

LOW-COST CARRIERS AND TOURISM: THE CASE OF PESCARA REGION.

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ABSTRACT

In the last two decades low-cost carriers (hereinafter LCCs) induced new forms of travel demand, enhancing competition among airlines, travel modes and airports (Page, 2009) and thus modifying the (strategic) relation between carrier and the infrastructure itself, (Hakfoort *et al.*, 2001). New supply has also been created, since the presence of a good infrastructure affects accessibility and the consequent localization choice of firms and tourism operators, thus increasing the whole competitiveness of the destination region (Barrett, 2008; Bieger and Wittmer, 2006).

In this context, the aim of the paper is to analyse the major impacts of the entry of LCCs in existing airports on the local tourist destinations, in order to discuss the relationship between air transport supply (infrastructure and services), tourism demand and regional development. Among a few airports in Italy with a high potential in the tourism sector (ELFAA, 2004), the specific case study of Pescara has been chosen.

The analysis has been carried out by reviewing theoretical and, when available, empirical studies, discussing the measurement of different territorial impacts of an airport activity, especially those serving LCCs.

The main impacts of the presence of LCCs in the airport of Pescara on the local tourism sector have been pointed out. It is possible to notice a growth in the number of flights and (foreign) arrivals with tourist purposes and a development of the tourist activities in Pescara area.

JEL classification: L83, L93, O18, R41

Keywords: Low Cost Carriers, Tourism, Airports

1. Introduction

There is no doubt that transport is a component of tourism, and *vice versa* leisure travel is a form of mobility: transport, indeed, benefits from tourism demand, while transport good accessibility fosters the development

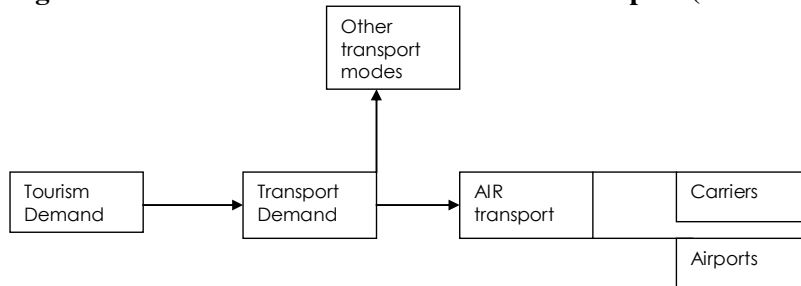
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of tourist destinations. In particular, air transport plays a key role in tourism sector; actually, if compared to other modes of transport (land and water), it is the fastest mode, for far-away and international travels and for reaching tourist destinations with difficult accessibility (i.e. islands). Furthermore, data on air transport passengers are easier to be identified and measured. As a consequence, the most of tourism studies has devoted to the link between tourism demand, through derived transport demand, and air travel market, policies and industry, focusing on both services (carriers) and infrastructures (airports) (Figure 1). Little attention is instead devoted to tourism supply side.

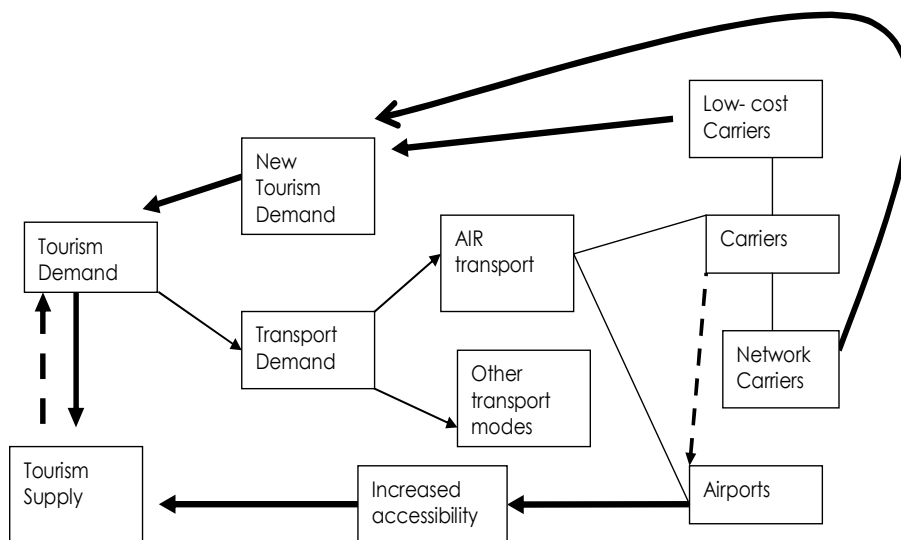
Figure 1 - The link between tourism and air transport (before LCCs entry)



Source: authors' elaboration

Given the strict interdependency between aviation strategies and tourism growth (Forsyth, 2008), above all, after the emergence of low-cost carriers (hereinafter LCCs), the transport-tourism interconnection can be seen as a proper synergy (fig. 2). On one side, LCCs have induced competition among airlines, other modes of travel, airports (Pitt and Brown, 2001), by enhancing new and different tourism demand (Page, 2009); on the other side, transport infrastructures, in this case, airports, affect accessibility, attracting new tourism supply and increasing the whole competitiveness of the destination region (Barrett, 2008; Bieger and Wittmer, 2006, Williams and Baláz, 2009; Bel & Fageda, 2008, 2009).

Figure 2 – The link between tourism and air transport (after LCCs entry)



Source: authors' elaboration

As a result, it now appears very difficult to isolate and measure the specific effects of LCCs on tourism sector (among the others, Vera-Rebollo and Ivars-Baidal, 2009; Donzelli, 2010).

It is not just a problem of collecting data, but also of attributing to LCCs the right credit in stimulating tourism development: LCCs have modified the tourism demand not only by enlarging volumes, creating new

destinations and different kind of travellers⁴, but also by increasing competition with network carriers, which, in turn, by lowering their prices, have widened the tourists' increases. In addition, the (strategic) relation between carriers and airport has also been modified (Hakfoort *et al.* 2001), forcing airports to face a new enlarged competitive arena, and to become a real tourism stakeholder. Actually, LCCs do prefer middle-sized airports, which, being less congested, provide higher accessibility to their surrounding regions, with benefits especially for the tourism sector. Last but not least, the tourism demand increase has to be cleared in terms of new demand or to demand previously satisfied by other modes of travel.

The aim of the paper is to analyse the major impacts of the entry of LCCs in existing airports on tourist destinations, and to discuss the relationship between air transport infrastructure and services, tourism demand and regional tourism development.

To do this, the work focuses on a few secondary airports in Italy with a high potential in the tourism sector (ELFAA, 2004). Among these, Pescara airport has been chosen for its position in a tourist region, its rapid growth in the last years and the dominance of the LCC (Ryanair).

The analysis has been conducted by reviewing theoretical and, when available, empirical studies on the measurement of airport impacts, especially those serving LCCs, in order to better choose approaches and indicators for investigating an Italian airport and its impacts on the different territorial levels.

Throughout the observation of the collected data on tourism and airport in Pescara, the main impacts of the presence of LCCs in the chosen airports on the local tourism sector have been pointed out.

In the next section, the article discusses the relationship between tourism and air transport, with a particular focus on LCCs, through the analysis of literature on the topic. The third section presents the evolution of Italian middle-sized airports and LCCs in Italy. The case study of Pescara is then described. First results on the relation between tourism in Pescara and its airport are presented. Conclusions and further research questions follow.

2. Literature review

2.1 Air transport and tourism: focus on LCCs and airports

Despite the widely recognized nexus between transport and tourism, the literature has often focused on one out of the two sectors: for example, it is possible to find specific chapters about transport in tourism economics. On the contrary, even if there is a wide consensus on the stimulator role of tourism in air transport changes, with new destinations and forms of tourism influencing travel demand (Bieger and Wittmer, 2006), leisure travel has for long been considered just a residual part of mobility (Heinze and Kill, 1997).

As regards air transport, implications of aviation for tourism have remained initially unexplored (Papatheodorou, 2002), but since the early 70s, both international air passenger traffic and tourist movements have grown at similar rates, closely related to the economic growth rate (WTO, 1994), forcing a significant part of the tourism literature to afford the aviation sector as a main topic (Barrett, 2008).

Furthermore, the entry of LCCs in the air transport sector, together with impacts and developments after Package 3 (1993, in Europe) on aviation industry, has gained the attention of the scientific community, especially in the fields of industrial and regional as well as in the tourism economics.

Indeed, not only the competition between low-cost and network carriers has to be stated, but also the (new) local impacts of airports and services must be explored (Green, 2007).

In particular, in the last decade, a great deal of studies, mainly European, has focused on the link between LCCs and local tourism impacts.

⁴ Cheaper flights have induced new shorter visits to tourist destination, for example for a specific event or attraction and a consequent request for flexibility.

2.2 LCCs and tourism

Before the liberalisation of the air sector, not only synergies, but also conflicts could arise between aviation strategies and tourism policies, since the protection of a national airline could restrict the tourist traffic growth (WTO, 1994).

This paragraph concentrates on the LCCs, whose entry in the aviation competitive arena had the most direct impact on the tourism industry; both theoretical and empirical perspectives have been explored.

As regards tourism demand, which is quite price elastic, it is possible to say that air transport plays a key role in attracting flows of passengers. On a wider view, after LCCs appearance on the global aviation market, three major changes occur in tourists' behaviour: disintermediation thanks to Internet, de-seasonality, commoditisation of the product (Iatrou and Tsitsiragou, 2008).

At the local scale, regional connectivity can benefit from lower prices and higher frequencies of the LCCs services.

Nonetheless, little efforts have been conducted on the way to measure these benefits, that at the end appear to be smaller than those commonly identified by *ad-hoc* techniques; for example, according to Forsyth (2006), computable general equilibrium (CGE) models used instead classical CBA or I-OA in a survey conducted on four case studies in Europe and Australia, gives theoretical and empirical proofs of a better analysis capacity. In particular, in the impact - analysis of LCCs entry in the European aviation market, three main effects on tourism have to be considered:

1. an increase in the overall visitor expenditure in Europe from other countries: Europe is cheaper to visit, and thus more attractive for Europeans as well;
2. Europeans' spending on tourism may be diverted from other goods and services;
3. tourism travel patterns also were affected, leading to growth in new destinations and impacting differentially on Europe's regions.

This third impact is worth exploring. Since economic activity is shifted towards the region and away from other regions, the benefits⁵ are likely to be much greater to a region than to the economy as a whole; it will thus make sense for a region to attract LCCs, for example, by subsidising airport charges. On the contrary, moving to the country, or to other regions, there might be no net gain in tourism expenditure or benefits, or, in any case, they would be smaller than those to the affected region (*ibidem*).

In addition, a different classification is possible, according to which, the impacts of the air transport on regional tourism sector seem to be threefold:

- Direct – more accessibility: more tourists (demand) and expenses
- Indirect – more tourism services and infrastructures (supply)
- Induced – more income power in the tourist destination.

In particular, in order to better individuate these impacts, it could be useful to identify the major economic aspects of tourism strategies (WTO, 1994):

- GDP growth, very difficult to identify and measure, since tourism sector is not a separate one in national accounts;
- Employment;
- Net foreign exchange earnings (not inside Europe, after 2002);
- Regional development, in attracting new economic activities;
- Government revenues, which have not to be too high.

As regards empirical studies, it is possible to see below (tab. 1), that a bunch of surveys have been conducted in the last decade.

Referring to the Mediterranean area, Spain, Malta and Italy tried to consider the links between LCCs and tourism throughout an empirical approach.

If it is quite clear to Malta, that, being an island has air transport as its first transport mode for tourist purpose, while in Spain, in the last ten years, a new regional tourism policy has tried to diversify and spread out the tourist supply (Ivars Baidal, 2003; Bel, 2009).

Finally, Italy too might be (more) interested in this study field, given the presence of a large number of middle-sized airports, which can be attractive for LCCs, and an unquestionable tourism vocation.

⁵ They are the increases in tourism expenditure, tax receipts, rents from existing capital assets, and employment of unemployed resources.

As regards North Europe, economic and employment impact resulting from the launch of a new low-cost service in the airport of Malmo – Sturup succeeded in creating an important tourist effect on local regional economy and tax revenues for the local administration (Mansson, 2005).

Table 1 – Empirical contributions on tourism and LCCs

<i>Year</i>	<i>Publication</i>	<i>Topic</i>
2010 2008	Graham and Dennis Zammit	LCCs in Malta
2009	Vera Rebollo and Ivars Baidal	LCCs in Spain
2011	Castillo- Manzano et al.	LCCs on urban tourism (5 reg. airports)
2010	Donzelli	LCCs on Southern Italy
2002	Signorini et al.	LCCs in Central Italy (Pisa airport)
2005	Gruppo Clas	LCCS in Northern Italy (Bergamo airport)
2005	Mansson	LCC in Northern Europe (Malmö -Sturup)

Source: authors' elaboration

Air Malta tourists' flows were very concentrated and coming from 8 countries (UK accounting for 36%) (Zammit, 2008): in 2006 the government decided to provide incentives for new routes in order to attract LCCs. The analysis conducted on UK passengers flying to Malta showed that LCCs attract new passengers, but no significant difference on their profile is expected. There is empirical evidence that an increase in tourism demand exists, while nothing can be said about a different form of tourism and a possible reduced high seasonality of the demand: for this purpose, not only a transport, but also a tourism policy is needed (Graham and Dennis, 2010).

Moving to a larger country, the entry of LCCs in the Spanish aviation market has led to higher connectivity and local specialization: actually, the effects went beyond the tourism sector, also affecting land use and infrastructures planning. Since Spain is the second largest international tourism destination (WTO, 2008), and LCCs transported 31.6% of foreign air passengers in 2006 (Instituto de Estudios Turísticos, 2007), a particular attention was paid on the low-cost base Girona airport, Catalunya, Spain.

Even if LCCs are important for many tourist destinations, much more information is needed about the characteristics of travellers using LCCs, and their flight preferences (Martinez-Garcia and Royo-Vela, 2010) and on the infrastructures needed for serving them (Page, 2009; Forsyth, 2008).

According to this, LCCs' impacts were very difficult to measure, even if their existence is undisputable and, in particular, the evidence shows that they are much more evident on secondary (regional or tourist) airports above all if operating below their capacity. While a significant volume of new demand occurs, its average spending per capita is lower than that of traditional air travellers. Furthermore, not only the agreements between carriers, airports and regional governments have to be carefully considered, but also tourism and transport strategies and policies need a shared planning (Vera Rebollo and Ivars Baidal, 2009).

In this context, LCCs have been subsidized for granting new routes not by airports, but directly by public governments, with tourism purposes (Castillo-Manzano *et al.*, 2011).

As regards Italy, the aim of the surveys here included was to investigate the effect of LCCs on the local economy; in some cases, the choice of the regions (Southern Italy for Donzelli, 2010, and Pisa for Signorini *et al.* 2002) led naturally to the tourism sector.

Bergamo airport, in the North of Italy, for example, has been driven mainly by LCCs, with a strong increase in the airport's traffic and estimated overall multiplier effects on the regional economy (Gruppo CLAS, 2005). In this case, a further investigation on the ripple effects on the surrounding region in a specific tourism perspective is suggested.

Referring to Pisa airport, LCCs opened new tourist markets while business localization choices in the region seem very limited (Signorini *et al.*, 2002).

Finally, in the work of Donzelli (2010), an in-depth analysis of the causality between LCCs and local and regional economic development, there is evidence that the entry of LCCs in Southern Italy has affected tourism industry.

Due to the tourist vocation of the region, LCCs succeeded in “discovering” many new areas for tourists. Furthermore, they can help de-seasonality by diversifying and boosting tourism products, which in turn can improve the attractiveness of a region for tourism and other industries (European Union Committee of the Regions, 2004) by creating new employment and benefits from higher tourism revenues. Actually, a single route can generate economic welfare gains of about 14.6 million per year.

The lack of international visitors, if compared to other Mediterranean countries (Manente and Andreatta, 2006) and the scarcity of adequate infrastructures, could compromise this opportunity: investment are suggested in this direction, for example, by providing incentives to regional airports to support LCCs improvement, as allowed by the European Commission⁶.

According to the previous literature contributions, it has been possible to consider the case study of Pescara, by observing the situation of its airport and the airlines serving it, its accessibility and the local tourism development (see sections 4 and 5).

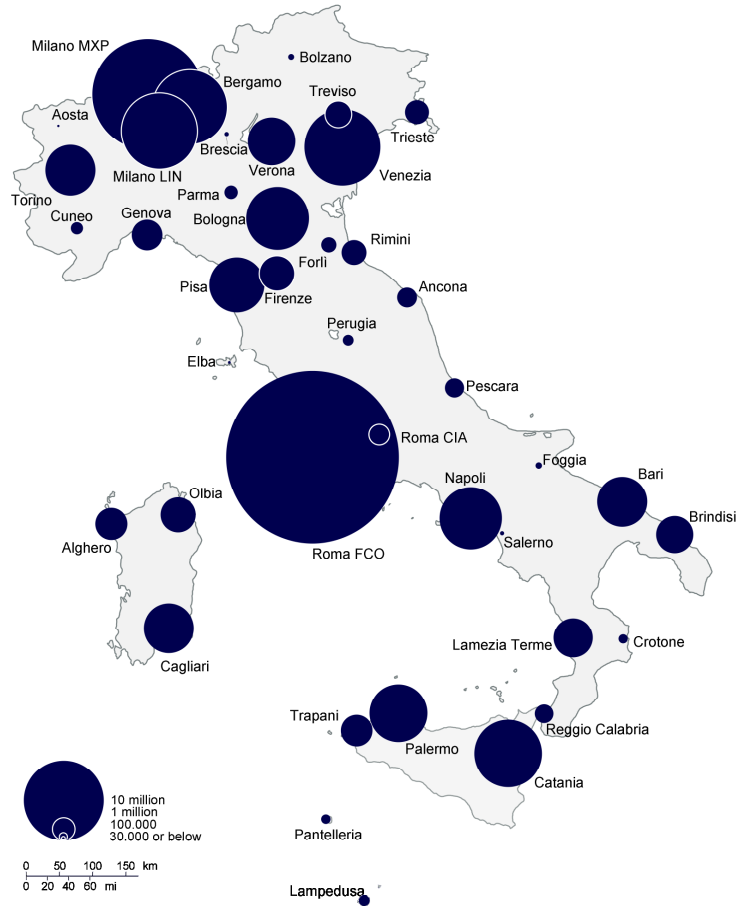
3. Italian middle-sized airports

Italy is served by more than 100 airports, 46 out of them have passenger traffic, but for some of them flows are below 10.000 pax/year. The commercial airports above 10.000 passengers are, then, 40. Some of them serve the main cities and host the most consolidated traffic. Others are “historical” civil airports at service of main cities that, for various reasons, did not attract significant traffic in the last decades (e.g. Brescia, Perugia). Finally, in recent years, some new airports have been opened to commercial traffic usually reconvertng existing military or unused facilities (e.g. Salerno, Alghero). Other airports are planned, some are also greenfield projects, but none is under construction (e.g. Viterbo, to substitute Rome Ciampino).

Traffic data, however, clarify that the core of Italian traffic is concentrated in few major airports: indeed, the 14 major airports account for more than 85% of total Italian passengers (ENAC, 2011). Table 2 summarises the main traffic data and the map in Figure 3 graphically represents the same situation.

⁶ EU Decision 2004/393/EC of 12 February 2004, and the following Communication “Community guidelines on financing of airports and start-up aid to airlines departing from regional airports” (2005).

Figure 3 – Passengers traffic 2011 of Italian airports



Source: authors' elaborations on ENAC, 2011

Table 2- Italian airports with more than 10.000 passengers

<i>Airport name</i>	<i>code</i>	<i>total passengers 2011</i>	<i>international passengers (%)</i>	<i>charter flights (%)</i>	<i>summer/tot</i>	<i>December/tot</i>	<i>seasonality index*</i>
ELBA	EBA	11.760	77%	39%	60%	0,0%	0,924
SALERNO	QSR	24.631	0%	46%	40%	3,9%	0,342
BRESCIA	VBS	27.704	7%	6%	28%	2,0%	0,587
BOLZANO	BZO	54.353	0%	4%	34%	8,7%	0,223
FOGGIA	FOG	61.451	0%	5%	37%	0,5%	0,370
CROTONE	CRV	123.811	0%	5%	38%	7,5%	0,253
PANTELLERIA	PNL	134.556	0%	9%	48%	5,2%	0,536
PERUGIA	PEG	173.285	70%	30%	38%	3,8%	0,377
LAMPEDUSA	LMP	185.503	0%	43%	44%	2,6%	0,529
CUNEO	CUF	221.022	68%	16%	33%	7,4%	0,194
PARMA	PMF	268.618	23%	24%	34%	5,2%	0,322
FORLI	FRL	344.314	84%	10%	25%	5,7%	0,171
REGGIO CALABRIA	REG	519.585	2%	0%	32%	8,1%	0,207
PESCARA	PSR	545.664	55%	8%	33%	6,4%	0,286
ANCONA	AOI	603.450	67%	23%	33%	5,8%	0,242
TRIESTE	TRS	856.371	38%	14%	30%	6,1%	0,182
RIMINI	RMI	916.239	36%	38%	40%	5,4%	0,435
TREVISO (closed: June – November)	TSF	1.067.882	80%	9%	0%	12,7%	1,000
GENOVA	GOA	1.393.871	36%	2%	28%	7,7%	0,131
TRAPANI	TPS	1.469.482	37%	3%	32%	6,5%	0,206
ALGHERO	AHO	1.511.723	30%	3%	36%	5,8%	0,293
OLBIA	OLB	1.816.950	34%	21%	54%	2,8%	0,668
FIRENZE	FLR	1.878.865	78%	8%	30%	6,1%	0,184
BRINDISI	BDS	2.050.654	15%	8%	32%	7,5%	0,193
LAMEZIA TERME	SUF	2.281.929	7%	13%	35%	6,6%	0,277
VERONA	VRN	3.342.804	40%	17%	37%	5,6%	0,295
CAGLIARI	CAG	3.685.564	19%	5%	35%	6,2%	0,269
TORINO	TRN	3.700.108	34%	4%	26%	8,0%	0,045
BARI	BRI	3.708.441	24%	8%	29%	7,7%	0,127
PISA	PSA	4.517.166	69%	11%	34%	5,9%	0,281
ROMA CIAMPINO	CIA	4.776.919	79%	26%	27%	7,8%	0,070
PALERMO	PMO	4.944.311	13%	8%	31%	6,5%	0,206
NAPOLI	NAP	5.725.033	39%	7%	31%	6,5%	0,204
BOLOGNA	BLQ	5.815.971	65%	6%	30%	6,8%	0,136
CATANIA	CTA	6.774.782	15%	7%	32%	7,0%	0,204
BERGAMO	BGY	8.338.656	65%	4%	30%	7,3%	0,138
VENEZIA	VCE	8.507.691	74%	8%	35%	5,6%	0,290
MILANO LINATE	LIN	9.061.749	38%	0%	28%	7,4%	0,101
MILANO MALPENSA	MXP	19.087.098	74%	4%	30%	7,0%	0,121
ROMA FIUMICINO	FCO	37.406.099	63%	2%	30%	7,1%	0,152

*: for the definition of the seasonality index please refer to main text.

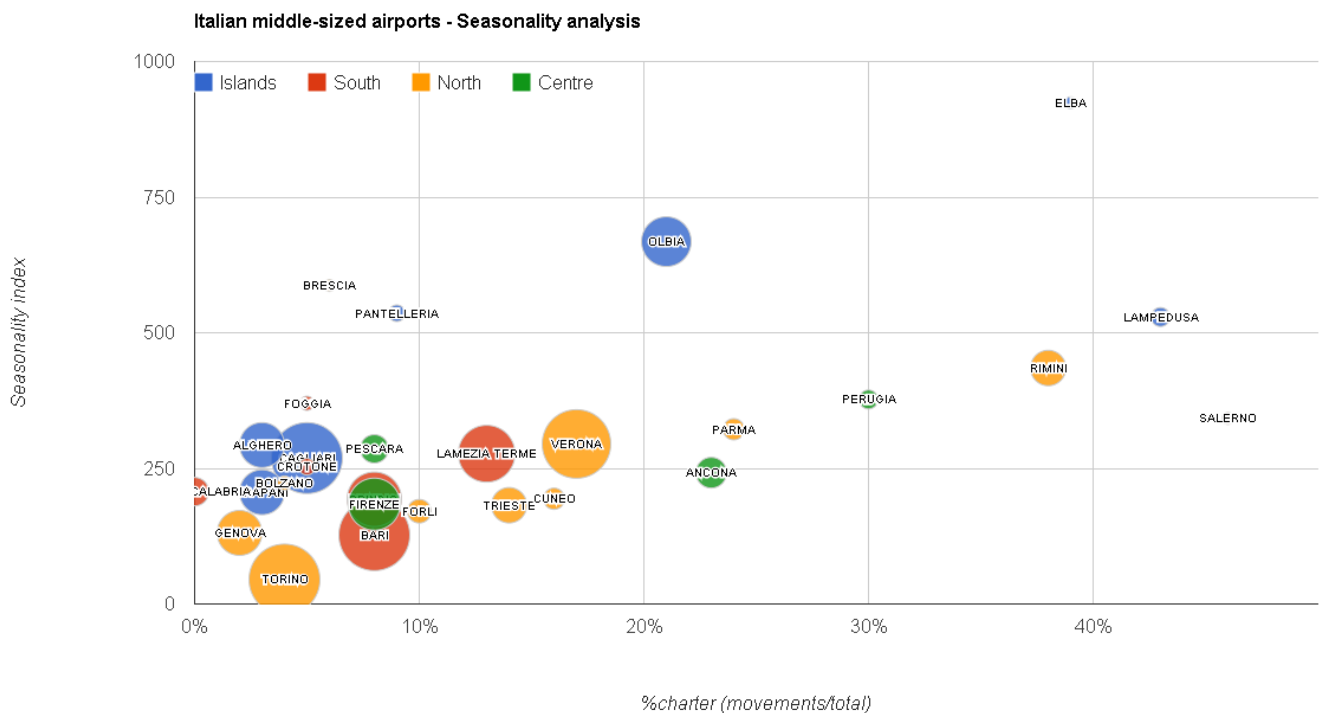
Source: authors' elaborations on ENAC, 2011

The analysis of Table 2 data allows to better understand the specific roles of the airports, including the tourist one. The smallest airports (Biella, Taranto, Aosta, Siena, Albenga, Grosseto) as well as the major ones (above 4Mpax/year), even when broadly used by tourists, have been excluded from this analysis because are out of this paper's aims.

To do that, a couple of indicators, represented in Figure 4 are introduced:

- i. *Seasonality index*: sum of differences between monthly traffic and average monthly traffic, normalised by dividing it by total yearly traffic. It is a measure of the distance of monthly based traffic from the average: 0 means that all months have the same traffic, 1 means that the differences are of the same magnitude of total traffic. The indicator can be above 1.
- ii. *Percentage of charters*: we use the charters as a proxy of the "touristic" issue of a destination.

Figure 4 – 2011 Seasonality analysis of Italian middle-sized airports (10.000 - 4 million passengers/year. The dimension of the circle represents annual flow)



Source: authors' elaboration

Actually, a complete information on the residence of passengers is not available for all airports, so it is not possible to get information on how many passengers are incoming and outgoing for all airports. For example, an airport placed in a remote tourist destination (e.g. Sharm el Sheik) is used almost totally by incoming tourists. To the contrary, airports serving cities with no touristic attractions are used by business users or outgoing tourists. As this data is not available, the contextual analysis of the two above indicators (together with some comments) allows to draw the following characterisations:

1. Airports with very low seasonality and few charters (Torino, Genova, Bari, Brindisi) are clearly not centred on touristic traffic, essentially because the airport serve main cities with important traffic all year round. Larger airports excluded from analysis (Rome, etc.) would be similar. In some cases, the city is clearly a tourist destination, but tourist flows are not seasonal: this is the typical case of Florence.
2. Airports above this group (Reggio Calabria, Trapani, Alghero, Cagliari, Crotone, Pescara, Lamezia, etc.) are similar to the previous ones because serving main cities or remote regions (especially main islands) with important traffic all year round, but the higher seasonality suggests that here touristic flows (mainly incoming) are more relevant.
3. Airports like Verona, Trieste, Ancona, Cuneo, Parma, etc. are secondary airports with wide outgoing touristic demand, with the partial exception of Verona with some incoming tourism.

- Airports of Pantelleria, Olbia, Lampedusa, Elba, Rimini are clearly touristic destinations, with very high seasonality. They differ for charter share, but it depends essentially on the type of airline and not on the type of demand.
- Micro-airports like Brescia, Perugia, Foggia and Salerno have different stories of failure or have been recently opened.

Another possible analysis deals with the number of airlines serving the middle-size Italian airports. The figure 5 represents the same airports according to the previous classification (type 1 to 5), to the number of passengers and to the following indexes:

- market share of the first airline*: 100% means total dominance of an airline, low values mean that there is no dominant airline;
- concentration*: calculated as the difference between the share of the first three airlines and the share of the first. A high number means that the first airline is not dominating. A low number means that the first airline is dominating (if its market share is high) or that there is strong competition (if the market of the first is low).

Figure 5 - 2009 Concentration analysis of Italian middle-sized airports (10.000 - 4 million passengers/year. The dimension of the circle represents annual flow)

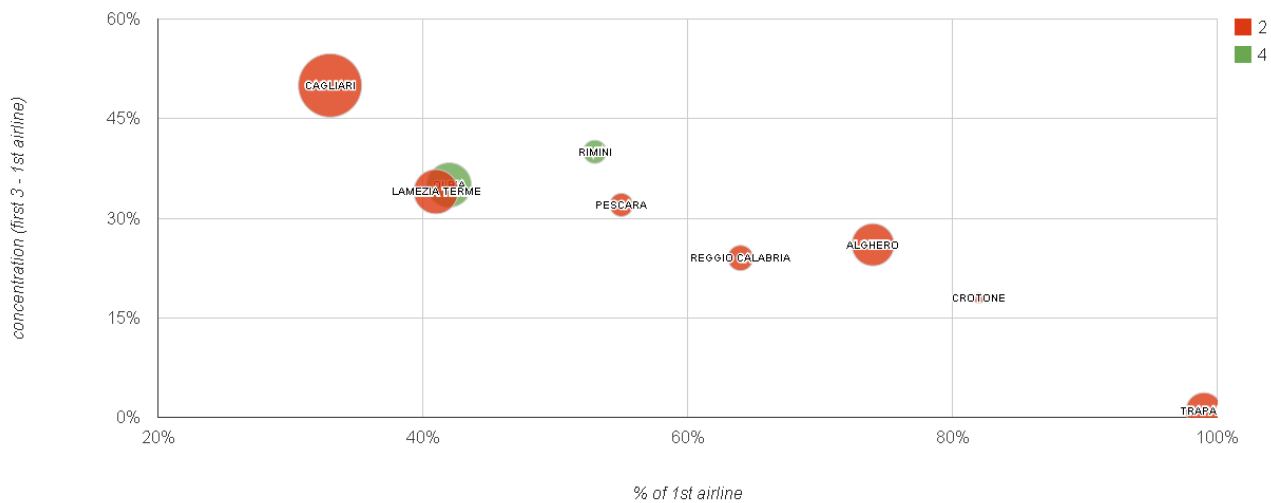


Source: authors' elaboration on data ICCSAI, 2010

From Figure 5 and Figure 6 the following information can be inferred:

- among large airports (group 1, plus Lamezia Terme, Cagliari and Verona) there is no dominant airline, but in some of them (Cagliari, Firenze, Brindisi, etc.) the competition is limited to few major players. Others (Torino, Genova, Verona, etc.) enjoy a more spread situation.
- The only tourist airport (group 4) enjoying a good competition is Olbia, with 23 carriers and the first three around 75% (high, but lower with respect to other touristic airports). For the remaining three touristic airports (Lampedusa, Pantelleria and Elba) we have no quantitative data, but the concentration is present.
- Airports with important tourist flows present totally different situations: no airports have no dominant airline and no concentration; Cagliari and Lamezia Terme are partially dominated by few carriers; other airports are more and more dominated by one single important player, with only Pescara, Rimini and Reggio Calabria having other significant airlines. The others are substantially mono-carrier airports.
- Often, Ryanair is the dominant airline in dominated tourist airports (Pescara, Alghero, Trapani). This makes them particularly weak in contractual terms. Alitalia and Meridiana are the dominating airlines in non-dominated airports (Cagliari, Olbia, Lamezia Terme).

Figure 6 - 2009 Concentration analysis of Italian middle-sized airports (Detail on touristic airports. The dimension of the circle represents annual flow)



Source: authors' elaboration on data ICCSAI, 2010

3.2 Low cost carriers in Italy

After Package 3 in 1993, LCCs did appear in Europe; Virgin Express was the first one, followed by Ryanair and easyJet.

Italy is now among the countries with the largest share of LCCs, 39% in 2011 (ENAC, 2011), also thanks to the weakness of the former flag carrier Alitalia that let other entrants to permeate the market.

Italy is one of the most important continental battlefields for the two main LCCs: Ryanair and easyJet. Both started their activity in 1998, on the route London – Venice.

easyJet, whose 88% of European passengers are tourists⁷, is flying in 16 Italian airports with 131 routes (13 national and 118 international), having one of its largest bases at Milano Malpensa. Ryanair is based in 23 airports in Europe with 330 routes (www.ryanair.com, September, 14th 2010). In Italy it is based in 9 airports.

It is out of this paper aims to go into detail on the low cost model, for which broad literature is present.

4. Pescara airport

4.1 Pescara airport: history, airlines and connections

Abruzzo airport “Pasquale Liberì” was established in Pescara in 1925 and starts its activity seven years later, in 1933 with three flights a week for Rome, stopover in L’Aquila (www.abruzzoairport.com). After II World War, in 1947, TRANSADRIATICA air company starts flights to Rome and the route Venice-Ancona-Pescara-Brindisi-Catania, while AVIO LINEE ITALIANE company connects Pescara to Milan-Foggia-Bari-Brindisi.

Since national airline company Alitalia’s entrance, Pescara is considered a minor airport until 1958, when the company “ITAVIA–SOCIETÀ DI NAVIGAZIONE AEREA”, specifically constituted to develop minor airports, re-established the connection to Rome.

In the early 70’s Pescara is connected to: Rome, Milan, Ancona, Crotone, Forlì, Lecce, Bergamo, Bologna, Treviso/Venezia, Catania, Palermo, and abroad to Basel, Munich and Corfù.

In 1981, after 2 years of stop due to technical problems occurred to ITAVIA, AERMEDITERRANEA, controlled by Alitalia, starts flights to Milan Linate, with a stopover in Ancona, then managed, from 1984 till 1988, by ATI (Aerolinee Trasporti Italiani) and from 1988 until 1994, by ALITALIA and finally since 1994 by AIRONE.

Since the end of 70’s, charter services have been opened: to Gatwick by GERMANAIR and DAN AIR and to other cities (in Belgium and Canada) where a lot of people from Abruzzo do live. Due to the high presence of companies depending on FIAT automotive industry leader, Turin has also been connected to

⁷ For Italian passenger the ratio is reduced to 80%.

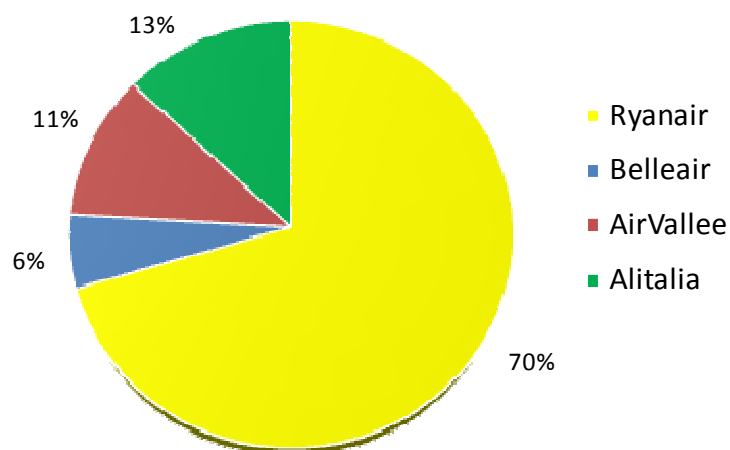
Pescara firstly by ALIBLU, then by ALIADRIATICA, finally by AIR VALLEE until 2009, and, again, since 2011.

In 2001 Ryanair starts flying from Pescara, which becomes in 2009 one out of nine Italian base sites for the Low Cost carrier⁸. At the present, Ryanair realizes the 71% of the total airports movements. The first connection in 2001 is to Stansted, in 2002 Frankfurt Hahn is also linked, in 2007 it is Girona's turn. In 2009 the routes to Cagliari, Eindhoven, Milano/Bergamo are opened, in 2010 to Oslo and in 2011 the last ones to Bruxelles (Charleroi), Trapani (soon suspended) and Paris Beauvais. In 2012 Dusseldorf has replaced Eindhoven and Alghero was also connected by two weekly summer flights in August (http://it.wikipedia.org/wiki/Aeroporto_di_Pescara).

Three other carriers do fly from Pescara airport: the LCC AirVallee connects Bucharest and Turin to Pescara; Alitalia grants connections to Milano Linate, while another LCC BelleAir flies from and to Tirana (www.abruzzoairport.com; www.skyscanner.it). Air Transat was operative with the route Toronto/Pearson-Pescara just until 2011. In the past years a number of carriers and routes appeared and disappeared for various reasons.

Therefore, at present, only 4 operators are present in the scheduled market⁹, with Ryanair alone accounting for 70% of weekly flights¹⁰ (Figure 7). This dominance weakens the airport operator, more and more dependent from Ryanair's actions.

Figure 7 - Pescara airport. Scheduled flights Summer 2012 (March - October)



Source: authors' elaborations

4.2 Pescara airport: accessibility, technical characteristics and services

The airport of Pescara is about 4 km far from the centre of the city; two road passenger companies connect it with Pescara and Chieti with frequent and cheap rides. By car it can be reached by three highways, which connect Pescara to Rome, the South East of Italy (Bari-Foggia) and the South West (Naples). Finally, the rail station of Pescara, connected with the airport by bus, is located within an important rail network along the Adriatic coast. A 24/24 hours open-air parking can host 500 cars and the taxi to and from the airport is low-fared (15€).

The website of the airport is quite clear, updated and available in English.

⁸ The other Italian bases of Ryanair are: Alghero, Bari, Bologna, Brindisi, Milano-Bergamo, Pisa, Roma Ciampino, Trapani.

⁹ Charters are approx. 200/year ([Assaeroporti](#) website), out of more than 5000 movements/year.

¹⁰ We do not have the 2012 data on ASK, so this concentration factor is not comparable with the previous ones. Most likely, it is underestimated.

As regards the airport ownership, like at other larger Italian airport, the organizational model adopted is a mixed public and private one, where a company, S.A.G.A. S.p.A, manages the infrastructure, with public (85%) and private (15%) shareholders. Abruzzo region shares 41.30%, the Commerce Chambers of the four provinces (Pescara, Chieti, Teramo and L'Aquila) own the 43.70% and private institutions hold the residual 15%. The concession to S.A.G.A. has been further extended for 30 years since 2008.

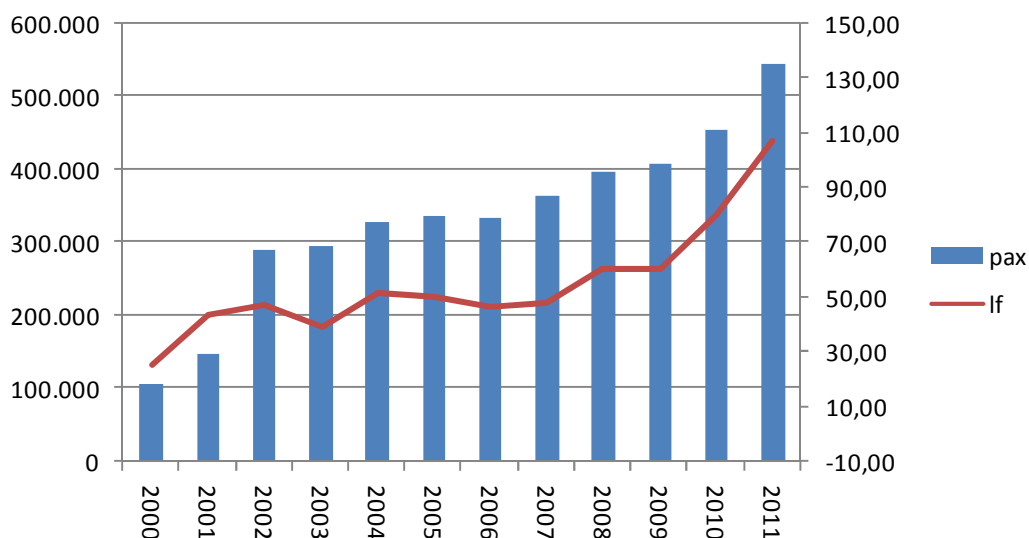
Concerning the technical characteristics, the international airport of Pescara is 14.64 m above the sea level, on a 163 ha area, with a single runway and two link taxiways: it is open 24/24 hours for landing and take-off. From 6 to midnight it provides many services to passengers: beside custom and security, rent-a car and banking services, bars and restaurants and shops. Aerotaxi and elitaxi rental office, a flight school, aeronautic consultant services and two Congress Rooms of 180 and 64 are also available.

According to a recent Master Plan, despite of traffic and tourism flows increases, the infrastructure is expected to grow in the next years, with enlarged runways and aprons, two more hangars, a cargo area, the extension of the commercial area and more and higher quality-services for passengers, like, for example, a multi-level parking. The expense will be around 10 million euro, 20% from the National Government. A new area of the passenger aerostation has been yet opened in June 2011.

4.3 Pescara airport: traffic and growth

Looking with more detail at the airport traffic data, in the last decade a constant trend of increase in traffic is registered, with the only exception of 2006. Sharp increases in demand are in 2003-2004, 2006-2008 (when numerous new carriers appeared) and especially in 2009-2011 when Ryanair investments fully recovered the leave of many routes from other competitors, generating more than 30% increase in two years (Figure 8). Since 2000 (one year before the arrival of Ryanair) to 2002 (one year after its arrival), the passenger traffic has almost tripled (Figure 7 and Table 3).

Figure 8 - Passengers trend and load factor 2000 - 2011 at Pescara airport



Source: authors' elaborations on ENAC and Assaeroporti data series (2012)

Even more significant is the increase of load factors, especially since 2001, coinciding with the arrival of Ryanair. After some years of nearly constancy or slow increase, since 2009 it raised sharply from 60 to 110 pax/movement, on average. In other words, since the arrival of Ryanair not only routes increased, but, in particular, aircrafts occupation is nearly doubled, most likely due to better marketing strategies.

In the period 2000-2011 the share of international traffic on the total, measured both in terms of movements and passengers, has quickly grown (Table 3). At the present, the international traffic is more than the half of the total. If we measure the growth rate in the same period, the national movements decrease of 18%, while the international movements increase of 107%; instead, the national passengers increase of 166%, while the

international passengers increase of 1,405%. Certainly, Ryanair, which has started to fly to and from Pescara in 2001, has given a key contribution to these important increases. In particular, the last column of table 3 shows that the rate of international passengers on the total traffic has grown from 19.6% of 2000 to 59.9 of 2001, when the LCC opened the route Pescara-London Stansted, and to 74.1% of 2002, when the second connection to Frankfurt was added. Furthermore, the growth rate of the international passengers since 2000 to 2001 is of 322% and since 2001 to 2002 is of 139%.

Also the share of the passengers' Pescara airport on the total of passengers transported in all the national airports has grown from 0.12% in 2000 to 0.37% in 2011.

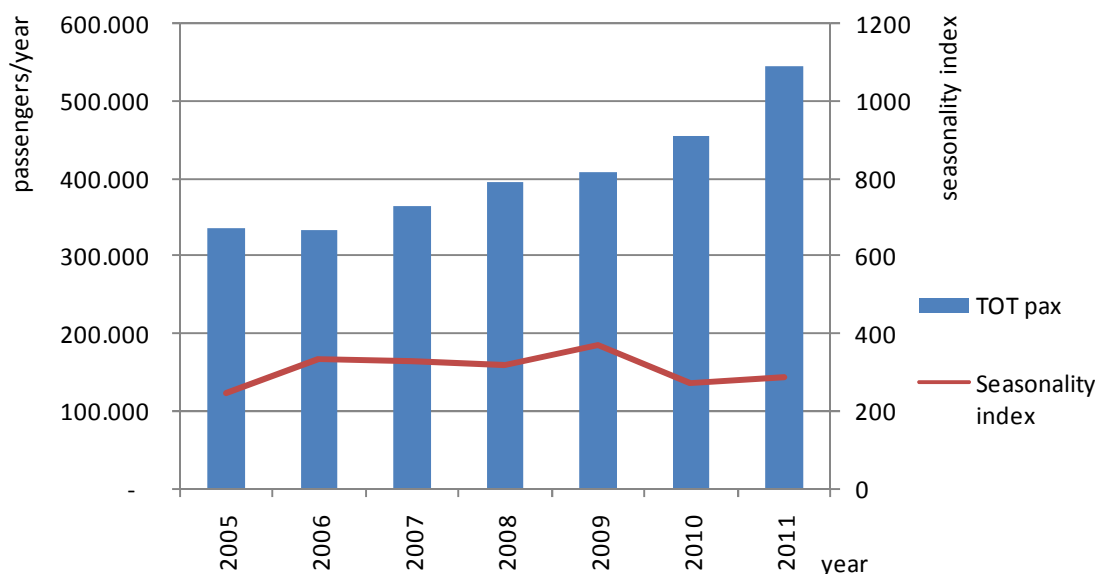
Table 3 – National and international movements and passengers trend 2000-2011

	Movements				Passengers			
	national	internal.	tot. mov.	% int. on tot.	national	internal.	tot. pass.	% int. on tot.
2000	3,067	1,171	4,238	27.6	86,233	21,049	107,282	19.6
2001	1,917	1,460	3,377	43.2	59,501	88,842	148,343	59.9
2002	4,080	2,015	6,095	33.1	74,084	212,468	286,552	74.1
2007	4,545	2,995	7,540	39.7	111,522	252,363	363,885	69.4
2009	3,467	2,759	6,226	44.3	144,949	258,518	403,467	64.1
2011	2,517	2,424	4,941	49.1	229,148	316,820	545,968	58.0
g. r. 00-11	-18%	107%	17%	-	166%	1,405%	409%	-

Source: authors' elaboration on Assaeroporti data (2011)

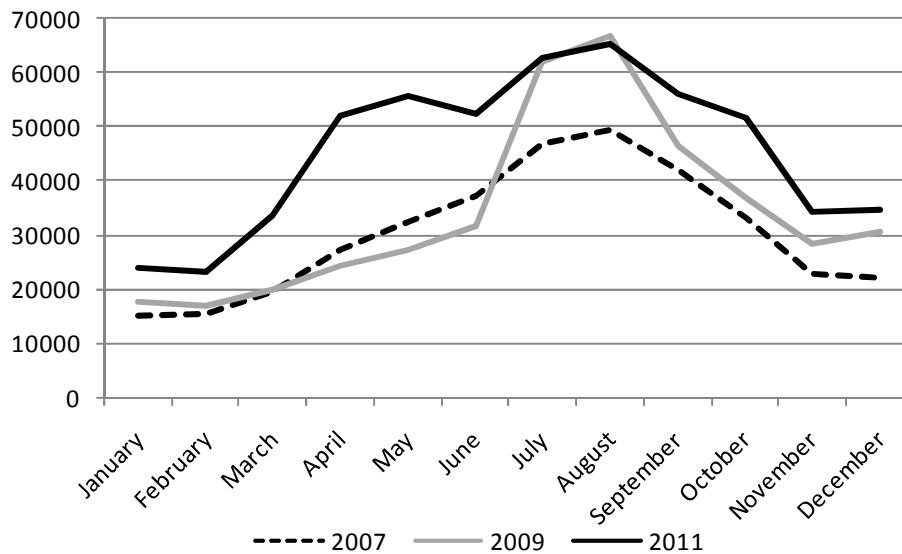
Using the same approach of previous section, in Figure 9 the *seasonality index* over time since 2005 until 2011 is calculated. Variations are not sharp, but since 2009, when Ryanair settled the base and opened three new routes (Cagliari, Eindhoven, Milan), the index decreased. This means that demand is now more spread throughout the months and not concentrated only in July – August. In particular, as Figure 10 shows, the summer peak increased between 2007 and 2009, when Ryanair opened the new routes in July. However, later, seasonal differences decreased in a visible way, thanks to marketing policies that attracted many more passengers in the spring period of 2011. So, in 2011, from April to June and September – October, the airport has 10 to 20.000 passengers more per month with respect to 2009.

Figure 9 - Passengers trend and seasonality index 2005 - 2011 at Pescara airport



Source: authors' elaborations on ENAC data (2012)

Figure 10 – Monthly passengers traffic 2007 - 2011 at Pescara airport



Source: authors' elaborations on ENAC data (2012)

The effect policies and investments of Ryanair, which is the dominating operator, is evident.

5. Impacts of Pescara airport on tourism

5.1 Tourism in Pescara area

With a population of 123,077 (www.comuni-italiani.it), Pescara is an active city with a great vitality in manufacturing and commerce. Furthermore it has a rapid growth in tourism, being rich of monuments, natural and cultural sites and due to its strategic coastal position, with large and sandy beaches and 50 bathing establishments.

In the Pescara marina, besides in addition to 950 boat sites, there is a shopping arcade and an exhibition floor of 6,650 square meters, the third biggest site in Italy after Naples and Savona (www.marinape.com).

Naturalistic sites and parks (wildlife reserves *Santa Filomena* and *Dannunziana* Pinewoods) and an archaeological park (*Colle del Telegrafo*) are also present while a river park is under construction.

Pescara hosts 8 museums, lots of monuments, churches, ancient buildings together with many entertainment and sporting facilities.

As regards events, the Mediterranean Games, 16th edition, took place in Pescara in 2009 and a proper Sport City has been created (Mediterranean Village) (www.pescara2009.it). Furthermore, the city is the European Sport City 2012, and it will thus host many important sport events during the current year.

The typical food and wine products, such as the traditional popular feasts, give also an important contribution to tourism.

Owing to this wide supply of tourism opportunities, the tourism seasonality is a bit less high than in other Adriatic coastal centres.

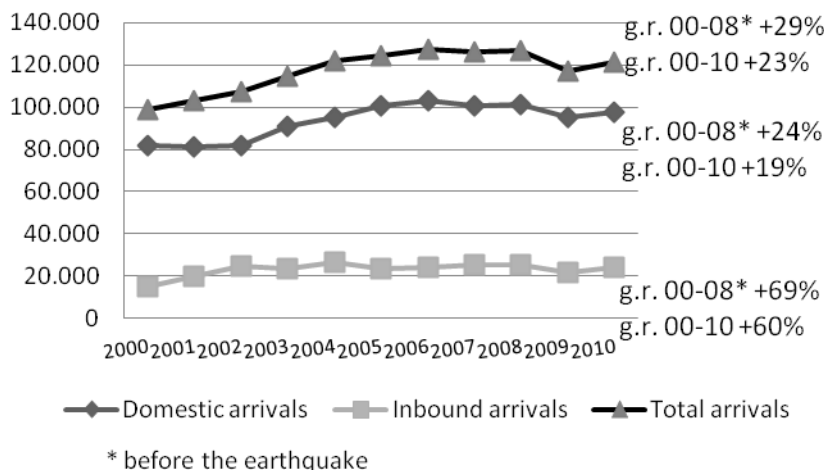
5.2 The tourism demand in Pescara region

In the last decade the above described development of the airport, particularly of the international movements and passengers flows, and the growth of the low-cost connections have allowed also a significant expansion of both tourism demand and supply.

Starting with the analysis of the evolution of tourism demand in Pescara, since 2000 to 2010 the total tourism arrivals are increased of 23%, the domestic arrivals of 19%, while the inbound arrivals (from foreign countries) have grown of 60% (Figure 12). Similarly, in the same period the growth rate of the total overnight stays is 22% (Figure 12); the domestic overnight stays has grown significantly less (7%) than the inbound overnight stays (66%). Only the year 2009 registers a decrease of these two variables, but this can

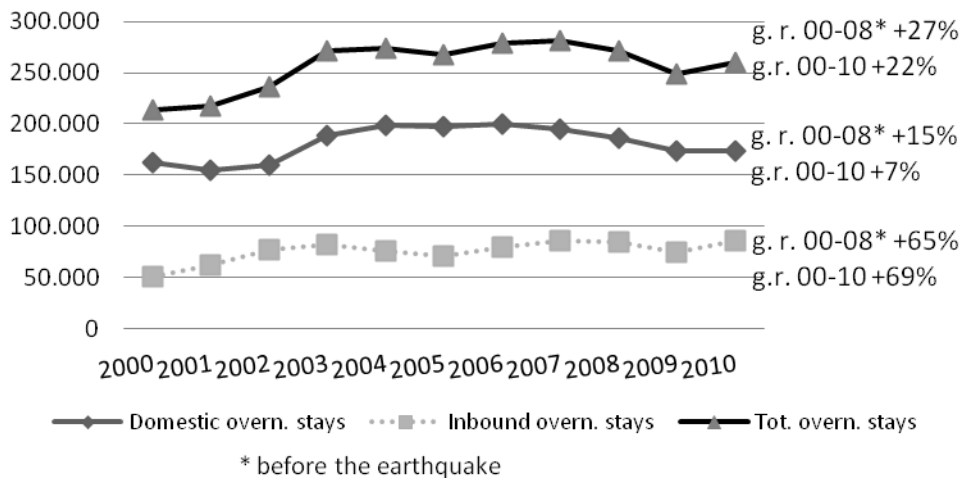
be justified by the recession and the earthquake which has devastated the close town of L'Aquila. The tourism accommodation establishments have given hospitality to the earthquake victims. The growth rates of both the arrivals and the overnight stays before the earthquake (period 2000-2008) are higher of at least five points.

Figure 12 – Trend of tourist arrivals in Pescara city (2000-2010)



Source: authors' elaboration on data of Abruzzo Region 2011

Figure 13 – Trend of overnight stays in Pescara city (2000-2010)



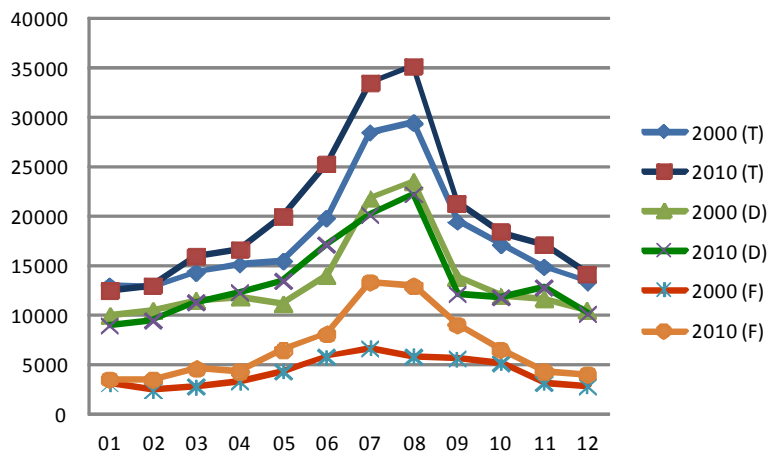
Source: authors' elaboration on data of Abruzzo Region 2011

As concerns the average length of stay, it is nearly stable in the period of analysis: the domestic stay length is lower (average value in the period of 1.9 days) than the inbound stay length (about 3.3 days). Nevertheless, since 2000 to 2010 the domestic value is decreased from 1.8 to 2 days, while the inbound value has increased from 3.4 to 3.6.

Regarding the seasonality, the tourism in Pescara presents the typical trend of a coastal destination. The tourist stays are concentrated in the summer months, with a peak in August and July, due to climate and institutional factors. Comparing the monthly overnight stays of 2000 with the ones of 2010, it is evident that the seasonal trend is not significantly changed (Figure 13), with the only exception of the inbound tourism. In fact, the inbound rate of seasonality (ratio between the maximum and the minimum value of foreign overnight stays) has increased of 1 point (from 2.8 of 2000 to 3.8 of 2010); the intensity of seasonality of 2010 has more than duplicated the value of 2000 and the seasonal peak factor (ratio between the maximum and the medium value of inbound overnight stays) has increased from 1.6 of 2000 to 2.0 of 2010. The domestic indexes of seasonality, instead, are more stable.

The trend of the monthly tourist stays (Figure 14) and arrivals (Figure 15) is similar to the trend of the monthly passenger traffic above described (Figure 10), particularly in 2009.

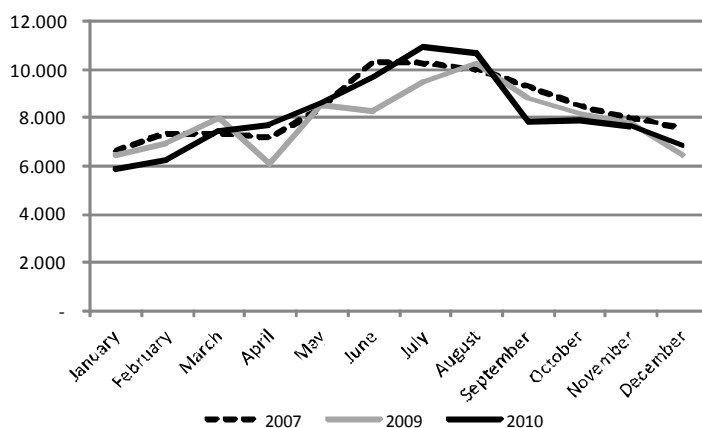
Figure 14 – Monthly overnight stays in Pescara: comparison within 2000 and 2010



Notes: 2000 (T) and 2010 (T) indicate the total overnight stays respectively in 2000 and 2010; 2000 (D) and 2010 (D) indicate the domestic overnight stays respectively in 2000 and 2010; 2000 (F) and 2010 (F) indicate the foreign (inbound) overnight stays respectively in 2000 and 2010

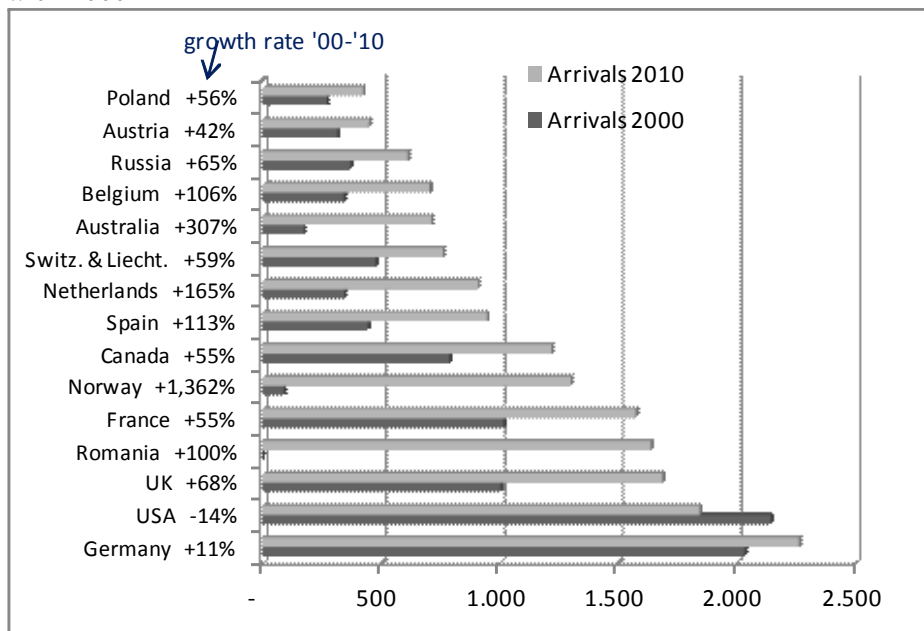
Source: authors' elaboration on data of Abruzzo Region 2011

Figure 15 - Monthly tourist arrivals in Pescara in 2007, 2009, 2010



Source: authors' elaboration on data of Abruzzo Region 2011

Figure 16 – First fifteen origin countries of incoming arrivals in Pescara city in 2010 and comparison with 2000



Source: authors' elaboration on data of Abruzzo Region 2011

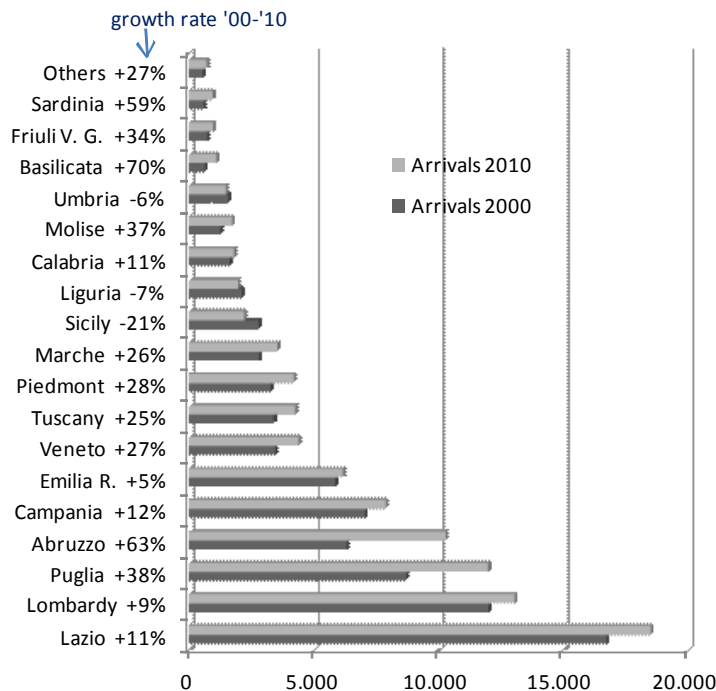
Figure 16 shows the first fifteen origin countries of the incoming tourism in Pescara in 2010 and their growth rate in the last decade, which is always positive, except in the case of USA. It is possible to suppose that the most important LCC of Pescara airport, Ryanair, has given an important contribution to the growth of these flows. Indeed, all the destinations connected by Ryanair in the studied period (2000-2010) are included in this ranking: particularly, Germany, linked since 2002, is at the first place (but it has a lower growth rate with respect to the others, being a more consolidated origin of tourism), UK, connected since 2001, is at the third place, Spain, linked since 2007, is eight in the ranking. Moreover, the Ryanair new route Pescara – Oslo has given an important contribution to the growth rate performed by Norway (+ 1,362%). In fact, since the opening of this route (May 2010), in only one year the traffic has increased of +635%.

The fourth place of Romania is due to the low cost connection Pescara - Bucharest today guaranteed by AirVallee. As concerns the position of France in the ranking, the first connections to Paris started in 2003 with Air Plus Service, followed by FlyOnAir, that flew also to Brussels since 2004; in 2011 Ryanair replaced it.

Looking at the region of origin of the domestic tourism (Figure 17), it is more difficult to identify a relation between the low cost routes of Pescara airport and the ranking of the origin regions of the national tourists. In fact, most of the first places' regions, such as Lazio, Puglia, Emilia Romagna, are close to Abruzzo region or well connected by road and, in some cases, by train.

However, the higher performance of Sardinia in terms of growth rate in the period 2000-2010 (+ 59%) can be probably ascribed to the Ryanair route Pescara – Cagliari. The second place of Lombardy in the ranking, instead, is not the consequence but the cause of the existence of two air connections with Milan granted by Alitalia (Milan Linate) and since 2009 by Ryanair (Milan-Bergamo).

Figure 17 – Ranking of the origin regions of domestic tourist arrivals in 2010 and comparison with 2000

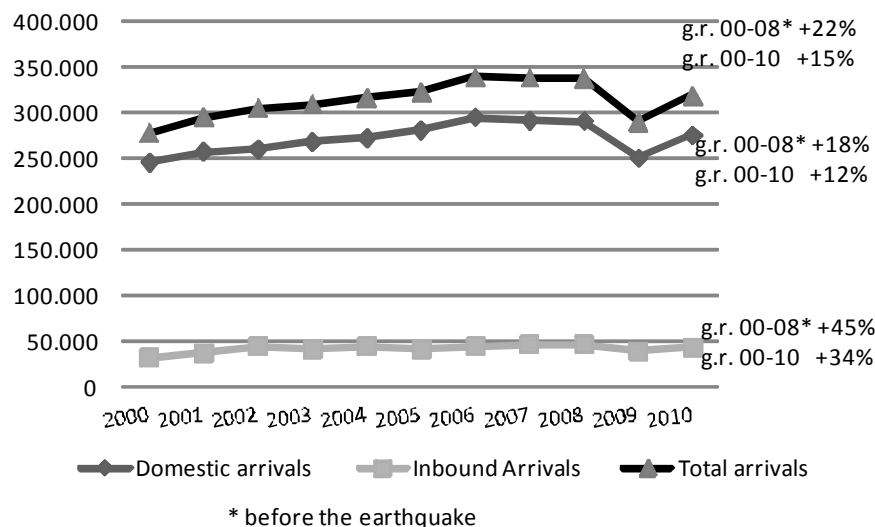


Source: authors' elaboration on data of Abruzzo Region 2011

Since the Pescara airport is the only international airport of the Abruzzo Region, it serves not only Pescara city but also its province and the rest of the region. Thus, it is important to extend the geographical unit of analysis of the impact of the airport and the LCC on tourism.

As concerns the province of Pescara, the growth of the tourist arrivals in the decade 2000-2010 is lower than the growth of the arrivals in the municipality (Figure 18), indicating that probably the impact of the airport on the municipal area is higher than the impact on the province area. However, also in the province, the incoming arrivals increase more than the domestic ones and the growth rate calculated before the earthquake of L'Aquila (2000-2008) is more consistent than the 2000-2010 growth rate.

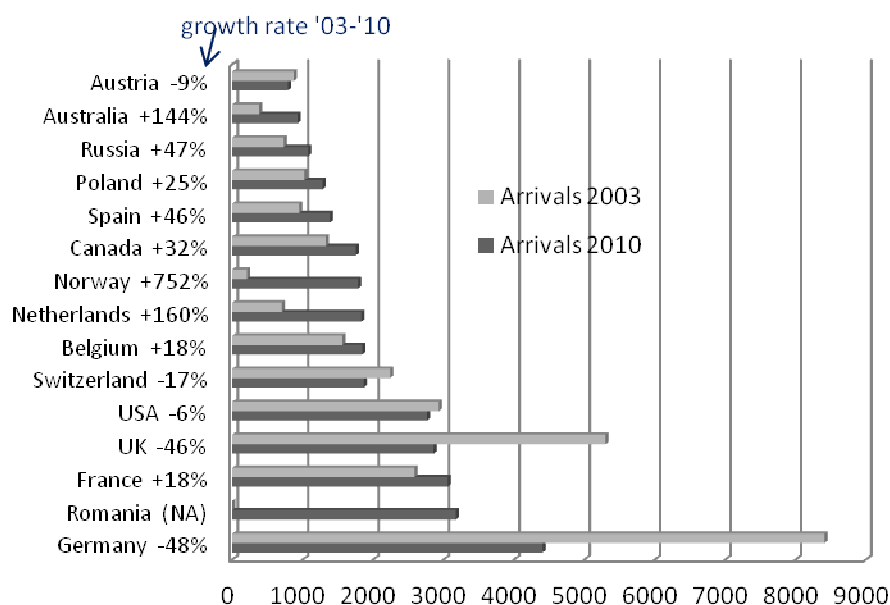
Figure 18 – Trend of tourist arrivals in Pescara province (2000-2010)



Source: authors' elaboration on data of ISTAT and CRESA (2004)

The disaggregation of the incoming arrivals by country of origin can help in identifying the contribution of the airport and of the LCC connections to the tourism development (Figure 19). Focusing the attention on the countries connected by air, both Germany and UK, which are served by Ryanair, demonstrate a high decrease, nearly of fifty percent. Despite, Norway increases of 752% and Spain of 46%.

Figure 19 – First fifteen origin countries of incoming arrivals in Pescara province in 2010 and comparison with 2003¹¹

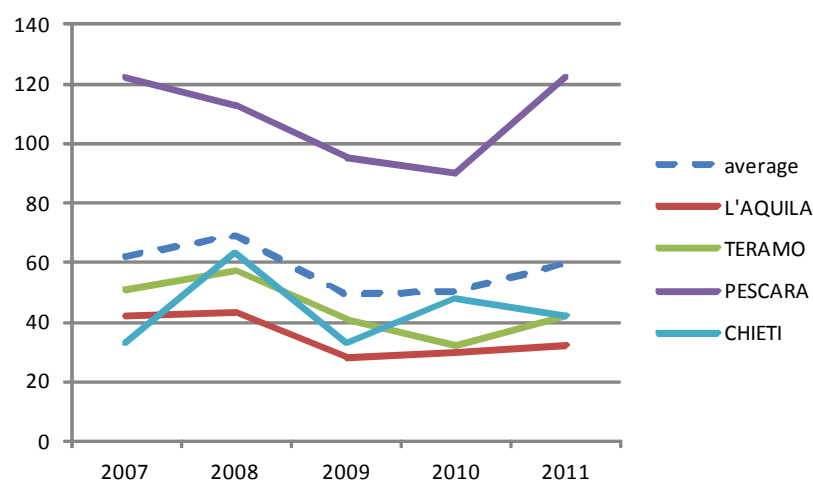


Source: authors' elaboration on data of ISTAT

Such as in the city of Pescara, an interesting characteristic of the arrivals in the province pertains to seasonality. Despite of the presence of hill and mountain towns, in the province the 49.3% of the arrivals comes in the summer. The seasonality is higher for domestic arrivals than for incoming ones.

As regards, the economic impact of tourism, the annual expense of foreign tourists in Abruzzo is higher in the province of Pescara than in the other provinces of regions (Figure 20): it almost duplicates the average value.

Figure 20 - Annual expense of foreign tourists in Abruzzo, for each province (millions of euro, 2007-2011)

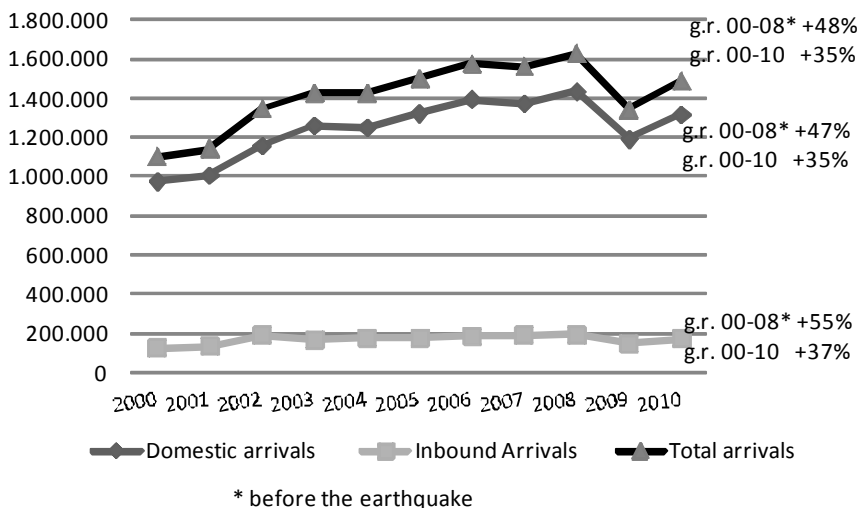


¹¹ The disaggregation of the tourist arrivals by the origin country is available only from 2003.

Source: authors' elaboration on data Banca d'Italia (2012)

A detailed analysis of the distribution of the tourist arrivals in the different provinces of Abruzzo region and of its trend in the two decades 1990-2000 and 2000-2010 is given in the table in the Appendix 1. In 1990 Pescara were the first province in terms of tourist attraction, but Teramo has surpassed it in 2000. Thus, these data could indicate that the impact area of the airport and the LCC is wider than the province of Pescara. Finally, extending the area of analysis to the region, in the period 2000-2010 the tourist arrivals have a significant increase. In the region the growth rate of the inbound arrivals is similar to the growth rate of the domestic arrivals (Figure 21). More differences appear when we calculate the rate before the earthquake: the inbound arrivals growth is 8 points higher than the domestic arrival growth.

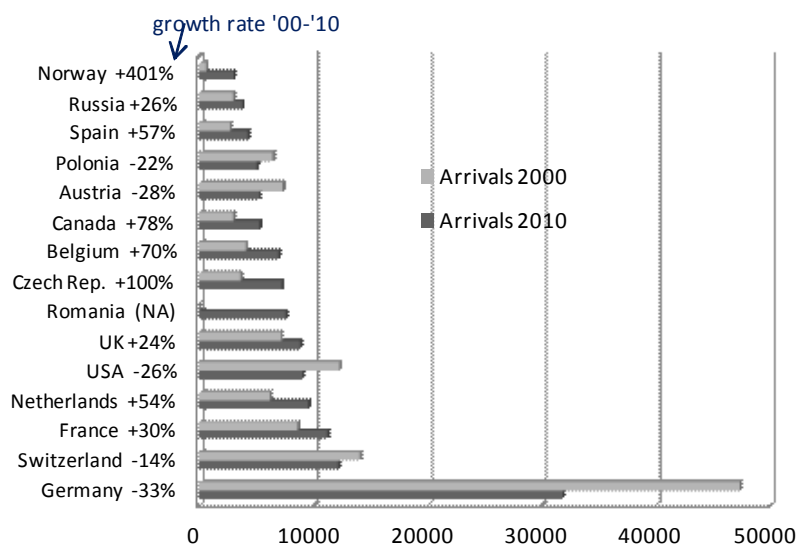
Figure 21 – Trend of tourist arrivals in Abruzzo region (2000-2010)



Source: authors' elaboration on data of ISTAT and CRESA (2004)

As concerns the countries of origin of the foreign tourists, Germany is again at the first place, but the arrivals since 2000 to 2010 decrease of 33% (Figure 22). At a regional level, such as at the municipal scale of analysis, the arrivals of all the other countries connected by Ryanair increased: UK of 24%, Spain of 57% and Norway of 401%.

Figure 22 – First fifteen origin countries of incoming arrivals in Abruzzo region in 2010 and comparison with 2000



Source: authors' elaboration on data of ISTAT

5.3 The tourism supply in Pescara region

In the period 2000-2010, the growth of the tourism demand has induced also a reorganization of the accommodation supply: the number and the bed places of the hotels have decreased, while the other collective accommodation structures, such as less expensive agro-tourism firms or bed & breakfast, which are preferred by the foreign tourists, have strongly increased (Table 4). The growth rate of these last structures is of 1,300% and of the bed places of 640%.

Table 4 – Trend of tourism accommodation structures in Pescara city (2000-2010)

	Hotels and similars		Other collective accommodation establishments	
	n. structures	n. bed places	n. structures	n. bed places
years				
2000	26	1,915	2	30
2001	23	1,777	4	38
2002	23	1,777	4	38
2007	21	1,842	13	109
2009	22	1,856	22	181
2010	21	1,813	28	222
gr. rate 00-10	-19%	-5%	1,300%	640%

Source: authors' elaboration on ISTAT data (several years)

In the city of Pescara in 2001 there were 28 accommodation facilities¹² (among these 26 were hotels) for a total of 1,945 bed-places; in 2010 they were almost doubled (21 hotels and 28 other collective accommodation establishments), for a total of 2,035 bed places.

As regards the province of Pescara and the region, the number of hotels did not substantially change in the whole province of Pescara during the period 1990-2010 (Table 5). Such as in the case of Pescara city, a great change occurs, instead, in the decade 2001-2010, in terms of different kind of accommodation facilities. In this decade, the other collective accommodation establishments increase in terms of number of 414% and 202% respectively in the province and in the region and in terms of capacity (bed places) of 342% and 20% respectively in the province and in the region. Apart from the statistical impact derived from the new legislation on bed&breakfast occurred in 2001, which enhanced the transformation of many rooms for rent¹³ in this new activity, the drop in 2001 is the consequence of the closure of the 3 camping of the province.

Table 5 – Trend of tourism accommodation structures in Pescara province and Abruzzo region (2000-2010)

	Province of Pescara				Abruzzo Region			
	Hotels and similars		Other collective accommodation establishments		Hotels and similars		Other collective accommodation establishments	
years	n. structures	n. bed places	n. structures	n. bed places	n. structures	n. bed places	n. structures	n. bed places

¹² According to the European statistical classification of the economics activities (NACE rev 2), the accommodation facilities are (i) hotels and similar (hotels, resort hotels, suite/apartment hotels, motels); (ii) holiday and other short-stay accommodation (children and other holiday homes, visitor flats and bungalows, cottages and cabins without housekeeping services, youth hostels and mountain refuges), (iii) camping and (iv) other accommodation, such as farm holidays, tourism villages, bed&breakfast, student residences, school dormitories, etc. The "other collective accommodation establishments" include the last three categories.

¹³ Rental accommodation registered at the R.E.C. of the Commerce Chambers.

1990	96	8,362	83	30	746	43,567	377	49,562
2001	98	8,639	56	38	774	46,929	481	48,016
2010	97	8,545	288	222	821	50,987	1,452	57,760
gr. rate 90-01	2%	3%	-33%	-84%	4%	8%	28%	-3%
gr. rate 01-10	-1%	-1%	414%	342%	6%	9%	202%	20%

Source: authors' elaboration on ISTAT data (2001) and CRESA (2004)

Statistical matters apart, the trend seems to follow the foreign preferences for a less expensive and more flexible kind of accommodation (Cresa, 2004).

6. Concluding remarks and further research suggestions

Even though there is no doubt on the key role of the airports on the regional development, it is very difficult to estimate their specific impact on tourism activities. In fact, the data collection (both on demand and supply side) and the identification of the tourism arrivals catchment area are not easy tasks. Airports have a big catchment area, which could be precisely determined only by personnel interview to the visitors aiming at identifying their country of origin, the specific destination and the trip motivation and duration.

On the contrary, the effect of air companies activities can be more clearly determined: due to the high elasticity of leisure travel demand to price, with the emergence of LCCs and a consequent new synergy between transport and tourism (see fig. 2), a tourism demand growth is expected.

Pescara airport, as well, in the last decade, since the arrival of the LCCs, shows a strong increase (409%) of the total passengers flows and even a bigger growth of the international passengers flows (1,405%). Moreover, in the same period it has almost tripled the weight of its traffic on the total national arrivals and its seasonality index has decreased, especially by 2009.

The growing importance of the Pescara airport in the last decade, if compared to other Italian ones, walks along with the trend of tourists' arrivals.

Ryanair is the major company in the airport for traffic flows and routes, and the seasonality-index for these routes helps in considering its flows as tourists' ones. The data have shown that along each new Ryanair route, the tourists' arrivals have strongly increased.

The tourism accommodation facilities have followed the same positive trend of the tourism demand: in the last decade, the collective accommodation structures, different than hotels, have experienced a high growth both in terms of number and of size (number of bed places), while the hotels have decreased. The change in the composition of the accommodation facilities seems to follow the preferences of foreign tourists to not conventional structures. Indeed, this qualitative change is more significant than the quantitative one, because it reveals the effort to strengthen the unemployed tourism assets of Pescara.

Despite that, the many-sided and complex relationship between tourism and air leisure travel suggests to go more in depth in the analysis. Further research is needed, in order to clearly estimate the impact of the airport and LCCs on tourism and regional development. First of all, more data on the tourism supply, such as on number of employees and firms, which are directly or indirectly involved in tourism (food and beverage service activities, tourist agencies, tour operator and other reservation services, shops, arts, entertainment and recreation activities) are necessary. The total contribution of the tourism sector on the regional economy must be estimated.

Secondly, an analysis of the policies and strategies adopted at the institutional level (for example, regional image branding) could be interesting in order to understand their contribute to the success of the tourism industry.

Moreover, data on the tourist expenses also could be useful in order to understand the multiplier effects of the tourists' flows.

As concerns the LCC Ryanair, more details on its marketing policy will be also collected aiming at identifying the price and new route opening strategies and its agreements with the airport and the local administration. At the present, little information on this issue is available.

Finally, the collection of more data on Pescara and on other tourist destinations, which are served by minor airports, will allow adopting an econometric approach. This approach, indeed, should be able to better control the synergies among different variables and the multiplier effects of airports and LCCs on the regional development.

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Appendix 1 - Trend of the tourist arrivals in the provinces of Abruzzo (1990-2000-2010)

	1990			2000			2010			growth rate '90-'00			growth rate '00-'10		
	DA	IA	TA	DA	IA	TA	DA	IA	TA	DA	IA	TA	DA	IA	TA
Pescara	252.248	28.073	280.321	245.677	32.163	277.840	275.327	42.959	318.286	-3%	15%	-1%	12%	34%	15%
L'Aquila	225.511	12.670	238.181	309.845	28.523	338.368	341.761	25.069	366.830	37%	125%	42%	10%	-12%	8%
Teramo	170.086	25.540	195.626	245.060	40.896	285.956	426.236	68.814	495.050	44%	60%	46%	74%	68%	73%
Chieti	128.898	13.192	142.090	175.020	22.807	197.827	271.575	33.379	304.954	36%	73%	39%	55%	46%	54%
tot. region	776.743	79.475	856.218	975.602	124.389	1.099.991	1.314.899	170.221	1.485.120	26%	57%	28%	35%	37%	35%

Notes: DA = domestic arrivals; IA = incoming arrivals; TA = total arrivals

Source: authors' elaboration on ISTAT data and CRESA (2004)