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# The Sky is the Limit? The Determinants and Constraints of European Airports' Commercial Revenues

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## ABSTRACT

*This study investigates the determinants of commercial and retail airport revenues as well as revenues from real estate operations. Cross-sectional OLS, 2SLS and robust regression models of European airports identify a number of significant drivers of airport revenues. Aviation revenues per passenger are mainly determined by the national income per capita in which the airport is located, the percentage of leisure travelers and the size of the airport proxied by total aviation revenues. Main drivers of commercial revenues per passenger include the total number of passengers passing through the airport, the ratio of commercial to total revenues, the national income, the share of domestic and leisure travelers and the total number of flights. These results are in line with previous findings of a negative influence of business travelers on commercial revenues per passenger. We also find that a high amount of retail space per passenger is generally associated with lower commercial revenues per square meter confirming decreasing marginal revenue effects. Real estate revenues per passenger are positively associated with national income per capita at airport location, share of intra-EU passengers and percent delayed flights. Overall, aviation and non-aviation revenues appear to be strongly interlinked, underlining the potential for a comprehensive airport management strategy above and beyond mere cost minimization of the aviation sector.*

*Keywords: Commercial revenues, non-aviation activities, European airports, regression analysis*

JEL CLASSIFICATIONS: R40, D12

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## **INTRODUCTION**

Modern airports have evolved far beyond the functional infrastructure facilities they were in the past: Shops, restaurants, convention centers and even entertainment facilities such as museums and expositions are all part of a strategy to expand the non-transport services airports are offering. In line with these developments, revenues from non-aviation and commercial activities have grown considerably in the past two decades and match or even exceed the aviation revenues of some airports. The reasons for the intensified commercialization and experience staging are manifold; the most frequently named are changing consumer behavior and cost pressure in airline business along with low profit margins in airport management due to the ongoing deregulation process in Europe. As these underlying drivers are likely to persist or strengthen for years to come, non-aviation profit centers are set to become even more pivotal for airport profits.

The share of non-aviation revenues in total revenues varies considerably across airports and regions. In North America and Africa/Middle East, non-aviation revenues have typically a share of more than half of total revenues, while they account for only 46-48% of revenues in Europe and Asia/Pacific and about 30% in the Caribbean and Latin America region. Within Europe, this share ranges from 20% to more than 60% for some airports. The most important income sources for global non-aviation revenues are retail (22%), property (19%) and car parking (18%) (Graham 2009; ACI 2005 - 2008).

To run their non-aviation business efficiently, airports need to determine underlying business parameters, for instance the optimal size and configuration of commercial space in the airport as well as the optimal combination of facilities and non-aviation offers. This study sets out to analyze the determinants of and interactions between these parameters. The findings derived from our analysis can be used to predict and optimize commercial revenues in the non-aviation sector of airport operations.

The remainder of this article is organized as follows. After a review of the extant literature, we describe the data collection process and the analytical approach. An exploratory data analysis in the next section will be followed by a discussion of the results obtained from various regression models. Finally, the ramifications of the empirical findings for airport planning and retail management along with the prospects for future research are explored.

## **STATE OF RESEARCH**

The importance of non-aviation activities in general and the retail segment in particular has been emphasized by practitioners and researchers alike (The Moodie Report 2009, Freathy 2004, Graham











































