



Two-sided platforms in airport privatization

Humberto F.A.J. Bettini^{a,b}, Alessandro V.M. Oliveira^{b,*}

^a University of São Paulo, Brazil

^b Center for Transport Economics, Aeronautics Institute of Technology, Brazil



ARTICLE INFO

Article history:

Received 12 January 2016

Received in revised form 5 May 2016

Accepted 14 June 2016

Available online 27 June 2016

JEL classification:

L93

C5

Keywords:

Two-sided platforms

Airports

Privatization

Demand

Econometrics

ABSTRACT

This paper develops an empirical model to examine the relationship between ownership change and two-sided-platform formation in the air transport industry. We investigate whether privatization enhances the dynamic capabilities of airports so that they more closely resemble a two-sided platform. We study the case of the recent privatization of Brazilian airports. We find evidence of a permanent, *ceteris paribus* increase in demand triggered after the privatization program. The results are consistent with a preemption of assets with a view to expanding operations and so benefiting from the network effects offered by a two-sided platform.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

The economic deregulation of airlines has produced important challenges for the air transportation industry. With increasing competition, air fares have dropped and demand has increased considerably, putting significant pressure on existing airport infrastructure. Consequently, air traffic congestion and delays have become routine for travelers around the world. The authorities in charge of the sector have considered not only regulatory reform of airports but also a change in ownership as possible solutions to the problem of airport congestion and, in some cases, a means of facilitating expansion of airport capacity. Airport privatization has become a worldwide phenomenon since the classic case of the sale of the British Airports Authority (UK) in 1987. [Graham \(2011\)](#) notes that, since 1990, many emerging countries have entered into short- and long-term airport privatization transactions. Examples include airports in Delhi, Mumbai, and Bangalore, in India, and Beijing and Shanghai, in China.

Airports nowadays are generally run as modern businesses rather than public utilities ([Gillen, 2011](#)). This new trend in the global airport industry means that along with delivering airside services to airlines, airports have to go to considerable lengths to, among other things, attract new services and maintain high service levels and low operating costs to enable them to face competition from other airports and transport modes, as well as to maximize the generation of non-aeronautical revenues from terminal retail services, increase accountability and transparency to investors and develop vertical relations with airlines and global airline alliances. In this context, airport privatization has been regarded in many cases as a tool not only for securing proper financing but also for inducing improvements in airport management.

* Corresponding author.

E-mail addresses: humberto@sc.usp.br (H.F.A.J. Bettini), alessandro@ita.br (A.V.M. Oliveira).

Some of the recent literature on modern airports and the air transport industry considers their potential role as two-sided platforms.¹ As such, airports must add value to their main client groups—airlines and passengers. A two-sided platform is capable of exploiting the demand interdependencies of its clients and allows direct and indirect network effects to emerge or to be more intensively generated. Airlines benefit if a two-sided-platform airport increases the number of passengers, and passengers benefit if the airport attracts more airlines, more destinations and higher flight frequencies. We investigate whether a change in ownership changes the incentives of the management and, as an outcome, enhances the dynamic capabilities of airports so that they more closely resemble a two-sided platform. Teece and Pisano (1994) employ the concept of “dynamic capabilities” to describe firms with timely responsiveness and rapid flexible product innovation. We suspect that privatization may mark the birth of an entity that acts a facilitator, allowing for previously unexploited direct and indirect network effects between airlines and passengers to emerge. We test hypotheses related to the consolidation of privatized airports as two-sided platforms by empirically examining the possible impacts of privatization on airline demand. We examine whether privatization allows for market-demand shifts associated with the emergence of network effects and the possible positive feedback loops triggered by them. To date, the existing empirical literature applied to airports is scarce – Ivaldi et al. (2012), who were the first to develop an empirical framework to investigate the potential role of airports as two-sided platforms. The literature has apparently neglected the potential role of ownership change in the formation and consolidation of two-sided platforms. We also raise the hypothesis that carriers may anticipate the benefits and the entry inducement effects associated with the enhanced two-sided platform.

We consider the case of the recent privatization of Brazilian airports and control for the sequence of public events associated with the airport privatization program since its launch in the late 2000s. We examine the effects of the privatization package of 2011–2012, which included three major airports – São Paulo/Guarulhos (GRU), Brasília (BSB) and São Paulo/Viracopos (VCP) – respectively, the country’s international gateway, the geographically centrally located domestic hub, and the only major secondary airport in the country. Our methodology considers privatization in a treatment effects framework and uses a difference-in-differences estimation with two control groups and alternative control group assignment schemes. We also conduct a regression-based event study to estimate a set of time evolving privatization-related coefficients and perform empirical tests to determine the sequential impact of the different stages of privatization on demand. This paper therefore adds to the scarce literature on the econometric modeling of airport privatization and present the first study to test empirically for the possible dynamic demand-side effects associated with an orientation of airports toward two-sided platforms.

The present paper is organized in the following way: Section 2 presents a discussion of the potential role for privatization in the context of two-sided platform formation and our hypotheses proposal. Section 3 presents the empirical model development. Section 4 contains the presentation of estimation results, along with a set of robustness checks. The final section contains the concluding remarks.

2. Ownership change and two-sided platform orientation

Many governments around the world have embraced privatization programs aiming, among others, at enhancing the efficiency of state-owned enterprises. However, the conclusions regarding the relative performance of airport operators under alternative governance schemes are still not clear – See for example, Oum et al. (2008) and Scotti et al. (2012). The lack of consensus in the literature may be due to the fact that public infrastructures such as airports will never completely act like fully private entities, since there is a public interest in ensuring a minimum service, safety, and security standard that a purely private entrepreneur would potentially not strive for. This important regulatory element of the airport business substantially increases the complexity of any comparison between public and private management in the sector.

2.1. Airports as two-sided platforms

The recent literature has adopted the concept of two-sided platforms to better describe the role of airports in the modern air transport industry (Gillen, 2011; Ivaldi et al., 2012; Malavolti, 2014; Flores-Fillol et al., 2014). According to Rochet and Tirole (2003) and Evans and Schmalensee (2008), network effects emerge in a market when the more consumers use a product, the more other consumers value that product. A two-sided platform exploits these demand-side interdependencies of its two client groups with a view to fully or at least partially internalizing the network effects that exist between them. Ivaldi et al. (2012) are the first authors to consider airports as two-sided platforms both theoretically and empirically. They develop an empirical structural methodology to examine the two-sidedness of airports in the US airline industry and find empirical evidence that airports have the characteristics of two-sided platforms and that their pricing scheme allows for cross-subsidization of the two sides.

2.2. Two-sided platforms and privatization

The concept of airport as a two-sided platform and its association with privatization are at the core of our research objectives. We therefore consider a set of hypotheses to inspect that association. Our first hypothesis is the following.

¹ There is an analytical stream of the literature that studies airports. Some recent literature investigated airport privatization from a modeling perspective – Mantin (2012), Assaf and Gillen (2012), Lin (2013), Czerny (2013), Gillen and Mantin (2014), Yan and Winston (2014), Lin and Mantin (2015), Noruzoliaee et al. (2015), among others. Additionally, other modeling papers study airports as two-sided markets – for example, Fu et al. (2011) and Gillen and Mantin (2013).

Download English Version:

<https://daneshyari.com/en/article/1022926>

Download Persian Version:

<https://daneshyari.com/article/1022926>

[Daneshyari.com](https://daneshyari.com)