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WASHINGTON, D.C. 20268-0001

Regulations Establishing System of Ratemaking | **Docket No. RM2007-1**

INITIAL COMMENTS OF JOHN C. PANZAR ON BEHALF OF PITNEY BOWES INC. IN RESPONSE TO ADVANCE NOTICE OF PROPOSED RULEMAKING ON REGULATIONS ESTABLISHING A SYSTEM OF RATEMAKING

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Autobiographical Sketch

I am Professor of Economics at Northwestern University (Evanston, Illinois), where I have taught since 1983. Since 2005, I have also held a Professorship at the University of Auckland (New Zealand). I earned my Ph.D. in Economics from Stanford University in 1975. From 1974-1983, I was employed at Bell Telephone Laboratories ("BTL").[1]

In addition to teaching at Northwestern University, I have also taught as a visitor at UC Berkeley (1977), the University of Pennsylvania (1983), and the University of Auckland (1998-2004). Thus, I have taught graduate and undergraduate courses in Industrial and Regulatory Economics for more than 25 years. Many of my former graduate students have gone on to staff positions at the U. S. Department of Justice, the Federal Trade Commission, the Federal Communications Commission, and the Illinois Commerce Commission.

From 1974 to 1983 I was a Member of Technical Staff at BTL. I was the Head of the Economic Analysis Research Department at BTL from 1980 to 1983. My duties at BTL involved conducting original research on the fundamental economic principles of regulatory pricing and costing analysis as well as consulting on regulatory and antitrust issues involving the Bell System.

My published research includes two books and numerous articles in major professional journals. Most of my publications are focused on pricing and costing issues facing multi-product network industries such as telecommunications, electric power, railroads, and postal services. I am an Associate Editor of the *Journal of Regulatory Economics* and a member of the Editorial Board of *Information Economics and Policy*. These journals publish specialized contributions on regulatory theory and practice. I am also a founding co-editor of the *Review of Network*

[1] A copy of my curriculum vitae is attached as Appendix 1.

Economics, an internet journal that publishes articles of relevance both to academic researchers and practitioners working in network industries. Finally, since 1990, I have been an active participant in more than a dozen international conferences on postal economics.

I have consulted extensively on regulatory policy issues. In addition to consulting for numerous corporations, over the two past decades I have served as an economic consultant to the United States Postal Service, Federal Aviation Administration, the World Bank, the U.S. Federal Trade Commission, the U.S. Postal Rate Commission, the New Zealand Commerce Commission, Deutsche Telecom, Deutsche Post, Royal Mail, and Senate of the Commonwealth of Puerto Rico.

I have testified before this Commission on numerous occasions, beginning with Docket No. R84-1 and most recently in Docket No. R2006-1. Over the years, I have also provided written or oral testimony before the U.S. Congress, the U.S. Interstate Commerce Commission, the U.S. Federal Communications Commission, the Pennsylvania Public Utilities Commission, and the U.S. Department of Justice.

I. INTRODUCTION

The Postal Accountability and Enhancement Act of 2006 ("PAEA" or "Act") introduces a new chapter for the postal sector in the United States. In particular, it provides increased opportunities for the United States Postal Service (the "Postal Service") and the postal sector to achieve greater efficiencies through streamlined regulatory procedures and increased pricing flexibility. The challenge facing the Postal Regulatory Commission (the "Commission") is to design policies that take advantage of the opportunities provided by PAEA without undermining the outstanding gains made to date in increasing competition and efficiency in the U. S. postal sector. In my view, the cornerstone of this past success has been the use of cost-based worksharing discounts.

Over the past quarter century, there has been substantial liberalization of network infrastructure industries, both in the United States and around the world. For example, telecommunications, railroads, and electric power generation have all experienced substantial amounts of privatisation of existing incumbents and the introduction of new competitors in many markets. By comparison, postal services have been relatively slow to liberalize, and the postal sector in the United States slower than those of many other developed countries. Not only does the Postal Service have a legal monopoly on the delivery of most addressed letter mail, it is also illegal for competitors to place items in customers' mail boxes.

The introduction of competition into postal markets has taken different forms in different countries. New Zealand and Sweden have fully liberalized their postal markets with little emphasis on unbundling or worksharing. The United Kingdom is proceeding with *both* elimination of the monopoly and the introduction of downstream access. However, on a value added basis, the United States has had more competition, for a longer time, than any other nation despite the continuing presence of letter and postal box monopolies. This is because of competition that has been introduced almost entirely through the offering of worksharing discounts.[2] Work-sharing discounts give competitive providers of transportation, sortation, and other non delivery service components *access* to the Postal Service's natural monopoly delivery network.

Public policy toward the terms under which competitors may obtain access to the natural monopoly or so-called "bottleneck" portions of infrastructure industries has proven to be an important determinant of the success or failure of liberalization policies. Examples include long distance telecommunications services and electric power generation. In each case, the success of liberalization of the more structurally competitive vertical segment (i.e., long distance transmission, power generation) turned out to depend quite crucially on the ability of would be competitors to gain access to the "bottleneck" portions of the network (i.e., the local exchange, transmission and distribution grids). It is somewhat ironic that this crucial issue of access was addressed in the monopolized postal sector relatively early (i.e., during the 1970s); long before it became the subject of regulatory and court proceedings in telecommunications and electric power. As Cohen, *et al*. (2006) point out, the policy focus of the Commission has been on using

[2] The development of worksharing in the U.S. over the past thirty years is the subject of a substantial, and growing, literature. My discussion of worksharing in this testimony draws heavily on the recent paper by R. Cohen, M. Robinson, J. Waller, and S. Xenakis (2006), "Worksharing: How Much Productive Efficiency, at What Cost and at What Price?" in *Progress Toward Liberalization of the Postal and Delivery Sector* (Springer), edited by M. Crew and P. Kleindorfer. In addition, this literature includes M. Elcano, R. German, and J. Pickett (2000), "Hiding in Plain Sight: The Quiet Liberalization of the United States Postal System," in *Current Directions in Postal Reform,* (Kluwer) edited by M. Crew and P. Kleindorfer; J. Haldi and W. Olson (2003), "An Evaluation of USPS Worksharing: Postal Revenues and Costs From Workshared Activities," in *Competitive Transformation of the Postal and Delivery Sector*, (Kluwer) edited by M. Crew and P. Kleindorfer; R. Mitchell (1999), "Postal Worksharing: Technical Efficiency and Pareto Optimality," in *Emerging Competition In Postal and Delivery Services* (Kluwer), edited by M. Crew and P. Kleindorfer; and E. Pearsall (2005), "The Effects of Worksharing and Other Product Innovations on U.S. Postal Volumes and Revenues in *Regulatory and Economic Challenges in the Postal and Delivery Sector* (Kluwer), edited by M. Crew and P . Kleindorfer.

the pricing of worksharing discounts, and thereby *access* to the delivery network of the Postal Service, to promote the productive efficiency of a monopoly letter mail industry.[3]

The PAEA provides an opportunity to build upon this successful history. However, it is important for the Commission to design a "modern" regulatory system that takes into account *both* the statutory provisions of PAEA *and* the special characteristics of the U. S. postal sector. It is my view that the resulting regulatory regime will be in large part *sui generis*: i.e., not one whose characteristics can be "borrowed" from other network industries or other countries.

However, I do strongly recommend that the Commission's regulations establishing a modern ratemaking system carry over the fundamental principle of cost-based worksharing discounts established during the PRA regulatory regime. I do not have a crystal ball that allows me to specify in advance the exact form that the modern rate regulation system mandated by PAEA will take. Just like the postal rate making process under the Postal Reorganization Act of 1970 ("PRA"), this system will evolve as a result of the Commission's regulations. My comments will attempt to guide that evolution by emphasizing that two important features of any PAEA-based postal regulatory environment: (1) Postal rates will *not* be determined under a textbook-style price cap regime; and (2) The U.S. Postal Service will continue to dominate some segments. While these observations are perhaps self-evident, keeping them explicitly in mind helps clarify the continuing role that cost-based, worksharing discounts will continue to have in the postal sector.

The remainder of these Comments is organized as follows. Section II briefly reviews the evidence on the importance of work-sharing under the PRA. Section III presents an example

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[3] R. Cohen, M. Robinson, J. Waller, and S. Xenakis (2006), "Worksharing: How Much Productive Efficiency, at What Cost and at What Price?" in *Progress Toward Liberalization of the Postal and Delivery Sector* (Springer), edited by M. Crew and P. Kleindorfer, at 2.

illustrating how cost based worksharing discounts promote overall cost efficiency in the postal sector. Section IV explains the continuing role for cost-based worksharing discounts under the "price cap" system mandate by PAEA. Section V states my conclusions.

II. The Quantitative Importance of Worksharing in the United States.

A large portion of the United States mail stream currently qualifies for one form or another of worksharing discounts under the definition specified in the PAEA. As shown in Table 1 below - reproduced from Cohen *et al*. (2006) - of the 206 billion pieces of mail in FY 2004, 150 billion pieces, or 72.8 percent of all mail, received worksharing discounts.

Table 1: Worksharing Avoided Costs and Value of Worksharing Discounts

(2004 Millions)

Class of Mail	All Volume	Workshared Volume	% Volume Workshared	Total USPS Cost Avoided	Value of Discounts
First-Class Mail	97,926	50,239	51	$3,466	$3,440
Periodicals	9,135	8,731	96	1,485	1,396
Advertising Mail	95,564	89,762	94	9,297	9,121
Package Services	1,132	626	73	151	108
Other					
	2,349	-	-	-	-
Total	206,106	149,559	73	14,399	14,065
User Cost					2,813
Mailers Net Saving					11,252

Not only do a large number of pieces receive worksharing discounts, but the value of these discounts is also large. As the table shows, workshared mail received an aggregate of $14.1 billion in discounts in FY 2004 and avoided $14.4 billion in Postal Service costs. These discounts can also be set in perspective by comparing them to the total costs of the Postal Service. In FY 2004, total accrued costs for the Postal Service were $66 billion. Thus, in the absence of worksharing discounts, accrued costs would have been $14.4 billion larger, or $80.4 billion.

III. Setting Worksharing Discounts To Promote Productive Efficiency

Mailers are induced to perform work-sharing through the use of *discounts*. That is, they perform part of the work involved in the end-to-end mail service and pay less than full price to the Postal Service for completing the job. My testimony in the most recent rate case contained a detailed theoretical analysis of Efficient Component Pricing Rule ("ECPR"), the principle that work-sharing discounts should be set equal to the per unit avoided costs of the Postal Service.[4] Here, I briefly explain the logic of the argument and present an illustrative example.

A. Worksharing as a "Make or Buy" Decision.

When the Postal Service accepts presorted mail, it has, in effect, "contracted out" a portion of its value chain to outsiders. Since it always has the option to do the work itself, offering a presort or other worksharing discount is tantamount to a "make or buy" decision (i.e., determining whether to perform an activity "in house" or pay outsiders to do it).

A hypothetical example will help illustrate this point. Suppose that the single piece rate (stamp price) for a letter is \$0.40 and its unit attributable costs are \$0.25, of which \$0.15 are delivery costs and \$0.10 are "upstream" transportation and sortation costs. If the Postal Service is just breaking even in this example, its institutional (overhead) costs are, on average, \$0.15 per piece. Next, suppose that a mailer is able to lodge its mail with the Postal Service at the delivery office nearest to a letter's destination. Under what conditions should the Postal Service attempt to induce the mailer (or its agents) to undertake the task? In the example, the Postal Service saves \$0.10 for each piece lodged at the delivery office. Therefore, on cost efficiency grounds, it should be willing to "buy" this service from mailers or consolidators for any amount up to \$0.10 per piece. If a consolidator offered to perform the function for \$0.11, the Postal Service should

[4] PRC Docket No. R2006-1, Direct Testimony of John C. Panzar on Behalf of Pitney Bowes Inc., PB-T-1 (Revised), (October 31, 2006) at 16-24 ("Panzar 2006 Testimony").

clearly not accept the offer because doing so would result in an increase in total costs (i.e., in that case it is cheaper to retain the upstream functions “in house”).

Thus, from the point overall efficiency of the postal sector, as well as that of the Postal Service itself, it obviously makes sense to have the work that can be done most cheaply by Postal Sector performed “in house.” Work done more cheaply by mailers or consolidators is best done by them. The desired outcome is clear enough in the hypothetical situation in which the Postal Service receives an offer from (or makes an offer to) a single mailer or consolidator. If the consolidator is willing to perform the upstream tasks for an amount less than the avoided cost of the Postal Service, the two will reach an agreement and costs will be saved. For example, if the consolidator’s costs are $0.08 per piece, the Postal Service should agree to let it perform the upstream function and the two would (somehow) divide up the $0.02 per piece cost savings. But, how can this common sense principle be applied in the more realistic situation in which there are thousands of mailers and consolidators, some with costs of $0.01, others whose costs are $0.12, etc.? It is clearly unrealistic to expect the Postal Service to engage in negotiations with all of them and make “deals” with only the low cost potential providers.

B. ECPR-Based Discounts Serve to “Decentralize” the Efficient Division of Labor.

Fortunately, the efficient “make or buy” negotiations described above can be *decentralized* using ECPR-based worksharing discounts set equal to the per unit avoided costs of the Postal Service. This leads mailers to choose to perform worksharing if and only if doing so lowers total postal sector costs. The reason is quite intuitive. If the mailer’s cost is less than the discount offered, it is profitable for the mailer to do the work – and total postal sector costs decrease. If the discount is not sufficiently attractive, the Postal Service continues to provide the service component.

In terms of the present example, a worksharing discount of $0.10 would induce all consolidators whose upstream costs are less than that to engage in worksharing. The result would be that the costs of the Postal Service would fall by more than the revenues lost through the discount. It is also the case that the total costs of the postal sector would fall, because each piece provided through a worksharing partnership must cost less than the $0.25 costs per piece that would have been incurred by the Postal Service. This follows from the fact that Postal Service delivery costs are $0.15 per piece regardless, but the consolidator's costs are always *less* than $0.10. Otherwise, the consolidator would not have participated in worksharing.

Now, it is true that many, perhaps most, of the mailers and consolidators would be willing to engage in worksharing at a discount somewhat less than $0.10. Suppose that 80% of the potential work-sharers would be willing to accept a discount of $0.08. Would not it be desirable for the Postal Service to quote this lower discount rate? Doing so would save it a considerable amount of lost revenue and the end result would still be a considerable amount of cost savings for the postal sector.[5] The Postal Service could be tempted to take this course to increase retained earnings which are permitted under the PAEA.

The answer to this question depends upon the presumed objective of the Postal Service. *If* the Postal Service were interested in maximizing its profits, or pursuing some other goal than cost efficiency, it would not necessarily want to choose a worksharing discount equal to its avoided cost. However, ECPR is the *only* discount policy that will allow the decentralized actions of mailers and consolidators to assist the Postal Service in minimizing the total costs of the postal sector. This is the case, because, if the worksharing discount is less than the unit

[5] After all, the costs of the mailers excluded from worksharing at this lower rate are close to those of the Postal Service (i.e., between $0.08 and $0.10). Worksharing by these mailers would likely yield only a small percentage of the total cost savings.

avoided costs of the Postal Service, *some* mailers who could provide the service more cheaply than the Postal Service will not have an incentive to engage in worksharing. On the other hand, if the worksharing discount is greater than the per unit avoided costs of the Postal Service, there will be mailers who will take advantage of the discount even though they cannot perform the service as cheaply as the Postal Service. In either case, the total costs of the end-to-end service will increase.

IV. THE CONTINUING ROLE FOR ECPR UNDER PAEA.

The above analysis has established the important role of ECPR pricing rules in promoting the overall *productive efficiency* of the postal *sector*, taken as a whole. This is accomplished by inducing mailers and consolidators to take over functions that they can perform more cheaply than the Postal Service: i.e., by promoting a more efficient "division of labor" within the postal sector. However, there are two other aspects of postal sector efficiency that ECPR, by itself, does not directly address: the productive efficiency of the Postal Service itself and the *allocative* (Ramsey) efficiency of retail postal rates. Because the PAEA introduces a "price cap" regulatory regime, it is important to explain why ECPR worksharing principles should still be incorporated into the Commission's development of a modern ratemaking system.

"Price cap" regulation has been widely adopted since it was introduced to regulate British Telecom after its privatization in 1984. While this was a case in which regulatory practice was ahead of economic theory, the intuition behind "price cap" regulation is quite simple.[6] It had long been recognized that traditional, "cost of service" regulation provided little incentive for the regulated firm to produce efficiently. If it improved the efficiency of its operations, the resulting

[6] For extensive discussions of the theory and practice of price cap regulation as applied to the telecommunications industry, *see* David Sappington, "Price Regulation and Incentives," in *Handbook of Telecommunications Economics, Vol. 1.* Martin Cave, Sumit Majumdar, and Ingo Vogelsang, eds. Amsterdam: North-Holland and Jean-Jacques Laffont and Jean Tirole, *Competition in Telecommunications*. Cambridge: MIT Press 2000.

cost savings would merely be "passed through" to customers through subsequent rate reductions. In contrast, *pure* price cap regulation "decouples" the firm's revenues from its expenditures. As a result, any cost savings achieved by the firm would go directly to its bottom line.

Another part of the appeal of *pure* price cap regulation was the ability to avoid the costly and time-consuming process of determining the firm's "costs of service." If firm cost data is not used to set rates, why bother to hold a rate case? However, it was recognized that some alternative mechanism must be established to adjust the price cap to account for changing circumstances. The simplest approach (and the one adopted in PAEA) is to increase the cap by the rate of inflation.

The forgoing advantages of *pure* price cap regulation would apply to a system in which the price of each service were independently capped and indexed to the rate of inflation. However, it was soon recognized that additional efficiencies may result if, instead, an *index* (weighted average) of the firm's prices was held to only inflationary increases, while *individual* service prices could be adjusted at the discretion of the firm. Indeed, under some circumstances, this system would not only give the firm incentive to minimize costs, but would also induce it improve allocative efficiency by adjusting *relative* prices in ways that increased total economic surplus.[7]

If a "modern regulatory regime" based upon a price cap index can achieve so much *without* the necessity of detailed cost scrutiny of the firm, why bother with cost-based regulatory procedures? In particular, why build into the system the requirement that worksharing discounts

[7] *See* Ingo Vogelsang and Jorg Finsinger "A Regulatory Adjustment Process for Optimal Pricing by Multiproduct Monopoly Firms," Bell Journal of Economics, 10(1), pp. 151-171. (1979). Their model assumes the use of a Laspereyes Index: i.e., the weights on each product's price are set equal to the previous period's actual quantities. This approach also has the advantage that one can check whether or not any set of proposed rates satisfy the price cap using historical data.

be based upon the avoided costs of the Postal Service? After all, many of the objections to Ramsey pricing in the past have been based on the inability of the regulator to obtain the required information about demand elasticities, etc. Price cap regulation places that responsibility on the firm and gives it the incentive to process the information efficiently.

Despite its intuitive appeal, the limitations of a *pure* price cap regime are now well known, and I shall not discuss them in detail here. There are many interesting aspects involved in the design of an indexed rate cap scheme as envisioned by PAEA. However, my purpose in this section is to explain why cost based worksharing discounts should be the cornerstone of the modern ratemaking system under the PAEA.

A. PAEA requires the collection of avoided cost data and does not permit the use of a *global price* cap.

As mentioned above, one of the attractions of price cap regulation is to give the firm increased pricing flexibility without the need for rate by rate cost justification. Thus one option would seem to be merely including the rates for workshared products as part of the overall price index for the subclass in question. That is, treat the net prices of workshared products as "just another rate" for regulatory purposes. Indeed, this "global price cap" approach has been proposed in the theoretical literature on regulation.[8] However, under the PAEA, workshared products are not "just another service." Subject to certain exceptions, the statute requires that worksharing discounts *cannot exceed* the avoided costs of the Postal Service.[9] In order to comply with this requirement, the Commission must ensure that the Postal Service provide the

[8] *See* Laffont and Tirole, op. cit., pp. 170-178. . In a recent paper, Billete de Villemeur, E., H. Cremer, B. Roy and J. Toledano apply the global price cap approach to their analysis of postal pricing. *See* "Optimal Pricing and Global Price Cap in the Postal Sector, *Journal of Regulatory Economics* 24: 49-62 2003.
[9] *See* 39 U.S.C. § 3622(e).

requisite avoided cost information.[10] Thus, despite the *theoretical* arguments for global price cap regulation of postal markets, it cannot be part of the modern rate regulation regime mandated by the PAEA.

As a practical matter, it is quite likely that cost-based worksharing discounts will emerge under many, if not most, price cap regimes under the PAEA. First, as noted above, the Act requires that worksharing discounts cannot exceed Postal Service avoided costs. Therefore, even if the prices of workshared products were included directly into the rate cap for a given mail class, the Postal Service would be constrained to choose rates consistent with *both* the cap index *and* the avoided cost standard for *every* workshared product.

B. Worksharing discounts less than avoided costs would be *exclusionary* and contrary to the *spirit* of PAEA.

In this subsection I explain that worksharing discounts define "prices" in important postal markets in which the Postal Service is the dominant participant. While these upstream markets may not be explicitly categorized under PAEA, ensuring their efficient performance should be an important goal of any modern rate regulation system established by the Commission. In my view, this objective is best achieved by continuing to establish ECPR based worksharing discounts.

The discussion in Section III illustrated the efficacy of cost-based worksharing discounts in ensuring the efficiency of the "division of labor" within the postal sector. A crucial part of this result was that ECPR-based discounts give mailers and consolidators the incentive to perform activities that they can carry out less expensively than the Postal Service. By the same token, any discount less than the avoided costs of the Postal Service would make it unprofitable for some more efficient mailers and consolidators from providing the service component in

[10] *See* 39 U.S.C. §§ 3622(e), 3651(b).

question. Such pricing would have the effect of *excluding equally (or more) efficient* competitors. Thus, in addition to limiting the productive efficiency of the postal sector, discounts that do not fully pass through Postal Service cost savings are exclusionary and anticompetitive.[11]

As noted above, one of the great successes of the PRA has been the establishment of competitive markets for upstream services through the use of work-sharing discounts. Whether they realize it or not, the mail processing divisions of the Postal Service compete vigorously with the processing divisions of mailers and consolidators for the upstream portions of postal markets; even with respect to products, such as letter mail, for which the Postal Service has a statutory delivery monopoly.

Consolidators and a mailers' in-house logistics units are clearly suppliers of "upstream" postal services. Let me briefly explain why such *upstream suppliers* (US) should be viewed as competitors of the Postal Service in the markets for upstream services. As has often been noted,[12] mailers and consolidators are induced to perform upstream postal services because of the existence of *worksharing discounts*. That is, they perform part of the work involved in the end-to-end mail service and pay less than full price to the Postal Service for completing the job. The amount of this discount is therefore the *price* that prevails in a market for upstream postal services.

However, despite the evident competition from numerous third party USs, the "prices" in these markets (i.e., worksharing discounts) were not determined competitively under the PRA

[11] It is interesting to note that the leading advocates of the global price cap approach recognize the possibility that global price caps may provide the vertically integrated firm with an opportunity to engage in a "price squeeze." Their proposed practical solution is to complement the global price cap with the additional constraint that access prices (i.e., discounts) also satisfy ECPR. *See* Laffont and Tirole, op. cit., pp. 174-78.
[12] *See e.g.*, , Panzar 2006 Testimony, at 16.

regulatory regime. Aside from the statutory requirements, there are two sound economic reasons for this policy. First, despite the impressive growth of USs over recent decades, the mail processing units of the Postal Service remained the dominant supplier of upstream postal services. Second, and more importantly, the Postal Service is the only buyer of such services used in connection with the postal products for which it retains a statutory delivery monopoly. Neither circumstance changes as a result of the PAEA.

Suppose, hypothetically, that the mail processing units of the Postal Service were a separate enterprise, call it the USMP. As is currently suggested by the Postal Service costing system, such an entity would have both institutional and volume variable costs. Again, by analogy to the Postal Service costing system, the USMP's per unit avoided costs can be viewed as the *marginal costs* of its "product." Now, suppose also that USMP competed with other USs in an unregulated market for upstream services. Clearly, it would be a cause for concern if the equilibrium worksharing discount, the "price" in that upstream market, were less than USMP's avoided costs. If USMP were a private, profit-maximizing firm, such an outcome would arouse suspicions that some sort of predatory motives were involved.

Of course, matters become much more complicated when a regulated firm is involved on "both sides" of this upstream market. But these considerations only strengthen the case for continued direct regulatory control of the "prices" in these important upstream service component markets. Indeed, in the telecommunications industry, concerns about anticompetitive behaviour on the part of the vertically integrated incumbent often preoccupied policy makers following liberalization.[13] As a result of these concerns, regulatory access pricing policy focused

[13] In the U.S., this concern resulted in vertical separation of the incumbent: i.e., the break-up of the Bell System.

on ensuring that access prices did not *exceed* the ECPR rate.[14] In the postal context, this would mean that avoided cost would constitute a *floor* on the level of worksharing discounts.

V. CONCLUSION

As has long been recognized by the Commission, worksharing discounts based upon avoided costs promote the productive efficiency of the postal sector. This continues to be the case, even though the PAEA does not explicitly require that the Commission directly set worksharing discounts. Subject to certain exceptions, however, the PAEA *does* prohibit worksharing discounts that *exceed* avoided costs. At the same time, discounts *less* than avoided costs are anticompetitive because they would exclude equally efficient mail processing competitors. Accordingly, ECPR principles should be an integral part of the modern ratemaking system being developed by the Commission.

Respectfully submitted:

________/s/_________________

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[14] *See, e.g.*, chapters 3 and 4 of Laffont and Tirole, op. cit.

Appendix 1

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WRITTEN WORK

I. Journal Publications:

"Vindication of a 'Common Mistake' in Welfare Economics," (with R. D. Willig), *Journal of Political Economy 84 6,* December 1976, pp. 361-64.

"A 'Neoclassical' Approach to Peak Load Pricing," *Bell Journal of Economics 7 2,* Autumn 1976, pp. 521-30.

"Free Entry and the Sustainability of Natural Monopoly," (with R. D. Willig), *Bell Journal of Economics 8 1,* Spring 1977, pp. 1-22.

"Economies of Scale in Multi-Output Production," (with R. D. Willig), *Quarterly Journal of Economics 91 3,* August 1977, pp. 481-93.

"On the Comparative Statics of a Competitive Industry with Inframarginal Firms," (with R. D. Willig), *American Economic Review 68 3,* June 1978, pp. 474-78.

"Public Utility Pricing under Risk: The Case of Self-Rationing," (with David S. Sibley), *American Economic Review 68 5,* December 1978, pp. 888-95.

"Theoretical Determinants of the Industrial Demand for Electricity by Time of Day," (with R. D. Willig), *Journal of Econometrics 9 1,* January 1979, pp. 193-207.

"Equilibrium and Welfare in Unregulated Airline Markets," *American Economic Review 69 2,* May 1979, pp. 92-95.

"Economies of Scale in Multi-Output Production: Reply," (with R. D. Willig), *Quarterly Journal of Economics 93 4,* November 1979, pp. 743-44.

"On the Nonexistence of Pareto Superior Outlay Schedules," (with J. A. Ordover), *Bell Journal of Economics 11 1,* Spring 1980, pp. 311-15.

"Regulation, Deregulation, and Economic Efficiency: The Case of the CAB," *American Economic Review 70 2,* May 1980, pp. 311-15.

"The Contestability of Airline Markets During the Transition to Deregulation," (with E. E. Bailey), *Journal of Law and Contemporary Problems 44 1,* Winter 1981, pp. 125-45.

"Economies of Scope," (with R. D. Willig), *American Economic Review 71 2,* May 1981, pp. 268-72.

"On the Nonlinear Pricing of Inputs," (with J. A. Ordover), *International Economic Review 23 3,* October 1982, pp. 710-26.

"Contestable Markets: An Uprising in the Theory of Industry Structure: Reply," (with W. J. Baumol and R. D. Willig), *American Economic Review 73 3,* June 1983, pp. 491-96.

"Regulatory Theory and the U.S. Airline Experience," *Zeitschrift fur gesamte Staatswissenschaft 139 3,* October 1983, pp. 490-505.

"An Economic Analysis of Alternative Fee Shifting Systems," (with R. R. Braeutigam and B. M. Owen), *Journal of Law and Contemporary Problems 47 1,* Winter 1984, pp. 173-85.

"Testing for 'Monopoly' Equilibrium," (with J. N. Rosse) *Journal of Industrial Economics 35 4,* June 1987, pp. 443-56.

"Public Utility Pricing and Investment Under Risk: A Rational Expectations Approach," (with S. Coate). *Journal of Regulatory Economics,* December 1989, pp. 305-17.

"Diversification Incentives Under 'Price-Based and 'Cost-Based' Regulation," (with R. R. Braeutigam) *Rand Journal of Economics*, Autumn, 1989, pp. 373-91.

"Two-Part Tariffs for Inputs: The Case of Imperfect Competition," (with D. S. Sibley), *Journal of Public Economics, 40* 1989, pp. 237-49.

"Effects of the Change from Rate of Return to Price Cap Regulation," (with Ronald R. Braeutigam), *American Economic Review, 83 2* May 1993, pp. 191-98.

"Network Competition and the Provision of Universal Service," (with Steven S. Wildman), *Industrial and Corporate Change, 4* December 1995, pp. 711-719.

"On Setting Prices and Testing Cross-Subsidy with Accounting Data," (with Michael Bradley and Jeffrey Colvin), *Journal of Regulatory Economics, 16 1* July 1999, pp. 83-100.

"A Methodology for Measuring the Costs of Universal Service," *Information Economics and Policy, 12 3* September, 2000.

"When Does an Optional Tariff Not Lead to a Pareto Improvement?" (with H. Greg Sidak) *Journal of Competition Law and Economics,* June 2006.

II. Books

Regulation, Service Quality, and Market Performance: A Model of Airline Rivalry, Garland Press, New York, 1979.

Contestable Markets and the Theory of Industry Structure, (with W. J. Baumol and R. D. Willig), Harcourt Brace Jovanovic, San Diego, 1982, Revised Edition, 1987.

III. Publications in Conference Proceedings and other Volumes

"Some Thoughts on the Market Implications of the Federal Aviation Act of 1975," Printed in *Regulatory Reform and the Federal Aviation Act of 1975,* DOT-TST-76-59.

"The Pareto Domination of Usage Insensitive Pricing," in H. S. Dordick, ed., *Proceedings of the Sixth Annual Telecommunications Policy Research Conference,* Heath, Lexington, Mass., 1979.

"Sustainability, Efficiency, and Vertical Integration," in B. M. Mitchell and Paul Kleindorfer, eds., *Proceedings of an International Symposium on Public Regulation and Public Enterprises,* Heath, Lexington, Mass., 1980.

"Open Entry and Cross-Subsidy in Regulated Markets: Comment," in Gary Fromm, ed., *Studies in Public Regulation,* M.I.T. Press, Cambridge, Mass., 1981.

"On the Theory of Perfectly Contestable Markets," (with W. J. Baumol and R. D. Willig) in F. W. Matthewson and J. E. Stiglitz, eds., *New Developments in the Theory of Industry Structure,* M.I.T. Press, Cambridge, Mass., 1986.

"Competition and Efficiency," in John Eatwell, Murray Milgate, and Peter Newman, eds., *The New Palgrave: A Dictionary of Economics,* Stockton Press, New York, NY, 1988.

"Technological Determinants of Firm and Industry Structure," Chapter 1 in Richard Schmalensee and Robert Willig, eds., *Handbook of Industrial Organization,* North Holland, Amsterdam, 1989.

"Regulation, Deregulation and Safety: An Economic Analysis," (with Ian Savage), in Leon Moses and Ian Savage, eds., *Transportation Deregulation and Safety,* Oxford University Press, 1989.

"Is Postal Service a Natural Monopoly?" in M. Crew and P. Kleindorfer, eds., *Competition and Innovation in Postal Services*, Kluwer, 1991.

"Competition, Efficiency, and the Vertical Structure of Postal Services," in M. Crew and P. Kleindorfer, eds., *Regulation and the Evolving Nature of Postal abd Delivery Services: 1992 and Beyond,* Kluwer, 1993.

"Contestability: Useful Benchmark or Empty Box?" Proceedings of an International Congress on the Value of Competition, Milan, March 26-28, 1992.

"The Economics of Mail Delivery," in G. Sidak, ed., *Regulating the Postal Service* American Enterprise Institute, 1994.

"Issues in Measuring Incremental Cost in a Multi-Function Enterprise," (with Michael Bradley and Jeff Colvin) in M. Crew and P. Kleindorfer, eds., *Managing Change in the Postal and Delivery Industries,* Kluwer, 1997.

"The Way I See It," in M. Gaudry and R. R. Mayes, eds., *Taking Stock of Air Liberalization,* Kluwer, 1999.

"Incentive Regulation in the U.S. Telecommunications Industry." In *1999 Industry Economics Conference: Regulation, Competition and Industry Structure,* Conference Proceedings, Australian Productivity Commission 1999.

"Funding Universal Service Obligations: The Costs of Liberalization," In M. Crew and P. Kleindorfer, eds., *Current Directions in Postal Reform,* Kluwer, 2000.

"Reconciling Competition, Downstream Access, and Universal Service in Postal Markets," In M. Crew and P. Kleindorfer, eds., *Delivering on Competition,* Kluwer, 2002.

IV. Book Review

Nonlinear Pricing. By Robert Wilson. Oxford University Press, 1993. *Journal of Economic Literature, XXXIII 4* (September 1995), pp. 1339-41.

V. Work in Progress

"Vertical Organization of Competitive Industries," (with Federico Ciliberto)

"Vertically Differentiated Equilibrium with Random Cheating," (with Ian Savage)

"Combining Liberalization and Unbundling Policies in Postal Markets," (under revision for the *Journal of Regulatory Economics*)

"PO Box Access: Competition Issues in Two-Sided Postal Markets"

"Clean Mail and Dirty Mail: Efficient Work-Sharing Discounts with Mail Heterogeneity"

PROFESSIONAL ACTIVITIES

Memberships:	American Economic Association European Association for Research in Industrial Economics (E.A.R.I.E.) Econometric Society International Telecommunications Society AEA Commission on Graduate Education in Economics, 1988-92 Board of Directors, Telecommunications Policy Research Conference: 1991-95, Chair 1994-95
Editorial Boards:	*Review of Network Economics*, Co-Editor 2002- *Journal of Regulatory Economics,* Associate Editor 1988- *Journal of Economic Literature* 1983-85 *Journal of Information Economics and Policy* 1982-
Program Committees:	8th Annual Telecommunications Policy Research Conference, 1979 Econometric Society, 1980 North American Winter Meetings E.A.R.I.E. Annual Conference 1984 Econometric Society, 1985 World Congress American Economic Association, Annual Meetings 1987 Econometric Society, 1991 North American Summer Meetings Chair, 20th Annual Telecommunications Policy Research Conference, 1992
Referee for, inter alia:	National Science Foundation, *American Economic Review, Econometrica, Journal of Political Economy, Quarterly Journal of Economics, Bell Journal of Economics, Rand Journal of Economics, Journal of Economic Theory, International Economic Review, Journal of Industrial Economics, Journal of Economic Literature.*

GRANTS, FELLOWSHIPS, and AWARDS

National Science Foundation, "Efficient Regulatory Pricing under Competition," SES-8409171, Principal Investigator, 1984-87.

U.S. Department of Transportation, "Transportation Deregulation and Safety," Co-Principal Investigator, 1987.

Northwestern University Annenberg Faculty Research Fellowship, 1987.

Northwestern University Ameritech Faculty Research Fellowship, 1990.

FAA, Center for Aviation Systems Reliability, Northwestern University Transportation Center, 1991-93.

Ameritech Foundation, "Consortium for Research on Telecommunications Policy," 1994-96.

Alumni Distinguished Achievement Award, Carleton College, June 1994.

Andrew Mellon Foundation, "Economics of the Scholarly Publishing Industry." Co-Principal Investigator, 1995-97.

CONSULTING EXPERIENCE

Corporations:	Ameritech, AT&T, Bell Atlantic, Bell South, British Telecom, Commonwealth Edison, GT&E, Niagara Mohawk Power Company, Nynex, Pacific Telesis, Pitney Bowes, Inc., Southern California Gas, Southwestern Bell, Telephone and Data Systems, Telstra, Union Pacific RR, and U.S. West.
Industry Groups	American Newspaper Publishers Association, Electric Power Research Institute.
Governmental	Canada Post, Deutsche Post AG, Deutsche Telekom AG, New Zealand Commerce Commission, U. S. Department of Transportation, U. S. Federal Trade Commission, U. S. Postal Rate Commission, U. S. Postal Service, Senate of the Commonwealth of Puerto Rico, OECD, World Bank.
Testimony	Congress of the United States, U. S. Department of Justice, Federal Communications Commission, Postal Rate Commission, Pennsylvania Utilities Commission, Interstate Commerce Commission, Surface Transportation Board.