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Investment incentives and airport regulation

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Abstract

Arguments for and against the proposition that price-capped privatised utilities have an incentive to under-invest are examined in the context of airport regulation. The general proposition finds support from generic arguments associated with the hold-up problem and with *ex-post* opportunism. Three counter arguments are then considered: that under-investment imposes additional internal costs on the firm; that the regulated firm can consume its monopoly rent by expanding its asset base; and that it can leverage its market power through seeking excessive investment. Consideration is then given to the empirical evidence focusing on price-capped airports in the UK and Ireland. It is concluded that, on balance, it is probable that the regulated airport companies have inclined towards over-investment.

Keywords: Regulation; Investment; Incentives; Airports

1. Introduction

The airport regulator, the CAA, is advised on setting price-caps by the Competition Commission; during the last price-cap review both bodies were reluctant to subject to detailed scrutiny the capital expenditure programme of the four price-capped airports that were deemed to have substantial market power (London Heathrow, Gatwick, Stansted and Manchester).[1] This reluctance is in part understandable: the relevant Statute, the 1986 Airports Act, requires that the regulator imposes minimum restrictions consistent with its functions and duties, apart from which the CAA believes more than most in regulating with a light touch. But, is such an approach entirely appropriate, statutory constraints notwithstanding? What is the nature of the investment incentives faced by price-capped airport companies and are these likely to lead to too little or too much investment?

2. Economic incentives for under or over-investment

Arguments that in general price-capped firms have an incentive to under-invest and 'sweat' assets are usually based on two considerations. The first is a variant of the so-called hold-up problem: infrastructure assets generally have long lives committed to specific purposes, so that there is a risk that regulator(s) might subsequently squeeze prices to an extent that the investment is not fully remunerated.[2] The second consideration is that the regulated firm might engage in *ex-post* opportunism by reneging on CAPEX agreed as part of

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[1] For arguments suggesting that, in general, airports might not fully exploit market power and, in so far as they do so, the impact is limited, see Starkie (2002). However, in the case of the London market, market power is accentuated both by BAA's ownership of the three largest airports and by the exceptional nature of Heathrow.

[2] See Armstrong et al. (1994, pp. 85–90). The UK airport regulator made an interesting attempt to circumvent this problem at the time of the 2003–05 review by proposing a long-term price path commitment for Heathrow and Gatwick airports. This would have entailed a 20 years commitment on price-caps linked to current capacity and that of Terminal 5, with incentives for new investments. However, the Competition Commission did not support the proposal (see Hendriks and Andrew, 2004, p. 114).

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a regulatory settlement thus inflating its return.[3] These arguments have loomed large in the theoretical literature and inclined Helm and Thompson (1991), for example, towards the view that privatised utilities will tend to under-invest.

Set against these two arguments that the privatised utilities have an incentive to under-invest, are three counter arguments, two of which take on an added significance when regulators choose not to closely scrutinise CAPEX. First, under-investing, at the same time that prices are pressed down towards competitive levels by the regulator, would mean that supply and demand have to be balanced by mechanisms other than by price alone, often by a diminution in product quality, such as by queuing. But, this will lead to a loss of reputation, the additional burden of managing congestion, disgruntled consumers and probably conflict with the regulator, possibly leading eventually to more intrusive regulation. For management, anything but a quiet life would prevail; thus, under-investment risks imposing significant additional *internal* costs on the firm.

Second, the regulator sets a limiting price, usually every 5 years, with reference to an allowable rate of return on assets and providing the asset-base meets, *overall*, the firm's cost of capital; the firm is able to expand its asset base without prejudice to its return (although the size and phasing of CAPEX will need to have due regard to various financial ratios). Absent scrutiny of the capital expenditure programme by the regulator, the regulated firm is provided with an opportunity to consume its monopoly rent by expanding its asset base and by gold plating its investments.[4] Bear in mind also that managers, when given a choice, usually prefer running large rather than small businesses; size brings status and material rewards. Chief Executives typically by nature are ambitious and large, extensive and expensive assets help to satisfy such ambitions. Such tendencies are frequently channelled into mergers and acquisitions, but in the ex-public sector utilities, opportunities, at least in the UK, of this nature are restricted by regulatory concerns.

Third, it is recognised that in imperfectly competitive markets, firms not infrequently have used as an entry deterring strategy the building-in of excess capacity (for example, Dixit, 1980). Although the utilities sector can be characterised by areas of considerable market power, nevertheless, there is often a competitive fringe that can threaten from time to time the core activities of the monopolist. But (and it is a point generally ignored in the economic regulation literature), the regulated utility is well-placed also to pre-empt such entry by leveraging its market power to expand capacity through an overly generous CAPEX programme, especially when the proposed CAPEX is an area treated circumspectly by the regulator. The use by the utilities of such entry deterring strategies has been noted, for example, in the European gas industry (Cornwall, 2004).

3. Empirical evidence on airport investment

What is the evidence on this general issue in relation to airports? The under-investment/asset sweating proposition would appear to receive strong confirmation from those parts of the London airports system that have been highly congested for a considerable period of time. London Heathrow is the pre-eminent example, but London Gatwick is also reasonably congested; declared runway capacity is constrained at both airports (see Box 1). But, it is debatable whether these capacity constraints represent a deliberate policy by BAA to limit capacity.

Box 1. Runway capacity and pricing

Declared runway capacity, in practice, reflects not only runway constraints but capacity limitations that exist in all parts of the airport system (see Turvey, 2000).

Demand in excess of declared capacity is restrained largely by a, generally applicable, runway slot allocation process that follows administrative criteria agreed to by the European Commission (Regulation 95/93). The chief feature of this process is that, in each season's allocation of slots, prior users (in the last equivalent season) are given precedence. There is, however, a trading market wherein airlines buy and sell slots from and to each other, but, because the EC currently opposes the idea of trading, this market is opaque (a grey market).

Because airport charges are not used to balance demand and supply, the economic rents associated with capacity constraints are captured largely by the incumbent airlines and not by the BAA. If the Company were to capture the scarcity rents (e.g. by raising landing charges), these would have to be offset in some way in order to normalise the return on capital. In spite of the regulator pegging the return, BAA should still have an incentive to invest in additional capacity because it is allowed its cost of capital.

[3] If the regulated company chose to game the system in this way it would seem more likely that it would seek approval for what was an exaggerated CAPEX; it is not evident that the outcome of the 'game' would be an inefficiently small investment programme.

[4] Such an opportunity is exemplified by the Competition Commission's remarks at the last airport price review: "we have not adjusted BAA's forecasts for capital expenditure: even if there is scope for lower costs on some projects, there is in our view likely to be a demand for any cost savings to be spent on additional projects" (Competition Commission, 2002, paragraph 1:14). This has led to suggestions that in these circumstances CPI+/−X is really rate-based regulation but with a formal regulatory lag but this is perhaps too harsh a judgment ignoring for example the important forward looking nature of incentive regulation (see, for example, Beesley and Littlechild, 1989).