



# Commercialisation and airport performance: The case of Ireland's DAA



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## ABSTRACT

Airport performance has been the subject of an increasing volume of empirical research in recent years. This paper bridges a gap in the existing literature through an in-depth case study analysis of the process of commercialisation in the Dublin Airport Authority (DAA), Ireland's state-owned airport company, and the corresponding impact on performance over the 1994–2014 period. We use a model of commercialisation to examine changes in the DAA's internal and external environments that show evidence of a more commercial focus. The DAA's economic performance is then analysed using total factor productivity (TFP) and labour productivity indicators, as well as basic financial indicators. Our analysis highlights the significant internal and external changes experienced by the DAA over the past two decades that have driven a continuous process of commercialisation. While TFP growth was positive or stable in half of the years that we examined, the overall level of TFP declined over our timeframe of analysis. Much of this decline was due to two considerable programmes of investment in long-lived infrastructure assets where a return in the short-term would not be expected.

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## 1. Introduction

Despite the increasing trend towards greater private sector participation in the ownership and management of European airports the fact remains that the State retains full or majority shareholdings in the vast majority of European airports.<sup>1</sup> State-owned airports have not, however, been immune to significant change and challenges. Over the last three decades, European airports have faced increased exposure to competitive pressures as a result of the liberalisation of the aviation sector. In many cases governments have shown reluctance to finance investment in airport infrastructure for reasons such as fiscal constraints. The business operations of European airports have therefore transformed considerably in recent years, with many airports moving from being publicly funded infrastructure providers to becoming diversified commercial self-financed businesses.

The changes faced by state-owned airports fall under the rubric of New Public Management (NPM) which has influenced governments around the world since the late 1970s. In broad terms NPM is

a reform agenda that involves reconfiguring the boundaries of government agencies (Bilodeau et al., 2006). NPM reforms are mainly directed at increasing the market-orientation of government agencies. They encompass a range of organisational changes including radical measures such as (i) privatisation, either in the form of full divestiture or the introduction of hybrid arrangements such as operational concessions and/or the contracting out of certain services to private companies, (ii) the exposure of government agencies to competition (liberalisation), and (iii) the adoption of an increased focus on profits and commercial performance (commercialisation).

Whereas NPM measures such as privatisation have been the subject of intense debate and frequent analysis, the question of commercialisation in the context of continued public ownership has received significantly less attention in the academic literature. This provides the primary motivation for this paper, which examines the case of Ireland's state-owned airports company, the Dublin Airport Authority (DAA), which has undergone significant NPM-style reforms over the last few decades. The main aim of our paper is to first chart the commercialisation process within the DAA over the period 1994–2014. We then assess the impact of the commercialisation process on the performance of the DAA over the same timeframe using both labour and total factor productivity measures as well as basic financial indicators. In order to disentangle the impact of a number of factors affecting performance - including commercialisation, changes in competition and the

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<sup>1</sup> Ownership information provided for 355 airports in the EU28 by ACI Europe (2016) shows that approximately 83 per cent of airports were in full or majority partial state ownership as of 2015.

regulatory environment, and internal organisational structures and governance - we utilise a model of commercialisation that is adapted from the model of organisational status change originally developed by Dunsire et al. (1988, 1991).

The paper is structured as follows: the next section provides a brief overview of the history of the DAA and its core operations. Section 3 reviews some of the empirical literature in relation to airport productivity/performance as well as the literature on airport commercialisation in general. Section 4 presents our model of commercialisation that we use to examine the determinants of the performance of the DAA. Section 5 describes the capital market status changes experienced by the DAA between 1994 and 2014 while sections 6 and 7 provide an overview of changes in the DAA's external and internal environment. Section 8 presents the results from our productivity analysis before section 9 summarises our findings and concludes.

## 2. Review of empirical literature

Empirical studies on the performance of airports in recent years have frequently focused on the impact of airport ownership on financial performance and/or technical efficiency. Such studies have been conducted at either the country level, for example, Fasone and Maggiore (2013) and Fasone et al. (2014) examine the impact of private ownership on the financial performance of Italian airports and find that airport companies with majority private ownership outperform others. Other studies have focused on the productive efficiency of airports using large within-country or cross-country panel data sets and employing sophisticated measurement tools such as Data Envelopment Analysis (DEA), Stochastic Frontier Analysis (SFA) or Total Factor Productivity (TFP) analysis. These studies generally control for whether airports are in majority public or private ownership in order to determine whether private sector ownership is superior. For example, Lin and Hong (2006), Oum et al. (2008) and Adler and Liebert (2014) utilise either DEA or SFA techniques to examine the efficiency of a large sample of international airports and produce mixed findings in relation to the impact of airport ownership.

DEA and SFA studies have also been extensively employed to examine the efficiency of airports at the country or cross-country level by controlling for a range of other non-ownership variables. For example Scotti et al. (2012) examine the impact of competition on the technical efficiency of Italian airports using SFA, whereas Oum et al. (2004) use TFP analysis to measure the efficiency implications of alternative forms of airport price regulation using a cross-country sample of major airports. A detailed review of the extant literature on airport performance employing DEA/SFA/TFP techniques is beyond the scope of this paper, however, for recent useful overviews of some of the main studies see Coto-Millán et al. (2014), Fragoudaki and Giokas (2016) and Liu (2016).

There have been very few studies that have focused solely on issues related to the DAA or compared its productivity to other airport operators. McClay and Reynolds-Feighan (2006) and Reynolds-Feighan (2010) are an exception and focus on the issue of terminal competition at Dublin Airport. In the context of this paper, both of these studies provide some very useful background to the historical development of the DAA and its regulation. The only comparative productivity studies that we are aware of that have included the DAA (Dublin Airport) in their analysis are Pels et al. (2001), Oum and Yu (2004) and Oum et al. (2006). Pels et al. (2001) include Dublin Airport in their DEA analysis of 34 European airports over the 1995–1997 period and found that it was fully efficient in terms of terminal output (passenger numbers) by 1997. Oum and Yu (2004) conduct a benchmarking exercise of 76 international airports for the 2000–2001 period and although they list

Dublin Airport in their sample it is not included in their results. Similarly, Oum et al. (2006) benchmark the performance of 116 airports over the 2001–2003 period but do not report individual results for Dublin Airport.

It is clear from the above that the performance of the DAA group as a whole has received very little attention in the extant literature. Furthermore, the relationship between commercialisation and airport performance has, to our knowledge, received no attention in the literature to date. This is largely due to difficulties with regard to how commercialisation as a process can actually be defined as well as how the process can be measured for any particular company. Our paper therefore contributes to the burgeoning empirical literature on airport performance by mapping the commercialisation process of Ireland's state-owned airport company over a twenty-year period and examining its impact on economic performance. The next section provides a brief background on the history of the DAA before we move on to describing our model, methodology and results.

## 3. Background of the DAA

The DAA (formerly Aer Rianta) is a commercial semi-state airport company that owns and operates Dublin Airport and Cork Airport (prior to 2013 it also owned and operated Shannon Airport). The DAA was established as a limited company in 1937 and originally acted as a holding company for the State's shares in Aer Lingus, the newly established national airline. In 1941 the DAA was given responsibility for managing Dublin Airport on an agency basis on behalf of the Minister for Industry and Commerce. The DAA relinquished its function as a holding company for Aer Lingus under the Air Companies Act 1966, and in 1969 it assumed the additional responsibility of managing both Shannon and Cork Airports.<sup>2</sup>

Compared to other Irish SOEs the DAA was unusual in that it did not own the assets that it operated, instead ownership rights of the three airports was vested in the relevant Minister. However, following a number of reviews,<sup>3</sup> it was decided that all long-term fixed assets (from 1986 onwards), in addition to all new assets (from 1988 onwards) would be financed from the company's own resources and borrowings (all assets acquired prior to this would continue to be owned by the Minister). This transfer of certain assets was a significant first step towards the company establishing a more arm's length relation with the government.

Further steps in this direction were taken following the enactment of the *Air Navigation and Transport (Amendment) Act, 1998* and the *State Airports Act, 2004*. The former transferred full ownership rights of all assets to the DAA while the latter granted more autonomy to each of the three airports and allowed for their eventual separation as fully independent entities. The implications of these two Acts in terms of the operations of the DAA are discussed in more detail in section 5.

Apart from the changes outlined here the DAA underwent a gradual commercialisation process over the entire period of analysis. This process is reflected in changes in the internal environment of the DAA along with changes in the external environment, in particular with the introduction of independent regulation in 2002. To disentangle these changes this paper develops a model of commercialisation which is adapted from the work of Dunsire et al. (1988, 1991) model of organisational status change and Parker (1995a, b) related work on the impact of privatisation on the

<sup>2</sup> Construction of Shannon Airport and Cork Airport was completed in 1947 and 1961 respectively.

<sup>3</sup> See Joint Oireachtas Committee on State-Sponsored Bodies (1979, 1992) for further detail.

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