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## THE ESSENCE OF THE PROCESS OF ORGANIZING AND MANAGING TOURIST EXPENSES OF CRUISE SHIP PASSENGERS CASE STUDY SEAPORT IN KOŁOBRZEG

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**Aim:** The aim of the article was to present the essence of the processes of organizing and managing the estimation of tourist expenses made by cruise ship passengers and their impact on the local and national economy. The research was limited to the port and the city of Kołobrzeg.

**Design/methodology/approach**: In order to achieve the aim of the article, research was required to conduct research using a diagnostic survey method. The impact of expenditure on the local and national economy was estimated on the basis of the input-output method using the Flegg location coefficient.

**Results:** In the research process, five groups of tourists were identified with different levels of spending. By demonstrating that tourist expenditure depends on the number of tourists, nationality, length of stay in the city, type of tourism and structure of expenditure. It was pointed out that tourists can have an impact on the local and national economy.

**Research limitations/implications:** Future research in this area should clarify the premises for choosing the port of Kołobrzeg as the place of stay. In particular, determine what impact the possibility of using tourist cruises has on decisions. The research should cover other seaports where tourist cruises are carried out. The area of research should also be narrowed down to smaller territorial units.

**Practical implications:** The results of the research may be useful for owners of tourist vessels and port/city authorities. In order to organize and manage expenditures on tourism, the promotion of tourist services should be particularly addressed to foreign and domestic tourists from the wider environment, for whom cruises are the main attraction.

**Social implications:** Managing and organizing tourist expenses can improve the financial situation of tourist vessel owners. Tax revenues may increase. Tourists can become a carrier of promotion about the city and the port.

**Originality/value:** The research allowed for the identification of individual tourist groups in the process of organizing and managing tourist expenses. Determination of the amount of expenditure and the impact on the economy of the region and the country.

**Keywords:** processes of organization and management, tourist expenditures, research and analysis, input-output method.

Category of work: scientific work.

## 1. Introduction

As the available literature indicates, tourist cruises are becoming more and more popular around the world, which is reflected in passenger traffic statistics (CLIA, 2024). Also in Poland, cruise tourism is gaining in importance with the number of passengers at the level of nearly 1 million (GUS, 2019b; Central Statistical Office, 2023b). It is grown both in ports of fundamental importance to the national economy and in smaller local ports. Tourist cruises provide benefits not only for shipowners, but also for the local and national economy. Therefore, also in this case, there is a need to examine organizational and management processes in the economic aspect, especially in relation to the demand side. However, the amount of tourist spending has not been studied so far. Taking into account the above circumstances, the aim of the article is to discuss the essence of the process of organizing and managing tourist expenses made by cruise ship passengers and their impact on the local and national economy. The research focuses on expenditures carried out in the city of Kołobrzeg. However, they do not take into account the expenses related to the sea cruise itself, i.e. the purchase of a ticket. The research was limited to the port of Kołobrzeg, which is the leader in tourist cruises among small seaports (GUS, 2019b; Central Statistical Office, 2023b). The city itself is one of the most popular health resorts in Poland with numerous tourist attractions (Oleszczyk, Dominiak, 2021).

Expenditures made in the local economy were determined on the basis of a survey. Their impact on the local economy was determined using the input-output method. The Koszalin subregion was considered to be the local economy. As far as the structure of expenditure is concerned, five most important groups have been distinguished, i.e. expenditure on accommodation, food, transport, purchase of goods and other services.

It is important to emphasize that research on cruise tourism is not a frequently discussed research topic. According to Vayá et al. (2017), there are few studies that attempt to determine the volume of tourist spending and its economic importance. Frequently cited authors on cruise tourism include Dwyer and Forsyth (1998), Braun et al. (2002), Brida et al. (2012), BREA (2013), Worley and Akehurst (2013), Papadopoulou and Sambracos (2014), CERTeT Bocconi (2015), Chang et al. (2016), Vayá et al. (2017), Artal-Tur et al. (2018). On the other hand, the national literature lacks studies on the issues of cruise tourism and the issue of organization and management of tourist expenses.

The article consists of four parts. In the first part, a review of the literature was made. The focus is on the most important studies that were often cited by the authors. Attention was paid to the method of estimating tourist expenses. The second part discusses and justifies the choice of research methods. The next part presents the results of the research, i.e. the method of estimating tourist expenditure and its economic importance. The fourth part interprets the results, focusing on the factors influencing the volume of tourist expenditure and the impact on the local and national economy. Indicating further areas of transformation in the organizational and management scope, covering not only the sphere of expenses, but the entire process of functioning of the cruise market.

### 2. Literature review

It is generally recognized that the first authors who comprehensively dealt with the organization and management of expenses in the field of tourist cruises were Dwyer and Forsyth (1998). They distinguished the expenses incurred by passengers and operators of maritime vessels. The first group of costs includes expenses related to the arrival of tourists at the home port (transport, accommodation, meals, purchases of goods and services, tourist attractions), a sea cruise (ticket price, tourist attractions) and stay in ports of call (food, shopping, tourist attractions). On the other hand, the operators' costs are related to the services provided to the marine vessel and the expenses incurred by the crew members. The former include, among others, the costs of repairs and maintenance, navigation services (for the entry/exit of the vessel to/from the port), port fees (parking and passenger), purchase of fuel and energy carriers and collection of pollution, marketing, crew salaries. On the other hand, the expenses of the crew members are related to transport, accommodation, food, shopping and tourist attractions. According to the authors, among the most commonly used methods in research on cruise tourism are the input-output method and the CGE general equilibrium model. Based on the developed methodology, the authors conducted research on cruise tourism in Australia.

Braun et al. (2002) investigated the importance of cruise tourism at the Port of Canaveral, Florida, USA. In their research, they distinguished expenses incurred by sea vessels, passengers and crew members. They determined the direct effects by means of a survey. In order to depict the economic importance of passenger spending, they used the regional input-output model.

BREA (2013) conducted research for the Port of Victoria in Canada. In their research, they took into account the expenses incurred by passengers, crew members and maritime vessels. Direct tourist expenses were determined by means of a survey. They then used a regional input-output table to estimate the impact of passenger spending on British Columbia's regional economy.

Worley and Akehurst (2013) identified the economic importance of cruise tourism in 11 New Zealand ports. They used information obtained from seaport authorities and national accounts. They then calculated the indirect impact of cruise tourism on the regional economy using the input-output method.

Chang et al. (2015) investigated the economic importance of cruise tourism of the port of Incheon in South Korea. The authors investigated the direct impact using a survey method. Indirect impact, on the other hand, using the regional input-output table. The article emphasizes the disproportions in economic effects occurring between the home port and the port of call, in favor of the former.

Vayá et al. (2017) determined the importance of tourist cruises to the economy of Catalonia. The study included the expenses of tourists, crew members and passenger ships. The direct effect was determined on the basis of a survey, while the indirect effect was determined on the basis of the regional input-output table.

On the other hand, Artal-Tur et al. (2018) made an economic assessment of cruise tourism based on the activities of the seaport of Cartagena. They distinguished expenses incurred by passengers, crew members and sea vessels. The assessment of the direct effect was based on data obtained from surveys and other primary sources of information, i.e. a database of enterprises, commercial registers. The indirect effect was determined using the regional input-output table for the Region of Murcia. In addition, the authors drew attention to the diverse range of benefits for home ports and ports of call.

The above description of the methodology of the study of cruise tourism revealed three categories of expenses that are incurred by: passengers, crew members and marine vessels. The above-mentioned expenses are included in the direct impact of cruise tourism on the economy, and their estimation is most often carried out using the survey method. On the other hand, when determining the impact of expenditure on the economy (indirect effect), the input-output method is most often used. However, the CGE general equilibrium model is also applicable. The second observation is the diverse range of benefits between the home port and the port of call. The beneficiary of the economic effects is primarily the home port.

This article focuses on the study of expenses incurred by passengers. Tourist cruises take place without calling at ports, so the port of Kolobrzeg is the home port and all expenses are concentrated in the local economy.

#### 3. Method and sources of information

In this article, the method of a diagnostic survey was used. Surveys were conducted among passengers of tourist vessels. 384 tourists participated in the survey. The research sample was determined in a statistical manner, which increased its representativeness. The research was carried out during tourist cruises in June-August 2023. Based on the conducted research, five groups of tourists were identified. The largest group were domestic tourists, for whom cruises were one of many attractions (with a 56% share). A smaller group were foreign tourists with a 25% share. Domestic tourists, for whom passenger cruises were the main attraction from the distant environment, constituted 8%, and from the closer otrange 6%. The last group were local tourists with a 55% share. The research results allowed for determining the reasons for choosing Kołobrzeg as a tourist destination, the length of stay in the city and the size of the

household, which had an impact on the size and structure of expenditure. It was also the basis for determining the economic significance of tourist expenditure.

The input-output method was used to determine the impact of expenditure on the local and national economy. As already mentioned, research on the economic importance of cruises mainly uses two methods, i.e. the CGE general equilibrium models and the input-output method. The choice of the input-output method was dictated by its simplicity, the possibility of using it on a local scale (NUTS 3) and the complexity of the results. Calculations can be based on available models or made using an excel spreadsheet. On the other hand, the CGE general equilibrium model is more complicated and often requires the involvement of a multidisciplinary research team. In addition, it is used for research on a national and international scale (Kahouli, Martin, 2018; Connolly, 2020; Jenniches, 2018)

The input-output method is based on sectoral dependencies occurring in the economy. It allows to determine the impact of demand, e.g. tourist spending, on economic quantities such as: global value, value added, employment, and the amount of tax revenues (Coto-Millán et al., 2010; Danielis, Gregori, 2013; Santos et al., 2018). This article presents only the impact of tourist expenditure on the global value using multipliers. The formula for determining the impact of expenditure on the local and national economy is the formula:

$$X_{indi} = (I - Aij)^{-1}Y$$
(1)

Where:

X<sub>indi</sub> – output in sectors that are a source of supply for tourism service providers,

I – Identity matrix,

 $A_{ij} = \frac{x_{ij}}{x_i}$  – technical coefficients of intermediate consumption, where xij – flow from the i-th to the j-th branch,

Y – demand for tourist services.

The use of the input-output method is based on the data contained in the inter-branch flow tables published in Poland at 5-year intervals (the latest available version presents data for 2015) (CSO, 2019a). The Central Statistical Office in Poland publishes tables of input-output flows at the national level, which is associated with the need to adapt them to the regional dimension. Regionalization allows you to determine the self-sufficiency of the reference area and is the most difficult task related to the use of the input-output method. Before regionalization, the table of input-output flows was aggregated from 98 to 19 divisions corresponding to the PKD 2007 section. The procedure for narrowing down the table was dictated by the availability of statistical data at the level of the Koszalin subregion. In addition, too much disaggregation affects the complexity of the model, making it difficult to interpret the results.

The regionalization of the national table was carried out on the basis of the Flegg location coefficient expressed by the formula (Flegg, Webber, 1997; Flegg, Tohmo, 2010):

$$FLQ_{ij} \times \left[ (1+) \equiv CILQ_{ij} \log_2 \frac{TRE}{TNE} \right]^{\delta}$$
(2)

Where:

FLQ<sub>ij</sub> – Flegg's location coefficient.

TRE – employment in the region's economy (in all sectors).

TNE – employment in the national economy (in all sectors).

$$CILQ_{ij} = \frac{SLQ_i}{SLQ_j} = \frac{REi/NEi}{REj/NEj}$$

Where:

RE<sub>i</sub> - regional employment in the selling sector,

NE<sub>i</sub> - domestic employment in the selling sector,

RE<sub>i</sub> - regional employment in the buying sector,

NE<sub>1</sub> - domestic employment in the buying sector,

 $\delta$  - the delta parameter, the value of which is in the range ( $0 < \delta < 1$ ).

Location coefficients are most often used in the regionalization of the national table, and among them, the Flegg coefficient is the most accurate in determining the self-sufficiency of regions. The value of the key parameter in the formula  $\delta$  was adopted on the basis of Flegg and Tohmo studies for Finnish regions (Flegg, Webber, 2000). As a result, the regression function used to determine the value of the parameter  $\delta$  was estimated:

$$\ln \delta = -1.8379 + 0.33195 \ln R \tag{3}$$

Substituting the added value for the "R" parameter, the value of the  $\delta$  parameter for the Koszalin subregion was estimated, which amounted to 0.2224.

#### 4. Results

264,728 passengers took part in tourist cruises in 2023, which can be divided into five groups (Table 1). Tourists from abroad accounted for 25% of passengers, i.e. 66,182 people. They were mainly tourists from Germany and Scandinavian countries. As far as the subjective structure is concerned, it was most often a family consisting of two or three people. For foreign tourists, cruises were one of the many attractions of choosing Kołobrzeg as their place of stay. Hence, it was assumed that one day of stay in Kołobrzeg is associated with tourist cruises. The average expenditure of a foreign tourist related to sea cruises amounted to PLN 393 (Table 2). Expenses related to accommodation (PLN 161) (41%) and meals (PLN 129) (33%) dominated. Foreign tourists spent much less funds on transport (PLN 70) (18%) and the purchase of goods PLN 22 (6%) and other services PLN 11 (3%).

	Groups of tourists						
Size	Foreign tourists	Domestic tourists cruise one of the many attractions	Domestic tourists further surroundings	Domestic tourists closer surroundings	Local tourists	Together	
Number of tourists	66 182	148 248	21 178	15 884	13 236	264 728	
Share (%)	25	56	8	6	5	100	

# **Table 1.**Groups of tourists enjoying tourist cruises in Kolobrzeg in 2023

Source: own study based on the research carried out.

The second group were domestic tourists, for whom cruises were one of the many attractions of choosing Kołobrzeg as their place of stay. It was the largest group of 148,248 passengers, i.e. nearly 56% of all tourists using sea cruises. As far as the structure of the household is concerned, it was most often a family of three people. Tourists from the wider area dominated, but some also came from the region of the West Pomeranian Voivodeship. The possibility of taking advantage of tourist cruises was one of the reasons for them to choose Kołobrzeg as a place of rest. Therefore, and as in the case of foreign tourists, it was assumed that one day of stay in Kołobrzeg was related to tourist cruises. The average expenditure of one tourist amounted to PLN 287. The discussed group of tourists spent the most funds on accommodation PLN 109 (38%) and food PLN 89 (31%). On the other hand, much less for transport PLN 48 (17%) and the purchase of goods PLN 26 (9%) and other services PLN 15 (5%).

The third group consisted of domestic tourists from the wider environment, for whom cruises were the main reason for choosing Kołobrzeg as their place of stay. This was a group of 21,178 tourists (8%). The group in question was dominated by families of three. The main reason for choosing Kołobrzeg was the possibility of taking advantage of tourist cruises. They were usually weekend tourists, spending two days in Kołobrzeg. The average expenditure per tourist was PLN 518. The largest expenses were related to accommodation PLN 135 (26%), food PLN 141 (27%) and transport PLN 145 (28%). Much less funds were spent on the purchase of goods PLN 63 (12%) and other services PLN 34 (7%).

The fourth group consisted of domestic tourists from the closer environment, for whom cruises were the main reason for choosing Kołobrzeg as their place of stay. They were the smallest group of 15,884 tourists (6%). The structure was dominated by families of three, but also school trips. As in the previous group, the main motive for choosing Kołobrzeg was the possibility of using passenger transport. They were one-day tourists coming mainly from the West Pomeranian Voivodeship, who did not stay overnight. The average expenditure per tourist was PLN 171. In the discussed group, the largest expenses were related to transport PLN 78 (46%) and food PLN 60 (35%). Much less expenditure was consumed by the purchase of goods PLN 21 (12%) and other services PLN 12 (7%).

Residents of Kołobrzeg also participated in tourist cruises. But it was a small group, i.e. 13,236 tourists (5%). In their case, expenses made in the local economy cannot be linked to tourist cruises.

To sum up, in 2023, tourist expenditure could amount to PLN 82,213,329. The most important item was accommodation expenditure of PLN 29,628,440 (36%), followed by food expenditure of PLN 25,699,538 (31%) and transport expenditure of PLN 16,042,914 (20%). Expenditures on the purchase of goods of PLN 6,950,351 (8%) and on other services of PLN 3,892,086 (5%) were much less important. As far as individual groups are concerned, the largest amount of money was allocated for tourist cruises by domestic tourists, for whom cruises were one of many tourist attractions PLN 42,517,435 (52%), followed by foreign tourists PLN 26,004,065 (32%) and domestic tourists from further afield, for whom cruises were the main reason for choosing Kołobrzeg as their place of stay 10,970,204 (13%). On the other hand, domestic tourists from the closer environment spent the least, for whom cruises were the main reason for choosing Kołobrzeg as their place of stay, PLN 2,716,164 (3%).

On the other hand, the expenditure per one tourist amounted to PLN 311. The dominant position was occupied by expenditure on accommodation (PLN 112 (36%), followed by food (PLN 97) (31%), transport (61%) (20%) and purchase of goods (26%) (8%). The lowest expenditures were related to other services 15 (5%).

#### Table 2.

	Expenditure						
Groups of tourists	accommoda tion	board	transport	Purchase of goods	Other services	Amount	
Foreign tourists	161	129	70	22	11	393	
(cruises on one of							
the many tourist	10 655 302	8 537 478	4 632 740	1 456 004	728 002	26 004 065	
attractions)							
Domestic tourists	109	89	48	26	15	287	
(cruises on one of							
the many tourist	16 114 108	13 222 922	7 100 412	3 826 569	2 253 424	42 517 435	
attractions)							
Domestic tourists	0	60	78	21	12	171	
(cruises as the main							
attraction – closer	0	953 040	1 238 952	333 564	190 608	2 716 164	
surroundings)							
Domestic tourists	135	141	145	63	34	518	
(cruises as the main							
attraction – further	2 859 030	2 986 098	3 070 810	1 334 214	720 052	10 970 204	
surroundings)							
Amount	112	97	61	26	15	311	
Amount	29 628 440	25 699 538	16 042 914	6 950 351	3 892 086	82 213 329	

Tourist expenditure (PLN) made in the local economy in 2023

Explanation:

- first line expenses per person,
- Second row Total expenditure.

Source: own study based on the research carried out.

The impact on the local and national economy is reflected in the expenditure multipliers. In the case of the local economy, expenditure on means of transport is of the greatest importance (Table 3). The value of the multiplier is 1.18, which means that one PLN spent on transport generates PLN 0.18 in the local economy. This is followed by expenditure on other services (multiplier value 1.17), purchase of goods (multiplier value 1.14) and accommodation and meals (multiplier value 1.12). On the other hand, the largest impact on the domestic economy was made by expenditure on accommodation and food (multiplier value of 1.80), followed by expenditure on transport (multiplier value of 1.76) and expenditure on other services (multiplier value of 1.68). The least important were expenditures on the purchase of goods with a multiplier value of 1.55.

#### Table 3.

Global output multipliers for local and national economies in 2023

Multiplion volues	Expenditure						
winnipher values	Accommodation and meals	Transport	Purchase of goods	Other services			
Local economy	1,12	1,18	1,14	1,17			
Domestic economy	1,80	1,76	1,55	1,68			
Sources one study based on the research comind out							

Source: own study based on the research carried out.

#### 5. Discussion

Previous research on the essence of the process of organizing and managing tourist expenses of cruise ship passengers shows a varied amount of expenditure per one tourist. In the Artal-Tur study (2018), it is EUR 25 for the port of Cartagena, which is much less than in the case of Kołobrzeg. The difference may be due to the nature of the port of Cartagena, which is the port of call. Passengers spend less during a few hours of sightseeing of the city (in the case of Cartagena) than, for example, tourists taking advantage of tourist cruises and spending two days in Kołobrzeg. It should be noted that in Kołobrzeg cruises take place without calling at ports. However, Cartagena is one of many ports of call, which limits the amount of expenses.

In turn, in a study by Vayá et al. (2017), tourists spend EUR 200, which is much more than in Kołobrzeg. It should be emphasized that the port of Barcelona is the home port. Which means that tourists bear the full costs, i.e. both transport costs and accommodation and food. The amount of expenditure may, however, be underestimated due to the significant share of local tourists (nearly 19%) who did not cover the full costs, including accommodation.

Research conducted by Tourists Barcelona shows that tourists spend an average of 156.4 euros in Barcelona during their holidays, which is not much less than in the study by Vayá et al. (2017). On the other hand, tourists for whom the port of call in Barcelona is the port of call spend an average of 53.3 euros. That is twice as much as in the Artal-Tur study (2018). The higher amount may be due to more tourist attractions in Barcelona.

In other surveys on ports of call, tourists spend €49.8 for the port of Cádiz (Coronado, 2008) and €62.6 for the port of Malaga (de Málaga, 2013).

On the other hand, in a study by Martin Associates (2014), tourists in the Seattle home port spend an average of \$180.

The above examples prove significant disparities in tourist expenses between home ports and calls. Tourists in Kołobrzeg spend less than in other home ports, although the disproportions are not so large. And if the study includes domestic tourists who spend two days in Kołobrzeg, the differences in expenses (PLN 518) are small. Pointing out unequivocally that the very process of organizing and managing tourist expenses of cruise ship passengers, the case study of the seaport in Kołobrzeg does not differ significantly from the above-mentioned averages for more attractive tourist destinations.

#### 6. Summary and Conclusion

This article refers to the essence of the process of organizing and managing tourist expenses, cruise ship passengers, and a case study of the seaport in Kołobrzeg. On the basis of the research, five groups of tourists were distinguished, i.e.: foreign - for whom tourist cruises were one of many attractions, domestic - for whom cruises were one of many attractions, domestic - for whom tourist cruises were the main attraction, domestic from the wider environment - for whom tourist cruises were the main attraction, and locals.

Tourist expenditure in 2023 could amount to PLN 82,213,329. Tourists spent the most on accommodation, followed by food and transport, and the least on the purchase of goods and other services. Among the groups considered, domestic tourists were the most important for the local economy, for whom cruises were one of many attractions, which resulted from their numbers. On the other hand, foreign tourists spent on average 37% more than domestic tourists. At the same time, they spent more on accommodation, food and transport, and less on the purchase of goods and other services. On the other hand, per capita, the most important were domestic tourists from the wider environment, for whom tourist cruises were the main attraction, due to the length of their stay in the city. Individual tourists and families with children spent more than tourists traveling by collective transport. As far as the multiplier impact is concerned, transport expenditure was the most important for the local economy. In the case of the domestic economy, these were expenses for accommodation and meals as well as transport. The local economy is characterized by low self-sufficiency.

To sum up, it should be emphasized that tourist cruises carried out in Kołobrzeg have a long tradition. However, the growing trend has been halted first by the pandemic and now by the war in Ukraine. The market is becoming more and more competitive due to the involvement of small fishing vessels in tourist cruises. The increase in the attractiveness of tourist cruises

should be sought in their promotion, especially among foreign and domestic tourists, from the wider environment, for whom tourist cruises are the main attraction. Establishing network contacts with Polish and foreign ports should be considered. Therefore, we are facing a change not only in the organization and management of tourist expenses of cruise ship passengers, but also in the organization of the process of providing tourist services, which will certainly be a further area for research and analysis.

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