



Economic regulation of airports: The case of Brussels Airport Company

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ABSTRACT

This paper considers the economic regulation of airports, with particular focus on the case of Brussels Airport Company (BAC). The foundation of the existing regulatory framework for BAC is called into question. At no point is BAC able to exert the kind market power normally associated with a 'natural monopoly'. As a matter of fact, there are no indications whatsoever that the company holds a natural monopoly. It is nonetheless argued that supervision of BAC is necessary, albeit under a revised regulation.

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1. Introduction

Introducing government regulation is economically legitimate if one or several instances of market failure are resulting in allocative inefficiency, inadequate cost control and bad investment decisions. Possible causes of market failure include excessive market power, the existence of asymmetric information, externalities¹ and public goods.² From a technical perspective, however, regulation is approached differently. Lypczynski et al. (2009) assert that government regulates "particularly in cases where average costs tend to fall over the entire range of industry output; in other words, when the industry operates under cost conditions that give rise to a natural monopoly".³

Production by a single firm, without any competition, can result in lower unit costs than would be the case with production by several companies. This is the case when there are economies of scale and/or scope. In such situations, production by a single company is not only potentially cost efficient, it is also the only sustainable industrial structure.⁴

Often, a market with perfect competition is put forward as the ideal situation. Under such circumstances, firms will be stimulated to work cost efficiently, prices will be kept in check and output will increase. A company without competitors, by contrast, may be inclined to restrict output and to increase prices in order to realise a much larger profit than one might reasonably expect as a 'normal' return on capital. The purpose of regulation is to prevent such situations from occurring.

Insofar as government is concerned, it is a matter of minimising the likelihood of abuse of market power.⁵ When a natural monopoly does result in abuse of market power, several causes of action may be considered:

- proceeding to public ownership, which implies the granting of statutory rights to a single company;
- opening up of the affected market to competitors;
- the granting of a temporary monopoly through *franchising* following a bidding procedure.

Regulation is de facto intended to induce the natural monopolist to be cost efficient and to increase output to a level that maximises economic prosperity.

The key challenge in regulating is to incorporate a coherent set of incentives. If the regulator has complete knowledge of the economic parameters of the undertaking concerned, then he could demand that a specific output level is achieved. This output level would then be linked to a specific set of inputs, while the output would have to be sold at a fixed price. In reality, however, this knowledge is often lacking. In most cases, the regulator possesses

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¹ One speaks of externalities when a transaction generates benefits or costs for parties other than those who buy or sell, without forms of compensation.

² In the case of public goods, one cannot, for example, exclude anyone from using a given service, nor is there, in principle, any competition for the volume of services provided.

³ A natural monopoly implies that production can only proceed at the lowest possible average long-term cost if a single firm accounts for total industrial output. In such cases, the minimal efficient scale (MES) is equal to (or larger than) the total market size.

⁴ The railway industry is a case in point.

⁵ Market power as such is obviously not illegal. It is *abuse* of a dominant position that is contrary to antitrust regulation.

partial knowledge at best. Therefore, a set of incentives may be devised to nudge the regulated company towards a socially optimal output level.

It follows that regulation should always be considered in its proper context. Hence it makes no sense to generalise. Starkie (2002, p. 64) puts it as follows: “It is only when the market does not work well, when there is a clear case of natural monopoly and when regulation can reasonably be expected to improve matters that the regulatory option is worthwhile. Market imperfections alone are not a sufficient justification for intervention”.⁶

This contribution deals with a possible adjustment to existing economic regulation in the airport industry, with focus on the case of the Brussels Airport Company (BAC). More specifically, it considers the following aspects: the length of the regulation period; (adjusted) single till versus dual till; tuning of tariffs to those applied at a set of reference airports versus the use of a financial model; the distinction between regulated and non-regulated activities (i.e. the level of economic regulation) and the role of the economic regulator. The purpose is to investigate which type of regulation is most appropriate for Brussels Airport Company, taking into account the concepts of natural monopoly and market power.

Section 2 provides an overview of the various types of regulation. Section 3 illustrates and qualifies the notion of ‘market power’, and Section 4 conceptually defines the optimal level of regulation. In Section 5, the conceptual findings are applied to the case of BAC, and the aforementioned characteristics of the optimal level of regulation are determined. Section 6 concludes.

2. Types of regulation, pricing policy and unwanted side effects

Broadly speaking, there are two basic types of regulation: structural regulation and conduct regulation. Structural regulation focuses on the market structure, for example by splitting companies into complementary activities. Conduct regulation is designed to impact on the conduct of enterprises through measures such as price control. Additionally, a distinction can be made between ex-ante regulation, where the regulator takes the initiative with a view to preventing problems, and ex-post regulation, which comes into play after the filing of complaints and/or the occurrence of abuse.

All types of economic regulation are prone to specific distortions and undesired costs. Regulated companies may, for example, succeed in exerting influence on the regulator, a situation known as *regulatory capture*. The likelihood of regulatory capture can be minimised by making the regulatory framework sufficiently clear, consistent and transparent (Lypczynski et al., 2009, p. 638).

In practice, the following types of conduct regulation may be discerned:

- *Rate-of-return* regulation (cost-based regulation).
- *Price-cap* regulation (incentive regulation).
- Revenue-sharing agreements.
- Monitoring.

In what follows, each of these forms of regulation and their possible undesired or even perverse side effects are briefly considered.

Rate-of-return regulation. With rate-of-return regulation, the regulator allows the firm to set a price that covers the cost and a mark-up in order to achieve a profit. The inherent dangers of this system are clear to see. The regulated firm has few if any incentives

to cut production costs, given that the rate of return is guaranteed and that any cost increase may be passed on to the consumers. The system also holds a danger of regulatory capture.

If the allowable rate of return is set inappropriately, over or underinvestment may ensue, a mechanism known as the Averch-Johnson Effect (see Averch and Johnson, 1962): an excessively high rate of return will result in overinvestment, while an excessively low rate of return will induce underinvestment and cost saving, to the detriment of quality for example. Rate-of-return regulation is often perceived as highly problematic, as is it hard for the regulator to gauge the business capital and relevant costs. The question arises, for example, whether capital should be valued on a historical basis or on the basis of replacement value?

Price-cap regulation.⁷ Price-cap regulation imposes an upper limit on prices that firms may charge, with a correction for productivity gains. Cost savings must be passed on to the consumer in the shape of lower prices. Often a distinction is made between ‘pure’ and ‘hybrid’ price caps. ‘Pure’ price caps are set through benchmarking (i.e. based on what reference airports charge), while ‘hybrid’ price caps are based partially on the costs incurred by the regulated firm itself.

In the short run, there is an incentive for the regulated firm to minimise cost. After all, it may be possible to increase profit through savings not anticipated by the regulator at the time of the most recent price adjustment. In the long term, the regulator will however be able to incorporate the cost-savings into the price, so that the regulated firm derives no benefit. This can, under particular circumstances, present a disincentive, as in the case of long-term investment in cost-saving technologies.⁸ Lypczynski et al. (2009, p. 640) among others refer in this context to the fact that, in some countries, price-cap regulation has resulted in long-term underinvestment in the infrastructure of network industries, such as railways, water supply and power generation.

Another possible perverse effect follows from the high capital costs involved in some types of infrastructure, which certainly holds for airports. A regulator will after all also want to ensure that an investment achieves a sufficiently high return, e.g. in order to convince investors to continue to finance the regulatory asset base. Furthermore, a private operator must be guaranteed a return that is high enough for that operator not only to exploit the existing infrastructure but also to invest in new capital projects.

This is where the notion of *weighted average cost of capital* (WACC) comes in. The WACC is calculated on the basis of debt and capital. A common danger is that the WACC is set either too high to ensure funding of the regulatory asset base or too low for the funding of other activities. The result is clear to see: excessive profits on the ownership of assets and an incentive to underinvest. As the WACC is set well above the cost of the debt, it is after all possible for investors to acquire firms and to subsequently replace assets with debt.

Revenue-sharing agreement. Under a revenue-sharing agreement, rates are allowed to evolve in accordance with passenger growth over a given period. The benefit of this system is that it guarantees stability under changing demand. The drawbacks are the limited incentives for cost reduction, the fact that revenues remain unchanged irrespective of output, and the system’s tendency to lead to an inefficient price structure (Winston and de Rus, 2010).

Monitoring. Under a monitoring system, the regulatory agency supervises, with the possibility of imposing punitive measures in the event of abuse of market power (e.g. excessively high tariffs). In this sense, monitoring facilitates the system of regulation. The actions of airports are watched closely. No tariffs are imposed, but

⁶ In this paper we follow the approach taken by Starkie (2002). As the purpose is to report on a case study, we do not contrast the views of different authors. Nonetheless, such a comparison would make for interesting future research.

⁷ For one of the first publications on price-cap regulation, see Littlechild (1983).

⁸ See among others Poort and Tieben (2010).

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