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Is mandatory access to the postal network desirable and if so at what terms?

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Access to the network is one of the key tools used by regulators to stimulate competition in network industries. For instance, incumbents in the telecommunications sector, in the European Union and elsewhere, are typically mandated to grant access to their network to their rivals. Third-party access to the network requirements can also be found in the energy (gas and electricity) and rail sectors. The questions this paper seeks to address are (i) whether postal incumbents should be mandated to give access to their network and, if that is the case, (ii) at what terms. These questions are addressed by reference to the specific features of the postal sector.

Keywords: postal network; competition; access pricing

I. Introduction

Access to the network is one of the key tools used by regulators to stimulate competition in network industries. For instance, incumbents in the telecommunications sector, in the European Union and elsewhere, are typically mandated to grant access to their network to their rivals.[1] Third-party access to the network requirements can also be found in the energy (gas and electricity) and rail sectors.[2] The

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[1] See Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities, 2002 O.J., L 108/7.

[2] Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, O.J. 2009, L 211/55; Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC, O.J. 2009, L 211/94; Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004 on safety on the Community's railways and amending Council Directive 95/18/EC on the licensing of railway

questions this paper seeks to address are (i) whether postal incumbents should be mandated to give access to their network and, if that is the case, (ii) at what terms.

Whether or not mandatory access to the postal network is desirable is a question that should be answered by reference to the economics of the sector.[3] As a matter of principle, companies should be free to decide what they do with their assets and with whom they trade. However, the rationale that has traditionally been used to justify access obligations in network industries is that the presence of sunk costs turned the incumbent's network into a "monopolistic bottleneck" without access to which entry is not possible.[4] If one follows that logic, it is questionable whether mandatory access to the network is justified in the postal sector since the majority of postal costs are labour costs, which are certainly not sunk.[5] For this reason, it should be generally possible for new entrants to develop their own network and compete with the incumbent as has happened in a number of Member States, as the Swedish and Dutch examples illustrate. Policy-makers may nevertheless consider that access to the incumbent's network is desirable to stimulate competition (based, for instance, on the controversial "ladder of investment" theory)[6] and, as will be seen

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undertakings and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification, O.J. 2004, L 164/44.

[3]On the economics of the postal sector, see, eg, NERA, *Economics of Postal Services: Final Report*, A Report to the European Commission DG-MARKT (2004).

[4]John Panzar, "Reconciling Competition, Downstream Access, and Universal Service", in M Crew and P Kleindorfer (eds), *Postal and Delivery Services* (Springer, 2002) 93, 97.

[5]See NERA, *supra* note 3, 155 ("While sunk costs are a significant feature of many network industries (railways, electricity and gas distribution, water supply, telecoms) they are not prevalent in all networks (eg airlines). The postal industry is a network industry but the main features of the network (local delivery, and road transport) do not impose significant sunk costs"). See also Günter Knieps, "Does the System of Letter Conveyance Constitute a Bottleneck Resource?", in G Kulenkampff and A Niederprüm (eds), *Contestability and Barriers to Entry in Postal Markets* (Wissenschaftliches Institut für Infrastruktur und Kommunikationsdienste, Bad Honnef, 2006) 9–22 .

[6]The ladder of investment approach, which was suggested by Cave to stimulate competition in the broadband market, is a regulatory policy whereby access regulation is seen as pro-competitive as it reduces barriers to entry, but also is an indirect device to promote facility-based competition. Martin Cave, "Encouraging Infrastructure Competition via the Ladder of Investment" (2006) *Telecommunications Policy* 223. Cave's intuition was that investments by new entrants on the broadband market are gradual as their customer base increases. Thus, new entrants may start by reselling the services of the incumbent to then progressively invest in their own facilities until the moment they can entirely by-pass the network of the incumbent. As will be seen below, this approach essentially failed as, while Cave intended access to be temporary (so as to force new entrants to climb the ladder), regulators maintained it permanently. Cave's approach was premised on the view that facility-based competition was better than service-based competition, but that it was not immediately achievable due to the non-replicability of local loop. By contrast, when, due to the conditions of the market, the network assets are replicable, the ladder of investment approach to entry does not apply. This approach is thus not a useful precedent in the postal sector.

below, some EU Member States have imposed access requirements on the postal incumbent.[7]

Another important question when access to the postal network is imposed by regulation relates to the price at which access should be given. Access pricing is one of the most challenging issues in the field of economic regulation as it involves a series of trade-offs. First, access prices should be set at a level that stimulates "efficient" entry.[8] While low access prices stimulate competition, they may not contribute to social welfare when they have the effect of subsidizing inefficient entrants.[9] Moreover, access prices should be set at a level that allows the incumbent to carry out its universal service obligations (obligations to collect and deliver the mail a certain number of times a week, with a certain level of quality, without discontinuity, etc) and other public service missions (often linked to the social role of the postal service) in an economically sustainable manner (unless, of course, it is separately compensated by the State for these obligations and missions).[10] Thus, while stimulating competition is a desirable regulatory objective, regulators should not lose track when setting access prices of other equally important public service objectives and missions typically imposed on the incumbent.

Against that background, this paper is divided into five parts. Part II identifies the different forms of competition that can be envisaged in the postal sector, as well as what should be understood by "access" to the postal network. As will be seen, access may mean different things to different people and it is important to clearly identify the various forms of access that can be envisaged in the postal sector, as well as their legal and economic ramifications. Part III discusses the extent to which mandatory access to the postal network is desirable considering the specific features of the postal sector. As will be seen, postal incumbents already spontaneously give access to their upstream network through work-sharing arrangements. This raises the question of whether it is necessary for the regulator to go further. To inform that issue, Part III reviews the mandatory access regimes that successively took place in the United Kingdom, which, as will be seen, have created serious problems for Royal Mail. Part IV discusses the various options at the disposal of the regulator for pricing access, ranging from leaving the incumbent free to select the pricing methodology of its choice to setting the access price on an *ex ante* basis. It also discusses the main pricing methodologies that can be used to price access to the network, and illustrates the impact of these methodologies under two distinct scenarios, a full access-based scenario in which rivals entirely rely on the network of the incumbent

[7]See NERA, *supra* note 3, 157.
[8]See Panzar, *supra* note 4, 98.
[9] *Ibid*.
[10]Michael Crew and Paul Kleindorfer, "Balancing Access and the Universal Service Obligation", in M Crew and P Kleindorfer (eds), *Postal and Delivery Services* (Springer, 2002), 3, 32.

and a mixed by-pass scenario where rivals deliver their mail volumes in low-cost areas and rely on the incumbent to deliver their mail in high-cost areas.

Section V contains the following conclusions. First, the imposition of mandatory access requirements on the incumbent is generally not necessary given that incumbents already give access to their network to large postal users, intermediaries and rival postal operators on the basis of the avoided costs methodology. This approach leads to a decrease of the price of postal services by allowing entities that are more efficient than the incumbent on some segments of the postal value chain (eg, collection, pre-sorting, etc) to perform these tasks against discounts to the retail price of the postal service in question based on the costs they avoid to the incumbent. Importantly, incumbents have to comply with the requirements of cost orientation and non-discrimination contained in the postal directive (at least as long as bulk mail is within the scope of the USO), as well as in any event (ie, independently of requirements linked to the provision of universal service) with Article 102 TFEU, which prohibits abusive pricing. If the legislator considers that a mandatory access regime may nevertheless be necessary to stimulate competition, it should – as is the case in the UK – impose an obligation on the regulator to demonstrate that access requirements will promote efficiency and effective competition, and confer significant benefits on the users of postal services. It should also adopt measures to encourage the incumbent's rivals to develop their own infrastructure in order to be less dependent on the network of the incumbent by, for instance, limiting access to a period of time.

Secondly, it is submitted that in a mandatory access scenario, the regulator should allow the incumbent to set the prices for access to its network. This will not amount to *laissez faire* considering that, as noted above, the incumbent is subject to tight regulatory and competition law constraints. If the regulator nevertheless wants to set the access prices, it should calculate these prices on the basis of the ECPR methodology, which is line with the avoided costs approach used by incumbents when they give voluntary access. This methodology presents the advantages that it promotes efficient entry, and has no impact on the profits of the incumbent and its ability to perform its missions of universal service. The regulator should, however, be concerned by the cream-skimming risks that may occur when rivals use a mixed by-pass strategy whereby they provide an end-to-end service in low cost areas and rely on the network of the incumbent to deliver mail destined to high cost areas. It is submitted that in such cases, the regulator should vary access prices depending on the incremental costs of the incumbent to deliver mail in different areas ("zonal pricing"). While some may argue that in densely populated countries, such as Belgium or the Netherlands, there are only limited variations in delivery costs across the national territory, this argument has its limits. It is clear that a scenario whereby mixed by-pass operators would focus their end-to-end activities around Brussels, Antwerp, Ghent, Charleroi and Liège or Amsterdam, Rotterdam, The Hague and Eindhoven (ie, the largest cities of each country) and use the network of the incumbent for delivery in the rest of the territory would affect the profitability of the incumbent. Moreover, if the variations in delivery costs across the national territory are limited, this would strongly suggest that access to the postal network is not necessary and that public authorities would be better advised to adopt policies stimulating end-to-end competition rather than access regimes.

Given the transaction costs that will be generated by the adoption of a mandatory access regime at regulated prices and the risks it presents for universal service, it is questionable whether such a regime is worth it. That is especially the case considering that access-based policies only expose a relatively small amount of costs to competition (competition at the margin) and therefore the price reductions it will trigger will generally be small and only profit to large postal users.

II. Access to the postal network: clarifying the concepts

The purpose of this section is to clarify at the outset a number of concepts that are central to any discussion regarding access to the postal network.

In the first place, it is important to note that the competition that may be created by access to the postal network may come from different entities. First, large postal users (or the intermediaries acting on their behalf) may choose to internalize some services situated "upstream" in the postal chain such as collection, pre-sorting, transport, etc, for which they may be more efficient than the incumbent (this is generally referred to as "work-sharing"). These large customers or intermediaries are compensated through a discount on the price of the stamp based on the costs they avoid to the incumbent. Secondly, postal operators may also decide to use the incumbent's network (for some or all of their mail volumes) in order to provide a "full" postal service to the benefit of their customers in competition with the incumbent. In practice, the tasks that these operators perform may not be materially different from those postal users or intermediaries perform in that they may be limited to the upstream tasks described above (collection, pre-sorting, transport, etc). The only difference is that they provide a postal service under their own brand and for their own account. There is therefore a strong argument, relying notably on the principle of non-discrimination, that these competitors should be treated no differently from postal users and intermediaries when it comes to access prices given that the tasks they perform are similar to those performed by these users and intermediaries. In the rest of this paper, we focus on the issues that are created by the granting of access to the incumbent's network to these rivals.

The incumbent's rivals may engage in three distinct forms of competition. The first form of competition is generally referred to as *end-to-end competition*, whereby the incumbent's rivals exclusively rely on their own infrastructure to provide the service.[11] In other words, these rivals by-pass the incumbent's

[11] In other words, end to end delivery involves the collection, transporting, sorting and delivery of letters by a single postal operator.

postal network by developing their own network. This scenario does not raise any access-related issues since access is not sought. Alternatively, the incumbent's rivals can engage in *access-based competition*, whereby they rely on the postal network of the incumbent to perform some parts of the postal transaction, such as for instance sorting, transport and delivery. Finally, rivals can combine the two above approaches through *mixed competition* (also sometimes referred to as *mixed by-pass*), whereby they engage in end-to-end competition in some parts of the country and rely on the incumbent's infrastructure in others. Of these three forms of competition, end-to-end competition is certainly the most robust as rivals no longer depend on the incumbent's facilities. Moreover, when end-to-end competition takes place and the incumbent's rival is more efficient across the postal value chain, this can lead to greater price cuts and thus consumer savings than when competition is limited to some part of the postal value chain (eg, collection and pre-sorting).[12]

The competitive strategies selected by the incumbent's rivals typically vary depending on a series of factors (eg, their level of resources, the geography of the country in question, etc). For instance, end-to-end competition on a national level may be not be a realistic strategy in predominantly rural countries with a low population density. Regulation may also play an important role in shaping such strategies. Thus, while a low access price may stimulate access-based entry, it will have a detrimental impact on end-to-end competition.[13] For instance, empirical evidence shows that low access prices in the telecommunications sector have discouraged new entrants to develop their own infrastructure, preferring instead to rely on cheap access to the incumbents' local loops.[14] This was also due to the absence of appropriate constraints/incentives in the regulation to encourage the incumbent's rivals to take on investment risks and climb the so-called "ladder of investment". In particular, access regulation at the lower rungs of the ladder, which was only meant to be temporary, was not phased out.

[12]ERGP Report on End-to-End Competition and Access in European Postal Markets, June 2014, at 16 available at http://ec.europa.eu/internal_market/ergp/docs/documentation/2014/ergp-13-38rev1-report-on-end-2-end-competition-clean-adopted_en.pdf (explaining that end-to-end competitors "substantially differ from the incumbent by lower prices as well as by offering equivalent products or customised and tailored conveyance services, which they pick up at the sender, will be delivered within the next one or two days").

[13]Pricing behaviour of postal operators, DG Internal Market and Services 21 December 2012, 160 ("As a general rule, the more favourable the access pricing terms stipulated in regulation, the less likely competing operators are to invest in their own networks and engage in end- to-end competition"). See also Paul de Bijl *et al*, *Light is Right: Competition and Access Regulation in an Open Postal Sector*, (Tilburg Law and Economics Center, 2005), 6.

[14]Marc Bourreau *et al*, "A Critical Review of the 'Ladder of Investment' Approach", (2010) 34 (11) *Telecommunications Policy* 683.

It is also important to distinguish between the different possible forms of access to the postal network or infrastructure by reference to the EU postal directive.[15] Article 11 of that directive provides that:

> "The European Parliament and the Council, acting on a proposal from the Commission . . . shall adopt such harmonisation measures as are necessary to ensure that users and the postal service provider(s) have access to the postal network under conditions which are transparent and non-discriminatory."

Article 11a provides that:

> "Whenever necessary to protect the interest of users and/or to promote effective competition, and in the light of national conditions and national legislation, Member States shall ensure that transparent, non-discriminatory access conditions are available to elements of postal infrastructure or services provided within the scope of the universal service, such as postcode system, address database, post office boxes, delivery boxes, information on change of address, re-direction service and return to sender service. This provision shall be without prejudice to the right of Member States to adopt measures to ensure access to the postal network under transparent, proportional and non-discriminatory conditions."

These two provisions operate a distinction between the *mandatory* adoption by the Member States of transparent and non-discriminatory conditions for access to certain "elements of the postal networks", such as the post-code system, etc, when necessary to protect the interest of users and/or to promote effective competition (first sentence of Article 11a), and the *possible* adoption of measures to ensure access to "the postal network" under transparent, proportional and non-discriminatory conditions (Article 11 and second sentence of Article 11a). As to the latter measures, they can be adopted in the future by the European Parliament and the Council, acting on a proposal from the Commission, although nothing prevents Member States in the meantime to adopt them through national legislation.

The articulation of the first and second sentences of Article 11a strongly suggests that the first sentence of this provision is not an appropriate legal basis for measures imposing downstream access to the "postal network" of the incumbent, ie the physical and human infrastructure used to sort, transport and deliver mail. This seems to be confirmed by the fact that the first sentence of Article 11a does not refer to the elements of the postal network that are at stake in the case of downstream access, but rather to elements of the postal infrastructure that may facilitate the interoperability of services between postal operators.

As to the access to the local network, a distinction can be made between "downstream access at the outward sorting centres" and "downstream access at the inward sorting centres" These last two forms of access are illustrated in Figure 1 hereafter.

[15]Directive 2008/6/EC of the European Parliament and the Council of Ministers of 20 February 2008 amending Directive 97/67/EC with regard to the full accomplishment of the internal market of Community postal services, O.J. 2008, L 52/3.

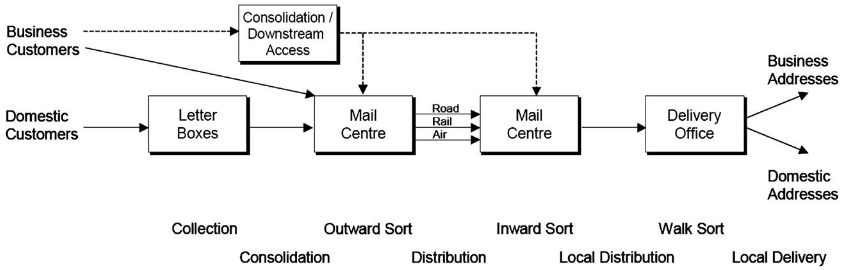

Figure 1. The postal value chain
Source: NERA (2004)

The rest of this paper focuses on the downstream access to the postal network within the meaning of Article 11 and the second sentence of Article 11a.

A final point that needs to be made in this section is that the conditions of access to the postal network may vary depending on whether the postal items for which access is sought belong to the universal service. For instance, while in the majority of the Member States bulk mail is part of the universal service, it is no longer part of the universal service in others (such as, for instance, in the UK since 2011). In countries where bulk mail is no longer part of the universal service, the incumbent has a much greater degree of freedom in terms of selecting the scope of the service, the frequency of collections and deliveries, but also in terms of pricing. In this paper, we assume that bulk mail remains part of the universal service, although we generally draw the attention of the reader that our conclusions may be different if that were no longer to be the case.

III. Is mandatory access to the postal network desirable?

This section discusses whether mandatory access to the postal network is desirable. It is divided into two sections. Section A makes a number of observations regarding the special features of the postal sector, which explain why the mandatory access policies that have been adopted in other network industries may not deliver the same degree of competition and consumer benefits in the postal sector. Section B analyses the main learnings of the UK experience where mandatory access policies have been experimented, with mixed results, in the past 15 years.

A. *Features of the postal sector and relevance to the access to the network debate*

As noted above, whether or not mandatory access to the postal sector is desirable is a question that cannot be answered in the abstract. While network industries share common features, significant differences can also be observed with important implications on the choice of regulatory policies. This subsection describes a series of features of the postal sector that cannot be ignored when analysing the desirability of mandatory network access.

First, while mandatory access to the network has played a major role in the liberalization of network industries, such as telecommunications, rail or energy, the characteristics of the postal network significantly differ from those at play in these capital intensive industries. For instance, the last mile of the telecommunications network (the so-called "local loops") involves substantial sunk costs. Thus, new entrants are unlikely to be willing to take the risk of investing in local loops before they have gained a share of the market. By contrast, as noted above, the postal network does not involve any significant sunk costs. The vast majority of the postal network costs are labour costs and other mobile costs such as, for instance, vehicles.[16] The postal network thus hardly qualifies as a sunk cost bottleneck justifying mandatory access and international experience suggests that end-to-end competition is possible (eg, CityMail in Sweden or Sandd in the Netherlands). The example of Sandd demonstrates that end-to-end competition is feasible even on a national scale, at least in countries with high population densities.[17] This does not mean that access obligations are never justified (eg, they may be needed in countries where population densities and/or mail volumes per capita are low), but that the traditional justification for mandatory access policies is weaker in the postal sector than it is in other network industries.

Secondly, another difference with other network industries is that postal costs are largely concentrated in the last mile delivery. Thus, while the cost of access to the electricity transmission and distribution networks represents a fraction of the total costs incurred by operators in the electricity sector, the costs of postal delivery can represent up to 60–70% of the total costs (depending on various factors).[18] On the other hand, the costs of mail collection and transportation represent only approximately 20% of total costs.[19] This means that mandatory downstream

[16]Henrik B Okholm *et al*, "Regulatory Developments in Post and Telecommunications: A Tale of two Industries", 2 available at http://www.copenhageneconomics.com/dyn/resources/Publication/publicationPDF/7/257/0/Regulatory%20developments%20in%20post%20and%20telecommunications%20-%20a%20tale%20of%20two%20industries.pdf ("the EU-average share of personnel costs in production stands at 50% in postal v. 15% in telecommunications.")

[17]ERGP Report on End-to-End Competition and Access in European Postal Markets, *supra* note 12.

[18]WIK, "Main Developments in the Postal Sector 2010–2013″, August 2013, 197; see also NERA, "Economics of the Postal Sector: Final Report", *supra* note 3, 72.

[19]See Okholm *et al*, *supra* note 16 ("The cost structure in the postal industry is such that a large share of costs is downstream (i.e. last mile delivery) and would therefore have to be recovered via the access charge itself. While the access product (and related activities and costs) would be provided by the incumbent access-giver, only a low share of costs would be left exposed to competition").

access only opens a small share of the postal costs to competition,[20] and that compared with other network industries, access to the postal network only allows for a limited degree of competition. The incumbent's rivals will essentially compete at the margin by trying to be more efficient than the incumbent in some segments of the postal value chains (eg, collection).[21] By contrast, an economic study reports that business mailers were able to reduce their mailing costs substantially when Citymail, an end-to-end competitor, entered the market in 2007 as its prices were up to 50% lower than those offered by the USP.[22] This sort of price reduction cannot be offered by access-based competitors. Hence, the focus should be on interoperability between the networks and services of end-to-end competitors rather than on access.

Thirdly, unlike in the telecommunications or rail sectors, the demand for postal services tends to be highly concentrated, ie a relatively small number of users (large banks, insurance companies, utilities, administrations, etc) represent a very high share of total demand.[23] This means that even small price decreases may allow the incumbent's rivals to shift significant volumes with important consequences for the incumbent. For instance, while a price reduction of 2–3% may not be attractive to individual users (as it would not be worth the transaction costs involved), it may be attractive to large users spending millions of euros in postal services. Thus, unlike in other network industries, the benefits of the limited degree of competition allowed by access to the postal network will concentrate on large postal users and provide little, if any, benefits to small companies and individual users.[24] Moreover, in the postal sector, the traditional distinction made between retail and wholesale services is largely blurred as end users (and the consolidators/intermediaries working for them) can, through work-sharing agreements, access the postal network in same way as access-based postal operators seeking to challenge the incumbent.

Fourthly, an important feature of the postal sector is that, while the cost of delivery may vary greatly between low-cost areas (urban areas) and high-cost areas (rural areas), universal service obligations typically mandate the incumbent

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[20]Thus, in the UK, a parliamentary committee found that the direct costs of Royal Mail's bulk mail business amounted to less than 5% of its total costs and that this left little potential for efficiency improvements. House of Commons Business and Enterprise Committee, Postal Services Bill, Fifth report of session 2008–09, vol 2: Oral and written evidence, 50, quoted in Okholm *et al*, *supra* note 16, 12.

[21]See ERGP Report on End-to-End Competition and Access in European Postal Markets, *supra* note 12, 28–29.

[22]Copenhagen Economics, *Pricing Behaviour of Postal Operators.* A study for the European Commission, 2012, 142.

[23]See Okholm *et al*, *supra* note 16, 3 ("In the postal industry, the share of business customers is very high. This is in contrast to telecoms (as well as other network industries), where business customers are less and less predominant and residential consumers are a larger share of the market").

[24]See NERA, *supra* note 3, 46.

to provide its services at uniform, geographically-averaged retail prices. Thus, the combination of mandatory access to the network with a uniform retail price creates cream-skimming opportunities for the incumbent's rivals.[25] An operator could, for instance, decide to provide end-to-end service in low-cost areas (eg, a few large cities) and use the network of the incumbent for mail destined for high-cost areas. This would leave the incumbent with the task of delivering all unprofitable mail, while profitable mail is diverted away from it by its rivals. As will be seen below, granting access in such conditions puts the performance of universal service obligations in jeopardy, and thus requires the adoption of measures designed to (i) prevent access users to use access only for the delivery of high-cost mail or, alternatively, (ii) allow the incumbent to set access prices, which reflect differences in delivery costs (zonal pricing).

Fifthly, it is important to observe that access to the postal network at the level of outward sorting centres is already voluntarily given by postal incumbents via work-sharing agreements.[26] In other words, large customers (banks, insurance companies, etc) or the intermediaries generally acting on their behalf (routers, consolidators, etc) can drop pre-sorted mail to the outward sorting centres of the incumbent and obtain discounts for the preparation tasks that they have performed. Because these discounts are typically calculated on an avoided costs basis,[27] they allow more efficient competitors (eg, intermediaries that collect and pre-sort mail at cheaper costs than the incumbent) to compete for the upstream part of the postal business. Importantly, pursuant to the postal directive, these operational discounts must be geared to costs and granted on a non-discriminatory basis, and they must comply with EU competition law.[28] This protects postal users and intermediaries against abusive pricing practices by the incumbents.

Sixthly, while downstream access implies that a greater amount of the postal costs be subject to competition, it is not certain that the price of access at the inward sorting centres should be significantly lower than at the outward sorting centres. The reason is that given the growing degree of centralization of sorting (an increasingly large part of which being done upstream in the postal chain), access at the inward sorting centres may create important transaction costs, which could increase rather than decrease the costs of the incumbent.[29] One

[25]See, eg, Mark Armstrong, "Access Pricing, Bypass and Universal Service in Post" (2008), (7) 2 *Review of Network Economics*, 172, 173 ("if cream-skimming entry eliminates profits from hitherto profitable markets, the incumbent may be unable to continue financing its fixed and sunk costs as well as its loss-making universal service operations").
[26]See Crew and Kleindorfer, *supra* note 10, 3.
[27] *Ibid*.
[28]Article 12(2) and 5 of the EU postal directive, *supra* note 15; Article 102 TFEU, which prohibits abuses of a dominant position, including exclusionary pricing.
[29]This is part of the incumbent's efforts of increasing efficiency by streamlining postal processes. Such efforts should not be ruined by the obligation to grant downstream access at a price that does not reflect costs.

could foresee scenarios where mail handed over at the incumbent's inward sorting centres would have to be sent back higher in the postal chain. In such cases, the level of costs avoided by the incumbent when its rivals handle the postal transaction up to the inward sorting centres may not be much greater, or in some case may even be lower, than when the mail is handed over at the outward sorting centres. That may explain why the incumbent's large customers and rivals tend to concentrate on gaining access to outward sorting centres.

Finally, there may be some policy trade-offs between access-based competition and end-to-end competition. The reason is that the promotion of access-based competition tends to have a negative effect on end-to-end competition as the incumbent's rivals may find it preferable to rely on the incumbent's network rather than build their own facilities. This reflects the "make-or-buy" decisions faced by corporations when they need to use input in their production processes.[30] If a corporation can have cheap access to inputs, it will generally buy them rather than produce them internally, except when the price of inputs is not a necessary determinant. Some may argue that access to the postal network may be a necessary step towards end-to-end competition as it cannot be expected that new entrants would create an end-to-end network without first testing the market and gaining market share through access. This "ladder of investment" theory that was used to support mandatory access in the telecommunications sector has, however, been discredited by a series of empirical studies.[31] As already noted, a large part of the problem came from the fact that access to the incumbent's network was never phased out and that, as a result, new entrants often found it more convenient to continue to provide access-based services rather than develop their own network infrastructure. Moreover, the rationale of the ladder of investment in the telecommunications sector, ie the fact that the local loop is a monopolistic bottleneck, is not supported in the postal sector due to the limited presence of sunk costs and thus the feasibility of end-to-end entry. The UK experience also suggests that access to the postal network does not necessarily stimulate end-to-end competition over time. While a large part of Royal Mail's volumes shifted to access-based competitors, end-to-end competition is almost non-existent.[32] This has led some

[30]For a discussion, see LE Cánez, KW Platts, DR Probert, "Developing a Framework for Make-or-Buy Decisions", (2000) (20) 11 *International Journal of Operations and Production Management* 1313.

[31]The empirical literature does not support any link between greater access-based entry and greater investment by entrants in their own access infrastructure. See, eg, Robert Crandall *et al*, "Do Unbundling Policies Discourage CLEC Facility-based Investment?", (2004) 4(1) *Topics in Economic Analysis and Policy*, 14; Thomas Hazlett and Coleman Bazelon, "Regulated Unbundling of Telecommunications Networks: A Stepping Stone to Facility-based Competition?", presented at TPRC 2005, available at http://mason.gmu.edu/~thazlett/pubs/Stepping%20Stone%20TPRC.10.04.05%20.pdf; Jerry Hausman and Greg Sidak, "Did Mandatory Unbundling Achieve its Purpose? Empirical Evidence from Five Countries", (2005) 1(1) *Journal of Competition Law and Economics*, 173.

[32]See Okholm *et al*, *supra* note 16, 11.

authors to claim that the postal sector was characterized by a "ladder of divestment" in that access to postal network policies would in fact discourage rather than encourage investments by new entrants.[33]

Against this background, it cannot be assumed that the mandatory access policies that have been adopted in sectors, such as telecommunications, energy and rail are necessarily desirable in the postal sector given its rather unique features. At best, mandatory access policies can increase competition at the margin through work-sharing (when such arrangements are not already in place) to the benefit of large postal users. In addition, unless proper pricing policies are put into place (see Section IV), this increased competition may put the universal service at risk as it creates cream-skimming opportunities. This may explain why, unlike in other network industries where mandatory access has been core to its strategy, the European Commission is not pushing for that regulatory approach in the postal sector. While Article 11 of the postal directive provides a legal basis for the Commission to propose an access to the network regime, no such proposal has been made and the issue does not seem to be on the agenda. Instead, the Commission seems content to leave it to the Member States to adopt, pursuant to the second sentence of Article 11a, access regimes and a number of Member States have mandated access to the postal network.

B. *What does the UK experience with access to the postal network tell us?*

In order to verify whether the concerns expressed above are justified, it is important to pay attention to the UK access regime, which is perhaps the best known experience of access-based regulation in the postal sector.[34] The UK's access to the network regime has essentially undergone two phases, the first one starting with the adoption of the Postal Services Act 2000,[35] and the second with the adoption of the Postal Services Act 2011.[36] This access regime, or at least its first phase, has received mixed views from postal experts.[37] While it has certainly created a large degree of upstream competition, it has arguably had a negative effect on end-to-end competition, which is extremely low in the UK.[38] Royal Mail's competitors have engaged in access-based competition relying on the favourable access conditions initially devised by Postcomm, and PostNL's efforts to develop an end-to-end competitor (through Whistl) failed.[39] While the

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[33] *Ibid*, 7.

[34] See, eg, Christian Jaag, "Postal-Sector Policy: From Monopoly to Regulated Competition and Beyond", *Swiss Economics Working Paper* 0045, April 2014.

[35] Available at http://www.legislation.gov.uk/ukpga/2000/26/contents.

[36] Available at http://www.legislation.gov.uk/ukpga/2011/5/contents.

[37] See Jaag, *supra* note 34; See Okholm et al, *supra* note 16.

[38] Copenhagen Economics, 7–8.

[39] See "Whistl Post Deliveries Suspended", *The Guardian*, 11 May 2015 ("Whistl chief executive, Nick Wells, said the decision to suspend deliveries had been taken to stem

inadequately low level of the access charges Royal Mail was allowed to charge access users stimulated access-based competition in the UK, it also contributed to the deterioration of Royal Mail's financial health. This led to a relaxation of access regime following the adoption of the Postal Services Act 2011.

Under the Postal Services Act 2000, Royal Mail was the sole universal service provider in the UK and operated under a licence issued by Postcomm, the postal regulator at the time. Condition 9 of this licence mandated Royal Mail to provide access to its postal facilities such that (i) access prices be based on a reasonable allocation of costs and that (ii) Royal Mail did not unduly discriminate between persons having such access to its postal facilities or show undue preference towards any such person. Taken together, these requirements meant that Royal Mail had to negotiate in good faith with "any person" requiring access to its network, whether a customer or a licenced postal operator. If negotiations were unsuccessful, the parties could request Postcomm to make a determination of the prices and/or conditions to apply.

The first access agreement was concluded in 2004 between Royal Mail and UK Mail after Postcomm published a notice of a proposed direction to Royal Mail on downstream access following the failure of UK Mail and Royal Mail to reach agreement on a number of price and operational terms of access.[40] Under the access agreement, UK Mail agreed to inject mail at Royal Mail's inward mail centres, thereby using Royal Mail for the "final mile" of delivery. This agreement became a blueprint and access was subsequently offered on similar terms to other operators and to postal users (as no discrimination can be made between the former and the latter).

The access prices were uniform to all parts of the UK, but offered on the condition that the "fall-to-earth" of access mailings be similar to the Royal Mail national average mail profile.[41] This condition helped to protect Royal Mail's ability to perform its universal service obligations because it prevented access being used for a disproportionately high percentage of mail in high cost delivery areas. However, as regional operators and most customers could not meet the "national" mail distribution pattern, Royal Mail developed a set of non-uniform access prices that allowed the condition of requiring a national average mail profile to be avoided, which thereby increased the opportunities for access to its postal facilities.[42]

losses"), available at www.theguardian.com/uk-news/2015/may/11/whistl-post-deliveries-suspendedwww.theguardian.com/uk-news/2015/may/11/whistl-post-deliveries-suspended

[40]See Post & Parcel, "Postcomm Proposes Access Arrangements to Enable UK Mail Ltd to Use Royal Mail's Network", 19 May 2003, available at www.postandparcel.info/8247/news/postcomm-proposes-access-arrangements-to-enable-uk-mail-ltd-to-use-royal-mail's-network/

[41]Roger Hill and Richard Robinson, "Establishing Non-Uniform Access Prices in The UK", August 2005, 3, available at http://www.royalmailgroup.com/sites/default/files/10-Establishing_Non-Uniform_Access_Prices_in_the_UK.pdf

[42] *Ibid*.

In order to ensure that Royal Mail would not price its access and retail services in an anti-competitive manner, Postcomm adopted two control mechanisms.[43] First, a so-called "headroom control", whereby the access price was set such that an entrant was guaranteed a minimum margin in relation to the regulated retail price, the goal being to prevent margin squeeze.[44] Postcomm also adopted a zonal access control, restricting Royal Mail's ability to change the relative prices for different zones in its access product.

As noted above, this first phase delivered mixed results. On the one hand, the UK regime stimulated upstream competition and Royal Mail's rivals captured almost half of the addressed volume market in the UK.[45] On the other hand, unlike in other Member States, end-to-end (ie, full) competition did not develop.[46] Moreover, this regime left Royal Mail in a precarious position. As acknowledged by Postcomm in a May 2010 report, "access prices [were at the time] too low to make sufficient contributions to the costs of the downstream network to assure its financial sustainability."[47] Postcomm also admitted that part of the market shares lost to Royal Mail were at least partly not "due to superior efficiency."[48] As Royal Mail was effectively forced to subsidize its rivals, its financial situation became preoccupying and concerns were raised it might no longer be able to pursue its universal service obligations. Finally, while the access regime may have benefited large postal users, it seems to have been at the expense of small companies and individual users as retail prices increased, rather than decreased, during that period.[49]

The access regime was modified following the adoption of the Postal Services Act 2011 to give more pricing flexibility to Royal Mail. Section 38(4) of the Act provides that OFCOM (which took over postal regulation from Postcomm) may not impose a USP access condition unless "it is appropriate for each of the following purposes: (a) promoting efficiency, (b) promoting effective competition, and (c) conferring significant benefits on the users of postal services." In addition,

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[43] See Copenhagen Economics, *supra* note 22, 162.

[44] On margin squeeze, see Damien Geradin and Robert O'Donoghue, "The Concurrent Application of Competition Law and Regulation: The Case of Margin Squeeze Abuses in the Telecommunications Sector", (2005) 2 *Journal of Competition Law and Economics* 355.

[45] Royal Mail Plc, Prospectus, available at http://www.royalmailgroup.com/sites/default/files/Full_Prospectus.pdf, 82 ("In FYE 2013, access mail accounted for approximately half of the addressed letter volume delivered by Royal Mail in the UK, and approximately 32% of Royal Mail's total addressed letter revenue.)

[46] In FYE 2013, Royal Mail delivered approximately 99% of letter volumes in the UK.

[47] Postcomm, Laying the Foundations for a Sustainable Postal Service, Annex 4: Price Control and Access, May 2010, § 5.83.

[48] *Ibid*, 159.

[49] John Burn-Murdoch, "Stamp Prices: How have they Changed since 1980?", *The Guardian*, 27 March 2012, available at www.theguardian.com/news/datablog/2012/mar/27/60p-price-stamp-royal-mail.

Section 38(5) of the Act provides that OFCOM may not impose any price controls on a universal service provider in a USP access condition unless it appears that the provider concerned: "(a) might otherwise fix and maintain some or all of its prices at an excessively high level with adverse consequences for users of postal services, or (b) might otherwise impose a price squeeze with adverse consequences for users of postal services." Thus, Royal Mail is in principle free to set its access charges unless OFCOM has concerns that these charges may be excessive or lead to a margin squeeze.

OFCOM implemented Section 38 of the Act by imposing a USP access condition ("USPAC Condition") on Royal Mail applying to access to the universal service provider's postal network at the Inward Mail Centre for the purposes of providing D+2 Letters and Large Letters services ("D+2 Access").[50] To enable Royal Mail to set its prices in a way that covers the costs of the network, the price of access is no longer regulated. However, to prevent problems in terms of undue discrimination and margin squeeze, OFCOM imposed three safeguards. First, the terms and conditions for access (including prices) must be set on a "fair and reasonable" basis. Secondly, there is a "non-discrimination obligation". Thirdly, the USPAC Condition imposes an *ex ante* margin squeeze control that requires Royal Mail to have a reasonable expectation of recovering its relevant fully allocated costs across the basket of access products.[51] In addition, there is a margin squeeze price control for individual contracts that requires Royal Mail to have a reasonable expectation of recovering a minimum of 50 per cent of its relevant upstream fully allocated costs for such contracts.[52]

Important lessons can be drawn from the UK's access regime. First, an access regime that privileges the interests of access seekers to the detriment of the incumbent is bound to fail. If the incumbent is asked to give access to its network at a price that insufficiently compensates its costs, while at the same time it must continue to fulfil its universal service obligations in a context of shrinking volumes, it will not take much time before its financial situation deteriorates. This explains why the Postal Services Act 2011 sought to rein in the access regime that had been put into place by Postcomm by imposing that several conditions be met before Royal Mail can be asked to give access to its network, as well as by giving greater pricing flexibility to Royal Mail. OFCOM, in turn, restricted access to D+2 Letters and Large Letters services and decided no longer to regulate Royal Mail's access prices, subject to several safeguards to prevent Royal Mail from engaging in anti-competitive pricing. Secondly, the UK experience shows that the ladder of investment theory does not work in the postal sector. While

[50]Consolidated Version of USP Access Condition as at February 2014 (including annotations), Schedule to the Notification under Section 38(1) of the Postal Services Act 2011, USP Access Condition.
[51] *Ibid*.
[52] *Ibid*.

Condition 9 boosted access-based competition, it did not stimulate significant investments in postal infrastructures. Whistl, the only national end-to-end competitor, failed. Thirdly, the UK experience confirms that access-based competition is competition at the margin as while access entrants captured close to 50% of mail volumes, they only generated 2% of the sector's revenues. Finally, the UK's access regime generated little benefits to small companies and individual users.

The UK experience also illustrates that developing and implementing an access regime is a regulatory-intensive process. The access regime imposed on Royal Mail generated a heavy burden on the successive postal regulators (Postcomm and then OFCOM), including the design of the regime, its implementation through a variety of regulatory instruments, and finally the overhauling of the regime when it proved deficient.

Mandatory access obligations have also been developed in other Member States such as, for instance, Germany[53] and the Netherlands.[54] The amount of information on the performance on these regimes is, however, rather small and it is therefore difficult to use them as a source of reference for this analysis. Interestingly, the Dutch Postal Act was recently modified to give the Authority for Consumers and Markets (ACM) the power to impose obligations on postal operators that have significant market power (SMP). Pursuant to this market analysis, ACM issued a press release on 1 December 2014 indicating that it had adopted a draft decision maintaining on PostNL an obligation "to give access to its sorting and delivery network consisting of drop-off locations, sorting centres, and mail car-

[53]Section 28 of the German Postal Act provides that "Where a licensee has a *dominant position in a market for postal services* subject to licence, it shall, given demand, provide parts of its overall conveyance offering separately, if this is economically reasonable. The obligation according to sentence 1 above shall only apply in relation to another postal service provider when the requesting company does not have a dominant position in the market and *when there would otherwise be undue restraints of competition in the same or another market*. The licensee may refuse to provide any such work sharing service *if the operational capability of its facilities or operational reliability would be endangered* thereby or if, in a given instance, all available capacity for the service required is exhausted." In this case again, the access should only be provided when specific conditions are met: (i) the network operator must be dominant in a market subject to a license; (ii) the access seeker must not be dominant and lack of access would restrict competition in the market in question or another market; and (iii) access should only be given when it would not degrade the operational capability of the network operator. Importantly, the access price in Germany has been set based on the avoided cost principle, which, as will be explored in Section IV, is the correct mechanism to price access to the postal network. Deutsche Post is free to set access prices subject to approval by the Federal Network Agency.

[54]Pursuant to Article 9 of the Dutch Postal Act, PostNL, the Dutch postal incumbent, to give other postal operators access to its network against tariffs that are non-discriminatory and transparent. This is the case despite the existence of a national end-to-end competitor (Sandd).

riers."[55] The decision is still at the draft stage at the time of writing. It is too early to tell the way in which this approach, analogous to the SMP analysis that needs to be conducted by the EU national regulatory authorities pursuant to the electronic communications framework, will be implemented in practice.

In light of the above analysis, it is questionable whether mandatory access to the postal network is desirable considering that (i) access to the network is already largely given by postal incumbents to their large customers and the intermediaries acting on their behalf, as well as to competitors when they exist; (ii) unlike networks in other industries, the postal network is not a "monopolistic bottleneck" and is thus not indispensable for rivals to compete as illustrated in countries like the Netherlands and Sweden; (iii) access is unlikely to deliver any benefit to small users and may on the contrary threaten universal service; and (iv) it is likely to impose a heavy burden on the regulator, as well as significant transaction costs on the incumbent. Finally, one should not forget that when access to the network is (i) refused by the incumbent, while (ii) being truly essential to competition in the retail market, it is always possible for postal competitors to seek to obtain access on the basis of the basis of the "essential facilities" doctrine.[56]

To the extent that postal law allows the regulator to impose access obligations on the incumbent, it is important that such obligations be only imposed when, as for instance required by the UK Postal Act 2011, they are demonstrably needed for (a) promoting efficiency, (b) promoting effective competition, and (c) conferring significant benefits on the users of postal services. Equally importantly, to the extent that it has the power to adopt access prices, such prices should be set in a manner that stimulate efficient entry, while ensuring the continuity of universal service. As will be shown in Part IV below, this is by no means an easy task. Finally, it is submitted that any access regime should be revisited regularly as access should not be given in perpetuity.

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[55]According to the press release: "ACM has established that PostNL has a dominant position in the market for business mail. For some businesses, PostNL is the only postal operator with which they are able to do business. Sandd and regional postal operators are alternatives, but regional postal operators are dependent on PostNL in order to be able to serve their business customers. With this decision, ACM makes sure that regional postal operators are assured that they have access to PostNL's drop-off locations, sorting centers, and mail carriers under reasonable conditions. As a result, businesses are able to choose between PostNL and a regional postal operator for next-day delivery of their mail." At the time of writing, it is not clear whether that draft decision has been finalized and made binding.

[56]In *Bronner*, the CJEU held that a refusal to supply violates Article 102 provided that three strict cumulative conditions be met: (i) the refusal concerns a product the supply of which is indispensable for carrying on the relevant business, (ii) the refusal is likely to exclude all competition in the relevant secondary or downstream market, and (iii) the refusal is not justified by objective considerations. It is highly questionable whether the incumbent's postal network is "indispensable" for competing on a downstream market. C-7/97, *Oscar Bronner GmbG & Co KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co KG* [1998] ECR I-791. See Paul de Bijl *et al*, *supra* note 13, 22.

IV. At what rates should access be priced?

Once mandatory access to the postal network has been imposed, it becomes necessary to develop an access pricing strategy. This part is divided into two sections. Section A discusses the various options at the disposal of the regulator for pricing access, ranging from leaving the incumbent free to select the pricing methodology of its choice to having the regulator set the access price on an *ex ante* basis. Section B discusses the main pricing methodologies that can be used to price access to the network, and illustrates the impact of these methodologies under two distinct scenarios, a full access-based scenario in which rivals entirely rely on the network of the incumbent and a mixed by-pass scenario where they deliver their mail volumes in low-cost areas and they rely on the incumbent to deliver their mail in high-cost areas.

A. *Regulated v unregulated access prices*

The question of whether access to the postal network should be granted cannot be divorced from the question of the price at which access should be granted. As we have seen, the purpose of access to the network should not be to squeeze the incumbent, but to stimulate efficient entry, ie entry of competitors that are equally or more efficient than the incumbent on one or several segments of the postal value chain.

It is worth remembering the importance of efficient pricing in a sector, which has long been subject to significant price distortions. For instance, the method prescribed by the Universal Postal Union (UPU) to determine terminal dues, ie the fees that are paid by the country of origination of a letter to the postal operator of the country of destination of that letter, does not guarantee that the related costs are covered.[57] As a result, the terminal dues' system has created arbitrage opportunities (such as "remailing") for various postal operators to the detriment of the universal service provider of the country of destination.[58] Fortunately, terminal dues do not apply to purely internal postal exchanges, but the economically-unsound mechanisms that have been used to calculate these dues should remind us that inefficient pricing will lead to socially undesirable outcomes.

When it comes to access pricing, the postal regulator has several options. A first option is to allow the incumbent to set the access price based on the methodology of its choice. This is the approach which seems to prevail in Member States where incumbents grant access to their outward sorting centers and offer discounts based on the level of work-sharing performed by the customers or their intermediaries (ie, these discounts are generally based on the costs avoided by the incumbents). This approach does not amount to *laissez faire* since, unless bulk mail is outside the scope of universal service, the access prices in question are subject

[57] See Copenhagen Economics, *The Economics of Terminal Dues*, Final report, 2014.
[58] *Ibid*.

to the requirements of the postal directive, including the obligations of cost-orientation, and non-discrimination contained in Article 12. This places significant constraints on the incumbent in that: (i) prices that would not be geared to costs would breach Article 12(2)[59] and (ii) discriminatory discounts would breach Article 12 (5).[60] As recently ruled by the CJEU, this non-discrimination principle means that the postal incumbent cannot discriminate between "similarly situated" customers.[61] Moreover, even when bulk mail is outside the scope of universal service, abusive pricing practices, taking the form of excessive, exclusionary or discriminatory pricing, would breach Article 102 TFEU or equivalent provisions under national competition law.[62]

A second option is for the postal regulator to set the access price. This can be done either directly by setting an access price based on one of the access pricing

[59]The relevant part of Article 12(2) that "Member States shall take steps to ensure that the tariffs for each of the services forming part of the universal service comply with the following principles . . . prices shall be cost-oriented and give incentives for an efficient universal service provision."

[60]Article 12(5) provides that "Member States shall take steps to ensure that the tariffs for each of the services forming part of the universal service comply with the following principles . . . whenever universal service providers apply special tariffs, for example for services for businesses, bulk mailers or consolidators of mail from different users, they shall apply the principles of transparency and non-discrimination with regard both to the tariffs and to the associated conditions. The tariffs, together with the associated conditions, shall apply equally both as between different third parties and as between third parties and universal service providers supplying equivalent services. Any such tariffs shall also be available to users, in particular individual users and small and medium-sized enterprises, who post under similar conditions." See Joined Cases C–287/06 to C–292/06, *Deutsche Post and others*, [2008] E.C.R. 0000 ("The fifth indent of Article 12 of Directive 97/67/EC of the European Parliament and of the Council of 15 December 1997 on common rules for the development of the internal market of Community postal services and the improvement of quality of service, as amended by Directive 2002/39/EC of the European Parliament and of the Council of 10 June 2002, must be interpreted as precluding refusal to apply to businesses which consolidate, on a commercial basis and in their own name, postal items from various senders the special tariffs which the national universal postal service provider grants, within the scope of its exclusive licence, to business customers for the deposit of minimum quantities of pre-sorted mail at its sorting offices").

[61]C-340/13, *bpost SA v Institut belge des services postaux et des télécommunications (IBPT)*, [2015] E.C.R. 0000 ("It follows from all the foregoing considerations that bulk mailers and consolidators are not in comparable situations as regards the objective pursued by the system of quantity discounts per sender, which is to stimulate demand in the area of postal services, since only bulk mailers are in a position to be encouraged, by the effect of that system, to increase the volume of their mail handed on to bpost and, accordingly, the turnover of that operator. Consequently, the different treatment as between those two categories of clients which follows from the application of the system of quantity discounts per sender does not constitute discrimination prohibited under Article 12 of Directive 97/67").

[62]Damien Geradin and David Henry, "Abuse of Dominance in the Postal Sector: The Contribution of the Guidance Paper on Article 82 EC", in M Crew and P Kleindorfer (eds), *Heightening Competition in the Postal and Delivery Sector* (Edward Elgar, 2009), 53, 69.

methodologies discussed in Section B below or indirectly by adding a minimum margin (like the so-called "head room" that was applied by Postcomm in the UK) on top of the retail price. As will be discussed below, regulating access prices is fraught with difficulties and the head room approach pursued by Postcomm proved to be unsustainable. Consequently, Royal Mail was offered greater pricing flexibility following the adoption of the Postal Services Act 2011. It is important to note that the postal regulator is also subject to the obligations of cost-orientation and non-discrimination contained in the postal directive. Hence, adopting access prices that would not be geared to costs or that would force the incumbent to discriminate between similarly situated companies would be in breach of EU law. The regulator would also create liability for its Member State if its access price forced the incumbent to breach Article 102 TFEU.[63] In practice, this means that the regulator cannot adopt a pricing policy that would be favorable to one category of access seekers, eg other postal operators, unless it can establish that these operators are not similarly situated as large customers and intermediaries, which may also seek access to the network.

A third option is to allow the incumbent to set its access prices, subject to an *ex post* control by the regulator. This approach, which is followed in Germany,[64] may not necessarily be very different from the prior approach if the regulator uses its *ex post* control power to compel the incumbent to follow its preferred pricing methodology. However, given their limited resources, regulators will generally intervene only when the access pricing approach adopted by the incumbent has significant defects. On the other hand, as made clear in the *Deutsche Telekom* case,[65] approval of the price set by the incumbent by the postal regulator would not protect the incumbent against allegations that it has breached Article 102 TFEU by, for instance, engaging in margin squeeze.

The first of these options is attractive as the incumbent is best placed to design the pricing policy that will allow it to provide access while continuing to ensure the provision of its universal service obligations.[66] It should therefore be given pricing flexibility. As noted, this flexibility is not unconstrained since the incumbent is subject to the cost-orientation and non-discrimination principles contained in the postal directive and Article 102 TFEU. Thus, even when it is free to set its

[63] *Ibid*.
[64] See *supra* note 53.
[65] T-271/03, *Deutsche Telekom v Commission,* [2008] ECR II-477, § 237 ("rejecting DT's argument that there could not be abusive pricing in the form of a margin squeeze in the present case, because wholesale charges were imposed by the regulatory authority. The GC ruled that a finding of abuse could be found provided that the undertaking subject to price regulation had the commercial discretion to avoid or end the margin squeeze on its own initiative, which was the case of DT").
[66] See Crew and Kleindorfer, *supra* note 10, 6 ("generally, a PO should be free to determine whether and upon what terms it would provide access, in view of the complexity of balancing its costs and USO service standards".

access prices, the incumbent would not be allowed set these prices in an arbitrary manner, or in such a way as to exclude as efficient rivals or to discriminate against certain categories of access seekers.

Some regulators may, however, consider that *ex post* control may be inadequate as offering too slow a response in case of pricing abuse and that therefore an *ex ante* price setting approach is preferable. As will be seen below, this approach is not without risk for the universal service, especially since regulators have a tendency to adopt aggressive access pricing policies in order to stimulate competition. A heavy-handed regulatory approach is also questionable given the limitations of access-based competition in terms of delivering lower prices to postal users, and the constraints placed on the incumbent by the EU postal directive and Article 102 TFEU.

B. *Access pricing methodologies: cost-based models v ECPR*

There is a large amount of literature discussing the various pricing methodologies that can be used by regulators when they decide to set the price at which access should be given by the incumbent. Much of this literature relates to the telecommunications sector,[67] although leading regulatory economists have analysed the specific issues raised by access pricing in the postal sector.[68] The two main approaches that can be used to calculate access prices are to determine the (actual or hypothetical) costs incurred by the incumbent to provide access (cost-based models) and the Efficient Component Pricing Rule (ECPR model).[69]

A variety of *cost-based models* can be used to calculate access prices. For a long time, the favoured method was the Fully Distributed Historical Cost standard (HC FDC).[70] Pursuant to this methodology, the access price includes the costs

[67]See, eg, Jean-Jacques Laffont and Jean Tirole, *Competition in Telecommunications* (Cambridge, MA, MIT Press, 2002); Tommaso Valletti, "The Practice of Access Pricing: Telecommunications in the United Kingdom", (1999) 8(2) *Utilities Policy* 83; Mark Armstrong, "The Theory of Access Pricing and Interconnection", in M Cave, S Majumdar and I Vogelsang (eds), *Handbook of Telecommunications Economics*, vol 1 (Elsevier/North-Holland, 2002); Ingo Vogelsang, "Price Regulation of Access to Telecommunications Networks", (2003) 41(3) *Journal of Economic Literature*, 830.

[68]See, eg, Armstrong, *supra* note 25; Panzar, *supra* note 4, Crew and Kleindorfer, *supra* note 10.

[69]Damien Geradin and Michel Kerf, *Controlling Market Power in Telecommunications* (Oxford University Press, 2003), from 34. For a famous case involving access pricing pursuant to the ECPR model, see the interconnection pricing saga in New Zealand in the 1990s where the main issue at stake was whether the telecommunications incumbent's use of ECPR was compatible with the Commerce Act, s 36 (which prohibits abuses of a dominant position): *Clear Communications Ltd v Telecom Corporation of New Zealand Ltd* (1992) 5 TCLR 166; *Clear Communications Ltd v Telecom Corporation of New Zealand Ltd* (1993) 4 NZBLC 103; *Telecom Corporation of New Zealand Ltd v Clear Communications Ltd* 4 TCLR 138.

[70] *Ibid*.

which are specifically attributed to the provision of the access service (ie, the incremental costs) plus a share of the common costs, which cannot be attributed to any specific service. More recently, regulators have tended to rely on the Long Run Average Incremental Cost (LRAIC) model,[71] pursuant to which the access price includes the average incremental costs incurred in the long-run, which are causally-related to the provision of the access. Stated otherwise, when determining LRAIC, one should ask what the cost would be, seen from a long-term perspective, of adding a service or product to an existing portfolio of services and/or products. Rather than relying on historical costs, LRAIC methodologies generally use forward-looking costs, ie the costs that would be incurred by the incumbent using the most efficient current technologies to provide access.

Under the *ECPR model*, also known as "retail minus", the "wholesale" price is the price at which the incumbent would sell the service to a given user in the downstream "retail" market minus the costs it avoids when the new entrant shoulders some of the costs of providing the service to the end user (eg, through work-sharing).

Going forward, this paper does not discuss the advantages and disadvantages of HC FDC versus LRAIC access pricing models, but – for the sake of simplicity – outlines the differences, as well as the advantages and disadvantages, between cost-based models and ECPR, and argues that the ECPR is the best approach to pursue in the postal sector. At a general level, the main difference between these models is that cost-based models require the calculation of the (historical or forward-looking) costs of providing access, whereas the ECPR essentially requires the calculation of the costs that are avoided by the incumbent when its rivals perform some segments of the postal service (eg, collection and pre-sorting), which is an easier exercise. Both models have strengths and weaknesses, which are discussed hereafter.

Among the advantages of the cost-based models is the fact that they promote competition by new entrants in the retail market since they do not compensate the incumbent for the profits it might forego in providing access. Additionally, when the compensation is not based on the actual costs of the incumbent, but on the costs of a benchmark efficient firm, the incumbent has incentives to be efficient and reduce the actual costs that it incurs in providing access, at least when this is possible. It is important to note, however, that few – if any – postal regulators have a track record of developing LRAIC pricing models in the postal sector.

Cost-based models present, however, a series of disadvantages.[72] First, they enable inefficient entry as a firm with higher costs than the incumbent might still enter the market if it accepts lower profits than the incumbent. Secondly, as the actual costs of the incumbent might well be higher than those of the efficient benchmark chosen when relying on forward-looking costs, the incumbent might be unable to recoup the costs of its investments. Thirdly, as the incumbent receives

[71] *Ibid,* 36.
[72] *Ibid*, 35–36 and 38–39.

no compensation for the profits which it might lose if the new entrants use its network to "steal" some of its retail customers, it has incentives to restrict the new entrants' access to its facilities (by degrading access, engaging in margin squeeze, etc). Finally, when the costs of delivery vary across areas (as is the case in the postal sector), determining the costs of access may be both difficult and entail difficult policy choices, as will be seen below.

An easier and preferable approach, which is supported by leading regulatory economists who analysed access pricing in the postal sector,[73] is to use the ECPR model.[74] This method has several attractive features. First, it is in theory simpler to implement for the regulator as it only requires to calculate the costs that are avoided by the incumbent when rivals perform the service up to the selected access points. It is also in line with the approach taken by incumbents when they grant discount for work-sharing as the discount is typically based on avoided costs. Secondly, the ECPR model ensures that only efficient entry takes place, ie competitors will only enter the market if they are able to provide the competitive segments of the market at a cost that is lower than the cost of the incumbent. Thirdly, the fact that under the ECPR model the incumbent maintains its profit on the mail volumes that are captured by rivals presents several advantages. When universal service obligations are not funded by public authorities, this profit may be needed for the incumbent to remain viable financially. That is particularly the case when the incumbent's rivals capture significant mail volumes by successfully targeting large postal users. Moreover, since it maintains its profit, the incumbent has lower incentives to exclude its rivals than when access is based on cost-pricing models. Finally, and relatedly, as the wholesale price is linked to the retail price, the incumbent loses the ability to engage in margin squeeze.[75]

The main downside of the ECPR model is that if the incumbent is able to earn excess profits in the downstream market and this profit is not needed to allow the incumbent to perform its missions of universal service in a sustainable manner, the ECPR does little to correct the situation since the incumbent retains its level of profit even in the case of entry. That problem, however, does not exist, or is at least mitigated, if retail prices are subject to *ex ante* price caps or *ex post* price controls as is generally the case for universal postal services.[76] In any event,

[73]See, eg, Panzar, *supra* note 4, 100; Armstrong, *supra* note 25, 173.
[74]See Geradin and Kerf, *supra* note 69, 40.
[75]See ERG Common Position on the approach to appropriate remedies in the new regulatory framework (hereafter, the ERG Common Position"), 85 (A retail-minus access price usually also prevents the dominant undertaking from exposing its competitors to a margin squeeze, as it links wholesale and retail prices such that an independent retail undertaking as efficient as the incumbent is able to compete).
[76]Increasingly, regulators' retail price control consists on imposing *ex ante* caps on baskets of prices. Regulators may also leave incumbents free to set their retail prices, subject to *ex post* controls either by reference to regulatory benchmarks or the application of competition law.

depressing access prices is not the right methodology to control the incumbent's profits if that is the intention of the regulator.

C. *Access pricing and universal service*

The economists that have looked at access pricing in the postal sector are unanimous in their recognition that access pricing in this sector is made complex by the fact that while the USO provider is typically bound by an obligation to deliver mail at uniform price through the territory, delivery prices considerably differ across regions.[77] This can be illustrated by Table 1 below.

Table 1, which uses fictitious numbers, illustrates the fact that while the price of the stamp for a given letter (eg, a 0–50 gram standard letter) is uniformly set at €0.8, the costs of delivery of the letter significantly vary depending on whether it has to be delivered in an urban or rural area. In this example, the incumbent breaks even as the profits generated by low-cost letters can be used to compensate the loss generated by high-cost letters.

The granting of access to rivals could, however, undermine the ability of the incumbent to continue to provide universal service at a uniform rate unless the access pricing methodology selected by the regulator takes into account the fact that the incumbent has to deliver mail in low- and high-cost areas at a uniform rate. One obvious solution to this problem would be to rebalance postal tariffs so that they reflect the costs of providing the service. To take the example illustrated in Table 1, the price of the 0–50 gram standard letter would no longer be set at the uniform €0.8 rate, but would differ depending on whether the letter is to be delivered in a low-cost area, in which case it would be set at €0.6, or in high-cost area, in which case it would be set at €1.2. While such a pricing structure would have the merit of truly reflecting the cost of service, it might be politically unsustainable as it would eliminate one of the core elements of the universal service, which is the pricing of universal postal services at a uniform rate across the territory.

Table 1. Incumbent's situation in the absence of access.

	Urban delivery	Rural delivery
Number of letters	2 bn	1 bn
Incumbent's total cost per letter	€0.6	€1.2
Incumbent's cost of delivery	€0.4	€1
Incumbent's other costs	€0.2	€0.2
Incumbent's stamp price	€0.8	€0.8
Incumbent's overall profit/loss per unit	€0.2 profit	€0.4 loss
Incumbent's total profit/loss	€400 m profit	€400 m loss

[77] See Panzar, *supra* note 4; Armstrong, *supra* note 25.

As will be shown in subsection 1 below, the absence of rebalancing can seriously challenge the continuity of the USO in an access-based model where new entrants rely on the incumbent's network to deliver their mail volumes (ie, the UK scenario). However, subsection 2 will show that these issues are magnified when rivals develop a partial by-pass strategy in that they provide end-to-end service in some parts of the country (low-cost urban areas) and rely on the network of the incumbents in others (high-cost rural areas). This creates significant "cream-skimming" opportunities detrimental to the financial viability of the incumbent.[78]

Because the access-based competition model and the mixed by-pass model raise challenges of different magnitudes, they are treated under separate headings hereafter.

1. *Access-pricing in access-based competition model*

This section discusses access-pricing methodologies when the incumbent faces rivals that rely on its network for the delivery of all their mail volumes. When access is available, the incumbent's rivals may decide to rely exclusively on the incumbent's network to deliver their mail volumes as it saves them the costs of developing their own delivery facilities. The question that needs to be addressed relates to the selection of the methodology that is the best suited to determine the relevant access prices.

In order to illustrate the challenges created by access in the postal sector, this paper relies on numerical illustrations summarized in tables. The numbers included in the tables are not meant to reflect the reality of any particular national market and the discussion is unavoidably simplified. The outcomes resulting from these tables are also highly sensitive to assumptions. Their only purpose is to identify the broad impact of various access pricing policies on the respective positions of postal operators and new entrants.

Table 2 presents a scenario where, as in the case of Table 1 above, the incumbent delivers 2 billion letters in urban areas and 1 billion letters in rural areas. Table 2 assumes that, following the adoption of the access policy regime, the incumbent loses 50% of its mail volumes to access-based rivals (as almost happened in the UK) and that these losses are equally spread between urban and rural areas. The incumbent continues to deliver the same number of letters. However, for mail volumes captured by its access-based rivals, it will no longer earn the price of the stamp, but the access price that it is paid by its rivals. The access price is based on the ECPR model.

[78] Michael Crew and Paul Kleindorfer, "Whither the USO under Competitive Entry: A Microstructure Approach", in M Crew and P Kleindorfer (eds), *Future Directions in Postal Reform* (Kluwer, 2001), 117, 140.

Table 2. Incumbent's situation in the presence of access-based ECPR.

	Urban delivery		Rural delivery	
Number of letters	2 bn		1 bn	
E2E v Wholesale (W)	E2E	W	E2E	W
	1 bn	1 bn	500m	500m
Total cost per letter	€0.6	€0.4	€1.2	€1
Cost of delivery	€0.4	€0.4	€1	€1
Incumbent's other costs	€0.20	NA	€0.20	NA
Incumbent's stamp price	€0.8	NA	€0.8	NA
Access price (AC)	NA	€0.6	NA	€0.6
Incumbent's overall profit/loss per unit	€0.2 profit	€0.2 profit	€0.4 loss	€0.4 loss
Incumbent's profit/loss	€200 m profit	€200 m profit	€200 m loss	€200 m loss

Compared to Table 1, we see that the incumbent maintains its level of profits in urban areas, as well as its losses in rural areas. This scenario is thus neutral. It is conservative because it assumes that the "other costs" of the incumbent (collection, etc) remain constant despite volume losses. If these costs were to increase by €0.05/unit, the incumbents profit would diminish in urban areas (by €5 m) and its losses would increase in rural areas (also by €5 m).

Table 3 looks at the financial situation of the incumbent's access-based rivals once access has been given. As in the case of Table 2, it is assumed that access-based rivals capture 50% of the incumbent's mail volumes and that the incumbent's other costs (collection, pre-sorting, etc) are 25% lower than the incumbent (€0.15). To capture market shares, the access-based rivals share 50% of their margin (€0.8 – €0.6 – €0.15 = €0.05/2 = 0.025) with their customers.

We see that new entrants are able to generate a small profit in both urban and rural areas given their superior efficiency in carrying some tasks than the incumbent. The reason why they are able to make a profit in rural areas is that they do not pay for the real cost of delivery in these areas. Note that these results are sensitive to assumptions. If, for instance, the access-based entrants were only 10% more efficient than the postal incumbent, their profit would materially decrease. In

Table 3. New entrant's situation in the presence of access-based ECPR.

	Urban delivery	Rural delivery
Number of letters	1BN	500m
Access price (AC)	€0.6	€0.6
Other costs	€0.15	€0.15
Service price	€0.775	€0.775
New entrant's overall profit/loss per unit	€ 0.025 profit	€0.025 profit
New entrant's profit/loss	€2.5 m profit	€1.25 m profit

Table 4. Incumbent's situation in the presence of access-based at cost-based wholesale price.

	Urban delivery		Rural delivery	
Number of letters	2 bn		1.0 bn	
E2E v W	E2E	W	E2E	W
	1 bn	1 bn	500 m	500 m
Incumbent's total cost per letter	€0.6	€0.4	€1.2	€1.0
Incumbent's cost of delivery	€0.4	€0.4	€1	€1
Incumbent's other costs	€0.20	€0	€0.20	€0
Incumbent's stamp price	€0.8	NA	€0.8	NA
Access price (AC)	NA	€0.4	NA	€1
Incumbent's overall profit/loss per unit	€0.2 profit	€0	€0.4 loss	€0
Incumbent's profit/loss	€200 m profit	€0	€200 m loss	€0

addition, it is not clear that these operators would gain market shares as they could only offer a very small discount off the stamp price. In any event, whatever the assumptions made, the profits of the access-based rivals will be small (which is logical since the tasks they perform are limited in scope) and the savings realized by customers will also be small (even assuming a 50% pass on), and will concentrate on users targeted by access-based rivals (ie, large mailers).

Tables 4 and 5 illustrate the financial positions of the incumbent and its access-based rivals if the access was calculated on the basis of the costs of delivery incurred by the incumbent.

Table 4 shows that this scenario would be neutral for the postal incumbent as the loss of the profits made in granting access to its access-based rivals on an avoided-cost basis in urban areas is compensated by the decrease of the losses incurred in granting access to its access-based rivals on the basis of the real costs incurred basis in rural areas.

In Table 5, we assume that the access-based rivals maintain the same 0.025 discounts to their customers (although their margin in urban areas is higher).

By contrast, access prices based on the costs incurred by the incumbent increase the profitability of the new entrants, which – in this case – generate €225 m – €187.5 m = €37.5 m profit.

Table 5. New entrant's situation in the presence of access-based at cost-based wholesale prices.

	Urban delivery	Rural delivery
Number of letters	1 bn	500m
Access price (AC)	€0.4	€1
Other costs	€0.15	€0.15
Service price	€0.775	€0.775
New entrant's overall profit/loss per unit	€0.225 profit	€0.375 loss
New entrant's profit/loss	€225 m profit	€187.5 m loss

On that basis, an argument could be made that a cost-based access pricing model is Pareto efficient in that it makes the new entrants better off without making the incumbent worse off.[79] But this would be a dangerous conclusion for the following reasons:

- First, as already noted, the numerical examples taken above are extremely sensitive to assumptions. For instance, the reason why the access-based rivals make an overall profit in Table 5 is because the volume of mail delivered in rural areas is 50% smaller than in urban areas. If the volume of mail was equal (1 billion letters in each area), the €37.5 m profit would turn into a €150 m loss. It is also assumed that access-based rivals are 25% more efficient than the incumbent collection/sorting activities (other costs) and that customers are willing to shift their volume to them for a discount as small as €0.025, which is not necessarily the case.
- Secondly, the numerical examples assume that the incumbent is fully compensated for the cost of providing access to its network. But this depends on several factors. First, the cost methodology selected by the regulator: as we have seen, the costs taken into account in the LRAIC model are not the costs actually incurred by the incumbent, but forward-looking costs based on a benchmark operator. Moreover, there is often a tendency by regulators to price access aggressively to stimulate entry. If, as a result, the incumbent is not sufficiently compensated for the costs of delivery, its neutral position under Table 4 may turn into a loss. Conversely, the above tables assume that the postal incumbent is not overcompensated for access to its network, a situation which may arise in case of asymmetry of information or regulatory capture.[80] While overcompensation may help the incumbent (and even induces it to focus on granting access rather than delivering end-to-end competition), it would prevent entry by leaving no margin to the new entrants.

In this respect, the clear advantage of the ECPR model is that it is by essence neutral to the incumbent operator, while it allows as efficient access-based rivals to penetrate the market. It is thus better able to preserve the universal service than a cost-based model, which – depending on the assumptions made – can turn a neutral situation into a loss. In addition, unlike the ECPR, cost-based models by no means guarantees a profit to more efficient access-based rivals.

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[79]Pareto efficiency is a state of allocation of resources in which where one party's situation cannot be improved without making at least one another party's situation worse.

[80]Access prices may overcompensate the incumbent when the regulator overestimates the costs of providing access due to insufficient information and/or when the regulator is subject to undue influence by the incumbent. See George Stigler, "The Theory of Economic Regulation", (1971) 2 *Bell Journal of Economics and Management Science* 3.

An additional reason why one should be sceptical about cost-based models is that their implementation may impose a heavy regulatory burden on the regulator, but also on the incumbent. This is particularly the case given that the examples taken above are oversimplified in that they distinguish between two zones (urban and rural) whereas in reality there may be a need to operate additional distinctions as parts of the territory are neither urban nor rural (but can be semi-urban (small cities) or semi-rural (large villages)). The determination of the zones as well as the costs of delivering mail in each of them is likely to be complicated, and enhance the risk of regulatory mistakes.

2. *Access pricing in a mixed by-pass model*

While some of the smaller rivals of the incumbent will be content to pursue an access-based competition model, others will want to pursue a mixed by-pass strategy where they rely on the network of the incumbent for the high-cost areas and on their own infrastructure for low-cost areas. This strategy, whose effect is compounded when the incumbent's rivals target the most lucrative clients (which is another form of cream-skimming), is attractive because it allows these rivals to have the best of both worlds, ie undercut the incumbent in low-cost areas while still generating a profit and offload the unprofitable mail destined to high-cost areas to the incumbent. As will be illustrated in the tables below, this scenario leaves the incumbent with the worst of both worlds in that it loses profitable mail to the new entrants, while maintaining its losses in high-cost areas.

Table 6 examines the impact of mixed by-pass on the situation of the incumbent. In this table, as in the Tables 2–5 above, it is assumed that the incumbent loses 50% of its mail volumes equally spread in urban and rural areas. Of the 50% of the volumes lost in urban areas (1 billion letters), it is assumed that half (500 million letters) are provided on an end-to-end basis by new entrants. The

Table 6. Incumbent's situation in the presence of access-based ECPR.

	Urban delivery		Rural delivery	
Number of letters	2 bn		1.0 bn	
E2E v W	E2E	W	E2E	W
	1.0 bn	500 m	500 m	500 m
Incumbent's total cost per letter	€0.7	€0.5	€1.2	€1.0
Incumbent's cost of delivery	€0.5	€0.5	€1	€1
Incumbent's other costs	€0.2	€0	€0.2	€0
Incumbent's stamp price	€0.8	NA	€0.8	NA
Access price (AC)	NA	€0.6	NA	€0.6
Incumbent's overall profit/loss per unit	€0.1 profit	€0.1 profit	€0.4 loss	€0.4 loss
Incumbent's profit/loss	€100 m profit	€50 m profit	€200 m loss	€200 m loss

other 50% are captured by access-based operators who deliver the mail at designated access points. It is also assumed that the unit cost of delivery of mail in urban areas increases by 0.1% given the 25% of volumes (500 million letters) lost to mixed by-pass entrants. The other assumptions remain constant.

This scenario has harmful consequences on the financial situation of the incumbent compared to Table 2 as while its profits in urban areas decrease to €150 m (due to the loss of volumes to end-to-end competitors and the higher per unit costs of delivery), its losses remain constant in rural areas as the end-to-end competitors continue to use its network to deliver mail in these areas. As a result, the incumbent enters into a graveyard spiral with diminished profits in low-cost areas, combined with significant losses linked to delivery in high cost, unprofitable areas.

Table 7 examines the position of a mixed-by pass entrant, which delivers its mail volumes in urban areas (at a cost of delivery assumed to be similar to that of the incumbent) and uses the network of the incumbent for its mail volumes destined to rural areas. It is assumed that these entrants capture 50% of the mail volumes lost by the incumbent (the other 50% being lost to access-based entrants).

Table 7 shows that mixed by-pass rivals generate very significant profits due to cream-skimming. While they distribute the low-cost mail volumes at a significant profit, they use the postal network for delivery of high-cost mail volumes at a price that does not reflect these costs. In other words, the incumbent (which loses €250 m) heavily subsidizes its mixed by-pass competitors (which make a profit of €106.25 m). In theory, the incumbent could cut its losses by pricing more aggressively at the retail level, but under an ECPR model this may have little practical effect as the access price is based on the retail price. This scenario thus amounts to a transfer of wealth from the shareholders of the incumbent to the shareholders of the mixed by-passed entrants.

Table 8 looks at the situation of the incumbent when the access price is based on the costs of delivery.

In that scenario, the situation of the incumbent improves compared to the scenario where the access price is based on ECPR, as the incumbent no longer subsidizes mixed by-pass entrants in rural areas. But the loss of volumes combined with the increased cost of delivery in urban areas diminishes the incumbent's profit as well, which means that overall the incumbent loses €100 m.

Table 7. Mixed by-pass entrant's situation in the presence of access-based ECPR.

	Urban delivery	Rural delivery
Number of letters	500 m	250 m
Delivery costs/access costs	€0.4	€0.6
Other costs	€0.15	€0.15
Service price	€0.775	€0.775
New entrant's overall profit/loss per unit	€0.225 profit	€0.025 loss
New entrant's profit/loss	€112.5 m profit	€6.250 m loss

Table 8. Incumbent's situation in the presence of cost-based access.

	Urban delivery		Rural delivery	
Number of letters	2 bn		1.0 bn	
E2E v W	E2E	W	E2E	W
	1.0 bn	500 m	500 m	500 m
Incumbent's total cost per letter	€0.7	€0.5	€1.2	€1.0
Incumbent's cost of delivery	€0.5	€0.5	€1	€1
Incumbent's other costs	€0.2	€0	€0.2	€0
Incumbent's stamp price	€0.8	NA	€0.8	NA
Access price (AC)	NA	€0.5	NA	€1
Overall profit/loss per unit	€0.1 profit	€0	€0.4 loss	€0
Incumbent's profit/loss	€100 m profit	€0	€200 m loss	€0

Table 9. Mixed by-pass entrant's situation in the presence of cost-based access.

	Urban delivery	Rural delivery
Number of letters	500 m	250 m
Delivery costs/access costs	€0.4	€1.0
Other costs	€0.15	€0.15
Service price	€0.775	€0.775
New entrant's overall profit/loss per unit	€0.225 profit	€0.325 loss
New entrant's profit/loss	€112.5 m profit	€81.25 m loss

Table 9 looks at the situation of the incumbent's mixed by-pass rivals when the access price they pay to the incumbent reflects the costs of delivery.

In that scenario, the staggering profits made by the mixed by-pass entrant under the ECPR access price model are largely dissipated by the fact that they have to pay the access to the incumbent's delivery network in rural areas at cost. As noted in our observations on Table 5, the profit realized by the incumbent's rivals is very sensitive to assumptions and a note of caution is once again needed. For instance, it is not necessarily realistic to consider that the costs of delivery of the incumbent's rival will be equal to those of the incumbent. Moreover, as noted above, an increase of the proportion of high-cost mail compared to low-cost mail in the volumes captured by these companies would have a significant impact on their profitability. This scenario also assumes that customers will be willing to shift significant volumes for €0.05, which is not a given.

Tables 6–9 illustrate the devastating effects on the incumbent of a scenario where it would face rivals operating under a mixed by-pass model, while being obliged to maintain a uniform retail price throughout the territory. Although the financial impact of this scenario on the incumbent varies depending on model used to price access, it is clear that this scenario challenges the ability of the incumbent to provide the universal service. This leaves the regulator will several options:

- Rebalance postal tariffs so that retail prices truly reflect the cost of service. This would mean a decrease of the price of mail destined to urban areas and increase the price of mail destined to rural areas. While desirable from an efficiency standpoint as it would send correct price signals to postal users, this approach is, however, unlikely to be politically feasible.
- Reduce the scope of the universal service by, for instance, decreasing the number of weekly deliveries in rural areas. Depending on the access pricing model, this may somewhat alleviate the financial losses and thus woes of the incumbent, but not solve them entirely as cream-skimming would remain. Moreover, it may also be politically sensitive.
- Increase the price of the stamp. While this might once again somewhat alleviate the financial woes of the incumbent, it would be a strange outcome that an effort designed to stimulate competition by granting access to the postal network would generate a retail price increase. This approach would thus destroy the rationale behind the mandatory access regime.
- Impose on access seekers a level of mail volume to the incumbent that reflects a mixed geographical pattern (ie, the same percentage of low-cost and high-cost mail normally handled by the incumbent), thereby preventing these operators from using the postal network exclusively for delivering mail in high-cost areas. While depending on the volume mix imposed, this may eliminate cream-skimming, it would *de facto* eliminate mixed by-pass competitors as their business models consists in providing an end-to-end service in low cost areas and using the incumbent's network for the delivery in high-cost areas.
- The final option would be for the regulator to adopt a zonal pricing approach, whereby access prices would vary depending on the cost of delivery of the mail volumes delivered by the incumbent.

In light of the above, it seems that the most practical approach would be to charge retail minus (ECPR) access prices to access seekers that hand in mail volumes that reflect a mixed geographical pattern (access-based rivals) and access prices at least as high as the incremental costs for the incumbent to grant access to mixed by-pass rivals.[81] This approach would encourage efficient entry into the postal segment(s) handled by the incumbent's rivals. In addition, it would ensure that the incumbent is not forced to subsidize mixed by-pass entrants by delivering their mail in high-cost areas at a price that does not cover the costs it incurs. While it might be claimed that this pricing model discriminates between access-based and mixed by-pass operators, the difference of treatment can be objectively justified by the

[81] See Panzar, *supra* note 4, 104 ("For postal services priced below their average incremental cost, the appropriate price ceiling on the unbundled access rate is equal to the stamp price less per unit postal costs saved so long as this is not below postal average incremental costs of access").

need to prevent cream-skimming behaviour to maintain the viability of the universal service.

We illustrate the impact of this approach on the financial situation of the incumbent and its mixed by-pass rivals in Tables 10 and 11.

These tables show that such an approach is a step in the right direction in that the losses of the incumbent significantly decrease, while the profits of its mixed by-pass rivals dissipate given the fact they have to pay access to the network at real cost. As the numbers used in these tables are sensitive to assumptions, the fact that the incumbent continues to lose some money should not be given too much attention as small modifications in the assumptions could reverse the trend. An important observation, however, is that, even under this approach, the profits of the incumbent are negatively affected in low-cost areas given the loss of economies of scale linked to the loss of volumes to rivals. In our example, the loss of scale in delivery (€0.1/unit) is not compensated by the higher efficiency of the mixed by-pass operators in performing the upstream tasks (0.05/unit). Thus, there is an overall loss of efficiency.

Table 10. Incumbent's situation in the presence of modified access-based ECPR.

	Urban delivery		Rural delivery	
Number of letters	2 bn		1.0 bn	
E2E v W	E2E	W	E2E	W
	1.0 bn	500 m	500 m	500 m
Incumbent's total cost per letter	€0.7	€0.5	€1.2	€1.0
Incumbent's cost of delivery	€0.5	€0.5	€1	€1
Incumbent's other costs	€0.2	€0	€0.2	€0
Incumbent's stamp price	€0.8	NA	€0.8	NA
Access price (AC)	NA	€0.6	NA	€1.0
Incumbent's overall profit/loss per unit	€0.1 profit	€0.1 profit	€0.4 loss	€0 loss
Incumbent's profit/loss	€100 m profit	€50 m profit	€200 m loss	€0 loss

Table 11. Mixed by-pass entrant's situation in the presence of modified access-based ECPR.

	Urban delivery	Rural delivery
Number of letters	500m	250mM
Delivery costs/access costs	€0.4	€1
Other costs	€0.15	€0.15
Service price	€0.775	€0.775
New entrant's overall profit/loss per unit	€0.225 profit	€0.375
New entrant's profit/loss	€112.5m profit	€93.75m loss

The above analysis of the mixed by-pass access scenario suggests the following conclusions:

- In the absence of tariff rebalancing (where the price of the stamp reflects differences in the cost of delivery), the mixed by-pass access scenario creates serious financial challenges for the incumbent and places the universal postal service in jeopardy.
- Whatever the cost-methodology chosen, it is impossible to guarantee the viability of the universal service without engaging in some form of zonal access pricing. If it is politically or legally impossible to rebalance tariff, it is imperative that access prices reflect the cost of delivery as otherwise the incumbent will be decimated by cream-skimming. Even in that case, there may be an overall loss of efficiency due to the losses of economies of scale incurred by the incumbent in the delivery of mail in the low areas.
- A mixed by-pass model imposes a heavy burden on the regulator and on the incumbent as the simple ECPR approach that can be applied in a pure access-based model no longer works. Delineating the various zones and estimating the costs of delivery in each of them will impose a heavy burden on the regulator (and the incumbent, which will have to provide the necessary data) and increase the risk of regulatory mistakes.
- The mixed by-pass model brings no benefit to small postal users as they will not be targeted by mixed by-pass operators, while their access to universal service might be under threat unless proper access pricing methodologies are pursued. The main beneficiaries of this model will be large customers (although their cost savings may be hard to measure as they depend on the pass-on rate) and mixed by-pass operators if they are allowed to engage in cream-skimming.
- It is difficult to anticipate whether a mandatory access to the postal regime will turn into a pure-access based model or a mixed by-pass model as it depends on the strategy that will be developed by the incumbent's rivals. In this respect, while a low-access price to the postal network may stimulate access-based entry (as reliance on the incumbent's network is cheap), higher access prices may stimulate a mixed access-based strategy, which may be even more detrimental to the incumbent. This shows that access strategies are very sensitive to regulatory policy.
- Finally, when the regulator considers that the risks of cream-skimming are limited because of the high density of the population and the limited variation in the costs of delivery across the territory, its reaction should not be to reject zonal pricing, but to reject mandatory access at a regulated price since end-to-end entry should be possible on a nationwide basis as illustrated by Sandd in the Netherlands.

V. Conclusions

This paper has explored important regulatory questions in the postal sector: whether incumbents should be mandated to give access to their network. These questions cannot be divorced from the economic reality of the postal sector, which is in many ways different from other network industries. The access models that have been developed in the telecommunications sector, which is the most commonly used reference, may thus not be desirable in the postal sector. It is also important to keep in mind that the universal service obligations placed on the incumbent, and in particular the obligation to deliver mail at uniform rates in low and high costs areas, may create particular challenges for the incumbent when it has to give access to its network.

As to the question of whether mandatory access should be imposed on the incumbent, it is important to note that postal incumbents typically allow the possibility – without being mandated to do so – for postal users or the intermediaries acting on their behalf to perform some tasks in the postal value chain for which they would be more efficient against discounts based on the avoided costs methodology. Under that approach, the incumbent has low incentive to restrict access to its network as it does not forego any profit. As discounts are based on avoided costs, their amount should vary depending on the extent to which they reduce the costs of the incumbent. This explains why the discounts that can be gained by postal users or intermediaries will not necessarily be (much) larger if they carry out the tasks of the postal value chain up to the inward sorting centres than if they carry out such tasks up to the outward sorting centres as this, for instance, depends on the degree of centralization for the sorting of mail carried out by the incumbent. In order to enhance efficiency, incumbents are trying to reduce the number of segments in the postal value chain by, for instance, already sorting mail (as it will be distributed by the postman) fairly high in the postal chain.

We have also seen that the prices at which the incumbent gives access to its network will be constrained by the regulatory obligations contained in the postal directive and by EU competition rules. Even if bulk mail is not part of the universal service and Article 12 of the postal directive does not apply, the incumbent is still bound by Article 102 TFEU. In practice, this means that the incumbent is not allowed to set its access prices at a level that would exploit, discriminate or exclude access-based rivals.

In case the legislator nevertheless considers that a mandatory access regime is desirable, it should make sure that access obligations are only imposed by the postal regulator when they are needed to pursue desirable goals. Access cannot be an objective in itself. In this respect, it is useful to consider the requirements that the UK Postal Services Act 2011 places on OFCOM before it can impose an access condition on Royal Mail. According to the Act, such a condition is "appropriate for each of the following purposes: (a) promoting efficiency, (b) promoting effective competition, and (c) conferring significant benefits on the users of postal services." As to the third condition, mandatory access will typically not benefit individual users and small companies as access-based competitors will focus on large postal users. On the contrary, individual users and small companies may suffer if the mandatory access regime harms the incumbent's ability to perform its obligations of universal service. Whether the first two conditions are met essentially depends on the price at which access will be granted. While, for instance, the adoption of low access prices may stimulate competition, it would not necessarily promote efficiency as it may allow inefficient entry.

As to the question of the price at which access should be granted, a preliminary issue to address is whether price should be regulated at all. There is little doubt that the incumbent is better placed to determine the access rates that will promote efficient entry while maintaining its ability to provide universal service. Yet, pricing flexibility would not amount to *laissez-faire*. As we have seen, when the incumbent is left free to set access prices at the level it deems appropriate, it is subject to both regulatory and competition law constraints. In that context, it is not clear that having access prices set by regulators is necessary desirable, especially given the transaction costs it will create for the regulator and the incumbent.

Should the regulator nevertheless decide to regulate access prices, it is submitted that the ECPR method has many advantages, such as the fact that from the point of view of the incumbent it makes entry neutral. Significant difficulties may, however, arise in the case of mixed by-pass entry where rivals deliver the mail volumes they capture in low-cost urban areas, while using the incumbent's delivery network in high-cost ones. This can have a devastating impact on the financial situation of the incumbent and its ability to provide its universal service missions. Unless the regulator is willing to rebalance postal tariffs so that they reflect the costs of delivering mail, some form of zonal access pricing might be necessary, thereby imposing a heavy burden on the regulator and the incumbent. This raises the question of whether mandatory access at regulated prices is worth it considering the likely absence of benefits for individual users or small postal users, and the limited savings that it would deliver to large postal users.

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