Transportation Research Part E 111 (2018) 101–112

Contents lists available at ScienceDirect

Transportation Research Part E

journal homepage: www.elsevier.com/locate/tre

Carriers' entry patterns under EU-US open skies agreement

Shengrun Zhang[a,*], Ben Derudder[b], Kurt Fuellhart[c], Frank Witlox[b,a]

[a] College of Civil Aviation, Nanjing University of Aeronautics and Astronautics, Nanjing, China
[b] Department of Geography, Ghent University, Gent, Belgium
[c] Geography & Earth Science Department, Shippensburg University, Shippensburg, PA, USA

ARTICLE INFO

Keywords:
Entry patterns
EU-US open skies agreement
Market competition
Panel data analysis

ABSTRACT

This paper investigates route entry patterns of carriers in the context of the EU-US open skies agreement (OSA). A carrier's dominance in market share and existing presence at both endpoint airports have positive impacts on route entry. Competitors' presence at both endpoint airports and route concentration are two significant deterrents of entry. The role of London Heathrow and the establishment of joint ventures within international alliances also show significant impacts, although the effects vary across different markets. Separating transatlantic markets into "new" versus "existing" markets helps disentangling the complex relationships between the OSA and route entry.

1. Introduction

Traditionally one of the most regulated industries in the global economy, long-haul air transport only became possible through a range of liberalized air service agreements, open skies treaties, deregulation of national/regional aviation markets, and traditional Bermuda-type air service agreements (Burghouwt, 2014). The EU/US 'Open Skies' agreement (OSA), signed in April 2007, marks one of the most significant and substantial arrangements of international air transport liberalization through its two stages. The first stage (that came into force at the end of March 2008) grants any licensed European Union (EU) carrier the right to fly between any EU airport and any United States (US) airport. In addition, it gives US carriers full fifth freedom rights between EU countries, provided that the flight originates from, or is destined for an airport in the US. However, issues of imbalanced foreign ownership and cabotage rights remained in place in this first stage. Specifically, US carriers could only own 49% of the voting rights in European carriers, whereas European carriers could only hold 25% of voting rights and 49% of non-voting shares in US carriers. Further, although US carriers could fly into any EU country and from there onwards to a third EU country, EU carriers were not allowed to fly between US cities. To try to develop more equity in the foreign ownership and cabotage rights, a second stage of negotiations was launched in May 2008 to further liberalize the transatlantic market with the aim of achieving an Open Aviation Area (OAA) by mid-2010.

Several studies have examined different aspects of the changes after the EU/US OSA, such as daily frequency (Humphreys and Morrell, 2009), the number of routes (Barrett, 2009; Morandi et al., 2014), the number of passengers (Hamilton, 2007; Brattle Group, 2002; Button, 2009; Gillen and Hinsch, 2001; Mayor and Tol, 2008; Pitfield, 2011), employment (Button et al., 2014), and competition (Button, 2009; Morandi et al., 2014). However, little research has been conducted on what factors influence carriers' entry decisions into the liberalizing transatlantic market in the context of the EU/US OSA. Although entry patterns of carriers have been investigated in domestic markets (Boguslaski et al., 2004; Fu et al., 2015; Homsombat et al., 2014; Lederman and Januszewski, 2003; Yan et al., 2008), there has been – to the best our knowledge – no research investigating entry patterns of carriers in the traditionally

* Corresponding author.
E-mail addresses: zhangshengrun_seg@126.com (S. Zhang), ben.derudder@UGent.be (B. Derudder), KGFuel@ship.edu (K. Fuellhart), Frank.Witlox@UGent.be (F. Witlox).

https://doi.org/10.1016/j.tre.2018.01.011
Received 17 July 2017; Received in revised form 3 January 2018; Accepted 11 January 2018
1366-5545/ © 2018 Elsevier Ltd. All rights reserved.

more regulated international markets. This paper addresses this void by investigating entry patterns of carriers in the transatlantic market in the context of the EU/US OSA. To this end, we establish panel data models to explore factors influencing carriers' entry strategies into the EU-US market in the context of the unique impact of the EU/US OSA.

Most previous studies investigated the immediate impacts of the EU/US OSA with limited time periods and largely through descriptive analyses. Pitfield (2009), however, has pointed out that attributing changes to OSA implementation needs to go beyond such analyses: the identification of the 'real' degree of causation of the OSA needs to benchmark change against a situation without the OSA. He thus argues that elaborate time series methods are appropriate to identify the correct degree of causation of the OSA. In addition, the analyses presented in previous studies mainly focuses on individual airports and airlines, or on particular regions. Although Morandi et al. (2014) presented a systematic analysis taking into account all scheduled direct and one-stop flights between the EU and the US, the study was conducted only at the country level. Taken together, in order to grasp the full implications of the EU/US OSA, it seems apt to combine (1) time series analysis at a micro level and (2) panel data methods to properly investigate the *ex post* impact of the OSA in other intercontinental markets (Bernardo and Fageda, 2017). The purpose of this paper is to present such an analysis of route entry in the context of the EU/US OSA.

The remainder of this paper is organized as follows. Section 2 discusses the determinants of entry into airline markets, and the unique characteristics of the EU-US situation. Section 3 describes the data sources and construction of the sample utilized in the empirical analysis while also providing exploratory analysis. The econometric model is introduced and explained in Section 4, followed by Section 5 where we discuss our findings and their main implications. The final section summarizes our major findings and provides some suggestions for further research.

2. The determinants of entry into airline markets

The market and route entry decisions made by airlines generally depends not only on potential profitability but also upon entry *possibility*. This latter factor is critical, as barriers to entry can reduce or even eliminate profit and non-profit entry incentives (Müller et al., 2012). Many studies have established econometric models to examine entry possibility, and they can be broadly divided into two different strands of research: reduced form models and structural models. The former typically employs probit techniques to explain the likelihood of an entry event as a function of carriers' own characteristics, competitors' behaviors and market characteristics (Boguslaski et al., 2004; Fu et al., 2015; Homsombat et al., 2014; Lederman and Januszewski, 2003). The latter establishes equilibrium models to estimate the joint probability of all possible combinations of entrants (Berry, 1990; Ciliberto and Tamer, 2009; Dunn, 2007). Most studies focus on low-cost carriers or the US domestic market.

This paper follows the reduced form approach to gather preliminary evidence that carriers may have higher probability to entry into the transatlantic market against the backdrop of the EU/US OSA. To capture the effects of OSA, researchers have generally collected panel data that includes a substantial time span both before and after OSA. Models developed then incorporate time-anchored dummy variables to discriminate between the situation before and after the signature of the agreement (Bernardo and Fageda, 2017; Gillen et al., 2002; Homsombat et al., 2014). This parsimonious specification has the advantage of comparing the overall picture of carriers' entry possibility before and after the OSA. If the time dummy variable is statistically significant and positive, then carriers have a higher possibility to enter into the EU-US market after the OSA in general terms, and vice versa. Besides the EU/US OSA effect, other factors that influence carriers' entry decisions should be controlled for. Existing studies have found that carriers and their rivals' characteristics, as well as route and airport characteristics have an impact on the probability of entry. Variables representing a carrier's own characteristics include market presence, maximum/minimum market share, network scale in terms of destinations, non-stop routes, and passengers or connections measured at the level of one/two endpoint(s) of a route (Boguslaski et al., 2004; Dunn, 2007; Homsombat et al., 2014; Lederman and Januszewski, 2003; Müller et al., 2012). Similar variables can be measured for competitors' behaviors.

A concentration index (e.g., the Herfindahl-Hirschman index (HHI)) can be used to measure the level of route or airport competition. Demand variables include market potential measured by population, salary, vacation destinations, as well as actual demand measured by scheduled seats, passengers or flights. Cost variables that have appeared in the literature include route distance and the presence of slot-controlled airports. Although the aforementioned variables have been found as factors influencing entry of carriers in domestic markets, they clearly can also be employed for analyses of the transatlantic market.

Moreover, as secondary airports become more important in global aviation services (Bel and Fageda, 2010; Maertens, 2010; O'Connor and Fuellhart, 2013; Weber and Williams, 2001), there can be potential for them to attract long-haul traffic for newly launched routes in a more liberalized circumstance (Sismanidou et al., 2013). It is, therefore, worthwhile to study the probability of secondary airports being selected by carriers against the backdrop of the EU/US OSA. Finally, we differentiate between two types of markets – entry into existing versus new markets. On the one hand, carriers could enter into established markets where one or more carriers already provide services between the EU and US, and therefore provoke face-to-face competition with incumbents. On the other hand, it is also possible that completely new routes might be opened in the post-liberalization period. This paper attempts to explore carriers' entry patterns into both types of markets.

3. Data and exploratory analysis

3.1. Data sources

The main dataset used in this paper was collected through cooperation with the Official Airlines Guide (OAG), which contains

Download English Version:

https://daneshyari.com/en/article/7427809

Download Persian Version:

https://daneshyari.com/article/7427809

Daneshyari.com