.9**	**100**

Source: PRC-ACR2007-LR5

Contestable Standard Regular and ECR consists of 5 digit, carrier route presorted letters that are drop shipped to the SCF or DDU level and carrier route flats that are drop shipped to the SCF or DDU level.

This analysis assumes that if the monopolies were lifted, cost based transportation discounts would be offered for First Class and Periodicals so that the Postal Service could better compete.[7] Much First Class 5 digit and carrier route bar-coded mail is not local and we don't know how much of this mail could be drop shipped and the question is made even more difficult because of the time value of First Class mail. This analysis assumes that half of the 5 digit and carrier route First Class (letters and cards) would be drop shipped if cost based discounts were offered. In addition, it assumes that the same percentage of carrier route presorted Periodicals would be drop shipped as carrier route presorted flats in Standard Mail. Finally, parcel post (Parcel Select) volume that is drop shipped to the DDU is considered contestable.

The contestable volumes used in this study for the combined monopolies are shown in the table below: This is 26 percent of the total mail for 2007.

---

[7] The current statutes allow the Service to offer these discounts now. In a competitive environment the Postal Service would almost certainly have to offer these discounts or risk loosing substantial bulk volumes simply because they were not priced in an economically rational manner.

Table F4-2: Base Case Contestable Subclasses and Contestable Volumes (Letter & Mailbox)

Subclass	Contestable Volume (billions)
First Class Presort Letters	10.0
First Class Presort Cards	0.8
Periodicals	2.9
Standard Regular	13.3
Standard ECR	28.3
Parcel Post	0.2
Total	55.3

1.1.2   Model Input Variables

The model has three additional input variables: the number of days per week the entrant delivers, the entrant's cost advantage, and the discount that the entrant offers relative to the prices that the USPS offers. They are discussed below.

Number of days per week

Mail delivery has both a fixed and a variable component. The fixed component involves the carrier walking or driving between stops and other activities whose time does not vary with the volume of mail that the carrier delivers. The variable component, of course, varies with the volume that is being delivered. The entrant on a particular route may choose to deliver from 1 to 6 days per week. Its delivery frequency will, for the most part, determine the amount of fixed delivery cost it incurs. For example, delivering 3 days per week incurs about half the fixed cost of delivering 6 days per week.

Entrant's cost advantage

The entrant may have a cost advantage over the Postal Service because its operations are more efficient or its labor costs are lower than the Service's. These two effects are combined in this variable and it ranges from zero to 30 percent in the model runs that are presented below.

Entrant's price discount

An entrant would have to offer a discount from the USPS price in order to attract customers. We know from the experience of other countries that have liberalized postal markets that discounts are almost always offered by entrants. The discount in the model affects the revenue that an entrant can receive from a route. This in turn affects whether a particular route would be profitable for the entrant. It will be profitable for the entrant to skim fewer routes as its discount increases. The price discount ranges from zero to 20 percent in the model runs presented below.

The model does not take into account the price elasticity of the mailer. It simply allows the entrant to take all the contestable mail when it is profitable for the entrant to do so. Some mailers will not use a new competitor to the established postal provider right away even if offered a discount. Brand loyalty, inertia, the need to prove quality and other factors affect the pace at which mailers will shift mail to an entrant even when offered a price discount.[8] Varying the percentage of base volumes can also be used to see the impact of mailers' reluctance to switch postal delivery firms. If for example only 35 percent of mailers were willing to switch from the Postal Service, a model run with 35 percent of the base contestable volume would show the affect on postal profits. Thus, we also include 35 and 70 percent of base contestable volumes in model runs shown below. This is in addition to varying the contestable volumes over the range 50, 100, 150 percent of base contestable volumes (to see the impact of other estimates of base volumes).

---

[8] See the PRC staff paper Cohen, R., Robinson, M., Sheehy, R., Waller, J. and Xenakis, S. "Will Entrants into a Liberalized Postal Market Attract Investors"; Regulatory and Economic Challenges in the Postal and Delivery Sector, Eds. Michael A. Crew and Paul R. Kleindorfer; Kluwer Academic Publishers, 2005.

In an email to the authors from a spokesman at City Mail (Sweden Post's main competitor in its liberalized postal market) has observed that capturing "volume in this market is a very slow process ... one can expect a lot of conservatism among the customers. This is especially true about administrative mail (bank account statements, invoices, etc.). It takes time to prove your quality."

1.1.3   Description of the Model

The model makes use of data on all evaluated rural routes (97 percent of rural routes) and on a ten percent sample of city routes.[9] The data includes the volume of mail (by shape for rural routes and by subclass for city routes) that is being delivered on the day the data is recorded.[10]   The model examines each route in its data set.   After taking into consideration the entrant's cost advantage and its price discount, the model calculates whether the revenue from the contestable volume on the route covers the entrant's costs. If not, the model examines the next route. If yes, then the entrant can profitably deliver the contestable volumes on the route, and the route is said to be skimmed by the entrant and the model goes on to the next route.

More specifically, the entrant's variable delivery cost for each class of mail is assumed to be the same as the Services' adjusted for its cost advantage. The variable delivery cost is computed for the contestable volumes on the route. Next the entrant's fixed cost for the route is computed. Here the model starts with the Postal Services fixed costs and takes into account the number of days per week that the entrant is delivering[11] and the entrant's cost advantage. The entrant's total delivery cost for the route is the sum of its fixed and variable cost. Because the entrant is simply delivering mail, it has no non-delivery costs. The revenue for each contestable subclass of the entrant is the product of the unit delivery price[12] of the USPS for each contestable subclass times a discount factor (which is an input variable) and the contestable subclass volumes on the route. The revenue for all the contestable subclasses is summed to compute the entrant's total revenue on the route.

---

[9] City delivery volume data is obtained from USPS-FY07-28 - City Carrier Cost System (CCCS), rural delivery volume data is obtained from USPS-FY07-29 - Rural Carrier Cost System (RCCS), and rural carrier costs by mail shape were obtained from the FY2006 Rural Mail Count (RMC), which was graciously provided by the Postal Service.

[10] Shape volumes from the Rural Mail Count are converted to subclass volumes using conversion factors derived from the Rural Carrier Cost System.

[11] All things being equal, the fixed cost of the entrant is proportional to the number of days a week that it delivers.

[12] The delivery price for each subclass is the average price minus the average upstream attributable cost. Because the Postal Services worksharing discounts are equal to avoidable upstream costs, this produces a good estimate of delivery prices.

If a route is skimmed, new Postal Service volumes are computed reflecting the lost volume. When all routes have been examined, Postal Service volumes under competition are known and new revenues are calculated.[13]   Similarly, the model calculates new revenue and new upstream and delivery costs for the new volume of mail that the Postal Service will deliver after the contestable mail on the routes has been skimmed. The reduction in profit due to entry is the value of the letter monopoly.[14]

1.1.4   Model Results

In our opinion, realistic ranges for the input variables and the base case are the mid range of the values.

The base case for the combined letter/mailbox monopoly is as follows:

10 percent--Discount
3 -- Number of days per week that the entrant delivers
10 percent—Entrant's cost advantage (labor cost and efficiency)
100 percent of contestable volume available
Base case value of the monopoly: $3.48 billion
Percentage of routes skimmed: 48 percent

The value of the monopoly should be looked at in the context of the Postal Service's $75 billion revenue for that year. The base case monopoly value is less than 5 percent of revenue. It should be noted that several factors contribute to this being an upper bound estimate. The model assigns no costs to the entrant for capital equipment. Moreover, it will be seen in a discussion below that some skimmed routes do not form the critical mass necessary for operation and no adjustment has been made for mailers' reluctance to switch to an entrant even if offered a discount.

Sensitivity analysis for model input variables

---

[13] The weighting in the model takes into account the fact that city routes are represented by a 10 percent sample.

[14] More specifically, pre- and post-entry profits are calculated for the sample, which are subsequently multiplied by a weight that determines the annual profit lost from entry.

To test the sensitivity of the result, the value of the combined letter and mailbox monopoly is shown below for the full range of each variable while holding the other variables to their base case values.

Table F4-3: Values of the Combined Letter and Mailbox Monopoly

Discount	0 percent	5 percent	10 percent	15 percent	20 percent
Value	$3.9 bil	$3.7 bil	$3.5 bil	$3.3 bil	$3.1 bil
Skimmed routes	56 percent	52 percent	48 percent	44 percent	40 percent

Days/week	1	2	3	4	5	6
Value	$5.1 bil	$4.4 bil	$3.5 bil	$2.7 bil	$2.1 bil	$1.6 bil
Skimmed routes	92 percent	69 percent	48 percent	34 percent	24 percent	17 percent

Cost Advantage	0 Percent	10 Percent	20 Percent	30 percent
Value	$3.1 bil	$3.5 bil	$3.9 bil	$4.3 bil
Skimmed routes	41 percent	48 percent	57 percent	65 percent

Contestable Volume	50 Percent (low)	100 Percent (base)	150 Percent (high)
Value	$0.8 bil	$3.5 bil	$5.9 bil
Skimmed routes	17 percent	48 percent	66 percent

It can be seen that the value is most sensitive to the contestable volume with a range from low to high of $5 billion. Next is the number of days per week that the entrant delivers. Here the range is $3.5 billion. The results are not nearly as sensitive to the discount or to the cost advantage variables. Each has about a billion dollars separating the low and high values. It is intuitive that the result is most sensitive to the contestable volume input variable. The amount of contestable volume can be thought of as the size of a pie and the other variables can be thought of as determining how large a portion of the pie will be captured by the entrant. Because the contestable volume ranges from 50

percent to 150 percent of the base amount, it is the largest factor in determining the size of the entrant's share. If contestable volume were only allowed to range from 95 percent to 105 percent, then the number of delivery days per week would have the largest influence in determining the entrant's share. It can also be seen that the results are decidedly non-linear with the amount of contestable volume.

The number of days that the entrant delivers is the way that an entrant can control its fixed cost to gain an advantage over the incumbent. In Sweden, City Mail (Sweden Post's main competitor) began by delivering two days a week.[15] City mail later changed to delivering every third weekday (or an average of 1.5 days a week) and improved its profitability significantly.

The highest and lowest values of the letter monopoly assuming the most favorable and least favorable values of the input variables are:

Highest--$7.1 billion (98 percent of routes skimmed)

(delivery once a week, no discount, 30 percent cost advantage and high contestable volume-150 percent of base)

Lowest--$0.2 billion (2 percent of routes skimmed)

(delivery 6 days a week, 20 percent discount, no cost advantage, and low contestable volume-50 percent of base)

The percentage of routes skimmed is proportional to the value of the monopoly.

Sensitivity analysis for mailers' reluctance to use an entrant

To quantify the impact of mailers' reluctance to use an entrant we have examined the case where only 35 and 70 percent of the contestable mail would be turned over to the entrant. We do this by adjusting the amount of contestable volume to 35 and 70 percent of the base amount in the table below. It can be seen that if mailers were reluctant to turn over mail to the entrant even with a discount, that this would significantly reduce the value of the monopolies from the base case.

---

[15] Sweden Post delivers 5 days per week.

Available Volume	35 Percent	70 Percent
Value	$0.3 bil	$1.8B
Skimmed routes	6 percent	31 percent

1.1.5   Critical Mass

This analysis uses the route data made available to the PRC by the Postal Service which has stripped it of zip code information making it impossible to determine the geographic proximity of the skimmed routes. This is important because entry would only take place if there were a critical mass of routes (or really addresses) that were profitable to serve. It can be expected that there are some relatively isolated skimmed routes that do not meet the critical mass test. We know that the profitability of routes depends on volume and that volume is primarily related to the income of the addresses served. Further we know that relatively high income people tend to live in different neighborhoods than relatively lower income groups.[16] Consequently, a large majority of the skimmed routes would be in geographic clusters and would form a critical mass. To the extent that a number of skimmed routes are relatively isolated and are not in areas that form a critical mass, the model predicts entry where it is unlikely to occur and therefore overstates the value of the monopoly. The results can be considered to be an upper bound on the value of the monopoly.

Finally, we know that mail processing costs in the USPS mail processing plants vary widely.[17] A more accurate estimate of the value of the monopolies could be made if the mail processing cost data could be related to the route data. Here again, the Postal Service did not release geographic identifiers with its mail processing center cost data.

---

[16] See the Appendix to Cohen, R., Ferguson, W., Waller, J. and Xenakis, S. "An Analysis of the Potential for Cream Skimming in the U.S. Residential Delivery Market"; Emerging Competition In Postal and Delivery Systems; Eds. M. Crew and P. Kleindorfer; Kluwer Academic Publishers, 1999.

[17] Cigno, M., Monaco, D. and Robinson, M. "Do Differences in Facility Specific Mail Processing Unit Costs Have Implications for the Cost of the Universal Service Obligation?" *Unpublished Manuscript.* Washington, D.C.: Postal Regulatory Commission.

1.2 Alternative Financing for the USO

The mid range "cost of the statutory USO" calculated in Appendix F3 is $ 7.6 billion. This is close to the upper range of the value of the letter/mailbox monopoly. This coincidence might be taken by some observers as a justification for maintaining the twin monopolies, but this conclusion would be erroneous. In each case, it is important to keep in mind precisely what was calculated.

The "cost of the USO" can be thought of as an estimate of what would happen if Congress sold the Postal Service without adjusting the monopoly laws to a firm intent on profiting as much as possible from ownership while being required to stay within the statutory price caps. Seeking to maximize its profit, it would eliminate all elements of the statutory USO. We have estimated that the new owner would earn $ 7.6 billion more than the Postal Service now earns.

Similarly, the "value of the monopolies" represents an estimate of the losses that the Postal Service would suffer if Congress repealed the monopoly laws but left the Postal Service hobbled by its current universal service obligations as it entered a new competitive world. This means that the Postal Service would have to maintain 6 day a week delivery even if its main competitor delivered only once or twice a week; to maintain all small post offices even though its competitors had none; to continue to provide reduced rates to nonprofit mailers while its competitors did not; to continue economically irrational prices for Media mail by not reflecting the distance pieces traveled while competitors charged distance based prices; and continue to charge below cost prices for periodicals.[18] Under this scenario, new competitors would cherry pick profitable routes, and the Postal Service, we estimate, would lose $ 3.5 billion per year in profits using our mid range estimate and $7.1 billion using the highest in our range of estimates.

In both cases, the calculations are highly sensitive to starting assumptions. The estimate for the cost of the USO would change if statutory or regulatory obligations

---

[18] Media Mail is the only product that can not be zoned because of a statutory prohibition.

change. The estimate of the value of the monopoly would change if the Postal Service's cost per piece changes causing the Postal Service to become more or less competitive with potential entrants. Moreover, the value of the monopolies will shrink much faster than the cost of the USO as mail volumes decline.[19]

In real life, Congress would not allow private ownership of the Postal Service without requiring that it provide minimum levels of service and perhaps fulfill certain social obligations. These calculations offer an orderly way of establishing boundaries for an essentially indeterminate problem. In particular they do not address the question of how the profits of the Postal Service would be affected if it had much more flexibility to modify its current USO in response to competition.

Congressional appropriations for "public service" costs incurred by the Postal Service ended in 1982.[20] Congress stopped paying the Postal Service for "revenue forgone" that resulted from statutorily mandated discounts for nonprofit and other mail in 1993. Since then mailers have been forced to pay higher rates in order to cover whatever costs the Postal Service has incurred in providing services which it would not normally offer but must maintain because of the USO.

If the monopoly laws were repealed, the Postal Service would still likely have market dominance in a number of markets and could still force mailers in those markets to cover the cost of the USO through higher rates (provided the price caps do not make this impossible). However, if the loss of the monopoly stimulated the Postal Service to greater efficiency, then these mailers might pay less. Alternatively, the cost of the USO could be financed directly by Congressional appropriations (as it used to be) or by a fee collected from competitors in a liberalized postal market as has been described in Appendix H.

---

[19] The largest cost component of the statutory USO is frequency of delivery and its USO cost is fixed. The next largest component is maintaining small rural post offices and its cost is 82 percent fixed. In a secular declining volume scenario, its costs would probably be 100 percent fixed because it is likely that salaries of postmasters would not be allowed to decline.

[20] It should be noted, however, that there is in current law a perpetual public service authorization of $ 460 million per year, but no funds have actually been appropriated to the Postal Service since 1985 because the Postal Service has not requested any. See Appendix B for a more complete discussion.

Finally, it should be noted that the estimate for the "value of the monopoly" would be greatly reduced if the Postal Service were to price bulk products flexibly.[21] This can easily be done now that bulk postage is calculated with computers. Prices for mail destined to highly profitable zip codes (routes) could be lowered and the lost revenue could be made up by increasing prices on mail destined for unprofitable zip codes (routes) so that total revenue remains roughly constant. This would to a great extent prevent cream skimming and the revenue loss caused by eliminating the monopoly. Consequently, our monopoly valuation is an extreme upper bound.

Sweden is a case in point. City Mail, its primary competitor, entered the market in 1991 when the country was *de facto* liberalized. The Swedish postal monopoly was then eliminated in 1993. City Mail delvers every third business day to over half the addresses in the country. It delivers highly presorted mail of all types. There is no distinction between First Class and Standard mail. The Competition Authority has permitted Sweden Post to have different prices for different delivery zones for bulk mail based on the cost of serving the zones. City Mail went bankrupt twice and now is profitable and enjoys about a ten percent market share. In the meanwhile Sweden Post has reduced employment by about a third and consumer surplus for mailers has increased. See Joint staff paper by the PRC and National Post and Telecom Agency, Sweden [22]

---

[21] There does not seem to be a statutory bar to charging different prices for mail sent to different destinations. Uniform pricing for non-First Class products is a voluntary policy of the Postal Service and not a statutory requirement. There is a statutory requirement to price First class uniformly, but it does not mean that mail sent to different destinations cannot be charged different prices. It appears to mean that the same schedule of prices must be available to all mailers regardless of where the mail originates. For a fuller discussion see Appendices B and H.

[22] Cohen, R., Jonsson, P., et al. "The Impact of Competitive Entry in Sweden"; Presented at the WIK Wissenschaftliches Institut fur Infrastruktur und Kommunikationsdienste GmbH 10th Konigswinter Seminar on Postal Markets between Monopoly and Competition, February 12-14, 2007; www.prc.gov.

1.3 Value of the Mailbox Monopoly Alone

A significant amount of mail falls outside the letter monopoly and can legally be delivered by USPS competitors. Because the Postal Service enjoys a separate monopoly on the mailbox, competition for this volume is minimal. Only the Postal Service is allowed by statute to place anything in a mailbox[23]. The categories of mail that are outside the letter monopoly include periodicals, unaddressed saturation mail, catalogues over 24 pages, parcels and letters over 12.5 ounces.

The same entry point model is used to estimate the value of the mailbox monopoly with contestable volumes changed to reflect the legal prohibitions. As would be expected the number of skimmed routes are fewer, the amount of mail lost by the Postal Service is much smaller and the impact on USPS profits is much less than in the analysis of the combined letter/mailbox monopoly. The contestable volumes for the mailbox monopoly are shown in the following table. Here it totals 23 billion pieces, compared to the 55.3 billion pieces that are contestable in the combined letter /mailbox monopoly analysis.

Table F4-4: Contestable Subclasses and Contestable Volumes (Mailbox Alone)

Subclass	Contestable Volume (billions)
Periodicals	2.9
Standard ECR	19.9
Parcel Post	0.2
Total	23.0

The base case has changed for the mailbox monopoly because the reduced contestable volumes make it likely that new entrants will follow the practice of the existing alternative delivery operations that deliver unaddressed advertising materials. They generally deliver once a week or even less frequently. Consequently, the base case is changed here to delivery one day per week and the rest of the base case is the same as in the combined letter/mailbox monopoly analysis.

[23] 18 USC 1725.

10 percent--Discount

1-- Number of days per week that the entrant delivers

10 percent--Entrant's cost advantage (labor cost and efficiency)

100 percent of contestable volume available

Base case value of the monopoly alone: $1.33 billion

Percentage of routes skimmed: 51 percent

Again this result is less than 2 percent of revenue for 2007 and it is much lower than for the combined monopolies.

Sensitivity analysis for model input variables

As before, the value of the mailbox monopoly is shown below for the full range of each variable while holding the other variables to their base case values.

Table F4-5: Value of the Mailbox Monopoly Alone

Discount	0 percent	5 percent	10 percent	15 percent	20 percent
Value	$1.42 bil	$1.38 bil	$1.33 bil	$1.27 bil	$1.20 bil
Skimmed routes	58 percent	55 percent	51 percent	48 percent	43 percent

Days/week	1	2	3	4	5	6
Value	$1.33 bil	$0.76 bil	$0.40 bil	$0.26 bil	$0.19 bil	$0.16 bil
Skimmed routes	51 percent	21 percent	9 percent	4 percent	3 percent	2 percent
Cost Advantage	0 Percent		10 Percent		20 Percent		30 percent
Value	$1.22 bil		$1.33 bil		$1.43 bil		$1.50 bil
Skimmed routes	44 percent		51 percent		59 percent		65 percent

Contestable Volume	50 percent (low)	100 Percent (base)	150 Percent (high)
Value	$0.40 bil	1.33 bil	2.25 bil
Skimmed routes	21 percent	51 percent	67 percent

The value of the mailbox monopoly alone is far lower than the combined letter and mailbox monopoly because far less volume is subject just to the mailbox monopoly. As in the case of the joint monopolies, the value is most sensitive to the contestable volume and delivery frequency.

The following two cases which show first a very low value of the mailbox monopoly and second, a very high value are taken from the table above.

10 percent -- Discount
1 -- Number of days per week that the entrant delivers
10 percent – Entrant's cost advantage (labor cost and efficiency)
50 percent of contestable volume available
Value of the monopoly: $0.40 billion

10 percent -- Discount
1 -- Number of days per week that the entrant delivers
10 percent – Entrant's cost advantage (labor cost and efficiency)
150 percent of contestable volume available
Value of the monopoly: $2.25 billion

The highest and lowest values of the mailbox monopoly assuming the most favorable and least favorable values of the input variables are:

> Highest -- $2.4 billion (79 percent of routes skimmed)
> Lowest -- $0.06 billion (1 percent of routes skimmed)

Sensitivity analysis for mailers' reluctance to use an entrant

To quantify the impact of mailers' reluctance to use an entrant when just the mailbox monopoly is eliminated we have again examined the case where only 35 and 70 percent of the contestable mail would be turned over to the entrant. We do this by adjusting the amount of contestable volume to 35 and 70 percent of the base amount in the table below. It can be seen that if mailers were reluctant to turn over mail to the entrant even with a

discount, that this would significantly reduce the value of the monopolies from the base case.

Available Volume	35 Percent	70 Percent
Value	$0.19 bil	$0.76 bil
Skimmed routes	10 percent	36 percent

A mailbox issue

There is an alternative delivery industry in many cites in the U.S. These firms do not use the mailbox and they usually place material that is outside the letter monopoly in a plastic bag and hang it on the door knob. Given the economies of scale in delivery, there is usually only one firm serving in any given area and they typically deliver one day per week or less frequently. It would be expected that if these firms and new entrants had access to the mailbox, they would still deliver once a week or less frequently because of the limited volume available to them. There might be some cost associated with USPS delivery personnel finding the mail that patrons have deposited in there own mail box for pick up. However, many routes would have no competition and those that did would have this issue only once a week or less frequently.[24]. This might increase the Postal Service's delivery cost somewhat, but at present there is no reliable way of estimating any increase cost.

---

[24] A separate smaller box might be attached by households to their mail box to hold letters for pickup by USPS carriers.

2   Bibliography

Cohen, R., Robinson, M., Sheehy, R., Waller, J. and Xenakis, S. "An Empirical Analysis of the Graveyard Spiral"; Competitive Transformation of the Postal and Delivery Sector; Eds. Michael A. Crew and Paul R. Kleindorfer; Kluwer Academic Publishers, 2003.

Cohen, R., Robinson, M., Sheehy, R., Waller, J. and Xenakis, S. "Will Entrants into a Liberalized Postal Market Attract Investors"; Regulatory and Economic Challenges in the Postal and Delivery Sector, Eds. Michael A. Crew and Paul R. Kleindorfer; Kluwer Academic Publishers, 2005.

Cohen, R., Ferguson, W., Waller, J. and Xenakis, S. "An Analysis of the Potential for Cream Skimming in the U.S. Residential Delivery Market"; Emerging Competition In Postal and Delivery Systems; Eds. M. Crew and P. Kleindorfer; Kluwer Academic Publishers, 1999.

Cigno, M., Monaco, D. and Robinson, M. "Do Differences in Facility Specific Mail Processing Unit Costs Have Implications for the Cost of the Universal Service Obligation?" Unpublished Manuscript. Washington, D.C.: Postal Regulatory Commission.

Cohen, R., Jonsson, P., et al. "The Impact of Competitive Entry in Sweden"; Presented at the WIK Wissenschaftliches Institut fur Infrastruktur und Kommunikationsdienste GmbH 10th Konigswinter Seminar on Postal Markets between Monopoly and Competition, February 12-14, 2007.

3   List of Tables