

Interactions between Regulatory and Antitrust Policies in a Liberalized Postal Sector

John C. Panzar^{*}

1. INTRODUCTION AND SUMMARY

Liberalization has brought many changes to the postal sector. In the European Union and elsewhere, recent decades have seen the “corporatization” of postal operators. Posts have been transformed from ministries or government departments into more commercial enterprises. While privatization has been relatively rare, posts are typically subject to economic regulation by an independent regulator. The “full market opening” of the postal sector (scheduled for most countries in the EU for 2011) will likely bring with it additional scrutiny from competition authorities. In the U.S., the Postal Accountability and Enhancement Act of 2006 (PAEA) subjects the United States Postal Service (USPS) to antitrust scrutiny for the first time in its history. The liberalization experience of other vertically network industries such as telecommunications and electric power have illustrated that the issues facing postal regulators and competition authorities are likely to be closely linked.

Historically, the postal sector was largely insulated from both regulatory and antitrust control. Not only was the Post a state owned entity (SOE), in most countries it was also an integral part of the government. For example, in the United States, the Postmaster General was a cabinet level position, while in many European Countries the Post was part of a government ministry: e.g., “The Ministry of Posts and

Telecommunications.” Under these circumstances, there was little if any room for regulatory or competition policy to operate: “postal policy” was government policy.

This situation changed dramatically in the U.S. with the Postal Reorganization Act of 1970 (PRA). USPS was established as a government corporation whose operational decisions were removed from the political process. Importantly, the PRA mandated that the Postal Service operate essentially without direct government subsidy: i.e., its operating expenses must be recovered through rates. The PRA also created the Postal Rate Commission as a semi-independent regulatory body to approve the structure of postal rates. Thus a system of cost plus, public-utility-style rate regulation was introduced into the postal sector. However, as continued to be the case in other network industries such as telecommunications and electric power, the markets of USPS were not generally opened to competition under this new regime. In contrast, corporatization did not get seriously underway in Europe until the 1990s, following the issuance of the Green Paper by the European Commission.

Traditionally, antitrust (or competition) policy is an *ex post* form of government intervention. That is, the antitrust authorities monitor the actions of market participants and take corrective action *after the fact* if a violation is found as a result of a judicial proceeding. In contrast, regulatory authorities act primarily on an *ex ante* basis. They formulate policies and procedures that usually are put in place *before* the firm takes its market actions.

In the United States, this distinction began to blur with the break-up of AT&T. A major premise of the Justice Department’s antitrust case was that FCC and state

regulation of telecommunications was not adequate to prevent the Bell System from impeding the development of competition in the sector. The settlement of that case created a complex situation in which the telecommunications sector was, in effect, “administered” by the Federal Courts as well as state and federal regulators.¹ The Telecommunications Act of 1996 did not eliminate the potential for conflict between antitrust and regulatory authorities.²

It seems likely that competition and regulatory authorities will also have overlapping concerns as postal liberalization continues. For the foreseeable future, incumbent posts continue to have a dominant share in many postal markets that are also open to competition. Thus, even though they are under the scrutiny of sector-specific regulatory bodies, their market actions will naturally be of concern to competition authorities as well. Under EU Competition Policy, the concern would be “abuse of dominance,” while in the U.S., the terms used might be “exclusionary” and/or “predatory” behavior. The purpose of this paper is to discuss some of the economic issues that are likely to be of concern to both regulatory and antitrust authorities and identify any potential conflicts.

The structure of the postal sector differs greatly from country to country, even within the EU. However, this paper addresses general issues involving regulatory and competition policy in the sector, rather than the details of such interactions within a particular country (Eccles 2008). Therefore, the interactions between regulatory and competition policy will be examined in the context of a hypothetical, “typical” postal sector with certain basic market and institutional characteristics, namely:

- (1) The incumbent post is a State Owned Enterprise (SOE).
- (2) The incumbent post is regulated by a sector specific, postal regulator.
- (3) The incumbent post is a *dominant firm* in at least the letters market.
- (4) As a dominant firm, the incumbent will be subject to the competition authorities, especially concerning charges of “abuse of a dominant position.”
- (5) The incumbent’s overall *rate level* is controlled by some form of *price cap regulation*, at least for markets in which it is dominant.
- (6) Despite its overall dominance the incumbent post faces actual or potential competition in at least some of its markets.
- (7) Despite the inroads of competition, the incumbent post faces a universal service obligation (USO).

These characteristics reflect the modal situation in liberalized postal markets, although (with the possible exception of the third), none holds universally. Taken together, these characteristics naturally give rise to the policy issues that are the subject of this paper.

The remainder of the paper is organized as follows. Section 2 analyses issues that arise in regard to the market for downstream access to the incumbent’s delivery network. There are at least three policy interests there that may conflict. The first is that downstream access “creates” the possibility of a competitive market for upstream services. But, along with that comes the possibility of exclusionary behavior in that market. A second role of downstream access is to “facilitate” competition in the end-to-end market. Finally, access prices are part of the overall allocative efficiency of the

postal rate structure. Given three possible policy targets and only one policy instrument, it is not surprising that conflicts may arise.

Section 3 revisits the long-standing question of the proper scope of operations for SOEs in competitive markets. Competitors have long argued that the only way to ensure a “level playing field” is to prohibit incumbent firms that enjoy either *de facto* or *de jure* monopoly power in one market from participating in related competitive markets. Regulators are typically reluctant to give up the benefits of substantial economies of scope that this would require. The analysis supports the view that participation by the incumbent in related non dominant markets is highly likely to be efficiency enhancing *so long as the incumbent is motivated primarily by profit*. However, if the incumbent SOE is more concerned with maximizing its sales, it may have incentive to use its economies of scope to foreclose more efficient competitors.

Section 4 discusses a similar issue caused by economies of scope between the USO providers of basic letter service and competitive services. Given the cross-subsidy embodied in the uniform rate, rivals who have substantial market shares elsewhere have little interest in competing with the incumbent in high-cost areas. However, should the incumbent begin to receive USO payments to continue providing basic delivery service in such areas, competitors could rightfully claim that they were “excluded” by the subsidy.

Section 5 takes up another access problem that has vexed regulators and competition authorities: the terms under which competitors can deliver mail to the incumbent’s PO Box addresses. Incumbent posts tend to argue that placing letters into a subscriber’s PO Box is just a *very far* downstream form of access and that something like

the Efficient Component Pricing Rule (ECPR) is the appropriate methodology to use. Regulatory commissions tend to argue that the appropriate standard should be cost-based, based upon the argument that the likely outcome in workably competitive postal and PO Box markets should be operated on a cost-based access charge. There is also concern lest the incumbent post succeed in “making use of its dominant position” in the PO Box market to thwart competition in markets for postal services. It turns out that this debate ignores an important aspect of the market for PO Box services and postal markets generally: they are 2-sided markets. As the emerging literature on this topic has indicated, simple cost-based rules rarely suffice to characterize either desirable or equilibrium characteristics of the marketplace.

2. DOWNSTREAM ACCESS

The ubiquitous network of the incumbent is a tempting target for competitors, entrants, and regulators. A variety of empirical studies have shown that incumbents’ delivery networks exhibit significant economies of scale. Yet, they do not exhibit the substantial sunk costs that characterize the “monopoly bottlenecks” of other network industries such as telecommunications and electric power.

From the regulatory point of view, any activity which exhibits economies of scale has the potential to be efficiently shared with competitors. It does not really matter if the productive resource is “impossible or impractical” to reproduce. If the transactions costs from unbundling are sufficiently low, a policy of compulsory access can be used to open significant portions of the value chain to competition. This argument has little

connection with the considerations associated with the typical essential facilities deliberation.

It is perhaps possible to reconcile the regulatory and antitrust views of mandated access in a postal sector, in which the incumbent has a statutory delivery monopoly for at least some products. In that case, one could take the view that the illegality of replicating the incumbent's network plays the same role as technical impossibility. In such circumstances, a regulatory policy of mandated downstream access at regulated rates has been demonstrated to have a significant impact on increasing upstream competition and overall cost efficiency in the postal sector.³ However, this harmony begins to be strained once the delivery market is fully opened to competition. In the absence of significant sunk costs, and ample direct and indirect evidence that it *is* possible for entrant's to create duplicate delivery networks, it is difficult to defend a policy of mandated access on the basis of an essential facilities argument.⁴

Nonetheless, it seems likely that regulators will accede to the requests of end-to-end competitors that forced access be granted. The important question, as always, will be determining the *terms* of such access. Once such terms have been established, the competition authority – even one that had no interest in compelling access itself on essential facilities grounds – should find itself interested in the pricing of access. This is so because the spread between the access price and the retail price affects the ability of “equally efficient” competitors to compete with the incumbent in the market for the upstream component.

In particular, such *exclusion* will be a problem whenever the regulatory process leads to the establishment of access prices that *exceed* those that would result from the application of the Efficient Component Pricing Rule (ECPR), i.e. worksharing discounts that are *less* than the upstream costs saved by the incumbent.

2.1: “Exclusionary” Access Charges Resulting from the Introduction of Global Price Cap Regulation

To make this issue concrete, consider the potential antitrust implications of the regulatory changes mandated by PAEA. In an attempt to improve pricing flexibility on the part of the Postal Service, PAEA mandated that the Postal Regulatory Commission implement a price cap regime to control the prices of the Postal Service’s market dominant services. While the detailed structure of this price cap regime are still evolving, in its initial application, the prices of workshared and non-workshared products were treated symmetrically under the cap.⁵ The following example illustrates the possible “exclusionary” effects of this regulatory policy change.

Consider an incumbent that provides two market dominant services: an end-to-end service and a workshared (or “access”) service. In the case of the workshared service, competitive consolidators provide upstream, sorting functions and the incumbent provides only delivery. Assume that, initially, the incumbent was regulated to break-even by cost of service regulation and the worksharing discount was set equal to the upstream unit costs of the incumbent; i.e., according to the ECPR. Now suppose a price

cap regime is introduced to control the prices of the incumbent and that, as is common, the price weights are set equal to the actual market quantities in the previous period.

More formally, let $D(p)$ denote the total demand for the end-to-end service as a function of the stamp price p and let $S(\delta)$ denote the competitive supply of upstream services as a function of the worksharing discount δ . Thus, end-to-end and workshared volumes carried by the incumbent are given by $D(p) - S(\delta)$ and $S(\delta)$, respectively. Let t and c , respectively, denote the incumbent's unit costs of upstream sorting and downstream delivery and let F denote its fixed costs (from all stages). Finally, let p^0 and δ^0 , respectively, denote the stamp price and worksharing discount established by the regulator before the move to price cap regulation. Then, the initial quantities of end-to-end and workshared quantities are given by $D(p^0) - S(\delta^0)$ and $S(\delta^0)$, respectively.

Under these circumstances, the profits of the incumbent postal operator are given by

$$\pi(p, \delta) = (p-t-c)[D(p)-S(\delta)] + (p-\delta-c)S(\delta) - F \quad (1)$$

The global price cap regulation subjects the incumbent's choice of stamp price and workshare discount to the following constraint:

$$p(D^0 - S^0) + (p-\delta)S^0 \leq p^0(D^0 - S^0) + (p^0-\delta^0)S^0 = R^0. \quad (2)$$

This condition requires that, *when evaluated at last period's volumes*, the stamp price and discount chosen by the incumbent cannot be expected to yield more than last period's revenues. When the constraint is binding, it can be solved to yield an expression relating the allowed levels of the stamp price and worksharing discount: i.e.,

$$p^*(\delta) = (R^0/D^0) + \delta(R^0/D^0) \quad (3)$$

Equation (3) has the intuitive interpretation that the price cap constraint allows the incumbent to increase its stamp price *only if* it also increases its worksharing discount.

It is now possible to evaluate the incentives facing an incumbent which has been subjected to price cap regulation in these circumstances. In order to examine the effects on incumbent profits of a small change in the worksharing discount, substitute equation (3) into equation (1) and differentiate with respect to δ . to obtain:

$$\frac{d\pi[p^*(\delta), \delta]}{d\delta} = \frac{\partial\pi}{\partial p} \frac{dp^*}{d\delta} + \frac{\partial\pi}{\partial\delta} = \frac{[(p-t-c)D' + D]S^0}{D^0} + (t-\delta)S' + S \quad (4)$$

Evaluating this expression at $\delta = \delta^0 = t$ and $p = p^*(t) = p^0$ yields:

$$\frac{d\pi[p^*(t), t]}{d\delta} = \frac{(p-t-c)D'(p^0)S(t)}{D(p^0)} < 0 \quad (5)$$

Thus, the incumbent has a profit incentive to *reduce* the worksharing discount below its initial ECPR level.

Under ECPR (avoided cost) worksharing discounts, all upstream competitors that were at least as efficient as the incumbent were active in the market. After the change in regulatory policy, the incumbent would have a profit incentive (and regulatory “permission”) to exclude some of them. Presumably, this outcome would be of concern to the competition authorities. That is, even if application of essential facility considerations does not dictate that there *must be* an upstream market for competition policy reasons, once such a market has been created by regulatory fiat, competition policy criteria would apply. Usually, such potential conflicts can be avoided through adjustments in regulatory policy: e.g., in the present example, one could change the form of the price cap and/or impose the added constraint that worksharing discounts satisfy

ECPR. However, this just reinforces the point that regulatory policies may sometimes conflict with competition policy in this important area.

3. PREVENTING “UNFAIR” COMPETITION BY STATE OWNED ENTERPRISES

Competitors continually claim that incumbent posts “compete unfairly.”⁶ Sometimes these complaints have obvious merit; e.g., the “*mail box monopoly*” of the United States Postal Service – which certainly has the effect of *raising rivals’ costs*. More commonly, charges of cross subsidization are thinly disguised attempts to influence the regulatory process to set higher rates for the incumbent’s products that are close substitutes for those of the complaining rival. This debate will intensify following liberalization, and, it has the potential to lead to conflicts between regulatory and competition policy objectives.

True, the end of the letter monopoly will also end critics’ most common complaint of this kind: i.e., that the incumbent uses its protected monopoly to obtain the resources to finance “unfair” competition. Yet charges of cross-subsidization will undoubtedly continue. Therefore, price cap regimes are typically extended to include additional provisions for a “price floor” that prevent the incumbent from setting the price of any product below its average incremental cost. It is here that the status of the incumbent as a state-owned enterprise (SOE) complicates matters.

A profit maximizing firm that has an opportunity to earn at least some profits will not price competitive products below their average incremental cost *except* as an attempt

at predation. It would increase its profits by abandoning that product line altogether. Predatory pricing by a profit maximizing firm seems unlikely in the postal sector because of the relative ease of entry into the market. This makes it very difficult for a predator to successfully recoup the losses resulting from the below cost pricing required to drive the prey out of the market. However, recent work by Sappington and Sidak (2002) has argued that SOEs may have the incentive to engage in predatory behavior on a *continuing* basis.

This argument has serious implications for the coordination of regulatory and antitrust policies: the regulator may trust to conduct (pricing) restraints to limit cross-subsidization, while the antitrust authority may feel obliged to resort to structural measures to prevent the incumbent from “damaging competition.” Sappington and Sidak’s analysis provides the rationale for these differing policy conclusions.

From the regulatory point of view, there would seem to be little need for such *price floors* as a tool to prevent predatory pricing. After all, the regulatory process would generally make it impossible for the incumbent to recoup its investment in below cost pricing.⁷ However, as Sappington and Sidak’s analysis explains, the situation changes dramatically when the incumbent is an SOE whose goal is *not* profit maximization, but the pursuit of some other, more bureaucratic, objective. Sappington and Sidak suggest “revenue maximization” as a way to summarize, or proxy, the goals of SOE managers who pursue careerist considerations in the absence of access to the stock option incentive schemes available in privately owned companies. Profit considerations are reflected

through a (typically binding) constraint that the firm achieves at least a “satisfactory” level of profits.⁸

Mathematically, this does not require a major change in the formulation of the usual constrained optimization problem used to model the regulated firm. However, it leads to the possibility of profound changes in the nature of the choices of the firm. Now, it is entirely possible for the firm to wish to adopt prices below marginal costs on a long term, continuing basis: i.e., *not* as a predatory device with an eye toward raising rates as soon as the prey has exited the market. For the reasons discussed below, regulatory cross subsidy tests are ill-suited to deal with this situation.

There are potentially more serious problems as well. Because, a revenue maximizing SOE wishes to offer below cost prices on a continuing basis, it may find it optimal to alter its strategic investment policies so as to distort the outcome of any incremental cost test to which its rates may be subject. There are many forms such distortion might take. As a very simple example, consider the following: an incumbent wishes to promote its “X-Mail” service. However, instead of advertising that service explicitly, it decides upon an extensive “corporate image” type advertising campaign. While not as cost effective as a targeted campaign, such an advertising strategy has one obvious advantage: its costs are truly “joint and common costs.” If it had done an X-Mail ad campaign, its costs would be “product specific fixed costs,” directly attributable to that product. As such, they would increase the average incremental cost floor pertaining to X-Mail rates.

Competition authorities could be forgiven for looking for structural remedies in situations in which the incentives for anticompetitive behavior are ongoing and the regulatory safeguards in place to control it are subject to strategic manipulation. A typical proposed structural remedy is to prevent the incumbent from offering services outside its dominant market. Structural separation remedies are frequently proposed in network industries such as telecommunications and electric power. In those cases, as in the postal case, the tradeoff is the potential loss of the economies of scope enjoyed by the operator offering a wide range of products. The incumbent (and most regulators) see such economies of scope as an important factor in keeping basic service rates low, while competitors see them as the key source of the incumbent's (unfair) network advantage.

Take the following hypothetical situation. Suppose that, initially, the incumbent postal provider (the incumbent) provides a set of mail services with the resulting revenues being at least sufficient to cover the incumbent's costs of operations. Now suppose that a market emerges for a new service, "X-mail." After observing the development of this market and the level of the price being charged, the management of the incumbent concludes that it is desirable to enter this market. From the public interest point of view, what criteria should be used to evaluate the desirability of the incumbent's diversification?

The answer is straightforward if it can be assumed that the incumbent maximizes its profit and that the X-mail market is competitive. Then the incumbent would make its diversification decision based upon whether the added revenues it could earn from selling a volume of X-mail exceeded the added, or *incremental*, cost of producing that volume.

As is discussed more fully below, this *incremental cost test* is precisely the standard that a social planner would use in evaluating the general desirability of the incumbent's diversification into competitive markets. The reason is quite intuitive. Ultimately, the key condition for social efficiency is whether or not the volume of service sold in the marketplace is produced at the lowest possible cost. When this volume is produced by two or more firms, productive efficiency requires that the marginal costs of all active firms be equal. Competition ensures that this condition is satisfied for the incumbent's rivals. Furthermore, the greatest profits for the incumbent in a competitive market would be obtained by operating at the quantity at which its marginal cost of X-mail also equaled the market price. Then, as long as the market price covers the average incremental costs of diversification, the participation of the incumbent in the market lowers the total costs of providing X-mail service.

Thus, the entry of a profit-seeking incumbent into a competitive related market improves productive efficiency. More than likely, the market price will fall as a result of the additional supply of the incumbent, further benefiting the consumers of X-mail.⁹ However, the other firms providing X-mail will *not* benefit from the incumbent's entry. Even if the X-mail market were initially perfectly competitive, the largest firms would likely earn significant *economic rents*: i.e., profits. Not surprisingly, such competitors are vehemently opposed to such market participation by incumbent postal providers.

The situation becomes even clearer if the X-mail market is not perfectly competitive. Then, the strategic actions of a profit-seeking incumbent and/or its rivals will undoubtedly result in a lower post entry equilibrium price for X-mail. First, consider

the case in which the incumbent enters to “dominate” an existing competitive domestic X-mail market. In order to obtain market share (and earn profits), the incumbent must lower the pre-existing market price. To do this, of course, it must be more efficient than the marginal competitive producers. Equally obvious is the fact that such entry would directly benefit consumers and harm competitors. Things are more complicated if the X-mail market is an oligopoly, simply because there is a large range of oligopoly models that might conceivably be used to analyze the situation. However, in the vast majority of cases, the end results of strategic entry by a profit-seeking firm are lower market prices and lower competitor profits.¹⁰

The message should be clear: diversification by a profit-seeking or socially motivated, profit-constrained incumbent results in lower prices for consumers and lower profits for its competitors. Thus it is hardly surprising that competitors routinely and vociferously oppose such diversification by the incumbent and similarly situated monopolies.

Sappington and Sidak (2002) argue that the situation changes when the SOE is assumed to maximize revenues rather than profits or consumers’ surplus. The gist of their argument can be summarized as follows:

- (a) the public firm (e.g., the incumbent) is interested in maximizing revenue subject to a break-even constraint;
- (b) pursuit of this objective may induce the public firm to enter competitive markets despite the unprofitability of such entry;
- (c) incremental cost tests may be ineffective in preventing such entry; because

(d) the public firm may, *ex ante*, choose to employ production technologies with high common costs relative to product-specific fixed costs in order to be able to pass any incremental cost test, *ex post*.

Theoretical arguments alone cannot resolve this debate. The choice between behavioral and structural approaches to the problem of the participation of state owned incumbents in competitive postal markets is highly dependent upon the hypothesized objectives for these SOEs. Increased attention to executive compensation for SOE managers, together with corporatization and commercialization, may result in a movement away from bureaucratic objectives to market-oriented profit objectives.¹¹

4. UNIVERSAL SERVICE: A “BURDENSOME” OBLIGATION OR AN “UNFAIR” COMPETITIVE ADVANTAGE?

There is, as yet, no settled methodology for measuring the costs of an incumbent post’s USO.¹² Indeed, there are some who argue that the ubiquity of the incumbent’s network is a competitive advantage rather than a burdensome obligation. Liberalization will undoubtedly shed light on this question. However, regulatory policies designed to compensate the incumbent for its USO may well generate competition policy concerns. A simple example will serve to illustrate this point.

Consider an incumbent serving a high cost delivery area to which it delivers letter mail (in which it is market-dominant) and X Mail, a competitive product. Assume that the fixed costs of its delivery network are 6000; the marginal cost of a letter is 1 and the marginal cost of a unit of X-Mail is 2, *given that its letter delivery network is in place*.

However, because of economies of scope, without its letter mail network, the incumbent's unit cost of X-Mail would be 6. Assume also that there are 1000 units of letter mail and 1000 units of X-Mail addressed to the area each period and that revenues minus upstream costs are 4 for both letters and X-Mail.

To illustrate the potential competition issues involved, assume that there are two types of competitors able to provide X-Mail delivery in the high cost area. "Newsco" is the local newspaper delivery provider. Due to economies of scope with its newspaper delivery network, it is able to deliver X-Mail at a cost of 4 per unit. The other potential source of X-Mail service are a number of competitive couriers, who are able to delivery X-Mail within the high cost area at a cost of 5 per unit.

In the initial situation after liberalization, the incumbent continues to monopolize both services.¹³ However, the incumbent earns net revenues on its high cost operation of 5000: $3000 = 1000(4-1)$ from letters and $2000 = 1000(4-2)$ from X-Mail. Since this falls short of its fixed costs by 1000, there would be a profit incentive to abandon providing *delivery* to the high cost area. The result of "free exit" from high cost area delivery by the incumbent would be that residents would have to pick up their mail at the Post Office *and* the profitable entry of Newsco into the local delivery of X-Mail. It would earn an incremental profit of 1000 by (slightly) undercutting the competitive couriers' unit cost of 5.

One would expect that residents would be upset at the prospect of loss of letter delivery and would complain to the postal regulator. Suppose that a USO payment of a 1000 were offered to the incumbent in return for the continued delivery of letter mail.¹⁴

While this would please the residents of the high cost area, it would bring howls of protest from Newsco. How would the antitrust authorities respond to the claim that “but for” the USO subsidy, the incumbent could not successfully compete in the market for X-Mail addressed to this area?

The regulator would have two responses to any suggestion that a USO-supported incumbent be barred from delivering X-Mail: (1) It is socially efficient for the incumbent to provide X-Mail delivery to the area, *given* that it provides letter mail delivery; and (2) The USO payment would have to be raised to 3000 if the incumbent were to be barred from X-Mail delivery.

A possible objection is that the example presumes that the incumbent will emerge as the USO provider. However, it is easy to extend the example to demonstrate that the issue cannot necessarily be resolved by introducing competition “for the market” into the USO funding process. Suppose that the 6000 in fixed costs associated with the local delivery network represents the incumbent’s true *incremental* fixed costs for serving the area *given* that it also serves several neighboring (profitable) areas. Suppose that if, instead, one calculated the incumbent’s *stand alone* fixed costs for serving the area, the figure would be 7500. In addition, assume that Newsco could also achieve letter mail unit costs of 1 by incurring additional network fixed costs of 7000.

In the hypothesized situation, Newsco would be the efficient provider of letter *and* X-Mail delivery services for *only* the high cost area. Yet, Newsco would not be expected to “out bid” the incumbent in any competition for the USO. Why not? The

incumbent would win, not because of its absolute efficiency, but because of its economies of scope between the high cost area and other, profitable areas that it serves.

Thus, it is not surprising that competitors view economies of scope as a threat to competition, rather than a source of efficiency.¹⁵ However, it would appear that the only resolution to this problem would be to prohibit the incumbent from serving any non dominant markets, regardless of the scope economies that would be forgone. As this example illustrates, there may well be a conflict from regulatory desires to exploit economies of scope in order to minimize USO payments and the desire to encourage entry.

5. PROBLEMS POSED BY “TWO-SIDED MARKET” ISSUES IN THE POSTAL SECTOR: PO BOXES

Both senders and receivers derive value from postal service. Potentially, this makes it a “two-sided market.” The two-sided nature of postal markets is not a major issue when services are provided by a vertically integrated monopolist. Rowland Hill’s “sender pays” innovation was primarily an attempt to reduce the transaction costs of using the post and, thereby, more effectively exploit economies of scale. However, liberalization and unbundling give rise to many novel pricing opportunities, which may cause the unraveling of the Rowland Hill model. This promises to create serious conceptual difficulties for both regulators and competition authorities.¹⁶ Many such two-sided market issues are likely to arise in the future. Here, the focus is on the issues raised by the market for Post Office Boxes.¹⁷

As noted earlier, the role of essential facilities has been a controversial feature of the process of liberalizing postal markets. Some have argued that the absence of substantial sunk costs means that there is no need for policies designed to deal with “monopoly bottlenecks,” such as those used in other network sectors such as telecommunications or electricity.¹⁸ Others have argued that requiring incumbents to grant downstream access is essential for the development of significant competition, at least in the short to medium run. I will not try to resolve this question here. However, all parties to the debate seem to agree that entrants must be granted access to the incumbent’s PO Box subscribers. In some jurisdictions, such access is a matter for “commercial negotiations” between the incumbent and potential entrants. In others, the rate is set by the postal regulator directly or indirectly (should negotiations break down). However, there remains considerable debate over the appropriate pricing methodology.

Incumbent posts tend to argue that the Efficient Component Pricing Rule (ECPR) is the appropriate methodology to use for access pricing. Regulatory commissions tend to argue that the appropriate standard should be cost-based: i.e., “bill and keep” when the costs of receiving mail at a PO Box location are zero. The incumbent post’s position is based on the claim that PO Boxes are an integral part of its postal network and that ECPR based pricing of network access is not anticompetitive. The regulatory position is based upon the argument that the likely outcome in workably competitive postal and PO Box markets would be a cost-based access charge. There is also concern lest the incumbent post succeed in “making use of its dominant position” in the PO Box market to thwart

competition in markets for postal services by denying access to a significant set of addressees.

It turns out that this debate ignores an important aspect of the market for PO Box services and postal markets generally: they are 2-sided markets. As the emerging literature on this topic has indicated, simple cost-based rules rarely suffice to characterize either desirable or equilibrium characteristics of the marketplace.¹⁹ Therefore, before it is possible to truly understand access pricing for PO Boxes, it is necessary to understand the benchmark pricing outcomes under competition, monopoly and welfare maximization.

As usual, the market definition exercise involves determination of both relevant product or services markets and relevant geographic markets. In the present case, the product markets consist of two retail markets for postal services, one wholesale (or service component market) for postal service, and the market for PO Box services. The geographical market definition for all markets considered is *local/ regional*, because it is my understanding that this is the initial business model of many postal competitors. The retail markets are those for locally originating mail addressed to street addresses (*street addressed mail*) and locally originating mail addressed to PO Boxes (*PB addressed mail*). Separating these two markets greatly clarifies the analysis. The wholesale markets discussed are the complementary components *access to PO Boxes* and that portion of the value chain that is “upstream” of the PO Box in the retail PB addressed mail market. That is, it involves all the steps of local mail processing *except* the actual placement of the piece in the secure PO Box or PO Box. The market for PO Box services involves the

rental of locked facilities to subscribers (mail recipients) for a fee. It is assumed that the incumbent has a dominant position in all of these markets.

5.1: “Making Use” of PO Box Dominance

This breakdown helps clarify the issue at hand. Would an above cost price for access to the incumbent’s PO Boxes adversely affect competition in any of the above mail markets? I shall analyze each, in turn.

5.1.1 The retail market for street addressed mail

A local competitor provides end-to-end service in this market, entirely bypassing the incumbent’s network. Nothing the incumbent does in the access market will have any direct effect on competition in this market. Nonetheless, there is an important interrelationship between the market for PO Box services and the associated wholesale market involving collection, sortation, and partial delivery. In order for an entrant to successfully compete in this wholesale market, it must be granted access to the incumbent’s PO Box addresses. Similarly, the connection between this wholesale market and the retail market for street addressed mail in the same region is also very close. It is difficult (but not impossible) to envision an entrant competing successfully in the market for street addressed mail without being granted access to the incumbent’s PO Box addresses. However, as long as access is granted at some price, entrants have shown that they can limit the impact on their ability to compete in the street addressed mail market by passing through some portion of the PO Box (PB) access charge by charging a high price for PB-addressed mail.

One argument is that by forcing entrants to charge different prices for street addressed and PB-addressed mail, the incumbent is “raising its rivals’ transaction costs.” This point may have some validity but is considered “second order” for present purposes.

5.1.2 The retail market for PB addressed mail

As long as the incumbent has an overwhelming dominance in the market for PO Box *service*, its dominance in end-to-end provision of service for PB-addressed mail is largely a matter of definition. In any event, competition in this market cannot be significantly impacted by PB access pricing.

5.1.3 The wholesale market for PB-addressed mail

This situation is where the ECPR methodology is traditionally applied. As long as ECPR principles are followed, no equally efficient competitor will be excluded from this market by a PB access price above cost. Therefore, it seems that the ability of the incumbent to charge ECPR access prices for PB-addressed mail has the effect of limiting the inefficient bypass of its local delivery network to street addressed mail. This does not exclude an equally efficient competitor from the delivery market for PO Box addressed mail. Rather, it prevents the expansion of an arguably less efficient competitor into that market as well.

5.2: Analysis of Alternative Counterfactual Benchmarks

The above discussion indicates that if one believes that the incumbent’s PO Box services are an integral part of its postal network, ECPR pricing of access is not exclusionary. However, this does not necessarily resolve the issue of whether such

market dominant pricing in the PO Box access market can be used to adversely affect competition in markets for postal services. There are two counterfactual situations whose analysis may shed light on this issue: (1) that of a hypothetical PO Box monopolist (PO Box Inc.) facing a competitive market for postal services; and (2) that of fully competitive postal services *and* PO Box markets.²⁰

It is my understanding that, in most jurisdictions, the incumbent's initial dominant position in the PO Box market is *not* a violation of the law. Therefore, an alternative counterfactual benchmark to use in evaluating its access pricing policy is that of a hypothetical PO Box *monopolist* facing a workably competitive postal delivery market. This hypothetical firm is called PO Box Inc. This monopolist would have two sources of revenue: the rental fees it charged its subscribers and the revenues from any access charges it collected from postal operators. Then, the relevant theoretical issue is whether or not PO Box Inc. would choose to charge an access fee above cost to postal operators.

Assume that PO Box Inc. faces a perfectly competitive postal delivery market (in which it may or may not participate). Assume also that a large enough percentage of mail was addressed to PO Boxes that no postal operator could remain viable if it refused to deliver to them. In that case, any access price it might charge postal operators would be passed through to mailers through an increase in the equilibrium stamp price(s). Furthermore, the price for mail addressed to PO Box Inc. would be increased by the amount of the access charge. This means that PO Box Inc. would be in a position to use its access price extract the monopoly profits associated with a vertically integrated end-

to-end PO Box operator! It seems clear that PO Box Inc. would have an incentive to set an access fee substantially above its cost of handling incoming mail.

Taking this as the “benchmark” situation, consider what happens as a result of a firm (e.g., the incumbent) *lawfully* acquiring dominance in the PB market. As noted above, PO Boxes are a two-side market. Operators can potentially collect revenues from postal firms delivering mail as well as subscribers. As a result of acquiring dominance in the PO Box market, the incumbent would find it profitable to increase *both* of these prices above cost. As long as it increased the access price in accord with ECPR principles, this would not impede equally efficient competitors in any relevant market.

Thus, the existence of a dominant provider in the PO Box market is unfortunate for postal operators and consumers of both postal and PB services. However, this is the result of the exercise of monopoly power, not exclusionary tactics. If the dominant PO Box provider is vertically integrated into the market for postal services (as is the case with the incumbent), ECPR pricing of access to PO Boxes should prevent the exclusion of equally efficient competitors from any relevant market, but it will *not* serve to limit the dominant firm’s monopoly profits from either side of the PO Box market.

More surprisingly, these mark ups above cost do not necessarily disappear in fully competitive PO Box markets! Panzar (2006) develops a two-sided model of the postal sector in which profit maximizing PO Box firms charge the same access price under monopoly and perfect competition. The effect of competition is to lower the fees paid by PO Box subscribers. Again, this result is familiar from the 2-sided market literature. As in the case of fixed-to-mobile termination charges, a “competitive bottleneck” results:

firms charge mailers a monopoly rate and compete away the profits by offering low prices to PO Box customers (See Armstrong and Wright 2004).

My analysis has revealed that the market for PO Boxes exhibits many of the now classic characteristics of 2-sided markets. This means that care must be taken before applying the standards of traditional competition policy when evaluating the pricing of access to this essential facility.²¹ In particular, an access price well in excess of the marginal cost of access does not constitute *prime facie* evidence of either “abuse of dominance,” or an attempt at “leveraging monopoly power.” Nor does it necessarily signal a lack of competition in the PO Box market itself.

6. CONCLUSIONS

Postal liberalization has brought many changes to the sector, especially outside the United States. In the European Union and elsewhere, recent decades have seen the "corporatization" of postal operators. While privatization has been relatively rare, posts are typically subject to economic regulation by an independent regulator. The "full market opening" of the postal sector (scheduled for most member states in the EU for 2011) will mostly likely bring with it additional scrutiny from competition authorities.

The liberalization experiences of other vertically network industries such as telecommunications and electric power have illustrated that regulatory policy and competition policy are likely to be closely linked. This paper has analyzed four areas in which such interactions are likely to be important.

- (1) Worksharing Discounts and Downstream Access Pricing under Price Cap Regulation. Obviously, the issue of competitive access is of concern to both regulatory and competition authorities in any network industry with an increasing returns to scale component, such as local delivery. The lack of the need for entrants to invest in sunk facilities in the postal sector makes it unlikely that competition authorities will compel downstream access on “essential facility” grounds. Postal regulators, on the other hand, have shown some interest in requiring downstream access to promote efficiency and/or entry. However, the combination of global price cap regulation with unbundled access may give rise for the incumbent to exclude “equally efficient” upstream competitors.
- (2) Competition by State Owned Incumbents. Incumbent postal operators, with or without a legal monopoly, are likely to remain dominant in some “monopoly” markets for the foreseeable future. Such incumbents also typically participate in related, “competitive markets” which enjoy economies of scope with the monopoly market. Should this diversification by a dominant provider into competitive markets be encouraged or discouraged? Analysis shows that participation in such markets by a *profit-seeking* incumbent will almost certainly be beneficial: e.g., it will result in lower total postal sector costs and lower any required USO payments. However, as Sappington and Sidak (2002) have shown, if the incumbent has expansionary objectives (e.g., revenue maximization), its participation in related competitive markets may be exclusionary. Regulatory strategies to adequately control such incentives await further research.

- (3) Economies of Scope and the USO. The fate of Universal Service subsequent to liberalization is of great concern to policy makers around the world. However, a firm receiving a USO payment to provide basic service in a high cost area is likely to enjoy economies of scope with competitive products. As a result of USO support, the incumbent may not only be able to continue to provide delivery service in a high cost area (which nobody else wants); its economies of scope may allow it to continue to monopolize competitive services in the area. Such service might have been taken over by alternative providers *but for* the USO support received by the incumbent. Again, there is a potential conflict between the desire of regulators to minimize USO support payments and their desire to encourage competitive entry.
- (4) PO Box Access. The need for granting access to the incumbent's Post Office Boxes is widely recognized. Not so widely recognized is the fact that the market for PO Box services is a *two-sided market*. As the emerging literature on two-sided markets has made clear, standard cost-based pricing rules can no longer automatically serve as a normative benchmark for regulatory and antitrust policy.

The purpose of this paper has been to raise questions, *not* provide answers. The discussion has focused on some postal sector issues that are likely to involve *both* postal sector regulators and competition authorities as liberalization unfolds. Undoubtedly, other similar issues will emerge and that this paper will suggest areas in which economic research can contribute to the future postal policy debates.

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* Northwestern University and the University of Auckland

¹ The literature on the break-up of the Bell System is immense. See Viscusi et al. (2005) for a list of references and a discussion of the economic aspects of the associated regulatory and antitrust issues.

² See Crandall (2005) for an in depth discussion of the results of the Telecommunications Act of 1996.

³ See, for example, the evidence presented in Cohen et al. (2002).

⁴ See Panzar (2002) and de Bijl et al. (2006) for a discussion of the pros and cons associated with mandating unbundled downstream access.

⁵ That is, the regime was on of “global” price cap regulation. See De Donder et al. (2006) for a discussion.

⁶ See, for example, Sidak and Spulber (1996).

⁷ Things change somewhat under price cap regulation.

⁸ Sappington and Sidak’s formal model assumes that the SOE maximizes a weighted sum of revenue and profits.

⁹ The only situation in which the incumbent’s entry would *not* result in a lower market price would be the case in which the market price is completely determined by a perfectly elastic competitive supply curve. That is, when there are a large number of actual and potential suppliers willing and able to supply an unlimited quantity at the going price. This is unlikely to be the case in any real world market, but is a useful simplifying assumption in the example below.

¹⁰ The most relevant *possible* exceptions that come to mind are cases in which the competitive market in question utilizes the network of the incumbent. For example, consider the entry of an incumbent post into retail banking. Obviously, it could easily dominate that market (and raise prices) by simply refusing to deliver the mail of its competitors. Of course, this negative outcome is not a result of diversification itself, but rather, of an anticompetitive violation of the post’s common carrier obligation.

¹¹ See Crew and Kleindorfer (2008) for a discussion of various objectives of SOEs and the potential effects of commercialization in increasing incentives for profit-oriented behavior.

¹² But see Panzar (2001) and Cremer et al. (1999) for methodological suggestions.

¹³ By hypothesis, no one can compete with the incumbent for high cost letter delivery under a uniform stamp price. In the example, even if it were allowed to do so, Newsco would not find it profitable to undercut the transfer price of 4 implicitly paid by the incumbent for delivery of X-Mail in the high cost area.

¹⁴ I will not go into detail here concerning the appropriate amount of USO funding that should be awarded in this situation. See Panzar (2001) for a discussion.

¹⁵ For example, see US Federal Trade Commission, Postal Service Study, Project No. PO71200, Declaration of J. Gregory Sidak. (2007)

¹⁶ There is already a voluminous literature on appropriate antitrust policies in the payment sector. See Wright for a discussion of the problems posed by two-sided markets more generally.

¹⁷ See Panzar (2006) for a first attempt at a formal analysis.

¹⁸ See, for example, de Bijl et al. (2006), Crew and Kleindorfer (2002), and Panzar (2002).

¹⁹ See Rosson (2004) for an early review of this literature.

²⁰ See Panzar (2006) for a formal analysis of these two counterfactuals.

²¹ For a discussion of the necessary caveats, see Wright (2004).