OPPORTUNITIES AND PROBLEMS OF BALTIC REGIONAL AIRPORTS DEVELOPMENT

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1. Two models of regional airports development

Airports privatisation and commercialisation are processes, which happen in many EU countries now, and for several countries problems related to airport system development are important. The first fundamental question of the airport system development for the Baltic countries is the base model question - one central airport or several equally developed in the regional airport network. Both possibilities have arguments pro and contra and opinions here are different.

Question about model of regional airports development is very similar to more general question about the state economic and social development model – monocentric, "one strong region around capital", or polycentric, "several developed regions in country". In Lithuania two regional development centres around Vilnius and Kaunas exist and polycentric model of state development has historical foundations. For Latvia and Estonia state capitals play dominating economic role and discussions about monocentric or polycentric models are more intensive. The problem is that different model supporters use different kinds of arguments. Monocentric model supporters argue that financial investments in the capital region give much better results than same investments in regions. Polycentric model supporters argue that it is necessary to ensure the same prosperity level in capital and regions. Discussions where one side uses economic arguments and other side uses social arguments rarely are finished with mutually acceptable solutions. As a result, Latvian National Development Plan at present time contains both the elements of polycentric model, including the development of regional economical centres, and the elements of monocentric model, including special development of the Riga region.

In case of the polycentric model acceptance, the necessity of regional airports system, as part of the transport infrastructure, stems from the necessity of regional social and economic development. In case of the monocentric model acceptance, there is no real need for regional airports network. The problem is that due to different reasons state level planning documents are not certain enough to make decision about monocentric or polycentric model of state development and it is necessary to find other arguments for regional airports development model choice. These additional arguments can be found from analogy with European countries, considering statistical data about factors influencing a number of airports in a given country.

2. Regional airports amount evaluation

The number of airports in the European countries depends on spatial, demographic, economic and other factors. The relative significance of different factors can be evaluated using correlation coefficient – the higher is correlation, the higher is the factor significance. The number of airports in the European countries has significant correlation coefficients R with the country areas (R=0.64), population (R=0.87), number of cities with population over 1 million (R=0.78). Correlation with GDP per capita (R=0.12) is less than correlation with space and population factors, correlation with population density is negative (R=-0.017) which means that an increase of country area with the same population raises the need for airports too. Table 1 contains statistical data about population, population density, GDP per capita, number of cities with population over 1 million, amount of accessible airports for passengers (airports, where it was possible to buy tickets in years 2008-2011) of the EU-27 countries.

Using a regression analysis, it is possible to evaluate an expected amount of airports for the Baltic countries. Supposing that the number of airports accessible for passengers Z is a linear function of an area A,

population P, number of cities with population over 1 million C and GDP per capita G, Z=c0+ c1*A+ c2*P +c3*C+ c4*G. Using the least squares method, it is possible to calculate that c0=-1, 832; c1= 0.0000034; c2=0.00029; c3= 2.542; c4=0.00016.

Table 1

Area, population, population density, GDP/per capita, accessible airports in EU-27 countries

N	Country	Area (sq.km)	Population (thousand)	Pop. density	Cities > 1 mil.	GDP per capita	Accessible airports
1	Austria	83858	8372	99,8	1	39647	6
2	Belgium	32545	10827	332,7	0	36322	6
3	Bulgaria	110910	7364	66,4	1	12372	5
4	United Kingdom	244820	62435	255,0	2	36571	40
5	Hungary	93030	10013	107,6	1	19830	1
6	Germany	357021	81751	229,0	3	35552	36
7	Greece	131940	11306	85,7	1	30661	3
8	Denmark	43094	5534	128,4	0	38208	5
9	Ireland	70273	4459	63,5	0	42780	5
10	Spain	497304	46072	92,6	2	30757	26
11	Italy	301230	60340	200,3	2	30705	20
12	Cyprus	9250	801	86,6	0	28381	3
13	Latvia	64589	2245	34,8	0	17801	3
14	Lithuania	65200	3329	51,1	0	18855	4
15	Luxembourg	2586	502	194,1	0	81730	1
16	Malta	316	416	1316,5	0	23908	1
17	Netherlands	41526	16726	402,8	0	40434	6
18	Poland	312685	38163	122,0	1	17560	6
19	Portugal	92082	10636	115,5	0	22264	6
20	Romania	237500	21466	90,4	1	12698	3
21	Slovakia	48845	5424	111,0	0	22242	3
22	Slovenia	20253	2085	102,9	0	28894	1
23	Finland	337030	5395	16,0	0	36844	5
24	France	547030	65821	120,3	1	34262	17
25	Czech Republic	78866	10532	133,5	1	25755	5
26	Sweden	449964	9349	20,8	0	37528	14
27	Estonia	45226	1340	29,6	0	20754	4

The numbers of airports calculated using this formula Z = -1, 832 + 0.0000034*A + 0.00029*P +2.542*C +0.00016*G are Z=1.88 for Latvia, Z=2.37 for Lithuania and 2.03 for Estonia.

Looking at these results, it is possible to make several conclusions. Firstly, the calculated data are in the evident correspondence with the real situation. Secondly, constant c0 is negative and large. It means that strong scaling effect exists in the model and for a virtual country, which is as large as Latvia, Lithuania and Estonia together, the calculated number of airports Z=9.95 is almost two times higher than the sum of number of airports in separate countries. The reason of this scaling effect is simple – when we calculate the number of airports in the joint country, we add the big negative constant one time, but calculating it for each country and adding together, we sum this big negative country three times. Thirdly, the calculated number of airports Z=9.95 for the Baltic countries explicitly shows that the model of "several developed regional airport network" better corresponds with the European statistical data, than "one heady central airport" model. Fourthly, this simple regressive model in a very clear way demonstrates the necessity of close collaboration between the Baltic countries in the field of aviation. Modern airport is a complicated and expensive technical system and for a country with small area, population and GDP per capita the regression formula gives a negative value of Z meaning that such objects as airports are too expensive for small countries. Small countries can develop aviation infrastructure only when they join their efforts. If we suppose that transport infrastructure of the Baltic countries should correspond to the average European standards, it should be approximately 3 airports in Latvia, 3 in Estonia and 4 in Lithuania.

3. Evaluation of present situation in the Baltic airports

The development of regional airports in the Baltic countries over the last 20 years can be described as "patching up" the old infrastructures and permanent struggle for state and municipal financing. Unfortunately, in the Baltic countries there is no opportunity to find a successful example to those regional airports which would be privatised or their funds would be shared with a private investor. As unsuccessful examples in Latvia we can mention airport projects in Daugavpils and Jelgava. In Latvia only Tukums airport is developed by privately owned company at present time, but public resistance due to environmental risks can harm further growth of this airport.

It is evident today that in several cases certain regress in airports development can be expected, because handing the regional airports to private industries was done without necessary preparation - organisation of infrastructure and workspace appropriate for industrial operations, selection of collaboration partners. As a result, the aim of collaboration projects were in general less connected to the aviation infrastructure creation, but directed to flinging away the rest of airport resources and credit resources attracting for activities with the high short-term profitability.

More successful are the regional airports in the Baltic countries that have completely or partly saved the status of state or self-governmental enterprise. In this case Lithuanian and Estonian airport development models should be recognised as more successful than Latvian, because by adopting the airport infrastructure the state organisational structure was saved and adapted to the new economical environment. In Latvia effective airports have been separated from the state interest and were given to existed municipal governments, which, due to financial reasons, could not provide those airports with effective service. In some cases at the beginning of 90-ies, those airports were not even guarded, which led to the entire destruction and plunder in the short-term. A part of these airports was used for military purposes and after leaving the USSR, the army was not ready to use civil aviation.

There are only two regional airports in the Baltic countries, where the number of passengers exceeds 10000 – these are "Kaunas" and "Palanga" in Lithuania. It confirms that in Lithuania the regional airport development policy is realised more subsequently than in Latvia and Estonia. Of course, there are positive tendencies of aviation development in Latvia and Estonia too. For instance, in Latvia, in 2000 Ventspils airport was restored, and in Estonia, with the current airport bases, there are good possibilities to attract structural funds to finance air-traffic to the region and islands after entering the EU.

3. Strategic planning of airport development

The main goal of strategic planning of the airport development is to promote state economic development providing access to regional centres of economic growth for human resources and cargo flows. A strategic plan of the airport development contains a description of organisational structure, management team, financial and personnel planning issues, description of future infrastructure and material resources development, conception of flight organisation. It is necessary to underline that the strategic plan of airport development is not only the list of actions, but also includes a description of demanded resources.

Unfortunately, at present the strategic planning of the Baltic regional airport development is out of government attention. The principles of regional traffic network forming and development are not defined and aims are not formulated. The lack of regional airports development strategy makes it difficult to attract investments and airport owners at present time are the initiators of negotiations with governments on issues related to transport policy.

4. Airport collaboration with air-companies

The necessity to increase the competitiveness of airports makes it necessary to pay special attention to a financial viability of airports and ensure necessary long-term investments. To successfully fulfil investors' strategic aims, strategic development plans should take into account relations between airports and airlines.

For example, Vilnius airport is still suffering from the collapse of national airline FlyLal. In this situation AirBaltic has used fully the domination in the Baltics. AirBaltic as provided the policy of redirecting passenger flow via Riga. As result, Vilnius and Tallinn are only commuters for the Riga airport and feeding AirBaltic transit routes.

The purpose of airports is to provide reliable and sufficient air-traffic infrastructure to airport clients. Growing passenger and cargo flows provide increasing load on infrastructure and make it necessary to coordinate airports and air-companies collaboration better. One of strategic mistakes in the regional airport development planning is connected with the incorrect definition of airport users – main clients of airports are not passengers, but air-companies and special attention should be paid to collaboration with them.

The first problem here is related to the different time scales - the average planning cycle for airports is 10 – 15 years, but for air-companies it is from 5 to 7 years. It is partly connected with circulation cycles of financial resources, and partly with the infrastructure amortisation. As a result, during one planning cycle of an airport, air-companies can influence it several times causing additional difficulties for the airport planning.

The second problem here is the fact that with the EU expanding its airspace expands too. During last 10 years the whole set of processes was performed with the main task to unify the air-traffic rules and substitute the government regulations used before step by step. Regional airports should provide services for air-companies in accordance with the unified rules in many cases requiring additional expenses.

The third problem is complicated relations between collaboration and competition in aviation. For example, transit passengers flow is a backbone for the airport commercial development and transit passengers should be served almost free of charge for competition reasons. Airport charges are the effective way to attract new airlines and build up regional network, but such discounts can decrease income and make the airport growth slower.

5. What can regional airports expect from the EU?

The most important factor among the economic ones influencing airport strategic development is the passenger flow. According to the inquiries of the international air industry long-term development during the period until 2020, the annual growth is expected at 4-5%. Nevertheless new statistical data show that the existing decrease of industry seriously exceeds the one predicted before. The economic crisis, terrorism threats, weather impact, SARS, political conflicts and other reasons heavily influenced the aviation transport. The situation is better in big companies, which were able to regain sufficient level of profitability to compensate losses of the previous years. With middle and small air companies (below 10 units of the air fleet), the situation is more complicated and in many cases such companies will have to choose, whether to decrease an air fleet, or to go to new transportation markets. The goodwill of the bank sector to airlines in terms of availability of short-term financial resources and long-term development projects of the planes purchase and leasing affect this choice.

In accordance with the airline industry regression features, the sector of low-cost carriers (LCC) is growing at present time. This sector is significant and interesting for the regional airports, because the LCC work is enlightened to the outside central airline operations network. The companies of the LCC have initiated the new concept in the transportation market that is based on optimisation of the non-stop transportations and simplification of service. There are certain differences between LCC and full service companies in business functions performing.

Table 2

Differences between LCC and full service companies

Features	Companies of LCC	Companies of the full service
Air fleet	Smooth. The aircrafts of one and the same class and type. Uniform service.	Combine. Airline companies can flexibly change aircraft types in transportation lines accordingly dynamics of the passengers stream.
Tickets	Only e-ticket (electronic) system is used. Tourism firms don't sell the tickets	Standardized tickets. The tickets are sold in specialized reservation systems. The sale of tickets is assured with help of IATA agent network
Airports	Airports with the low service rates are chosen. In some cases carriers are fully free of the airport costs.	Destination airports are the central airline hubs.
Transportations	Alliances aren't formed. Mainly the "flights of one shoulder" are provided.	Transportation nets are formed in connection with the alliances
Rates	The rates are established accordingly airline charging, Alliances aren't formed. Mainly the "flights of one shoulder" are provided and are not structured.	The rates are structured accordingly to particular manuals and don't depend on the Alliances aren't formed. Mainly the "flights of one shoulder" are provided.
Service	Minimal service. Only flight is provided.	Multilevel service structure.
The plan of flight	Till 90% of air fleet are busy in regular flights.	Ratings of flight capacity are reserved.

It is necessary to underline that at present time companies of full service also start to use methods of the LCC companies.

The possibility to attract LCC companies is very interesting for the Latvian regional airports, but it is required to make necessary preparation for such activities. At present time there are no regional airports in the Baltic countries, which are able to attract 200 000 passengers per year, the minimal quantity for LCC work in the airport.

6. Regional airports safety

The regional airports safety is one of the most significant problems and obstacles in the regional airports development. High costs of security equipment and necessity to use specially educated personnel for security control makes the security service very expensive especially in airports with little movement of passengers. ICAO recommendations and practice that are directed through CAA state institutions, constantly define new and higher security demands. If these demands are not satisfied, the airport operations can be limited or certification can be cancelled. For regional airports, it is a complicated problem, which could be possibly solved by the government undertaking a responsibility to partly cover security costs, since in every airport, where international flights are served, the state safety interests are secured.

7. Conclusions

1. The polycentric model of regional airport development is more appropriated for the Baltic countries than the monocentric model.
2. Close collaboration between the Baltic countries airports is the necessary condition for successful regional airport development.
3. The strategic plan of the Baltic airports development should be worked out and approved on the state level.

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