
The Areas of Competition and Planes of Cooperation in The Polish Passenger Services Market (Sea, Rail and Air Transport)

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The modern, global passenger services market operates in the circumstances of constantly evolving occurrences of competition and cooperation. In the interbranch transport relationships it is characterized by a variety of economic relations connecting market entities. The pace and direction of these transformations drive processes of globalization as well as liberalization and deregulation of this sector of services. Liberalization drives interbranch competition, whereas cost and political pressure stimulates development of various forms of cooperation.

The article aims at demonstrating areas of competition and planes of interbranch cooperation in the Polish passenger services market with an example of sea, air and rail transport.

passenger, service market, liberalization, deregulation, transport.

1. INTRODUCTION

In the circumstances of economic reality undergoing dynamic changes, which is determined by the progressing processes of globalization and regionalization, these transport operators who utilize their own potential, seek opportunity to dominate and establish their strong competitive position in the market they operate on.

The basis for shaping competitive relations in the passenger services market is a phenomenon called substitutability of services provided by transport operators representing various transport sectors. It is because the demand includes passengers who have the same or similar service requirements or represent similar preferences with regard to the fulfilment of these services. The supply, however, includes transport operators operating in different transport sectors who provide various, but substitutable services meeting the requirements and expectations of the customers.¹

Furthermore the growing competition in the passenger services market forces transport operators, who operate within its boundaries, to take numerous, preventive actions including development of cooperation with their current competitors (cooperation). The development of cooperative relations in the passenger services sector has had its impact on the transport system as a whole, because as a result of competent component configuration and introduction of coordination mechanisms as well as cooperation the transport operators seek to build an integrated, stable transport system by way of simultaneous utilization of its synergy potential.²

The article aims at demonstrating the areas of competition and planes of interbranch cooperation in the Polish passenger services market with an example of sea, air and rail transport. The theoretical study of the issues that were analyzed was supported by practical examples including two case studies: analysis of the competition

¹ See also: I. Bergel, *Analiza i ocena konkurencyjności międzynarodowych i międzyregionalnych przewoźników pasażerskich, [in:] Wpływ procesów monopolizacji i konsolidacji w transporcie na sprawność i efektywność jego funkcjonowania*, edited by W. Paprocki, J. Pierogud, Oficyna Wydawnicza

Szkoły Głównej Handlowej w Warszawie, Warsaw 2005, p. 77.

² See also: W. Downar, *System transportowy. Kształtowanie wartości dla interesariusza*, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin 2006, p. 211.

occurrences relating to sea and air transports based on the example of Poland-Sweden relations and cooperation between air and rail transports relating to handling passenger traffic at Szczecin-Goleniów airport.

2. COMPETITION BETWEEN SEA TRANSPORT AND AIR TRANSPORT

2.1 *Reasons and determinants of competition development*

Sea transport and air transport are two the most "internationalized" transport sectors which are interrelated both cooperatively and competitively. Which of these dominates depends on numerous factors including primarily the transport distance the given transport service relates to as well as types of transport requirements the two sectors fulfil. Therefore it is related to the target market they operate on and passenger traffic they handle. These factors have had their impact on the extent of mutual substitutability (as a result of interbranch competition) or complementarity of transport services provided (as a result of required cooperation).

The competitive relations between air and sea transport operators result from the substitutable nature of transport services provided by both transport sectors, which particularly applies to handling short and medium connections (among towns, regions or countries) which in order to be made require crossing a water basin. At present this kind of competition pertains primarily to handling passenger traffic as well as air transport operators and ferry operators. In this context a phenomenon which has significantly changed the face of the passenger transport market (being at the same time an effect of globalization and liberalization of transport services) is development of the business model relating to low-cost airlines.

A passenger who has an alternative of picking their means of transport based on the information they have on the primary, functional properties of a particular service specified by a transport operator confronts this information with their expectations which, to a great extent, are related to their travel destination. This assessment influences the extent, nature and intensity of competition between both transport sectors. Fulfilling the passenger's transport requirements pertaining to a given connection is to a great extent determined (and thus limited) by technological and operational properties of the means of transport used for this purpose including ferries and aeroplanes.

Taking what was said into account, the transport services are not fully substitutable (homogenous), but they are rather heterogeneous. Therefore this substitution relates to handling the same links/connections and not to providing identical transport services.

Depending on the travel destination and corresponding passengers' preferences with regard to their travel handling heterogeneity of transport services provided by air and ferry transport operators is the reason for a different fulfilment level of the passengers' transport demands including the travel cost and its duration, safety, access to the transport network, scale, comfort, whether or not it complies with environmental specifications or if it is offered comprehensively. Assuming that both transport sectors fulfil the detailed passenger's travel demands to a similar extent, the final criterion for making their decision is travel duration and costs related to a specific connection at a particular time.

2.2 *Case study - competition between air transport and ferry services in handling Poland-Sweden relations*

The late 90's of the twentieth century brought about substantial changes in relation to the ferry services operational circumstances and their competitive environment in the Baltic Sea Region (BSR). First of all these included changes resulting from the process of developing the EU Common Transport Market supported by the processes of deregulation and liberalization of the fragmentary markets in the EU states. Nowadays, apart from the issues related to the growing requirements regarding safety of ship transport and regulations connected with environmental protection the primary importance to the functioning of ferry operators in the BSR is related to the development of air connections being a new alternative to the existing ferry connections.

These events had their special impact after 2004, which was reflected in the structure of passenger transport between Poland and Scandinavia. Now this structure applies to the Poland-Sweden connection. The increase in passenger traffic in these relations, which was stimulated by the opened borders, resulted in the activation and development of alternative air transport facilitated by low-cost airlines, which had

its negative impact on the market position of ferry operators (Figure 1 and 2).³

passengers carried by ferries and aircraft between Poland and Sweden has gradually been reaching the same level. After performing an additional

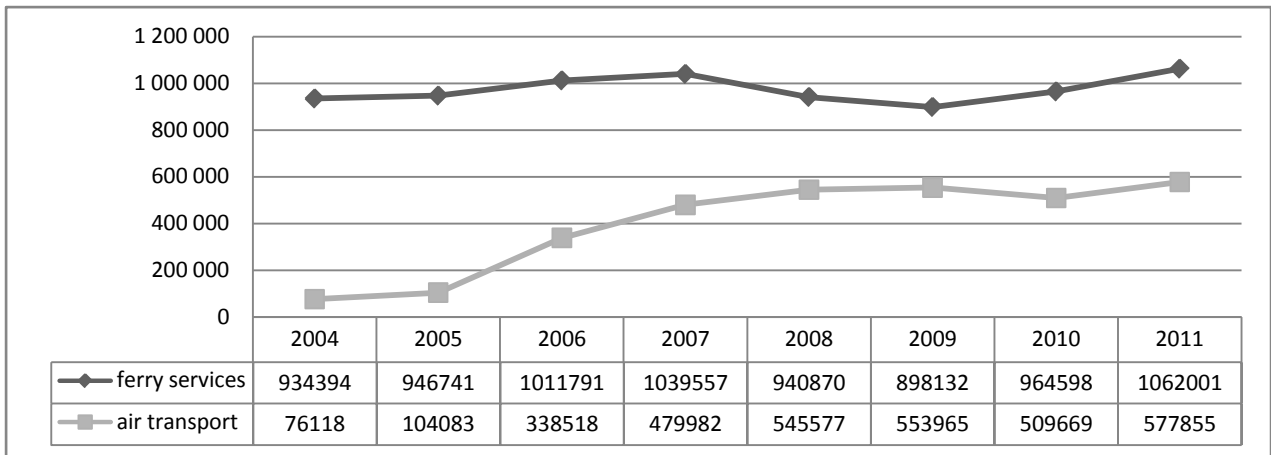


Fig. 1. Trends in changes related to the volume of passengers transport operations handled by the ferry services and air transport between Poland and Sweden in the years of 2004-2011

Resources: Own work based on: Statistic & Outlook 06, ShipPax Information, Halmstad, Sweden 2007; Market: 07, ShipPax Information, Halmstad, Sweden 2007; Market: 08, ShipPax Information, Halmstad, Sweden 2008; Market: 09, ShipPax Information, Halmstad, Sweden 2009 Market: 10, ShipPax Information, Halmstad, Sweden 2010, danych Eurostat, <http://epp.eurostat.ec.europa.eu> (downloaded on: 7/07/2010 and 15/08/2013) and data provided by the ferry operators including Unity Line, Polska Żegluga Bałtycka, Stena Line.

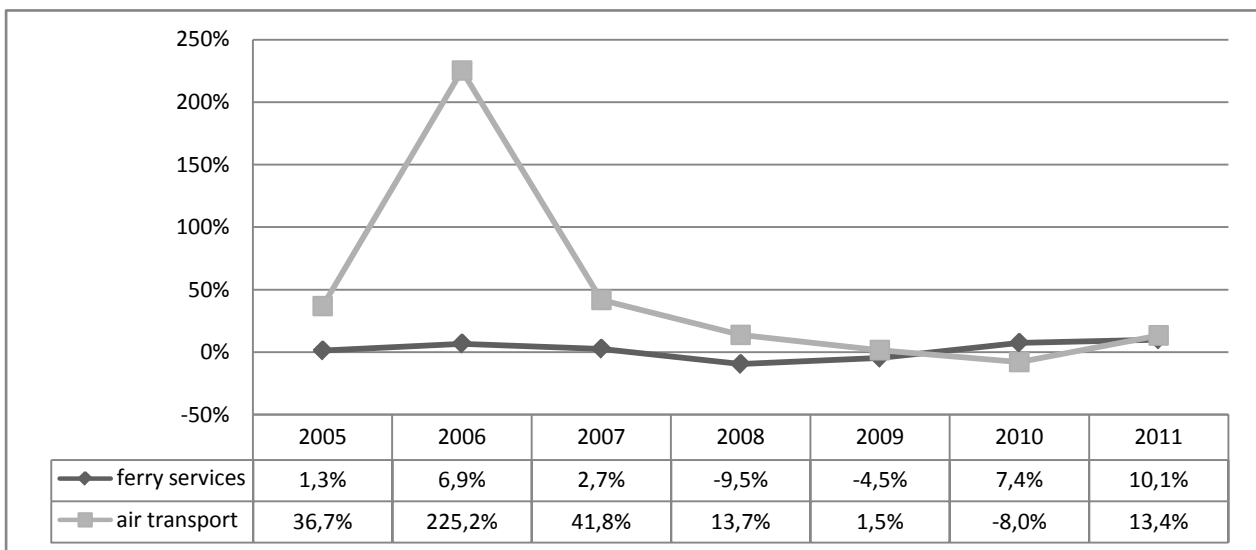


Fig. 2. Progress of increase in the passenger traffic handled by the ferry services and air transport between Poland and Sweden in the years 2004-2011.

Resources: Own work based on: Statistic & Outlook 06, ShipPax Information, Halmstad, Sweden 2007; Market: 07, ShipPax Information, Halmstad, Sweden 2007; Market: 08, ShipPax Information, Halmstad, Sweden 2008; Market: 09, ShipPax Information, Halmstad, Sweden 2009 Market: 10, ShipPax Information, Halmstad, Sweden 2010, danych Eurostat, <http://epp.eurostat.ec.europa.eu> (downloaded on: 7/07/2010 and 15/08/2013) and data provided by the ferry operators including Unity Line, Polska Żegluga Bałtycka, Stena Line.

Between 2004-2011 the bigger number of passengers was carried by the ferry services than air transport. However, since 2008 the number of

analysis of the pace of increase relating to both transport sectors, it was clear that the sector of air transport (especially in the first years after Poland joined the EU, excluding 2010) was on the higher increase.

³ After the ferry connection Świnoujście-Copenhagen was liquidated in 2010.

In order to know the passengers' travel motivations and their preferences as well as identify competitive advantages of ferry services over air transport relating to the analyzed routes, in the years 2009-2010 the author performed a survey conducted on 650 passengers who travelled by means of ferry transport (280 of the survey respondents) and air transport (370 of the survey

degree (see Figure 3). Furthermore, it is worth pointing out that over 80% of the passengers travelling by ferry for touristic reasons treat the ferry as a means of transport which enables them to reach a specific destination on land or utilize other forms of sea tourism. It was a mere 17% of persons who use ferry tourism services.

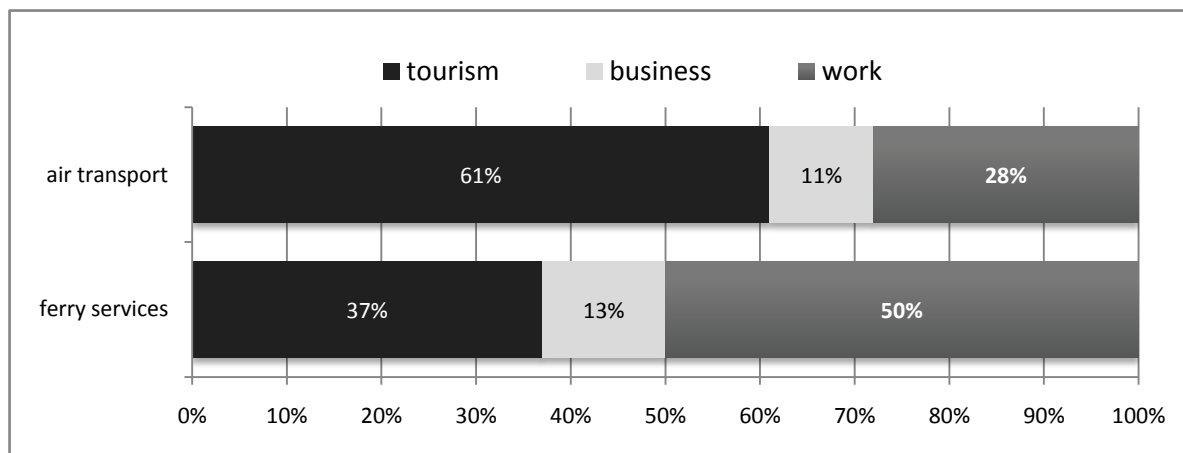


Fig. 3. Declared travel motivations of the passengers who use ferry transport and air transport (percentage of indications)

Resources: Own work based on own research.

respondents) between Poland and Sweden.⁴ The survey covered the ferry connections Świnoujście-Ystad and Gdańsk-Nynäshamn and air connections Szczecin-Oslo and Gdańsk-Sztokholm.

Regarding the declared travel motivations three main groups (divisions) of passengers in respect of their travel destination were distinguished in the survey:

- passengers who travel for touristic reasons (this group included passengers who travel to visit their friends, acquaintances and relatives);
- passengers who travel on business (this group included both passengers travelling on their own as well as in company who take part in business meetings on the ferry board);
- passengers who travel to work (migrants).

Regarding the specific transport sector these particular passenger groups contribute differently. Nevertheless, both means of transport handle all sectors of passenger traffic to a greater or lesser

Within the group of surveyed passengers there were as many as 80% of the ferry passengers who did not take other means of transport into account before making their decisions to pick a particular transport sector in order to make their scheduled journey. With regard to the air transport passengers the percentage of people who never took other means of transport into consideration for a particular route was 63%. The key reason for rejecting a potential ferry transport offer which they indicated was too long journey duration by the sea ferry (71% of the surveyed respondents) as well as high cost of travel by ferry (10%) plus low travel comfort (6%).

However, with regard to ferry services, the main components which conditioned the passengers' decisions to choose this means of transport in respect of the surveyed route (i.e. rejecting an alternative travel by air) included primarily a possibility to take a passenger car on board (27%), advantageous price for travelling by ferry (14%), convenient ferry connection with regard to the particular travel route (14%) and the very appeal of sea journey itself (13%).

The surveyed ferry transport passengers were also asked to give their assessment relating to the importance of key transport demands in connection with the fulfilment of their journey by the sea ferry including travel duration, cost, safety and comfort

⁴ Cf. *Koncepcja rozwoju pasażerskich przewozów promowych pomiędzy Polską a Skandynawią w aspekcie wzrostu konkurencyjności transportu lotniczego*, doctoral thesis manuscript, supervisor: Ph.D. Jerzy Wronka, Uniwersytet Szczeciński, Szczecin 2011, p. 176-214.

as well as punctuality and accessibility of the transport infrastructure and these demands which result from a specific nature of ferry transport. The biggest asset of ferry transport seems to be its dual-mode nature manifested in a simultaneous option for transporting passengers themselves and their accompanying means of transport (passenger cars); Figure 4.

3. COOPERATION BETWEEN AIR AND RAIL TRANSPORTS

3.1 Airport rail links - an example of rail and air transport integration

The increasing road congestion caused by development of the passenger automotive industry as well as the resulting increase in pollution and

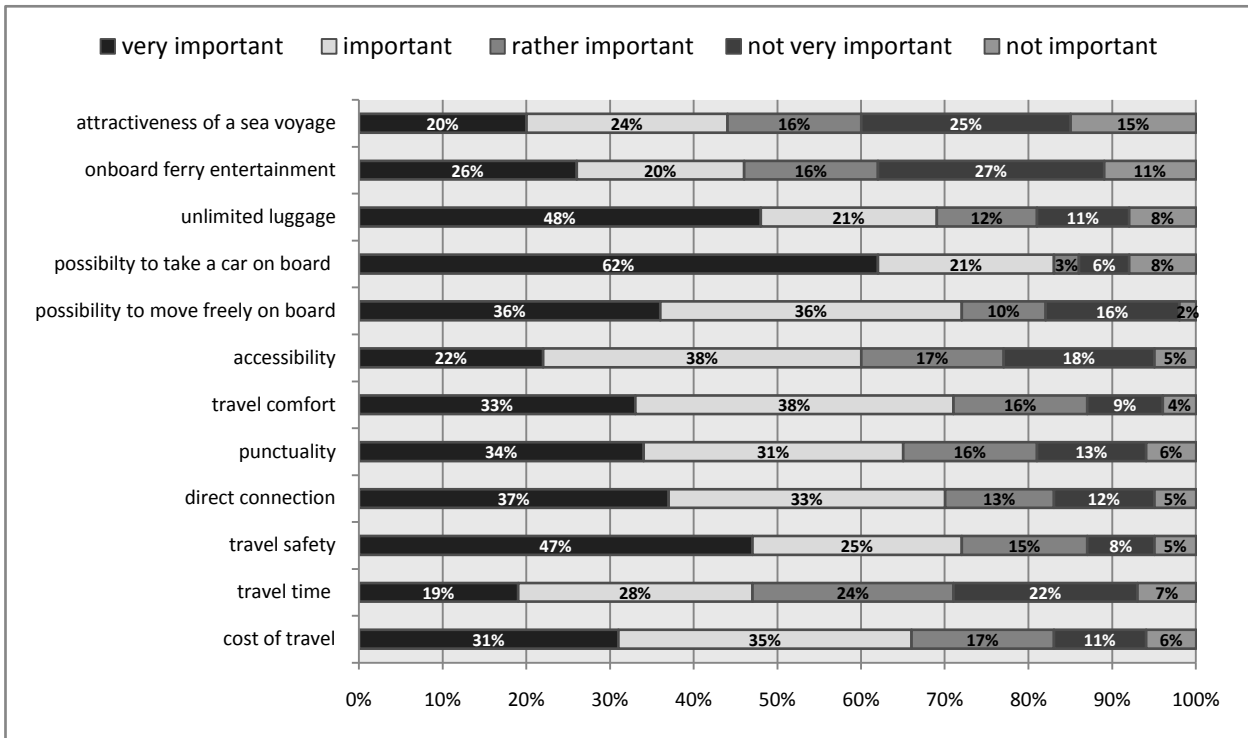


Fig. 4. The passengers' assessment of particular components related to the fulfilment of their journey by the sea ferry (percentage of indications)

Resources: Own work based on own research.

To sum up, the main criterion which unambiguously and objectively singles out transport offers in both transport sectors is travel duration whose importance (priority), according to the purchaser's perception, depends primarily on the travel destination (type of transport service). Additionally, the nature of a particular transport service includes a series of detailed demands made by the passenger on the transport operator and eventually influences their decision on what particular transport sector to pick for the given route. Because of that the sea and air transport operators have a possibility to be of a competitive advantage and can establish a competitive position in handling a particular passenger sector.

energy consumption urge to seek alternative solutions for providing access to airports from the mainland side. An answer to these challenges is a concept of creating a system of arrival-departure rail connections to airports (normally of up to 100 km), the so called *airport rail links* as an alternative to road connections.

The system of arrival-departure rail links to airports is an idea which is hugely popular and put into operation in Europe and Asia as well, and to a lesser extent in the USA⁵. In Europe there are several dozen *airport rail link* connections handled mainly by suburban rail operators with rolling

⁵ Cf. A. R. Goetz, T. M. Vowles, A Hierarchical Typology of Intermodal Air-Rail Connections at Large Airports in the United States (final report), NCIT Reports 2011, The National Center for Intermodal Transportation, s.3-4., [online:] <http://ncit.msstate.edu>, downloaded on: 15/03/2013

stock of improved standards. Furthermore, large airports which operate as international hubs such as Paris CDG or Frankfurt am Main are handled by long-distance rails such as TGV and ICE. The highest contribution of rail (31%) is in Amsterdam where its airport has suburban, regional and long-distance train connections. In Munich it is 30%. In London it is 20%, 19% and 16% for the airports of Gatwick, Stansted and Heathrow (including also the underground) respectively. In Paris it is 18% with regard to the CDG airport and 14% of travellers in Brussels⁶. In Poland the first rail link to the airport was opened in 2006 providing services for the Kraków-Balice connection. In the first year of putting it into operation the rail contribution for providing services in conjunction with the airport was at a level of 20%⁷.

The rail services participation with regard to arrival-departure links to airports depends mainly on the quality of services provided by rail operators. Primarily, it is determined by fulfilment of the primary transport demands made by the passengers (cost and duration of travel as well as

In Poland Krakow, Warsaw, Lublin and Szczecin (since June 2013) airports have direct rail links to the city centres. When it comes to the remaining airports the development plans for a city centre - airport rail link have been in progress or considered as an idea.

3.2 Case study – airport rail link providing services for Szczecin-Goleniów airport

The international, regional airport at Szczecin-Goleniów (PL Szczecin-Goleniów) is a main transport airport for Western Pomerania located 45 km to the north east from the city of Szczecin and approximately 100-120 km to the south west from the centre of Kołobrzeg and Koszalin. Over the recent years the passenger traffic handled at PL Szczecin-Goleniów has been enjoying a slight but steady increase interrupted by periodical drops in the transported number of passengers which result mainly from external factors. Charter flights in the summer season play a significant role in the structure of this traffic.

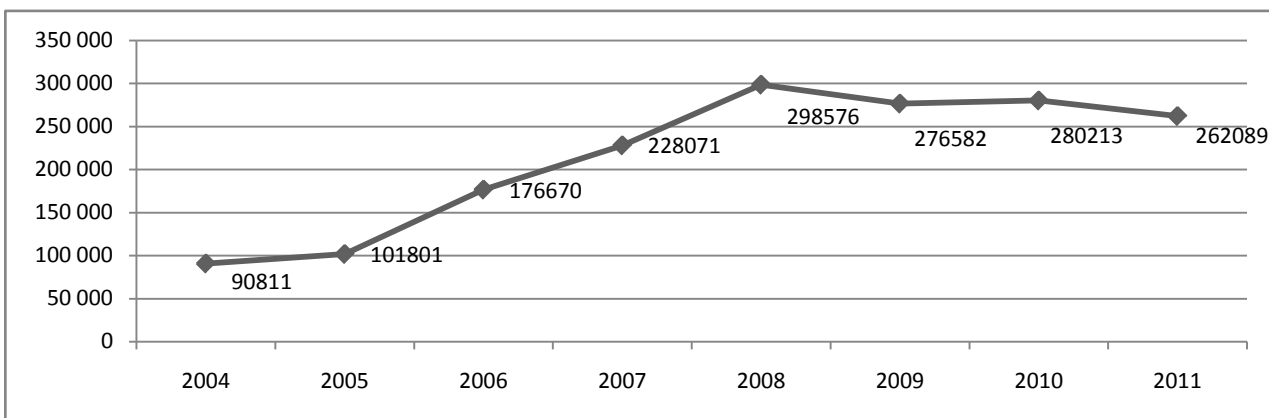


Fig. 5. Passenger traffic flow at PL Szczecin-Goleniów

Resources: Own work based on: T. Mańkowski, E. Łabęcka-Wieczorek, Analiza ekonomiczno-prawna powołania spółki samorządu województwa zachodniopomorskiego – operatora dla obsługi połączenia kolejowego Szczecin-Goleniów (Port Lotniczy), (The Legal-Economic Analysis of Founding a Self-Government Company for the West Pomeranian Region – the Operator for Serving Rail Connection Szczecin-Goleniów (Airport)), Szczecin 2012, work unpublished

its integration with the public and regional transport systems). It is estimated that a properly organized rail link from a city centre to an airport can take over of up to 30% of the airport transfer market.⁸

⁶ Ibidem.

⁷ B. Małyska, Czas airport linków, KURIER PKP 20/17.05.2009, pp. 12-13.

⁸ A. Fularz, Airport Rail Links - kolej do portów lotniczych, [online:] <https://docs.google.com> and F.

In order to improve transport accessibility to the airport in the years 2010-2013 PKP PLK fulfilled a project called "Modernization of the regional rail line No. 402 (Goleniów - Kołobrzeg) along with the construction of a rail link to Szczecin-Goleniów airport. The project aimed at starting a rail connection to PL Szczecin-Goleniów airport by way of constructing an airport rail link within

Nietz, Torami do lotniska, [online:] www.spedycje.pl, downloaded on 6/12/2012.

the rail line No. 402, which took place in June 2013.

In the period prior to opening of the surveyed connection the available means of transport operating between Szczecin and PL Szczecin-Goleniów included an individual means of transport (private and company passenger cars as well as taxis) and collective means of transport (minibuses). Table 1 demonstrates a comparative listing of time and cost regarding the means of transport which are alternative to the rail transport connection from/to the airport.

Table 1. A comparative listing of available means of transport between Szczecin and PL Szczecin-Goleniów airport in the period prior to opening of the rail link

– including parking for 1 day	40-50 min.	19.28 ¹
– including parking for 2 days		44.28
– including parking for 7 days		59.28
	40-50 min.	108.28
	40-50 min.	110-150
– Interglobus	50-60 min.	15.50 ² / 29 ³
– LOT		

¹For an average fuel consumption at 7 l/100 km and fuel price of 5.51 PLN

²For passengers of Ryanair and Norwegian flights

³For passengers of all the flights. It applies to transportation from and to the point of departure and destination (within the area of Szczecin)

Resources: Own work based on: T. Mańkowski, E. Łabęcka-Wieczorek, *Analiza ekonomiczno-prawna*, op.cit.

With regard to the idea of establishing a rail link to PL Szczecin-Goleniów airport a survey on 332 travellers was conducted in the departure hall of PL Szczecin-Goleniów airport from 20th to 28th November 2012 at the request of the Province Government. The surveyed aimed at identifying the passengers' purchasing requirements and preferences in relation to their selection of means of transport from/to the airport.⁹

⁹ T. Mańkowski, E. Łabęcka-Wieczorek, *Analiza ekonomiczno-prawna powołania spółki samorządu województwa zachodniopomorskiego – operatora dla obsługi połączenia kolejowego Szczecin-Goleniów (Port Lotniczy), Szczecin 2012*, work unpublished.

With regard to the most often used means of transport from/to PL Szczecin-Goleniów the biggest group of passengers was made up of people who preferred personal automotive means of transport (64% in total). The structure of this group of travellers included mainly people who used their own car to get to/from the airport (38%) and therefore used the airport car park. The numerous group of respondents was also represented by people who were brought to and taken from the airport by third parties including relatives, acquaintances, colleagues (27%) or used the minibuses (23%). The smallest subgroup of this traveller category was made up of people who used taxis (9%).

In this context the surveyed passengers were asked to give their subjective opinion of their choice of means of transport to the airport. Most of the surveyed travellers (78%) declared they were pleased with their choice, but little more than 20% of the surveyed were of a different opinion. The people who were not pleased with their choice were asked to point out the most important reasons for this. The survey respondents indicated lack of punctuality as one of main drawbacks (37%) of a means of transport they chose. This lack of punctuality is manifested in inability to adjust arrival and departure times from/to the airport. Another important problems raised by the passengers were also: high cost of transport (29%) and high cost of parking by the airport (12%).

Then the surveyed passengers were asked if they would be willing to use a direct rail link from/to PL Szczecin-Goleniów if it was open as an alternative to the means of transport that were available prior to it. Most of the survey respondents (77%) gave their positive answer to this option. Most of the people who gave their negative response to a possibility of travelling to the airport by train (23%) decided to do so because in their opinion travelling in their own car meant advantage (67%), comfort and shorter journey duration over train travel.

These passengers who were willing to use alternative arrival-departure rail links were then asked to determine a period of time and train travel cost they found acceptable for the analyzed route. For the passengers who travel from Szczecin the most satisfying train travel duration from/to the airport should not exceed 30 minutes (35% of the surveyed) and some of them even suggested less than 20 minutes (24%). The people who start their journey in Koszalin would be willing to accept a longer travel duration of up to 90 minutes (the

biggest percentage of the surveyed - 38%), whereas some of them (29%) would prefer to travel within less than 60 minutes.¹⁰ According to the surveyed passengers the most acceptable price for their train travel would be of 10 to 20 PLN (53% of the surveyed).

The survey results in conjunction with PL Szczecin-Goleniów airport demonstrate that 70% of the travellers would be willing to use alternative rail connections to the airport. Taking into account the attributes of PL Szczecin-Goleniów airport (regional, international airport), its location (including its distance from the main province city centres) and experience of European and Polish airports including PL Kraków-Balice with regard to operating arrival-departure rail links as well as considering the development of competitive passenger travel services, one can estimate that rail contribution to handling passenger traffic generated by PL Szczecin-Goleniów airport in the first years after it is put into operation could reach a level of 12-18% and even 25% in the long run.¹¹

The rail link to PL Szczecin-Goleniów airport will also increase transport accessibility to the airport for the tourists arriving from the eastern part of the region (especially from Kołobrzeg and Koszalin municipalities). It might also generate profits for people who work at or near the airports. On the other hand it can contribute to the increase in the general level of traffic generated by the airport due to the enlarged area of gravity.

However, taking over part of the demand by rail transport from road transport will require offering to potential passengers a competitive transport service (without drawbacks of the currently available means of transport) whose main indicator is high level of fulfilment of the primary transport demands made by the passengers and which, first of all, are connected with travel duration (arrivals and departures on time) and travel costs.

Bearing in mind that PL Szczecin-Goleniów airport has been operational for a short period of time it is difficult to make any assessment. Nevertheless, as regards passengers' expectations and preferences identified in the survey it seems that a rail travel duration of 40 minutes from Szczecin and 90 minutes from Kołobrzeg and the ticket cost at a level of 12 PLN fulfil them to a great extent. Now the rail link Szczecin-Goleniów-Kołobrzeg is included in the current PKP

Przewozy Regionalne railway timetable. It results in the expanded travel duration for the passengers travelling from Szczecin to Kołobrzeg as well as in inability to have the train timetable adjusted to the air traffic. This solution, however, is temporary and incorporating this connection in the shuttle train services it is taken into account for the following years.

CONCLUSIONS

The passenger services market operates in the circumstances of constantly evolving occurrences of competition and cooperation. In the interbranch transport relationships it is characterized by variety of economic relations connecting market entities. The pace and direction of these transformations drive processes of globalization as well as liberalization and deregulation of this sector of services. Liberalization drives interbranch competition, whereas cost and political pressure stimulates development of various forms of cooperation.

Although the EU transport policy is not directly aimed at shifting demand for passenger services within particular passenger market sectors, as a result of autonomous changes happening in the supply-demand system it is indirectly causing growth of the occurrence of competition between transport operators representing substitutable transport sectors.

The effects of these processes are most noticeable in the market of international passenger services in the Baltic Region, which is demonstrated with an example of the Poland-Sweden connection. Practically, air transport has had no competition in services provided for passengers whose main criterion for choosing their means of transport is travel duration, but the developmental potential of ferry transport is in each sector related to these passengers for whom other factors than travel duration are decisive for selecting their way of travelling.

On the other hand, integration processes are more and more noticeable in the passenger services market, which is manifested in various forms of cooperation in the interbranch system, which can be demonstrated with an example of incorporating airports into the intermodal transport system. The idea of *airport rail links* is one the main priorities of the common EU transport policy which takes principles of sustainable development into consideration. In order to fulfil a vision of competitive and sustainable transport system the

¹⁰ T. Mańkowski, E. Łabęcka-Wieczorek: Analiza ekonomiczno-prawna, op.cit.

¹¹ Ibidem.

White Paper of 2011 indicates that one of key actions should be development of an effective, multimodal travel and transport network connecting cities including connecting by 2050 all the airports which belong to the base network with the railway network.¹²

The experience of foreign airports, especially the airports of Europe, is proof that¹³ from the passenger's point of view an effective railway connection can be the fastest, most comfortable and at the same time most cost-effective way of arriving at and departing from an airport.

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¹² “WHITE PAPER Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system”, Brussels, 28/3/2011 COM(2011) 144 final version, p.10, [online:] <http://eur-lex.europa.eu>, (11/12/2012).

¹³ S. Huderek-Glapska, Port lotniczy w systemie transportu intermodalnego, LogForum 2010, Vol. 6, Issue 1, No 5, [online:] <http://www.logforum.net>, downloaded on 10/12/2012.

