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The effects of the LCC boom on the urban tourism fabric: The viewpoint of tourism managers

José I. Castillo-Manzano [a,*], Lourdes López-Valpuesta [a], Fernando González-Laxe [b]

[a] Facultad de Ciencias Económicas y Empresariales, University of Seville, Spain
[b] University of A Coruña, Spain

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ABSTRACT

This paper analyzes the vision that the urban tourism fabric in the hinterland of five Spanish regional airports has of the low cost carrier (LCC) phenomenon and the impact that LCCs have on the various niche tourism markets. Data are used from a survey of almost 500 tourist establishment managers. One of the conclusions that should be highlighted is that most of the tourism sector considers LCCs to be perfect substitutes for network carriers and even improvements on these in many cases. The exceptions are travel agencies, especially with regard to the role LCCs play in promoting conference tourism. The factors that determine how the role of LCCs is rated are also examined using generalized ordered logit estimations.

1. Introduction

There is a large amount of literature that analyzes and justifies the role that airports and air traffic play in the economic activity of towns and cities in their surrounding hinterlands (Brueckner, 2003; Button, Lall, Stough, & Trice, 1999; Debbage & Delk, 2001; Green, 2007; Robertson, 1995). Thus, airports are recognized as being dynamic motors of social and economic development in these regions (Echevarne, 2008), supporting local economic activity and driving new investments in their areas (Robertson, 1995) while at the same time helping to attract the headquarters of large firms to their corresponding urban areas (Bel & Fageda, 2008). For Robertson (1995), airports could turn into the largest single employer in a region, which would favor administrative and auxiliary employment (Debbage, 1999; Debbage & Delk, 2001), high-technology jobs (Button et al., 1999) or possibly create job opportunities for less-skilled workers or the local unemployed (Robertson, 1995). Brueckner (2003) goes further still and quantifies a ten percent increase in passengers in a metropolitan area as leading to an approximate one percent increase in employment in service-related industries. For all these reasons, the relationship between the quality of airport facilities and urban economic growth could provide the grounds for guaranteeing airport facilities in less-developed regions (Bel & Fageda, 2009).

Much has been said about the direction of the relationship between an airport's role and economic development in its surrounding area and the problem of simultaneity (Green, 2007). Many authors prefer not to make definitive statements on the complex causal links that exist between these two variables, while Button et al. (1999) highlight one of the two directions in this correlation by concluding that it is the large airports that create employment and not the other way around, i.e., it is not the prior dynamism of the economic environment that attracts airlines. In this same regard, Brueckner (2003) also considers a certain causality when stating that the good service of an airline drives intercity agglomeration economies while, conversely, a poor airline might be an obstacle to urban economic development.

The analysis of the influence that this general relationship between the airport and urban economic development has on the tourist industry stands out. As is well known, following Bieger and Wittmer (2006), the appeal of a tourist destination often depends on factors such as its natural resources, the local culture or the man-made infrastructure. Suitable transport infrastructure can be cited as part of the last factor (Lohmann, Albers, Koch, & Pavlovich, 2009), particularly the characteristics of the nearest airport which, as Robertson (1995) highlights, might be considered the gateway to tourism.

According to figures quoted by Robertson (1995), airport-generated tourism has been important for the regeneration of urban areas, as every 35–40 inbound international tourists arriving at a local airport support one local job. Gillen and Hinsch (2001) also quantify the impact of liberalization and air transport for

* Corresponding author. Avda. Ramón y Cajal, 1, 41018 Seville, Spain. Tel.: +34 954 55 67 27.
E-mail address: jignacio@us.es (J.I. Castillo-Manzano).

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Hamburg airport using numbers of tourists and new jobs created in the tourist industry.

However, despite the fact that the contributions of the airport and air transport to the boom in international tourism are well known (Bieger & Wittmer, 2006; Forsyth, 2006; Page, 2009), debate has once more raged over causality. Bowen (2000) considers that changes in accessibility to a location within the international airline networks might favor or be detrimental to its ability to attract tourists. However, according to Bieger and Wittmer (2006), it is very short-sighted to only consider the one-way influence of air transport on tourism because tourism is a driving factor and, in some cases, a stimulus for change in air transport that has an effect on demand.

In Europe, as on other continents, these general relationships have been affected by the major changes that have been brought about by the liberalization of services and infrastructure. The liberalization process has had an important impact on tourism (Gillen & Hinsch, 2001; Lohmann et al., 2009), especially with the low cost carrier boom (Forsyth, 2006). Many aspects of the development of low cost carriers (LCCs) have been dealt with in the literature, such as their characteristics (Button & Ison, 2008; Castillo-Manzano and Marchena-Gómez, in press; Dobruszkes, 2006; Lumsdon & Page, 2004), their expansion (Francis, Humphreys, Ison, & Aicken, 2006) and their relationships with airports (Barrett, 2004; Francis, Humphreys, & Ison, 2004).

Taking as our basis the fact that the emergence of LCCs has also had major effects on the growth of tourism (Barrett, 2008; Graham & Shaw, 2008), this paper sets out to analyze the vision that the tourism sector itself has of these effects in the hinterlands of the regional airports that have admitted them (see Dobruszkes, 2006 on the different airport categories).

From the point of view of re-energizing regional airports, many were underutilized before LCCs were introduced (according to Francis et al., 2004, approximately 200 airports in Europe were underutilized, with fewer than a million passengers per annum), and, consequently, LCCs have helped to revitalize and modernize airports that in many cases had previously been maintained only for strategic reasons (Tapiador, Mateos, & Martí-Henneberg, 2008). In this regard, a symbiotic relationship developed between LCCs and regional and secondary airports, as many LCCs have chosen these airports for their bases, which has led to significant increases in air traffic there (Barbot, 2006). For Dobruszkes (2006), however, this is not a symbiotic relationship but one of dependence, since the creation or survival of these airports is wholly, or at least in part, linked to LCCs. Notwithstanding, Papatheodorou and Lei (2006) do not consider LCCs to be the only path that these regional airports can follow, as both regular airlines and charter flights can also make significant contributions to airport revenue which could be even greater than those made by the LCCs.

The hinterlands of airports served by LCCs have also benefited from the introduction of airlines of this type (Tapiador et al., 2008) as they have a positive role to play in economic development, especially in less advantaged, peripheral or remote locations (Graham & Shaw, 2008). LCCs are thought to have resulted in new and induced demand from passengers, attracting new users who previously could not have afforded to travel by airplane, as well as an increase in the travel frequency of current passengers (Mocica Brilha, 2008). They have also opened up new tourist markets (Forsyth, 2006; Bieger & Wittmer, 2006) at what were previously relatively unknown destinations (Echevarne, 2008). However, the economic returns obtained from the tourists that visit these hinterlands may not be so great, as, according to Bieger and Wittmer (2006), LCCs might be chosen by lower-quality tourists (measured in terms of their spending power) compared to network carrier users.

For this relationship between tourism, economic development, airport and airlines to work, coordination between all the agents involved is required in the planning of tourism. Lohmann et al. (2009) look specifically at the cases of Singapore and Dubai, which have been turned into major international tourist destinations by interaction between airlines, airports, governments and tourist authorities. In this respect, Bieger and Wittmer (2006) point to the fact that airlines occasionally take part in the planning and development of tourism destinations (advertising initiatives and the planning of airport access facilities) while tourist destinations might have an incentive to invest in improvements to local airports. In some cases, local and regional authorities have even replaced the airport manager to develop an active commercial policy (Bel, 2009).

Coordination between agents also involves public administrations through the granting of aid or subsidies to airports to favor tourism. For Forsyth (2006), from an economic point of view, it is quite appropriate for a region to invest in attracting LCCs to its airports through any type of subsidy, although he does qualify this by saying that favoring additional tourism in one region does mean reducing it in another, so there may be no net gains (except when some regions are congested). These subsidies, whether direct or through agreements with local or regional public bodies, are nonetheless controversial, as, on the one hand, non-subsidized competitors to LCCs complain of unfair competition and demand "healthy competition" (Dobruszkes, 2006) and, on the other, this aid has been the subject of special monitoring by European Union authorities (see Page, 2009; Barbot, 2006 or Echevarne, 2008 on the decision taken by the European Commission concerning the advantages granted to Ryanair by Charleroi Airport and the Walloon Region), which, in some cases, do not consider it to be aid to regional development (Dobruszkes, 2006). Logically aid of this type to boost tourism is usually conditioned by positive results being obtained. Francis et al. (2004) cite a case of tourist authorities withdrawing aid when subsequent studies showed that tourists moved on to other destinations, leaving only marginal benefits for the local economy.

In Spain, rather than direct subsidies made by airports, the most utilized model for attracting LCCs has been subsidization by public organizations (city hall, provincial or regional governments). These subsidies may be direct, per passenger, or indirect, by contracting the airline to run a tourist campaign (as was the case of the Madrid regional government). The whole debate on subsidies has been repeated again and again in the hinterlands of a large number of Spanish airports, especially the regional airports. Acting as lobbies, the different tourism industry associations in airport hinterlands have taken an active part in the debate, supporting or criticizing the demands of the LCCs. What is more, these debates have resulted in the creation of new institutions, such as the new Air Route Committee in the Galicia region. This is made up of airport managers, high-level regional government and city hall representatives, and representatives from business associations. This Committee seeks to examine ways of bringing new, generally LCC, air routes to Galician airports and to assess *a posteriori* the economic impact of the subsidies that the airlines have been granted. Additionally, they manage to give these types of subsidies a regional character and prevent situations occurring that were common in the past, with different cities in a single region entering into a subsidy war in an effort to attract the same route. Currently, other Spanish regions, including Madrid, have also implemented Air Route Committees similar to the one in Galicia or are studying the viability of implementing one, which would without doubt take the competition between cities in different regions to a new level whilst at the same time easing the competition between cities in the same region.

One novelty of these Committees is the greater participation of airport managers in the design of strategies to attract LCCs. This is a tendency that will, foreseeably, increase in the future as the

degree of autonomy in Spanish airport decentralization continues to grow in a process similar to that already seen in the Spanish ports and harbor system (see Castillo-Manzano, López-Valpuesta, & Gonzalez Laxe, 2010, regarding the Spanish Ports and Harbor System port devolution process).

In this context, and given the important role that business associations are taking on in defining policies to attract LCCs, the main aim of this paper is to analyze the vision that tourist firm managers in the hinterlands of regional airports have of the contribution that the LCC phenomenon has made to the tourism sector itself. Both the vision of the tourist sector as a whole and that of each of the various segments of activity that comprise it (hotels, F&B, travel agencies, car rental companies, and leisure establishments aimed at tourists, from museums to tour buses) will be analyzed. Consequently, managers were asked about different issues which will be analyzed individually as will any correlations there might be between them. The most important of these issues are: the role of airports as tools for economic development; the debate on public administrations intervening to favor the introduction of new airlines and the tourist sector's view of the contribution that the introduction of LCCs has made to the various tourism categories (from sun-and-sand to conference tourism). The perception that tourist firm managers have of the aspects that define an airline's quality is also analyzed in relation to the topics considered above.

The paper is organized as follows: Sections 2 and 3 describe the data and the methodology used, respectively. Section 4 presents the empirical outcome, while Sections 5 and 6 provide a discussion of the results as well as the conclusions and implications deduced from them.

2. Data

Unlike most of the papers cited above (Brueckner, 2003; Button et al., 1999; Green, 2007), which follow an external focus, seeking correlation between employment statistics or economic activity and airport traffic or characteristics, this paper opts for a direct survey of tourist company managers. This direct focus is necessary because the objective is not to quantify the exact contribution made by LCCs to the economy, but to analyze the vision that tourism managers have of airlines of this type, that is, what the rest of the links that make up the tourism service production chain along with the LCCs think. And, as has been mentioned previously, the vision that tourism managers have of the LCCs will condition the ever more widespread and varied policies for attracting said airlines that regional and local governments are developing. Therefore, the analysis of the vision that the tourist sector has of these airlines is *per se* a relevant research topic in tourism policy, whatever the degree of real knowledge that each specific manager might have of the LCCs or of where his/her customers come from.

In any case, both the overall vision and the specific vision of each segment of activity will be studied with the aim of correcting any statistical bias that the inaccurate knowledge of some manager category of where his/her customers originate from might bring to the results.

To be specific, the sample is made up of 497 managers from the urban tourism fabric (from the hospitality industry to car rental companies) at five different regional airports (A Coruña, Granada, Jerez, Santiago and Seville). They are all spoke airports located some five to six miles outside the main city (with the exception of Granada airport, which is 10.5 miles away), and all were also LCC bases at the time that the survey took place. Mainly on this basis, these airports have experienced greater annual growth in the numbers of incoming passengers over the past five years than the Spanish airport system average of 6.01 percent (see Table 1). Over and above the specific situation of the airports included in the study, the dependence of Spanish airports on LCCs has grown increasingly, with LCCs overtaking network carriers in June 2009 with a market share of 51.7 percent.

The characteristics of both the survey campaigns and the airports that were selected are set out in Table 1. The planning and conducting of these campaigns was done in close collaboration with the main tourist sector associations in the various towns/cities in the hinterlands of the airports under study and the airport managers. A full explanation of the survey campaign is available from the authors upon request.

The survey comprised seventeen questions (see Table 1). The four main questions were aimed at obtaining tourism managers' evaluations of which type of airline is more useful for economic growth and development in their cities; for developing cultural tourism; for developing conference tourism, and for developing sun-and-sand tourism. The responses to these questions are presented in Appendix A both overall and by category of tourist establishment. Broadly-speaking, what stands out at first sight is the little appeal that traditional airlines have in the environment around these airports except for travel agency managers (see Appendix A) and for conference tourism in general terms, albeit with some slight differences between them.

3. Methodology

After this first descriptive analysis, a second more analytical analysis is included in which micro-econometrics are used to test the statistical significance of the differences between the views that the various categories of company included in the study have of the LCC phenomenon. For this, generalized ordered logit regressions are used in their *partial proportional odds version* (see Williams, 2006 for a full explanation of this kind of model). This model gets round the issue of the parallel lines assumption that restricts ordered logit models. To be specific, in the *partial proportional odds version* of the generalized ordered logit, the coefficients of the explanatory variables may or may not vary depending on the value of the output of the dependent variable.

Both generalized ordered logit and ordered logit models belong to the discrete choice model family and are used to estimate

Table 1
Interview campaign and airport data.

Airport		A Coruña	Granada	Jerez	Santiago de Compostela	Seville
How information was obtained	Interview with closed questionnaire	17 questions				
	Universe	Managers of tourist establishments: Hotels, F&B, Travel Agencies, Car rental and Leisure Activities.				
Sampling	Sample size	74	91	84	93	155
	Sampling method	Random route from city center (City Hall building)				
	No. of waves	2	2	3	2	2
Field work	Period	4/08–6/08	1/08–4/08	5/08–8/08	4/08–6/08	12/07–2/08
	Place	Tourist establishment				
Airport	Passenger traffic in 2008	1 174 970	1 422 013	1 302 770	1 917 434	4 391 794
	Av. traffic growth, 2003–2008	16.40%	22.02%	9.36%	7.26%	14.38%

relationships between an ordinal dependent variable with more than two outputs (other models, such as the logit or the simple probit, would be used with only two outputs). In our case, these will be the results obtained from questions 1–4 in Appendix A.

The managers' answers to these questions have thus been tabulated with three values (−1, 0 or +1), with −1 representing the establishment's preference for network carriers, 0 indicating that the same value is placed on the contribution made by both airline categories, and +1 that the tourist establishment places greater value on the contribution made by LCCs.

Following Williams (2006), the generalized ordered logit can be written as:

$$\Pr(y_i > j) = g(X_j\beta_j) = \frac{e^{(\alpha_j + x_j\beta_j)}}{1 + e^{(\alpha_j + x_j\beta_j)}} \quad (1)$$

where $j = 1, 2$, and so on; $M-1$, where M is the number of categories of the ordinal dependent variable (there being three in our case: −1, 0, +1).

From the above, the probabilities that Y will take on each of the values 1, …, M is equal to:

$$\begin{aligned} &\Pr(y_i = 1) = 1 - g(X_j\beta_1) \\ &\dots \\ &\Pr(y_i = j) = g(X_j\beta_{j-1}) - g(X_j\beta_j) \quad j = 2, \dots, M-1 \\ &\dots \\ &\Pr(y_i = M) = g(X_j\beta_{M-1}) \end{aligned} \quad (2)$$

The set of explanatory variables used (X_j) is made up of the following nine variables (see Table 2).

Moreover, the characteristics of each of the airport environments that might bias managers' assessments have been taken into account. For example, one of the characteristics of the environments that can be highlighted is the heated public debate surrounding the need to favor the introduction of LCCs through subsidies and the high numbers of LCC passengers who do not visit the cities that give their names to the airports. As an example, many passengers travel straight from Jerez airport (Cadiz province) to the Costa del Sol (Malaga province) (see also Bel, 2009, for the case of Girona airport, where the final destination of a significant percentage of foreign travelers who use the airport is the city of Barcelona). In order to avoid this kind of bias, the variance has been clustered by airport of origin in order for it to be robust to heteroskedasticity.

As can be seen in Table 2, hotels are the base category used when interpreting the results of the other establishment categories. This base category was chosen as it is both the broadest category and is homogeneous. It is also logical to suppose that the managers of hotels located in the proximity of regional airports can generally tell more easily whether their customers have traveled with an LCC than those of the second broadest category, restaurants and F&B establishments.

A priori, both simple data observation (see Appendix A) and earlier studies (see Castillo-Manzano & López-Valpuesta, 2010) identify LCCs as great drivers of strategies that prevent the intermediation of travel agencies, meaning that travel agencies might be expected to present negative correlations. That is, it could be anticipated that travel company managers will give lower scores than other managers, especially regarding the contribution made by LCCs to conference tourism, as it is not unheard of for travel agency representatives to openly defend the greater suitability of network carriers for conference tourism in the media.

In other respects, due to the strict economic rationality and consistency of their behavior, certain positive correlations should be expected in aspects such as the number of employees, the variable that measures the demand for public sector intervention and the variable that shows how managers assess whether their own economic activity has been affected by the introduction of LCCs. In the first case, the size of the firm measured by number of employees, this correlation is assumed to be positive, albeit just for the greater business opportunity that a larger number of (generally international) passengers flying to new destinations represents for the biggest companies in the tourist sector. In the second case, the public sector intervention variable, it can be anticipated that underlying the greater demand for public intervention is the positive view that the manager has of the contribution made by the LCCs in one or more of the questions in Section 2 (see Appendix A). Finally, variable b1 "Increase in activity" corrects any subjective bias there might be in managers' views, even though this bias might be considered simple logic, as, if managers have noted increases in their own activities, it can be supposed that they will assume that there have been similar increases for establishments in their market niches (cultural, conference and/or sun-and-sand) and, indirectly, in economic activity in general terms (question 1), of which tourism forms a part.

Little can be known *a priori* about the sign of any possible correlations between the remaining categories of establishments (restaurants; car rental and leisure companies) compared to the base category (hotel manager) and of the variable that shows whether an establishment is part of a chain. Nevertheless, this last factor is of great importance, as managers of establishments that belong to chains can generally be assumed to have a greater all-round vision of

Table 2
Independent variables and their descriptive statistics.

Name	Explanation	No. obs.	Mean	Median	Stand. dev.
a) Characteristics of tourist establishment: Base category, hotel					
a.1. Restaurant	1 if manager of a restaurant or an F&B facility; 0, otherwise.	163	0.328	0	0.470
a.2. Travel Agency	1 if manager of a travel agency; 0, otherwise.	57	0.115	0	0.319
a.3. Car rental	1 if manager of a Car rental company; 0, otherwise.	28	0.056	0	0.231
a.4. Leisure	1 if manager of a company devoted to leisure services; 0, otherwise.	47	0.095	0	0.293
a.5. Chain of establishments	1 if tourist establishment is part of a chain; 0, otherwise.	188	0.378	0	0.485
a.6. Employment	Number of employees at establishment: 1 = <10 employees; 2 = 11–30 employees; 3 = >30 employees.	–	1.632	1	0.735
b) Manager's view of related aspects					
b.1. Increase in activity	1 if manager considers that there has been an increase in the economic activity of his/her establishment with the advent of LCC passengers; 0, otherwise.	285	0.575	1	0.495
b.2. Airport	Manager's score from 0 to 10, of role his/her airport plays as a tool for economic growth and development in its hinterland.	–	7.931	8	2.164
b.3. Public Sector	Degree of public sector intervention sought: 3 = if seeks unrestricted intervention; 2 = if seeks intervention but with no economic aid; 1 = if has no particular preference; 0 = the public sector must not interfere in the air services market.	–	2.169	3	1.092

Table 3
Marginal effects at the mean of managers' views of airlines' influence.

Economic and tourist activity	Type of Airline	Marginal effects (Std. Err.)								
		a) Characteristics of tourist establishment: Base category, hotel						b) Manager's view of related aspects		
		Restaurant	Travel Agency	Car rental	Leisure	Chain	Employment	△ Activity	Airport	Public Sector
Economic development	NCs	△8.394%**	△14.737%**	▽ 0.248%	▽ 7.055%***	▽ 7.841%***	△5.133%***	▽ 2.097%*	▽ 1.262%***	▽ 3.495%***
		(0.036)	(0.071)	(0.036)	(0.014)	(0.030)	(0.018)	(0.012)	(0.001)	(0.002)
	Both	▽ 13.552%**	▽ 1.662%	▽ 0.317%	△5.751%	△11.865%***	▽ 11.561%***	▽ 2.346%	△2.397%***	▽ 4.230%**
		(0.056)	(0.058)	(0.049)	(0.086)	(0.040)	(0.021)	(0.018)	(0.005)	(0.017)
	LCCs	△5.158%**	▽ 13.075%***	△0.565%	△1.304%	▽ 4.024%	△6.428%***	△4.443%	▽ 1.135%**	△7.725%***
		(0.025)	(0.034)	(0.085)	(0.098)	(0.068)	(0.016)	(0.029)	(0.006)	(0.015)
Cultural Tourism	NCs	△5.992%***	△5.534%*	△1.492%	▽ 6.789%***	▽ 4.264%**	▽ 2.147%*	▽ 5.819%***	▽ 1.324%***	▽ 3.541%***
		(0.021)	(0.031)	(0.057)	(0.021)	(0.019)	(0.011)	(0.020)	(0.003)	(0.006)
	Both	▽ 18.561%***	△2.651%***	△1.201%	▽ 17.901%*	▽ 5.032%**	▽ 2.156%*	▽ 4.986%**	△2.408%***	▽ 3.556%***
		(0.058)	(0.010)	(0.035)	(0.093)	(0.023)	(0.011)	(0.022)	(0.004)	(0.008)
	LCCs	△12.569%*	▽ 8.184%**	▽ 2.693%	△24.690%**	△9.296%**	△4.302%**	△10.804%***	▽ 1.085%**	△7.097%***
		(0.066)	(0.036)	(0.092)	(0.112)	(0.040)	(0.022)	(0.040)	(0.005)	(0.012)
Conference tourism	NCs	▽ 7.066%	△37.286%**	▽ 6.203%	▽ 30.908%***	▽ 16.645%**	△16.351%***	▽ 7.447%	▽ 2.441%***	▽ 5.821%***
		(0.075)	(0.148)	(0.072)	(0.070)	(0.065)	(0.060)	(0.068)	(0.007)	(0.008)
	Both	△5.909%	▽ 21.259%	△5.083%	△12.398%**	△13.708%**	▽ 13.879%**	△6.351%	△2.246%***	△4.941%***
		(0.064)	(0.133)	(0.056)	(0.057)	(0.059)	(0.056)	(0.060)	(0.005)	(0.007)
	LCCs	△1.158%	▽ 16.027%***	△1.120%	△18.510%**	△2.937%***	▽ 2.472%***	△1.096%	△0.195%	△0.880%***
		(0.012)	(0.036)	(0.016)	(0.088)	(0.008)	(0.007)	(0.008)	(0.002)	(0.003)
Sun-and-sand tourism	NCs	△1.518%	△0.763%	▽ 4.595%***	▽ 0.890%**	▽ 0.551%	▽ 0.569%	▽ 0.966%***	▽ 0.291%***	▽ 1.330%***
		(0.011)	(0.012)	(0.012)	(0.004)	(0.005)	(0.004)	(0.002)	(0.001)	(0.003)
	Both	▽8.445%***	△6.943%	△11.659%	▽ 11.672%	▽ 6.038%	▽ 6.035%*	▽ 9.747%***	△0.306%	▽ 1.895%
		(0.030)	(0.098)	(0.103)	(0.094)	(0.066)	(0.033)	(0.032)	(0.005)	(0.032)
	LCCs	△6.927%*	▽ 7.706%	▽ 7.064%	△12.562%	△6.589%	△6.604%*	△10.713%***	▽ 0.016%	△3.224%
		(0.038)	(0.110)	(0.098)	(0.098)	(0.071)	(0.038)	(0.034)	(0.005)	(0.034)

Note: In the explanatory variables columns, standard errors robust to heteroskedasticity and clustered by airport of origin are presented in brackets. One, two, or three asterisks indicate coefficient significance at the 10-percent, 5-percent, and 1-percent levels, respectively.

the whole that goes beyond the reality of their own establishments, as they will have access to the experience and information of other establishments in the chain and may even have spent some of their professional careers in them.

As in all other discrete choice models, only the sign of the coefficient has a direct interpretation in generalized ordered logit models. Thus, a positive coefficient in the generalized ordered logit means that, as the regressor increases, outcome j of the dependent variable is more likely to be chosen than alternative k (Cameron & Trivedi, 2009). In cases where M is not a very large number, the marginal effects provide us with a good deal more information about relationships between explanatory variables and the different values of the dependent variable. Following Cameron and Trivedi (2009), in generalized ordered logit models, the marginal effect evaluated at the mean on the probability of choosing the outcome j when regressor x_r changes is given by:

$$\frac{\partial \Pr(y_i = j)}{\partial \bar{x}_{ri}} = \{F'(\alpha_{j-1} - x'_j\beta_j) - (\alpha_j - x'_j\beta_j)\}\beta_{jr} \quad (3)$$

Ordered logit models have also been used to analyze the factors that determine managers' views of airline quality. The managers were specifically requested to score the following factors on a scale from 0 (lowest) to 10 (highest): the price of the airline fare; the flight schedule; the experience and knowledge of the air carrier; the absence of stopovers; the existence of frequent flyer programs (FFP); the existence of a good airline booking website; and the opportunity to make bookings at a travel agency. This set of factors was chosen because, according to the literature, they are the determining factors that impact air passengers' purchasing decisions (Park, 2007; Park, Robertson, & Wu, 2004; Mason & Alamdari, 2007) or that influence their choice between LCCs and network carriers (Mason, 2001; O'Connell & Williams, 2005).

The analytical expression for the ordered logit model is the same as for the generalized ordered logit model, with the only difference being that the betas are now constant, i.e., $\beta_i = \beta_j = \beta$. In other words:

$$\Pr(y_i > j) = g(X_j\beta) = \frac{e^{(\alpha_j + x_j\beta)}}{1 + e^{(\alpha_j + x_j\beta)}} \quad (4)$$

Ordered logit models and not generalized ordered logit models were chosen for the following reasons. Firstly, the somewhat larger M number ($M = 11$, from 0 to 10), compared to $M = 3$ in the earlier regressions (−1, 0 and 1) means that such great liberties cannot be taken. In an extreme case, where all the betas are different, this would involve 72 betas more than in the first group, which would mean a reduction of the sample size by almost 15 percent. Secondly, the linearity of the rating scale (0–10) is already known by the managers rather than the artificial scale from −1 to +1 that was subsequently applied; this is more in keeping with the parallel lines assumption of ordered logit models. Moreover, once more due to the high M value, only the independent variable coefficients are included, as in this case both the marginal effects of an ordered logit estimation and any generalized ordered logit estimation output would provide an excess of information that would not only complicate interpretation but is not required for the goals of this research.

The explanatory variables for this second group of models will be the same as for the first group, i.e., those set out in Table 2.

It is difficult to speculate on the direction of causality or what correlations there might be in this second group of estimations given the lack of academic literature. It is evident, however, that travel agencies should tend to value the opportunity offered by an airline for them to intermediate in the purchase of tickets more than the other categories.

4. Results

Following (1), (2) and (3), Table 3 shows the marginal effects at the mean of the explanatory variables on the view that tourist establishment managers have of questions 1–4 in Appendix A, i.e., which type of airline has the greatest influence on economic development and cultural, conference and sun-and-sand tourism.

Table 4 shows estimations of the ordered logit coefficients aimed at finding possible causality and/or correlations between the seven factors that define, among other things, the quality of the airlines and the perception that the managers of the various tourist establishments have of them. Along with any possible correlations, Table 4 also gives the average value ($\bar{y}_i$) and the standard deviation (σ_{y_i}) of how the managers as a whole rated the factors.

5. Discussion

The data in Appendix A and Section 2 have shown that most of the tourist sector considers the transport services offered by the LCCs to be good substitutes for those offered by the network carriers and, in many cases, even superior. Only a minority of managers consider network carriers to be better than LCCs. Specifically, 88% of tourism managers consider LCCs to be perfect substitutes for traditional

Table 4
Ordered probit coefficients for managers' views of factors that impact airline quality.

Variable	Price (Std. Err.)	Schedule (Std. Err.)	Experience (Std. Err.)	Stopovers (Std. Err.)	FFP (Std. Err.)	Website (Std. Err.)	Travel Agencies (Std. Err.)
a) Characteristics of tourist establishment: Base category, hotel							
a.1. Restaurant	−0.391 (0.092)***	−0.438 (0.252)*	−0.198 (0.234)	−0.318 (0.272)	−0.063 (0.385)	0.022 (0.175)	0.352 (0.223)
a.2. Travel Agency	−0.806 (0.235)***	−0.021 (0.312)	0.053 (0.365)	0.547 (0.168)***	0.136 (0.186)	−1.411 (0.221)***	1.304 (0.481)***
a.3. Car rental	0.024 (0.615)	0.177 (0.436)	0.226 (0.508)	0.777 (0.122)***	0.275 (0.514)	0.310 (0.639)	−0.200 (0.493)
a.4. Leisure	0.587 (0.761)	−0.717 (1.027)	−1.171 (1.605)	0.577 (1.090)	−0.783 (0.727)	−0.694 (0.755)	−1.796 (1.076)*
a.5. Chain	0.660 (0.337)**	0.394 (0.282)	−0.116 (0.683)	0.213 (0.492)	0.041 (0.400)	−0.216 (0.387)	−0.927 (0.427)**
a.6. Employment	−0.267 (0.403)	−0.409 (0.256)	0.171 (0.663)	−0.283 (0.345)	−0.096 (0.339)	0.473 (0.505)	0.726 (0.431)*
b) Manager's view of related aspects							
b.1. Δ Activity	0.441 (0.144)***	0.127 (0.260)	0.063 (0.167)	0.354 (0.196)*	0.224 (0.367)	0.287 (0.283)	−0.294 (0.216)
b.2. Airport	0.073 (0.066)	0.080 (0.039)**	0.001 (0.025)	0.116 (0.031)***	0.023 (0.053)	0.126 (0.040)***	0.048 (0.049)
b.3. Public Sector	0.140 (0.112)	−0.056 (0.105)	−0.108 (0.125)	−0.089 (0.041)**	−0.153 (0.104)	0.137 (0.132)	0.003 (0.069)
$\bar{y}_i$	7.417	7.274	6.810	7.426	5.522	7.347	6.916
σ_{y_i}	2.146	2.154	2.218	2.176	2.124	2.220	2.276
No. of observations	468	468	467	465	468	468	468
Log pseudolikelihood	−910.1221	−941.1055	−971.7255	−930.4556	−979.8136	−907.9357	−956.0739
Pseudo R2	0.027	0.016	0.007	0.013	0.008	0.040	0.022
Wald Chi2 (*p-value*)	96.84 (0.000)	4.63(0.328)	11.31(0.023)	87.05(0.000)	2.02(0.733)	8.10(0.088)	30.07(0.000)

Note: In the explanatory variables columns, standard errors robust to heteroskedasticity and clustered by airport of origin are presented in brackets. One, two, or three asterisks indicate coefficient significance at the 10-percent, 5-percent, and 1-percent levels, respectively.

airlines for contributing to the economic development of their cities and even to have greater potential. The percentages for developing cultural tourism, conference tourism and sun-and-sand tourism were 86 percent, 67 percent and 92.5 percent, respectively. This last percentage is especially significant both because of the great importance that sun-and-sand tourism has in Spain and because half of this 92.5 percent clearly prefers LCCs to traditional airlines.

The only exception to this rule is the extremely negative view offered of the role that LCCs play in promoting conference tourism by the managers of travel agencies, 75.44 percent of whom consider network carriers to be better in this segment. Although it is a minority view, it is nonetheless shared by a significantly high percentage of other establishments, to be specific: 28.71 percent of hotels, 30.06 percent of restaurants and 21.43 percent of car rental companies.

Another relevant question for our analysis was whether tourism managers believed that the local public administrations (city hall and provincial governments) should favor the introduction of LCCs at their respective airports. The data indicate that public administrations receive major backing from the sector for strategies aimed at introducing LCCs except, once more, from travel agencies (see Appendix A). Specifically, only 14.75 percent considered that the emergence of new flight connections and of new airlines should be a natural process with no interference from public administrations. The vast majority of the managers interviewed, 85 percent to be specific, therefore supported intervention by local public administrations in favor of LCCs. Such great support usually indicates that these administrations may also be under great pressure from the powerful hospitality industry lobby to encourage the introduction of this type of airline. It should be noted that there is a drop in this support when the question refers to offering direct economic subsidies to the LCCs, although this still receives a majority backing. To be specific, 54.55 percent of the total sample considered that local public administrations should support LCCs with all the means at their disposal, including subsidies.

Compared to the general opinion, 44 percent of the travel agency managers declare themselves to be staunch defenders of non-intervention in air markets, with only 26.32 percent supporting the use of subsidies to attract LCCs. However, this liberal standpoint is in stark contrast to the frequent demands that travel agencies make to local and regional administrations for campaigns to promote their destinations with the active participation of subsidized travel agencies.

A different approach to this data based on discrete choice models (see Table 3) reveals some interesting correlations, of which the following should be highlighted:

5.1. Scoring of LCCs per type of tourist establishment

5.1.1. Travel agencies

Once the type of establishment has been corrected according to the variables (part of a chain and volume of employment), the statistical significance of the travel agencies' most negative view is confirmed, except for the case of sun-and-sand tourism. Compared to the base category (hotel managers), there is a 14.74 percent greater likelihood of travel agency managers preferring network carriers for economic growth in general; this difference includes values of 5.53 percent for cultural tourism and a high 37.29 percent value for conference tourism.

5.1.2. Car rental companies

The widespread lack of correlation in the case of car rental companies' preferences for LCCs stands out. This occurs despite there being an *a priori* symbiotic relationship between companies of this type and LCCs, as these are services that are normally offered by LCCs on their websites (Dobruszkes, 2006) and represent a major source of income for them.

5.1.3. Restaurants

Compared to hotel managers, restaurant managers give a more extremist view of the various questions that were posed with, generally speaking, a lesser likelihood of considering both types of airlines equally useful except in the case of conference tourism, and they therefore opt for one or other of the categories. The net effect of this behavior is to benefit LCCs in general terms, specifically when it comes to rating their contribution to cultural and sun-and-sand tourism. Network carriers, however, benefit from their contribution to economic development, with an 8.39 percent increase in likelihood, compared to a 5.16 percent increase for LCCs.

5.1.4. Leisure establishments

This is without doubt the category that shows the least preference for network carriers. In fact, they do not even recognize them to be preeminent in conference tourism. Compared to the base category, leisure establishment managers present a huge fall of 31 percent in the likelihood of preferring network carriers for conference tourism. The likelihood of an almost 25 percent increase in preferring LCCs for cultural tourism is also especially significant.

5.2. Scoring of LCCs per tourist establishment characteristics

5.2.1. Being part of a chain

When an establishment is part of a chain, this provides access to all the experience and information of all the other establishments that are part of the same chain, and it increases the positive view on the side of the LCCs, except in the case of economic growth in general. To be specific, preference for network carriers falls by 7.84 percent for economic development, 4.26 percent for cultural tourism, and 16.65 percent for conference tourism. This relationship should favor LCCs, as it might indicate that the more managers of establishments that are not part of a chain increase their knowledge of and information about LCCs, the more positive their perception of them will be.

5.2.2. Size of the establishment

In general terms, the net effect of the size variable, measured by number of employees, favors LCCs except in the case of conference tourism. In the most extreme case, the difference between a manager of an establishment with over 30 employees and another with fewer than ten, that is, an increase in two units in the value of this independent variable, would mean a 12.86 percent increment in the preference for LCCs for economic development. This score is obtained by multiplying the two-unit independent variable increase by the value of the unit increase, 6.43 percent. Using the same method, when the unit increase is multiplied by two for cultural tourism and sun-and-sand tourism, similar increments are obtained, specifically, 8.60 percent for cultural tourism and 13.21 percent for sun-and-sand tourism. Nonetheless, in the same extreme case, there is a 32.70 percent increase in the preference for network carriers for conference tourism.

5.3. Scoring of LCCs according to the establishment manager's view of related aspects

5.3.1. Increased activity

As might be expected, there is significant positive correlation between a manager's own experience with LCC tourists and the view of their greater contribution to economic growth and tourism development, although this is possibly less evident than might have been anticipated *a priori* (in the case of conference tourism, it is not even statistically significant). The fact that managers have experienced increases in their own economic activities through the introduction of LCCs (57.5 percent of managers, to be specific) increases their preferences for these for cultural and sun-and-sand

tourism by almost eleven percent in both cases and reduces the likelihood of their preferring network carriers for economic development by 2.10 percent.

5.3.2. Public sector intervention

There is also a clear positive correlation between a favorable view of LCCs and an explicit demand for greater intervention by local and regional governments. To be specific, and in the most extreme case, the difference between a manager who defends the use of subsidies and one who calls for non-intervention in the market, i.e., a value of 3 versus a value of 0 in the public sector variable, leads to the following increases in likelihood for a preference being shown for LCCs: 23.18 percent for economic development; 21.29 percent for cultural tourism and 2.64 percent for conference tourism. These scores are obtained by multiplying the amount that this independent variable has increased from one extreme to the other, i.e., three units, by this variable's unitary increase for each tourism category (see Table 3). Once again, there is no correlation at all with sun-and-sand tourism.

5.3.3. The role of the airport

There is a major positive correlation between how managers rate the role of the airport and a lesser preference for network carriers. In short, managers clearly consider that LCCs are responsible for the more dynamic traffic that airports have experienced in recent years (see Table 1). What is certain is that before the introduction of LCCs, many of these airports were only given marginal usage, with very few destinations and low frequencies. To be specific, and in the most extreme case, the difference between one manager who gives an airport a score of 10 and another who might give it a score of 0 would represent a fall in preference for network carriers of 12.62 percent for economic development; 13.24 percent for cultural tourism; 24.41 percent for conference tourism and 2.91 percent for sun-and-sand tourism. These scores are obtained by multiplying this independent variable's unitary increase by ten for each of the tourism categories (see Table 3).

Finally, it should be highlighted that a smaller number of correlations can be seen in Table 3 for sun-and-sand tourism, with some of the most usual not being present in the remaining categories (such as being a travel agency or being part of a chain). The Pseudo R2 is also lower. This may be due to a statistical bias in the analysis resulting from the fact that, especially in the case of this category (sun-and-sand), it is not really a two-way choice between network carriers and LCCs but a three-way choice, with charter flights coming into play. Spain is currently one of the top players in the world in the sun-and-sand tourism market (Claver-Cortés, Molina-Azorín, & Pereira-Moliner, 2007) and is greatly influenced by charter flights contracted by the major international and domestic tour operators (such as TUI and IBEROJET, respectively).

Conclusions can be drawn from the results in Table 4 regarding the scores that the managers give to factors that determine airline quality. It is difficult to find correlations and general trends due to their more disparate nature. In some cases, such as FFPs and experience with the airline, not a single statistically significant correlation can be found.

a) With regard to the average score awarded to each factor, the high score that they all obtain is of note, with four achieving a rating of over 7, to be specific: the lack of stopovers (7.426); the price of the airline fare (7.417); a good airline booking website (7.347) and schedules (7.274). Unfortunately for network carriers, it is some of their strong points that are least rated, such as the experience and knowledge of the airline (6.810) and the existence of FFPs (5.522). LCCs do not normally offer FFPs (Barrett, 2004; Dobruszkes, 2006) although LCCs that are tied in with a network carrier usually share programs of this type (see the example of Vueling with Iberia).

It should be highlighted that the most valued criterion, even over the price, is the lack of stopovers, with 7.426. We believe that this score takes in the general perception found amongst managers in the hinterlands of the five airports analyzed that their preferred market niche is the 'getaway', that is, short-stay tourism especially over a weekend. This tourism and its potentiality are especially favored when regional airports have direct links with large tourist originating markets like London, Paris, Rome and Berlin. Otherwise, if passengers first had to pass through Madrid or Barcelona, they would be forced to spend a high percentage of their free time traveling and at airports, which would make a short trip of this type less attractive.

b) These results are stark evidence of where the dispute lies between travel agencies and LCCs that is having such a detrimental effect on the scores given by the former to the latter. Table 4 shows how travel agencies, on the one hand, give a very negative score to the airlines' having a good central booking office on the internet with an unremitting statistical significance of 99% yet, on the other hand, score very positively the fact that the airline allows them to act as intermediaries in ticket purchasing. In other words, travel agency managers see LCCs' online booking systems as a threat to their traditional role as intermediaries with the threat of a reduction in their commissions (Barrett, 2004; Dobruszkes, 2006; Francis et al., 2004). The reality is, however, more complex, as network carriers currently use all the same strategies as LCCs to attract customers directly to their websites. Furthermore, according to Castillo-Manzano and López-Valpuesta (2010), and specifically in the case of Spain, the greatest transfer of customers is being seen from traditional travel agencies, like those interviewed in this study, to online travel portals that act as online travel agencies. It might therefore seem more logical for the traditional travel agencies to lay the blame for the changes that they are undergoing in their business model on the development of the Internet and not on the LCCs.

Despite all this evidence, this outcome is not all that striking if we consider the aggressive policies of certain LCCs against travel agencies. Ryanair is an example; the company periodically advertises in Spain that the commissions charged by travel agencies on the tickets that they sell are abusive and, moreover, threatens to cancel or deny responsibility for any tickets booked through travel agents. Thus, it should come as no surprise that many travel agency associations have taken up positions that oppose destinations previously operated by network carriers being replaced by LCCs, even though the latter have generally increased frequencies.

c) Another striking point is the 95% negative significance of an establishment being part of a chain when rating the possibility of travel agency intermediation. Strictly for economic reasons, it is tourist chains, especially hotels and car rental chains, that are making the greatest efforts to invest in their websites so that they provide the greatest number of functions possible, closing the gap between their companies and their customers and circumventing intermediation. In short, these chains are also increasingly less dependent on travel agency intermediation. And so, in the hospitality industry, too, the trend of massive disintermediation is threatening the livelihood of travel agents (Castillo-Manzano & López-Valpuesta, 2010; Tse, 2003).

d) It is also interesting to find positive correlations with the variable that measures the rating of managers' own experiences (Δ Activity). This variable is clearly linked to factors that are highly rated by LCC users, such as fare prices (Mason, 2001; O'Connell & Williams, 2005) or which are part of their strategies, such as the lack of stopovers and point-to-point flights (Dobruszkes, 2006; Francis et al., 2006). Managers who have seen their economic activities favored by the introduction of LCCs therefore end up thinking in the same way as their new customers, the users.

e) Finally, there are some outcomes regarding the Airport and Public Sector variables that cannot be explained so readily, possibly because they represent no more than a set of statistical correlations without any kind of causality behind them. With respect to the first

of these (Airport) it is striking that the seven coefficients are all positive, with two of them significant at the 1-percent level and a third at the 5-percent level. This might indicate no more than a degree of positive bias by certain managers when giving their scores. To be specific, the managers that give a more generous score to the airport's role (Airport) are just as generous when it comes to scoring airline characteristics.

No apparent explanation can be found for the negative coefficient relating the Public Sector and Stopover variables. Nevertheless, its low score in absolute terms, 0.089, almost fifteen times less than that relating the Travel Agency explanatory variable to the Travel Agency endogenous variable, for example, makes it an outcome that has little relevance for our analysis.

6. Conclusions

In general terms, the emergence of LCCs has contributed to an increase in the tourist and leisure market at many destinations. It has created business opportunities while at the same time stirring up heated debate in the tourist sector in the hinterlands of many regional airports. The conclusions drawn from this debate in each of these environments usually impact the local and regional governments' policies for promoting tourism, including possible subsidies or aid for the introduction of LCCs. For this reason, when they make their decisions, these governments need to be aware of the view held by the sector itself of the ever more costly demands of the LCCs.

There is, however, a lack of work analyzing the effects that the introduction of LCCs at underutilized regional airports is having on economic agents and their behavioral responses. In this respect, and unlike earlier papers that search for correlations between time series, the aim of this paper is to take an in-depth look at the view that is held of the LCC phenomenon and the effects that LCCs have on the various tourism segments of the tourist sector in the towns and cities in the hinterlands of the above-mentioned regional airports.

To be more specific, on the basis of the experiences of almost 500 tourist establishment managers, it can be concluded that the tourist boom that many of these towns and cities have experienced in recent years with the emergence of LCCs has created a current of sympathy and support for airlines of this type in the tourist sector with the exception of travel agencies. This positive view is clearly based on each tourist establishment's personal experience, as is demonstrated by the statistical significance of the Δ Activity variable (see Table 3). Moreover, this support is even more significant if it is taken into account that several of the airports considered had experienced the highly volatile nature of these airlines in terms of routes, witnessing how some of their LCCs ceased operations or decamped to other destinations, although in general terms the bottom line was always positive for the airports with the introduction of new LCCs or new routes apart from those already established. However, none of the other airports seem to have experienced so much 'flying the coop' as Granada airport has since May, 2010, after the split in the coalition between the local administrations, saving banks and hospitality industry associations that was paying subsidies to Ryanair.

The information provided by the managers allows the conclusion to be drawn that most of the criticisms aimed at the LCCs focus on their possible worse performance for developing conference tourism. But even in this case almost 67 percent of the managers consider LCCs to be at least as useful as network carriers for developing this tourism category.

On the basis of the position it has taken up in favor of LCCs, and despite the odd criticism, it should come as no surprise that the tourist sector shows almost generalized support for public administrations intervening to attract LCCs, even through the provision of direct subsidies. The results (see Table 3) show that there is a robust correlation between these two items, the positive view held of LCCs and government intervention. The strong backing given to regional and local government intervention would seem to forecast the greater involvement of these administrations in more complex initiatives like the creation of the aforementioned Galician Air Route Committee.

As explained in Section 3, Methodology, managers who were part of a chain could on average have been considered to have a more rounded view of the LCC phenomenon as well possess greater information about it. Therefore, regarding the statistical and positive significance of the 'chain' variable, it might be foreseen that, far from fading, this current of support might continue to grow over time as the other managers, those who are not part of a chain, increase their knowledge of the phenomenon.

The preference for LCCs over network carriers can also be seen when managers of tourist establishments give their opinions on the factors that define an airline's quality. Once more, they rate the features that define LCCs more highly, while those that are *a priori* the network carriers' strengths, such as the existence of FFPs and experience and knowledge of the airline, come in last.

As stated in the Discussion section, the fact that the most highly-valued criterion is the lack of stopovers is very closely linked to the interest that all the destinations analyzed and, broadly-speaking, the hinterlands of the regional airports that are not sun-and-sand destinations, show in attracting short-stay, especially weekend tourism, benefiting from the fact that, according to Barrett (2008), the LCCs offer a wider choice of destinations that are attractive for short break city tourism as an alternative to the traditional two weeks at the seaside.

This greater number of direct connections offered by the LCCs compared to the non-direct flights offered by Iberia has favored more complex and international strategies to promote tourism executed by local and provincial governments in the large European cities. The rise in the number of direct connections has also built up expectations for developing cruise tourism at ports in the proximity of the airports considered, specifically in A Coruña, Cadiz and Seville. And a lot is currently being staked on this kind of tourism in the hinterlands of the airports under study.

In this regard, it should not come as a surprise either that the second most highly-valued criterion when defining the quality of an airline should be the price. The cost of an international return airfare represents a large part of the total cost of a short duration trip. The big fall in prices that has been brought about by the introduction of many of the LCCs is therefore a positive shock factor for competitiveness at the tourist destinations in the hinterlands of the airports considered, similar to that which would result from the devaluation or a sharp fall in value of the local currency compared to the tourist's currency. This shock is all the more remarkable if it is taken into account that since the Euro came into circulation it has been impossible for there to be any depreciation or devaluation compared to the currencies of many of Spain's main tourist originating markets, such as France, Germany and Italy.

Finally, the results (see Table 4) show that the critical viewpoint taken up by travel agencies is based on the management model developed by LCCs, which aim to bypass the travel agencies' and tour operators' services as intermediaries in the ticket selling process. It comes as no surprise, therefore, that travel agency managers do not consider aspects that are clearly linked to LCC sales strategies, such as fare prices and the existence of a good online booking system, to be factors that are indicative of the quality of an airline.

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Appendix A.

Responses by category of establishment to the main questions in the interview campaign.

1. According to the urban tourism fabric, what type of airline is more useful for the economic growth and development of your city?

URBAN TOURISM FABRIC	Network Carriers	Both types of airlines	LCCs
Hotels	4.0%	78.7%	17.3%
Restaurants	17.2%	60.1%	22.7%
Travel Agencies	36.8%	57.9%	5.3%
Car rental	7.1%	67.9%	25.0%
Leisure establishments	2.1%	66.0%	31.9%
Total	12.1%	68.4%	19.5%

2. According to the urban tourism fabric, what type of airline is more useful for developing cultural tourism?

URBAN TOURISM FABRIC	Network Carriers	Both types of airlines	LCCs
Hotels	6.5%	73.6%	19.9%
Restaurants	19.6%	54.0%	26.4%
Travel Agencies	31.6%	56.1%	12.3%
Car rental	10.7%	60.7%	28.6%
Leisure establishments	4.3%	46.8%	48.9%
Total	13.7%	61.9%	24.4%

3. According to the urban tourism fabric, what type of airline is more useful for developing conference tourism?

URBAN TOURISM FABRIC	Network Carriers	Both types of airlines	LCCs
Hotels	28.7%	57.4%	13.9%
Restaurants	30.1%	50.9%	19.0%
Travel Agencies	75.4%	22.8%	1.8%
Car rental	21.4%	60.7%	17.9%
Leisure establishments	19.2%	46.8%	34.0%
Total	33.2%	50.5%	16.3%

4. According to the urban tourism fabric, what type of airline is more useful for developing sun-and-sand tourism?

URBAN TOURISM FABRIC	Network Carriers	Both types of airlines	LCCs
Hotels	4.0%	51.7%	44.3%
Restaurants	10.4%	44.2%	45.4%
Travel Agencies	19.3%	49.1%	31.6%
Car rental	0.0%	57.1%	42.9%
Leisure establishments	2.1%	36.2%	61.7%
Total	7.4%	47.8%	44.8%

5. Does the urban tourism fabric believe that the local Public Administrations (City Hall and provincial governments) should favor the introduction of Low Cost Airlines at their respective airports?

URBAN TOURISM FABRIC	Yes, with all the means at their disposal	Yes, but not with subsidies	No preference	No, the emergence of new flight connections and of new airlines should be a natural process with no interference from public administrations
Hotels	60.2%	21.4%	8.0%	10.5%
Restaurants	53.7%	24.7%	8.6%	13.0%
Travel Agencies	26.3%	24.6%	5.3%	43.9%
Car rental	64.3%	28.6%	3.6%	3.6%
Leisure establishments	61.7%	23.4%	4.3%	10.6%
Total	54.6%	23.4%	7.3%	14.8%

References

Barbot, C. (2006). Low-cost airlines, secondary airports, and state aid: an economic assessment of the Ryanair–Charleroi Airport agreement. *Journal of Air Transport Management, 12*, 197–203.

Barrett, S. D. (2004). How do the demands for airport services differ between full-service carriers and low-cost carriers? *Journal of Air Transport Management, 10*, 33–39.

Barrett, S. (2008). The emergence of the low cost carrier sector. In A. Graham, A. Papatheodouru, & P. Forsyth (Eds.), *Aviation and tourism* (pp. 103–118). Hampshire: Ashgate Publishing.

Bel, G. (2009). How to compete for a place in the world with a hand tied behind your back: the case of air transport services in Girona. *Tourism Management, 30*, 522–529.

Bel, G., & Fageda, X. (2008). Getting there fast: globalization, intercontinental flights and location of headquarters. *Journal of Economic Geography, 8*, 471–495.

Bel, G., & Fageda, X. (2009). Preventing competition because of 'solidarity': rhetoric and reality of airport investments in Spain. *Applied Economics, 41*, 2853–2865.

Bieger, T., & Wittmer, A. (2006). Air transport and tourism—perspectives and challenges for destinations, airlines and governments. *Journal of Air Transport Management, 12*, 40–46.

Bowen, J. (2000). Airline hubs in Southeast Asia: national economic development and nodal accessibility. *Journal of Transport Geography, 8*, 25–41.

Brueckner, J. K. (2003). Airline traffic and urban economic development. *Urban Studies, 40*, 1455–1469.

Button, K., Lall, S., Stough, R., & Trice, M. (1999). High-technology employment and hub airports. *Journal of Air Transport Management, 5*, 53–59.

Button, K., & Ison, S. (2008). The economics of low-cost airlines: introduction. *Research in Transportation Economics, 24*, 1–4.

Cameron, A. C., & Trivedi, P. K. (2009). *Microeconometrics using Stata*. College Station, TX: Stata Publication.

Castillo-Manzano, J. I., & López-Valpuesta, L. (2010). The decline of the traditional travel agent mode. *Transportation Research E, 46*, 639–649.

Castillo-Manzano, J. I., López-Valpuesta, L., & Gonzalez Laxe, F. (2010). Political coordination costs in the Spanish port devolution process: a note. *Ocean & Coastal Management, 53*, 577–580.

Castillo-Manzano, J. I., & Marchena-Gómez, M. Analysis of determinants of airline choice: profiling the LCC passenger. *Applied Economics Letters*, in press, doi:10.1080/13504850903425108.

Claver-Cortés, E., Molina-Azorín, J. F., & Pereira-Moliner, J. (2007). Competitiveness in mass tourism. *Annals of Tourism Research, 34*, 727–745.

Debbage, K. G. (1999). Air transportation and urban-economic restructuring: competitive advantage in the US Carolinas. *Journal of Air Transport Management, 5*, 211–221.

Debbage, K. G., & Delk, D. (2001). The geography of air passenger volume and local employment patterns by US metropolitan core aera: 1973–1996. *Journal of Air Transport Management, 7*, 159–167.

Dobruszkes, F. (2006). An analysis of European low-cost airlines and their networks. *Journal of Transport Geography, 14*, 249–264.

Echevarne, R. (2008). The impact of attracting low cost carriers to airports. In A. Graham, A. Papatheodouru, & P. Forsyth (Eds.), *Aviation and tourism* (pp. 177–191). Hampshire: Ashgate Publishing.

Forsyth, P. (2006). Martin Kunz Memorial Lecture. Tourism benefits and aviation policy. *Journal of Air Transport Management, 12*, 3–13.

Francis, G., Humphreys, I., & Ison, S. (2004). Airports' perspectives on the growth of low-cost airlines and the remodelling of the airport-airline relationship. *Tourism Management, 25*, 507–514.

Francis, G., Humphreys, I., Ison, S., & Aicken, M. (2006). Where next for low cost airlines? A spatial and temporal comparative study. *Journal of Transport Geography, 14*, 83–94.

Gillen, D., & Hinsch, H. (2001). Measuring the economic impact of liberalization of international aviation on Hamburg airport. *Journal of Air Transport Management, 7*, 25–34.

Graham, B., & Shaw, J. (2008). Low-cost airlines in Europe: reconciling liberalization and sustainability. *Geoforum, 39*, 1439–1451.

Green, R. K. (2007). Airports and economic development. *Real Estate Economics, 35*, 91–112.

Lohmann, G., Albers, S., Koch, B., & Pavlovich, K. (2009). From hub to tourist destination – an explorative study of Singapore and Dubai's aviation –based transformation. *Journal of Air Transport Management, 15*, 205–211.

Lumsdon, L., & Page, S. J. (2004). Progress in transport and tourism research: reformulating the transport-tourism interface and future research agendas. In L. Lumsdon, & S. J. Page (Eds.), *Tourism and transport. Issues and agenda for the new millennium* (pp. 1–27). Elsevier.

Mason, K. J. (2001). Marketing low-cost airline services to business travelers. *Journal of Air Transport Management, 7*, 103–109.

Mason, K. J., & Alamdari, F. (2007). EU network carriers, low cost carriers and consumer behaviour: a Delphi study of future trends. *Journal of Air Transport Management, 13*, 299–310.

Mocica Brilha, N. (2008). Airport requirements for leisure travellers. In A. Graham, A. Papatheodouru, & P. Forsyth (Eds.), *Aviation and tourism* (pp. 167–176). Hampshire: Ashgate Publishing.

O'Connell, J. F., & Williams, G. (2005). Passengers' perceptions of low cost airlines and full service carriers: a case study involving Ryanair, Aer Lingus, Air Asia and Malaysia Airlines. *Journal of Air Transport Management, 11*, 259–272.

Page, S. J. (2009). *Transport and tourism* (3rd ed.). Essex: Pearson Education Limited.

Papatheodorou, A., & Lei, Z. (2006). Leisure travel in Europe and airline business models: a study of regional airports in Great Britain. *Journal of Air Transport Management, 12*, 47–52.

Park, J.-W. (2007). Passenger perceptions of service quality: Korean and Australian case Studies. *Journal of Air Transport Management, 13*, 238–242.

Park, J.-W., Robertson, R., & Wu, C.-L. (2004). The effect of airline service quality on passengers' behavioural intentions: a Korean case study. *Journal of Air Transport Management, 10*, 435–439.

Robertson, J. A. W. (1995). Airports and economic regeneration. *Journal of Air Transport Management, 2*, 81–88.

Tapiador, F. J., Mateos, A., & Martí-Henneberg, J. (2008). The geographical efficiency of Spain's regional airports: a quantitative analysis. *Journal of Air Transport Management, 14*, 205–212.

Tse, A. C. (2003). Disintermediation of travel agents in the hotel industry. *Hospitality Management, 22*, 453–460.

Williams, R. (2006). Generalized ordered logit/ partial proportional odds models for ordinal dependent variables. *The Stata Journal, 6*, 58–82.