

Low-cost carriers and secondary airports: Three experiences from Italy

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1. Introduction

Following the deregulation process, which took place in Europe in the nineties, the air transport market in Italy showed a constant growth in terms of passengers carried, both on domestic and international routes. In this paper, after a short overview of the deregulation process in Europe, an analysis of the Italian context recalling the role of the former flag carrier *Alitalia* and evidencing the growing importance of medium/small airports due to the presence of low-cost carriers (hereafter LCCs) is provided. In the second part, the paper analyzes the instruments (co-marketing agreements, direct subsidies, discount on landing and/or terminal charges and revenue-guarantee schemes) used by airports to attract airlines, both from a general point of view and using three case studies. The paper sheds light on the role of these strategies in improving and promoting the accessibility of some areas, evidencing also their primary contribution to the proliferation of airports whose losses are, in the majority of cases, paid by the public purse.

2. Background

2.1. The deregulation process in Europe and its effects

Prior to deregulation, air transport was based on highly regulated bilateral agreements between nations. The

deregulation process in Europe followed four steps (ELFA, 2004; Graham, 1998; Malighetti, Paleari, & Redondi, 2008; Mawson, 1997) that led to a unique domestic market for the continent. According to Fu, Oum, and Zhang (2010) and Mawson (1997) liberalization entails a series of changes to the air transport sector such as increased competition among airlines, and improvements in both the service quality and productive efficiency of the airlines. Three main results of the deregulation process (Fu et al., 2010) can be listed on the supply side, namely the entrance and the development of LCCs, the re-organisation of network carriers and the further development of the intra/intercontinental markets. LCCs, thanks to a completely new managerial strategy, have been able to gain growing market shares both on short and medium-haul routes reaching first positions (for Ryanair and easyJet) in the European ranking for passengers carried (CAPA, 2011), representing 31% of the intra-European market in terms of seats (Dobruszkes, 2013). From the demand side, liberalization led to a growth in passenger traffic both in main airports and in medium/small secondary airports that were underused and located in areas with a latent demand for air transport (both new demand and diverted demand from more expensive transport alternatives) (Dobruszkes, 2006). The single aviation market has also changed the traditional business relationship between airport and airline (Starkie, 2012), forcing airports to modify their approach in negotiating with airlines. This is because the capability of LCCs to guarantee high level of passengers creates an asymmetry between the two partners, with more market power in the hands of the airlines (Barbot, 2006). In the case of airports that are closely located, this situation pushes the airports to compete harder

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(through low charges and/or handling fees, co-marketing agreements, etc) to attract carriers (Barret, 2000, 2004).

The remainder of the paper further discusses the instruments used by airports to attract airlines promoting their destinations. The paper shows that for smaller airports, these strategies do not generate any direct commercial benefit, as the revenues generated are insufficient to cover the cost of the incentives. In such circumstances, they tend implicitly or explicitly to be justified as a means to promote and market the destinations. Moreover, the effectiveness, impacts on local economy (which may also be used to justify the use of incentives) and long-term sustainability of these instruments have seldom been analyzed in detail by decision makers.

2.2. The Italian context

Prior to deregulation, the air transport sector in Italy was dependent from the former state owned flag carrier Alitalia, operating from its main airport in Rome and from a few other airports. Following the liberalization of air transport, Italy witnessed a considerable growth in terms of passengers. According to ENAC¹ there are currently 46 commercial airports (Fig. 1), differing both for their scale and type of operation.

According to the Transport Statistical Pocketbook² (2013), Italy has a similar number of big and medium airports (i.e. airports with more than 1 million passengers) compared to other European countries (Germany, Spain, UK, France), but fewer small airports (with fewer than 0.5 million passengers per year). Traffic trends for Italy show a constant growth in terms of passengers and cargo, with some slowdowns corresponding with economic crises and other events. At the end of the crisis, traffic always recovered, in particular for the passenger sector. The 2007 financial crisis and the crisis of Alitalia represent the greatest traffic slowdowns in the last twenty years, and the industry has still not recovered from these. Comparing domestic and international trends in passenger numbers (Fig. 2), a higher CAGR for the period 2000 to 2012 can be observed for international passengers (5.3%) than for domestic passengers (2.42%). The growth trend for international passengers has been constant since 2003, corresponding, somehow, to the growing presence of LCCs at Italian airports (Bergamo, Rome—Ciampino, Pisa, Catania, etc).

According to DLR (2008), in no other European country are there more airports served by LCCs than in Italy. In the last few years, LCCs have increased their role, while full-service carriers (hereafter FSCs) have reduced their market shares. This is largely due to the weakness of the former flag carrier, Alitalia, which proved to be unable to face the new scenario resulting from market liberalization, but it also derives from the limited involvement of other FSCs into the Italian domestic network. In the majority of cases, LCCs started using secondary airports with idle capacity located in areas previously not served by FSC; the analysis of 2000–2012 CAGR data³ confirms that where there was a LCC, traffic grew faster (always by above 10%) than the average value for Italy (4.21%). Fig. 3 compares CAGR values and LCC market share in the airports where this increase has been faster. In almost all the cases, Ryanair is the dominant carrier.

Research conducted by KPMG (2011) shows how the traffic distribution of LCCs in Italy is mainly located in medium-small catchment areas (i.e. less than 0.5 million inhabitants). Nonetheless, the presence of LCCs is rather homogeneous among all airport systems, including the main ones (Milan Malpensa, Venice and Rome Fiumicino). The analysis of 2012 traffic data for the 46 Italian

airports with respect to total traffic, shows how the first five airports serve more than 50% of the total traffic, while this value reaches nearly the 90% if we consider the first fifteen airports. Rome and Milan historically play a major role, while regional airports such as Bologna, Naples, Venice and Catania, operating with a mix of low-cost and full-service carriers, have gained increasing importance following the deregulation process (Table 1).

Concerning the ownership of airports (Fig. 4), Italy follows the European trend where the role of the public sector is still strong (ACI, 2010). Adding together the airports wholly in public hands and those with a major public presence, it can be seen that 73% of all Italian airports have a public-sector orientation. Among the first 15 airports per passengers carried in 2012, eight are publicly or nearly publicly owned while only Rome, Venice and Napoli have private majorities.

For the coming years, it is likely that this situation will be challenged because of the weak financial situations of many airports and their respective public administration. A greater presence of private airports could be foreseen. For example, Milan, Forlì, Salerno, Turin, Genoa and Palermo have already planned the privatization or the reduction of the public-sector share for their airports.

2.3. The role of Alitalia

The Italian air transport system has been strongly influenced in recent years by the events regarding Alitalia (hereafter AZ), whose story is characterized by a series of difficulties in which bad management, strong political pressure, and the heavy influence of trade unions, led to significant losses that had to be covered by public transfers (Beria, Niemeier, & Fröhlich, 2011). Giuricin (2009) estimated that between 1996 and 2008 the government gave more than Euro 4 billion to save AZ. Since 2000, AZ has constantly lost market share both on domestic and international routes; in particular between 1996 and 2006 it lost 14.8% of its European market share and 10.6% of its Asian market share (Bergamini, Gitto, & Mancuso, 2010). Despite the overall growth of passenger traffic in Italy, Alitalia market shares have been constant or declining while its competitors, including LCCs, have increased their market shares. Passenger traffic in Italy grew with a CAGR of 4.21% over the period 2000 to 2012, while in the same period AZ registered a CAGR of only 0.42%. The domestic market share fell from 65.9% to 44% between 1998 and 2005, and the European market share from 22.5% in 2002 to 17.4% in 2005 (Boitani & Scarpa, 2006). Finally, the new carrier born after the privatization, *Compagnia Aerea Italiana* (CAI), which is jointly owned by a dozen of Italian investors and AirFrance-KLM⁴ (the airline initially owned 25% of the company, but this has now decreased to 7%), has not been able to recover market shares neither on domestic markets or on international ones, leaving more and more room to LCCs, especially at secondary airports. Fig. 5 compares the weekly seats offered by Alitalia Group in the Italian airports (excluding the main ones of Milan, Rome and Venice) and the number of routes operated by AZ versus those offered only by other carriers.

It is thus evident that the role of Alitalia is marginal in many airports, including those that have registered high traffic growth in the last decade (e.g. Bologna, Pisa, Treviso, Bari).

2.4. The race of airports to attract airlines

Following the liberalization of air transport, some medium/small airports (for example Bergamo, Pisa, Catania) have gained a

¹ ENAC – the Italian Civil Aviation Authority – was established on 25th July 1997 by Legislative Decree no.250/97 as the National Authority committed to oversee the technical regulation, the surveillance and the control in the civil aviation field (source: ENAC website accessed 24 October 2012).

² <http://ec.europa.eu/transport>

³ We consider here only values above 11%.

⁴ In 2008, an attempt to sell the carrier to AirFrance/KLM failed due to political intervention and to a refusal by trade unions to accept the proposals of Air France with regard to labor issues.

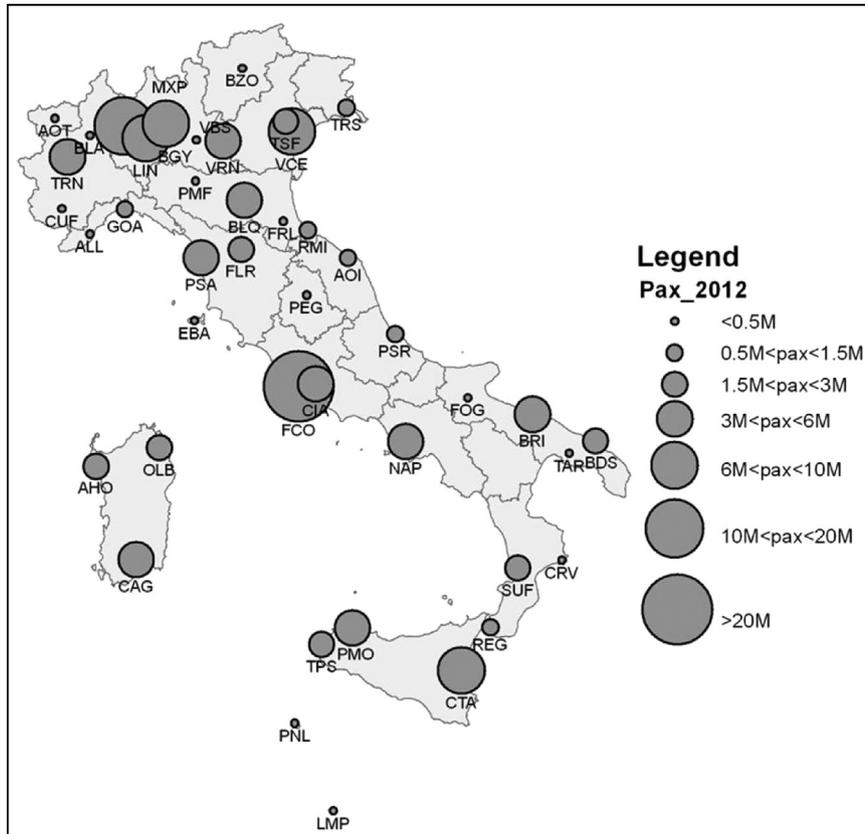


Fig. 1. Italian airports, 2012 passengers.
 Source: Our elaboration on ENAC annual statistics 2012.

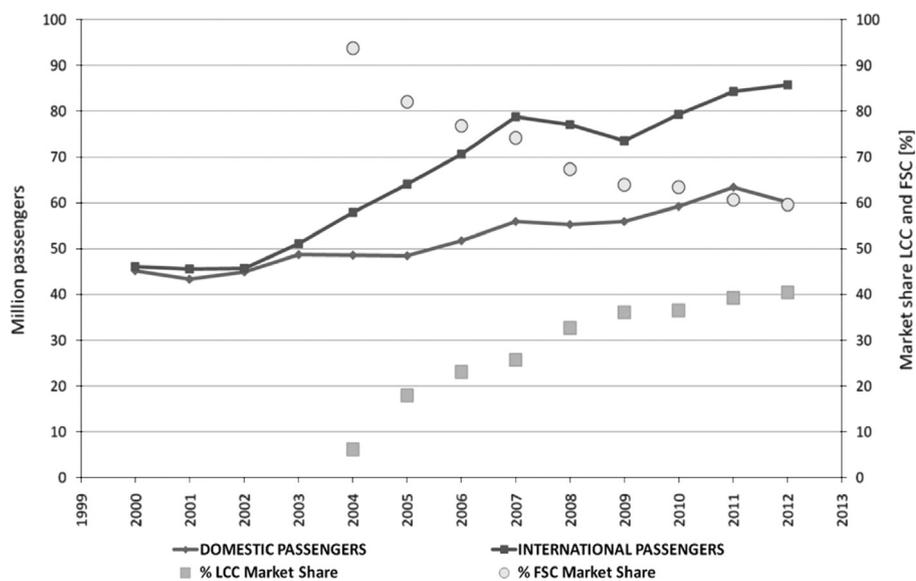


Fig. 2. Domestic and international trends for passengers in Italy in comparison to market share (right axis) for both LCCs and FSCs.
 Source: Assoaeroporti annual statistics 2000–2012, ENAC annual statistics 2000–2012.

major role in the Italian market thanks to the presence of a LCC. In general terms, there is a tradeoff between the presence of a LCC (which means high passenger numbers and, at least in theory, additional expenditure in the local economy or increase in tourist activity) and the costs associated with attracting them to locate there (discounted airport charges, marketing partnerships, etc).

The positive traffic results of these airports promoted the idea that any airport could regenerate regional economy (stimulating tourism, creating new jobs, providing connections towards larger cities, etc) provided it was capable of attracting LCCs. [York Aviation \(2004\)](#) points out that the contribution of the airports to the overall economy of the areas they serve could be substantial,

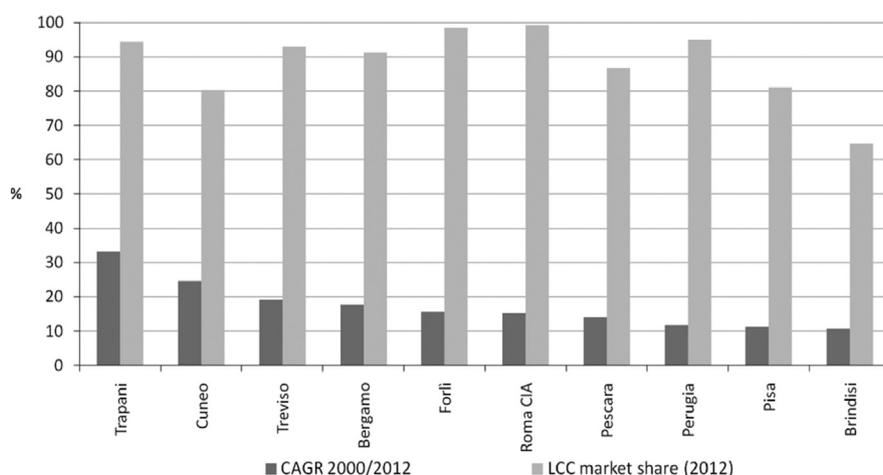


Fig. 3. CAGR and LCC market share in the airports with the highest increase in passengers traffic. Source: our elaboration on ENAC annual statistics 2000–2012.

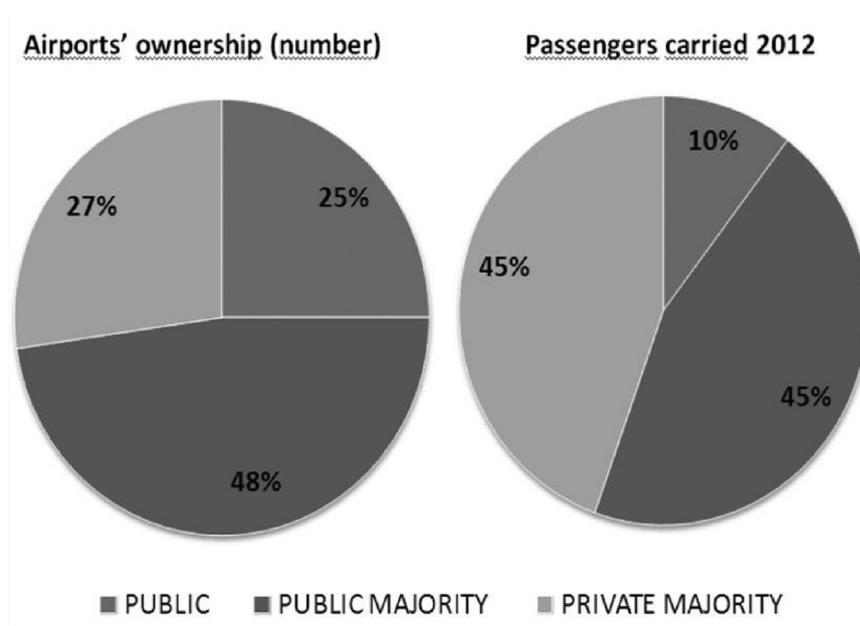


Fig. 4. Ownership of Italian airports (left) and passengers carried in 2012 according to the ownership of the airports (our elaboration on ENAC, 2009, ENAC annual statistics 2012, websites of airport operators). NOTE: public or private majority refers to a situation where the public or private sector owns a majority share in the airport operator.

nonetheless it is difficult to isolate and measure these impacts⁵ since the causality between air transport services and regional economic development is blurred and sometimes circular (Graham, 2003; Williams & Baláz, 2009).

The result of this situation has been, in some areas, an irrational race to open new airports and routes leading to an oversupply with no consideration to the catchment area to be served and the number of airports already serving the area. These airports often tried also to attract carriers by means of rebates, implicit subsidies, and expensive co-marketing practices, thereby enlarging their losses. Finally, since the majority of these airports is publicly owned, the result, has often been the use of public money to cover the deficits incurred. Meanwhile there have often been scarce or even no results either in transport or local development terms. In the next section the paper

will discuss how airports try to attract airlines. This will be done by means of case studies that illustrate the consequences of such policies, especially in terms of financial losses for airports.

3. Method and data

The ties between airports and airlines are complex, involving industrial, legal, regulatory and financial aspects. As these relationships often involve public bodies (both as planners and as airport owners), this intersects with the issue of state aid. In the following section, the paper firstly discusses the definition of state aid according to EC 2005 guidelines. Then, starting from a literature review on incentive schemes used by airports, the paper examines the instruments adopted by airports to attract airlines in accordance with such regulation. In the second part, the paper analyses the impacts of the incentives schemes both on the financial health of airports operators and on the demand side. To do that, we consider three case studies: the airports in Puglia region, the airport of Alghero in the Sardinia region and the secondary airports in the Emilia-Romagna region.

⁵ The most commonly used method of estimating regional impacts is Input-Output analysis. Forsyth (2006), pointing out how this technique has been increasingly challenged (Niemeier, 2001; Dwyer, Forsyth, & Spurr, 2004), proposes a regional and national computable general equilibrium (CGE) model to estimate both the regional and national impacts on economic activity of airport subsidies.

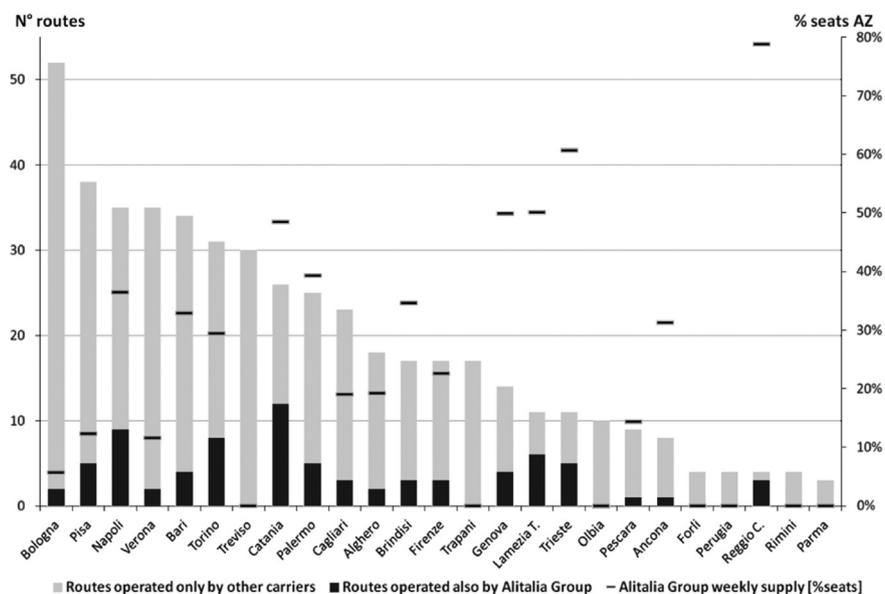


Fig. 5. Comparison among small and medium-sized Italian airports (Source: our elaboration on OAG database, scheduled services for the week 11–17 March 2013). NOTE: Alitalia Group includes Air One, Alitalia - Compagnia Aerea Italiana Spa, Alitalia CityLiner Spa., CAI First, CAI Second.

The three regions have all high tourist potential thanks to their natural resources, culture, history and art. Moreover, they have also experienced an improvement in general and tourist infrastructures. These regions are heavily populated and characterized by important internal flows (in particular from Puglia and Sardinia to the North of Italy). Finally, they are all served by more than one airport with a predominant presence of LCCs carrying with it a risk of traffic cannibalization. The regional and local administrations have all identified air transport as a tool to boost the local economy and to increase tourist numbers. They have therefore strongly supported the development of both infrastructure and services in the last ten years. In particular, the success of the LCCs and their ability to ensure passenger numbers even in remote areas has prompted airport operators and public authorities to make agreements with carriers on the premise that the mere presence of air links would ensure the economic success of the area. In the following sections, we will discuss the cases using the following structure: description of events, cost of the instrument(s) used by airports to attract airlines (if available), effect in terms of traffic volumes, and lessons learnt. Official quantitative data (airports balances, regional government resolutions, European Commission investigations, ENAC statistics, OAG database, Bureau van Dijk database) will be used to back up this analysis.

4. Airlines and airports: start-up tools or hidden state aids?

4.1. The European Commission's point of view on state aids in the aviation sector

In September 2005, the European Commission⁶ (hereafter EC) adopted the *Community Guidelines on Funding of Airports and Start-Up Aid to Airlines Departing from Regional Airports* (EC 2005). The guidelines cover two major areas, namely start-up aid for new air routes (which is the topic of this section) and the financing of airport infrastructure and operations.

According to the Guidelines the “principle of the private investor” should be applied when evaluating a measure as state

aid. Therefore, a measure could be considered a state aid if a private investor acting in a free market would not participate in the transaction. It is thus possible for a public airport to give an airline financial advantages from its own resources generated by its business activity, as long as it proves itself to be acting in the same way as a private investor, for example by providing a business plan setting out the profitability forecasts for its airport economic activity. In particular (and for a detailed description see EC, 2005), according to the guidelines:

1. Start-up aids must be notified to the EC, which evaluates them;
2. Financial start-up incentives could be provided for routes linking airports with less than 5 million passengers per year;
3. Aid will apply only to the opening of new routes or new schedules which will lead to an increase in the net volume of passengers;
4. Start-up aid must be degressive and of limited duration, that is the route receiving the aid must ultimately prove profitable;
5. Degressive aid may be granted for a maximum period of three years. The amount of the aid in any one year may not exceed 50% of total eligible costs for that year and total aid may not exceed an average of 30% of eligible costs.

Moreover, any granting of start-up aid should be adequately made public and any airline submitting its application should provide a business plan showing, over a substantial period, the viability of the route after the aid has expired. Finally, the aid should be stopped once the objectives in terms of passengers have been reached or when the route breaks even, even if this is achieved before the end of the period initially foreseen. In 2011, the EC started a public consultation asking for feedback on the application of the guidelines. From this consultation it emerged that the guidelines are perceived to be overly complicated and thus quite difficult to apply. At the moment of writing, the EC is also discussing the revision and updating of the rules to consider the changes that have occurred in the market in recent years.

4.2. Instruments to attract airlines

Competition between airports to attract airlines led many of them to implement new strategies. As marketing has proven to be

⁶ We refer here only to the 2005 Guidelines. Therefore we do not consider the modifications in the revised Guidelines that, at the moment of writing, are still not in force.

a fundamental element in influencing visitor numbers (Prideaux & Cooper, 2003), regional governments and airports offer various forms of financial aid to airlines to support services (Hvass, 2014) and to promote their destinations in order to develop their accessibility and to increase the number of visitors. The instruments applied by airports to incentivize airport growth, can be summarized as follows (Allrogen, Malina, & Lenz, 2013; Castillo-Manzano, López-Valpuesta, & González-Laxe, 2011; Copenhagen Economics, 2012; Fichert & Klophaus, 2011; Graham, 2013; Malina, Albers, & Kroll, 2011):

1. Discounts on landing and/or terminal charges: discounts in the form of rebates or reductions on the published tariffs over a relatively short period of time;
2. Direct subsidies: the airport or the local authority makes available a certain amount of money to support the startup of new routes, usually under the guarantee of a certain supply or a certain number of carried passengers;
3. Revenue guarantees: the airport guarantees that the airline will reach a defined level of revenues or a certain load factor, otherwise the airport will cover the difference up to a fixed amount agreed between the parties;
4. Co-marketing agreements: strategic partnership between airports and airlines aimed at offering to carriers the opportunity to reduce their start-up costs related to new routes in exchange of for marketing and advertising activities paid by the airport or by the local authorities on behalf of the carrier. In general, the contribution is linked to a defined volume of passengers and a number of flights for each destination that the carrier will guarantee to the airport.

In principle, if such advantages are given on a transparent and non-discriminatory basis, no state-aid rule applies, as the airport is not “favouring” any particular undertaking (EC, 2002) through the start-up aid. In reality, however, publicity is not always guaranteed, since airports sometimes offer discounted charges that are not published or incorporated into a transparent structure of tariffs, or they offer marketing grants exclusively to one carrier (EC, 2002). This point has also been shown by Malina et al. (2011), who investigated the presence of incentives for route and traffic development in 200 airports across the European Union in 2010. They found that two thirds of incentives were granted on the basis of officially disclosed incentive programs, the remainder being bilateral agreements between airlines and airports which may include discounts on certain fees, bonus payments or joint marketing initiatives for a limited period to airlines. Alternatively, airports might also bilaterally agree on certain growth commitments and incentive payments, or local and regional governments could enter into such agreements with airlines.

However, the transparency and the coherence with EU regulation on state aid does not guarantee effectiveness in terms of traffic generation and destination marketing. Destination marketing theory, in fact, requires building and evaluating marketing programs including all of the elements (attractions and events, transportation, facilities, etc) of the destination mix (Mill & Morrison, 2012) with respect to travelers' needs (Morrison, 2013). The cases presented in the next section will show that route development of Italian airports, even if funded by public expenditure, does not seem based upon a defined tourism strategy and plan⁷ since no explicit focus on attraction effects at destination are considered in their design. Rather, negotiation between airlines and airports seems the only principle followed in airport development.

⁷ Such as *Initiative.pt* aimed at promoting routes from Portugal (Carballo-Cruz & Costa, 2014) or the Air Route Committees in Spain (Castillo-Manzano et al., 2011).

5. Three cases from Italy

In this section we will deepen some of the strategies listed above by means of three case studies. As we will show, each case study has its own peculiarity that helps to better understand the pitfalls of the incentives offered by airports to carriers:

- (i) The case of Aeroporti di Puglia describes the implications deriving from the strict application of the 2005 EC Guidelines.
- (ii) The case of Alghero illustrates the role of public organisations in determining and applying regional aviation policy and its consequences.
- (iii) The case of Emilia-Romagna shows the risk of cannibalization among airports wishing to attract LCCs.

5.1. Tender procedure: the case of Aeroporti di Puglia

Aeroporti di Puglia (AdP), which is owned by the regional government, manages four airports (Bari, Brindisi, Foggia and Taranto) in the southern region Puglia, with a total traffic of 5.9 million passengers in 2012 (Bari has 3.8 million passengers, Brindisi has 2.1 million, and Foggia and Taranto have negligible values numbers). Since 2007, air transport supply in Puglia strictly relies on public funds for the development of new routes. In 2007, AdP, following Section 5 of 2005 EC Guidelines, proposed a scheme granting start-up aid for new air routes from the airports of Bari, Brindisi and Foggia to other national and European destinations. The total maximum amount of financial aids, lasting for three years, was € 63 million divided into 16 lots, each referring to a single international route, and 8 lots, each referring to a single national route.⁸ On April 2007, the measure was approved by the EC,⁹ which found it in line with the Guidelines, being:

1. available to all operators in a transparent and non-discriminatory manner;
2. limited to three years for each new route;
3. limited to 40% of eligible costs;
4. to be paid out on the basis of a business plan.

However, only a few carriers applied. For the majority of routes, only myAir.com (ADP, 2010), an Italian LCC, applied. This tender awarded only part of the foreseen routes. According to Alderighi & Baccelli (2007), one of the reasons behind the low involvement of carriers was the decision to set the highest promotional average fares according to a LCC model. This may have reduced the interest of network carriers due to their different cost structure. Moreover, the strict rules of the public notice concerning both the procedure to provide the contribution and the penalties in case of withdrawal¹⁰ may have determined a low number of candidates. As not all routes were covered, AdP then issued two further selective procurement procedures for the start up of new air routes in the airports of Brindisi and Foggia. In the meantime, in the fall of 2009, myAir.com failed. This forced AdP to

⁸ Aeroporti di Puglia public notice published on 23 February 2007.

⁹ Decision C(2007) 1404 (see European Commission press release Reference: IP/07/474 Event Date: 04/04/2007).

¹⁰ According to the 2007 public notice (point 7.1), in case the airline does not fulfill to all the conditions in the Agreement, it will have to pay the Puglia Region, by means of Airports of Puglia SpA, penalties depending on the number of violations up to the 50% of the total contribution for the first year. In addition, Airports of Puglia SpA has the right to terminate the Agreement and related contributions with immediate effect also.

identify carriers to replace myAir.com on its routes. New agreements were signed with Darwin Airlines,¹¹ Air Berlin, Lufthansa and WizzAir. In the summer of 2009, AdP carried out market research to identify companies willing to base their aircraft in Puglia's airports. The only company that showed interest was Ryanair, with which, according to a specific resolution of the shareholders of Airports of Puglia, a five-year agreement was signed in September 2009 (ADP, 2010). The agreement consisted of two parts, clearly related to the same object.¹² The first part was the so called "airport service agreement", signed between Ryanair and AdP, concerning the positioning of three aircraft in the airports of Bari and Brindisi. The second part, known as the "marketing service agreement", signed with a Ryanair subsidiary, Airport Marketing Services Limited (AMS) and the Puglia Region, concerns the promotion and marketing of the region through Ryanair's website (Puglia Region, 2011).

Concerning the total cost of this agreement for the Puglia region (owner of the airports), no official detailed information is available due to confidentiality of the deal. However, an analysis of the 2008–2012 balances of AdP can provide some indication since they present two elements, both as costs and revenues, which should include the cost of this agreement, as reported in Table 2. As the figures show, AdP receives annual start-up aid for new routes and contribution to tourism/promotion from the Regional Government, which correspond to the costs borne by AdP for commercial promotions and new route development.¹³ The revenues are explicitly labeled as regional contributions for new routes and for tourist promotion. For the year 2012, the investment of the Puglia region in these actions sums up to €13.2 million, slightly higher than the contribution to Ryanair as reported by the press.¹⁴

Looking at the traffic volumes, the partnership has achieved good results for the airports since traffic has steadily grown (CAGR 2009–2012 + 14%); nonetheless, the dependence on Ryanair is currently very high. According to OAG 2013 data, it operates more than 50% of weekly seats in Brindisi and Bari. AdP has registered positive financial results since 2008 but this is also due to the constant transfers received from the regional government.

The case of AdP shows how the rules in the EC Guidelines (now being revised) may translate into limited participation of airlines in the tender procedure, also when publicity is guaranteed. The complexity of the rules ultimately led to a negotiation procedure between the airlines and the airports, with the latter having limited bargaining power.

5.2. The case of Alghero's airport

Alghero's airport, owned by the regional government, is an international airport of the insular region of Sardinia. With more than 1.5 million passengers in 2012, it is the third airport of the island (after those of Cagliari and Olbia). Air transport is essential for residents and the airport has also played an increasing role in tourism. Like 96% of all European airports (Copenhagen Economics, 2012), also SOGEAAL, the airport's operator started actively marketing its airport to airlines. Ryanair has always been

the main airline for Alghero, which has traditionally been ignored by FSCs. Several agreements have been signed between the carrier and its subsidiary, Airport Marketing Services (AMS), and SOGEAAL.¹⁵ As with the previous case of Puglia, the agreement involved two parts: the first, known as the "airport (and Marketing) services agreement", was signed between Ryanair and SOGEAAL in 2000. It, defines the conditions of the operation of Ryanair at the airport and the level of airport charges. The second, known as the "marketing services agreement", was signed between AMS and SOGEAAL in 2006 and, involves the advertising of the destination on the official website of Ryanair.

In 2007, as a consequence of a complaint from a competing airline, the EC began an investigation to check the conformity to EU state-aid rules of a capital increase granted to SOGEAAL and of contracts between the operator and airlines for the use of the airport infrastructure and the provision of marketing services. Due to the confidentiality of these agreements, no specific information is available; in the following discussion we will mainly refer to EC (2008) and to regional government documents. Following the 2000 and 2002 agreements, two other deals, each lasting for ten years, were signed in 2003. The first concerned co-marketing contributions for the opening of international routes paid mainly with money received from the regional government¹⁶; the second involved handling services. In 2006, a so-called Supplemental Agreement was signed between the two parties; it provided for a good performance reward per passenger carried ("success fee") linked to the number of passengers and flights operated annually. Concerning the discounted fees, the Commission underlines that between 2003 and 2006 Ryanair had paid a lump sum of €129 per rotation instead of the published rate of €930 per rotation, which applied to the same type of aircraft.

The total detailed costs of the discounts are not known. According to the EC (2008) investigation, SOGEAAL operates with high losses, both in the handling services and in the general management.¹⁷ These losses seem related, at least in part, to the grants and the reductions given to low-cost airlines (which represent 65.5% of airport traffic). According to official documents of the Sardinia region (see Table 3) and to EC (2008), the regional government has constantly transferred money to SOGEAAL. The Region of Sardinia reimbursed SOGEAAL, from 2002 to 2007, a significant portion of the costs incurred due to its agreement with Ryanair for a total amount between €7 million and €9 million (EC, 2008). Secondly, the public shareholders of SOGEAAL have given the company a capital increase of €4 million. Notwithstanding the EC investigation, the regional law No. 10, approved in 2010, has foreseen both the recapitalization of Alghero's airport (with €10 million, transferred from the regional budget) and resources for the financing of the three main airports of the region. In January 2013, the EC opened an in-depth investigation to examine whether this scheme is in line with EU state-aid rules.

Looking at traffic volumes, results show a constant growth (CAGR 2000/2012 equal to 7.10%), with important effects on connectivity, both for tourist and local citizens. On the other hand, part of the losses of SOGEAAL come from the payments made to Ryanair (EC, 2008).

¹¹ According to ADP (2011), the total contribution given by the Puglia Region from October 2008 to September 2011 to myAir and Darwin Airlines for the routes operated from Foggia is equal to €18 million.

¹² The Commission, in its decisions of 08.02.2012 and 23.03.2012 on La Rochelle (SA.26494) and Angoulême (SA.33963) airports, states that the marketing services agreement and the airport services agreement should be jointly considered for the purpose of the analysis of the compatibility with guidelines.

¹³ With minor differences in the case of the commercial promotions, which probably include something else.

¹⁴ 2 million at the end of 2009, 8 million in 2010, 10 million in 2011 and 12 million in 2012 (Source: Corriere del Mezzogiorno 31/08/2012 and Corriere del Mezzogiorno 31/03/2013 accessed on November 2013)

¹⁵ Airport/Marketing Services Agreement 2000, 2002, 2003 signed with Ryanair, 2006 and 2010 Airport Services Agreements and Marketing Services Agreements signed respectively with Ryanair and AMS.

¹⁶ According to the 2002 Convention, the Region of Sardinia reimburses SOGEAAL, restoring in this way the contributions paid to Ryanair (EC, 2008, point 69).

¹⁷ Until 2007, due to the partial concession regime, SOGEAAL could not rely on non-aviation revenues to compensate the losses resulting from activities related to air services. In 2007 SOGEAAL obtained the full management concession without any public tender.

Table 1

Passengers carried in 2012, ownership structure, percentage of passengers carried on the total of Italy and LCC market share for the top 15 Italian airports. *Note:* PUB (100% public shareholders), MIX PRIV (private shareholders > 50%), MIX PUB (public shareholders > 50%).
Source: our elaboration on ENAC annual statistics 2012 and airports company information.

Airport	Pax (2012)	Ownership (2012)	Total Traffic Italy (%)	LCC (2012) (%)
Rome FCO	36.742.475	MIX PRIV	25.17	18.50
Milan MXP	18.329.205	MIX PUB	12.55	39.80
Milan LIN	9.175.619	MIX PUB	6.28	6.00
Bergamo	8.801.392	MIX PUB	6.03	91.30
Venice	8.110.520	MIX PRIV	5.56	29.20
Catania	6.147.119	PUB	4.21	35.30
Bologna	5.879.627	MIX PUB	4.03	45.20
Naples	5.757.879	MIX PRIV	3.94	39.00
Palermo	4.585.199	MIX PUB	3.14	47.80
Rome CIA	4.490.699	MIX PRIV	3.08	99.20
Pisa	4.488.202	MIX PUB	3.07	81.00
Bari	3.763.124	PUB	2.58	59.40
Cagliari	3.574.313	MIX PUB	2.45	52.50
Torino	3.507.488	MIX PRIV	2.40	25.00
Verona	3.152.081	MIX PUB	2.16	34.30

Table 2

Aeroporti di Puglia balance data concerning contributions for the start-up of new routes and for tourism/promotion.

Sources: AdP annual reports 2012, 2011, 2010, 2009, 2008.

	Revenues of AdP	Costs for AdP
	<i>"Contributions from Regione Puglia for new routes"</i>	<i>"Commercial promotions for start up of new routes"</i>
2012	3.087.218	3.087.218
2011	8.395.580	8.395.580
2010	8.395.131	8.395.131
2009	9.068.075	9.077.753
2008	14.255.774	
	<i>"Contributions from Regione Puglia for tourism/promotion"</i>	<i>"Commercial promotions"</i>
2012	10.107.888	10.703.144
2011	9.973.797	10.210.232
2010	7.984.333	8.156.919
2009	1.974.000	3.053.523
2008	833.333	

The case of Alghero shows the strong, albeit indirect role of public bodies in applying regional aviation policy. The absence of a public procedure to select the airlines¹⁸ to which to assign grants, together with constant transfers from the public stakeholders, may have distorted competition and thus reduced the pressure towards efficiency in public spending. Open tender procedures, in fact, are designed to choose the airline, which requires the lowest subsidy to provide the service. Direct negotiation, in contrast, does not always guarantee this result, especially if it is a secret agreement between the parties. Moreover, Forsyth (2006), discussing the arguments for and against regional airport subsidies, evidences their role in distorting the airport choices of airlines, inducing some of them to use airports that otherwise they would not have considered.

5.3. The battle between airports: the case of the Emilia-Romagna region

Emilia-Romagna region (hereafter ER) has four airports: Forlì, Bologna, Rimini and Parma, all closely located along the axis of the A1 highway. The first three are owned by public subjects (Table 4).

¹⁸ Concerning the advantages granted to Ryanair in 2003, the Commission notes that no adequate announcement had been given in order to allow other carriers to benefit from them (EC, 2008 point 139).

Assuming a definition of catchment area that considers the population within a one-hour driving time to the airport, the four airports clearly compete for the same traffic as their catchment areas overlap.

Moreover, Rimini, Forlì and Parma are used mainly by "low cost" passengers. This entails an increase in competition between the airports since these passengers value time less (Dennis, 2007) and are willing to travel to a further airport if it has cheaper flights. As a result, this situation has contributed to uncertain traffic figures and to a weak financial condition for three of the airports. Of these, only Rimini, one of the most important tourist destinations at the European level, has a specific traffic target, namely tourists: one third of the total passengers in 2012 comes from charter services Fig. 6.

Bologna, the main city of the region due to its central position (highly connected with both highways and railways) and the presence of low-cost and full-service carriers, has instead experienced a constant growth. LCCs, in particular Ryanair, have played a central role in the traffic growth of Forlì, Rimini and Parma airports. Fig. 7 depicts the volatility of traffic trends for the three smaller airports.

During the last decade, Forlì's airport has experienced the greatest variations in traffic figures. The peak in 2004 derives from the temporary closure of Bologna's airport which moved its flights there. However, in 2008, the airport reached nearly the same amount of passengers thanks to the presence of Ryanair. This positive trend suddenly stopped, however, in October 2008, when

Table 3
 Losses and public allocation for Alghero airport. The public allocation refers to the subsidy foreseen by the Sardinia region. It could be possible that in the end, due to political decision, the money have not been transferred to SOGEAAL.
 Sources: for net profit data, elaboration on Enac 2009 and the Bureau van Dijk database; for public appropriation data see apexes below.

Year	2005	2006	2007	2008	2009 ^a	2010	2011	2012
Net profit (M€)	-2	-1.1	-1.8	-4.5	-12.4	-1.8	0.35	-2.3
Public appropriation (M€)	2 ^b	2.7 ^c	3.4 ^d	3 ^e	3 ^f	10.5 ^g	9 ^g	8 ^g

^a According to Sardinia regional resolution 6/1 of 23.1.2009, the regional government also gave a capital increase to SOGEAAL equal to 2.3 M€.
^b Sardinia regional resolution n. 39/3 of 5.8.2005.
^c Sardinia regional resolution n. 30/9 of 11.7.2006.
^d Sardinia regional resolution n. 40/7 of 9.10.2007.
^e Sardinia regional resolution n. 71/37 of 16.12.2008.
^f Sardinia regional resolution n. 29/8 of 25.6.2009.
^g Sardinia regional resolution 52/117 of 23.12.2011.

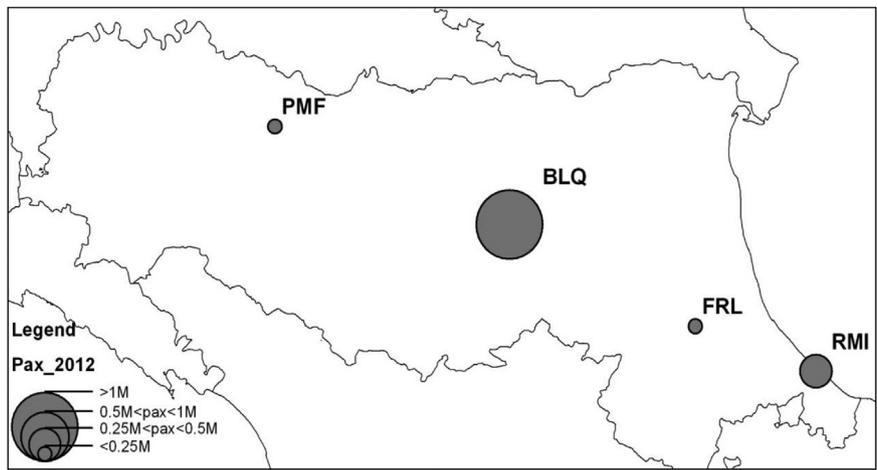


Fig. 6. Passengers carried in 2012 (our elaboration on ENAC annual statistics 2012). BLQ (Bologna), PMF (Parma), FRL (Forlì), RMI (Rimini).

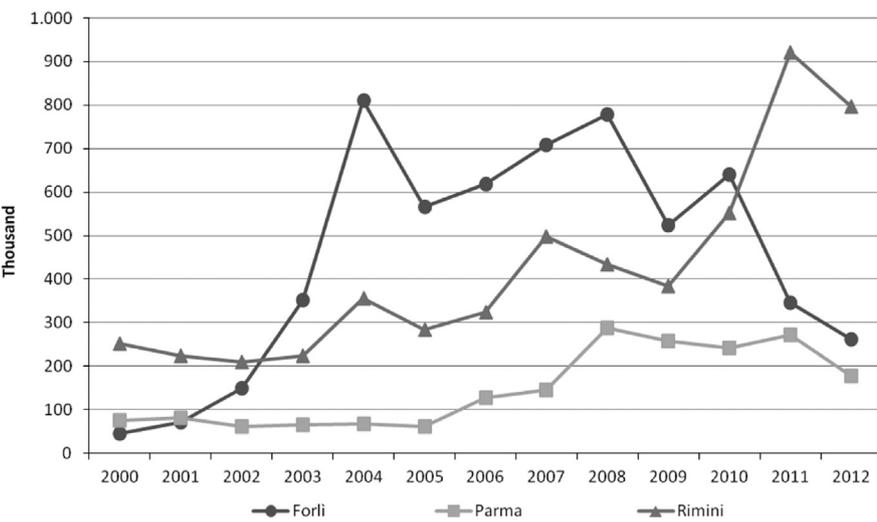


Fig. 7. Passengers carried (our elaboration on Assaeroporti annual statistics 2000/2012).

Ryanair left the airport in favor of Bologna. Following this defection, the management turned to WindJet, an Italian LCC, which started operation in March 2009. In 2011, the airport again lost its dominant carrier, which moved to Rimini. As with many other airports, Forlì based its strategy on co-marketing agreements and revenue-guarantee contracts¹⁹ with airlines. This resulted in

¹⁹ Forlì's airport 2009 and 2010 annual reports. No detailed financial data are available concerning the agreements with LCC.

constant losses, which had to be covered by the public owner. The failure of the airport company in 2012, and the following decision to privatize it, might not solve the problem²⁰, since the presence of private investors does not necessarily ensure the success of an initiative, as the case of Parma's airport shows. In fact, among the four airports of the region, Parma is the only one

²⁰ A first attempt to privatize the airport failed at the beginning of 2013, a new privatization procedure is being discussed at the moment of writing the paper.

Table 4

Main data for the airports (our elaborations on ENAC annual statistics 2012).

	Pax (2012)	National (%)	International (%)	CAGR 00/12 (%)	LCC (2012) (%)	Dominant carrier (or ex)	Public Share (%)
Bologna	5,879,627	29,1	70,9	4,36	45,20	Ryanair	86
Forlì	261,464	0,6	99,4	15,60	98,40	Ryanair, then WindJet	97
Parma	176,448	68,1	31,9	7,38	92,50	Ryanair	21
Rimini	787,028	20,7	79,3	9,99	36,20	Ryanair	75

Table 5

Profit and loss account results (source: airport financial statements).

Year	2007	2008	2009	2010	2011	2012
Forlì	-3.80	-5.70	-6.90	-9.70	-4.00	Under bankruptcy procedure
Rimini	0.01	-0.40	-2.50	-7.60	-6.2	-21.5
Parma	-4.40	-4.20	-4.50	-4.60	-4.00	-5.3

Table 6

Summary of case findings (↑ increase, ↓ decrease in traffic volumes).

Case	Tool used	Target group	Main airline	Traffic trends	Problems and lessons learnt
Puglia 2007	Direct subsidy (through tender procedure)	Incoming (tourist) and outgoing	Few carriers taking part to the tender. MyAir later failed	↑	Too strict conditions in the tender procedure based on EC Guidelines.
Puglia 2009	Discount on charges and co-marketing agreements		Ryanair	↑↑	Strong dependence on Ryanair.
Alghero	Discount on charges and co-marketing agreements	Incoming (tourist) and outgoing	Ryanair	↑↑	Losses for the airport and consequent public recapitalisations.
Parma	Co-marketing agreements	No specific target	Ryanair	↑, ↓	Disruptive competition
Forlì	Revenue guarantees and co-marketing agreements	No specific target	Ryanair then WindJet	↑, ↓	between airports and failure of two of them.
Rimini	Co-marketing agreements	Incoming (tourist)	Ryanair then WindJet	↑, ↓	

with private majority ownership. In 2008, due to constant critical financial results, the public airport operator opened up the company to private investors. The investment fund, Meinel Airports International, took the 67% of the company with a recapitalization of more than €15 million. Since then, however, the financial and traffic values of the airports have not changed.

Concerning the airport of Rimini, until the entry of LCCs, the charter sector assured constant traffic, in particular during the summer period. The increase in traffic value in 2007 derives mainly from the new routes added by LCCs, including Ryanair. In order to recover traffic values, following the first effects of the financial crisis, Rimini's airport greatly increased its co-marketing activity. In November 2010, the airport operator signed a five-year contract with WindJet,²¹ previously operating from Forlì. This contract included a revenue-guarantee mechanism, involving the purchase of tickets by the airport operator to an amount equal to €5.3 million a year for five years starting from 2011, in case of insufficient demand. This initiative, together with the opening of scheduled flights to Eastern Europe and Russia, the most

important markets for Rimini, led to positive results in terms of traffic in both 2010 and 2011. However, in August 2012, WindJet failed. In September, following the end of the five-year contract, Ryanair also left the airport. In November 2013, the airport company failed²² due to the high losses deriving from the co-marketing agreements signed. The overall results of these practices in the region can be seen in the high volatility of traffic figures, even if they are positive in single years, and in major losses by all minor airports, as reported in Table 5.

The case of Emilia-Romagna demonstrates the role played by LCCs in the development of traffic volume, but also their large bargaining power, which might cause a bidding war between the airports and consequently increase the volatility of the routes. The subsidization of routes, even if labeled as start-up subsidies, often does not translate into stable routes, these being given up as soon as the subsidy ends. Clearly, this practice does not ensure the long-term success of the airport (and the area it serves).

²¹ Rimini Airport 2010 annual report.

²² A tendering procedure to privatize the airport is underway at the time of writing the paper.

6. Conclusion

This paper presents the situation of the Italian air market, showing its dynamics and the main consequences of the deregulation process. In particular, it focuses on the relationships between some airports and LCCs, which are often based on bilateral agreements rather than on official and transparent incentive schemes. In doing so, the paper has described the tools available to airport managers (and, indirectly, to the public owners of the airport companies) to attract airlines. These tools include co-marketing agreements, direct subsidies, discounts on airport charges, and guaranteed-revenue schemes. The paper then focused on the problems related to the application of such instruments and on the effects of these on airport's financial health, leaving the in depth analysis of the effects on tourism, outbound mobility and economic impacts in general, to future work. It then completed the analysis with three Italian case studies. These served to verify how the instruments are applied in reality and to point out the complexity of the problem.

In general, in making deals with potential airlines, airports trade off a reduction in aviation revenues in return for extra non-aviation revenues (Barret, 2004). Indirectly, local markets may enjoy wider economic effects (e.g. on tourism). LCCs negotiate lower costs for guaranteeing long-term passenger and new route growth. Whereas the airport offers reduced fees or other advantages to carriers, it should be able to cover costs through non-aviation revenues (car rentals, shops, car parking, etc) that may account for about half of all revenues of an airport (Graham, 2009), or otherwise it may suffer from losses. The case of Alghero shows the trade offs faced by airports willing to attract LCCs together with the strong role of public bodies in influencing the regional aviation policy through constant transfers of money. Secondary airports generally have a single dominant carrier, making them more vulnerable to airline switching to other airports. In fact, for LCCs closing a base is often a strategic choice that reflects higher profitability or financial and marketing support at other airports. As such, airlines exert a competitive constraint on airports (Copenhagen Economics, 2012). Smaller airports do not negotiate with the same frequency and do not have the same quality of information about the terms the carriers can obtain elsewhere (Copenhagen Economics, 2012). This fact determines an asymmetry of information that strongly penalizes airports. The case of Emilia-Romagna's airports illustrates the risk of cannibalization between airports willing to attract LCCs. It also shows how the subsidization of routes, even if labeled as start-up subsidies, may not result in stable routes, since they are stopped as soon as the subsidy ends or are moved to airports offering higher support, jeopardizing airports' budgets. Clearly, this practice does not foster either the long-term success of the airport or destination attractiveness for tourists, and in many cases it seems motivated only by political consideration. Finally, the case of Puglia, the only public tender of the sample, shows how the rules in the EC Guidelines are perceived as being too complicated and strict, which translates into a limited participation of airlines in the tender procedure and ultimately may lead to negotiation procedures between airlines and airports. Table 6 summarizes and compares the cases discussed.

In conclusion, the analysis points out three issues in the relationship between LCC and airports, to be more carefully considered in the future:

1. Transparency and non-discrimination among the airlines should be assured coherently with EC regulations;
2. The benefits for the airports of these strategies are twofold: an increase in landside revenues and the ability to launch new routes, which eventually might become stable. However,

looking at secondary airport budgets, this balance is usually negative, resulting in losses and bankruptcies;

3. Concerning the possible impacts on the local economy entailed by these, in general the decision to provide subsidies to an airport, following EC rules, could be a legitimate political decision to foster regional economy, support tourism and stimulate the creation of new jobs. However, an *ex-ante* economic analysis comparing the cost and benefits for the airport companies and the local economy²³ should drive and motivate the decision process in order to make efficient use of public money. Reality shows how the effectiveness and efficiency of the financial efforts requested are seldom checked.

At least for the reviewed cases, the transparency and the direct effects of such subsidies seem never sufficient to judge and justify the overall operation. While for Alghero and the Puglia region, the net effect on traffic has been positive, in Emilia-Romagna the cannibalization of traffic from nearby airports has been particularly evident. In any case, in none of the revised cases has been produced an analysis of subsidies costs and tourist or economic benefits. Further research is needed in order to investigate the use of incentives among the other Italian airports and to explore the impacts, if any, on the regional economy arising from incentives to air transport.

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²³ As suggested by Forsyth (2006) computable general equilibrium models should be used to estimate the welfare effects on regions, nations and broader communities of regional airport subsidies to replace the casual reasoning which has been used in the past.

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