



AIR TRANSPORT CONNECTIVITY DEVELOPMENT IN TOURIST REGIONS

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Abstract

Air connectivity is a key driver for growth, especially for the attractive tourist destinations. Even though the benefits of the air transport are essential, limited research is published regarding the linkage of air connectivity and other business sectors (such as tourism), the spillover effects on regional economy and the overall contribution of air connectivity to socioeconomic development. Especially for Mediterranean countries air transport for leisure purposes is the most important enabler to achieving economic growth and development. Air transport facilitates integration into the economy and provides vital connectivity on a national, regional, and international scale between countries, promoting tourism growth, and create employment opportunities in tourist destinations. The assessment concept and methodology are given, providing an essential tool for planners, economists, analysts and researchers. The application results are essential for comparisons with other destinations and provide key messages regarding the relationship of air connectivity and air transport connectivity development in remote tourist destinations especially in Mediterranean region.

1. Tourism and air connectivity relationship

The link between tourism and aviation industry is on the top of the agenda for many academic institutes, professional bodies and regulatory authorities. Airport's serving tourist destination are essential counterpart of the tourist demand supply chain, and their productivity related to the region attractiveness and stimulate the air transport business. Air connectivity facilitates and generates wider economic performance: it promotes higher investment both from within the country and from foreign direct investment; it improves tourism activity. Moreover air transportation and economic development interact with each other as aviation makes significant direct, and indirect contributions to the economy and increases the cycle of economic activity. In particular, air connectivity, as an indicator of a network's concentration and its ability to move passengers from their origin to their destination is a vital component of a country's socioeconomic development, because it creates wider economic benefits of trade in services and goods, tourism, investment, productivity and innovation. By understanding how air connectivity is measured, how it has changed, how it spurs to economic growth, and what drives it, key aviation stakeholders can make strategic decisions on how to enable and unlock the air connectivity potential of a country.

Traditionally, the relationship of tourism and GDP growth is stimulating the research interest providing results on high contribution of air connectivity to business development, such those presented by Vanegas et al. (2003) and Durbarry (2004). In many cases, tourism it is the key generator in terms of income and jobs at least in regional scale, and the economic system development is heavily depended on air connectivity growth and resilience, (Lim et al. 2008), (Zortuk 2009). Becken (2012) provides explanations of the high correlation between tourism and aviation growth, as tourism is influenced by the social-economic conditions and

the level of security at the destination and aviation is influenced by the demand choice characteristics.

Over the last half century, tourism experienced continued expansion and diversification, becoming one of the largest and dynamically developing sectors of external economic activities (WTCC 2014), positively contributing to the social and economic development of the region as a whole and compact system, (Lee et al, 2008). In Europe, the International Tourist Arrivals (ITA) present virtually uninterrupted growth – from 25 million in 1950, to 277 million in 1980, 528 million in 1995, and 940 million in 2010, and this trend seems to continue reaching the level of 1.8 billion ITA in 2030, (UNWTO 2011). Europe (EU28) achieves 54.1% share of the global tourism market and the travel and tourism sector makes an increasingly large contribution to the overall economy by foreign exchange earnings, contributing US\$1,512 billion to the European GDP, which represents 9% of the overall GDP, and creating over 21 million jobs, which represents 10% of the overall employment in 2013, (WTTC, 2014).

The Mediterranean region is one of the most attractive tourism destination in the world, accounting for approximately more than a third of ITA (423.7 million ITA in 2013, UNWTO 2014). For decades, the Mediterranean destinations have provided, along with other attractions, the traditional sun, sand and sea product, essentially for the North European markets. The northern part of Mediterranean tourism market is much more mature, although, recently a widespread development in the south part is occurred. Spain, Portugal, Greece, Cyprus, Croatia, Turkey and Egypt are the leaders in attracting tourists in region of Mediterranean and tourism in these countries is one of the major source of national income. (UNWTO, 2014).

Air connectivity is a key driver for tourism development, accommodating the higher shares in terms of ITA, (Forsyth, 2008). Whilst geography has meant that, in modern times, air travel has always been the dominant mode for long distance travel and international tourism, moves towards deregulation, and in particular the emergence of the low-cost carriers, has also increased aviation significance for short and medium haul tourism trips. Aviation new developments resulting changes in air connectivity and distribution channels affecting most of the tourist markets.

Connectivity is an effective engine for increasing both competitiveness and economic growth. That is particularly true in Europe, which relies on aviation to provide the international transport links that make Europe a global hub of social and economic connectivity, and to compete on the world stage. Following the liberalization of aviation market in Europe (EU28 as defined in 1992) the number of flights within the EU has more than doubled, the flights operated by more than two airlines have quadrupled and low-cost carriers have boomed last decade and they now account for almost half of the intra-European aviation market. ATAG (2014) present that European aviation industry (EU 28) supports 9.3 million jobs and generate income about US\$658 billion (€512) contributing essential in EU GDP, (ATAG 2014).

2. Air Connectivity economic contribution assessment

The conceptual basis for the assessment of the new income and employment created due to an industry is the input–output analysis (IO). In particular, it provides the tools to assess structural changes in the economy, in terms of linkages between economic sectors when an exogenous change such a new project takes place .The assessment about how the economic production structure will be change and in what direction are major concerns, for decision makers (IO is system consisting of (a) a subsystem with several interdependent internal components; and (b) its external environment, (Correa et al., 2001). Internal interdependence implies that the outputs of some components are inputs to others and external components may provide primary inputs to these interdependent components. The most common use of input–output analysis is to

evaluate the impact of exogenous changes in the external components on the interdependent components and on primary inputs (Correa et al., 2001).

The impacts due to air transport industry are divided into four distinct categories: direct, indirect, induced and catalytic. The direct contribution of the aviation sector in the national economy is measured by the direct contribution to employment (jobs created) and the contribution to GDP (income generated), and is quantified as the total number of jobs created in the aviation sector because of the region air transports activities.

The Indirect contribution to employment is quantified as the total number of jobs in the region that support the air transport activity, including the suppliers to air transport, for example, jobs linked to aviation fuel suppliers; facilities management and construction companies; the providers of products sold in airport retail shops, and a wide variety of supporting activities related to the air transport services sector (call centers, IT, accountancy, etc.).

The Induced effect is referred to the income generated from the expenditures (consumption and investments) of the direct and indirect employees. Therefore, induced contribution captures the secondary impacts to the economy as direct/indirect sales, and payroll impacts are circulated to supporting industries through multiplier effects. The induced contribution on regional or national economy is estimated based on Input-Output (I-O) analysis. (Dimitriou et al.2015)

Catalytic effect capture the extent to which air transport contributes to a national/regional economy beyond any effects that are directly or indirectly associated with the air transport industry itself. For air transport, there are many and different sources of catalytic economic impact, covering most of the business activities and trade

3. Case study

Greece and Cyprus have been long-standing high demand holiday destinations, two of the top Mediterranean tourism destinations. As the highest share of the total passengers (more than 60%) arrive by air, the main airports of the 2 countries are hubs of vital importance with a strategic advantage in the surrounding area.

Key features of air connectivity in Greece

With 40.83 million passengers in 2015 Greece recorded an all-time high passenger traffic performance. Both domestic and international passengers scheduled and international non-scheduled achieved record levels and reached 14.53 million 15.17 ad 19.11 million demonstrating strong growth levels respectively. This growth was driven by both the foreign visitors' dynamic growth of as well as the Greek travellers' robust rise.

Over the past eight years, the air transport industry in Greece has experienced the effects of economic recession, a weak Greek economy recovery and rising fuel prices. The industry has shown its resilience by adapting itself to satisfy the needs of a very competitive market. Air connectivity in Greece, is mainly led by North America and Europe destinations that have experienced strong economic growth and resilient socioeconomic conditions over last decade. The top contributors in air connectivity in Greece are depicted in Figure 1.

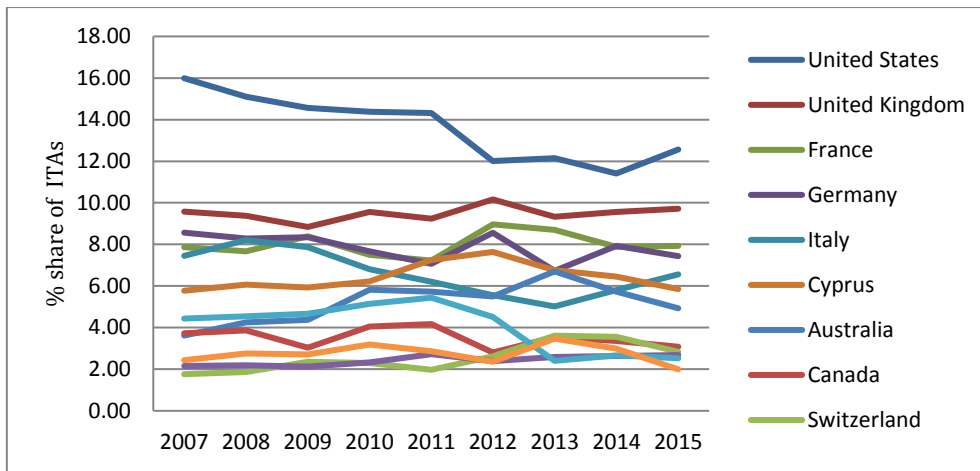


Figure 1: Top markets contributing to Air Connectivity in Greece (source: HCAA and author analysis)

Key features of air connectivity in Cyprus

Cyprus in 2015 accommodated 8.9 million passengers (Larnaca International–handled 6.6 and Paphos International 2.3 million passengers). Air connectivity in Cyprus, is mainly led by UK (over 40% of total ITAs share) and then Russia (over 20%). The top contributors in air connectivity in Cyprus are depicted in Figure 2.

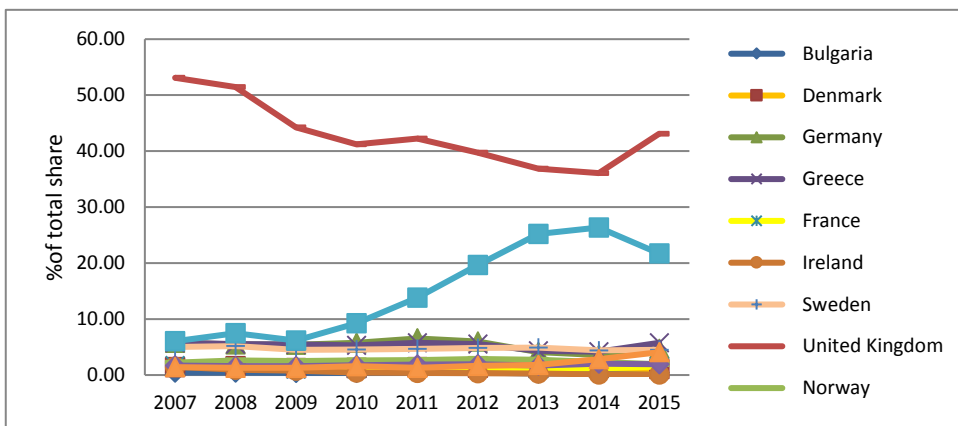


Figure 2: Top markets contributing to Air Connectivity in Cyprus (source: Cyprus Tourism Organization and author analysis)

Analysing the top contributors to air connectivity, it is highlighted that the market is very concentrated as more than 40% of total connectivity belongs to UK, more than 20%, and especially in 2013 almost 30% belongs to Russia.

Economic contribution of air connectivity in Greece and Cyprus

The effects of air connectivity in Greek and Cyprus economy are quantified according to the equations presented in the modelling section. All the data refers to 2015, which is the base year of the analysis. The calculation results presented in figure 3, show that air connectivity impact in Cyprus economic system is more than 6% of total national GDP and in Greece about 5% (ACI,2015) .

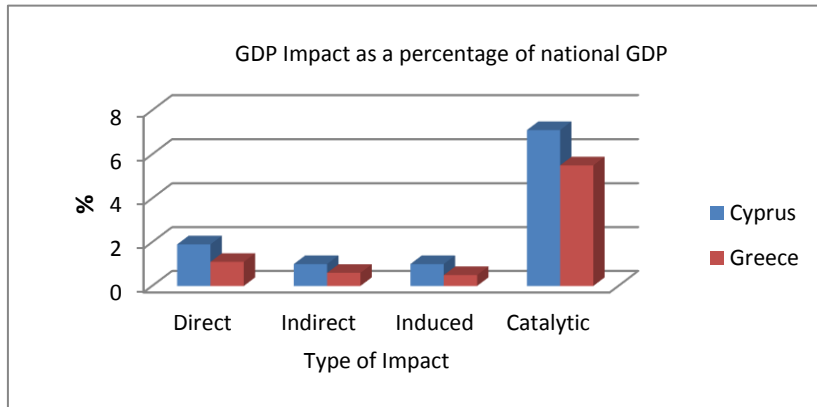


Figure 3: GDP contribution as a percentage of national GDP

4. Conclusions

Tourism and regional socioeconomic development is based on optimization of air connectivity between hub airports serving tourist destinations. Airports serving tourism destinations target to improve air connectivity to provide optimum accessibility to popular destinations.

Greece and Cyprus, two of the top Mediterranean tourism destinations, are destinations of vital importance with a strategic advantage in the surrounding area. In this research paper an overview of the existing air transport and current air connectivity issues and economic impact are analysed.

In portraying the air transport sector in these countries, this research assesses possible concerns in relation to current and potential future air connectivity gaps between Cyprus and Greece, enabling detailed analysis to identify trends and relationships, on passengers by route and airline, number of connecting vs direct passengers in the main hub airports of the two countries. Finally especially regarding Cyprus highlighting the significance of air connectivity to the economic development especially for a country which greatly depends on air connectivity and its contribution to economy there are many challenges for further air connectivity and especially connectivity with Greece.

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