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The role of distance and spatial availability for the attractiveness of Poland for foreign tourists

Introduction

Spatial economics concentrates on two common characteristic features of economic operations: distance and area. The importance of distance results from the fact that the cost of transport has impact not only on market prices but also on the place where production facilities are located. Area is important because markets for particular goods exist within some specified geographical borders. Spatial economics and locational theory flourished in the 19th century but they were isolated from the mainstream of economics until 1950 [2]. A German scientist, Johan Heinrich von Thünen, was the father of the theory of location [4]. This researcher created an abstract geographical model of an isolated state. The aim of his assumptions was to distinguish the cost of transport as a linear function of distance from other factors [1, 3]. In this theory, transport is one of the most important factors that influence the location of agricultural production. More efficient sectors are located closer to markets and the more intense ones are away from cities [18, 17, 16]. Carl Menger was one of the first to recognise transport as part of production that increases the usefulness of goods because of their movement [6]. Another author who paid attention to transport was Karl Marx. His theory assumed nationalisation of transport as an important sector of economy [14]. Lardner, on the other hand, believed that the volume of product sales depends only on this product transport rate [22]. E. Sax, a researcher important for the development of transport economics, formulated specific transport rules: transport efficiency, integrity, direction, cost and price [23]. The historical review shows that transport has not been given adequate attention in economics. Freight used to be the main area of interest while the transport of people became important with the introduction of means of public transport, and the importance of tourism grew with the increase of communities’ affluence.

Apart from tourist values, tourist infrastructure and natural environment, the availability of transport plays an important role among many other factors that have impact on the tourism attractiveness of an area [21]. Transport network is important for the transportation of both goods and people. It uses the linear and point infrastructure [8]. Point infrastructure, e.g. airports, becomes especially important for the movement of people on the international and intercontinental scale. In the case of shorter distances, it is possible to use linear infrastructure – roads and railways [15]. Infrastructure elements of the transportation system are permanent and they can be defined as passive ones, while means of transport (cars, aeroplanes etc.) are active ones. The system of transport is a structure, in which objects move in time and space [9].

Tourism is a complex phenomenon. It can be assessed from many different angles of human activity. Tourism lets people get to know the world, provides an opportunity to regenerate and thanks to tourism people can shape the character of their personality. Moreover, from another point of view, tourism is an economic activity. Travellers are offered accommodation, gastronomic and transportation services. Due to its multi-aspect character, tourism is a research subject matter in many fields of science [13].

Tourism can be divided with regard to e.g. travel objective, number of travellers, travellers’ age, means of transport, length of stay, type of accommodation, time of travel, travel organisation and tourist equipment. With regard to the number of tourists, there are two types: individual and organised group tourism. In connection with age, there are different types of tourism for school children, students and the elderly. Based on the means of transport, tourism can be divided into car, bicycle, coach, rail, air, horse and hiking types. Because of the length of stay, one can distinguish short-term and long-term tourism. If accommodation is the criterion, tourism can be a hotel and semi-hotel one. As far as time of travel is concerned, there are two types: winter and summer tourism. Tourism can be organised and not. And finally, looking at the type of equipment used by tourists, there are skiing, kayaking and climbing types of tourism. There are also a few forms of tourism, e.g. cultural, medical, sports, leisure, religious and business tourism [12, 19].
The overall phenomenon of tourism is a result of tourist traffic. The term is narrower than tourism and is connected with tourist demand. Tourist traffic means “all spatial movements of people connected with a voluntary change of place of their stay, environment and pace of life in relation to a specified area, direction, period etc.” [7].

Tourist traffic as a social and economic phenomenon is defined with respect to the size, structure, time and space allocation of the tourist demand represented by visitors. It results in some consequences in social, cultural, economic and spatial fields on the area of tourist reception, emission or transit areas [11].

The most important type of income from tourism is from the turnover of the tourist industry entities, e.g. services. Their total revenue comes from tourists and one-day visitors with the exception of the purchases made for commercial reasons. The volume of income from tourism is determined by the changes in the length of stay, the structure of expenses, cost of living, country of origin, currencies exchange rates, inflation etc.

Transport is essential for tourism; it is its active element. The development of tourism and how it operates depends on the appropriate transportation system. The international and continental systems are especially important [20]. Tourist attractiveness differs from country to country and the price is not always the most decisive factor [10]. The research shows that there is a link between transport infrastructure and the demand for international tourist services. Lack of an adequate transport system hinders tourist traffic and directs it to alternative destinations. The distance is another factor that has influence on decisions [2, 5].

Research organization

The work aims to define the interdependence of distance and spatial availability and the number of foreign tourists visiting Poland. Information about the number of foreign tourists’ overnight stays is presented, too. The sources of the research material are statistics from databases of the World Bank and the Central Statistical Office. The research covers the period of 2010-2012. In the given period, tourists visiting Poland came from different countries but the research covers 41 countries with the biggest tourist traffic. The group includes all the European Union countries except Croatia. In addition, visits paid by tourists from the biggest states on other continents are analysed. For the purpose of this research, a simplified calculation of transportation distance is adopted. The distance between Poland and other countries is defined as an air distance between the countries’ capitals. The countries are divided into some groups based on the distance between their capitals and Poland. The first group consists of the neighbouring countries, for which Poland is most available spatially, i.e. Lithuania, Belarus, Germany, the Czech Republic, Slovakia and Ukraine. Although Russian neighbours Poland, the Kaliningrad Oblast is a small part of the Russian Federation, which is a member of another group, i.e. other European countries. The third group contains countries from other continents: Australia, Brazil, China, Hong Kong, India, Japan, Canada, South Korea and the USA. A ratio method is used in the work. Ratios showing interdependence of the number of foreign tourists and the distance are calculated. Individual countries are differentiated with respect to area, population and the affluence of the community. The factors are also taken into account for the establishment of adequate ratios. A correlation between the number of foreign tourists and distance is established, too.

Research results

The number of foreign tourists visiting Poland has been systematically rising recently and in 2012 it reached 5 million. The biggest number of visits was from Germany (1,224 thousand people) and Russia (398 thousand) and the smallest number of visits was from Malta (1,500), Cyprus (2,500) and Luxemburg (3,600). Obviously, it is difficult to compare states with different population. That is why foreign tourists’ visits to Poland are defined as a share of the given country’s population (Fig. 1). Because of a big number of states analysed, they are grouped in accordance with the methodology mentioned above. The closer the given state is to Poland, the bigger proportion of its citizens decided to visit Poland. It must be highlighted that in the years 2010 – 2012, the percentage rose in all the groups. Looking at individual countries’ rates, the highest percentage of citizens visiting Poland in the population of the given country took place in 2012 in Lithuania (3.56%), Latvia (2.91%) and Estonia (2.81%). In the case of the states on other continents, the results were much lower, e.g. Brazil (0.01%), Japan (0.03%) and South Korea (0.03%).
One of the factors that influence tourist decisions is the income of the community members. In order to compare citizens of particular countries with respect to their income, GDP at spending power per person is taken into account. The correlation ratio between the share of the number of foreign tourists visiting Poland in the population of a given state and the GDP per capita was only 0.12 in 2010, 0.09 in 2011 and 0.12 in 2012. The results show that the citizens’ affluence does not affect foreign tourists’ decision to visit Poland, either. There is no correlation between the number of overnight stays per foreign tourist and the GDP per capita. The correlation ratio was minus 0.01 in 2010, 0.02 in 2011 and 0.06 in 2012. Thus, the citizens’ affluence was not correlated with the foreign tourists’ decisions to visit Poland.

Distance can be a key factor for tourists from other countries when they take decisions to visit Poland. The citizens of the states that border Poland made up 38% of all foreign tourists (Fig. 2). Most tourists were from other European countries (48%), which can be explained by the fact that distances within the continent are not really big. Tourists from other continents made up only 8% of all the visitors to Poland.

Figure 3 shows a more detailed analysis with regard to the use of guest rooms and accommodation provided on agritourism farms. Only 7.5% of foreign tourists used this type of accommodation. Most of them were tourists from neighbouring countries – 50%. It is worth mentioning that the share of foreign tourists from the European countries was rising at the expense of the neighbouring countries and those on other continents. The use of this kind of accommodation often requires car use in order to get to the place. That is why tourists from the neighbouring and other European countries dominate. Tourists from other continents use air transport and usually stay in big hotel facilities in big cities.
The relationship between the number of foreign tourists visiting Poland and the exact distance they have to cover is presented in figure 4. The distance is given as the air distance between the capitals of the given countries and Warsaw. In the three successive groups of states, the rate was bigger every subsequent year. With the increase in the distance by each kilometer, there was a decrease in the number of foreign tourists visiting Poland. The ratio of correlation between the number of foreign tourists visiting Poland and the transportation distance was minus 0.19 in 2010, minus 0.20 in 2011 and minus 0.21 in 2012. The influence of the distance on the decision to visit Poland was really small. Taking into account the disproportional territorial distribution of the population in the world, the interdependence of the share of the number of foreign tourists visiting Poland in the population of the given country and transportation distance is calculated. The ratio of correlation was minus 0.45. This means that there is but a very small negative correlation between the parameters. The further away the country is, the smaller the percentage of tourists visiting Poland from that country.

The number of overnight stays per foreign tourist was not considerably dependent on the distance and the country of origin (Fig. 5). On average, a tourist bought 2 or 3 nights during their stay. There was one more night per tourist from the neighbouring countries. There were no differences between tourists from other European countries and other continents. They usually stayed for two nights. Ratios of correlation for interdependence of the number of nights per foreign tourist and the distance a tourist had to cover to get to Poland have been calculated. No link between the parameters can be observed because the correlation ratios were 0.08 in 2010, 0.10 in 2011 and 0.01 in 2012.
The number of nights in private guest rooms and agritourism facilities per foreign tourist was 3 on average (Fig. 6). Tourists from the neighbouring countries spent most nights in such facilities. There is no correlation between the number of nights and the transportation distance between Poland and the tourist’s country of origin. In the years 2010 – 2012, the number of nights spent by tourists from Europe decreased and the number of nights spent in Poland by the tourists from neighbouring countries increased. The ratio of correlation between the number of nights in guest rooms and agritourism facilities per person and the distance a tourist had to cover to get to Poland showed no interdependence. The ratios were 0.01 in 2010, minus 0.18 in 2011 and 0.07 in 2012.

Some tourist visits were to some extent connected with the seasons, however the fluctuation was not considerable (Fig. 7). The share of tourists from the neighbouring countries visiting Poland in the total number of foreign tourists was higher in summer, when holidays and vacations created better opportunities for visits. In the case of other European countries, more tourists visited Poland in winter and spring months (November – March). In the spring and summer period (May – September) there was an increased percentage of tourists from other continents. This regularity occurred in the years 2010 – 2011 as well.
Seasonality of tourists’ use of private guest rooms and agritourism facilities is also analysed (Fig. 8). In that case, there were no so clear regularities as in the case of the total number of tourists. The only exception was the case of the visits of tourists from other continents as they took place in the period between May and September. The results in 2010 and 2011 were similar to those in 2012.

Most probably, planning a visit, tourists from other continents paid attention to weather conditions that could let them see more interesting places that are inaccessible in winter. On the other hand, for tourists from the neighbouring countries, summer is a good time to drive and use road infrastructure to visit Poland.

**Conclusions**

Transport plays an important role in economy as it creates a kind of system. Companies and the state cannot operate properly without it. The movement of people is given less attention but it is also important. Tourism cannot function without transportation.

The research shows that transportation distance affects the proportion of citizens visiting Poland in the particular state’s population. About 1.5% of citizens of the neighbouring countries visited Poland in 2012. With the increase of the distance, the percentage of foreign citizens visiting Poland decreased. In the case of countries on other continents, only 0.05% of their population visited Poland in 2012.

The article also analyses the influence of other factors. GDP per capita did not affect the number of visits to Poland. The biggest number of tourists came to Poland from the European countries (48%), followed by neighbouring countries (38%) and other continents (8%). The analysis of the use of private guest rooms and agritourism facilities shows that tourists from the neighbouring countries constituted the biggest group. Renting those rooms is connected with the necessity to use a car and the road infrastructure. And the citizens of the neighbouring countries have the easiest access to that infrastructure.

The ratios of correlation between the number of foreign tourists’ visits and the transportation distance from their countries measured in kilometres showed a very small negative interdependence. There is no interdependence of the number of overnight stays per tourist from particular countries and the transportation distance. Tourists’ visits depended on the season. The biggest percentage of tourists from other continents visited Poland between May and September. Tourists from the neighbouring countries preferred summer holiday period to visit Poland.

Thus, tourists’ visits are dependent on many factors. Transportation distance is one of them. However, its influence was not the most important factor in the decision to visit Poland.
Abstract
The article presents interdependencies of transport distance and spatial availability and the number of foreign tourists. The analysed data relate to 41 countries, including those that border Poland, other European countries and states on other continents. The information used in the analysis comes from databases of the central Statistical Office and the World Bank. The research shows that there is an interdependence of transport distance and the popularity of Poland with the citizens of other states. The ratio of correlation between the number of visits of foreign tourists from the given countries and the transport distance in kilometers shows a low negative dependence. GDP per capita turned to be a factor of little importance.

Znaczenie odległości I dostępności przestrzennej dla atrakcyjności Polski wśród turystów zagranicznych

Streszczenie
W pracy przedstawiono zależności między odległością transportową i dostępnością przestrzenną a liczbą turystów zagranicznych. Do analizy posłużyły dane dotyczące 41 państw, wśród których znajdowały się państwa sąsiadujące z Polską, inne kraje europejskie oraz państwa z innych kontynentów. Informacje pochodziły z baz danych Głównego Urzędu Statystycznego i Banku Światowego. Stwierdzono zależność między odległością transportową a popularnością Polski wśród obywateli innych państw. Współczynnik korelacji między liczbą przyjazdów turystów zagranicznych z poszczególnych krajów a odległością transportową podaną w km pokazał niską ujemną zależność. Mało istotnym czynnikiem okazał się PKB na mieszkańca.

Literatura