

# THE IMPACT OF LOW-COST CARRIERS GROWTH: A COMPARATIVE STUDY

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## ABSTRACT

As opposed to approximately ten years ago, when low-cost carriers (LCC) were mainly focused on the Western European market, in the past few years the development of LCC was also strongly felt in Eastern European countries. For this reason, the study of LCCs in these countries have captured the attention of many researchers.

This paper is divided in two parts. In the first part, we conducted a comparative analysis of the development of LCCs in three Eastern European Countries: Romania, Bulgaria and Hungary. In the second part, we focused our analysis on underlining the importance of airline industry for the economic development with an emphasis on the importance for the Romanian economic development.

**Keywords:** low-cost carriers, airline industry, economic development.

**JEL classification:** L90, L93.

## 1. Introduction

Following the deregulation of the aviation market of the European airspace, the appearance of low-cost carriers resulted in significant changes of the industry. The fast and continuous development of the low-cost airlines is mainly due to their business model: attracting more and more people with their focus on offering cheap tickets by reducing complexity costs associated with the services offered. For these reasons the presence of LCCs is significant today.

An area where the LCCs saw and took an opportunity for expanding is Eastern Europe. In this paper, we analysed the effects and contribution of the LCCs to the economic development of the Eastern European countries, such as Romania, Hungary and Bulgaria, with a focus on Romania.

In the past few years, the expansion and apparent dominance of low-cost carriers can be observed in this region, which raises some questions: are people choosing low-cost airlines instead of full-service ones? Which low-cost airlines are dominating in this region? How much does the aviation industry actually contribute to the economic development of these countries?

In order to find answers to these questions, a thorough analysis of the aviation sector was conducted with a focus on the low-cost market in the Eastern European region.

The purpose of this research is to analyse the impact of low-cost carriers, in the three EU countries mentioned above, to identify the patterns of their dynamic development and the

benefits they bring to the countries in this region and the future of the aviation market in Eastern Europe. We decided to concentrate our analysis on the two biggest low-cost companies which operate in Romania: the Hungarian based airline Wizz Air, and the Romanian airline Blue Air. This will give us even more insight into the development of this industry in Romania compared to Hungary and Bulgaria.

## 2. The concept of low-cost carriers (LCC)

Given the rapid development of the LCCs market, in the past years, many academic papers were oriented towards analysing this market.

Thus, Barrett (2004) analysed the relations between LCCs and airports.

Other authors who concentrated their attention on this subject were Franke (2004) and Tretheway (2004) by studying the competition between traditional airlines and LCCs. Morrison (2004) went even further in his study and analysed also the role of the authorities controlling this competition. A comprehensive study of the European low-cost airlines was conducted by Dobruszkes (2006) who analysed the geography of low-cost networks.

In the aviation industry, airline types can be divided into different groups. One way of dividing them is into: cargo flights, general aviation, regional carriers, charter airlines, full-service carriers and low-cost carriers.

Cargo flights are freight carriers, mainly dedicated to the transport of cargo. General-aviation consists of private business jets, gliders and powered parachutes. Regional carriers are more locally oriented than national ones, and traditionally act as a commuter for larger airlines. The passenger charter airlines operate flights for a certain period of time a year, usually during holiday seasons.

Full-service carriers can be considered the counterpart of low-cost carriers. A full-service airline usually offers in-flight entertainment, meals, checked baggage, beverages and blankets and pillows as well in the ticket price. It also offers the passengers the choice of economy or business class travel and on some flights premium economy and first class.

However, the main focus is on the low-cost carriers. Low-cost carriers, discount airlines, no frills airlines, prize-fighters and low-cost airlines are different ways of naming the same type of airline: one which offers cheaper tickets compared to other type of carriers, made possible by the reduction of the complexity costs ([www.jvdz.net/lcc-def.html](http://www.jvdz.net/lcc-def.html)).

**Table 1. Differences between the low-cost and full-service airlines**

Characteristics	Low-cost airline	Full-service carrier
Brand	One brand: low pricing	Extended brand: price and service
Price	Simple pricing structure	Complex pricing structure
Distribution	Internet, direct booking	Internet, direct, and travel organisation
Check-in	No ticket	No ticket, IATA ticket contract
Airport	Mostly secondary	Primary
Network	Point-to-point	Hub-and-spoke
Classes	One class	Multiple classes
During flight	Unbundling (pay for 'extras')	Bundling (free 'extras')
Aircraft usage	Very intensive	Average - intensive
Aircraft type	One type	Multiple types
Turnaround times	25 minutes	Slow: congestion/work
Product	One product	Multiple integrated products
Secondary revenue	Advertisement, on-board selling	Focused on primary product
Seating	Tight, no reservations	Flexible, reservations
Customer service	Overall bad	Reliable service
Operational activities	Outsourcing (focused on flying)	Extending (maintenance, cargo)
Target group	Mostly tourists	Tourist and business

Source: O'Connell and Williams, 2005, vol.11: 259-272.

The complexity costs mentioned before consist of different characteristics related to full-service carriers. Table 1 illustrates the main differences between the low-cost and full-service airlines.

Even though the table illustrated above clearly states the differences between low-cost carriers and full-service carriers, very often these distinctions are harder to identify in reality.

**The future perspectives of LCC**

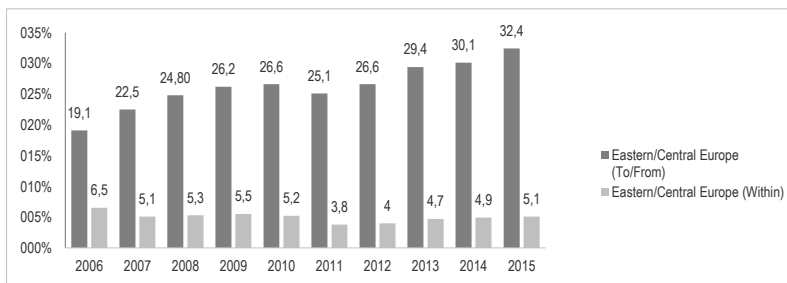
Based on the global trends that the Eastern European air market will likely follow, it is expected a steady increase in LCC share in the regional traffic and dominance of low-cost carriers over traditional airlines in Eastern Europe by 2030. The largest European aircraft manufacturer Airbus expects LCCs to increase their global short-haul market share to 29% from the current 28% of the total passenger traffic by 2020 and to 34% by 2030.

Based on the Global Market Forecast, 2011-2030, in some regional markets, such as Western Europe, the anticipated low-cost presence will be considerably higher, potentially taking 60% of the market by 2030. However, with the fading differentiation between the two types of services, as LCCs move upmarket and traditional airlines try to offer better prices, exact forecasts for their shares becomes increasingly harder and tentative.

**2.1. LCCs: Central and Eastern European market**

Central and Eastern Europe, comprises 21 countries with a total population of over 300 million people, an overall market that is larger than that of Western Europe. This market represents a huge opportunity for a low-cost airline company because it is still relatively underserved by airlines.

For a better understanding, Figure 1 illustrates the LCCs capacity share penetration in Eastern European countries for the period: 2006-2015.



**Figure 1. LCC capacity share (%) of total seats: 2006-2015 in Eastern Europe**

Source: based on data provided from OAG, 2017.

According to Eurostat data, Romania registered a growth of 3.1%, Hungary 4.2% and Bulgaria 1.3%. Therefore, the continuous increase in low cost airline activities is one of the main factors that lead to the extension of airports in this region and its attractiveness to investors.

**LCC in Romania**

In 2016, Romania's air transport market there registered a 20% growth in terms of seat capacity. In terms of market share, Wizz Air maintained its leading position, while flag carrier TAROM has been dramatically losing market share since 2014.

Romania is the only Southeastern European country with its own low-cost carrier: Blue Air. The airline company operates flights to and from seven Romanian airports and it was the third largest airline in the country in 2016, Wizz Air, being the leader, and TAROM on the second position.

According to the data of OAG Schedules Analyzer 2017, Blue Air's scheduled capacity grew by 75% to 3.8 million seats in 2016. Ryanair, the European leader, had a relatively small share in 2016, but thanks to its dynamics, the Ireland-based carrier is growing fast in Romania.

There's been a significant increase in the combined share of the LCCs on the Romanian market, in terms of international and domestic destinations. The most impressive growth can be observed on the domestic market. Only two years after the launch of low-cost flights in the country, the LCCs held 1/3 of the overall seat capacity.

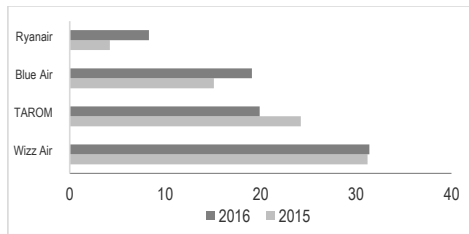


Figure 2. Market share of airlines in Romania by annual seat capacity (%)

Source: based on OAG Schedule Analyzer, 2017.

### LCC in Hungary

Hungary is Eastern Europe's fourth largest air transport market with 11% of capacity registered in February 2016. In terms of year-on-year growth in seats, there was a growth of 10%, especially to the UK, Hungary's largest international market, which had 15% more seats in 2016 than in 2015. The next three international markets are Germany, Italy and the Netherlands, with a recorded growth of 8%, 8% and 16%, respectively.

Wizz Air is by far the largest operator with 29% of capacity and Ryanair is second with 15% of seats. Wizz Air added 14% more seats in February 2016 compared to Ryanair's 21%, but in absolute terms this means more seats. Therefore, Wizz Air has a number of 15,800 seats while Ryanair 11,300.

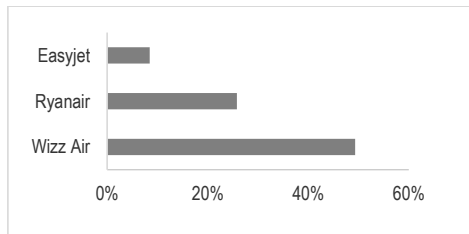


Figure 3. LCC ranking by market share in 2016 in Hungary

Source: based on OAG Schedule Analyzer, 2017.

### LCC in Bulgaria

In Bulgaria, air transport moved more than 9.5 million passengers in 2016, which represented an increase of 35% compared to 2012. According to the National Statistical Institute of Bulgaria, the most popular flying destinations in 2015 were Germany, UK and Austria, 70% of passengers carried by airlines from Bulgarian airports choosing these destinations.

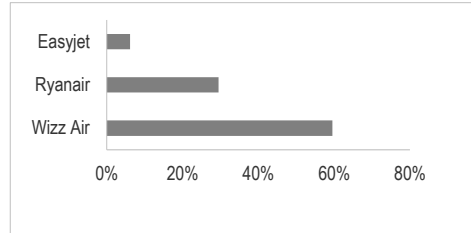


Figure 4. LCC ranking by market share in 2016 in Bulgaria

Source: based on OAG Schedule Analyzer, 2017

There are 18 air operators registered in the country, the largest national airline "Bulgaria Air" with a market share of 33%.

The largest low-cost airline operating in Bulgaria is Wizz Air with 59.55% of the market followed by Ryanair's with 29.53% and Easyjet with 6.12%.

### 2.2. The importance and development of air transportation in Eastern European Countries

According to many researchers, the airline industry has an important contribution to the economic development not only by generating new jobs for millions of people, but also by increasing international trade activity through a faster and easier movement of goods. For this reason, the airline industry has continued to expand becoming an indispensable means of transport. According to the Uniting Aviation Report (2018), air transport has doubled in size every 15 years and has grown faster than most other industries.

#### Air Traffic Drivers

According to the 2016 Boeing Current Market Outlook report, the different influences on a region's air-travel growth can be grouped into three categories: economic activity, ease of travel and local market factors. Based on these groups, the demand and supply impact on air travel can be explained.

Some factors of market demand include: GDP, which can be easily quantified, while liberalization, for instance, is more difficult to assess. However, it can have a significant effect on the market performance.

Economic activity is the most easily quantified and understood factor that influences traffic flows. According to the European Commission Report (2017) the key metrics related to the economic activity are:

- National/Regional GDP
- FX rates and fuel prices

- Per capita income
- Population trends
- Labour-force composition
- International trade and investment links
- Tourism

Another important driver of air traffic is the ease of travel. This factor can experience improvements in many ways. Some examples include:

- More open-air services agreements between countries
- Liberalized domestic-market regulations
- Emerging technology (such as new airplanes enabling new routes)
- Business-model innovation (as found in the low-cost airline model)
- Airline-network improvements (in nonstop city pair connectivity or the launch of a new base by a low-cost carrier)

Local markets, as a factor in forecasting air travel flows, is

not directly related to macroeconomic trends nor ease of travel, but its impact on air travel growth can be considerable.

**Relationship between GDP and Air Travel in Romania, Bulgaria and Hungary**

In order to illustrate the relationship between GDP growth and air travel, we used GDP per capita as an indicator because it is used in many studies concentrated on the analysis of airline industry. The reason behind using this indicator is that per capita income is a useful economic indicator for air travel, which measures disposable income and correlates strongly with a country's population's propensity to fly. Within a given region, the propensity to fly is measured by the number of trips or by the revenue passenger kilometres (RPK) that generally increase with per capita income.

The relationship between the GDP and air transportation in Romania, Bulgaria and Hungary is illustrated in Table 2.

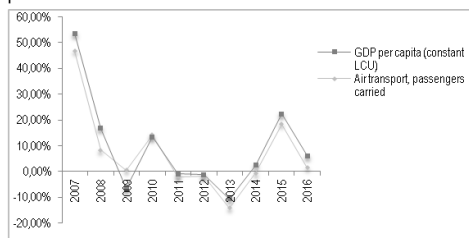
**Table 2. Country comparison between GDP growth (%) and Air Traffic growth (%)**

		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Romania</b>	GDP (% growth)	6,8	8,46	-7,07	-0,80	1,06	0,64	3,53	3,08	3,97	4,59
	Air transport (% growth)	46,71	8,31	0,45	14,24	-1,98	-1,80	-14,09	-0,63	18,44	1,47
<b>Bulgaria</b>	GDP (% growth)	7,68	3,64	-3,59	1,32	1,92	0,03	0,86	1,33	3,62	3,94
	Air transport (% growth)	5,79	25,52	-25,65	0,46	16,34	4,31	4,13	4,63	0,32	2,71
<b>Hungary</b>	GDP (% growth)	0,43	0,86	-6,60	0,68	1,66	-1,64	2,10	4,23	3,37	2,21
	Air transport (% growth)	20,91	-0,70	-5,10	<b>322,5</b>	10,04	-10,49	13,32	18,35	21,60	6,77

Source: Authors' compilation based on World Development Indicators - World Bank

**GDP and air travel in Romania**

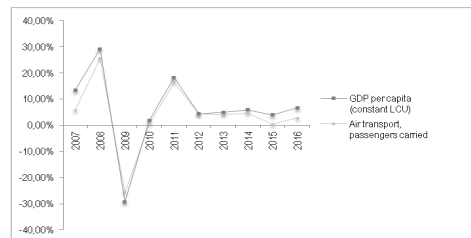
Figure 5 shows that the air traffic growth exceeded the GDP per capita growth only in 2009. Except for that period, the growth of the GDP was higher than the one of the air traffic. The sudden huge drop in GDP growth that can be observed in 2008 is related to the economic crisis that occurred in that period.



**Figure 5. Relationship between GDP and Air Travel - Romania**

Source: based on World Development Indicators - World Bank.

**GDP and air travel in Bulgaria**

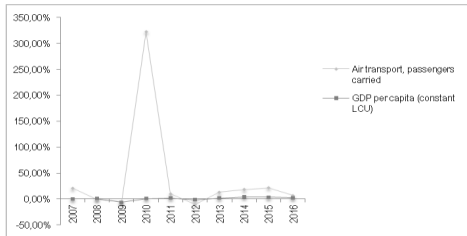


**Figure 6. Relationship between GDP and Air Travel - Bulgaria**

Source: based on World Development Indicators - World Bank.

In Bulgaria, the situation is similar to the one in Romania, more specifically, the growth of the air traffic exceeded the GDP growth only in 2009. As we previously mentioned, the situation registered in Bulgaria can also be explained by the economic crisis that occurred in 2008 which was responsible for the huge drop in the growth of the GDP.

**GDP and air travel in Hungary**



**Figure 7. Relationship between GDP and Air Travel - Hungary**  
Source: based on World Development Indicators - World Bank.

In Hungary, the situation is different compared to Romania and Bulgaria. Figure 7 shows that the air traffic growth has grown more than the growth in GDP. The peak was registered between 2009 and 2011. This can be explained by the process of renationalization of the Hungarian national airline MALEV, which occurred during this period. The renationalization took place in 2010 with the Hungarian Government state holding company MNV acquiring a 95% stake in the airline. The remaining 5% still belonged to AirBridge. (European Commission Report, 2010)

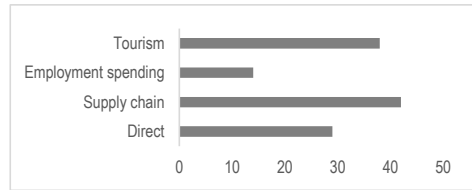
In 2010, there were 49 routes connecting major airports in Hungary to urban agglomerations around the world. MALEV accounted for 47% share of capacity (seats) in its home market, while the LCCs around 24%. The struggle of MALEV caused major opportunities for LCCs to expand their market share in Hungary.

In December 2010, the European Commission began an investigation into illegal government subsidies of MALEV and in 2012, the Hungarian national airline faced bankruptcy. This explains the sudden drop of the airline traffic in 2011.

Following the bankruptcy of MALEV, LCCs such as Wizz Air and Ryanair took the opportunity to operate on the routes that were previously covered by the national airline, which can be directly linked with the continuous growth in air transport traffic that can be observed from 2013 till 2016.

### The role of air transportation for the economic development in Romania

The air transport sector brings a lot of benefits to the Romanian economy. Based on IATA (International Air Transport Association) report, airlines, airport operators, airport on-site enterprises such as restaurants and retails, aircraft manufacturers, and air navigation service providers employed around 29,000 people in Romania in 2014. The sector also buys goods and services from local suppliers, which means additional 42,000 jobs. Furthermore, the sector is estimated to have supported a further 14,000 jobs by paying wages to its employees, most of which are subsequently spent on consumer goods and services. If we consider the foreign tourists arriving by air to Romania and spend money in the local economy, an additional 38,000 jobs can be estimated in 2014.



**Figure 8. Number of jobs supported by air transport sector in Romania (thousands of jobs)**

Source: based on Oxford Economics, 2016.

Besides the generation of new jobs, airline industry is also a facilitator for the attraction of tourists and investors. Based on IATA report, in 2014, foreign tourists spent \$1.5 billion in Romania, supporting hotels, restaurants, transport providers and others who cater to tourists. Additionally, Romania exported \$82.3 billion worth of goods and services in 2014. The country accumulated a total of \$73.1 billion in foreign direct investment over time.

### 3. Conclusions

In the last decades, the aviation industry changed a lot in terms of the way it has been operating, in order to satisfy the increasing number of needs the customers have, diverse patterns of travel and to meet the needs of the market. The low-cost phenomenon appeared following the deregulation of the US aviation market and spread around the globe, opening up new opportunities that resulted in the fast emerge of the low-cost carriers. Their goal, by reducing the complexity costs, was to offer affordable travel for everyone.

The focus of this paper is on the low-cost carriers' presence in Eastern Europe and their economic impact on countries such as Romania, Hungary and Bulgaria. Low-cost airlines took the opportunity this region had to offer in terms of capacity growth, because it is still relatively underserved by airlines, and began their continuous expansion. Eastern European economies have been experiencing significant growth relative to Western European countries. The biggest growth in terms of seat capacity in Central Europe in 2016 was observed in Bulgaria and Romania, having a growth rate of 25.4% and 21.6, respectively. One important factor that drives this growth is the dynamic of the low-cost carriers operating in the region. In contrast, in the markets where national airlines are still dominating, for instance in Serbia, Slovakia and Montenegro, the growth rate is way below 10%. This shows the impact of LCCs in terms of seat capacity growth that is related with air traffic, which is in direct link with GDP.

When analysing the growth of GDP per capita and air traffic in terms of number of passengers in Romania, Bulgaria and Hungary, the findings were that the situation in Romania and Bulgaria is quite the same, in the sense that the air traffic growth was either below or very close to the growth of GDP. However, in Hungary, there was a period when the air traffic growth exceeded a lot the growth of GDP. Research shows that the struggle of the national airline company MALEV and the expending low-cost companies such as Wizz Air and Ryanair were some of the drivers that led to the significant

growth in air traffic. In more developed countries, the growth of air traffic is higher than the GDP growth, however, this aspect could be found only in the case of Hungary in 2010.

In Romania, the two largest low-cost airline companies in terms of LCC market share are Wizz Air and Blue Air. Both airline companies operate domestic and international flights to and from Romanian airports, offering low-cost prices.

An impressive finding about the Romanian LCC market was that in only two years since the launch of low-cost flights in the country, the LCCs held 1/3 of overall seat capacity. The contribution of the aviation sector to GDP in Romania was \$2.4 billion gross value added, meaning that 1.6% of Romania's GDP is supported by this sector. Therefore, air transport brings tourists and investment into Romania, which helps the country to continuously develop.

Hungary, the fourth largest air transport market in Eastern Europe, is the home country of Wizz Air, which owns 29% of seat capacity, followed by Ryanair with 15%. Budapest Airport is the only significant airport in terms of international traffic, with a total number of passenger traffic of 13 million in 2017. Since the bankruptcy of the Hungarian national airline MALÉV in 2012, the low-cost companies are dominating in the country and operating the routes that used to be covered by the national airline in the past. The air transport industry is estimated to have supported a contribution of \$1.5 billion gross value added to GDP in 2014, which means 1.6% of the country's GDP is supported by this sector.

Bulgaria had the largest air traffic growth in EU in 2016, an increase of 23% being recorded. Following some research, more than half of the foreigners visiting the country arrived by air. Unlike Romania and Hungary, where low-cost airlines are dominating the market, Bulgaria's air transport market is dominated by the national carrier Bulgaria Air, owning 33% of the market share. In terms of low-cost market, Wizz Air is dominating by almost 60%, followed by Ryanair with almost 30% and Easyjet with 6%.

In conclusion, the appearance of LCCs in the Eastern European market was an opportunity for them to operate in a region that was underserved by airlines, while the countries benefitted of the increase of air traffic, which positively impacts the GDP growth in these countries, the flourishing of tourism and the investments brought by the

aviation sector. The future of the LCCs is a promising one: the airlines planning to launch new routes, the purchase of new airplanes, with increased efficiency and more seat capacity, and the significant increase of the number of passengers every year are just a few aspects that underline the impact that the low-cost airlines have in the development of the Eastern European region.

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