

Air transport and tourism destinations: The case of Oporto Airport and Portugal's Northern Region

Os **transportes aéreos** e os destinos turísticos: o caso do Aeroporto do Porto e da região Norte de Portugal

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Abstract | This study aims to analyse the relationship between airports and the evolution of international tourism in a peripheral region. Thanks to the liberalization of European airspace and to the emergence in the market of low-cost carriers (low cost carriers - LCC), certain destinations, such as cities with different tourism offers, have experienced a strong growth in tourism flows. In the present study we developed an analysis of several studies that focus their attention in investigating the interconnection of air transport and tourism, mainly the contribution of air transport for the internationalization of tourism. This article focuses a case study of the only international airport in northern Portugal – Oporto Airport. Over the past few years, this airport experienced a large increase in traffic, which led to the development of international tourism in the airport's area of influence – Greater Oporto and northern Portugal. The growth in Oporto Airport's traffic emerges as an element of attractiveness in the destination system in the northern region of Portugal and as a dynamic factor in regional development.

Keywords | Airport, air transport, international tourism development, regional development, Oporto airport

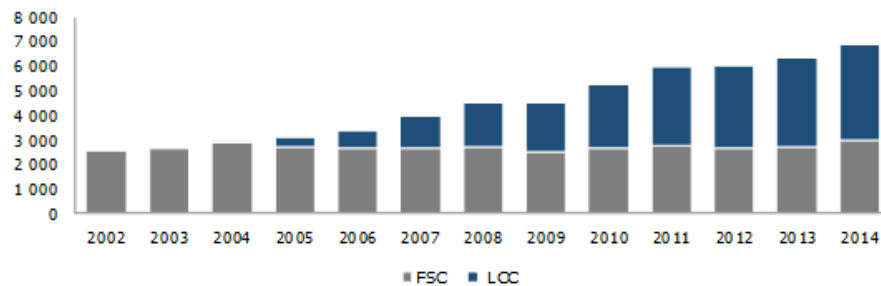
Case study and Hypothesis | Tourism and air transport have a strong reciprocal and symbiotic relationship (Duval, 2013). Air transport is the main mean of transportation worldwide. In 2014, more than half of all tourists traveled to some destination by air (54%), while the rest traveled on surface transport (46%) - whether by road (39%), rail (2%) or water (5%) UNWTO data (2015). Oporto

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airport is the international airport serving the northern region of Portugal. Traffic volume doubled from 2003 to 2014 from 2.7 million to 6.9 million passengers, increasing this airport's share of national traffic (figure 1). In 2013, this airport recorded a total traffic of over six million passengers, of which about 3.6 million passengers travelled on LCC (ANA, 2012). In 2013, the four LCC operating in this airport performed 21,944 movements – which corresponds to 37% of the airport's total movement – and transported approximately 57% of regular passenger traffic. Taking under consideration, the importance



Source: Adapted from traffic reports from ANA (2003 to 2014)

Figure 1 | Traffic evolution at Oporto airport by type of operator from 2000 to 2014 (in thousands)

of the airport to the internationalization of tourism in northern Portugal, the main aim of this study is to understand to what extent the increase in traffic from Oporto airport has contributed to the affirmation of its region of influence, to the increase of international tourists visiting the region and, consequently, if that contributed to the tourist affirmation of this destination. Thus, based on the theoretical guidelines, the following research hypotheses were synthesized:

Hypothesis 1 (H1): The increase in air traffic in Porto airport has increased the number of international tourists who visit the northern region of Portugal;

Hypothesis 2 (H2): Low-cost carriers contributed to the number of international tourists visiting the city of Porto and the northern region of Portugal;

To answer these questions, we resorted to a statistical data survey referring to the airport's air traffic in study, between 2003 and 2013 as well as statistical data, referring to the tourism sector in the region in study.

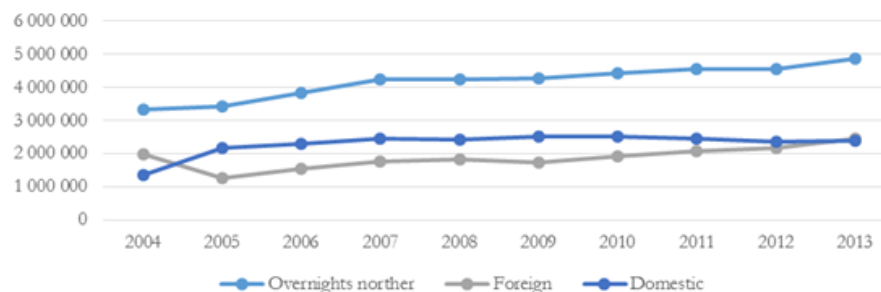
Main results and contributions | Tourism indicators show that the northern region of Portugal concentrates 13.7% of the accommodation capacity and 11.7% of the number of nights of the Portuguese total. Analyzing the evolution of tourism offer in the northern region we found that, between 2009 and 2013, its accommodation capacity grew by approximately 7%, with the growth in the regions of Tamega, Entre Douro and Vouga and Porto (table 1). The typology of tourist accommodation establishment is characterized by tourism in rural areas and guest houses, hotels and local accommodation.

Table 1 | Accommodation capacity in hotel establishments by NUTS III geographic localization

Portugal's northern region by NUTS III	2009	2010	Var.	2011	Var.	2012	Var.	2013	2009 - 2013	%
Minho-Lima	4104	3504	14,6\%	3614	3\%	3975	10\%	3879	-5\%	9\%
Cávado	4958	4773	-3,7\%	5451	14\%	5212	-4\%	5101	3\%	12\%
Ave	2484	2452	-1,3\%	2665	9\%	2757	3\%	2710	9\%	7\%
Great Oporto	1825	1876	2,8\%	1920	2\%	2040	6\%	2056	13\%	49\%
Tâmega	1480	1684	13,8\%	1790	6\%	1874	5\%	1839	24\%	4\%
Entre Douro e Vouga	1174	1146	-2,4\%	1166	2\%	1315	13\%	1334	14\%	3\%
Douro	2304	2280	-1,0\%	2466	8\%	2303	-7\%	2266	-2\%	5\%
Alto Trás-os-Montes	4066	3778	-7,1\%	3802	1\%	3995	5\%	3942	-3\%	9\%
North	3882	3838	-1,1\%	4015	5\%	4183	4\%	4163	7\%	100\%

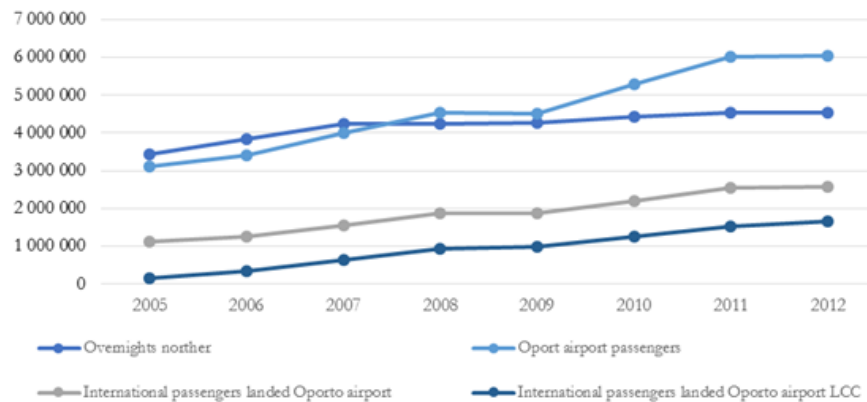
Source: INE (2015)

In 2013 Porto Airport registered some 2.720.981 international passengers (around 49% of the total amount of passengers). This same year was very important in terms of tourism for the northern region of Portugal with as increase of 34% of the total foreign overnight stays in the north and 312% in Great Porto. In Oporto airport is was registered as well an increase of 116% in traffic, and an increase of 144% in passengers disembarking. The great record was related to the passengers disembarking on low-cost carriers (LCC) that increased around 922%. All this development led to the increasing of the tourism offer in this area of Portugal. Foreign tourist overnights grew from 37% in 2005 to 51% in 2013 (figure 2). The same is true for air traffic, since the volume of landed international passengers grew 144% between 2005 and 2013 and their representation, in the total traffic from Porto airport, from 36% to 42%. We can thus conclude that, over the past few years, the Oporto airport and tourism in the North is more international (figure 3).



Source: Adapted from Turismo de Portugal (2015) and INE (2015).

Figure 2 | Overnights Portugal's northern region



Source: Adapted from traffic reports from ANA (2003 to 2014).

Figure 3 | International passengers landed

When we analyze the correlation coefficient between the variables of tourist demand in the northern region and the air traffic from Oporto airport, we conclude that there is a strong correlation between these variables (table 2). More specifically, it is noted a greater correlation between the foreign overnight stays and international passengers landed in low-cost carriers with a correlation of 0.966.

Table 2 | Correlation coefficient between the northern tourism statistics and Oporto airport air

	Oporto Airport passengers	International passengers landed Oporto airport	International passengers landed Oporto airport LCC
Overnights northern	0,939	0,938	0,929
Foreign overnights north	0,955	0,955	0,966
Foreign overnights northern Greater Oporto	0,840	0,822	0,807

Source: Author

Limitations | The limitation of this research are essentially related to the fact that it uses secondary data and does not allow a proper connection between international passengers landed and the regions international tourists.

Conclusions | Using a case study about the northern region of Portugal, this study aimed to examine how airports influence the development of international tourism in a peripheral region. The results show that airports act as operational spheres of influence which, along with tour agents in the area they serve, form the point of regional structure for international tourism. Analyzing the formulated hypotheses, we conclude that the first one (*H1*): *The Increase in air traffic in Oporto airport has increased the number of international tourists who visit the northern region of Portugal*; - Is validated in this study. This since, in the case of Porto airport, international airport in northern Portugal, is considered a regional infrastructure, aimed to tourism of international character and business traffic. Over the past few years its air traffic grew exponentially, doubling the volume of passengers between 2003 and 2014. When we analyzed the correlation coefficient between the variables, international passengers landed at the Oporto airport and international tourist's overnights in northern Portugal, we find strong correlations, very close to 1. Regarding the second hypothesis formulated (*H2*): *Low-cost carriers contributed to the number of international tourists visiting the city of Oporto and the northern region of Portugal*; - we can also

conclude it to be valid. The offer increase of the carriers, particularly LCC, has created great opportunities in the tourism sector of the city of Oporto and the North region as a whole. The passenger traffic landed on low-cost carriers accounted for 64.8% of all passengers disembarked. Similarly, to hypothesis 1, when analyzing the correlation coefficient between the variables, international passengers landed in low-cost carriers and overnight stays by international tourists in northern Portugal, we found strong correlations, very close to 1. In this case, the relationship is stronger when we cross the ratio of foreign overnight stays in the city of Porto and international passengers landed on low-cost carriers; concretely the correlation coefficient is about 0.97.

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