BUSINESS RELATIONS BETWEEN THE LOW COST CARRIERS AND AIRPORTS AS A CONSEQUENCE OF THE AIR TRANSPORT DEREGULATION

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ABSTRACT

The deregulation of air transport has increased competition between air carriers, resulting in lower fares and increased volumes of passengers. Subsequently, the fare reduction has altered the market structure with the establishment of new carriers, strategic alliances and mergers, and the bankruptcy of several traditional airlines which were unable to adapt to the new environment. The emergence of low cost carriers (LCCs) is one important outcome of the deregulation. LCCs entered the market by offering a differentiated product based on bare services offered at significantly lower prices. The main target was travelers with increased sensitivity in pricing and less demand for all-around services. The rise in terms of passengers and flights dictated a better utilization of the fleet, requiring reduced turnaround times at airports. Many central airports had very little flexibility and capacity necessary to facilitate additional timeslots. As an answer to inadequate capacity combined with higher taxes and fees, most LCCs have chosen to use secondary or regional airports. This choice has altered the balance and strategic importance between airports and increased their importance for air carriers. This paper examines the evolution and development of LCCs globally, along with the consequences of their expansion to the traditional carriers, the market and the passengers. Emphasis is given to the relationship between LCCs and airports which has resulted in an additional increase in air travel. The prospects of Greece as a market for LCCs are also being discussed.

Keywords: Low Cost Carriers, Airports, Greek Air Travel

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1. INTRODUCTION

The new global regulations have effectively deregulated the air transport market. The establishment of a competitive environment opened the way for Low Cost Carriers (LCCs) as a cheaper and simpler alternative model for passengers choosing air travel. Passengers as consumers have now more choices between different service levels and corresponding prices. LCCs appeared first in US market and later in Europe and the rest of the world. Today most countries and regions are served by LCCs together with traditional carriers, altering the industry structure in a global scale. In order to achieve low cost, LCCs have formed strategies that either reduce any cost that can be trimmed down or completely remove parts of their services.

For LCCs, airports were initially a substantial obstacle; costs were too high to suit their business model and operation from many airports was very limiting, especially in saturated markets. Airports located in capitals and other major cities could not offer capacity at reasonable pricing, usage period and hours. On the other hand, secondary and regional airports had both the unused capacity and the willingness to negotiate and offer competitive low fees. Any cost reduction achieved through better contracts with the airports allows LCCs to offer lower ticket fares. Lower fares combined with the use of additional airports and the enlargement of catchment areas has resulted in increasing of the passenger volume. Of course traditional carriers have also taken measures to remain competitive in the evolving market conditions. This paper examines the emergence and expansion of LCCs, their effect on traditional carriers' strategies, on consumer habits, on airport strategies, and finally their entrance and presence in the Greek market.

2. AIR TRANSPORT DEREGULATION

Since 1944 air transport is regulated by the Chicago Convention. The deregulation started at national level, first from the USA, followed from Canada, Australia, Japan, Taiwan, South Korea, and UK. Gradually most countries allowed the operation of new airlines along with their flag carriers. Deregulation was introduced in order to create "more competitive aviation services" (Iatrou and Oretti 2007). The main idea was to establish a global aviation market without entry restrictions. This would allow free and open competition, leading to more efficient airlines and improved consumer choices (Iatrou and Oretti 2007).

The aviation market has changed radically in the last two decades. The renegotiation of previous bilateral agreements has placed the previously protected national carriers into a competitive and turbulent deregulated market. At the same time new strong competitors are appearing, pressuring airports for even more operational freedom (Delfmann 2005). As the deregulation allows for more choices and options, it also increases the uncertainty and reduces the predictability of the environment. In the aviation industry, the airlines were the first ones to adapt new strategies better suited to a competitive environment, while airports took much slower steps to meet the new conditions (Delfmann 2005).

3. THE EMERGENCE AND THE CONCEPT OF LOW COST CARRIERS

During the 1990s LCCs entered and occupied a firm position in many markets. Previously dominant oligopolies were replaced by open competition (Lawton 2004). Deregulation encouraged many LCCs to set up extensive networks with scheduled flights (Lei και Papatheodorou 2010). The expansion of the LCCs is often considered as one of the most important recent advances in the European aviation (Pels et al 2009). The presence of the LCCs forced traditional flag carriers to lower their prices and restructure their business (Lei και Papatheodorou 2010). These actions led to more attractive prices in the whole industry which in turn increased passenger volumes (Barrett 2004).

The cost strategy adopted by LCCs is based in a simpler service model. Any service that can be avoided or reduced is not included in the base price of the ticket. Typical examples are flight with only one seating class (economy), dense seating pitch, limited additional services during flights, and abandonment of the transfer concept (Pels et al 2009). The choice of favorite seat, the free newspapers, the baggage handling between carriers, the frequent flyer rewards, and the dedicated airport lounges are all sacrificed in order to keep cost as low as possible. Wherever some additional services are still offered they are charged as extras. The distribution and sales cost is also kept at a minimum by the use of internet sales, proprietary boarding control, and limited marketing budget. Fleet is typically based on a single aircraft type allowing for more efficient maintenance and lower operational costs. The intensive negotiations between LCCs and airports for fees and itineraries are in contrast with the previously nonexistent competition between airlines and airports (Barrett 2004).

In the 1970s, Southwest became the first LCC in North America and the LCC concept was developed as an attractive strategy for short haul connections. In the US market where the competition is increasingly open, LCCs meet favorable conditions to expand. As long as they keep their operational model simple, they have certain efficiency and cost advantages over their competitors. While traditional carriers spend money and resources to organize multi-segment flights, flight seating flexibility, and baggage handling, all LCCs have to do is to board their customers into a single flight where everyone travels in the same class and has the same destination.

4. GLOBAL EXPANSION OF LOW COST CARRIERS

In Dublin Ryanair serves 25% of passengers by using only 11% of check-in desks and the aim is to completely abolish the remaining desks and replace them with self-service procedures. Each desk can serve annually 130,000 passengers in comparison to only 48.000 served by the desks of traditional carriers. At Stansted airport, where all airlines operate under the same principles, Ryanair serves over 110,000 passengers at each desk while the competition only reaches 70 (Barrett 2004). Another indication of Ryanair's effectiveness is the number of passengers served by each employee. At Ryanair each front office worker can check-in 8,000 passengers while the same worker at a national carrier can only reach 873 passengers on average (Barrett 2004).

Increased levels of competition have led to very low airfares especially for destinations that are simultaneously served by LCCs and traditional carriers. This observation is also true for adjacent airports (Lian and Rønnevik 2010). Many flag carriers were not prepared to compete in a deregulated market and soon they were facing serious problems. Sabena and Swissair declared bankruptcy in 2001, followed by other national carriers, with most recent example that of Malev in 2012. Other traditional airlines adjusted their strategies and concentrated in cost reductions as an answer to the LCCs (Barrett 2004). Charter airlines were also affected and in many cases they are facing direct competition by LCCs. In many popular vacation destinations, LCCs offer frequent and flexible itineraries allowing shorter vacations with smaller budget. In areas such as coastal Spain, LCCs are the preferred method of air travel, further limiting the market share of both flag carriers and charter airlines (Martinez-Garcia and Royo-Vela 2010). Affordable prices and frequent connections have contributed to the popularity of weekend travel in Europe and have influenced

positively real estate and timesharing activities. According to a survey in UK over 800.000 residents had a second home abroad, an increase of 45% compared to the figures only three years earlier (Lei and Papatheodorou 2010). It is widely accepted that LCCs do not follow the typical hub and spoke network scheme used by other carriers. Instead they favor point to point connections based on secondary or regional airports. Table 1 shows the strategies used by LCCs to lower their costs.

Table 1: Cost reduction strategies adapted by LCCs

Areas	Goal and result of strategy
Sales	Limited or no use of intermediaries
	Direct sales through internet
Passengers	Reduction of additional services at airports and during flights
	Single cabin layout
Aircraft manufacturers	Negotiation for big discounts
Personnel and aircraft	Intensive utilization of aircraft and crews
	Use of single aircraft type and interchangeable crews with common type ratings
	Procedures for restructuring
Airports	Negotiation for low fees and pressure for indirect subsidiaries
	Use of secondary airports with excess capacity
	Creation of competition between airports

For many decades European flag carriers enjoyed several privileges, including the de facto control of major airports. Since they had been operating on marginal profitability, it has often been argued that high salaries, benefits, and pensions combined with governmental protection resulted in very low productivity. At the same time, possibilities for entrance of competitors and introduction of cost strategies were practically nonexistent (Barrett 2004). According to data from ACI (2010) the LCCs' market share increased from approximately 10% to over 30% in 2006. In regions such as Asia and Australia the trend remains significant. During 2001 and 2009 LCCs had a steady increase of 38% on average annually, compared to the total increase in the region that did not exceed 6%. During the same period, the number of cities connected by LCCs increased from 48 to 576. LCC expansion is

not uniform in every continent. Combined with recent economic crisis, several regions have witnessed a sudden halt in growth. According to the European Low Fare Airline Association (EFLAA 2010a), during 2009 the members of the organization carried almost 9% more passengers compared to 2008. The activities of LCCs showed a slight decline during 2009 in most major markets, including Germany, Italy, Spain, and UK. Domestic flights seem to be more resistant to the effects of economic turbulence. For example, in UK, during the first years after 9/11 LCC capacity grew enormously. In 2007 it reached a peak and after a couple of years of decline, in 2009 it had dropped back to the levels of 2006 (Centre for Asia Pacific Aviation 2010).

In any case, LCCs seem to have acquired a reasonable share that is steadily around 30% of the total intra-European capacity (EFLAA 2010b). LCCs managed to seize most of the capacity growth in Europe between 2000 and 2009. Focus has now moved to the promising markets of Eastern Europe. According to Boeing Corporation, the global expansion of LCCs is one of the main reasons for the predicted growth of aviation (Boeing 2010). Growth rates are expected to be much higher for LCCs compared to traditional carriers and charter companies, based on recent analysis released by Boeing and other stakeholders. The following table (2) shows the airline market status before and after the deregulation.

Table 2: Airlines Before and After the Deregulation

Before Deregulation	After Deregulation
Government support and privileges for flag carriers	Removal of state intervention
Obstacles for entry of new airlines	Increase of competition
Price regulation and limited competition	Bankruptcy of traditional carriers
High costs for human resources	Appearance of LCCs
	Significant reduction in average airfares, up to 80% in Europe
	Increase in passengers
	Further adoption of point-to-point model
	Traditional carriers either turned into LCCs or restructured their business model closer to that of LCCs

In Canada, during the last decade, competition from LCCs has led into a series of mergers and a complete re-structuring of the market (Lawton 2004). In Asia, in competitive markets such as Southeast Asia and Japan, new carriers have appeared for the first time after many years. The same is true for many European countries as well. In Spain, world's second most popular tourist destination, more than one third of tourists are carried by LCCs. In some regions such as Catalunia, LCCs have larger market share than traditional airlines. Girona in Spain is a typical example of low cost airport that expanded rapidly and assisted significantly the growth of tourism in the region (Martinez-Garcia and Royo-Vela 2010). According to Fageda and Fernandez-Villadangos (2009), the competition has not affected most of the passengers travelling to and from the major airports, where traditional carriers are based. The benefits are more clearly visible at the airports used mainly by LCCs. Based on data from the Spanish market, Fageda and Fernandez-Villadangos argue that the presence of LCCs results in lower airfares for any carrier that serves the same destinations as the LCCs. Flag carriers such as Alitalia in Italy have concentrated their operations around major cities like Rome and Milan, allowing LCCs to create new direct connections between secondary airports. A new generation of previously unimportant and nowadays rapidly growing airports has emerged: Bologna, Venetia, Pisa, Torino, and Genoa (Barrett 2004).

5. RESPONSE OF TRADITIONAL CARRIERS TO LOW COST RIVALS

Traditional airlines tried to maintain their market position by various strategies. One of them was the establishment of their own LCCs while another one was the spontaneous cost reduction. Many carriers in North America and Europe tried to create their own LCC brands as a direct answer to the aggressive LCCs. While holders of AOC, these LCCs were actually business units or "airlines within airline" of their parent company. To counter the rise of LCCs, Continental airlines established Continental Lite in 1993. First class was removed from the aircraft, no meal was served and flights were typically less than two and a half hours. Even though Continental Lite operated with no less than 100 airplanes, the attempt proved to be both short-lived and extremely costly. Delta Air Lines made two similar attempts. Delta Express was created in 1996 to compete with Southwest, Air Tran and JetBlue. It was replaced by Song in 2003; Song was also 3 years later absorbed back to Delta. US Airways created Metrojet in 1998 to compete with Southwest and Delta Express. Metrojet ceased to exist shortly after 9/11 (Vasigh et al 2008).

Following the examples from the other side of the Atlantic, British Airways and KLM bouth introduced their own LCCs. In 1997 British Airways created Go Fly operating from London Stansted. The company advertised its ties to British Airways and was profitable in 2000. However the new management of British Airways blamed Go as one of the reasons for the main company's declining passenger volumes and decided it did not suit their revised business model. Go was bought and subsequently merged by EasyJet. In 2000 KLM created Buzz in order to compete with LCCs such as EasyJet, Ryanair and Go in the British market. Not following one of the main operational rules of LCCs, Buzz maintained two separate small fleets of BAe 146s and Boeing 737-300s. Without economies of scale, the operational costs were quite high and Buzz was soon to follow the fate of Go. Ryanair bought Buzz, kept it under the brand for a year and finally absorbed the short-lived rival (Vasigh et al 2008).

The above examples show that in both sides of the Atlantic the experiments of the traditional carriers with their own LCCs were disappointingly unsuccessful. Part of the result can be explained by the fact that operation of these LCCs was newer low enough, especially in terms of labor cost. Since this strategy did not bring the expected results, the next approach was to limit their service contents. However, providing a stripped product would bring their services closer to the ones offered by LCCs. Since LCCs had a much lower structural and operational cost, this would have been a very risky strategy. As most reactions towards LCCs proved to be partly or completely futile, many traditional carriers tried to compete them by actually avoiding competition; concentrating on long haul flights and international routes where LCCs were in disadvantage due to legal restrictions. (Vasigh et al 2008).

6. EUROPEAN AIRPORTS

6.1 Current trends and overview

In 2010 more than 1,600 airports in all continents were members of the Airports Council International (ACI). Over 98% of global air passengers travel through ACI members. The 4.9 billion passengers travelling in 77 million flights are expected to double in next 15 years. According to data available, the global financial crisis starting from 2009 and the increasing oil prices have limited the recent growth rate. Half of the airports witnessed increase in terms of passengers served. Several major airports showed a decline, while smaller ones

strengthened their position. At the same time, the increase in passenger volume is higher than the increase in aircraft movements (6.6% and 2.4% respectively in 2007), which indicates both a preference for larger capacity aircrafts and better utilization of fleets (ACI 2010).

In ACI's statistics for 2010, five European airports are among the 15 largest ones. The sizes of the airports seem to be directly related to long distance flights. Recent research (Gillen 2007), argues that European airports as a whole have three distinct characteristics. First, there are a large number of airports with scheduled flights, disproportionate to the size or population of the countries. Countries like Greece, Norway, or Sweden have 38, 51 and 44 airports respectively, while France and Germany have 68 and 48. Second, the density of the airports results in low utilization. In Ireland, two thirds of the airports serve less than 100,000 passengers annually and this is also true for most French airports. Third, the major central airports depend on an effective and extensive rail network that expands their catchment area and allows for combined air and high speed ground travel. The ownership of the airports varies; Spain, Portugal, Sweden or Greece have publicly funded and operated airports, while UK has privatized them. In Germany and France airports are in the responsibility of the local governments.

6.2 Financial aspects of the airport operations

During the new millennium, European airports are facing two main challenges: pressure for cost reduction in terms of ground handling and fees, and adoption of new strategies to reduce delays. Additional problems are related to pollution, land use and other environmental factors. Although most airports are still under state control and are often used as instruments for national and regional development, the new trend adopted by most stakeholders dictates the sustainable operation of all airports. Even during periods when all airlines recorded high loses (e.g. after 9/11) all major European airports managed to remain profitable. Airports have two sources of income: aeronautical from flights and commercial from other activities. Commercial revenues have grown significantly during last decades and today contribute by over 50% in total income. While at the same time labor cost has decreased, investment depreciation has increased steadily, reaching nowadays over one quarter of total cost.

6.3 Airports and destinations

Between 1994 and 2003 passenger traffic increased globally by 5% annually. During the same period many European airports had very high growth rates. Typical examples are London Stansted (46%), Antalya (26%), Prague (18%), Vilnius (13%), Warsaw (12%), Barcelona (11%), Madrid (11%), Paphos (9%), and Budapest (8%). An average annual growth of 10% means that these airports effectively doubled their customers within the decade. Besides the increase in passenger volumes, the airports also expanded their connections: Stansted served 28% more destinations, Bratislava 20%, Palma de Majorca 7%, Munich 6%, Ljubljana 6%, Prague 5%, and Budapest 3% (ACI 2010). From a statistical point of view, there seem to be a positive correlation between increase in number of destinations and number of passengers. In most cases, new destinations were the result of new routes established by LCCs.

6.4 Dynamics of Point-to-Point networks

Traditional carriers expanded their networks based on hub and spoke models. However, as Chang and lee point out, the establishment of those networks was mostly based in experience and intuition with reasonable cost being the main target (Chang και Lee 2010). In the past, point-to-point networks were the choice for regional airlines serving small and medium distance connections. LCCs adopted the same model as one of their main strategic tools. Point-to-point flights have typically higher operational costs in comparison with services based on a hub model. On the other hand, they have the advantages of higher reliability and more convenient schedules. Since LCCs do not need to worry about connecting flights, they have greater flexibility in the selection of suitable airports, including secondary and regional airports with additional advantages. According to a research conducted in 2005, for the management of LCCs there are three main factors considered for the selection of an airport. First, the air travel demand must be high enough, second, the facilities must allow for a short turnaround time, and third, there must be availability in slots (Chang & Lee, 2010). In general, LCCs are not willing to share an airport with many competitors, although they prefer airports with good land connections. Table 3 shows the status of airports before and after the deregulation.

Table 3: Airports Before and After Deregulation

Airports Before Deregulation	Airports After Deregulation
Lack of price competition. Higher prices for airfares.	Airport restructuring into a more dynamic environment
Very limited incentives for productivity and efficiency	Airports are transformed from public facilities to modern business units
Seasonal use by charter flights	Airports help the expansion of LCCs
Limited vertical integration between airports and airlines	Competition between airports intensifies
Limited commercial revenues	Commercial revenues increase, especially at the airports used by LCCs
At regional airports the low revenues are not enough to cover operational expenses.	Airports start to see passengers as their own customers as well
Regional airports act as feeders to major airports.	Regional airports support their own networks. Their location is turned into an asset.

7. INTERACTION BETWEEN LCCs AND AIRPORTS

According to studies, airports had very high initial capital cost and low marginal cost for each additional flight and passenger. Based on calculated economies of scale, the marginal cost decreased sharply for the first one million annual passengers, continues to decrease until three million passengers and remains relatively stable after that. The 25 largest airports – which represent 2% of the 1192 airports with international flights – serve more than 32% of total air traffic. The global uneven distribution of passengers is one of the biggest challenges for any airport. Since an airport needs a critical mass of passengers before it can become economically viable, the target is to cover initial costs and sustain expected damages over a period of growth leading to a next stage of profitable operation (Francis et al 2003). Traditionally, airlines were the customers of airports. However, as the commercial revenues have started to form a significant source of income, airports are gradually treating passengers as if they were their own customers. At the same time, airlines consider passengers as their exclusive customers, brought to the airports by them. These views create a complicated and specialized relationship between three elements (Gillen and Morrison 2003). For the regional and the smaller airports, limited number of flights is translated into equally limited aeronautical and commercial revenues. The possibility to

attract LCCs is becoming an important solution and while there is extensive research around LCCs, there is not enough knowledge for their exact effects on airports (Francis et al 2003).

After deregulation, airports have started transforming themselves from state controlled and financed facilities into competitive business units. Flag carriers that enjoyed a dominant position in major airports and monopolies in regional ones are now forced to share their former back yard with other carriers, including LCCs (Fageda and Fernandez-Villadangos 2009). This interaction is often accompanied by tension and disagreement (Barrett 2004). Although LCCs are attractive for airports, they do not have the stability associated with flag carriers. Airports have to develop scenarios and assess the possibilities of LCcs withdrawing from destinations or from the market altogether (Gillen and Morrison 2003).

Whatever they may chose airports have no other option than to adjust into the new highly competitive environment of deregulation and LCCs (Barrett 2004). The value and importance of an airport for a LCC is based on its location and catchment area. When two or more airports share the same area, they directly compete with each other. During 2002 Southwest was invited by more than 140 airports and only very few "lucky ones" were included in the company's network (Fageda and Fernandez-Villadangos, 2009). In Europe, LCCs such as Ryanair are in continuous negotiations with airports. Large airports in the vicinity of metropolitan areas often sign up attractive contracts with favorable terms and acceptable collectable fees. On the other hand, abandonment of Rimini in favor of Ancona in Italy by Ryanair demonstrates the power LCCs exercise over smaller airports. (Fageda and Fernandez-Villadangos, 2009). Table 4 shows what LCCs demand and what they offer to an airport in order to establish cooperation.

Table 4: What LCCs Ask and what they Offer to Airports

What LCCs ask from airports	What LCCs offer to airports
Excess capacity	Increased traffic
Fast and effective ground services	Increased market share
Short turn-around time of 25 minutes	Increase in aeronautical revenues
Good local transportation	Increase in commercial revenues
Low airport fees	Enlargement of catchment area
Suitable slots	Above average increase in vehicle rentals
Possibilities to increase the catchment area	Reduction in the capital costs

The presence of an LCC leads to a significant increase in terms of passengers. Even if the airport agrees to lower fees in order to attract an LCC, the passenger volume increase could alone result in an overall positive situation, due to the associated commercial revenues. Furthermore, it can be argued that the bare services model used by LCCs creates opportunities for airports to increase their ground sales and services. Since commercial revenues at smaller airports are usually less than 35% of total revenues, this appears to be a realistic expectation (Graham 2001). From a certain point of view, this could be explained as a strategic choice between aeronautical and commercial revenues, where airports choose a different mix and balance between their main sources of income. According to Barrett (2004) such trends are visible during last two decades.

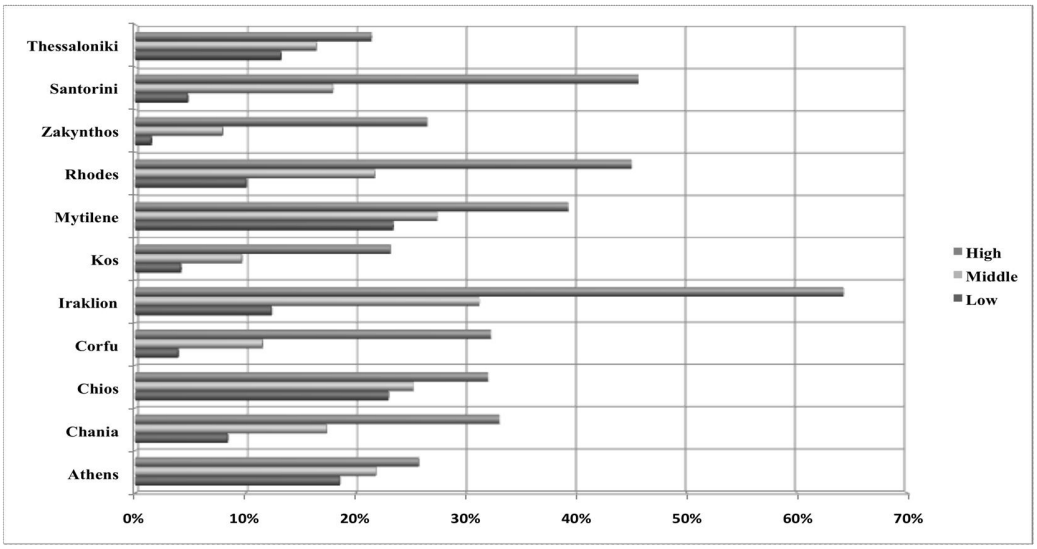
Traditionally, secondary airports have a limited role either as passenger feeders to central airports, or as points serving seasonal charter flights (Fageda and Fernandez-Villadangos 2009). LCCs offer the possibility of a more autonomous development with increased passenger volume and larger catchment area (Lei και Papatheodorou 2010). Airport managing companies favor the use of secondary airports as supplemental to their main hubs. This can be observed in cases such as Stansted for Heathrow and Hahn for Frankfurt (Barrett 2004).

From the passengers' point of view, the selection of remote airports by LCCs in conjunction with the other existing airport and airline management strategies has both positive and negative outcomes. First, it has made lower airfares a reality. Second, it has moved passengers from congested central hubs to smaller and friendlier facilities. And third, in many cases it has increased the land travel distances and time (Barrett 2004). Passengers, including both leisure and business travelers have in general accepted the inconvenient locations even though many secondary airports are very far away from the metropolitan areas they are supposed to serve (Lawton 2004). Additionally, the expansion of the catchment area can lead to overlapping between airports, causing intense competition not only between main and secondary airports but between regional airports as well. Although the situation may not be desirable for the airports, it does offer more choices to the passengers (Francis et al 2003).

8. CAPACITY AND SEASONALITY OF GREEK AIRPORTS

The analysis of 11 Greek airports shows that there is high seasonality in most of them. An interesting observation is the very low utilization of the available apron capacity.

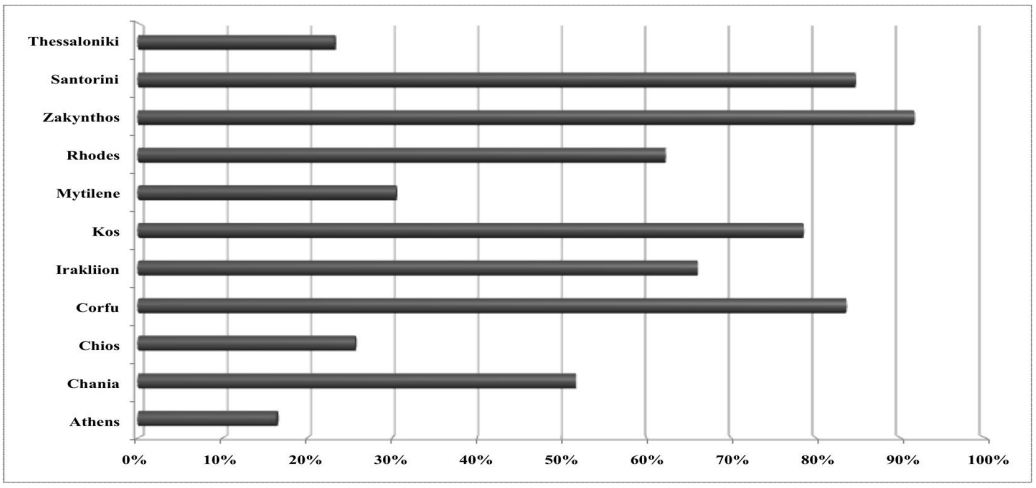
Figure 1: Apron Utilization by Airport



Source: Katarelos, E. and Lagoudis, I. (2011)

The seasonality can also be observed in figure 2, especially in the island airports of Zakynthos, Santorini, Corfu, and Kos.

Figure 2: Seasonality of Greek Airports



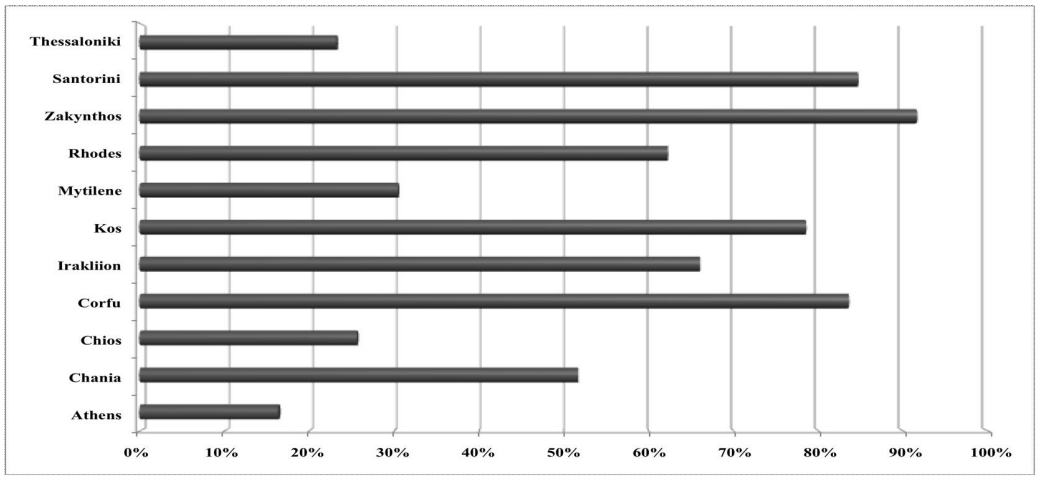
Source: Katarelos, E. and Lagoudis, I. (2011)

During high season all Greek airports, with the exception of Heraklion, utilize less than 50% of their apron capacity; actually most of their capacity remains completely unused form extended periods of time. Figure 3 shows the predictions of Greek airport utilization up to year 2030, based in three scenarios and historical data of 18 past years. It can be argued that current capacity is enough to sustain a steady increase for the next twenty years. Capacity issues would become a problem only in the most optimistic scenario of 7.5% annual increase and even then, it would need at least a decade before full capacity is reached in most airports (Katarelos and Lagoudis 2011).

9. RECENT TRENDS IN GREECE

Although the use of secondary airports is one of the main strategies for LCCs, they have not adopted that particular rule in the case of Greece. Almost all non seasonal flights connect the main hub of Athens and a few others the secondary hub of Northern Greece, Thessaloniki. All other LCC flights to Greece are seasonal. These include some promising links to regional airports that could potentially serve large catchment areas, such as the airport of Volos, located in the mid-distance between Athens and Thessaloniki. The lack of suitable airports in combination with a non-existent national regional development strategy, are possibly two of the main reasons for this unusual choice of LCCs, a "paradox" as described by Papatheodorou and Arvanitis (2009).

Figure 3: Greek Airports and Future Capacity Scenarios



Source: Katarelos, E. and Lagoudis, I. (2011)

The recent inauguration of flights to Volos from Ryanair in May 2010 and the presence of Air Berlin at the same airport are currently seasonal. It is argued that although the potential exists, Volos fails to extend the catchment area both towards Athens and towards Thessaloniki, the two main metropolitan areas of Greece with a combined population of over 6 million people. The land travel distance exceeds two hours in either direction and the airport which has a mixed military and civilian usage, lacks necessary passenger infrastructure. Responding to these shortcomings, the authorities have initiated the construction of a new terminal building in order to improve passenger services. Additionally, the airport is located outside the 100 km radius exclusive zone of Athens International Airport where current legislation prohibits the operation of any public airports with commercial flights and activities. Although it is not forbidden for private sector to build and operate a private airport inside this zone, under current conditions it seems highly unrealistic that any entrepreneurs would be willing to make investments of the necessary scale. Besides, the main idea around secondary airports is the use of existing ones and the utilization of their idle capacity and not the creation of new airports. As Papatheodorou and Arvanitis (2009) observe, the area surrounding Volos has the potential to support scheduled flights that would not be limited to seasonal and recreational demand. It is also interesting to note the announcements accompanying the launch of the new connections to Volos; Ryanair stresses the importance and the direct and indirect benefits of the flights for the local economy, which would "create 200 new jobs" and "boost the Greek economy" (Ryanair 2010).

It could be argued that even if Ryanair or any other LCC manages to pay very low fees for the use of the airport of Volos, or if the construction of specific infrastructure becomes an indirect form of subsidies, the investment could still have significant long term benefits for the region. This is true for other continental Greek airports as well. Most of them are in parallel use by civil aviation and military with limited commercial infrastructure. The cost to further develop these airports is not prohibiting and the excess capacity can be utilized with relatively limited efforts. Since they are not attractive for traditional carriers and some of them are not near popular tourist destinations, they could be a good choice for LCCs for two reasons. First, especially in Greece, even less favorable regions have great potential for development and are near various interesting sites. Both conditions are met by the airport of Volos and obviously Ryanair and Air Berlin have taken them into account. Second, charter operators and mostly the big tour operators do not offer any guarantees or stability

regarding their presence and therefore their activities are not only seasonal, but also have high risks as instruments of long term development.

The above example of Volos describes the local perspective and the effects of the local airport. On the other side of the same issue are the European airports and their prospective to remain competitive. Any new destination linked to them, is measured in additional aeronautical and commercial revenues as explained earlier. The strategy of expansion to new destinations is more critical for secondary airports that have committed to LCCs in order to remain viable. According to the point-to-point model, the second European member of the link will be another secondary airport in another country. For each flight from Volos to Frankfurt Hahn or Milano Bergamo, all three airports have their share in benefits and revenues. The main items of the negotiations between LCCs and airports and possible outcomes for each issue are summarized in Table 5.

Table 5: Greek Airports and Cooperation with Low Cost Carriers

What LCCs ask from Greek Airports	Estimate of Greek airports' potential
Excess capacity to accommodate increased demand	Exists or may increase
Fast and effective ground facilities	Exist or can be created
Suitable time slots	Exist due to seasonality and excess capacity
Good local connections	In some cases needs improvement
Lower airport fees	Limitations in pricing policies due to current legislation and ownership of the airports
Capital assets	Can be raised
Enhanced facilities for ground transportation	Possible to develop

As a general conclusion from the above table, Greek airports seem to have the potential for cooperation with LCCs. During the recent past, one of the reasons limiting the ability or the willingness of the local airports to negotiate openly with LCCs was the legal actions of many traditional airlines against any contract between LCCs and airports. Their main argument was that the low fees were in fact disguised public subsidies, forbidden by European aviation

framework. Recent decisions of the European Commission and the European Court (ECFI - European Court of First Instance), in December 2008 regarding the airport of Charleroi in Belgium, and in January 2010 regarding the Bratislava airport in Slovakia, rule that in both cases the agreements between the airports and the LCCs are in accordance with the European market and competition principles (EU Market Economy Investor Principle) (EU 2010). However, for one LCC, Ryanair, there are still several open cases with the question of illegal public subsidies in the agreements between Ryanair and the airports of Alghero, Pau, Lübeck, Frankfurt Hahn, Berlin Schönefeld, Aarhus, and Tampere (EU 2010). According to the view for the side of the LCCs, the very low fees offered by some airports are part of perfectly fair and legal commercial agreements that reflect the current market conditions and trends and are balanced by the benefits of increased traffic and the creation of new jobs (Ryanair 2010). In reality, until today, 2012, there has not been any pre-mature termination of any agreement as a response to exposure of anti-competitive or other unfair practices.

Currently, the initiative is in the hands of the airlines. LCCs evaluate and select routes and airport pairs based on their own cost and efficiency targets. The authors suggests that it is in the best interest of the airports to become actively involved in this process and interact dynamically with airlines and local communities in order to promote or support the expansion of suitable connections with other cities.

10. CONCLUSIONS

Increase in number of destinations is a strategy mostly used by smaller European airports. LCCs seem to prefer secondary airports for the deployment of their point-to-point network model. Airports are interested in utilizing their excess capacity, while LCCs aim to minimize their overall costs. When everything turns out as intended airports, LCCs, passengers, and local economies can all benefit. To minimize the risks associated with the preferred form of long term cooperation between airports and LCCs market conditions must be carefully assessed. LCCs typically negotiate significant airport and landing fee discounts; airports expect positive results from the increase in traffic and commercial revenues.

Greece has a relatively high number of airports, 39 in total. Since most of them have very low utilization, LCCs appear to be an attractive opportunity. Greece uses almost exclusively the hub and spoke model and point to point connections only exist in few subsidized PSO lines. After deregulation, the emergence of private carriers in Greece offered lower airfares, however the competition currently is quite limited and airfares relatively high. LCCs offer connections mostly to the main hubs and only recently they have experimented with a couple of regional airports. The majority of the smaller airports struggle to cover at least part of the operating costs and theoretically any airport chosen by an LCC would potentially have enough excess capacity to share.

A central issue that determines the relationship between LCCs and airports is the fact that LCCs demand a long term contract to be signed. Under current legislation, most Greek airports cannot sign such contracts which may additionally include special clauses. If and when these obstacles are removed it would be possible for regional airports to offer incentives to LCCs in order to attract them, as it has happened in other European countries. Under current status, both the autonomy of the airports as well as their readiness to enter a more competitive market is questionable. The centrally organized and applied state management and development schema is considered to be both restrictive and ineffective. Each airport should be assessed and as a unique business unit in order to select the most suitable long term strategy.

REFERENCES

- ACI (2010), Airports Council International. Official website, last accessed 15/09/2010
- 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 (2004) pp 33–39
- Boeing (2010). Boeing Current Market Outlook 2010-2029, July 2010
- Centre for Asia Pacific Aviation (2010). Official website, last accessed 23/08/2010
- Chang, Y., Lee, N. (2010) A Multi-Objective Goal Programming airport selection model for low-cost carriers' networks. Transportation Research Part E (2010) (In press)
- Delfmann, W., Baum, H., Auerbach, S. and Albers, S. (2005) Strategic Management in the Aviation Industry. Ashagate Publishing Company, pp 1-2
- European Low Fare Airline Association - EFLAA (2010a). Official website, last accessed 12/07/2010

- European Low Fare Airline Association - EFLAA (2010b), “European LCCs gain passengers, while network carriers lose passengers, in 2009”, March 2010
- EU (2010). Web sites of European Commission and EU Services, last accessed 14/07/2010
- Fageda, X., Fernandez-Villadangos, L. (2009) Triggering competition in the Spanish airline market: The role of airport capacity and low-cost carriers. Journal of Air Transport Management 15 (2009) 36–40
- Francis, G., Fidato, A. and Humphreys, I. (2003) Airport-airline interaction: the impact of low-cost carriers on two European airports. Journal of Air Transport Management 9 (2003) pp 267-273
- Gillen, D., Morisson, W. (2003) Bunding, integration and the delivered price of air travel: are low cost carriers full service competitors? Journal of Air Transport Management 9 (2003) pp 15-23
- Gillen, D., Lall, A. (2004) Competitive advantage of low cost carriers: some implications for airports. Journal of Air Transport Management 10 (2004) pp 41-50
- Gillen, D. (2006) Airport Economics, Policy and Management: The European Union
- Graham, B., Shaw, J. (2008) Low-cost airlines in Europe: Reconciling liberalization and sustainability. Geoforum 39 (2008) pp 1439–1451
- Iatrou, K. and Oretti, M. (2007) Airline Choices for the Future. From Alliances to Mergers. Ashagate Publishing Company, pp 6-7, 14
- Katarelos, E., Lagoudis, I. N. (2011) Greek Airport Capacity Utilization: What about Airfreight? International Journal of Aviation Management, Vol. 1, Nos. 1/2, 2011, pp 124-139
- Lawton, T.C. (2004) Cleared for Take-Off. Structure and strategy in the low fare airline business. Ashgate Publishing Limited, pp 86-87
- Lei, Z., Papatheodorou, A. (2010) Measuring the effect of low-cost carriers on regional airports’ commercial revenue. Research in Transportation Economics 26 (2010) 37–43
- Lian, J.I., Rønnevik, J. (2010) Airport competition – Regional airports losing ground to main airports. Journal of Transport Geography (In press)
- Martinez-Garcia, E. Royo-Vela, M. (2010) Segmentation of low-cost flights’ users at secondary airports. Journal of Air Transport Management 16 (2010) pp 234–237
- Ryanair (2010) Company website, announcements 27.01.10 and 30.03.10, last accessed 18/09/2010

- Papatheodorou, A. and Arvanitis, P. (2009), Spatial evolution of airport traffic and air transport liberalization: the case of Greece, Journal of Transport Geography 17 pp. 409
- Pels, E., Njegovan, N., Behrens, C. (2009) Low-cost airlines and airport competition. Transportation Research Part E 45 (2009) pp 335–344
- Vasigh, B., Fleming, K. and Tacker, T. (2008) Introduction to Air Transport Economics. From Theory to Applications. Ashagate Publishing Company, pp 323- 327
- Warnock-Smith, D., Potter, A. (2005) An exploratory study into airport choice factors for European low-cost airlines. Journal of Air Transport Management 11 (2005) pp 388–392
- Zhang, A., Hanaoka, S., Inamura, H. and Ishikura, T. (2008) Low-cost carriers in Asia: Deregulation, regional liberalization and secondary airports. Research in Transportation Economics 24 (2008) pp 36–50.