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‘Separation and Access Prices in Postal Services’

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0. Introduction

Liberalisation has come late to the postal sector. In most OECD countries there are still services reserved for the historic operator. This is combined, through no coincidence, with high levels of public ownership.

As a result, debates which have already taken place in other former monopolies, over modes of competition, access to networks and industry structure, are only now coming into operation in relation to postal services. This gives policy makers an advantage – experience which can be learnt from; but it also carries the risk that ‘off the shelf’ solutions devised for other sectors may be inappropriately be applied to posts.

In this paper I address the question of the combinations of structural and behavioural regulation of access appropriate to postal services in the age of liberalisation. The framework of the paper is determined by the following decision tree:

Is competition sought/expected from end-to-end entrants alone, rather than from a combination of end-to-end and access-based operators?

Yes

No access regulation. No argument for separation based on discrimination. Access arrangements by negotiation only

No

Are there key non-replicable assets held by the historic operator, to which access should be mandated?

Yes

Should these assets be separated? If so, how?

Yes

Decide form of separation and access pricing regime

No

Decide access pricing regime for vertically integrated company

No

No obvious case for structural separation or regulation of access prices
Accordingly, Section 1 discusses whether access to any part of the historic operator’s network should be mandated. This is likely to depend upon a variety of issues. Are there essential facilities involved? Given the previous history of the sector, what obstacles stand in the way of end-to-end competitors? How insuperable are they likely to be?

On the footing that access is to be mandated, Section 2 considers first where it should be required, and for what period. This is likely to involve identification of activities which an entrant would find it particularly difficult to supply itself, as a result of persistent barriers to entry.

If such activities and associated sets of assets are found, the question of structural separation may also arise. This can be approached in two contexts: either by considering whether separation would unleash greater efficiency, or by considering whether it is available as a remedy against anti-competitive or exclusionary practices -the threshold for the latter being higher than for the former as it involves the satisfaction of legal tests for break-up, as well as the conclusion that separation enhances welfare. Section 2 addresses these issues as well.

Whether separation is imposed or not, if access is mandatory then access prices are needed – though the principle by which they are calculated may depend upon the chosen industry structure. Section 3 considers this issue, together with the linked question of how the presence of a universal service obligation imposed on the historic monopolist influences access pricing.

Section 4 gives brief conclusions.

1. Mandating access

Postal networks are conveniently broken up into components, each characterised by different degrees of economies of scale. One breakdown due to Postcomm (2001) identifies six activities, accounting for the following shares of directly attributable costs:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection</td>
<td>5%</td>
</tr>
<tr>
<td>Outward sorting</td>
<td>12%</td>
</tr>
<tr>
<td>Transportation</td>
<td>14%</td>
</tr>
<tr>
<td>Inward sorting</td>
<td>14%</td>
</tr>
<tr>
<td>Delivery</td>
<td>43%</td>
</tr>
<tr>
<td>Support activities</td>
<td>12%</td>
</tr>
</tbody>
</table>

Note that this omits retailing costs, such as marketing and the sale of stamps. It is also likely that the universal service obligation (discussed below) inflates the proportion of expenditure accounted for by delivery by comparison with an operator without such an obligation.

Each activity is characterised by different degrees of economies of scale. There may also be economies of scope relating to combinations of activities. It is very likely that the greatest economies of scale relate to delivery, which is also by far the largest activity, (see Roy, 1999).

A liberalised postal market may be characterised by end to end competition by a variety of operators, by uniform reliance upon a single operator to discharge a particular activity for all operators, or (most probably) by a combination of the two. Accordingly, unlike the case of
pipes (for gas and water), wires (for electricity – but not for telecommunications) and tracks (for trains), where duplication is highly unlikely, thought has to be given to whether it is appropriate to mandate access, and if so, where.

A recent study (TILEC 2003) completed by the Tilburg Law and Economics Centre, at the request of TPG (the Dutch postal operator), correctly points to significant differences between the post and other network activities in relation particularly to the ’degree’ of economies of scale and the degree to which costs are sunk. The latter point is closely related to the labour-intensive nature of the postal industry. The authors suggest that it is unlikely that any part of the postal network would be likely to satisfy the tests for the existence of an essential facility in the Bronner case before the ECJ, which has been taken as requiring that it be shown that the market could not sustain a competing system at all. Accordingly they conclude that

“It is therefore not desirable to force the incumbent to provide access to its network. Compelling access could result in inefficient entry and cost increases for the incumbent provider and could impede sustainable competition and innovation. The postal sector does not, on the whole, have any insurmountable entry business or any structural characteristic that would restrict actual competition within a reasonable period.” (p.74)

There is, however, an alternative strand of regulatory thinking which attaches more attention to the peculiar origins of the advantages of the largest firm – not obtained through a Darwinian process of natural selection but from a monopolisation statute. Kahn (2001, pp. 18-19) expresses it thus:

“a reasonable case can be made in the context of the introduction competition into public utility industries that typically an incumbent company not only will control some facilities truly “essential” to its rivals but also will enjoy economies of scale or scope not because of superior enterprise on its part but merely because of its inherited franchised monopoly, and that requiring it to share the benefit of those facilities with rivals at a compensatory price would therefore not entail penalising successful competitive efforts.

Such a softening of the essential facilities doctrine in the public utility context – the legitimacy of which seems to me in principle unexceptionable – might well be so difficult to administer as to be impractical, except in a few specific contexts. Any such required sharing would have to be qualified by a stipulation that the obligation would apply only to the extent feasible and that the charges for such inputs – materials, goods, or services – reflect any additional costs of making them available to those outsiders.”

In many ways this expresses the realities of the development of mainstream, rather than niche, competition is newly liberalised industries. A mainstream entrant is faced with a heavy (possibly insuperable) burden of investment if it is required to duplicate all the historic monopolist’s assets on day one. Although the proportion of sunk costs in a postal operator’s expenditure may be lower than in other utilities, they may still be non-negligible, and they exclude the possibility that postal markets with economies of scale are contestable in the pure sense. Instead, entrants are forced to speculate about the historic monopolist’s response – will it accommodate entry or fight? How adequately will they be protected from anti-competitive conduct? Risks may be considerable, and are not mitigated by deep pockets.
The second consequence of a history of statutory monopoly is a deficit of innovation. As the telecommunications section has chosen, monopoly supply led to standardisation (‘you can have any colour of telephone, so long as it is black’), and liberalisation was followed by a burgeoning of new services. Similarly, postal services are capable of substantial service differentiation in relation to speed, certainty and reliability. This can be accompanied by value-added services such as marketing and address management and potential new technologies such as the use of electronic components. Unleashing these dynamic benefits is a major element in the transition to competition, and may require access to the incumbent’s networks.

In other industries, a pattern has been discerned in which entrants seek initially to invest in relatively replicable assets, such as customer acquisition, then gradually move along a ladder of infrastructure competition by accumulating less and less replicable assets, as they acquire greater certainty about their market success.

Cave and Vogelsang (2003) argue that

“Generally, our analysis leads to the not unexpected conclusion that the way to promote infrastructure competition is to make available easy and inexpensive access to the assets of the incumbent which are not replicable. At the outset this might include a large number of assets, which initially are complements to the entrant’s investment, but with time become substitutes. This fundamental proposition underlies the logic of a time-variant access pricing principle, under which the prices of certain network resources are initially low (even below cost—the incumbent using rents gained elsewhere to cross-subsidise the transaction) and then higher. These higher access charges could lead to a deregulation of that particular type of access, because at some point the pricing constraints would no longer be binding. Even without this added sophistication, the logic of lowering the access price of complementary assets still operates.”

This ‘start from the bottom’ pattern of asset acquisition is shown in the development of workshare activities in which the customer or consolidator undertakes forms of pre-sorting. Article 12d) of the (Revised) Postal Directive, sets out the terms on which universal service providers should supply such services. Access is explicitly mandated from the Royal Mail and Deutsche Post in their respective regulatory arrangements, and OPTA noted in 2003 that ‘now is the time to study access to TPG’s network and to facilitate the access where necessary’. It observed further that the continuing reservation of services to the universal service provider deprived competitors of an opportunity to benefit from economies of scope across different services (OPTA 2003, p.21).

The analysis which follows will therefore assume at least some form of mandatory access to the historic monopolist’s postal networks.

2. Variations of separation and their justifications

Economists have devoted much time to evaluating vertical links between activities at different stages in a production process (Perry, 1989). This analysis has embraced both common ownership (the issue concerned here) and various contractual relationships between firms, such as exclusive dealing or selective distribution. Whereas the theoretical analysis leads to
clear policy conclusions in certain special cases, in more realistic examples the effects can be ambiguous – hence the need for a case-by-case evaluation.

The unambiguous cases tend to arise where, in one or both of the stages, there is either perfect competition, or a monopoly. In particular:

- Where both stages are effectively competitive, firms’ decisions as to whether to be vertically integrated hinge entirely on efficiency considerations – competition leads to the adoption of the more efficient outcome.
- Where one stage is a durable monopoly and the other is perfectly competitive, then the monopolist will choose to integrate vertically only if it is more efficient to do so. The logic underlying this is that the monopolist will be able to extract any profits from the combined activities through its monopoly position in one of them (“you can only make a monopoly profit once”), and hence will only choose to undertake the other activity if it is more efficient in doing so.
- If both activities are pure monopolies, then vertical integration will have specific benefits. This situation arises because, in a vertically separated structure, there will be “double marginalisation”; with market power being exercised in both tiers, the final price to consumers will be higher, and the total volume of output and profit will be lower, than if there were an end-to-end monopolist.

Beyond these extreme and unregulated cases, the situation is much less certain. Within the context of utilities, two situations commonly arise. In the first, there is a pure monopoly element, while another element historically undertaken by the network monopolist is now subject to competitive entry. This situation applies particularly in relation to the energy industries, where retailing is a potentially competitive activity, but one in which, in the early stages at least, the historical monopolist exercises considerable market power. The alternative case, relevant to telecommunications and posts, is one in which components of the network activities are all subject to competition, but barriers to entry are considerably higher in some activities than in others.

In the former (“energy) case, the monopoly activity is likely to be regulated in a way intended to prevent it in the long term from earning excess profits. The firm is likely to seek to shift costs from the competitive to the monopoly activity, where they can be recovered through regulated charges. This permits excess profits to be made in the downstream activity, and creates an incentive to maintain market share. More generally, the vertically integrated firm may still exercise market power in the downstream activity, as a result of brand value, customer inertia or other factors. It may try to maintain this market power either by a price squeeze, or, if regulatory arrangements make this difficult, by a version of the classic means of raising its rivals’ costs, performed not through differential prices to its competitors but by inferior quality of service. This may take the form of dilatoriness in reaching access agreements, deliberate degradation of quality of service to its competitors, or a variety of other means which reinforce the incumbent’s own role in the retail market.

The literature shows that a firm will have an incentive to apply ‘sabotage’ in this way which is the greater

- the more regulation stops it maximising profits on the access product
- the more closely its product competes will entrants’ products
- the more efficient its upstream activities are compared with its rivals.
The simple underlying logic is that ‘sabotage’ reduces competition and output, and hence cuts downstream profits, but may enhance upstream products (Rieffen and Ward 2002).

Those arguments suggest that vertical integration has significant potential costs, but what about the benefits? This takes us into different territory, the analysis of transactions and contracting costs, which originated with R. H Coase’s analysis of the firm and received further impetus from the work of Oliver Williamson (see Milgrom and Roberts 1992).

A very brief general summary of this considerable literature would identify a number of possible benefits of vertical integration, to set against the risks of the anti-competitive conduct identified above. In the first place, integration can allow administrative co-ordination of inter-dependent activities, where contractual approaches have difficulties, for reasons discussed below. Secondly, integration can solve hold-up problems associated with specific investments – the classic example being a mine and a mine-mouth power station, each if separately owned, will try opportunistically to expropriate the other’s quasi-rents. Thirdly, integration can internalise what with separation would be an external effect. (For example, each party may leave it to the other to pay for an improvement from which both would benefit). Finally, risks can be efficiently shared. Some, but not all, of the problems can be addressed through efficient contracting, but this requires mechanism to deal with moral hazard and adverse selection and may generate contracts which, though long and complex, are still incomplete. Integration also has other disadvantages as well as anti-competitive ones. In particular, a preference for internally supplied inputs may lead to inefficiencies.

There is no way of conducting a cost benefit analysis of separation on a priori basis. The best that is achievable in practice is an informal estimate of costs and benefits which account as fully as possible for future changes in the sector. One way forward is to seek preliminary answers to a series of key questions suggested by the literature. This approach is adopted here.

The first issue is: if separation were implemented, where would it be made? The purpose of the separation is to draw a line between activities in which one firm is likely to hold a monopoly or a ‘superdominant’ position, and others where assets are easier to replicate. (This does not, of course, rule out separation into more than two activities.) Although detailed research into barriers to entry at various stages of postal sector activity is not available, there appears to be a general consensus that the delivery function undertaken by local delivery offices is the hardest to replicate. Already, several firms undertake pre-sorting under workshare arrangements. Transport seems relatively easy to provide or outsource, although it may exhibit economies of scale. A case may also be made for combining certain collection activities in a separated delivery organisation, when they are undertaken by the same staff. There is also the issue that the same machinery may be used at different time of day for both inward and outward sorting. Wherever the separation is made, it should not entail duplication.

The logic of separation of the key delivery assets (if it is accepted) also implies that the firm thus created should not be able while its dominant role persists to re-integrate into the more

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1 Normally defined as a case where a firm has 90-95% of a market. See Whish (2002), p.162-3.
2 For a discussion in a UK context of where the incumbent should provide access to its delivery network, see Deloitte and Touche (2003), pp. 10-18.
competitive activities, including both retail and upstream activities. It might be permitted to do so at a later stage when competition in delivery has restricted its market power.

On this assumption, the issue is whether, in a world with mandatory access to the delivery network (and possibly to other levels as well), it is desirable to turn the delivery service into a common carrier exclusively confined to offering that service on a non-discriminatory basis to all upstream operators at a regulated price. In view of the universal service obligation which typically requires both specified delivery frequencies and uniform (postalised) retail prices offered by the universal service operator, this would naturally translate into a geographically averaged delivery prices.

It is now appropriate to inquire into a number of issues bearing on the costs of separation.

- Is technical change likely to move the best point of separation?

It seems unlikely that a new technology will change in a wholesale way the current regime of the delivery office, and its separation from upstream activities. The number and location of delivery offices are, however, likely to change in response to factor prices and levels of activity, but this kind of reconfiguration would be a responsibility of the company’s management.

One possible and potentially major commercial change, however, is the extension of services provided by the delivery office beyond postal delivery, into the delivery of other goals. Separation may make such expansion more likely, as the separated company would focus entirely on its own activities, and not be responsible for upstream activities.

- Does a separated structure impose more or less complex contracting?

Writing the delivery contract requires the detailed specification of a number of major operational issues (see Postcomm 2003) as well as of price. These do not seem insuperable. Clearly the introduction of a transaction boundary also requires procedures for revenue protection and mail verification which would not otherwise be necessary in the same form. Without separation, these arrangement have to be made for access seekers. With separation, they have to cover all mail. This is a calculable cost of separation.

- Are there likely to be problems in co-ordinating delivery office and upstream operational and investment activities?

In relation to current activities, it is important that the delivery office is made aware of expected changes in activity levels. This is unlikely to represent a major problem, to the extent that overall demand for postal services is seasonal but otherwise relatively stable, and it is the aggregate of all access seekers’ demands which the separated delivery organisation will be interested in.

It is possible to envisage co-ordination problems in the longer term, especially if an access seeker requires a new access product which involves investment at delivery office level. In principle, the costs should fall initially at least on the access seeker, but some form of guarantee or pre-payment may be required to avoid moral hazard – for example, the access seeker imposing investment demands on the access provider and then going bankrupt. Such
investments would also be associated with a higher cost of capital, for the purposes of regulatory price setting.3

This brief discussion of transactions costs of separation is necessarily inconclusive. It is important to bear in mind, however, that the granting of access necessitates the development of systems for third parties – a possibly significant scale-independent one-off cost; separation extends this to all transactions and increases continuing costs.

A full cost benefit analysis of separation would also have to take into account the duration for which separation would be required to reduce anti-competitive behaviour. If competition developed primarily on an end-to-end basis, the opportunities for an integrated operator to discriminate would progressively disappear, and the degree of integration or separation would come to be determined by what best reduced costs. If this happened quickly, it might be argued the costs of separation would have to be recovered by benefits received over a short period. This would not necessarily be justified, however, as the base case in the cost-benefit analysis might involve a longer period of restricted competition if, absent separation, entry were delayed.

It is also appropriate to consider structural solutions intermediate between full vertical integration and ownership separation. These include accounting separation – a requirement by the regulator for the two (or more) components of a firm to keep separate accounts, and for transactions between the components to be recorded at transfer prices equal to the actual prices paid by third party access seekers for the same services; and legal separation –the creation of separate legal entities, usually within a holding company structure, with their own boards (including non-executive directors), their own executives subject to incentives based on performance of the legal entity which they manage, and an obligation to publish statutory, as well as (probably) regulatory, accounts.

Both practices are widespread in regulated industries – which may suggest that regulators find them a useful means of achieving their objectives, which typically involve cost allocation for the purpose of price controls as well as the prohibition of discrimination. The fundamental question, however, is whether the vertically-related components in common ownership, subject to accounting or legal separation, genuinely behave as if they were independent of one another, or whether managers, recognising that their performance may be evaluated on the basis of their contributions to total profit, do not continue to discriminate if that raises total group profit.

In any case, as noted above, a government’s or regulator’s ability to achieve separation is limited by the legal environment, except in the special case when the government, as owner of the assets in question, can brigade them in separate companies at will. The path to mandatory divestiture through application of competition law is likely to require demonstrations a) that the assets which are candidates for separation are an essential facility or equivalent and b) that structural rather than behavioural regulation is required to remedy the situation. This may be impossible to show. The OECD Recommendation on separation is generally silent on these implementation issues and focuses on a ‘technocratic’ evaluation more appropriate to the case of public ownership (OECD 2002). Alternatively there may be scope, using regulatory levers, to lead the vertically integrated firm to the conclusion that shareholder value is enhanced by the voluntary separation.

3 A discussion of these issues in telecommunications can be found in OFTEL, 2002
To summarise, a case can be made as competition is introduced for separation, of a vertically integrated postal monopoly into a downstream delivery company and an upstream company. Absent such separation, the vertically integrated operator will have both motive and – probably – opportunity to discriminate against access seekers. Monopoly postal operators are therefore good candidates for an investigation of the benefits and costs of structural separation, which, as the OECD notes, requires that

“the benefits and costs to be balanced include the effects on competition, effects on the quality and cost of regulation, the transaction costs of structural modifications and the economic and public benefit of vertical integration, based on the economic characteristics of the industry in the country under review.” (OECD, 2002, p.11).

My preliminary discussion of this analysis has sought to identify likely benefits of separation and (transactions and other) costs of separation. It has drawn attention particularly to:

- the period for which separation would be required
- the problem of implementation in the case of privatised postal operators
- the existence of intermediate measures, in the form of accounting and legal separation.

3. Access pricing

Whatever structure is chosen for the historic monopolist, the regulator will almost certainly be involved in setting access prices – given the conflict of interest present between access seeker and access provider which almost invariably precludes a voluntary agreement.

Article 12 of the (revised) European Union Postal Directive sets out a rule for setting access prices. Its interpretation has been a matter of dispute between the Royal Mail and Postcomm, the former arguing that it requires a pricing rule known as retail minus or the efficient component pricing rule, the latter adopting an alternative cost-based approach (Postcomm, 2003). It is more helpful, however, here to step over this issue and consider directly the pros and cons of alternative pricing rules. It is also helpful to widen the discussion beyond the existing postal literature, which has largely focussed on workshare arrangements in which the contribution by the access seeker represents a very small part of total costs. A postal competitor seeking access only to the historic monopolist’s delivery network and undertaking an upstream activity itself is much more akin to a telecommunications firm which seeks access to the incumbent’s local loop or last mile to terminate or originate a call.

Armstrong (2002) and Vogelsang (2003) have extensively reviewed the theory of access pricing, identifying three major candidates – incremental cost, retail minus or the efficient component pricing rule, and Ramsey prices. These are first described below by way of an illustration, with a focus on the first two rules.

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4 In the UK, the Royal Mail reached access agreements with three operators through negotiation in early 2004, at prices which appear to fall short of these implied by retail minus. As a result, Postcomm has not yet had to determine access prices.
Consider an end to end postal service which can be broken down into four activities or stages: collection and inward sorting, trunking, outward sorting and delivery, and retail. In practice, many more ‘stages’ are distinguishable, but this number is enough to illustrate the pricing principles. The first stage involves collecting the mail and sorting it by destination; the second - its conveyance to that destination: the third – sorting of the mail and its delivery to houses and business premises; the fourth (retail) – the marketing of services, sale of stamps and collection of revenue and other related activities.

Now consider the costs of performing each activity. All the relevant costs, incurred in relation to the particular activity in the country in question are considered – with no differentiation among the costs of particular areas or along particular postal routes.

For each activity, total incremental cost is defined as follows: the costs which can be causally related to the provision of the service in question. In case of outward sorting and delivery for example this will be the cost of premises, labour, vehicles and so on, required to perform the activity. These costs are calculated on an annual basis. Once total incremental costs are established, average incremental cost (usually abbreviated as ‘incremental cost’) can be computed by dividing total incremental cost by volume of the service provided (for example, the number of letters sorted and delivered).

As well as incremental costs, there will also be some costs incurred by the firm which cannot be attributed on a cost-causative basis to any of the four activities identified. For example, it may be impossible to disentangle the demands on a common asset placed by several activities, and there may be ‘overhead costs’ like those of a head office.

On this basis, the cost structure of an operator can be represented using purely illustrative numbers in the following table, which also shows how the retail price can be broken down into incremental cost and a contribution.

<table>
<thead>
<tr>
<th>Service</th>
<th>Incremental cost</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection and inward sorting</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Trunking</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Outward sorting and delivery</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Retail</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total incremental cost</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Common costs</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Contribution</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>Total cost/price</td>
<td>36</td>
<td>40</td>
</tr>
</tbody>
</table>
It is now possible, using the table above, to illustrate application of the first two access pricing principles. Suppose the access seeker wishes to purchase outward sorting and delivery. Under the strict incremental cost approach, the price would be 15. But it is normal to allow a partial recovery of common costs in the price. If that were done using the popular ‘equiproportional mark up’ method, an amount equal to one-half of the common costs (ie three), would be added to the incremental cost, since the incremental cost of outward sorting and delivery amounts to one-half of the incremental costs of the four activities taken together.5

The method for computing the same access price under the retail minus principle operates as follows. In the example, the retail price is assumed to be 40 – comprising an incremental cost of 30 and a contribution (to common costs, and profit) of 10. According to the retail minus principle, the price for access to the operator’s outward sorting and delivery activity is computed as the retail price (40) minus the incremental costs of the activities which the access provider no longer performs – collection and inward sorting (6), funding (7) and retail (2). The retail minus price (R-) is thus given by:

\[ R_- = 40 - (6+7+2) = 25 \]

I return to the logic of this approach below. It is useful, however, to set out an alternative expression for the retail minus price: the retail minus price equals the incremental cost of outward sorting and delivery (15) and the contribution (10):

\[ R_- = 15+10 = 25 \]

This must always be true6.

It is thus possible to characterise the retail minus price in either of two ways:

A. The retail price minus the incremental (or avoided) cost of the activities performed by the access provider which the access seeker does not require, or

B. The incremental (or avoided) cost of the activity sought by the access seeker, plus the contribution the access provider currently gains given its retail price for the end-to-end service7.

According to the third principle, Ramsey pricing, access prices are set in the service of encouraging efficient retail prices. Ideally those access prices would be marginal costs. Where the activity in question (here inward sorting and delivery) exhibits a marginal cost which lies below average costs (arising from the presence of common costs and/or increasing returns to scale), a mark-up is required to allow the access provider to break even. When access is priced under Ramsey principles, this mark-up differs according to the demand characteristics of the final services. In particular, where the service in question is relatively inelastic in demands provision of the access service has a relatively high mark-up, thus raising the price of the final service. The converse (a low mark up) applies where demand for the

5 Alternatively, common costs are 20% of incremental costs - (6/30) x 100. A mark up of 20% on 15 amounts to 3, yielding an access price of 18.

6 To see this, denote the incremental costs of the four activities by IC1, IC2, IC3 and IC4, the contribution as C, and the retail price as R. R = IC1+IC2+IC3+IC4+C. Th retail minus price, R_- = R- (IC1+IC2+IC4). Using the definition of R, R-=(IC1+IC2+IC3+IC4+C)-(IC1+IC2+IC4)=IC3+C

7 This contribution, which the access provider would lose if it lost the business to a competitor, is often known as the opportunity cost.
final service is elastic. In contrast with retail minus, and as under the incremental cost approach, retail prices are not taken as given. In contrast with the incremental cost approach, and like retail minus, prices for the same access product vary, depending on what it is used for.

The choice of access pricing rule has pre-occupied regulator over the past two decades, particularly in the telecommunications industry. In relation to the principles that have been discussed here, it has been recognised that the choice between them depends on regulatory or policy objectives. Objectives often cited are:
- the development of competition
- the attainment of certain retail pricing objectives such as cross-subsidies across different services or the maintenance an uniform retail price in the face of cost differences
- ensuring that only efficient operators come into the sector (‘productive efficiency’).
- discouraging competition from building their own facilities, when it would be cheaper for them to use those of the incumbent operator (‘avoiding inefficient by-pass’)

One of the consequences of the retail minus approach is that it ensures that an entrant will only succeed in supplying a service to customers, using part of the incumbent’s facilities, if it can carry out the activities it does perform more cheaply than the incumbent. This can be illustrated in terms of the arithmetical example alone. The retail minus price for access to the incumbent’s outward sorting and delivery activity is 25. The retail price is 40. To beat that price, and avoid losses, the entrant must perform the three activities it duplicates (collection and inward sorting, trunking and retail) at a cost which matches or beats the incumbent’s incremental costs of 15, with no addition for common costs. 8. This is a severe test. Of course, it only applies when the incumbent is vertically integrated across upstream and downstream activities.

A second consequence of retail minus is that it protects that existing system of retail prices. Thus if a regulator wants to set some prices above cost (embodying a high contribution) and some below cost (a low contribution), these objectives are reflected in access prices. When a competitor is using the access service to provide a final product with a high contribution, the access price (based on retail minus) will be set at a higher level than when the same access service is used to provide a final service with a lower contribution. The rule thus protects a given structure of retail prices.

This may mean, however, that access prices in some cases are high in relation to costs, which may encourage competitors to build competing facilities even when it would be cheaper in cost terms to use the incumbent’s – inefficient by-pass.

The consequences of incremental cost pricing of access services (with a mark-up to cover common costs) are broadly the opposite of those of retail minus. Incremental cost pricing encourage competition because it allows competitors to gain access to the incumbent’s facilities without having to shoulder the burden of both incremental costs and the incumbent’s contribution when providing the end-to-end service. Since that contribution goes in part to defray common costs, the entrant is, in effect, forced to pay for its own common costs and those of the incumbent, even assuming that a lower scale of activity does not give it a cost handicap as well. This has a naturally chilling effect on competition. Moreover if the retail price used in the retail pricing of minus embodies excess returns or inefficiency, the burden of

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8 This aspect of retail minus is reflected its other name – the efficient component pricing rule or ECPR
these is automatically passed on to the competitor through the retail minus formula. It is sometimes assumed, however, that inefficiency and excess prices are eliminated by regulation.

The incremental cost approach also tends to bring prices into line with costs, and thus may work against cross-subsidies desired by regulators. This is because the same access service is sold at the same price to produce final services, some of which are highly profitable and some of which are less profitable or unprofitable. Competition from entrants for the profitable services tends to bring their prices down.

Armstrong (2002, p. 334-337) provides a useful summary of the approaches. He notes that Ramsey prices are by definition optimal, since they are derived backwards from overall welfare maximisation exercise. But they are difficult to calculate, as they require knowledge of demand conditions.

In relation to cost-based pricing, he notes that
1. If retail prices are cost-based, then so should access charges be;
2. If there are distortions in the regulated tariff, but these are corrected by another regulatory instrument, then cost-based pricing is the best policy;
3. If the upstream market is competitive and unregulated, then access should be cost-based.

This analysis relegates retail minus to situations in which a) prices are regulated away from costs, and b) the distortion has to be corrected by access prices. Because the single instrument of access pricing is attempting to achieve two objectives (productive efficiency and maintenance of a given price structure), a second best – or worse - compromise is required.

As a first approximation, I assume that regulators’ interest in the relative prices of the different services is confined to the desire for a universal postalised price, rather than to subsidise individual postal products (eg first class letters) from excess prices received elsewhere (eg packets).9

The literature on access pricing in the postal sector focuses on dealing with the distortion created by the universal service obligation and postalised, non cost-reflective prices. Emphasis on the universal service objective leads to a recommendation of retail minus pricing, to avoid what is graphically described as the ‘graveyard spiral’ of the universal service provider.10 With given retail prices it is also argued that retail minus pricing is necessary to achieve productive efficiency. (Panzar, 2003)

This analysis assumes the existence of a single instrument. Yet in his conclusion summarised above, Armstrong notes in particular that an output-based tax levied on entrants permits

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9 This assumption can be easily relaxed.
10 See, for example, Crew and Kleindorfer (2000). This describes a process in which the universal service operator progressively loses low cost business to rivals, and is forced progressively to raise its prices. Similar concerns were expressed in connection with the introduction of competition in the telecommunications industry, but not realised. For a sceptical empirical analysis of the graveyard spiral in posts, using US data, see Cohen et al., forthcoming. Retail minus pricing fully protects the historic monopolist because it receives the same contribution to its costs whether or not it is the retailer of a service.
efficient use of cost-based access charges even when the regulator has a preference over retail prices. The most obvious example of such a tax is a contributory universal service fund.

This would operate on the now well understood basis of identifying the net cost (after deduction of benefit) to the universal service operator of providing non-commercial services, on the basis that the operator is a going concern.

In the UK, Postcomm’s estimates of the cost to the Royal Mail of being a universal service operator (before deduction of benefit) is 1.7% of turnover in the relevant services, or £81 million p.a. (Postcomm 2001). Estimates carried out for the European Commission suggest a similar proportion. To put it in a different way, it would be disproportionate, in view of the baleful effects of retail minus on competition, to use it as an access pricing rule when the same objective, protection of universal service, can be achieved by other means.

This argument should caution us against the acceptance of the retail minus access rule as being necessary to the survival of universal service. There may be circumstances where it is appropriate – for example in the context of workshare arrangements where the access seeker itself undertakes very little of the value added in the postal production process. Where the proposed competition is broader in scope, retail minus runs the risk of restricting competition and therefore depriving consumers not only of its static but also of its dynamic benefits.

4. **Conclusions**

- Compared with other utility sectors, the postal services exhibits a different cost structure with a lower proportion of capital and sunk costs. This facilitates entry. On the other hand the historic monopolist’s inheritance of a reserved area, which in many OECD countries is declining slowly, creates distortions in competition which may justify mandatory access to those assets which are hard to replicate.
- Mandatory access naturally raises the structural issue of whether a vertically integrated historic monopolist will not be able to distort competition by disadvantaging the competitors to which it provides services. Behavioural regulation may be inadequate to deal with this problem. The data to make such a judgement in relation to separation at the delivery office level are not readily available, but the matter deserves full consideration as the OECD Recommendation proposes.
- Most of the literature on access pricing in postal services has favoured a retail minus approach, based on the need to protect the universal service. This approach does, however, introduce inefficiencies which can be avoided by the use of other regulatory instruments. It may also choke off competition which would yield dynamic gains for consumers, in terms of price, quality, choice and innovation. Postal regulators should, instead, adopt an approach which can yield greater consumer benefits, using an additional regulatory instrument such as a universal service fund to achieve retail price objectives and relying chiefly on cost-based access prices.
References


