swiss economics

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Swiss Economics Working Paper 0020

June 2010

Published as:

"Entry Deterrence and the Calculation of the Net Cost of Universal Service Obligations" (2011). Review of Network Economics, Berkeley Electronic Press, vol. 10(1).

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Entry Deterrence and the Calculation of the Net Cost of Universal Service Obligations

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Abstract

This paper relates to the current discussion about how to measure the net cost and unfair burden of universal service provision in network industries. The established profitability cost approach compares the profit of a universal service provider (USP) with and without a universal service obligation (USO). This paper argues that the net cost of universal service provision critically depends on the regulatory counterfactual and hence the USP's strategy space without USO. A strong USO invites competition by limiting the USP's means to position itself in the market and by thereby offering cream-skimming opportunities. On the other hand, a simple game-theoretic entry analysis shows that the USO may effectively serve as a valuable strategic commitment device to deter entry and hence may be valuable to the USP despite causing inefficient production. From a policy perspective, this constitutes a counter-intuitive result for the definition of the USO: The stricter it is regulated, the more detrimental it may be to competition and therefore the smaller is its burden on the USP.

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1 Introduction

Many network industries used to be dominated by state-owned monopolies coupled with rate of return regulations. During the past twenty years, governments in many parts of the world have started liberalizing network industries, e.g. telecommunications, postal services, electricity, and transport. This liberalization process started in the United States in the late 1970s and in the United Kingdom in the early 1980s. Since then, sectors such as telecommunications and air transport have become fully liberalized in the European Union and are becoming increasingly competitive. The electricity sector, postal services, and railways are not yet fully liberalized. A common issue in network industries is the existence of Universal Service Obligations (USO) which traditionally have been financed by reserved areas (legal monopolies). After liberalization, it becomes an important question, what the net cost and the financial burden of the USO exactly is.

There are several reasons why governments and regulators may want to introduce or maintain universal services: Equity, economic development and efficiency in the case of market failure, such as network externalities.[2] The standard argument for uniform pricing is that it reduces the transaction costs for customers.[3] This argument now applies mostly to small customers, where the transaction costs resulting from non-uniform letter pricing would be significant. There have been recent proposals recently to relax the uniform pricing constraint of the traditional USO, e.g. Crew and Kleindorfer (2007) in the postal sector. These proposals are directed not only toward single-piece letters, but also toward bulk mail originating from large mailers which are subject to uniform tariffs resulting from worksharing discounts based on avoided cost.

All binding universal service obligations cause some net cost to their provider as they interfere with its business strategy. To be compensated for the associated burden, many universal service providers (USP) have traditionally benefited from a reserved area. Crew and Kleindorfer (1998) develop optimum size of monopoly in the postal sector to allow the USP to break even when providing universal services. Due to recent steps toward liberalized markets the need for alternative funding sources has emerged. Therefore, it has become important for regulators and the public to know the cost of universal service provision.

In recent years, many contributions have been published on the issue of how to calculate the “net cost” or “burden” of the universal service obligation. Panzar (2000, 2001) and Cremer et al. (2000) provide a theoretical foundation for the so-called profitability cost approach. This approach compares a firm’s profit level in a liberalized market with and without the USO. In order to derive the net cost, a benchmark scenario must be specified in which a firm faces no binding constraint regarding the services it offers. The net incremental cost of universal service provision is equivalent to the difference in total cost

[2] Cf. Cremer et al. (1998, 2007).

[3] Cf. e.g. Crew and Kleindorfer (1998).

less the additional revenue. The difference in total cost results from the total cost after the universal service obligation's introduction less the total cost in the benchmark scenario. The additional revenue with the USO is equivalent to the revenue from those market segments which are served only after the introduction of the universal service obligation. Without the USO, a firm can offer individual services at higher prices than specified by the universal service obligation. Due to the introduction of universal service, the firm incurs losses whenever the lower prices are not compensated by the increased demand. These losses are known as foregone revenue. The sum of the net incremental cost and foregone revenue equals the profitability cost. This approach has been practically implemented in the postal sector in a number of countries, e.g. in Denmark (Copenhagen Economics, 2008), Norway (Bergum, 2008), in the UK (Frontier Economics, 2008), in the US (Cohen et al., 2010).

In 2008, the European Parliament issued a third postal directive (2008/6/EC). [4] Annex I gives the Member States guidance as for how to calculate the "net cost of universal service obligations":

> "The net cost of universal service obligations is to be calculated, as the difference between the net cost for a designated universal service provider of operating with the universal service obligations and the same postal service provider operating without the universal service obligations."

If policy makers compensate the Universal Service Provider (USP) by this difference, the USP achieves the same profit as it would in the postal market without any obligations. This does not automatically imply that there is an unfair burden associated with Universal Service Provision. We will discuss this issue in the follwing. The profitability cost approach together with the concept of an "unfair burden" is supposed to provide the compensation that makes the designated USP indifferent whether to provide the USO or not. It has often been pointed out that in practice it is hard to define what the difference between the USO and non-USO profit levels is, as one of the scenarios is counterfactual and not observable, even ex post.

In this paper we show that the burden of universal service provision depends not only on the counterfactual competitive scenario but also on the regulatory benchmark regime: If there is no USO at all in the alternative scenario, the USP's strategy is different than in a situation in which another firm is bound by universal service constraints.

Our approach is similar to Valletti et al. (2002) who analyze the strategic effects of regulatory interventions such as uniform pricing and coverage constraints. In their model with two operating firms, there are several regions with either both, one or zero firms operating in equilibrium. They assume that there is an incumbent which is the designated USP and therefore automatically the bigger of the two firms. They find that a

[4] Directive 2008/6/EC of the European Parliament and of the Council, Annex I. The third postal directive follows the Universal Service Directive (2002/22/EC) concerning the telecommunications market in this respect.

welfare evaluation of USO policies should take into account the interaction of various aspects of the USO and between different market segments or areas. Also, Boldron et al. (2008) argue that the market structure and the actual cost/burden of USO are directly related to regulation and the funding mechanism in place. Similar points are raised in Jaag and Trinkner (2009) and Borsenberger et al. (2010). Hence, the cost of universal service provision under competition differs from the monopoly case and competitive interaction must be taken into account: A strong USO invites competition by limiting the USP's means to position itself in the market and by offering cream-skimming opportunities.

We extend these analyses by explicitly discussing the interaction of the regulatory environment, the operating firms' strategies and the cost of universal service provision.[5] We hence not only take into account competitive interaction in the market, but also for the market. Our paper is therefore also related to the game-theoretic literature on market entry deterrence pioneered by Spence (1977) and Dixit (1980). They show that incumbents can credibly commit to aggressive behavior as a response to entry by building extra capacity to lower average cost. In the case that the cost of capacity is sunk, the threat to lower prices if entry occurs is credible.

Fudenberg and Tirole (1984) argue that the less the incumbent's cost depends on output, the greater is its ability to deter entry. Therefore, potential entry may bias his choice of technology towards capacity-intensive production modes. In addition, it may opt for long-term labor contracts that specify rigid wages with a minimum of temporary layoffs and variability of hours. Consequently, the incumbent is less able to adapt to successful entry. This argument implies that an incumbent's successful business strategy depends on the characteristic of the markets in which it is operating:

- If successful entry is likely in a market segment, it is important to have a flexible cost structure in order to be able to cope with competition.
- If a market is likely to be served by only one firm in equilibrium, it is sensible to have a more rigid cost structure and to sink costs in order to deter entry by credibly committing to act aggressively.

Gilbert and Vives (1986) and Waldman (1987) extend the Spence-Dixit models to consider multiple incumbents; Rasmussen (1988) augments them by allowing the incumbent to "buy out" the entrant. He shows that the Spence-Dixit result is only valid if the incumbent can commit not to acquire the entrant. This literature shows that the most important ingredient to entry deterrence is a credible threat to behave aggressively.

[5] Recent attempts to actually calculate the cost of universal service provision fall short of these insights by not considering the interaction between various USO dimensions and by not defining the regulatory alternative; cf. Boldron et al. (2006), Bradley et al. (2008), and Ockholm (2008). Jaag et al. (2008) account for interactions between USO dimensions by advocating a 'global approach'. However, they do not define the regulatory alternative, either.

Such a threat typically involves an investment, e.g. in capacity, which is inefficient and costly to the incumbent firm.

In the context of the model framework by Valletti et al (2002), this implies for an operator to credibly commit to operate in certain market segments or regions. While a universal service obligation usually also causes additional cost, it may be a comparably cost-effective tool to commit. In such a situation, the net cost of the USO to the universal service provider may be negative even though it entails inefficient operation and the USO may not entail a burden on the USP.

2 The Model

Our model serves to discuss the strategic effects of a universal service obligation in liberalized markets. For simplicity, we assume here that the USO simply consists of a coverage constraint which obliges the USP to offer services in all regions of a country.

2.1 Markets and Entry Decisions

As in Valletti et al (2002), there are two firms, an incumbent (I) and an entrant (E). Each firm offers one type of product or service which are imperfect substitutes. They operate in a continuum [0,1] of independent markets. Each market is of equal size, but markets are ordered by fixed cost. If a firm decides to enter a market at location x, it incurs fixed costs $c(x)$ where $c(0)=0$ and $c'(x)>0$. Each firm starts entering markets from the least expensive location and leaves no gaps between served locations.

We denote by $r(x)$ the marginal surplus for a firm obtained at location x. It is higher if only one firm operates in a market than in a situation with two operators. Gross profit is $\pi(x)=\int r(x)-c(x)dx$ over the markets which are served. For simplicity, we assume symmetry between both firms in terms of cost and revenues in each market x. Further, we assume that demand and cost characteristics are such that all markets belong to one of the three following regions:

- In region D, competition results in positive profit for both operators.
- In low-cost region L, a firm's profit is positive only if it is operating as a monopoly.
- In high-cost region H, not even a monopolist is able to cover its fixed cost as these are too high.

Note that whether or not duopoly profits for one or both operators are negative is given by the definition of the regions.

In the following discussion, we neglect profits in region D and consider only regions L and H.[6] A firm's profit in region i is $\pi_{i,M}$ if the region is served by only one firm and $\pi_{i,D}$ if it is served by both firms. Fixed costs in region i are denoted by c_i. For simplicity we assume that payoffs in each of the regions are symmetric between firms.[7] The above definitions imply that $\pi_{L,D}<0<\pi_{L,M}$ and $\pi_{H,D}<\pi_{H,M}<0$..

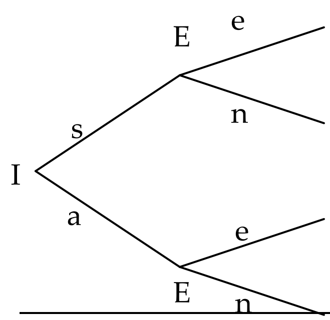
The market structure which we simply assume here results from competition as modeled by Valletti et al. (2002). In contrast to their analysis, however, we do not assume that the incumbent is always the "bigger" firm operating in the monopoly region M. It is the strategic interaction between the two firms which determines who finally is the bigger one.

In the following, we analyze the equilibria of the market entry game in various regulatory regimes and once the provision of universal services has been assigned to either one of the firms.

2.2 Sequential Entry

In this section we treat the incumbent and the entrant asymmetrically, assuming that the incumbent decides first about his market coverage. The relevant question is whether firms choose to be present in region M where profits result only if there are no other firms in the markets. The most generic situation is competition with both the incumbent and the entrant being free to choose either to operate in that market or not, i.e. there is no reserved area or universal service obligation.

Figure 2 shows the decision tree in this setting. The incumbent I decides first. His possible actions are staying in the market (s) and abandon it (a). The entrant E decides second, its feasible actions are entering the market (e) or not (n). Hence, in this general setting, the incumbent's strategy set is S^I ={{s},{a}}, while the entrant's strategy set is S^E={{e,e},{e,n},{n,e},{n,n}}. The payoffs following the terminal nodes depend on the nature of the fixed costs and the regulatory scenario. They are reported in the four rows in Table 1 and Table 2, respectively.



[6] This is not critical for the analysis as profits in region D are irrelevant for the operators' strategic decisions if the compensation for an unfair burden is exogenous, which is the case in our setting. Jaag and Trinkner (2009) relax this assumption.

[7] They may differ for the two firms due to sequential decisions or due to strategic links between markets induced e.g. by a price uniformity constraint as part of the USO. However, this simplifying assumption does not alter payoff-structures decisively.

Figure 1: Sequential entry in region M (payoffs are given in Table 1 and Table 2).

There are four different possible outcomes/equilibria of this entry game. The resulting profits are given in Table 1 and Table 2 in the column "Competition / no USO" as a benchmark for the comparison with scenarios including USO.[8] The subgame-perfect Nash-equilibria in pure strategies are highlighted by a bold typeface.

As another reference, we also show the outcomes in a situation with a legal monopoly in which only the incumbent is allowed operate in the market.

2.2.1 Irreversible USO Cost

If fixed costs are entirely sunk (Table 1), the sequence of entry is of great importance. Assume that the incumbent has offered universal services traditionally and before the USO is newly assigned to one of the operators. Then, the incumbent operator's cost would not be reduced by abandoning region L in case the USO is removed. Hence, staying is a dominant strategy, as this will result in positive revenues and hence a profit that is greater than without any revenues. The incumbent will even stay in region H as all costs are sunk.

	Legal monopoly		Competition		
	no USO	I is USP	no USO	I is USP	E is USP
({s},{e,e}) ({s},{e,n})	n/a	n/a	$(\pi_{L,D}+\pi_{H,M},\ \pi_{L,D})$	$(\pi_{L,D}+\pi_{H,M},\ \pi_{L,D})$	$\boldsymbol{(\pi_{L,D}+\pi_{H,D},\ \pi_{L,D}+\pi_{H,D})}$
({s},{n,e}) ({s},{n,n})	$\boldsymbol{(\pi_{L,M},0)}$	$\boldsymbol{(\pi_{L,M}+\pi_{H,M},0)}$	$\boldsymbol{(\pi_{L,M}+\pi_{H,M},0)}$	$\boldsymbol{(\pi_{L,M}+\pi_{H,M},0)}$	n/a
({a},{e,e}) ({a},{n,e})	n/a	n/a	$(-c_L-c_N,\ \pi_{L,M})$	n/a	$(-c_L-c_N,\ \pi_{L,M}+\pi_{H,M})$
({a},{e,n}) ({a},{n,n})	$(-c_L,0)$	n/a	(0,0)	n/a	n/a

Table 1: Payoffs in regions L and H with sequential entry and sunk costs of USO.

If the incumbent is obliged to continue providing universal services (because he is the USP), the situation is unchanged: The incumbent serves all regions and the entrant will not serve regions L and H. The profitability cost approach calls for a comparison of the USP's profit level with and without USO. The resulting net cost of universal service provision depends on whether there is a USO in the regulatory alternative. Hence, it is not sufficiently defined without knowing the counterfactual regulatory scenario:

[8] The same outcome would result if the USO would just introduce sunk costs without actually forcing the USP to be operating in other markets than D. In this situation, being in the market is the dominant strategy for the USP, which can be credibly announced to deter the other firm's presence.

- Compared to a situation without any USO, the scenario "Competition / I is USP" results in zero net cost (compare the equilibrium payoffs in Table 1 "Competition no USO" and "Competition / I is USP").
- Compared to a situation in which the entrant is the USP, the net cost is $-\pi_{L,M}-\pi_{H,M}+\pi_{L,D}+\pi_{H,D}$, which is possibly negative.

If the entrant is designated the USP, the net cost of it providing universal services is $-\pi_{L,D}-\pi_{H,D}>0$. Hence, (hypothetically) tendering the USO would result in the entrant requiring $\pi_{L,D}+\pi_{H,D}$ as a compensation if it wins the USO contract. Compared to being the USP himself, the incumbent would be worse off in this situation because of competition in region M. Hence, it would willing to pay $\pi_{L,M}+\pi_{H,M}-\pi_{L,D}-\pi_{H,D}$ in order to avoid that outcome. As a result, USO tendering would end up in the incumbent being the USP with zero or negative compensation as there would be no unfair burden.

The current legislation in the Swiss telecommunications market can be understood in light of the above discussion. Resulting from a public call for tenders for the award of a universal service license, the Federal Communications Commission has designated Swisscom (the incumbent operator) as the USP from 2008 onwards. For ten years, Swisscom will be obliged to provide universal services in the telecommunications sector to all sections of the population and in all regions of the country. The new license obliges Swisscom to provide a broadband internet connection in addition to analogue and digital telephone connections. All services are subject to a price cap and a specific level of quality. In particular, the universal service in Switzerland will incorporate a broadband internet connection for all households. This is worldwide unique.

Swisscom had almost full coverage for broadband connections before the USO tender. As most of the investment cost is sunk once broadband connections have been set up, the net cost of universal service provision for the incumbent is very low. Consequently, Swisscom has refrained from applying for financial compensation for the first five years of the licence.

2.2.2 Reversible USO cost

If fixed cost is not sunk, the situation is slightly different from the above situation. Given the sequence in Figure 2 it is clear from Table 2 that in competition without an USO, outcome ({s},{n,e}) is again the only subgame-perfect Nash-Equilibrium. Hence, the incumbent is a monopolist in region M even if there is no legal monopoly. However, it will not serve region H in this case.

The introduction of a universal service obligation again requires the universal service provider (USP) to be present in all three regions. Assume first that the incumbent is assigned to be the USP. Then, the introduction of a universal service obligation reduces the USP's payoff but does not alter the equilibrium (cf. Table 2).

	Legal monopoly		Competition		
	no USO	I is USP	no USO	I is USP	E is USP

({s},{e,e}) ({s},{e,n})	n/a	n/a	($\pi_{L,D}$,$\pi_{L,D}$)	($\pi_{L,D}+\pi_{H,M}$,$\pi_{L,D}$)	($\pi_{L,D}$,$\pi_{L,D}+\pi_{H,M}$)
({s},{n,e}) ({s},{n,n})	**($\pi_{L,M}$,0)**	**($\pi_{L,M}+\pi_{H,M}$,0)**	**($\pi_{L,M}$,0)**	**($\pi_{L,M}+\pi_{H,M}$,0)**	n/a
({a},{e,e}) ({a},{n,e})	n/a	n/a	(0, $\pi_{L,M}$)	n/a	**(0, $\pi_{L,M}+\pi_{H,M}$)**
({a},{e,n}) ({a},{n,n})	(0,0)	n/a	(0,0)	n/a	n/a

Table 2: Payoffs in regions L and H with sequential entry and variable costs of USO

If the entrant is the USP by designation, however, the equilibrium is now ({a},{e,e}). This results from the entrant being able to credibly affirm that it will operate in all markets. As the incumbent expects a loss in market L in this situation, it will not operate in this market.

If the incumbent is the USP, there are again two different possible alternative scenarios on which the correct compensation depends:

- If the alternative to the incumbent's universal service provision is no universal service obligation at all, the correct compensation amounts to $\pi_{H,M}$ which is the incremental loss due to operating in the unattractive market H. This is the same net cost as in the case of a legal monopoly.
- If the alternative is the entrant being the USP, the net cost of the USO amounts to $-\pi_{H,M}-\pi_{L,M}$.

In the case that the entrant is the USP, its net cost is unambiguously equal to $-\pi_{H,M}$ $-\pi_{L,M}$. In the two latter scenarios, both the incumbent and the entrant may be willing to pay for receiving the USO license as this prevents the other firm's operation in market M.

An example for the case of reversible USO fixed cost with sequential entry is the operation of post offices in rural areas. These cause recurrent cost. Closing or replacing them by agencies which are run by third parties would enable incumbent postal operators to considerably reduce cost.[9]

The introduction of a universal service obligation, e.g. by an area coverage constraint prolongs/introduces inefficient operations and therefore causes net costs to the universal service provider. However, a firm may be willing to refrain from being compensated as the USO provides it with commitment power in competition. Similarly, sunk costs and the first-mover-advantage (as discussed in section 2.2.1) may serve the same purpose for an incumbent operator. The next section discusses the implications of simultaneous entry decisions where neither firm is a priori a first mover.

[9] Cf. Buser, Jaag, and Trinkner (2008) and Jaag, Koller, and Trinkner (2008) for a recent discussion of the cost of postal outlet networks.

2.3 Simultaneous Entry

Even though there usually is an incumbent operator facing one or multiple entrants, in some situations it is more appropriate to model strategic interaction as a non-sequential instead of a sequential game. This is the case if strategic moves are not observable, if moves can be revised without much cost or if new products or services are offered in the market which are unrelated to other existing services.

In the symmetric case, the entrant's strategy set is reduced to S^E={{e},{n}} and therefore equivalent to the incumbent's as it can no longer condition its action on the incumbent's behavior (cf. Figure 3).[10]

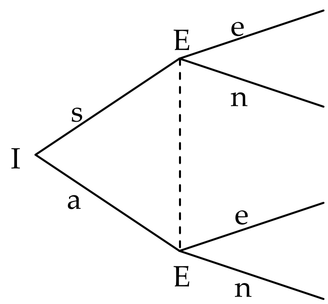


Figure 2: Simultaneous entry decision in region L. payoffs are reported in Table 3.

The payoff-structure with symmetric entry is the same as with sequential entry and no sunk costs. However, in the competitive case with no USO, there are now two Nash-equilibria in pure strategies. Whoever ends up serving region L is better off than the competitor. The payoffs are given in Table 3.

	Legal monopoly		Competition		
	no USO	I is USP	no USO	I is USP	E is USP
({s},{e})	n/a	n/a	$(\pi_{L,D}, \pi_{L,D})$	$(\pi_{L,D}+\pi_{H,M}, \pi_{L,D})$	$(\pi_{L,D}, \pi_{L,D}+\pi_{H,M})$
({s},{n})	**$(\pi_{L,M}, 0)$**	**$(\pi_{L,M}+\pi_{H,M}, 0)$**	**$(\pi_{L,M}, 0)$**	**$(\pi_{L,M}+\pi_{H,M}, 0)$**	n/a
({a},{e})	n/a	n/a	**$(0, \pi_{L,M})$**	n/a	**$(0, \pi_{L,M}+\pi_{H,M})$**
({a},{n})	(0,0)	n/a	(0,0)	n/a	n/a

Table 3: Decision tree, e.g. for ubiquity in delivery with uniform pricing.

Facing this situation, each operator has an incentive to move first in order to change the rules and ending up in the situation described in section 2.2.2 above. The incumbent can no longer count on a first-mover advantage. Rather, it is typically the entrant who is smaller and more innovative who may be able to lock the market in its favor.

A typical example for such a situation is entry into the market for mail delivery. Usually, more than half of total delivery cost is fixed (i.e. independent of volume).[11] It results from the postman following a fixed tour and accrues anew with every delivery tour. As the delivery network is built every day from scratch, no operator is able to commit to

[10] This is the classic „chicken game", cf. e.g. Osborne und Rubinstein (1994).

[11] Cf. e.g. Jaag (2007).

being in the market (which would be important to prevent the other player from entering). The introduction of a USO solves this commitment problem. Despite causing inefficient operations by forcing the USP to serve market H, it may be attractive to be the USP. Compared to the outcome in which the other firm is the USP, each operator gains $\pi_{L,M}+\pi_{H,M}$. In a tender, monopoly rents from operation in region L can be skimmed. However, from a policy perspective, the downside of introducing a USO is again the hindrance of competition for this region.

This may explain, e.g. in the railway sector, the allocation of USO jointly with the right to operate certain lines exclusively ("franchise bidding").[12]

In the postal sector, compensation for the provision of Universal Services has been paid to various national postal operators. In Austria and Denmark these payments no longer exist[13] while in France[14], Italy[15] and Belgium[16] such compensation still exists. However, such subsidies (even if they have already been phased out) may explain the relatively strong market position of national postal operators in some EU Member States, e.g. in Austria and Denmark.[17] These markets are not yet fully liberalized. In none of the fully liberalized countries, the USP claims compensation. E.g. in Germany the postal law foresees an auction to designate the most efficient operator in case Universal Services are not provided by the market. The mechanism is in place since 2008, when the German postal market was completely opened to competition. So far, the historic incumbent operator Deutsche Post did not change its services in a way that would have resulted in a public need and hence an auction. Hence, Deutsche Post provides Universal Services without being mandated explicitly and without compensation.[18]

Coming back to the Swiss telecommunications example, Swisscom is not obliged to provide services to customers if another telecommunications services operator offers broadband services to them which are comparable in terms of the speeds and prices specified in the obligations of the universal service license. What looks like an alleviation of the USO may actually result in higher burden on Swisscom as the USO in this case does not serve as a commitment tool to protect against competition in semi-rural regions.

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[12] Cf. e.g. Harstad and Crew (1999).

[13] In Austria the compensation paid to Austrian Post ended in 2001 (cf. Austrian Post, Geschäftsbericht 2001, p.45); in Denmark in 2004 (cf. Post Danmark, Annual report 2003, p. 15).

[14] In France the government contribution was EUR 242m in 2007 (ARCEP, 2008, Statistical Observatory on Postal Activities in France—2007, p. 36).

[15] Poste Italiane receives a state compensation for losses in universal services and publications delivery. In 2008 it amounted to EUR 706m. The Commission has decided to consider the aid compatible with the EC Treaty. However, "[t]he Commission regrets that Italy put the aid in question into effect, in breach of article 88(3) of the EC Treaty." (European Commission (2008), State aid n. NN 24/08, p. 19).

[16] Cf. De Post–La Poste, Annual Financial Report 2007, p. 78-79;

[17] ITA Consulting and WIK Consulting (2009).

[18] Zauner et al. (2008) and Jaag and Trinkner (2009).

Hence, in order to prevent the entry-deterring impact of a USO, it may be optimal to confine it to services which would not be offered otherwise, as in the Swiss telecommunications case.

3 Summary and Conclusion

There is a broad literature on strategic entry deterrence, e.g. technology and capacity choice. This paper argues that there is an additional tool to prevent entry in certain regions or market segments: A universal service obligation which serves as a commitment tool. It allows a firm to follow both business strategies – having a flexible cost-structure and fending off competition – at the same time. Hence, policy makers face a counter-intuitive challenge when designing universal service obligations as it is detrimental to competition. In the Swiss telecommunications market, the USP is not obliged to provide services to customers if another telecommunications services operator offers these comparable in terms of quality and prices specified in the universal service license. Such a regulation prevents the entry-deterring impact of a USO as it destroys its functioning as a commitment tool. It may therefore be optimal also in other sectors to confine the USO to services which would not be offered otherwise.

Our argument also has implications for the costing of the USO and the calculation of the burden it causes. It is important to be aware of the regulatory alternative as this very much determines the burden to the USP.

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