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THE IMPACT OF THE MIGRATION PROCESSES ON THE LOW COST AIRLINES' ROUTS BETWEEN EU COUNTRIES AND POLAND AFTER ITS ACCESSION TO THE EU*

Abstract: After the accession of Poland to the European Union in 2004 we could observe two phenomena: huge emigration of Poles to the old member states of the EU (mainly to United Kingdom and Ireland) and on the other hand a very dynamic increase in the number of routes from regional airports served by low cost carriers (what meant also increase in the number of passengers). The aim of this article is to answer the question, whether directions of the emigration after accession of Poland to the European Union had a significant impact on the routes of low cost airlines in Poland. The paper discuss whether the migration forced LCCs to establish new flights and connections in a particular direction or not. And if yes – to what extent. What is happening when emigrants are coming back to Poland. If there are significant relations between movement of migrants and number of flights of low cost carriers from Polish airports? Finally, the authors examine, how growing emigration and growing number of LCCs flights helped to improve territorial cohesion of Polish regions with the core of Europe.
Key words: Air transport, low cost carriers, routes planning, migration of workforce, European Union.

Introduction

After Poland joined the European Union in 2004 we could observe two phenomena: huge emigration of Poles to the old member states of the EU (mainly to United Kingdom and Ireland) and on the second hand a very dynamic increase in the number of flight destinations from regional airports served by low cost carriers (which also

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meant an increase in the number of passengers). The aim of this article is to answer the question, whether the directions of emigration after Poland entered to the European Union had a significant impact on the routes of low cost airlines in Poland. Can we say, that the migration forced LCCs to establish new flights and connections in a particular direction or not? And if yes – to what extent. What is happening when emigrants are coming back to Poland. If there are significant relation between movement of migrants and number of flights of low cost carriers from Polish airports? Finally, can we say, that growing emigration and growing number of LCCs flights helped to improve territorial cohesion of Polish regions with the core of Europe?

The authors put forward the thesis that the development of a connection network was determined by the migration, for economic reasons, from Poland to Western Europe after its entrance into the EU. To answer all these questions authors will compare and analyze statistics of migration and original data concerning number and destination of LCCs flights from Polish regional airports. To investigate this relationship, the authors decided to develop and analyze aggregate data of connections offered by cheap airlines from Polish airports. Information about the connections was obtained from the documents entitled: Analysis of the air transport market in Poland from 2004-2010 published annually by the Polish Civil Aviation Authority.

1. Migratory movements of Poles

Since the early 90s a change in the importance of motives of why Poles go abroad was observed. The importance of political factors decreased in favour of economic factors which are aimed at improving living conditions. Permanent or long-term emigration replaced short-term migration, including very short visits and back and forth visits. Polish workers were admitted into the EU labour market in a selective manner; they were based on bilateral agreements, mainly for seasonal work, especially in Germany, France, Belgium and the Netherlands. The integration of Poland with the EU has created new conditions for the flow of the human factor; Poles began to move primarily for economic reasons, meaning they were in search of employment rather than self-employment.

Due to the specificity of the phenomenon of change of residence, which is observed in Poland and other countries in the region, there is a need to define who does not fulfil the criteria for migration, and is outside the official statistics. “Migration of circulating individual household members in search of work abroad, regardless of its internal differentiation, identified as a specific category of international mobility and migration is referred to as incomplete” [Jaźwińska, Okólski 2001, p. 56].

Its main features include a relatively short period of residence abroad, and dominant until 2004 – the illegal nature of residence or work abroad. Incomplete migration is a consequence of unfinished internal migration from small towns and rural areas to urban areas. This phenomenon is the shifting of local shuttle movements between the regions of the country in the direction of foreign agglomerations. The specifics of incomplete migration is determined by the socio-economic situation of participants, which is often repetitive, and is also a confirmation of their exclusion from the socio-economic transformation processes taking place at the local level. The situation changed on 1 May 2004 when, because of Poland joining the European Union, European labour markets were opened for Poles. The other European countries in the EU for longer, however, obtained the right to apply transitional periods in this area, which is why some member states have decided to maintain restrictions for workers from new member states. One of the factors determining the scale of migration was thus the pace of liberalization of the labour market in the old European Union (EU15), which was presented in the Table 1.

Membership of the EU and the subsequent opening of labour markets meant that in just five years, the number of Poles residing in the EU27 has increased more than four times. A much higher scale of economic migration was however noted in two different, but small countries admitted to the EU in 2004 – Latvia and Lithuania. Romania and Bulgaria which also joined the EU in 2007, have large-scale migration, despite maintenance of closed labour markets by most of the EU15. In this case, the dominant geographical direction of migration is different and includes four Mediterranean countries. Table 2 presents data on the magnitude and direction of emigration of Poles from 2004-2009.

It is estimated that in late 2009 the Poles staying temporarily abroad was around 1,870 thousand inhabitants, of which 1,635 thousand were staying in Europe. Compared to the previous year 2008, these figures were lower by 340 thousand and about 252 thousand respectively. The vast majority of Polish immigrants (about 1,570 thousand) stayed in the member countries of the European Union. Among EU countries, many people lived in the UK, Germany, Ireland and Italy, the Netherlands and Spain. Before Poland joined the EU, the distribution of this group for short visits stood at 57% (work overseas was popular), in the year of joining the EU, this share rose to

Table 1

Calendar of opening labour markets to citizens from new EU member states

Year*	Countries which opened their labour market
2004	Ireland, Sweden, United Kingdom
2006	Finland, Greece, Spain, Portugal, Italy
2008	France, the Netherlands, Luxembourg
2009	Belgium, Denmark
2011	Austria, Germany

* In 2005, 2007 and 2010, none of the EU countries which protect their labour markets, decided to open it.

Source: Own preparation.

Table 2

Emigration from Poland for a temporary stay in 2004-2009[a]
(state at the end of the year)

The country of stay	Number of emigrants in thousands				
	NSP 2002[b]	2004	2006	2007	2009
All together	786	1000	1950	2270	1870
Europe, in it:	**461**	**770**	**1,610**	**1,925**	**1,635**
EU 27[c], in it:	**451**	**750**	**1,550**	**1,860**	**1,570**
United Kingdom	24	150	580	690	555
Germany	294	385	450	490	415
Ireland	2	15	120	200	140
Italy	39	59	85	87	85
Netherland	10	23	55	98	84
Spain	14	26	44	80	84
France	21	30	49	55	47
Austria	11	15	34	39	38
Belgium	14	13	28	31	34
Sweden	6	11	25	27	31
Denmark	.	.	.	17	20
Greece	10	13	20	20	16
Czech Republic	.	.	.	8	9
Cyprus	.	.	.	4	3
Finland	0,3	0,4	3	4	3
Portugal	0,3	0,5	1	1	1
Countries out of the EU	**10**	**20**	**60**	**65**	**65**
In this group: Norway	.	.	.	36	45

a – Data concern people staying abroad for years 2002-2006 above 2 months and for 2007-2009 above 3 months;

b – After estimating number of emigrants with not established country of temporary stay number of people staying in European countries is 547 thousands, in the EU countries – 535 thousands;

c – Till 2006 25 countries;

Source: Polish Central Statistical Office, (2010), Information on the size and directions of Polish emigration from Poland in 2004-2009, GUS, Warszawa, p. 3.

75% and in 2007 – up to 82%. This was determined by the opening of labour markets. Countries which did this the earliest, attracted the most Polish migrants. According to the census in 2002, the largest number of Poles was staying temporarily in Germany, and that number is up to 7.5 times higher than those residing in Italy and even 12-fold in the UK. However, the United Kingdom soon became the main direction of travel through an increase in 5 years of the number of Polish immigrants, over 30-fold and small Ireland – a hundredfold.

At that time, Germany continued its period of protection of the labour market. Although they are neighbouring countries with Poland and the Polish entrance into the Schengen area, there was only a 60% increase in the number of Polish immigrants. But the global crisis is advantageous to Germany, as part of those returning from Great Britain and Ireland was able to support the German labour market. Another traditional market for seasonal workers from Poland – Italy only recorded a twofold increase of the scale of migration. The north definitely generated the most interest, because in addition to Great Britain and Ireland, the Polish workers en masse joined the Netherlands and other countries outside the EU – Norway and Iceland. This is motivated by the fact that English is more widely known in Poland than all the other languages of the EU countries put together. Geographically close Scandinavian markets, despite their early formal opening proved to be too airtight, in the context of more attractive and easy communication accessibility countries located a little further. The increase of regular high-speed communication links have contributed to the fact that neighbouring countries do not dominate as the direction of temporary migration of the Poles.

In the last good year in the global economic situation (2007) there was a peak number of Poles residing temporarily abroad. The subsequent lack of jobs and unemployment caused by recession forced emigrants to return to their country. Returns take place in a different situation on the Polish labour market. The wave of emigration occurred in conditions of double-digit unemployment rates (up to 2006 it was the highest in Europe), whereas in 2008-2011 the rates were in the single-digit levels within the EU average. The return of 400 thousand people in 2 years did not seriously disturb the Polish labour market. The crisis hit hard the economies which constituted the main directions of migration in recent years. As a result, within two years the number of Poles living in Britain fell by 20%, in Ireland as much as 30%, however, in countries dealing well with the recession like Germany, the Netherlands and France the decline of Poles staying there was 15%. Surprisingly, Spain which was most affected by unemployment in the EU (about 20% of the economically-active population), there was even a slight increase in migration from Poland. To a large extent, this applies to jobs which do not include the unemployed Spanish population. However, the excessive length of the unemployment rate may have an effect over a delayed time-span.

Non-uniformity of the observed changes causes the most recent migration (migration in Germany is prevalently long-term) to change its geographic structure, which is confirmed by the latest survey from May 2011 (Figure 1).

A survey confirms the conclusions of the official statistics (Table 2). Migration strategies are the result of a bad assessment of socio-economic situation in the country of origin of the migrant. The dominant form of mobility of Poles is economic migration associated with work taken up abroad by the unemployed or those that are employed, but dissatisfied with their salaries.

Recession associated with a decrease in the average wages in destination countries is not an important determinant factor in the return of migrants, since the one

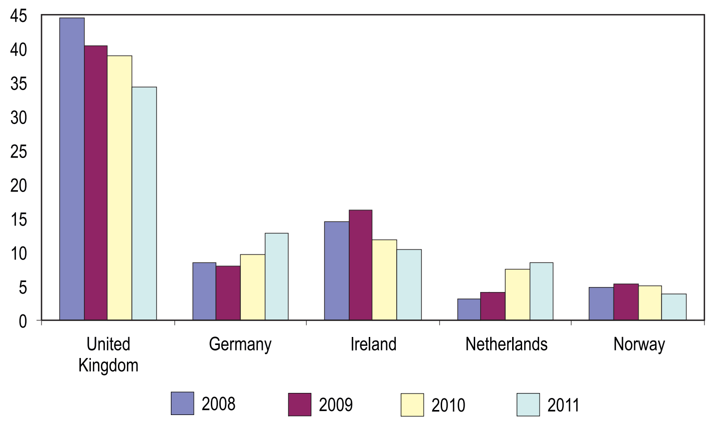

Figure 1. Biggest clusters of Polish new emigration (in %)

Source: Money.pl on the base of survey. The survey was conducted between 28th of April – 13th of May on the group of 2100 Internet users declaring work abroad.

hand, a significant number of Poles work for a minimum wage, which usually does not change, and on the other hand, many people agree to a reduction in wages in order to remain in the foreign market. This is also favoured by the depreciation of the national currency – for the first quarter of 2008, the exchange rate depreciated against the euro in 12 months by 60%, and in the first half of 2011 it was still 30% lower than three years earlier. Reduced wages are still so attractive when converted into the Polish currency. Length of stay also influences the return of migrants. Migrants who have stayed abroad for longer do not usually return (in the case that they lose their job they are entitled to unemployment benefits). Many migrant workers return only for a short time, with the hope that they will migrate again when the situation changes. It is therefore expected that there soon will be re-crossing of two million Poles living temporarily abroad, which is supported by accessibility of transport.

2. Aviation in Poland after joining the European Union

Civil aviation in Poland, as in other new EU member states after enlargement in 2004, has become the fastest growing branch of transport. According to the International Air Transport Association – IATA – in terms of the growth dynamics, Poland took first place in the world in its first years as an EU member[1]. The dynamic development of air passenger traffic was the result of the liberalization of aviation market associated with the Polish entrance into the EU structures. The entrance of low cost carriers and the economic growth of the country also had a big impact[2]. The migra-

[1] [*IATA* 2006]; quoted in: *Ministry of Transport*..., p. 16.

[2] *Ibidem*.

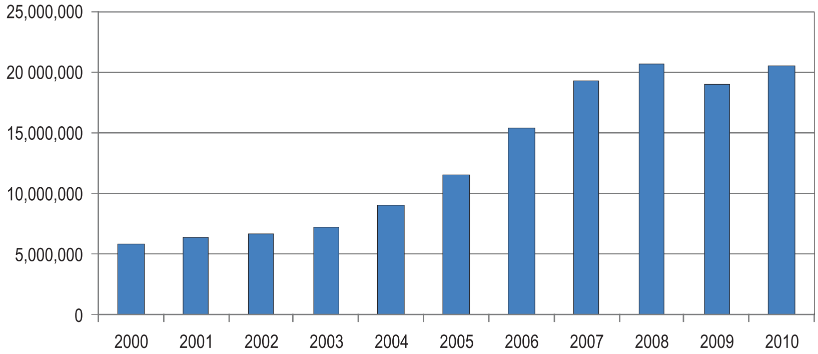

Figure 2. Number of passengers in Poland in 2000-2010

Source: Own preparation on the basis of data from Civil Aviation Authority.

tion of Poles, which generated demand for passenger transport was also significant as this article shows. Figure 2 presents the number of passengers in Poland from 2000-2010. Attention is drawn primarily to the dynamic growth in passenger numbers since 2004, that is, since Poland's entry into the European Union. After a drop in passenger numbers in 2009 related to the economic crisis, in 2010, once again there is an increase in passenger numbers compared to the previous year.

The growth of the passengers number is not the same at all the airports in Poland. Primarily the dynamic development of smaller regional airports such as Kraków-Balice, Katowice-Pyrzowice, Gdańsk-Rębiechowo, Poznań-Ławica and Wrocław-Strachowice is noteworthy. Table 3 presents data on the number of passengers in airports grouped according to airports in 2003-2010. In the Table 4 there are the percentage changes in size compared to previous years. The changes for the period 2003-2010 (the period of Polish membership in the EU) are also specified.

Attention should be paid to several issues when analyzing Tables 3 and 4. These figures show the scale of the development of air transport, which we deal with in Poland after its liberalization associated with entrance into the EU. The dynamics of growth from 2003-2007 (2008) has no precedence in the history of Polish aviation. The largest increases for the period of 2003-2010 was recorded in the following airports: Łódź-Lublinek 5,814.3%, Bydgoszcz: 1,230.0%, Katowice-Pyrzowice: 817.1% and Gdańsk-Rębiechowo: 507.1%. It is worth noting that all of these airports are regional airports. The increase in passengers handled at the level of 67.7% in the airport of Warszawa-Okęcie is not, in comparison with other airports, an impressive result. It should be noted, however, that such a large increase in the number of passengers at regional airports are mainly due to the low numbers of passengers to begin with at the airports. For example, in 2003 Łódź-Lublinek airport only handled 794 passengers, while in Bydgoszcz handled 14,089 (Table 3).

Uneven growth of passengers volumes, and particularly the difference in the dynamics of growth in Warszawa-Okęcie airport and in regional airports resulted in a decrease in market share of Okęcie in the air transport market and the rise of regional airports. This tendency is presented in the Table 5. Data clearly show a decrease in a market share of the main airport of Poland, which is Okęcie, to regional airports. This

Table 3

Number of passengers in scheduled and non scheduled traffic in polish airports in 2003-2010 (in thousands)

Airport	Year							
	2003	2004	2005	2006	2007	2008	2009	2010
1. Warszawa-Okęcie	5,167	6,085	7,071	8,101	9,268	9,437	8,282	8,667
2. Kraków-Balice	593	803	1,564	2,347	3,042	2,895	2,661	2,839
3. Katowice-Pyrzowice	258	580	1,083	1,438	1,980	2,406	2,301	2,366
4. Gdańsk-Rębiechowo	364	464	678	1,250	1,709	1,942	1,891	2,210
5. Wrocław-Strachowice	284	355	454	858	1,271	1,480	1,324	1,599
6. Poznań-Ławica	264	351	399	637	863	1,256	1,249	1,384
7. Rzeszów	67	70	91	207	274	321	381	452
8. Łódź-Lublinek	7	6	18	207	312	342	312	414
9. Szczecin-Goleniów	87	91	102	177	229	299	277	269
10. Bydgoszcz	20	25	39	133	182	267	265	266
11. Zielona Góra	8	4	0	8	7	5	3	4
Total:	**7,121**	**8,962**	**11,501**	**15,364**	**19,138**	**20,658**	**18,946**	**20,469**

Source: Own preparation on the basis of data from Civil Aviation Authority (Tables 3-7).

Table 4

Percentage changes in the number of passengers in Polish airports in 2003-2010

Airport	Years							
	2004: 2003	2005: 2004	2006: 2005	2007: 2006	2008: 2007	2009: 2008	2010: 2009	2010: 2003
1. Warszawa-Okęcie	17.8	16.2	14.6	14.4	1.8	-12.2	4.6	67.7
2. Kraków-Balice	35.4	94.8	50.1	29.6	-4.8	-8.1	6.7	378.8
3. Katowice-Pyrzowice	124.8	86.7	32.8	37.7	21.5	-4.4	2.8	817.1
4. Gdańsk-Rębiechowo	27.5	46.1	84.4	36.7	13.6	-2.6	16.9	507.1
5. Wrocław-Strachowice	25.0	27.9	89.0	48.1	16.4	-10.5	20.8	463.0
6. Poznań-Ławica	33.0	13.7	59.6	35.5	45.5	-0.6	10.8	424.2
7. Rzeszów	4.5	30.0	127.5	32.4	17.2	18.7	18.6	574.6
8. Łódź-Lublinek	-14.3	200.0	1,050.0	50.7	9.6	-8.8	32.7	5,814.3
9. Szczecin-Goleniów	4.6	12.1	73.5	29.4	30.6	-7.4	-2.9	209.2
10. Bydgoszcz	25.0	56.0	241.0	36.8	46.7	-0.7	0.4	1,230.0
11. Zielona Góra	-50.0	-89.7	1,975.0	-19.3	-22.4	-44.2	24.1	-53.8
Total:	**25.9**	**28.3**	**33.6**	**24.6**	**7.9**	**-8.3**	**8.0**	**187.4**

Table 5

The share of airports in the Polish air transport market in 2003 - 2010 (in %)

Airport	Year							
	2003	2004	2005	2006	2007	2008	2009	2010
1. Warszawa-Okęcie	72,6	67,9	61,5	52,7	48,4	45,7	43,7	42,3
2. Kraków-Balice	8,3	9,0	13,6	15,3	15,9	14,0	14,0	13,9
3. Katowice-Pyrzowice	3,6	6,5	9,4	9,4	10,3	11,6	12,1	11,6
4. Gdańsk-Rębiechowo	5,1	5,2	5,9	8,1	8,9	9,4	10,0	10,8
5. Wrocław-Strachowice	4,0	4,0	3,9	5,6	6,6	7,2	7,0	7,8
6. Poznań-Ławica	3,7	3,9	3,5	4,1	4,5	6,1	6,6	6,8
7. Rzeszów	0,9	0,8	0,8	1,3	1,4	1,6	2,0	2,2
8. Łódź-Lublinek	0,1	0,1	0,2	1,3	1,6	1,7	1,6	2,0
9. Szczecin-Goleniów	1,2	1,0	0,9	1,2	1,2	1,4	1,5	1,3
10. Bydgoszcz	0,3	0,3	0,3	0,9	1,0	1,3	1,4	1,3
11. Zielona Góra	0,1	0,0	0,0	0,1	0,0	0,0	0,0	0,0
Total	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**

process began after the 1st May 2004, *i.e.* at the time of Polish entry into the Union. Okęcie market share declined from 72.6% in 2003 to 42.3% in 2010. Airports, which significantly increased their share are, above all: Kraków-Balice: an increase of 8.3% in 2003 to 13.9% in 2010, Katowice-Pyrzowice: an increase of 3.6% in 2003 to 11.6% in 2010, and Gdańsk-Rębiechowo: an increase of 5.1% in 2003 to 10.8% in 2010.

The growing importance of regional airports in Poland have been primarily caused by low cost carriers. LCCs are responsible for approximately 86% of increase in passenger volumes in the scheduled traffic in Poland[3].

3. Low cost airlines on the Polish market

In the Table 6, data on the number of passengers served by 13 carriers in the years 2005-2010 have been presented. The register includes 10 largest airlines on the Polish market in 2010, and additionally Germanwings – a low-cost carrier, which in 2010 was on the 14th position on the list. There were also Centralwings and Sky Europe included. They are airlines which in 2010 were no longer present on the Polish market (because of bankruptcy), but in previous years were important players on the Polish market. Dominant position still belongs to LOT Polish Airlines, which carried in 2010, 29.02% of passengers in Poland. Although the carrier's market share decreases, the number of passengers carried by LOT is growing. Year after year, low-cost carriers expanded their market share, having more than 51% of the market in 2010.

[3] On the basis of data included in: [Olipra 2009, p. 149].

Table 6

Number of passengers in the scheduled traffic
in 2005 - 2007 with the division into carriers

No.	Airline	Polish airports altogether											
		Total 2005	Share (%)	Total 2006	Share (%)	Total 2007	Share (%)	Total 2008	Share (%)	Total 2009	Share (%)	Total 2010	Share (%)
	LOT Polish Airlines	4 517,449	43.81	4 715,236	33.58	5 427,365	31.55	4 882,608	27.44	4 575,388	28.43	5 038,674	29.02
1.	Wizzair	1 237,574	12.00	2 069,481	14.74	2 764,336	16.07	3 425,100	19.25	3 489,010	21.68	3 926,668	22.62
2.	Ryanair	260,583	2.53	1 545,251	11.01	2 310,445	13.43	2 884,735	16.21	3 132,618	19.46	3 733,263	21.50
3.	Lufthansa	620,761	6.02	706,103	5.03	897,691	5.22	1 082,213	6.08	1 103,211	6.85	1 237,120	7.13
4.	EasyJet	416,081	4.04	444,246	3.16	647,165	3.76	949,417	5.34	643,301	4.00	530,474	3.06
5.	Norwegian Air	55,822	0.54	258,034	1.84	545,241	3.17	671,884	3.97	564,217	3.51	383,199	2.21
6.	Shuttle	209,757	2.03	262,819	1.87	265,153	1.54	260,785	1.47	252,143	1.57	273,114	1.57
7.	Air France	259,003	2.51	232,553	1.66	225,462	1.31	283,982	1.60	214,563	1.33	225,664	1.30
8.	SAS	84,148	0.82	232,307	1.66	165,427	0.96	232,992	1.31	258,140	1.60	199,943	1.15
9.	Aer Lingus	282,878	2.74	291,390	2.08	292,728	1.7	291,616	1.64	234,339	1.46	189,890	1.09
10.	British Airways												
14.	Germanwings	201,300	1.95	283,502	2.02	203,132	1.18	204,702	1.15	180,074	1.12	117,726	0.68
...	Centralwings	496,540	4.82	1 055,434	7.52	1 275,854	7.42	705,772	3.97	0	0.00	0	0.00
...	Skyeurope	472,389	4.58	574,117	4.09	539,263	3.13	0	0.00	0	0.00	0	0.00
	Other carriers	1 196,040	11.60	1 370,469	9.76	1 434,730	8.34	1 920,098	10.79	1 448,538	9.00	1 504,361	8.66
Total	**All carriers**	**10 310,325**	**100.00**	**14 040,816**	**100.00**	**17 202,124**	**100.00**	**17 795,904**	**100.00**	**16 095,542**	**100.00**	**17 360,096**	**100.00**
	Low cost*	**3 239,248**	**31.42**	**6 517,690**	**46.42**	**8 618,738**	**50.10**	**9 286,183**	**52.18**	**8 338,213**	**51.80**	**8 961,759**	**51.62**

*Air Lingus, Air Berlin, Blue 1, Centralwings, easyJet, Germanwings, Jet2, Niki, Norwegian Air Shuttle, Ryanair, Skyeurope, Wizzair, Dauair, Volare, Direct Fly, Sterling, Clickair, bmi baby.

Source: Own preparation on the basis of data from Civil Aviation Authority.

Table 7

Share of low cost carriers in the number of passengers
in Polish airports in 2004-2009 (in %)

Airport	Year					
	2004	2005	2006	2007	2008	2009
Warszawa-Okęcie	9.60	21.31	28.64	29.42	29.67	23.81
Kraków-Balice	15.40	52.75	67.13	66.42	68.41	66.94
Katowice-Pyrzowice	63.50	84.85	80.63	82.37	86.60	90.30
Gdańsk im. Lecha Wałęsy	11.90	31.74	59.81	63.91	66.40	67.60
Wrocław-Strachowice	5.70	25.12	58.66	66.23	66.11	64.33
Poznań-Ławica	12.80	17.02	52.82	59.46	68.20	71.71
Łódź im. Władysława Reymonta	-	97.54	97.41	98.31	99.08	97.96
Rzeszów-Jasionka	-	23.85	57.53	60.61	66.97	70.18
Szczecin-Goleniów	1.22	14.81	48.54	54.61	66.02	65.87
Bydgoszcz-Szwederowo	-	49.01	86.66	86.94	93.01	95.06
Zielona Góra-Babimost	-	-	-	-	-	-

In the table No. 7 the share of low-cost airlines in the number of passengers handled at Polish airports has been presented. Definitely the smallest share in the market LCCs have at the airport Warszawa-Okęcie (23.81% in 2009). In most of regional airports in 2009 this share was more than 60% of passengers, and in the case of Katowice, Lodz and Bydgoszcz, even more than 90%. It is worth noting the dynamics of changes in the share of low cost airlines in Poland since 2004. From the analysis we can draw a conclusion, that low cost carriers are the main 'engine' of the regional airports development.

4. The development of LCCs routes in Poland

From the analysis presented above it results, that dynamic development of the air transport market in Poland was largely caused by the development of low cost flights on the Polish market. However, we should question, what factors influenced the development of the low cost airlines in Poland and what they offer. In the study we took into account connections offered by the following low-cost airlines: EasyJet Airlines, Germanwings, Norwegian Air Shuttle, Ryanair, Sky Europe, Sterling Airlines. Data from airports in Warsaw, Cracow, Katowice, Wrocław, Gdańsk, Poznań, Rzeszów, Szczecin, Bydgoszcz and Lodz were taken into consideration. Comprehensive data were presented in the Table 8. The unit in this table is a connection between Polish airports and airports in a particular country, offered by one, particular carrier. In the case, when there is more than one airlines serving the same destination from

Table 8

Low cost airlines routs from Polish airports
in the period of winter 2003/2004 – summer 2010

Country of destination	Scheduled period													
	Winter 03/04	Summer 04	Winter 04/05	Summer 05	Winter 05/06	Summer 06	Winter 06/07	Summer 07	Winter 07/08	Summer 08	Winter 08/09	Summer 09	Winter 09/10	Summer 10
UK	0	5	7	10	20	24	32	44	61	68	65	55	51	58
Germany	0	4	6	10	17	17	18	18	18	16	20	16	18	22
Italy	0	3	7	5	6	9	8	12	6	4	11	13	13	24
Norway	0	0	0	2	3	3	5	5	10	14	14	14	13	18
Spain	0	1	1	4	0	4	3	6	4	6	4	8	8	18
Ireland	0	0	0	1	1	4	8	14	14	14	16	20	18	15
Sweden	0	1	2	4	4	6	9	11	11	9	14	12	13	9
France	0	2	3	4	4	6	5	5	3	5	5	5	5	6
Belgium	0	0	0	1	1	2	2	3	2	2	4	3	3	4
Netherland	0	1	2	1	1	1	1	3	1	1	1	1	1	4
Bulgaria	0	0	0	0	0	0	0	3	0	2	0	3	4	3
Denmark	0	0	0	0	0	0	2	3	2	2	0	2	1	1
Greece	0	1	1	1	0	3	2	6	1	3	0	3	3	0
Austria	0	0	0	0	1	0	0	0	3	2	1	1	1	0
Hungary	0	1	0	1	1	1	1	1	1	0	0	0	0	0

Source: Own preparation on the base of analysis of the routes list published by Polish Civil Aviation Authority.

the airport, this destination was counted as many times as there were carriers which have had it in their offer.

Analysing the Table 8 it has to be affirmed, that most connections were opened by low cost airlines to these countries, which where the most popular destination for Polish emigration after 1st May 2004, *i.e.* United Kingdom, Germany, Ireland and later Norway, Sweden and Italy. They are also, in most, countries, which opened their labour markets for workers from new member states of the EU right after enlargement (United Kingdom and Ireland). In the summer of 2010 Ireland was not the country, which was in the forefront, considering the number of flight connections, but in previous years has always had the third place, after UK and Germany.

At the beginning of the last decade, almost all emigrating Polish workers leaving Poland chose land routes, meaning they usually travelled by bus, which could last even up to 24 hours to the United Kingdom. The emergence of LCCs flights and the reduction of tariffs by flag carriers resulted in a significant decrease in the inconvenience of travel. It caused not only increase in the number of economic migrations over long distances, but also increased their frequency. Historically, people staying in other countries only returned to Poland at the end of their foreign stay or once a year, usually for holidays or vacation. Today, such arrivals are even 3-4 times a year. This generates additional demand for cheap flights. The temporary reduction of a demand, associated with a recession, can also mean, however, weaker traffic growth in the future, because of changes in the geographic structure of migration – the role of Germany as a place of work is increasing (including the Netherlands and Austria), which means, that commuting in that direction will be implemented mainly by land – by car and by bus. In the border zone there can even appear daily commutes. Even in the case of such changes in directions of migration, it will be best to travel to West Germany from the Central Poland by plane.

Analysing destinations of economic migration of Poles and the structure of LCCs routes we have to question what the relations between them are. There is no doubt, that a greater number of flights and greater accessibility of the country favours economic migration to a particular country. Both factors are mutually reinforcing so, taking into consideration destinations of migration before Poland entered to the EU and liberalization of labour markets, it has to be, however, recognized, that the primary criterion that guided Polish workers emigrating after 1st May 2004 was just the opening up of labour markets in particular countries for workers from new member states. Economic migration can thus be regarded as a primary cause of the development of the LCC's network from Polish airports and determinant of destinations. This conclusion is also confirmed by the fact, that during the crisis, along with the return of Polish workers from abroad, low cost airlines were also restricting the number of connections with the country (*e.g.* UK and Ireland).

5. Economic migration, low cost airlines and territorial cohesion

Research conforms the variety of determinants' categories of economic, social and cultural growth, but also emphasizes the importance of spatial conditions, which are results of a diversified European space. Particular areas have different conditions for the development, inter alia due to internal conditions, and its place in a European space. Conditions conductive to the dynamization of the development processes depend mainly on: the distance from the Western European growth pole, the location between major economic and political centres of Europe, existing infrastructure, favourable conditions for investment in the network infrastructure and historical traditions [Zioło 2009, p. 70-71]. Cohesion is often defined as minimizing the occurrence of spatial conflicts and balancing differences in the development of potentials between regions. This is not unification, homogenization, but strengthening of these features in a given area, which contribute to strengthening of mutual links. These links are not only multimodal transport, but also access to various services, including health, education, access to the broadband Internet, sustainable energy sources, strong relationships between companies and R&D area [*Commission*… 2008].

Cohesion is often analyzed in terms of accessibility of regions. Accessibility is understood as the use in a given place and time the best means of transport: car, rail or plane or the combination of them. Accessibility and the quality of transport and Communication infrastructure are perceived as factors determining attraction of investors, maintaining or increasing of employment, building a network of cities and clusters and the developments of tourism. They are also traditionally problems in the area of territorial development and cohesion [*Territory Matters*... 2006, p. 63].

The issue of accessibility of the European territory has many different aspects. It is analyzed in different spatial scales, or between them: the good accessibility is necessary both: between regions and also inside them. Easily available for themselves, their potentials for which they are access points in communication with other areas, should be both: Metropolitan European Growth Areas – MEGA, urban agglomerations and cities. globalization and regional integration require good connections between cities. Even in the 'information' society, while developing the cities' network, transportation systems and their physical infrastructure are still developing, what helps to achieve territorial cohesion [*Atlas ESPON* 2006, p. 36].

In this paper, due to its limited capacity, we analyze the territorial cohesion just from the standpoint of accessibility.

The map presented on Figure 3 shows percentage changes in regional accessibility by air in 2001-2006. As it can be perceived on the map, Polish regions are located in a group that most increased its accessibility by air. The three Polish regions were also among the 10 regions, that most improved their potential accessibility by air. These are: Bydgoszcz-Toruń region (third place in Europe) – 37% change, the city

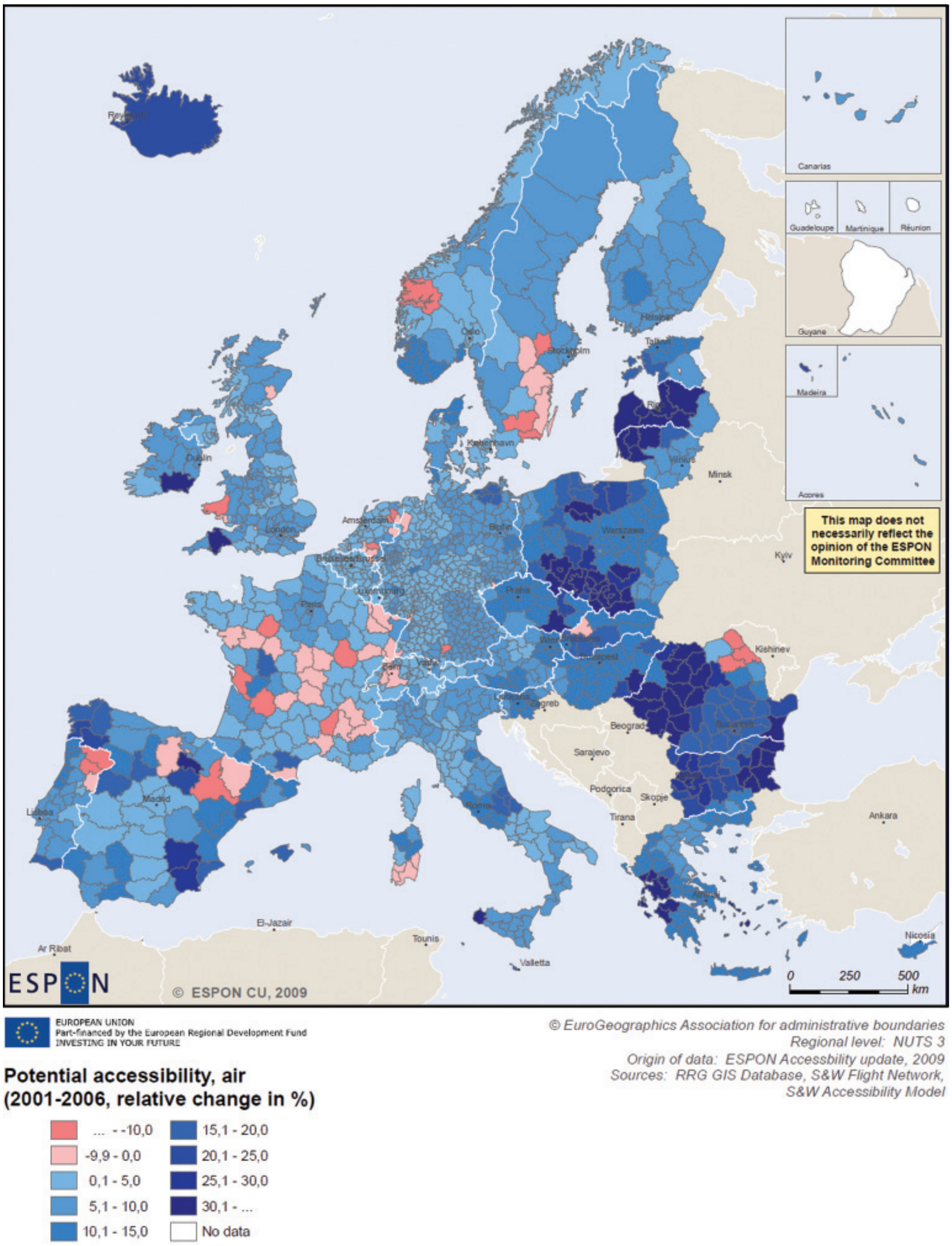

Figure 3. Potential accessibility of EU regions by air in 2001-2006, relative change in %

Source: www.espon.eu, available on the date: 10.06.2011.

of Cracow (6th place) – a change of 30.5%, the city of Wrocław (10 position) – change of 26.4%. On the basis of these data and the presented map we can conclude, that we can observe in Poland improvement in the area of territorial cohesion. Taking into consideration previous analysis we can also state, that territorial cohesion of Polish regions was improved thanks to the dynamic development of low cost airlines and their routes in Poland, which in turn was caused by economic migration after Poland joined the European Union.

Conclusion

The aim of this article was to answer the question, whether directions of the emigration after Poland joined the European Union had a significant impact on the routes of low cost airlines in Poland. Analysis carried out in this article allow to conclude, that economic migration after Poland joined the European Union created demand for fast and cheap travelling between Poland and western European countries. This demand was fulfilled by low cost carriers, which established plenty of flight connections from Poland to countries of economic migration (mainly United Kingdom, Germany and Ireland). We can confirm the thesis stated in the introduction, that development of a connection grid was determined by the migration, for economic reasons, from Poland to Western Europe after its entrance into the EU. Data gathered during research indicated, that emigrants are coming back to Poland LCCs are limiting their offer and closing some routes. Growing number of flights from Polish regional airports helped this regions to improve their transport accessibility and in the same time, territorial cohesion, which can result in the future in the more dynamic economic development.

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