



The importance of concession revenues in the privatization of airports



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ABSTRACT

We investigate the tradeoff between the airport's concession and aeronautical revenues—two complementary services. Increasing the frequency of flights may result with congestion which could stimulate demand for concessions, but may also harm the demand for flights. When passengers have a low valuation for the concession good, the opportunity for concession revenue is small and the airport focuses its revenue on the aeronautical (i.e., landing) fees. With a sufficiently large valuation for concession goods, the airport may lower the aeronautical charges to stimulate greater flight frequency in order to lower airfares thereby attracting more passengers ultimately to increase concessions revenues. It is in the latter case where we observe minimal loss of aeronautical welfare when airports are privatized. Thus, our research could help guide decision makers in the airport privatization process. Namely, we find that privatization is not recommended unless the potential for concession revenues is sufficiently large.

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1. Introduction

In recent decades, the view that airports were public utilities to serve as a form of public capital input in an airline's production function has been changing. Airports are increasingly run as businesses, by delivering both aeronautical services—such as connectivity to passengers and landing and taking off management as well as baggage handling to airlines—and a platform for concessions—namely facilitating ancillary services such terminal retail, parking and a range of real estate developments (Gillen, 2011).² These are two complementary categories of revenue generating services. Focusing on the two primary outputs (flights and retail concession services), the airport faces strategic decisions when pricing those aeronautical services (charged to airlines) and concession services (charged to passengers): more flights enhance aeronautical revenue, but at the same time the airport becomes more congested thereby incurring delay costs for both passengers and airlines, which may ultimately affect demand for flights. At the same time, such delays may induce passengers, who spend more time at the airport, to spend more on concession services. How shall airports set the prices for these two services? Namely, will the airports internalize the externality (negative impact of congestion vs. benefit from concessions) and cross subsidize flights by using revenue from concessions?

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² We use the term connectivity in the broader context of enabling access to other destinations. Such connectivity is provided through expanding the number of destinations, flights, and the variety of airlines serving the airport. In this paper connectivity is measured via frequency of flights.

The changing perspective of airports from public utilities to businesses is coupled with a shift to move airport governance from public to more private sector participation. The move to privatization has been motivated by a number of factors (see Gillen, 2011, for a review). The UK was the first to privatize a subset of airports beginning in 1987. This was followed, over the next 20 years, by varying degrees of privatization in Australia, Canada, New Zealand, EU member states, Mexico, Chile, India and others (Gillen, 2011). An interesting feature of the privatization process is to note whether price regulation was coupled with privatization.³ In Australia and New Zealand, for example, dual till price regulation was put in place after privatization, but this evolved into a form of light handed price regulation. Canada privatized airports as not-for-profit entities and therefore did not require price regulation. The UK privatized nearly all of their airports and only four were brought under price regulation; as of 2014 only two remain under designation, Heathrow and Gatwick. In continental Europe the position taken was that airports should be regulated when they are fully or semi privatized. The U.S. has been slow to move to privatization and currently all airports are owned by some form of government; state, county and/or municipality. However, U.S. airports are effectively privately operated, with a high degree of contracting out.⁴

The evidence then suggests that governments have preference for elimination of (costly) regulation. As an increasing number of governments are moving to privatize airports, a question emerges: under what circumstances can a shift to privatization take place without, or minimal, loss of economic welfare? In the UK where all airports have been privatized except Manchester, even small airports with a small amount of schedule air service are profitable (Starkie, 2008). Thus, concession services play an important role in sustaining airport viability. Government, in principle, is concerned with the economic welfare from aeronautical services. Although the convention in the current literature is to assume that consumption of concession services carries positive welfare effects, in our view the value of non-aviation services can vary from near zero to some positive value.⁵ Concession services can be simply a substitute for similar services consumed elsewhere; hence, the impact on total economic welfare is negligible. Namely, a retail good purchased at the airport or at the mall should have similar levels of welfare.⁶ Therefore, we consider it important to examine how passengers value concession services in considering the welfare effects of an airport ownership change. Accordingly, a government's decision to move towards privatization is determined by whether or not economic welfare from aeronautical services falls with a change in governance. Thus, the motivation for this paper is to assess when governments should be concerned that privatization may reduce economic welfare.

A few papers already suggest that, in several circumstances, privatization of airports may result in a welfare outcome that is consistent with the welfare level under public ownership (Czerny, 2013; D'Alfonso et al., 2013; Zhang and Czerny, 2012). Those contributions differ significantly in their approach from this paper in how they model the interaction between airports, airlines, retail operations, and passengers. Those differences are summarized in next section (see Table 1). Importantly, our focus is on understanding the impact of the concession revenue potential on the welfare distortion—if such exists—when airports are privatized. Specifically, how passengers' willingness to pay for the concession good influence the incentive of the government to privatize airports.

In our modeling framework we consider the interaction between the airport's decision on the aeronautical charges, which influence the airlines' choice of frequency to offer, which in turn directly affects the level of congestion at the airport and may stimulate passengers' demand for flights. The level of congestion then further affects the airlines' profit and hence feeds back into the airlines' frequency decisions. The overall demand for flights and the level of congestion at the airport ultimately determine the magnitude of demand for concessions consumed at the airport. This is outlined in Fig. 1.

We find that concession revenue is a key factor in the decision to privatize. If the potential for concession revenue is small, airports focus their attention on aeronautical revenue—in which case privatization could result in a major loss of welfare. Importantly, however, we find that if the potential for concession revenue is sufficiently large, a private airport will adopt similar externality internalization—it will cross-subsidize the charges to the airlines by using concession revenues. That is, the airport shares its concession revenues with the airline(s) by charging lower aeronautical fees, thereby incentivizing the airline(s) to supply more flights and deliver more passengers. Although this reduction in aeronautical fees intensifies the congestion at the airport, it also results with increased concession revenues, which as stated above, is partially shared with the airline(s). It is in this case the economic (aeronautical) welfare loss due to privatization is minimized.

³ Government can introduce some form of price regulation along with privatization. This is addressed elsewhere in the literature; see extensive review by Zhang and Czerny (2012). Essentially, there are two primary forms of price cap regulation: single-till and dual-till. Under the former revenues from both aeronautical and concession services are considered in the regulated price cap, whereas under the latter only revenues from aeronautical services are considered.

⁴ Stewart Airport, NY, is the only example of US airports that have been privatized but its lease was sold to Port Authority of New York and New Jersey in 2009. The Midway Airport privatization floundered with the financial crises of 2008 and remains publicly owned. In February 2013 there was a renewed initiative to privatize Midway. Also in February 2013 Puerto Rico's San Juan Luis Munoz Marin Airport went under lease to a private operator. The U.S. has had an airport privatization program in place since 1996. This program allows up to 10 airports to be potentially privatized (see CAPA, 2013).

⁵ A limiting example is heliports in cities such as New York and Vancouver where no concessions (i.e., commercial) services are offered simply because passengers do not value them, they value only aeronautical services. Ryanair's terminal in Bremen Germany has little or no concession services, as does Oxford Airport in the UK (see Starkie, 2014).

⁶ Using the distinction offered by Czerny (2013), the type of concession services we account for is retail services rather than car rentals. The pricing of the latter good type has a fundamental effect on the consumption of aviation goods. Indeed, the concession revenue modeled herein is driven by congestion—a feature that can only be associated with retail services and not with car rental type of goods.

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