THE REGIONAL IMPACT OF LOW-COST CARRIERS
- CASE STUDY OF KATOWICE AND SKAVSTA AIRPORTS

Master Thesis in the European Spatial Planning and Regional Development Programme

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ABSTRACT

In our thesis we have presented the airports’ activity in the scope of impact of the Low Cost Carriers based on two cases: Katowice and Skavsta Airports. By analyzing the indicators for airports’ growth we described how the advantage of LCCs have affected in perceiving the airports, their regions and the LCCs’ services itself. We have found out that there’s a connection between the economic condition of the region and the types of services which the LCCs have in offer. Since both airports are facing similar scale of the expansion, different drivers found in the regions’ features were stimulating the air traffic and shaping a dominant profile of the passenger. Following the patterns in respect to tourism we have concluded that the limitations which occur around low-cost services possibly shape the behaviour of travel planning. Whereas the activity of LCCs’ services are generally recognized as profitable to the region, we argue that in some cases the neighbourhood hampers the development in this sector.

ACKNOWLEDGMENTS

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1 INTRODUCTION

1.1 Subject of the thesis
The development of air transport market catalyzed by the establishment of low cost carriers (LCCs) across Europe brought a revolution in the mobility of people, knowledge and goods in favour and as an effect of globalization. Liberalization of air transport regulation was a step in fulfilling European Single Act objectives of bringing European Union’s members closer by removing trade barriers through a single internal market. Although as the setting of a new route by LCC is usually connected with bringing high passenger volumes into the region, their presence is recognized as beneficial for local economies, especially while becoming a marketing tool in spreading information among foreigners about new easily available tourist destinations. Remarkably, the emergence of new carriers became an incentive for increasing competitiveness, productivity and job growth. These positive outcomes made the carriers become a phenomenon consequently duplicated in more and more countries. A successful story of the first European low cost carrier Ryanair in 1980s forced national airlines and encouraged fresh entrants to form a new share in the aviation market.

A significant air passenger traffic boost came together with the 2004 EU enlargement that brought additional 75 million potential consumers to the European market. Cheap fares made flying affordable for many citizens from new and mostly poorer member states, in comparison to the West forcing many to go abroad in a search for job, which in high volumes often affected their national economies. At the same time attractive fares and new destinations boosted the tourism sector by allowing exploring famous tourist spots in the West like London or Paris but also often ignored cities in the new Member States due to previously non-EU membership status and often lack of reliable knowledge about Central Eastern Europe.

In response to the high demand as a consequence to changes in the meaning of traveling by air, low cost airlines developed their routes between secondary airports as a part of their low cost business plan. Hitherto, smaller cities in remote areas being excluded from the air routes around Europe had been perceived together with their airports, which have been often unprofitable and handicapped in facilities comparing to national hubs. By becoming the main concern of new low-cost carriers, smaller airports gained a chance to develop, modernize and start bringing profits to regional economies. Further dynamic shifts visible through gradually intensifying network of air connections allowed many regions to grow while bridging them with other ones in EU member states.

Thanks to LCCs, a growing importance of regional airports across Europe forced to speed national decisions i.e. improving land infrastructure for better accessibility throughout the region and increase expenditures on airports, often with EU financial support. In effect, many unused former military airports changed their profile by becoming important centers for employment and economic activity with benefits not only directed to customers.
In this paper the authors try to present and analyze the impact of aviation activity of low cost carriers within the regions in a comparative case study between Sweden and Poland while answering the following questions:

1. How does the introduction of low cost carriers into the European market change the feature of particular regional airports?
2. How can the region benefit from the presence of LCCs and increasing role of regional airports?

1.2 Structure
The paper analyses LCCs’ impact on regional airports and local surrounding with focus on particular examples from two EU member states; Sweden and Poland with Skavsta airport and Katowice airport respectively. Both airports are dominated by LCCs services and work as a main base to one of them while playing a significant role on a route map between Scandinavia, Central and Eastern Europe with the western EU member states. The reason for choosing these examples lies in their different economical background and experience while being a part of the European Community. Additionally, Sweden and Poland are somehow familiar to us, as in the first one we currently follow our academic exchange year, with second, it’s the home country to one of us. The choice of this thesis topic is a consequence of our interest in the aviation market with a willingness to go behind the scheme of air logistics among passenger carriers.

The thesis begins with a background information working as a base for undertaking later investigation of our case studies. Firstly, the importance of transport infrastructure will be described as a necessary framework for further analysis. Secondly, a short overview of legislative framework supporting EU aviation sector has been additionally included. To make a better understanding of the LCCs’ success, we also present a description of a low-cost business model together with the cost saving scheme of LCCs. The next part is dedicated to our empirical research on selected regions and their local airports, in which particular features are discussed within the interrelationship of airports and LCCs including collective data from our researches.

Through the comparison of both cases we expect to come up with conclusions which may allow explaining particular features regarding analyzed regions and airports. Additionally, related issues are suggested for further research study.

1.3 Methodology
During our work, we have used secondary and primary data. The first included internet sources, most of which was electronic literature regarding legal documents, research papers and statistical data from official websites of the airports, regional authorities, statistical offices, economic and tourist organizations. Many of them were carried out by various institutions specializing in the aviation sector with emphasize on LCC environment. Apart from secondary data, we found it necessary to include a voice of parties involved in activity of LCCs in the region. We have conducted interviews via e-mail with the airport representatives in both cases and received a broad opinion about the current state of the LCCs at these airports.
1.4 Limitations

Even by choosing two examples from two European member states for our research study, the conclusions made out of the relation between airport, low cost carrier and the region might differ from their neighboring areas and airports in the same country. It mainly concerns Katowice Airport which outstands in many ways nationwide and is often pointed as one of the best examples of successful development in this part of Europe (YORK AVIATION, 2007, p. 42). Although we mainly focused on actions undertaken by low cost carriers concerning only passenger transport we also found it necessary to include data of cargo services, as one of the crucial factors contributing to economic growth in the region especially in the heavy industry.

While working on our empirical data, we faced some difficulties while getting in touch with representatives from low cost airlines in particular. Lack of opinion from such a critical participant in airports’ development might affect our further analysis and conclusions. Any reference to the actions taken up by LCCs in respect to our study cases are based on statements quoted in press articles. Furthermore, when analyzing the case studies in respect to different areas, we were confronted with a lack of available data, and thus making comparison somewhat difficult.
2 BACKGROUND INFORMATION

2.1 Importance of transport infrastructure
Throughout the literature it is generally assumed that a good infrastructure is one, if not the most, important factor for local and regional development. Conversely, poorly developed infrastructure is considered to be the biggest obstacle for regional development.

Infrastructure, especially transport infrastructure, plays an important role in improving the accessibility, as well as to establish a polycentric urban system. Politically, this is promoted by the Trans-European-Networks (TEN) in order to achieve territorial cohesion.

Since the economy nowadays is not only in competition on a national and European, but also on a worldwide scale, this leads to the fact that transport infrastructure is of major importance, as traffic routes are lifelines for the economy and mobility a precondition for economic development of regions.

In doing so, a well developed and capable transport infrastructure is crucial in the international competition, being a fast, flexible, reliable and cheap medium providing mobility of people and goods.

Furthermore, transport infrastructure promotes the division of labour and specialization and thus, generating growth and prosperity.

Particularly for rural and economically underdeveloped regions transport infrastructure is of paramount importance for securing and improving the accessibility spurring economic growth.

The importance of the airports has caught the attention of many research bodies since globalization became a key driver in traffic growth making them crucial contributors to national economies and society. Serving primarily as an infrastructure supplier by providing accessibility by air, hence giving the opportunity to travel, nowadays airports are additionally able to generate returns with other than aviation services. The emergence of low cost carriers guaranteeing passenger growth and affecting in decentralization of air traffic forced the airports to compete in operational costs and seek for revenues in non-aviation businesses like retail, car rentals, car parking, and surface transportation to/from the airport to main cities or invest in marketing activities (ELFAA, 2004, p. 18). This was a consequence that a potential client was faced with wider offer of choices in terms of airport, carrier, fares and destinations.

The results which appeared after introducing low cost carriers to the European aviation market can be described as the Southwest effect (HUDEREK, 2007, p. 10). The concept of this term includes the dynamic growth concerning the transformations on the market as an effect of introducing an innovative enterprise. The main features which accompany this trend are: increased passenger growth due to the price downturn in ticket fares, drop in prices within regular carriers and increased volumes in sales of services within all carriers operating in the market. This innovative enterprise was, in respect to the US market the Southwest airlines and in case of EU territory, Ryanair.

Together with the growing demand for greater productivity, the expansion of services and expenditures effects in creating employment, purchasing local goods or services and paying taxes contributing in the share of national and regional GDP level. It has been estimated that airports generate close to 1.2 million jobs within selected European airports. Most of it concerns employment within the airlines, handling agents and aircraft maintenance (64%), airport operators (14%), in-flight catering, restaurants
and retailing (12%), air traffic control agencies, control agencies (6%), freight (1%) and other (3%) (ACI EUROPE 2004, p. 33). Depending on the generated traffic movement, the average figures of employment are expected to appear as presented in the next figure:

<table>
<thead>
<tr>
<th>Workload Unit (2001)</th>
<th>Employment per one million Workload Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;50 million</td>
<td>985</td>
</tr>
<tr>
<td>20- 49 million</td>
<td>867</td>
</tr>
<tr>
<td>10- 19 million</td>
<td>934</td>
</tr>
<tr>
<td>5- 9 million</td>
<td>793</td>
</tr>
<tr>
<td>1- 4 million</td>
<td>1034</td>
</tr>
<tr>
<td>&gt;1 million</td>
<td>1724</td>
</tr>
</tbody>
</table>

Figure 1: Average employment in European airports depending on passengers served

On average European airports create 950 on-site jobs per one million working unit per year. A report that was developed by the Airport Council International (ACI), puts the jobs created in relation to the number of passengers (ACI EUROPE 2004, p. 36). The result for this is a so called employment density, which is expressed as jobs/mppa (million passengers per annum). In doing so, ACI distinguishes between four types, which are illustrated in the following chart.

Figure 2: Typology of on-site employment on European Airports
Source: ACI, 2004, p.8; own editing.
ACI not only focuses on the density, but also formulates characteristics for each of the types by using the already mentioned factors that influence direct job creation. As an example, airports with a medium employment density, i.e. 750 to 1,100 jobs/mppa, regularly show a medium to high passenger and/or freight volume. They provide international and scheduled traffic, while having some airlines based. Additionally, there is a significant development.

The contribution of low cost carriers is expected to support the creation of total employment of around 427,000 jobs related directly and indirectly with airports’ activity (YORK AVIATION, 2007, p. 23). The growing share of LCCs in the aviation market currently represents approximately 32% of intra-European seats capacity (YORK AVIATION, 2007, p. 7). Taking into consideration the demand for affordable travel fares, in the forthcoming years the share in passenger figures is expected to rise. Moreover, low cost routes have reshaped the meaning of air transport by coping with the issue of peripherality of remote areas and their economic prosperity. As concluded by Committee of Regions (STRAUB, 2004, p. C31 8/10):

‘Development of low-cost air services providing point-to-point inter-regional air services from regional airports can act as an effective catalyst for regional economic development in accordance with the economic and social objectives of the Commission’s regional framework for territorial cohesion. The development of the network of low-cost point-to-point inter-regional air services operating from regional airports can be a major factor in raising the economic competitiveness of the regions, and therefore the EU.’

The meaning of accessibility is not without importance for the tourism sector, recognized to be the biggest beneficiary of LCCs’ emergence. Regions with rich cultural heritage nationwide located far away from main air transport spots were often ignored due to the time consuming and money spending reasons. Tourists, especially foreign ones, rather opted to choose most famous places to visit in a particular country with preferably good transport accessibility. The point-to-point feature of LCCs flights enabled remote regions to be discovered abroad and appreciated in terms of tourist attractiveness. Furthermore, following the business model of LCCs, most of the destinations offered by them are set to be available throughout the whole year. Due to this fact, a phenomenon of short time trips, like during weekends developed to travel abroad for sightseeing and city breaking.

Tourism can be divided into several categories depending inter alia on the direction of the travel into incoming and outgoing one as well as the location of travel between domestic and international one (MILLWARD BROWN, 2007). In terms of direction the biggest importance as an indicator for generating income in the region will have the incoming tourism and depending on location- both domestic and international one.
Tourism is just one out of several activities to which the availability of air service is not left without importance. The presence of the airport increases the attractiveness of the region and is pointed out as one of the main conditions while setting a new investment in the region (ACI EUROPE, 1998, p. 4). The sectors of the industry which demonstrate the highest dependence to air services are:

- Insurance
- Extraction
- Basic metals
- Banking and finance
- Transport
- Computer activities
- Printing and publishing
- Communication
- Precision and optical instruments
- Coke, petroleum and nuclear fuel
- Research and development


The reason for a wide interest in LCCs services has been found within the demands from passengers for whom attractive travel fares to cover a large cross-border distances enabled to travel by air; if the prices wouldn’t be so competitive comparing to other modes of transport, the majority wouldn’t have use air services at all, the rest would opt for travelling by car or rail. This mirrors that passenger air transport is highly price sensitive. Low ticket fares intensified the exchange of knowledge-based and business activities as flying became affordable for the average consumer. The stimulation of social mobility gave additional support to strengthen cultural links between ethnic minorities and their origin countries, like among a large Polish community and their families in home countries. The share of demand for LCCs traffic presents the following figure.
Following the first European low cost airline Ryanair, new LCCs emerged including EasyJet, AirBerlin and Flybe. Prior to 2004 EU enlargement, new entrants entered Central-Eastern member states including Sky Europe and Wizz Air wishing to gain access to a new group of customers and increasing the number of destinations accessible by air in the this part of the continent.

2.2 **Liberalization of European Air Transport**

Creating a Single Market within the EU borders as the leading objective of the Single European Act in 1985 was the main incentive for forming a new legal framework concerning the air industry. Deregulation of bilateral service agreements among national carriers characterized with strict scheme of particular routes with focus on the biggest airport hubs decreased the influence of states governments’ protectionism in European aviation market.

The liberalization process had taken place in four stages within three ‘liberalization packages’ during the 10-year period starting from 1987 (ELFAA, 2004, p. 3). The first two packages, in 1987 and 1990 respectively, included reforms concerning operational issues like reduction of fare measures and greater flexibility while setting cooperation within current air service agreements. Moreover, European carriers were granted a permission to operate on routes from their home countries to other EU member states, make stop-over with pick-up and drop-off passengers in the third country at intra-European routes. The third package in 1993 became in favour of potential entrants, with the introduction of common licensing and freedom of access to the market for carriers. Likewise, the freedom of setting routes and competitive fares were further extended. By the end of deregulation period in 1997, the right of cabotage was introduced allowing all carriers to operate domestic routes within the whole EU territory. Consequently, all new formed and extended rights formed a strong base and brought freedom in commercializing of air industry, launching new carriers and developing competition in this transport sector.
In 1999, in response to the growing air traffic and the will to increase the level of safety the European Commission has set a Single European Sky initiative aimed at reforming air traffic management to improve the efficiency of airspace and create additional capacity to meet the demands of air services in EU (EUROCONTROL, 2007).

The range of new legal measures has broadened after the 2004 EU enlargement where new member states were obliged to adjust their national law to the European one and simultaneously became a new market with optional variety of destinations and potential business investment area.

2.3 A Low-Cost Carrier (LCC) - definition

One of the main reasons for the dynamic emergence of LCCs in Europe has been seen in the large success of Ryanair, whose low-cost business model filled the gap in accessibility to travel by plane. Although the low-cost model was firstly developed in the US market by Southwest Airlines (GROß, SCHRÖDER, 2007, p. 5) all new European entrants were following the same or a slightly reshaped business pattern. Through reduction of costs in maximizing efficiency at all business aspects the main features of low-cost airlines in comparison to actions undertaken by regular carriers include (ELFAA, 2004, p. 5):

- use of secondary airports; regional hubs offer lower service fares and are less congested comparing to bigger ones, allowing for shorter turnouts;
- fast turnouts of the craft; the reduction of time between landing and take-off cuts off the costs of plane parking while re-loading and picking-off the passengers, which usually lasts no more than 30 minutes and increases the efficiency of the aircraft;
- point-to-point short (1-2h) flights with no transfers bringing higher capacity utilization in the number of daily flights;
- one aircraft type with single cabin class and higher seat density (usually 180 seats) increasing the load factor (amount of seats sold per one flight) enabling for savings in crew trainings and maintenance of the planes;
- ticket sale through internet or call-centres in favour of reducing distribution costs;
- the amount of facilities during travel is reduced to minimum, ‘no frills’ services offered where catering, luggage and quality facilities are chargeable and on request only.

While choosing a route the LCC takes into consideration the profile of the region and the current position of the airport in terms to obtain (GROß, SCHRÖDER, 2007, p. 38):

- High prospective passenger rate;
- Less possible competition intensity or no competition at all;
- Appropriate offers by airports in respect to costs;
- Legal aspects (compulsory permissions, national regulations, etc.);
- Available free slots.

In fact, during the expansion of LCCs in terms of numbers and services some airports have introduced similar a business scheme. Likewise, while developing the infrastructure and adjusting facilities to suit
best to the need of such carriers they have gained a ‘low cost airport’ label.

2.4 Cost saving scheme of LCCs²

Being focused on low fares and under a permanent competition pressure, low cost airlines need to work as efficient and productive as possible. This is mainly done by means of a lean management and the focus on core competencies, as well as with the help of outsourcing. In doing so, LCCs are characterized by flat hierarchies and less bureaucracy.

In the areas of procurement, financing as well as in the relation to airports, LCCs demonstrate large cost saving possibilities.

Aircraft are preferably leased or purchased second-hand. This was especially the case after the insolvencies of several airlines after 11 September, when a huge contingency of aircraft became available. Additionally, low cost airlines purchase aircraft that are less equipped, for example seats without storage bags.

Not only by means of placing huge orders at once, and in doing so, getting large discounts from the manufacturers, LCCs usually have an uniformed fleet which makes it possible to achieve cost savings in the area of crew training and maintenance.

In relation to airports, LCCs mostly negotiate charges that are perfectly fitted for their demands. Further cost savings can be achieved by means of outsourcing of maintenance and repair services to specialized companies that are able to work more cost-efficient.

Outsourcing is carried out also in the area of passenger handling and ground services. By the use of automated check-in services less personnel is required, leading to large cost savings in this field.

Catering on-board is usually offered only on a small scale, by selling drinks and food to the passengers and thus, generating additional revenues.

By means of a effective flight scheduling and the exclusive use of the point-to-point operation further cost savings can be achieved. In doing so, LCCs focus on short turnaround times, which allows them to compensate the disadvantages of short-haul flights, which is the rather uneconomic relation between ground time and flight time.

The turnaround time is also shortened by having a fast boarding, as there is a one-class system and no seat assignment. Additionally, there is no guarantee for connecting flights, and in doing so, having no transfer luggage. Since on-board catering and freight services are not offered, containers need to be replaced infrequently. The cleaning of the aircraft after each flight is carried out by the crew, resulting

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² The information in the following chapter were mainly taken out from the Handbook of Low Cost Airlines, p. 33-41.
in further time savings.

In terms of aircraft fuel almost no savings can be conducted. However, LCCs operate more profitable by the use of a higher seat occupancy, leading to a better relation of fuel per passenger than it is at regular airlines. In addition to that, fuel-savings are achieved having a lower weight of the aircraft, since there are no catering and freight services.

By the use of point-to-point service, low cost airlines can easily react to market changes and consequently create or shut down routes.

In the area of personnel, LCCs conduct huge cost savings, as can be recognized in figure 5. In doing so, the aircraft are staffed with the smallest possible number of crew members for the specific aircraft type. This is connected with the fact that only a limited on-board service is offered, which means that only a small crew is required.

LCCs additionally focus on core competencies, whereas they outsource labor intensive actions, such as maintenance and repair.

What is more, cost savings are achieved by means of low pay agreements, combined with longer working hours. Through the maximum utilization of the allowed working hours and the renouncement of social charges, such as holiday allowance Christmas bonus, low cost carriers carry out extensive cost savings.

In the next figure the cost advantages of LCCs in comparison to regular airlines will being presented.

<table>
<thead>
<tr>
<th>Ground Services</th>
<th>Crew</th>
<th>Fuel</th>
<th>Airport taxes</th>
<th>Servicing</th>
<th>Catering, Newspapers</th>
<th>Publicity and Marketing</th>
<th>Air Space Control</th>
<th>Distribution costs</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>17%</td>
<td>15%</td>
<td>13%</td>
<td>No Savings</td>
<td>12%</td>
<td>11%</td>
<td>8%</td>
<td>8%</td>
<td>No Savings</td>
<td>6%</td>
</tr>
<tr>
<td>70%</td>
<td>74%</td>
<td>70%</td>
<td>70%</td>
<td>60%</td>
<td>64%</td>
<td>7%</td>
<td>6%</td>
<td>80%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Savings achieved by low cost airlines of up to 130%.

**Figure 5: Cost advantages of low cost airlines over established airlines**

Source: Groß, Schröder, 2007, p. 33; own editing.
3 CASE STUDY KATOWICE AIRPORT
3.1 REGIONAL SETTING AND INFRASTRUCTURE

One of the 16 autonomous administrative divisions located in the south of Poland, Śląskie voivodship was formed in 1999, bringing together the previous provinces of Katowice- the capital of the region, Częstochowa and Bielsko-Biała. It neighbors with 3 other voivodships: opolskie, łódzkie, świętokrzyskie and małopolskie. In the south it borders with Czech Republic and Slovakia. The voivodship is a part of historical Silesia Region previously including areas within the voivodships of lower Silesia, opolskie and lubuskie voivodship and partly Moravian-Silesian Region together with Olomuc Region in Czech Republic. Within 600 km from Katowice there are six European capitals: Warsaw, Bratislava, Prague, Vienna, Budapest and Berlin.


With the size of 12,331 sqkm, it places at the 14th position in terms of occupied area with 3.9% of national territory, but 2nd in population size with 4,714 million out of over 38 million, making it most densely inhabited region with 382 people/sqkm (and highest urbanization rate of 79%) comparing to national average 122 people/sqkm. The region has a polycentric feature with 71 towns and no core area performing the metropolitan functions. The biggest settlement (60%) is concentrated in Upper Silesian Agglomeration (Aglomeracja Górnośląska) with highest population density nationwide 1,900 people/sqkm and the main administrative, education and investment institutions located in seven biggest cities: Katowice, Sosnowiec, Bytom, Gliwice, Zabrze, Tychy and Chorzów. The voivodship is divided into poviats, basic territorial division comprising the entire areas of the bordering boroughs- the smallest administrative units playing a role of fundamental community.
<table>
<thead>
<tr>
<th>Indicators</th>
<th>Śląskie Voivodship</th>
<th>Poland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>12 331 km²</td>
<td>322 575 km²</td>
</tr>
<tr>
<td>Population</td>
<td>4 714 000</td>
<td>38 136 000</td>
</tr>
<tr>
<td>Density</td>
<td>382 inh/km² (1st in Poland)</td>
<td>122 inh/km²</td>
</tr>
<tr>
<td>Urbanization rate</td>
<td>79% (1st in Poland)</td>
<td>61%</td>
</tr>
<tr>
<td>No. of poviats</td>
<td>36</td>
<td>379</td>
</tr>
<tr>
<td>No. of boroughs</td>
<td>167</td>
<td>2478</td>
</tr>
<tr>
<td>Unemployment</td>
<td>6,5% (2008)</td>
<td>9,5% (2008)</td>
</tr>
</tbody>
</table>

Figure 8: Basic information about Śląskie voivodship in comparison to national’s average data
Source: Silesia Region website

Responding to the demand of a developing urbanization and industry-oriented profile of the region, the Śląskie voivodship has the most dense road and rail network nationwide. The region’s infrastructure is part of the Transeuropean Transport Network (TEN-T) within:

corridor III: Berlin- Wrocław- Katowice- Kraków-Lvov-Kiev route (East-West)
corridor IV: Gdańsk- Katowice- Żylińska route (North-South).

Unfortunately, most of the road links and rail tracks built during the communist period hadn’t been recently modernized and are in poor condition. An opportunity to improve the transport system in the region arose after Poland has been classified as a convergence area after EU accession. The biggest operational programme within EU ever, ‘Infrastructure and Environment’ with a budget of almost 38 billion euro is being currently followed in Poland. The low technical and quality parameters of transport infrastructure are recognized as a serious obstacle in attracting foreign investment and stimulation of competitiveness. Although the main emphasize in co-funding is directed onto road infrastructure, airports as one of the key players in the transportation system are entitled to apply for funding within over 400 million euro out of which over 250 million euro concern subsidizing infrastructure investment projects (MINISTRY OF INFRASTRUCTURE, 2009). Taking into consideration the dynamic development of Katowice Airport and such large potential of population concentration in the region, these figures are likely to grow in the near future, since LCCs made travelling by air cheaper and more accessible to everyone. With the existing facilities that the transport infrastructure has to offer, the region aims at becoming a logistics centre of European importance. The current mobility of inhabitants measured by amount of air traffic passengers with the reference to total number of population is 0,31 and is lower to national average 0,50 and EU 2,36 (MERING, 2007).
3.1.1 Katowice Airport

3.1.2.1 Setting and Infrastructure
The main airport of Śląskie voivodship is located in the town of Pyrzowice, 34 km away from the region’s capital Katowice. It serves mainly for Upper Silesia Metropolitan Area although its catchment area includes almost 11 million people within 100 km distance, serving additionally for neighboring areas: opolskie and małopolskie as well as Czech and Slovak citizens. It is the biggest catchment area in Poland and one of the largest in Europe. The distance to next international airports in Krakow, Ostrava (Czech Republic) and Wroclaw are 90, 140 and 207 km away respectively. In terms of geographical features the airports benefits from most favoring micro climate conditions due to the high location (303 m above sea level) making it one with least number of suspended flight days related i.e. to limited visibility due to fogs. Consequently, it serves as a reserve airport for neighboring ones but also for further located airports like the biggest nationwide Warsaw Airport.

Figure 9: Catchment area of Katowice International Airport (KTW) with location next to the region’s capital Katowice.
Source: Google Maps, own editing.

Following the dynamic growth of the airport which began with accession to EU, for better accessibility with the Upper Silesia Agglomeration area the S1 expressway has been built in order to connect the airport directly to Podwarpie interchange in 2006. Expansion of infrastructure around the site has been included in Regional Development Strategy of Śląskie voivodship for 2000-2020 while developing plans to lengthen the S1 route between Pyrzowice- Bielsko Biała- Cieszyn, as well as A1 highway between...
Piotrków Trybunalski- Gliwice-national boarder in direction towards Ostrava in Czech Republic (SILESIA REGION, 2009).

Currently, the airport has no commuter train connections with the biggest cities in the region, but serves regular coach transfers. Although plans to establish commuter train linking the airport with Katowice are in progress and according to GTL (ORZECH, 2009), the decision is already foregone, while discussions are held about the precise route, but including the size and density of the Śląskie voivodship many options are taken into consideration. Unfortunately, it has been already estimated that it won’t be build within the next 3 years (SILESIA REGION, 2009). On the other hand, within one hour journey from the airport site it is possible to reach the biggest cities including, except for Katowice, also Częstochowa, Gliwice and Chorzów by other ground transport.

The history of Katowice International Airport goes back to 1940 when it was built and served for the German Luftwaffe as a transshipment hub for military supplies on the Eastern Front. The initial infrastructure included three runway strips, each between 1.000 and 1.500 m long and 50 m wide. After the Second World War the base was taken over by the Red Army but handed over to the Polish Army by Soviets in the early 1950s. It has been accessible for civil passengers not until 1966 when the first flight took off to Warsaw operated by LOT Polish Airlines and so does the development in civil infrastructure on the airport site began including a first passenger terminal of 520 sqm size, taxiways and an apron. The activity of airport services stopped by 1990 caused by unstable economical and political transformation which Poland was facing that time.

The opportunity for local authorities to bring the airport back to life was an establishment of Górnośląskie Towarzystwo Lotnicze (Upper Silesia Aviation Group) in 1991, which re-connected flights to Warsaw, adding a new route to Frankfurt operated by German Lufthansa. The second stage of improving civil infrastructure came after GTL took over the management which was previously shared with the military authorities. By year 2000, new investments included the modernization of the passenger terminal, construction of cargo halls and extension of runway strip by 420 m, which in total accounts to 2.800 m (KATOWICE AIRPORT, 2009).

Responding to the growing interest and success during the first year activity of the first LCC in Poland in 2003 of Air Polonia, having in mind an intensification of the phenomena after EU accession, further investments had been undertaken. An increase in surface up to 7.600 sqm in 2004 allowing for a handling capacity to 1.7 million was surprisingly enough just for a short period of time. Following the rise in demands as a consequence of intensive passenger growth, after settling a base by Wizz Air, the authorities were forced to continue with improving infrastructure which effected in triple increase of surface up to 21.300 sqm by building passenger Terminal B which has been opened in 2007 enabling to serve 3.6 million passengers annually. Moreover, the emergence of the terminal was important to fulfill the technical requirements as a consequence of Poland’s accession to the Schengen zone on 21st December 2007. The recent approval of ‘Master Plan MPL Katowice’ for 2008-2012 includes investments valued over 100 million euro with around 20 million euro EU support within the ‘Infrastructure and Environment’ Programme.

Various international events taking place in the near future can be a catalyst in spurring decisions re-
The Regional Impact of Low-Cost Carriers - case study of Katowice and Skavsta Airports

garding regional development in terms of improving infrastructure hopefully if airports are to be included as beneficiaries in the national legislative regarding i.e. preparation to EURO 2012. In this case the issue of sufficient capacity and accessibility to the main sport centers remains crucial.

Since 1994 the airport is managed by GTL, a joint-stock company with the mixed share of capital out of which the main ones are currently Śląskie voivodship (39.73%), Węglokoks (40%) the biggest exporter of Polish coal fully owned by State Treasury, ‘Polish Airports’ State Enterprise (17.9%), communes (1.9%) and others (GTL, 2009). The ownership status, which in this case means public, is regarded as an asset while applying for EU funding within the convergence policy (MERING, 2007). Receiving approximately up to 50% of investment spending in co-funding is in most cases the only chance to raise the standard and increase attractiveness of the airport.

3.1.2.2 Employment and business activities

At the same time GTL is the biggest employer at the airport site providing over 300 jobs. There are several companies dependant from GTL providing services related to ground service, technical maintenance, advertising, car rental, office and warehouse space rentals, insurance and catering services. Wizz Air, as the main carrier provides approximately 200 jobs and is expected to increase since the company plans to expand the fleet. In total, within the airport site there are around 50 companies, employing roughly 1,500 people in either administration, passenger service and aircraft maintenance or trade and retail sections (ORZECH, 2009). Comparing to the average number of employment for airports with the workload unit of 1- 4 million generating 1034 on-site jobs per one million passengers (volume units) following 2008 traffic data, with almost 2.5 million passengers served at Katowice Airport, the employment on-site is almost 40% below the European average, resulting in a employment density of about 600 jobs/mppa.

Since airports apart from other public forms of transport started to generate incomes (ELFAA, 2004, p. 18) a non-aviation activity within the airport plays an important role since LCC are fulfilling the objective of maximizing efficiency while limiting costs trying to reduce the use of aviation services to minimum. The non-aviation services include for instance tour operators, car rentals, souvenir shops, restaurants, banks and parking site (currently accounting for 1,095 car spaces). Particularly the last one had been remarkably taken over by local inhabitants in the airport’s neighbourhood where people adapted their plots for car space. Even though the prices are competitively lower comparing to those at the site, the GTL does not regard that as an obstacle in generating income arguing that many prefer to leave their vehicles by the terminal due to the proximity and provided security. On the contrary, as many new private parking sites appear, the traffic on-site hasn’t dropped (GLOGOWSKI, 2009). Similar tendency took place with accommodation and petrol stations.

At both terminals (A and B) there are nearly 50 retail sites with dominance of food and beverage spots, ticket offices, travel agencies, bookstores, news agencies, post, pharmacy, duty free shops and many more. The weight of expanding area intended for this purpose was visible while opening the second terminal in 2007. Out of all non-aviation sites at the airport most of it is currently located in there.
3.1.2.3 Air traffic

As the figures in passenger growth tend to be treated as a main indicator for airport’s expansion in services and infrastructure (GROß, SCHRÖDER, 2007) to handle its throughput data starting from 1997 were included while analyzing changes with an emphasize on the time when LCCs entered the Polish aviation market which took place by the end of 2003 after establishing first national LCC, Air Polonia.

As presented in the next figure, the significant start in growing numbers took place in 2004 while Wizz Air decided to choose Katowice International Airport as its main base in Poland. The number of passengers being served by LCCs increased by more over 20 times from 1.407 in 2003 to 289.990 the following year. In 2005, out of total number of passengers, 450.000 were served by Wizz Air which accounts for 80% of total number of regular passenger flow. Later on the volumes were only going up. Within the 5-year period the figures increased four times during years 2004-2008. Although all types of carriers expanded their services followed by the number of clients, taking into consideration only regular flight traffic with national airlines and LCCs, the first one recorded a drop in the total share, since passengers have more options to choose in the travel fares and following opportunity for cheaper flight and strengthening the position of LCCs. Regarding charter flights, their importance also matters to keep the passenger flow especially during fall and spring seasons where the regular traffic often falls and exotic trips are in demand. Still, during peak summer months, wider variety of destinations to Mediterranean areas attracts many due to the holiday season.

A double increase in number of passengers during the first year of LCCs activity was a consequence of the enlarged accessibility to the old EU Member States due to EU accession. In respect to particular countries the liberalization of foreign labour markets attracted many Polish citizens to seek for better job opportunities. All these incentives supported with affordable conditions for cheap travel lead to a high demand for mobility mirrored in the next years’ figures. In 2008 the airport served 2.4 million passengers with over 60% share of LCC customers.
Following the recent studies regarding passengers’ profile (REKOWSKI, 2007, p. 33), 43% travels regard business purposes, 43% are visits of relatives and friends and tourism accounts for 13%. Poles are the dominant nationality of the passengers and foreigners account only for 5.5% of total number of customers.

Within business trips the dominating groups were company employees and people working abroad. It has been calculated that passengers of the regular air traffic stay 5.65 days in the voivodship and spent approximately 107 euro per day (REKOWSKI, 2007, p. 34). This figure gives a general view of the regional income which the airport passengers generate while coming to the Śląskie voivodship, nevertheless more precise amounts vary depending on the purpose of stay. It is regarded that spending within business travels is around 30% higher than of tourists.

Whereas incoming passengers are recognized as the main part in generating regional income, with charter flights organized by travel agencies collecting service commission, this group of travelers also contributes to the local budget.

Although the passenger flow is driven thanks to the presence of LCCs, the airport does not recognize itself as a low cost airport. As one of the main airfields in Poland, Katowice airport has been operating and planning the development strategy long before LCCs entered the market. Nonetheless, Wizz Air intended to invest up to 40 million euro in adjusting technical infrastructure to settle a base. The investments mainly in terms of design and services adapted to support the cost reduction policy of operating LCCs concern some cases in Western Europe i.e. Brussels Charleroi or Frankfurt Hahn.

Apart from growing passenger numbers, the freight transport makes it number one among regional airports within this type of traffic (figure below). The mirror of the importance of cargo presents the foreign load which indicates a rising exchange of investment coming to Poland from other parts of Europe. Not without reason the GTL has recently put a project out to tender for a new cargo base (GTL, 2009). The ambition of the management is to become a main cargo base for southern Poland of European importance. Currently the present cargo terminal is used by seven logistics companies including...
worldwide known DHL, TNT Express Worldwide and UPS.

![Graph of Freight Traffic at Polish Regional Airports in 2007](image)

**Figure 12:** Freight traffic (in tones) at Polish regional airports in 2007.  
**Source:** Central Statistical Office.

### 3.1.2.4 Flight schedule

Destinations which are being offered within regular flights from Katowice during 2009 spring season include 33 European cities and 31 additional ones available through charter carriers concerning most popular tourist sports in the Mediterranean region with northern Africa following the map below. The offer is continuously widening due to the entrance of new airlines. The most developed network connection is offered by the dominant LCC Wizz Air flying currently to 23 airports in 13 countries. Only in 2007 it has opened ten new routes. The second biggest client is Ryanair which operates since November 2007. Firstly it flew on two routes, adding the next three in the year after and one in 2008 within four countries in total. Germanwings joined Katowice airfield in 2008 shifting from Krakow Balice Airport and joined offering two connections to Germany. In previous years the activity of LCCs included Air Polonia and Centralwings. The second one was the first and only LCC which introduced low-cost charter flight connecting Katowice with several airports around Mediterranean Sea. Moreover, it has been operating domestic flights on the Katowice-Bydgoszcz route. Wizz Air intended to introduce domestic flights from Katowice to Gdansk, but the attempts were finally dropped (TUR-INFO, 2006).

Worth mentioning is that Katowice airport as the first one in Poland, since January 2009 offers low-cost flights directly to east, to the non-EU member- Ukraine with destination in Kiev within Wizz Airs regular schedule. It is a response to the co-operation which arisen after being granted by UEFA co-hosting the EURO 2012 games by these two neighboring countries. Another incentive is dynamic trade exchange with meaningful share of Polish export at the Ukrainian market. The establishment of the route to East became an alternative regarding Czestochowa Steelworks belonging to one of the biggest Ukrainian corporations Industrialnyj Sojuz Donbasa, whose employees were so far dependant on Polish Airlines LOT (GLOGOWSKI, 2009). Moreover, the poor road conditions in this direction and high fares of regular air carriers were another reason to find clients interested in taking this route by air. According to the recent traffic statistics (GLOGOWSKI, 2009) of the first quarter of 2009, currently it is the most popular route at Katowice Airport. If this tendency will continue, it is highly probable the number of destinations
behind the eastern border will grow. Consequently, starting from June 2009 the flight frequency to Kiev will be broadened. Out of the total number of connections, 31 are available with low cost carriers with most destinations in the UK and Ireland (11), Germany (8), Italy (4) and Sweden (2).

![Destination map of countries and cities accessible from Katowice Airport (April 2009)](source: Katowice Airport website)

Figure 13: Destination map of countries and cities accessible from Katowice Airport (April 2009)

Source: Katowice Airport website

The management is open for co-operation with new entrants, also regarding low-cost domestic flights which are not currently available. The reason for this lies in good rail connection between Katowice and other Polish agglomerations, especially Warsaw and the second largest city Krakow. Regarding passengers wishing to travel outside Europe, nowadays the cheapest and fastest way is by reaching Frankfurt or Munich airports which offer broader options of intercontinental flights than any of the Polish airports. Except for first three low-cost carriers mentioned above, Katowice airport is utilized by two regular carriers: LOT Polish Airlines and Lufthansa.
3.1.2 Competition with other airports

Together with expanding infrastructure and increasing mobility of people, the importance of the airport gained broader publicity. Katowice Airport is generally recognized as a secondary airfield for Kraków Balice Airport within the southern part of Poland. It serves as support in technical and geographical measures while redirecting aircraft during difficult weather conditions but also in respect to the offer of available direct connections (in this case only within Europe) in regular traffic schedule. But with the appearance of LCCs bringing high passenger figures and simultaneously focused on fulfilling their business model’s objectives, the willingness of attracting them to a particular airport concerns both cases. Moreover, the bigger in size and located within the catchment area of Katowice Airport Krakow is internationally recognized tourist spot (małopolskie voivodship locates at the 3rd and śląskie at 13th position in terms of total share of incoming foreign visitors nationwide) therefore it is possible that tourists who does not have a direct flight to Kraków Balice Airport head first to Katowice to reach Krakow through well developed ground transport. Worth mentioning is that among all 2 million foreign tourists visiting Kraków in 2006, 53 % came by plane (BORKOWSKI, 2006, p. 69).

Among several reasons for choosing a specific airport by LCCs starting from potential in the consumer market within the catchment area or technical conditions provided like available free slots, but above all, while offering attractive fares in travelling by air, the financial issue most likely to surpass the rest. The airport fares seems to be a crucial factor for locating LCCs and it is the most often highlighted incentive while explaining the decision of Wizz Air in setting its base in Katowice, not i.e. Krakow (ORZECH, 2009). Currently it is Wizz Air which has the biggest share in LCC market in Poland (35 %) and with the most developed accessibility from Katowice it makes the airport the biggest beneficiary in this field. Meanwhile, the entrance of Europe’s two biggest LCCs; Ryanair and EasyJet to the national market and use of mainly Krakow airport is expected to be followed with further expansion in destinations and frequency in this part of Europe (the share of both airlines together is accounted for 43 % of total passengers in 2008). Both airports are driven by LCCs’ activity visible in total passenger share among carriers (63% Katowice, 61 % Krakow in 2008) and understandably they aim to attract potential clients to use their services. The actions aimed at acquiring clients from the competition are more visible in respect from Katowice airport. The most known tools used by Katowice Airport were street advertising in Krakow, Wizz Air website promotion informing about ‘Katowice-Krakow’ destination (with available coach link), but also recent price reduction in airport fees. Although the second airfield is bigger, Katowice airport already managed to surpass it once in the passenger figures in November 2008.

The airport as the first stop for incoming air passengers contributes in forming the first impression about the region. In order to increase the attractiveness of both- the airport and the region, while aiming at bringing more carriers, two marketing programmes were established to promote departures from Katowice Airport among passengers, tour operators, travel agencies and airlines (‘Fly from Katowice’). At the same time in order to stimulate tourism and awareness about Silesia Region a package of discounts for accommodation, car rental and other services is offered to visitors, mostly foreigners (‘Fly to Katowice’). In addition, the homepage of the airports is available in five languages: Polish, English, German, French and Czech. The marketing campaign is also carried outside Poland mainly in most popular destinations throughout various media channels including tourism fairs in Berlin and advertisements in London’s
daily newspapers. Since establishing the route to Kiev and a high interest of the passengers travelling in this direction, further promotion of the region in Ukraine is expected to generate extra profits. As stated by the GTL, the management is open for co-operation with other European regions seeing a huge potential in exchange of information and passengers (ADAMCZYK, 2008).

In addition, the carriers are aware of their value for the airports suggest for financial support in establishing or keeping a route from particular destination, mostly throughout advertising at the carriers’ website. Ryanair is said to be most specialized in this policy strategy and managed to obtain up to 500,000 euro a year from several regional airports in Poland (GLOGOWSKI, 2009). The denial from the śląskie voivodship authorities to donate Ryanair was the reason why the carrier began to use Katowice airport long after it start operating from the neighboring airfields in Wrocław and Kraków.
3.2 Economy

Thanks to its natural resources consisting of hard-coal, iron, zinc, lead deposits, methane and others the biggest industrial district had been established just here concentrated in the Upper Silesia Industrial Area (Górnośląski Okręg Przemysłowy). It was developed into a highly urbanized agglomeration as a consequence of intensive industrialization process during the 19th century. Throughout the decades, under firstly German then Soviet rules until 1989, the region was the main driver of national economy. Since then, it became the most industrialized region nationwide and one of the most transformed in Europe.

Following 1990 the industry has been undergoing restructuring in the field of modernization, increase in effectiveness, ownership form and changes in management structures. Out of two main industrial branches, the metallurgy has been already privatized but the hard-coal mining is still under public ownership. In order to mitigate the consequences of restructuring of the economy due to the national economic transformation like unemployment, Katowice Special Economic Zone (Katowicka Specjalna Strefa Ekonomiczna) has been founded as a part of a national system of special economic zones to attract foreign investment enterprises and create new jobs in co-operation with local authorities. Out of many features, the main benefits of appearing in special economic zones include exemptions from particular taxes, obtaining an investment plot in competitive prices and free aid in settling formalities related to investment project. Currently KSEZ forms 35 localizations spread all around the voivodship, with 130 companies with investment value of over 2 billion euro providing employment for over 21000 people. Still, 50% of KSEZ areas are available for new investments.

Nowadays it is the foreign investment which is the main driver of the local economy. The region specializes in automotive industry with Fiat and General Motors Opel as the leaders whose presence attracted a number of sub-suppliers for this branch. Moreover, the machine and device production sector makes a wide share in the economy represented by companies like Alstom, AEG Aktiengesellschaft, Heraeus Electro-Nite International N.V. and Siemens. Another important branch include glass and ceramic products and building engineering products within the activity of companies like Ekocem, Guardian Industries Corporation and many more. Most of the foreign investment entities come from Germany, United States, Italy, Netherlands and France. Out of all business entities 96.1 % are privately owned where 11.8 % are domestic companies. The private sector concentrates on services which is 71,5 % of the whole regional market. Still, with the significant importance of heavy industry, this sector makes as much as 20.7 % of total market share. Although it is slowly decreasing, still it employs a large number of people (8,2 %) (SILESIA REGION, 2009).

The employment structure is more concentrated in the private sector (57,9 %), specializing in manufacturing mainly in the automotive sector, trade and repair, real estate and renting. The public sector accounting for 42,1 % is dominated by mining and quarrying, education, health and social work as presented in the figure below. Since the availability of air services remains crucial to specific industry sectors, it is important to include the percentage of employees in these areas of economic activity, who are potentially in the group of greater demand for the presence of the airport. It involves roughly 17 %
within the public sector and around 19 % people related to the private sector in: transport and communication, financial intermediation, real estate, renting and business activities, following the figure below. While the region concentrates less than half of the population potential of the airport’s catchment area, one might assume that the range of the impact is broader if including sectorial employment condition in the neighboring areas but within the 100 km distance from the airport.

Figure 15: Structure of employed persons by ownership sectors and kind of activity in 2007
Source: Central Statistical Office 2007

In 2004 śląskie has been ranked as Polish no. 1 most innovative region, surpassing by 40 % the least innovative warmińsko-mazurskie voivodship and by 17 % the average level of regions’ innovativeness nationwide. In large part the reason for this lies in a dominant share of industry sectors which mostly contribute to the regional economy and are characterized with a high level of innovativeness regarding in this case the first two sectors among automotive, metallurgy and food industry (REKOWSKI, 2007, p. 23).

The region generates 13,7 % of national GDP (second position after mazowieckie voivodship with 21,6 % share) with the Upper Silesia Agglomeration contributing to 50 % of regional and 7 % share of national GDP (SILESIA REGION, 2003). More than 65 % of the region’s population is in the working age. The region concentrates 12,1 % of national R&D potential in the field of research and development activities regarding 112 units; 36 scientific and R&D institutions, 46 development units and 14 schools of higher education involved in research activity. They mainly specialize in environment protection, build-
ing and power engineering and electronics. Thanks to the well developed education facilities, among all inhabitants active in the labour market 22,3 % are higher and 38,4 % secondary education graduates (SILESIA REGION, 2009).

Although the region represents a high potential of its inhabitants, śląskie similarly as throughout the whole Poland was threatened by high unemployment which was constantly rising between from 7,3 % in 1998 to 17,6 % in 2003 (Figure 16). Starting from 2004 it began to drop with the main incentive seen in EU accession which increased the presence of foreign investment bringing employment, but also gave access to foreign labour markets. Migration to better developed countries, guaranteeing higher salaries has been its natural consequence and an attractive alternative.

![Figure 16: National average unemployment in comparison to śląskie.](source)

Source: Central Statistical Office

The characteristics of migration² after 1989 are divided into two periods of pre- and post EU accession in which the intensity of migration flow and shifts in preferences regarding direction of travels has significantly changed following 1st May 2004. According to 2002 National Census, out of 786.000 Polish emigrants living abroad above 2 months, 461.000 stayed in Europe with 97 % cases referring to EU Member States. Most often chosen countries were Germany, Italy and UK (37 %, 5 % and 3 % respectively of total number of emigrants). During the pre-accession time most of the migrants were the former inhabitants of śląskie (125.000), opolskie (105.000) and małopolskie region (80.000).

The landmark which was the EU accession was a starting point in changes of migration patterns. The green light given to new Member States by UK, Ireland and Sweden in the access to their labour markets has been utilized by many potential workers also in Poland, which is clearly visible in the statistics. According to the Central Statistic Office, the estimated number of Polish citizens staying abroad in comparison to 2002 National Census increased to 1 million by 2005 and 1.950.000 by 2007. However, the given figures are loose, since the migration preferences in terms of duration and frequency are constantly changing. Nevertheless, in terms of total population share, the loss accounted for 2,8 % with the most affected regions of podkarpackie (7,2 %), świętokrzyskie (6,0 %) and the least influenced: śląskie (2,1 %) and mazowieckie (1,8 %).

² All data regarding migration has been quoted from GRABOWSKA-LUSINSKA and OKOLSKI, 2008, p. 34-83.
Out of three above mentioned countries, UK became a new number one destination point in terms of amount and intensity of migration flow. This can be recognized in the following figure.

![Migration Flow Chart]

**Figure 17: Migrants depending on destination countries in the second half of the year (000)**

*Source: Grabowska-Lusinska, Okolski, 2008, Migracje z Polski po 1 maja 2004 r.: jej intensywność i kierunki geograficzne oraz alokacja migrantów na rynkach pracy krajów Unii Europejskiej, p. 49.*

Whereas the growth dynamic in respect to this country was slowly increasing and sped up between 2004 and 2005 doubling the figures (from 30,000 to 60,000), followed finally by a rapid pace and reaching more than five times bigger result in comparison to 2004. Ireland was the second country next to the UK that recorded a similar tendency in respect to intensity but not to such a scale, although what differed in this case was the lack of interest in migrating during the pre-accession period and any visible growth in travels began not before 2003. Sweden instead did not appear as a desirable labour market and hadn’t received much of immigrants’ attention to be placed among the most popular destinations. Many reasons might explain this pattern; nevertheless the most probable argument in comparison between British Islands and Sweden can be the global commonness of English language competency which undoubtedly facilitated the efforts for getting a job. Similar to Ireland, Sweden was not in the migrants’ attention in pre-accession period either. Germany and Italy introduced the transitional period and did not open their labour markets immediately (Germany on 1st November 2007 with some limitations to specific professions, Italy on 31st July 2006 without restrictions) and the growth in migration flow in these directions remained stable until 2005 when importance of Italy began to slow down and drop. In case of Germany, the migration network was well developed due to historical bonds which began to form shortly before the Second World War with continuation afterwards making Germany the
The largest concentration of Polish community in Europe accounting for over 1.170,000 people. Emigration to Italy had a comparable historical course but it did not obtain such a large share. During the post-accession migration, 31% cases referred to the UK, 19% to Germany and 9% to Ireland.

In respect to śląskie (see figure 18), the preferences in terms of direction were following the national trend. Although the share in total number of post accession migration accounted for 6.7% (5th position in Poland), emigrants from this area were demonstrating higher interest to particular countries. Among five regions with highest migration rates, śląskie recorded the largest percentage of people travelling to the UK (39%). The second most often chosen country, Germany scored 17.2% placing it behind 11 other voivodships and Ireland with 9%. All three EU member states together accounted for 65% of region’s total migration figures.

The destination availability within the initial LCC flight offer after entering the market was to be the exact response to the demand for increased mobility during post-accession migration. First low cost flights within regular schedule from Katowice Airport were launched by Air Polonia to London, and later to Cologne in cooperation with Hapag-Lloyd Express.

After Wizz Air appeared in Poland, first destinations offered from Katowice were London, Berlin and Rome. Considering Sweden, in the same year Stockholm was among the next group of cities which joined the airport traffic schedule and three years after Malmö was also added to the list. Simultaneously with the growing number of people willing to travel, the LCCs were continuously adding to their offer new UK and Irish destinations supported by the high flight frequency. In fact, all the low cost airlines operating from the main airport in śląskie had at least one connection with the UK. Similar case applied to other airports in Germany and Italy. Following the current flight schedule at Katowice Airport,
of 23 flights offered by Wizz Air six refer to the UK and Ireland, four to Italy and three to Germany. Within six destinations available through Ryanair five are located in British Islands and one in Italy. In case of Germanwings all flights are directed to Germany. In the past years there were more than ten connections with different cities in the UK and Ireland. In 2008 flights to these countries made up 74 % of all low cost destinations. Keeping in mind that majority of passengers of Katowice Airport travel in business and VFR (visiting friends and relatives) purposes, it is most likely that migrants were the main target group for the LCCs.

The activity of LCCs in the śląskie which scored one of the biggest rates in nationwide migration makes the region a good potential for prospective customers. Similar issue concerns inhabitants from świętokrzyskie where more than one third of the territory is within the Katowice Airport’s catchment area. As mentioned before, świętokrzyskie recorded a 6 % drop in the population due to post accession migration.

Although flying is just one of the possibilities for direct travel to the particular destination, next to coach and car, considering some aspects of journey (i.e. time) combined with the LCCs’ competitive offer, it is highly probable that a significant number of passengers were the potential migrants. According to the Central Statistical Office, by the end of 2007 an estimated number of 690.000 Poles were staying in the UK, 490.000 in Germany and 200.000 in Ireland (MARZUK, 2008). Comparing to the figures of 2002 National Census (24.000 in the UK, 170.000 in Germany) the scale of post accession migration proves to be a powerful incentive for LCCs’ activity. Following the passenger flow between Poland and the UK starting from 512.000 in 2003, to almost one million in 2004 and 1.8 million in 2005, out of these 1.4 million were carried by LCCs (BUYCK, 2006).
3.3 Tourism

The region of Silesia is indissolubly related to its native inhabitants - Silesians, an ethnic group often treated as a separate nationality from Polish. Throughout the centuries, it has been settled by people mainly of Polish, German and Czech origin and the term ‘Silesians’ is often used in this case as well as for inhabitants outside Poland but within the historical borders of Silesia. Consequently, a cultural heritage developed with Silesian dialect regarded by many as a language (SILESIA REGION, 2009). Together with unusual tradition and cuisine it is one of the notable regional virtues not to be found elsewhere in Poland.

Nevertheless, the most commonly recognized tourist spot in this voivodship is Pauline Fathers’ Monastery at Jasna Gora in Częstochowa, the most important sanctuary for pilgrimages for the majority of catholic Poles. It is also known worldwide due to the relation with the former pope John Paul II who was Polish by origin. Apart from that, the region is rich in diversified natural landscape including southern parts with Beskidy Mountains with popular skiing resorts: Wisła and Szczyrk. In the north the Jura Krakowsko-Częstochowska Upland with famous limestone island mountains is recognizable among climbers. Commonly recommended are additionally: the Eagle Nests route with medieval castles, silver mine in Tarnowskie Góry, Bledów Desert, the only one in the nationwide, the biggest Polish breweries in Tychy and Żywiec and many more.

In relation to the presence of the airport providing LCCs’ services, the incoming international tourism will matter most as Katowice does not currently provide low cost domestic flights, which means any domestic incoming visits are within other forms of transport. Polish citizens coming to the region to use the airport can also be treated as an additional source of local income whether they include additional activities apart from travelling further outside the region. Nevertheless, the figures concerning them will be omitted as their purpose of travel has a transit character and not tourism.

During year 2007 out of all 16.5 million foreign incoming tourist movements nationwide, 600.000 referred to śląskie. The region marked a drop in comparison to the previous year, but the trend was visible also in the vicinity of śląskie (next figure). Regarding małopolskie and dolnośląskie voivodships, the study region places far behind with more than double less visitors. Notably both regions have internationally recognized tourist spots including capitals- Wrocław and Kraków (1.1 million and 1.2 million visitors) (BYSZEWSKA-DAWIDEK ET AL, 2008, p. 49) and others, including the former Nazi extermination camp Auschwitz and Tatra Mountains in małopolskie region. In 2007, these voivodships received 1.6 million and 1.5 million foreign visits respectively.
Most of the stays within Śląskie voivodship were short visits (71% of all trips in 2007) what is found typical for regions with high urbanization rate (MILLWARD BROWN, 2007). Moreover, this trend intensifies comparing data from previous years (see next figure). It can be understood that visits to particular cities that have a business or city sightseeing purpose does not require longer stays than 2-4 days.

Regarding the second option, the nature of short duration of city breaking makes the LCCs’ offer most suitable with frequently scheduled flights to a particular destination. They additionally contribute to this phenomenon following the low cost price policy when offering cheaper fares during the week days (ELFAA, 2004, p. 28) (between Monday and Thursday). Granted that most business activity take place within this part of the week, one might assume that entrepreneurs will include financial issues while planning a travel. City breaking broadly practiced among the youth who next to employees of small and medium enterprises are the most price sensitive group of passengers (MASON, 2000), it can be assumed the use of LCCs’ services is seriously considered while travel planning. Although spending in agglomerations is higher regarding business oriented trips (MILLWARD BROWN, 2007), the duration of stay remains crucial as longer visits generate higher income to the region.

Figure 20: Share of incoming foreign visitors in śląskie voivodship depending on the duration of stay between 2003-2007.
Source: Institute of Tourism
The purpose of travel is also changing in respect to foreign visitors as presented in the next figure. While in 2003 tourism and leisure accounted for almost half of the number of all visits, within four year period the share dropped by more than 40%. During this time the percentage of the aim of ‘visiting friends and relatives’ was growing up till 2007 when transit character began to dominate, leaving tourism purpose at the bottom of the importance list. A well developed network of transport infrastructure contributes to this trend together with the presence of the regional airport, which provides coach transport to neighboring regions like małopolskie voivodship. Keeping in mind that the nearest airports in Wroclaw and Krakow have a good highway connection to Katowice and less low cost destinations available (19 and 22 respectively comparing to 28 from Katowice Airport) it is highly probable that Katowice Airport works as a shift on the way to one of these cities. Additionally, the transit character might explain short stay visits, where the overall duration in the region is a consequence of the necessary time needed to pass the distance on the way to the final destination and usually is limited to the minimum. Assuming that LCCs bring high passenger volume contribute to regional tourism, statistics present that the presence of LCC doesn’t necessary bring growth in this sector. Moreover, the feature of ‘visiting friends and relatives’ purpose accounting for almost ¼ share excludes the use of tourist infrastructure in respect to accommodation and to some extend also catering.

![Figure 21: Share of incoming foreign visitors visiting śląskie voivodship depending on the purpose of stay. Source: Institute of Tourism](image)

Possibly, the reason for low figures in respect to tourism lies in the investment oriented profile of the region aiming at converting an old heavy industry into a highly innovative one, by modernizing and attracting the foreign investment. Previously, the general view of Silesia as mainly a heavy industrial region was strong for several decades. Consequently, the intensive exploitation of the resources without any attention paid to the environmental concerns during the communist period affected in irreversible damages in the local bio-system which are visible up till now. Following the historic events, the region still has a visibly industrial and manufacture image and in the same way it might possibly be recognized by the outcomers.
4 CASE STUDY SKAVSTA AIRPORT
4.1 REGIONAL SETTING AND INFRASTRUCTURE

Skavsta Airport is located 7 km outside of Nyköping 100 km south of Sweden’s capital Stockholm in the county of Södermanland. In Skavstas catchment area (see figure 22), which is a 100 km radius, are living 2.4 million people. This constitutes for 26 % of Sweden’s population of about 9.2 million. Besides Stockholm, which has a population of about 1.252.000, the next biggest cities in the catchment area are Västerås with 107.000, Linköping with 97.000, Norrköping with 83.000, Eskilstuna and Södertälje with 60.000 inhabitants. Örebro, which is slightly outside of the catchment area has a population of about 98.000 inhabitants. Covering the whole of Södermanlands län, the catchment area of the airport also contains parts of the neighboring counties, which are Västmans län, Uppsala län and Stockholms län in the north, Örebro län in the west and Östergötlands län in the south.

The covered counties have population densities ranging from 32,6 people/sqkm (Örebro) to 46,8 people/sqkm (Uppsala). It is obvious that Stockholms län is a exception from this, having a population density far above this range with 305,3 people/sqkm.

Through the E4 highway, the region is connected to the two economically most important parts, namely the Malmö-Lund region and Stockholm. The distance to Stockholm by road is about 100 km, to Gothenburg 370 km and to Malmö-Lund about 500 km.

The region is connected to the railway system, with connections to and from the most important neighboring cities, Örebro in the west, Norrköping in the south and Västerås and Stockholm in the north. Being close to the port of Oxelösund, the region has another competitive logistic advantage. In combination with the nearby E4 and the closeness to Stockholm, this makes Skavsta Airport attractive especially for cargo companies, since they strive to reduce travel time, and consequently their costs.
In addition to the two airports in Stockholm, Arlanda and Bromma, there are three airports in Skavstas catchment area: Västerås, Norrköping and Linköping.

On the background of the provision of well developed infrastructure, Sweden features a mobility of 3.5 (HUDEREK, 2007), considerably higher than the European average.

### 4.1.1 STOCKHOLM-SKAVSTA AIRPORT

#### 4.1.2.1 Setting and Infrastructure
Whereas, due to the closeness to the E4 highway, the airport has a good road connection to Stockholm, as well as to Gothenburg and Malmö, it has no direct rail link. Consequently, the airport strives for a connection to the high-speed railroad Linköping-Nyköping-Stockholm (Ostlänken) which is part of the European TEN-T priority axis 12 - the Nordic Triangle - and which will reduce the travel time to Stockholm to 38 minutes. Currently, there are only shuttle busses (Flygbussarna) from the airport to Stockholm Centrum (80 minutes), Örebro, Eskilstuna as well as to the south to Linköping via Norrköping.

Skavsta Airport provides one terminal, which was built in 2004 and which has an annual capacity of about three million passengers (A-Z WORLD AIRPORTS ONLINE, 2009). There are 16 check-in desks, serving for four gates.

The airport consists of two runways, which have a length of 2880 m and 2040 m respectively.

The history of Skavsta Airport goes back to 1942, when the F11-squadron was established. By decision of the government in 1974 it was closed down in 1980, until it has been converted into a civilian airport in 1984. In the hands of Nyköping and Oxelösunds municipalities the airport was called Nyköping / Oxelösunds Airport until it became a subsidiary of NIAB (Nyköping Industrihus AB) and finally changed its name to Stockholm Skavsta Airport in 1991.

In 1998 the airport was bought by the British TBI, and is since then privately owned. 13 years after the conversion into a civilian airport the first international route to London-Stansted was established by Ryanair in 1997. Up to 2003 this was generally the only regular service, until Ryanair established its Scandinavian base in Skavsta with the opening of six new routes. By 2007, Ryanair had six aircraft based at Skavsta and was offering 30 routes. Today, Ryanair is offering 38 destinations from Stockholm-Skavsta.

The fact that Skavsta airport provides a good road connection, mainly to the Swedish capital Stockholm, makes it attractive for passengers and airlines. Its main weakness lies in the absence of a rail link, with the consequence that travellers need to go by shuttle bus, which takes over 80 minutes in order to get to Stockholm.

Also the fact that there is no big city in the vicinity of the airport and the low population density in its catchment area can be considered as other disadvantages.

Being a military airfield since the second world-war, the airport already provided the general infrastructure, such as a long runway, that was needed in order to attract airlines after the conversion into a civilian airport.

On this background the settling of Ryanair in 1997 and the establishment of its Scandinavian base in
2003 has to be analyzed. Skavsta, even though it has a comparably small potential catchment area with 2.4 million people and there are no bigger cities near the airport, was attractive enough for Ryanair to settle. This relates to the business model of Ryanair as a Low Cost Carrier, which focus on secondary airports.

Nevertheless, Stockholm can be reached easily by means of bus and car, making the airport accessible for a great share of the Swedish population and attractive for tourists. With the construction of a high-speed rail link, this asset will be strengthened considerably.

Another incentive for Ryanair to settle was the existing airport infrastructure, since it was capable to handle Ryanair’s fleet, only consisting of Boeing 737s.

By providing a good airport infrastructure, Skavsta might become one of the European airports, from where Ryanair, with a subsidiary called Ryanatlantic, wants to start intercontinental flights to the US (FYRLUND, 2008).

Unlike most of the Swedish airports, Skavsta is privately owned. The airport was bought by the British TBI in 1998, which owns several airports throughout the world. TBI was then acquired by the Spanish ACDL in 2005, which consists of Abertis and Aena Internacional. The group holds most of the shares of Stockholm-Skavsta, but the municipality of Nyköping managed to keep a 9.9% owner share. The ownership status is illustrated in the following chart.

![Figure 23: Ownership Skavsta Airport](image)

Source: Lindholm, Ostlänken och Skavsta, 2006.

In consideration of the fact that Skavsta is privately owned, it needs to be analyzed how this effects the airport both positively and negatively.

A major advantage of being under private ownership is the unrestricted pricing, which can be an attractive incentive, particularly for low cost airlines. The pricing mainly concerns aeronautical charges, which are fees for runway and terminal services, i.e. landing fees, handling fees. Since privately owned airports need to generate profits, they are impelled to operate in a cost efficient
way. In doing so, this can also bear a risk of lowering service quality standards to passengers and airlines.

In the case of Skavsta the risks coming with privatization are somewhat diminished, since the municipality has a owner share of about 10 %.

4.1.2.2 Employment and business activities

Connected to the airport a business park was established. According to a report which was developed by the Regionförbundet Sörmland, Nyköping municipality, ONYX, Stockholm-Skavsta Airport AB and Tillväxtbanken in May 2007, this business park accommodates 36 companies which employ over 660 people (REGIONFÖRBUNDET SÖRMLAND, NYKÖPINGS KOMMUN ET AL., 2007, p. 5). Differing widely in 10 sectors, the biggest sectors are supporting services to air transport with 231 employees and Defense with 106 employees. The biggest employer is the Airport company with 220 employed persons. After that there are SAAB Aerotech with 70, the cargo company Avitrans Nordic AB and the Border Police with 65 employees respectively. Besides that, the airport is offering the obligatory airport related services, such as catering, shops and car rental. Next to the terminal a hotel with 145 rooms was established in 2008.

Referring to the table ‘Average employment in European airports depending on passengers served’ (figure 1) Skavsta Airport, having about 2.600.000 passengers in 2008, needs to be classified into the 1-4 million column, and therefore should have around 2.700 jobs on site. Taking this into consideration, the 660 created jobs at Skavsta Airport result in a employment density of 260 jobs/mppa.

Airports strive to open up new sources of income in addition to the air traffic. In the case of Skavsta this is done by means of shops and restaurants, as well as with a business park next to the airport. In this business park predominantly businesses that are directly or indirectly linked to air traffic are located. Some other businesses need the airport as a prerequisite for their business activities. Whereas the airport company and the Swedish Luftfartsverken can be numbered among the group with direct links to air traffic, car rental firms (Avis, Sixt, Europcar, Hertz), as well as retail businesses (Alpha Retail) have an indirect connection to air traffic. For cargo businesses, such as Avitrans Nordic, as well as the coast guard the airport is essential.

Nevertheless, only 660 generated jobs are far below the expected value of about 2.700 jobs, which can have several reasons.

Firstly, companies might experience some uncertainty, when located at an airport that is dominated by Low-Cost-Carriers (REGIONFÖRBUNDET SÖRMLAND, NYKÖPINGS KOMMUN ET AL., 2007, p. 7). LCCs tend to shut down routes that are inefficient immediately or move away from airports due to slight raises of fees, since this puts their business model in danger.

Having this in mind, it needs to be pointed out that Skavsta Airport is almost completely dependent on Ryanair, which becomes obvious in consideration of the fact that 88 % (2006) of the total number of passengers are generated by Ryanair (REGIONFÖRBUNDET SÖRMLAND, NYKÖPINGS KOMMUN ET AL., 2007, p. 6).

The comparatively long distance to Stockholm can be another issue that discourages companies to settle at Skavsta and thus, creating jobs. Having in mind that there are no big cities in the proximity, the companies rather prefer the closeness to Stockholm, and consequently to their market and customers.
Another reason for the low employment density is the fact that Skavsta is under private ownership, which means that it has to operate cost efficient. In doing so, it can be assumed that as less persons as possible are employed.

Furthermore, the business model of low cost carriers is contributing to the fact that less jobs are created at the airport. For example, there is no need for catering services, since LCCs don’t offer on-flight catering. Moreover, fewer persons are employed in terms of ticket sales and marketing, as low cost airlines carry out their ticket sale exclusively via internet and call centers.

Likewise, there is only a small demand for personnel at check-in desks, as it is possible for passengers to check-in via a so-called web check-in, which allows them to skip the usual check-in procedure and directly proceed to the security check. Linked to that is the announcement of Ryanair to close down all its check-in desks at all airports by October 2009, solely accepting web check-in from this point (RYANAIR, 2009).

### 4.1.2.3 Air traffic

Having about 260,000 passengers in 2001, Skavsta Airport grew about tenfold to about 2,500,000 in 2008 (see Figure 24). It can be noticed, that the airport encountered a steady passenger growth since 2001, having only one weak year in 2006. With 2,500,000 passengers in 2008 Stockholm-Skavsta is, regarding number of passengers only, the second biggest airport in the Stockholm-area and the third biggest in Sweden, behind Stockholm-Arlanda and Gothenburg-Landvetter. Low-Cost-Carriers accounted for 94,54 % of the passengers in 2001, having the highest share in 2005 (98,45 %), whereas in 2008 LCCs account for 96,54 %. It can be pointed out that the Low-Cost-Carrier Ryanair set Skavsta on the map, contributing to 88% of all passengers in 2006. According to a report of the airport owner, Skavsta airports strives to reach 6 million passengers in 2020 (ABERTIS AIRPORTS, 2006, p. 19).

Offering predominantly international routes, with the exception of one domestic flight route, the share of passengers arriving from and departing to international destinations is about 99 % (SIKA INSTITUTE, 2008).

![Figure 24: Development of passengers at Skavsta Airport](image)

*Figure 24: Development of passengers at Skavsta Airport*

*Source: Sandqvist 2009, E-mail from 17 February 2009.*
Being a major cargo airport in Sweden, Stockholm-Skavsta plays an important role in stimulating regular cargo links between Sweden and Asia using the closeness to the port of Oxelösund and the Swedish capital Stockholm. Handling 2,130 tonnes of freight in 2007, this figure dropped considerably to 417 tonnes in 2008 (SIKA INSTITUTE, 2008).

Regarding the rapid growth in the number of passengers in the recent years, it needs to be pointed out that this development is mainly a result of the LCCs operation at Skavsta Airport. Additionally, the share of LCCs on the total number of passengers remained on a high level from the beginning. Furthermore, the dominance of LCCs can be identified by regarding the extremely high share of passengers on international routes, since LCCs only offer international destinations. Having these aspects in mind, it becomes clear that Skavsta is completely dominated and dependent from Low Cost Carriers.

4.1.2.4 Flight schedule
As mentioned before, Ryanair currently offers 38 destinations throughout Europe (see figure 25). Predominantly offering routes to Western Europe, Ryanair started five new routes on October 2008 to Central and Eastern Europe (CEE).

In summer 2004 another Low-Cost-Carrier, the Hungarian Wizz Air, started its service at Skavsta. Today, Wizz Air offers 4 destinations in Poland and Hungary.

In the peak seasons in summer and winter, several charter flights to southern Europe (Fritidsresor/TUI, Ving/My Travel, Apollo), as well as to Thailand (Fritidsresor/TUI) are offered.

With Gotlandsflyg, which offers flights from Skavsta to Visby, there is only one domestic flight route departing from Stockholm-Skavsta.

It becomes obvious that Ryanair is the dominating airline at Skavsta, even after the establishment of Wizz Air, considering the fact that it offers about 90% of all the destinations from Skavsta (exclusive charter).

It can be argued that both airlines, Ryanair and Wizz Air, shared the European market from Skavsta until the establishment of routes to Poland and Czech Republic in winter 2008 by Ryanair. Before that, Ryanair was mainly focused on Western Europe, whereas Wizz Air, as an Eastern European airline, was offering destinations in the CEE countries.

The question can be raised if Wizz Air would have settled in Skavsta, when Ryanair would have been offering routes to Eastern Europe before, since Ryanair was already established and is a strong competitor as Europe’s biggest Low Cost Airline.

With their destinations they offer from Skavsta, both airlines cover almost the whole territory of Europe, which might discourage another LCCs to settle at Skavsta.
Figure 25: Destinations offered from Skavsta Airport
Source: Skavsta Airport Homepage, www.skavsta.se.
4.1.2 Competition with other airports

In the catchment area of Stockholm-Skavsta there are several other airports, of which Arlanda with 18 million passengers is the biggest. The other airports are Bromma (1.800.000 passengers), Västerås (186.000), Norrköping (113.000) and Linköping (82.500).

Of this airports, only Arlanda and Västerås offer flights with Low cost carriers. In the case of Västerås these are the same as at Skavsta, Ryanair and Wizz Air. Arlanda is offering five other LCCs, of which EasyJet and AirBerlin are the biggest.

The biggest competitor of Skavsta is obviously Arlanda, as it is the biggest and most important airport in Sweden. According to figure 26 the highest demand for business travellers is speed. Having this in mind, the distance between Stockholm and Skavsta is about 100km, taking 80 minutes from the city to the airport. Compared to that, Arlanda is connected to Stockholm via a high-speed train, the Arlanda Express, which takes about 15 minutes.

![Traveler demands according to travel reason](image)

**Figure 26: Traveler demands according to travel reason**


In terms of frequency it needs to be pointed out that Arlanda is offering considerably more travel options, as well as intercontinental destinations, which is not the case at Skavsta.

As business travellers usually need to work in the airplane, spatial comfort is important. This is provided by regular airlines, whereas LCCs, as a consequence of a high seat-density, only provide a low comfort level.

Furthermore, business travellers benefit from amenities such as business lounges and refundable tick-
ets, which are usually not offered by Low cost airlines. The above-mentioned aspects lead to the fact that Arlanda is considerably more attractive for business travellers than Skavsta.

Although Skavsta grew considerably in the last years, Arlanda remains the most important airport for Sörmland and its surrounding counties, but Skavsta is becoming the preferred choice of people living in the south of Stockholm. Skavsta might gain importance when Ostlänken is completed, which will provide an effective transport and communication link between Skavsta and Arlanda.

Stockholm-Bromma, which is most likely to be compared to Skavsta in terms of the number of passengers, is offering, with one exception, exclusively domestic flights. For this reason, it can be argued that Skavsta and Bromma do not compete against each other.

Västerås, in a distance of about 75 km somewhat closer to Stockholm than Skavsta, is offering the same routes (London/Stansted, Düsseldorf/Weeze) like Skavsta. Wizz Air offers additionally another destination in Poland. The fact, that both airports have almost the same destinations can lead to a competitive environment. However, Västerås Airport is considerably smaller than Skavsta and it needs to be questioned to what extent Ryanair and Wizz Air want to expand their activities at the airport.

Norrköping and Linköping don’t seem to be competitors for Skavsta, as they are small on the one hand, and are offering destinations that do not coincide with Skavsta’s routes.
4.2 ECONOMY

Since Stockholm was the biggest incentive for Low Cost Carriers to settle at Skavsta Airport, in the following the main economic figures of the airport’s catchment area will be discussed in comparison to Stockholm.

The biggest sectors in the catchment area, in terms people employed, are mining and manufacturing, as well as health care and social services, whereas in Stockholm the biggest sector is Financial services, business services, real estate administration (STATISTIKA CENTRALBYRÅN, 2009).

The catchment area has a regional GDP (BRP; Bruttoregionprodukt) of about 270,000 SEK, which is considerably below the national average of 319,000 SEK. Stockholm has a regional GDP of 440,000 SEK, being 38% above the average (REGIONFAKTA, 2009).

Regarding unemployment, in Skavstas catchment area has an unemployment rate of about 4%, being somewhat higher than the Swedish average of 3.7%, whereas Stockholm is again below the average with 2.8% (ARBETSFÖRMEDLINGEN, 2009).

The biggest employers in the region are the municipality authorities and county councils, as well as SSAB, Volvo Construction Equipment, Siemens and SAAB.

On the local level, Nyköping municipality had a BRP of 86% of Sweden’s average in 1996, falling to 80% (254,000 SEK) of the average in 2006. Growing only 41% from 1996 to 2006 the municipality shows the worst growth rate in Södermanlands län in this period.

The unemployment rate in the municipality of 4% corresponds with the average of the catchment area.

Referring to the the fact that the most air intensive sector is finance and insurance services (see page 7), on this background the dominating sectors in Skavstas catchment area have to be examined. While mainly being dominated by the manufacturing industry, which can be recognized not only by the share of employed people in this sector, but also by the biggest employers in the area, which are exclusively manufacturing companies.

It is apparent that the region suffers from the closeness to Stockholm in terms of economic activity, having a relatively low regional GDP and a higher unemployment compared to the Swedish average.

Here again, it can be said that companies, especially those that are dependent on air traffic, rather prefer Stockholm where there is a considerably bigger market.

Considering the low BRP of the municipality of Nyköping, as well as the low growth rate since 1996, the airport obviously does not have a large impact on the municipality in terms of spurring economic growth.

From 1997 to 2008 the area surrounding Skavsta airport showed a positive net migration, while experiencing a strong net migration in the recent years. For example, Södermanland had a net migration of 1,768 persons (see figure 27) in 2008 (REGIONFAKTA, 2008). Having a share of around 25% most of the immigrants come from Iraq. The next biggest groups are Swedes and Somali moving into the area.

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3 Average of counties in catchment area, own calculation.
4 Unfortunately not visualized by means of a figure, since it was only possible to determine the share of the sectors on the scale of the counties and not for the whole catchment area.
Since there is almost no correlation between the immigrants’ country of origin and the destinations that are offered from Skavsta Airport, it seems that the airport does not contribute to migration on a large scale. It is obvious that the biggest share of immigrants come from countries that are in war, and consequently are refugees.

**Figure 27: Net migration in Södermanlands län**

*Source: www.regionfakta.com.*
4.3 Tourism

Offering thousands of lakes and the closeness to the Baltic sea with its archipelago and endless islands, as well as forests, Södermanland is mainly interesting for tourists that come to enjoy the closeness to the nature. Particularly suitable for activities like water sports, hiking and horse riding, the region is attractive for people in every age.

The number of overnight stays per year in Södermanlands län rose from 794.000 in 1997 to 1.360.000 in 2007. Broken down to the guests’ country of origin, Swedish nationality account for the biggest share with 901.000 in 2007. After that, guests from the rest of Europe, exclusive of northern Europe, have the second highest share with 100.000 overnight stays per year.

According to a report of Travelutions AB 33 % of all travelers come from abroad (REGIONFÖRBUNDET SÖRMLAND, 2008, p. 16), of which two thirds are going to Stockholm. As a result, 45 % of all passengers are coming from or going to Stockholm. Having this in mind, it is obvious that Stockholm serves as the main driving force for tourism in the area. In 2007, the greater Stockholm area accommodated 3.4 million travellers on leisure purposes, standing for 45 % of the total number of guests, compared to a share of 55 % for business purposes, staying for an average of 2.6 days (STOCKHOLM BUSINESS REGION, 2008).

It needs to be stressed that the number of overnight stays in the region increased considerably in the time from 1997 to 2007. In the course of the general trend of an increasing number of guests and tourists, there was a substantial increase of guests coming from the rest of Europe, almost doubling from 52.000 in 1997 to 100.000 in 2007.

The airport might contribute to this development, as it offers almost exclusively destinations to Europe.
5 Comparison of the Case Studies

Katowice and Skavsta Airports are among many examples of successful rebirth of old military airfields. The landmark of LCCs’ appearance emphasized by setting a base lead to growing air traffic and consequently changed the image and importance of these airports.

Since both study cases are located in the states which in numerous issues differ from each other, it would have been incompetent to analyze and reflect the influence of LCCs activity concerning the same preconditions. In many cases the prerequisites were the among many outcomes coming from the importance of i.e. the length period of the European Union membership hence the EU air transport legislation put in force, the duration of LCCs’ activity at the local markets or the profile of the region served. Similar concern appeared while determining the territorial scope of the impact of airports.

While the catchment area is generally limited to 100 km distance from the airport, both cases differ in its structure in terms of the proximity and distribution of the market they assist. Firstly, it is worth to underline the size of the population within this range, which in case of Katowice is almost five times bigger than for Skavsta (11 and 2.4 million respectively). Although the figures indicate a wide gap and might suggest unequal conditions while forming overall conclusions by including the total population size of Poland and Sweden, in both cases the share of population served by these airports is almost the same accounting for roughly 28 %. Secondly, the situation remains more complex in respect to distribution of the population hence the concentration of the economic and tourist drivers. Whereas the largest population’s potential for Katowice Airport is found within Upper Silesia Agglomeration located in the proximity of the airport, the catchment area additionally covers the whole voivodship, agglomerating almost 5 million inhabitants. Unfortunately, Skavsta hasn’t been granted with such a favourable conditions and the most important market for its services regards Stockholm, treated by most of the passengers as the main origin/destination point. Awkwardly, only the southern part of the city is found in the north-eastern border part of the catchment area. Assuming, the impact is stronger within the smaller distance from the airport, population of Stockholm is more likely to be influenced by closer located Arlanda. Therefore the preconditions relating to economic and tourist features for Katowice Airport relate mostly to the activities within the administrative borders of the region as the ones to be essentially influenced by airport’s and LCCs’ activity, as well as the ones to be the main expansion driver of the latter. Regarding Skavsta, since the main incentive for airport’s growth is found outside Sodermanland region the analysis went beyond the limit of administrative unit and reflects to further areas although mostly within the 100 km distance.

In terms of setting, both airports are provided with well developed ground infrastructure thanks to the proximity of the highways allowing for direct access to the key destinations within the catchment area. Unfortunately they are not linked with high speed trains regarded as the most time efficient transport mode, but attempts have been already undertaken for improvement in this field. The airports’ capacity has been expanding following the passenger growth and the current conditions remain sufficient to handle the passenger volume, although if the trend will continue keep the same pace, both airfields will require further expansion in the near future. The highest dynamics of the infrastructure investment took place within the first years of the LCCs’ activity. As already mentioned before, both airfields serve
as a technical base for Ryanair or Wizzair, where each one of these airlines holds a dominant share at the national LCC market in Sweden and Poland respectively. Consequently, most of the low-cost connections with destinations abroad are linked with these airports increasing their importance and improving visibility nationwide and beyond. The implementation of the air transport legislation following the EU accession of Sweden in 1995 and Poland in 2004 allowed these airlines to start their activity shortly after these dates.

Katowice and Skavsta airport differ in the ownership status. The major aspect that needs to be stressed is the issue of funding. Whereas Katowice is able to receive money from European funds to expand its infrastructure and therefore becoming more attractive, Skavsta, as a privately owned airport, does not have access to these funds. The fact that Katowice airport is public and consequently has to serve the general public by providing its services also comes with bigger obstacles, such as governmental guarantees. This is not the fact in Skavsta, where the airport is development is driven by business aspects, having not only freedom of choice in adjusting charges and prices but also in terms of infrastructural development and future prospects.

The influence of LCCs’ activity can be mirrored in the share in the total passenger figures comparable in both cases. With Skavsta in particular, an example demonstrating almost complete dependence of the airport from LCCs’ services. The air traffic has increased after the LCCs began to operate at these airfields. Later on, the traffic movement was mainly carried thanks to the presence of charter flights only (Skavsta) or additionally the regular carriers (Katowice). After the appearance of the LCCs, the importance of the first two types of traffic dropped and was replaced by low-cost flights. Although the LCCs’ activity did not cover the services within charter (with some exceptions to Katowice in respect to Centralwings) or cargo flights, for these two such type of traffic remains a significant source of income. Currently, both airports play a leading role nationwide in the size of freight and the charter passengers served on-site.

Comparing both case studies in terms of the typology that was developed by the Airports Council International, Katowice, with an employment density of about 600 jobs/mppa can be classified as a medium density airport, whereas Skavsta with approx. 250 jobs/mppa will be assigned in the low density category (see figure 28).

Handling about 2.4 million passengers per year, Katowice features a medium passengers volume, as well as it is offering almost exclusively international flights. LCCs having a share of over 60 % of the generated passenger volume, adding the traffic by the regular airlines LOT and Lufthansa means that charter traffic can be disregarded. Furthermore, Katowice serves as a base for Wizz Air, and in doing so, experienced a considerable development in the recent years, both in terms of passengers and airport infrastructure, and is most likely to continue this expansion.

Skavsta on the other hand is showing a passenger volume of about 2.6 million, leading to a density of 250 jobs/mppa. Following the typology of ACI this figure results in the classification to a category that is even below than the lowest possible. The reasons for that seem to be manifold and were already discussed in the analysis of the case study. Nevertheless, Skavsta is perfectly in line with the characteristics of the medium density classification, while having the same features like Katowice.

Serving as a base for two low cost airlines, which account for about 96 % of the passenger volume,
scheduled traffic predominates over charter traffic considerably. Featuring a medium passenger volume of 2.6 million passengers, that almost exclusively are generated by international destinations, Skavsta shows another characteristic of a medium density airport. Similar to Katowice, a significant development took place, which the airport owners are striving to continue.

Figure 28: Typology of on-site employment, classification of Skavsta and Katowice Airports.
Source: ACI, 2004, p.8; own editing.

The potential which the region offers is one of the key incentives for establishing a route by the LCC. Moreover, it forms a prospective view of the passengers’ profile. Both analyzed areas demonstrate an industrial character, oriented towards manufacturing. Since in Śląskie the size of the population is much bigger, so is the potential of outlet for other types of business sectors especially these regarded as ‘air sensitive’. The majority of the passengers travel in business purposes and most likely they are moving from the airport to the main economic centres working as the drivers for LCCs’ presence; Stockholm, Upper Silesia Agglomeration or clusters within the Polish Special Economic Zones. While in general business travelers are recognized as a dominant customer group willing to choose regular airlines, more often they become in favour of the low-cost offer especially concerning short-haul routes. The consequences of the economic condition of the region are the next determinants for the LCCs to adjust their services to the needs resulting from the transformations at the local market. In case of Śląskie the problem of high unemployment and the demand for labour migration has been raised. Together with the interest in emigration for work purposes towards particular destinations the low-cost flight schedule has followed this trend. As many Poles decided to settle abroad it effected in development of a migration network between Poland and the countries with the biggest concentration of Polish communities, up till now the tendency in orienting most of the routes to the key member states remains strong. Although the economic indicators of Södermanland are below the national average, we found
no reference in the character of flight schedules with migration patterns in terms of scale, demands and the origin of the immigrants.

Not without importance remains the presence of other airports, providing similar character of services, particularly located within the catchment area. This forms overlaps in the scope of influence, resulting in occurrence of competing for attracting passengers and carriers. While Skavsta has as much as four airports within the 100 km distance, due to their size and types of services focused mainly on domestic flights or few other international routes, they do not create a risk of losing passengers. On the other hand, it is difficult to compare Skavsta with the Sweden’s main airport Arlanda (located outside the Skavsta’s catchment area) since the basic features regarding the proximity to the capital city (100 km and 30 km), the number of passengers (2 million and 17.8 million in 2007) are incomparable due to the wide gaps. Nevertheless, both airports are the two leading ones in the number of passengers among other airfields in the Stockholm area. Still in relation to the low-cost offer provided in almost fully LCC dominated Skavsta, the rivalry for low expenditure oriented group of passengers is likely to benefit this airport since it offers 38 destinations comparing to only eight available from Arlanda. The competition between Katowice Airport and Kraków Balice Airport located 90 km away from each other is more visible and intense since the figures for passengers’ size and low-cost destinations offered are comparable. With the EU air transport liberalization giving the LCCs a full freedom of choice among the airports and their appearance proving to bring high passenger volumes, the rivalry seems unavoidable considering the prospective income which the customers generate. This might explain the broad dimension of marketing campaign followed by Katowice Airport but not clearly noticeable in case of Skavsta.

Having an internationally recognized tourist spot in the neighborhood is possibly the main reason for poor condition of regional tourism in Södermanland and Śląskie. The passenger flow does not correspond to the scale of local tourist activity and foreign tourists are just a fraction among all incomers staying in the region. As a result, the leisure attractions which the regions have to offer are left in the shadow of bigger urban centers usually of high historic importance concentrating more options for sightseeing and entertainment. Whereas the amount of data regarding tourism sector for both regions is not equal and does not always refer to the same indicators, the conclusions suggest the occurrence of similar patterns in this field. The dominant duration of travels has a short stay character. Following the LCCs’ price policy offering lower fares during the weekdays it makes the price sensitive group of passengers keep the limit of time in order to generate savings. Furthermore, both airports provide well developed ground transport not only to the main cities in the vicinity but also the ones further located, contributing to treat the region as a transit area. Although the data regarding tourism patterns in Stockholm does not differentiate the purpose of travel with the ‘transit’ option, it should be stressed out that incoming passenger flow to the city includes air traffic within the Skavsta airport, which suggests above all the meaning of the airport as mainly a transit hub in the southern part of Stockholm Region. Finally, the importance of the presence of famous spots like Stockholm or Kraków in generating passenger flow in the LCC sector is mirrored i.e. in the strategy of assigning the name of the main city to the airport even if the gaps in distance are relatively wide. This applies to our both study cases where the full name for our Swedish example is ‘Stockholm- Skavsta’ Airport. In respect to the marketing activity of Wizzair, the LCC advertises Katowice Airport as ‘Katowice- Kraków’ destination.
6 CONCLUSIONS

Featuring a dynamic development, low cost carriers generate jobs. Nevertheless, it has to be pointed out that airports that are dominated by LCCs exhibit a lower employment rate than the European average. This is mainly connected to the business model of the LCCs, who are extremely focused on saving costs. Furthermore, the employment figures can not keep pace with the strong passenger growth sped up by low cost airlines.

In the course of the second research question - how can the region benefit from the presence of LCCs and increasing role of regional airports? - the most important conclusion has to be stressed, which is that low cost carriers do not contribute to the regional tourism as usually assumed. Having in mind that the predominant purpose of travel are business activities, as well as the fact that regional airports are frequently in a certain distance from internationally well-known touristic and business destinations, causes the regions being predominantly used as transit corridors. Providing a well developed transport infrastructure this effect is being amplified.

Through the business model of LCCs, offering cheaper tickets only on weekdays, a short duration of stay is promoted, which evidentially generates less income for the region.

Furthermore do regional airports play a significant role for being an incentive to improve the transport infrastructure, both in terms of improving technical conditions of a poor ground transport infrastructure, as well as the improvement of a already well developed transport infrastructure, consequently leading to an enhanced accessibility. In doing so, the business model of low-cost airlines, focusing on regional airports, works in favour of poor and/or remote regions.

Connected to both research questions is the issue of choosing a specific flight schedule. While trying to accommodate the demand of the surrounding region, LCCs are not exclusively driven by profitability and hence offering destinations close to the biggest economic centres in Europe, but also by aspects of migration.

The results in this paper were solely achieved by considering and analyzing data and information of the present and the recent past, rarely remarking possible developments in the future. This could be a starting point for further research, especially on the background of the economic crisis.

It can be assumed that due to less available financial resources, the competition between low-cost carriers, as well as between LCCs and regular airlines will be enforced, since there is an ever-growing demand for cheap tickets.

Therefore, one can be confronted with the question if the economic crisis serves as an additional incentive for the dynamic development of low-cost carriers.
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