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Analysis of the development potentials for the Baltic Sea cruise market

Analiza możliwości rozwoju potencjału ekonomicznego bałtyckiego rynku wycieczkowców (cruiserów)

Urszula Kowalczyk

Maritime Institute in Gdańsk, Poland

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Abstract: Cruise tourism plays an important role in the maritime tourism sector. Currently it is one of the fastest growing businesses that have a substantial impact on the economy of the region and the country. The European cruise market is one of the largest cruise markets in the world, ranking only behind North America for market revenue. The cruise industry is experiencing rapid growth, with tens of thousands of new travellers boarding the cruise ships each year. The European cruise market represents around a quarter of the world's cruise market. The market share is growing steady. In recent years, passenger growth has not only occurred in core cruise markets such as the Mediterranean Sea basin representing approximately two thirds of all cruise passengers in the EU, but also in secondary markets such as Baltic Sea. Every year the number of people cruising in the Baltic Sea is increasing. Thirty-seven cruise lines and 80 ships called at the 29 Baltic destinations in 2017.

Keywords: cruise tourism, cruise line, economic benefit, expenditure and revenue of cruise line and port

Streszczenie: Rejsy luksusowymi wycieczkowcami stały się bardzo istotną częścią turystyki morskiej. W ostatnich latach ta forma turystyki uważana jest za jedną z najprężniej rozwijających się form działalności gospodarczej o istotnym znaczeniu dla gospodarki regionu i kraju. Europejski rynek turystyki rejsowej jest jednym z największych w świecie, ustępujący pod względem przychodów jedynie rynkowi północnoamerykańskiemu. Przejawem dynamicznego rozwoju turystyki rejsowej jest zwiększająca się systematycznie liczba nowych pasażerów odbywających rejsy na pokładach wycieczkowców. Europejski rynek wycieczkowców stanowi około jednej czwartej globalnego rynku turystyki rejsowej. Udział ten jest coraz większy. W ostatnich latach liczba pasażerów zwiększa się nie tylko na głównych rynkach turystyki rejsowej, takich jak basen Morza Śródziemnego, przez który przewija się około dwóch trzecich łącznej liczby pasażerów wycieczkowców w UE, lecz również na rynkach drugorzędnych, takich jak Morze Bałtyckie. Z roku na rok wzrasta liczba pasażerów wybierających rejsy po Morzu Bałtyckim. W 2017 r. 80 wycieczkowców reprezentujących 37 wycieczkowych linii żeglugowych odwiedzało 29 bałtyckich portów.

Słowa kluczowe: turystyka rejsowa, wycieczkowce, korzyści ekonomiczne, wydatki i przychody operatorów wycieczkowców i portów,

INTRODUCTION

Considering the current and future trends of cruise tourism development, the aim of this article is to examine the economic benefits of cruise tourism in the Baltic Sea region arising from the cruise industry's global and regional development trends. The economic impact differs depending on the location and cooperation between ports and the regional and local authorities and communities. The article estimates the cruise sector development trends in the Baltic Sea region and the economic development potential of ports and port cities. Research is based on author's own research activities and desk research methods derived mainly from reports, publications and statistics of institutions involved in the activities of the cruise industry. The port calls and number of passengers forecasts are based on market research, taking into account the economic impact on ports and local communities. Due to the benefits that cruise tourism brings to each port of call and the hinterland, the factors that affect the port of call selections have been examined. An extended quantitative and qualitative analysis of costs and benefits of the cruise industry applied in the paper associates the local and regional multiplier effect with the port location and size of the regional cruise market. The port's function as a port of call for cruise lines, instead of a base port or home port, limits the earnings to cruise-related revenue mostly from the expenditures of passengers and crews. Moreover, cruise ship visits benefit the port city in terms of added value and job creation.

The analysis of development trends is based on assumption from scenarios provided for shipping in the Baltic Sea for the years 2030 and 2040 within a survey conducted in transnational projects SHEBA (BONUS) [17] and GreenCruisePort [9]. Also, the transnational project Baltic LINes [1], included the future shipping scenarios for the years 2030 and 2050 in the Baltic Sea region. This market forecast constitutes the basis to analyze the economic potential of certain ports and regions future development of cruise shipping facilities in cruise destinations.

For many Baltic ports and regions cruise tourism already is or might turn into an important driving force for increasing the attractiveness and substantial source of income not only for the port but for local and regional communities as well. The paper also examined the challenges and factors influencing the reasons for marketing and investments in cruise facilities in the port itself and the port city, as well as in regional attractions. The findings imply certain actions and strategies recommended for the cruise industry in order to enhance the multiplier effects including financial and ecotourism scaled opportunities.

MAJOR TRENDS IN THE GLOBAL AND EUROPEAN CRUISE MARKETS

The cruise industry has been growing fast over a period of more than 30 years, driven initially by demand from North America, and then by growing demand from Europe. As shipyard's orderbook and the number of passengers grows, so do significant impacts at different levels: socio-cultural, economic, politic and environmental. There are not many surveys concerning the effects of cruising in destinations, particularly those related to cost-benefits analysis of the cruise industry activity [7].

According to the reports elaborated mainly within the projects SHEBA and GreenCruisePort as well as Baltic LINes, the cruise shipping sector is due to an upwards trend, with Europe as one of the key markets for the global cruise shipping industry.

For cruise shipping, a highly dynamic development is anticipated globally and in the challenges Baltic Sea. There is a need for modern ships within the cruise sector and that impacts decisions to invest in construction of new, modern ships as well as a matching infrastructural development of port facilities. An increase in cruise vessel size and operations is among key factors influencing the development scenario of cruise market.

The cruise industry is becoming more complex, since it has globalized quite rapidly in recent years. There are several new opportunities but also many challenges. World cruise ships are growing in size, the biggest can accommodate more than 6 thousand passengers and 2.5 thousand crew members. Newly launched cruise vessels are bigger and attain better efficiency and lower unit costs per capacity of tonnage and per passenger as well. However, larger vessels also have a considerable impact on ports and terminals, which have to challenge the fleet's and cruise passengers' requirements and adapt to changes in the fleet and new technologies [9]. For example, Oasis of the Seas (360m length, 47m beam and 9.3m draft) can accommodate 6,630 passengers and 2,160 crew members. Currently, 21% of the world cruise fleet capacity is represented by ships with a length of more than 300 m, 78% of cruise tourists travel on vessels over 250m in length, whilst 57% of world cruise fleet consists of vessels with a length of more than 275m [24]. Vessels range in size from the gigantic, Royal Caribbean's Oasis of the Seas to small vessels, like Polar Pioneer, which carries 56 passengers and 20 crew.

In 2016, there were 458 cruise vessels active on the market. The majority of the fleet today is in the 3,000 to 4,000 passenger range. The average age of international cruisers is 46 years [4]. To meet the changing patterns and preferences of customers, most cruise lines concentrate their efforts around specific cruise offers and solutions. At the same time, smaller ships, and some larger ones as well, are able to bring tourists to new ports which were previously inaccessible or off the routine voyage.

The Harmony of the Seas of 226,963 GT was the world's largest cruise that entered the market in 2016 [5]. In 2017, further 9 cruisers have been delivered and an additional 17 river cruise vessels, together adding 30 thousand new passenger capacity. Currently, a total of 80 ocean going cruisers and 17 river cruisers are in orderbooks and shall be delivered gradually until 2026. The vessels range from luxury cruisers to smaller cruise vessels capable of accommodating 200–600 passengers.

There are clearly benefits to be gained from cruise ship visits. However, there are also issues which must be considered in order to optimize the benefits and reduce negative impacts of cruise ship visits. The environmental, social and economic importance of cruising is growing in line with increasing popularity of cruise sector . Cruise ships generate a number of waste including sewage, greywater, hazardous wastes, oily bilge water, ballast water, and solid waste. They also emit air pollutants to the air and water. Obviously, all shipping traffic generates environmental impacts, however, cruise ships create disproportionate impacts because they carry thousands of passengers who produce their own personal waste streams. Interactions between resident and cruise passengers can have positive effects offering residents the possibility of learning about the world and explore new life perspectives. However, at the same time, increasing cruise activities restrict the space of residents and sometimes push them to adopt different moral conducts. In addition to the social impact, the competition for a space

Tab. I. Global demand for cruising in 2006-2016 (mill of passengers).

SPECIFICATION	2006	2012	2014	2016	10-YEAR GROWTH – %
World total	15.11	20,90	22.34	24.73	63.7
Europe total	3.44	6.23	6.39	6.67	94.0
Europe % in total world	22.8	29.8	28.6	26.9	–

Source: [4]

might arise, specifically in small ports, where the ratio of cruise tourists/inhabitants is large. Also in the same port, cruise ships compete with the cargo shipping industry for port space. Competition for space occurs between the land based tourist and cruise tourist when visiting tourist attractions at the same time. Transport might also cause problems as cruise passengers create an artificial large demand only for particular days.

The major players in the cruise industry are taking proactive measures to ensure a sustainable development of cruise tourism while preserving cruise destinations [22].

Destinations are not equal; they differ in various characteristics, which determine the attractiveness of each destination to a cruise line. This also relates directly to the importance that a destination may have in dealings with potential and current cruise operators [12].

Sustainable cruise industry development shall respect the environment and refer to the accepted principles of sustainability. It must be planned to make balanced use of the resources of any site, thus avoiding negative effects, reducing visitor satisfaction, or adversely impacting the local society, economy and culture [15].

The cruise sector is highly dependent on the large-scale economic development in the world [1]. Worldwide, expansion strategies are driven by larger capacity ships and their diversification. The number of local ports and a wider variety of destinations is offered by cruise fleet operators and various new on-board/on-shore activities are expanding. Cruise tourism is comparatively well developed in European tourism. In 2016, the global demand for cruise tourism amounted to 24.73 million passengers (see table 1).

In 2017, there were 40 cruise lines domiciled in Europe, operating 137 cruise ships with a capacity of around 164,000 lower berths. Another 75 vessels with a capacity of around 95,000 lower berths were deployed in Europe by 23 non-European lines. These ships ranged in size from the 4,500 passenger MSC Meraviglia to ships with capacity of less than 100 passengers. The vast majority of these cruises visited ports in the Mediterranean, the Baltic and other European regions, generating 34.10 million passenger visits at a total of around 260 European port cities, an increase of 9.4% compared to 2015. In addition, an estimated 16.8 million crew also arrived at European ports. There were at least 121 ships with a capacity of 150,115 lower berths with an average of 1,240 berths per ship active in Northern Europe during 2017. Collectively, these carried a potential of 1.92 million passengers on 1.365 cruises, offering a total capacity of 16.82 million passenger nights (average 8.76 nights per voyage). MSC Cruises is the biggest cruise company operating in the region, along with Carnival Corporation brands including Costa, AIDA and P&O cruises. The Mediterranean area accounts for almost 20% of the global cruise market, being the second most popular cruise destination after the Caribbean.

The market drivers of the cruise industry are similar to those of tourism in the world, particularly the rising affluence of the global population and the growing popularity of exotic and resort destinations.

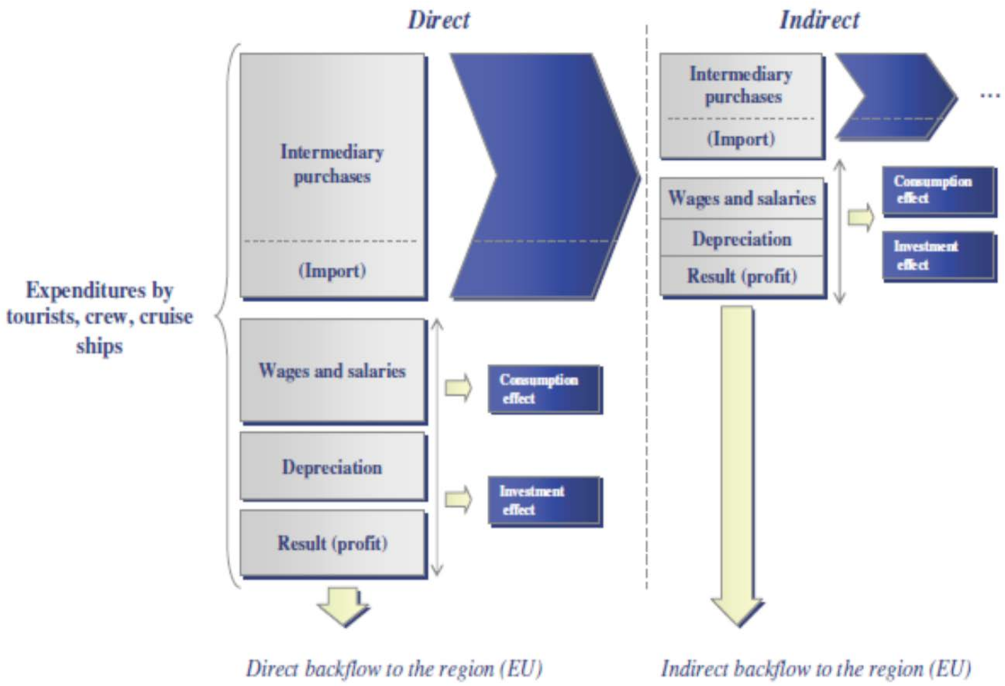
THE ECONOMIC IMPACT OF THE CRUISE INDUSTRY

The cruise tourism has a significant economic impact, both globally and at regional and local levels. Cruise ships and tourists on board stimulate economic activity. Some economic effects are direct, like: purchase of fuel, water, payment for berthing, port fees etc. However, most of the economic impact is connected with tourists and their activities. The regional economic impact of cruise-related expenditures is influenced by several factors. Passenger spend depends heavily on whether the port serves as a home port or port of call, the amount of time a ship spends in port, personal preferences of passengers and their income, as well as the duration and arrangements of the cruise itinerary.

Statistics include maritime transport and tourism as separate categories. Therefore, economic effects are not explicitly interpreted as the services provided at the port itself. The benefits of maritime transport and all services after leaving the cruiser are beyond broader maritime economy and are instead considered as economic effects typical of the tourism sector.

One of the main differences between cruise tourism and traditional tourism is that factors of production of the cruise industry can be acquired from a range of countries. Generally, a tourist destination capital can be sourced internationally but the details related to other factors are obtained from the tourist destination country. No such limitations apply to cruising. Cruise companies can operate as multinational entities, where resources do not need to be acquired from a specific country [7].

The economic impact of cruise tourism and its benefit to local communities depends on various external and internal factors. Also, the distribution of revenues resulting from cruise



Ryc. 1. Economic Impact Analysis Model. Source: [21].

passengers varies, with some businesses generating the majority, over 75% of revenues from cruise passengers, while similar businesses receive less than 25% of their revenues from cruises. Moreover, economic impact is determined by a number of factors depending on the particular itinerary and destination's value chain and on the degree to which passengers are able to increase or decrease spending within a destination.

Cruise tourism might be blamed for generating less spending per passenger in the local economy than non-cruise tourists, with passengers staying a shorter time and less tax collected from entry via cruise terminals than airports or via overnight lodging taxes. Also, cruise tourism may generate less employment at the destination than other forms of tourism, especially at transit ports. In addition, cruise tourism tends to keep the majority of associated revenues within the cruise line whilst the local communities, which may provide a large part of the attractiveness and experience, are not benefitting sufficiently from the cruise passengers.

Despite the variety of concepts of cruise tourism, it always includes services of marine transport (accommodation, catering and entertainment on the ship) and services of tourism on shore (excursions, sightseeing, purchase of souvenirs, etc.). There were 26.6 million cruise passengers attending cruise destinations worldwide. Economic impacts created by a port of call, rather than a homeport call, generate impacts primarily on the landside consisting of tour packages and individual sightseeing excursions. The economic impact surveys should not be limited to only the direct effects derived from the expenditure of cruise passengers in the destination city, but also additional dimensions of expenditure including spending by shipping companies in terms of a ship's stores, mooring and pilot services, terminal services, waste management etc. as well as and spending by crew members during visits in the destination.

The economic impact of cruise tourism on local economies consists of three different types of spending categories: passenger, crew and ship expenditures. The economic impact generated by shipbuilding, cruise ship suppliers and location of cruise company's headquarters do not ultimately affect coastal regions [23]. The Economic Impact Analysis Model is illustrated in the attached graphic (Fig.1):

The cruise industry continues to make significant contributions to Europe's economy. The cruise industry has generated an estimated 19.7 billion euro in direct expenditures throughout Europe in 2017. These expenditures originated from four major sources: cruise passengers, construction and maintenance of cruise ships, cruise line purchases in support of their operations, compensation of cruise line administrative staff and crew in Europe. This spending to some degree impacted each of the 32 European countries.

In terms of employment, between 2015 and 2017 the cruise industry generated more than 43,000 new jobs across Europe, with 403,621 currently employed in cruise and cruise-related businesses. Wages and other benefits for European workers have reached 12.77 billion euro.

In 2016, in total 129.4 million onshore visits by passengers and crew helped to generate $57.9 billion in direct cruise sector expenditures at destinations and source markets around the world. This also includes direct expenditures of cruise lines for goods and services in support of their cruise operations [18]. These expenditures generated a total (direct, indirect and in-

Tab. II. Total economic impact of cruise industry in Europe by country in 2017.

COUNTRY	DIRECT EXPENDITURES MILL EURO	TOTAL OUTPUT EURO	TOTAL JOBS	TOTAL COMPENSATION MILL EURO
Total	19,698	47,858	403,621	12,769
Italy	5,463	13,210	119,052	3,686
UK	3,850	10,390	82,410	3,159
Germany	3,140	6,432	48,490	1,804
France	1,679	3,516	19973	925
Spain	1,481	4,252	31,233	959
Norway	712	1,798	16,831	567
Finland	703	1,573	10,756	405
Netherlands	563	1,058	8,992	270
Greece	546	913	10,721	204
Sweden	269	531	3,385	141
Subtotal Nor. Finl. Swe %	1684 8.55	3902 8,15	30972 6,67	1113 8,72
% Ger. Nor. Finl. Swe	10.14	21.59	8.87	8.72

Source: [18]

duced) global output of $126 billion USD. The cruise industry output required employment of over 1 million employees and these employees have earned 41.1 billion USD in income and over 1.02 million jobs in the industry [5].

European shipyards are the leaders of the world's cruise ship building industry. They continue to build the world's most innovative and largest ships. In 2017, cruise lines spent 5.6 billion euro in European shipyards, representing a 22.4% increase compared to 2015. In the orderbooks of European shipyards, there are 66 cruises for delivery by 2021, with a total value of more than 29.4 billion euro. The OECD recently predicted that the cruise ship market will grow 3.3% by 2030 [3]. The demand for new vessels might outpace delivery. The capacity of shipyards is not sufficient to meet the demand for new cruise ships. By 2020, the cruise industry will invest over $25 billion in its fleet development, driving job creation and purchases of goods and materials that support local economies worldwide [8].

The majority of economic impacts of the cruise industry throughout Europe are rooted in five countries, which accounted for about 79% of the cruise industry's impacts throughout Europe. Italy, UK and Germany accounted for 63% of direct expenditures of the cruise industry (table 2). In the Baltic Sea area, Norway, Finland and Sweden are the countries that have a substantial economic impact on the cruise industry.

The economic impact of seaports has a complex structure. Initial impact generates a number of complex intersectoral relationships. A multiplier effect on the entire system, an indirect impact in terms of turnover, gross value added (and wage income) and employment is thus generated. Also, the induced impact of consumption expenditure made by workers whose jobs have been generated directly or indirectly due to cruise activity must be considered. The induced impact is also reflected in terms of turnover, gross value added and occupation. The impact generated by cruise activity extends beyond the purely economic sphere. It is also in social and environmental implications.

According to surveys of the World Travel and Tourism Council, the average revenue per cruise trip is almost as high as the average revenue from land-based tourists. But the distribution of income from cruise industry is not equitable. Most ports obtain small contributions from the use of the port as a cruise destination and cruise tourism provide few real jobs and business opportunities for local residents. Cruise passengers seem to spend less than 30% of the expenditure of a land tourist.

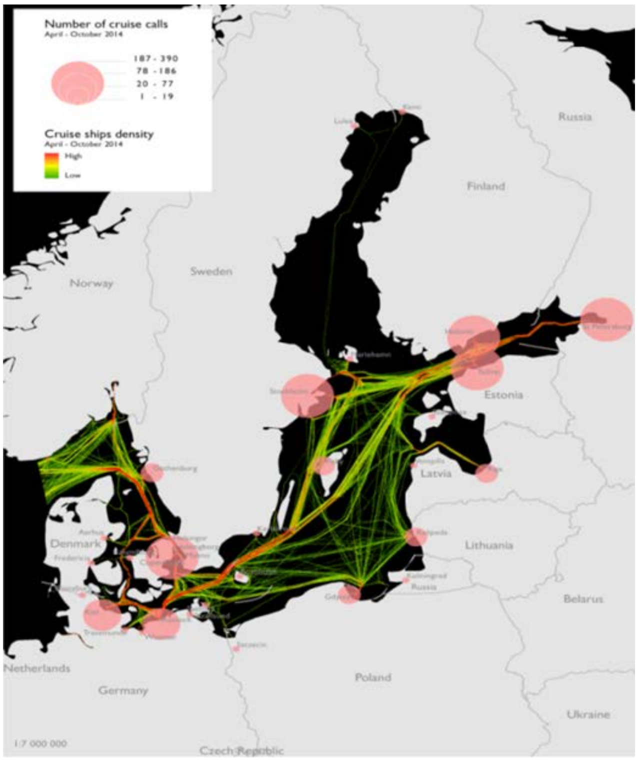
Cruise visits have considerable potential as a source of economic development for coastal communities. However, as with various development initiatives, cruise tourism brings both potentially positive and negative economic, social and environmental impacts such as: the cost of infrastructure in support of cruise tourism, including docking facilities, displacing or replacing shipping and cargo handling facilities, the cost of ensuring transport and public security in the destination, emergency medical services, the cost of cancelling or changing itineraries for a port; and, in the long term, damage to marine life and the cost of preserving the destination's tourism inventories [2].

The sector's environmental costs are mostly non-measurable. Cruise ships, which can carry as many as 5,000 passengers and crew, produce large volumes of waste. The different types of waste and damage produced by a typical ship are included in the Protocol 1978 known as MARPOL 73/78. These environmental impacts are mainly generated in coastal areas close to the busiest port destinations. In recent years, cruise lines and ports have put a lot of efforts into reducing, selecting and managing generated wastes implementing the requirements of MARPOL 73/78 as well as those imposed by European legislation. There are different requests in the case of cargo and

Tab. III. Number of cruise passengers at Baltic Sea port 2000 – 2017 (thous. pax).

PORT	2000	2004	2008	2010	2012	2014	2015	2016	2017	2018 EST.
Copenhagen	166	362	560	662	840	739	677	740	850	870
Gdansk	3,6	7,4	13,3	8,4	8,3	15	10,8	12,6	31,8	35
Goteborg	3,4	14,2	12,5	51,7	83	10,8	95	56,1	56	58
Helsinki	140	195	360	342	368	420	436	409	478	500
Kiel	48	128,6	222	341,4	348,2	354	459	485,5	514	580
Klaipeda	4,6	14,3	32,8	35,2	26,8	57,88	60,2	64,3	74,7	80
Kristiansand	14	35	22	31,7	70	120	69,2	100	109	121
Oslo	108,8	145,7	240	261	303,5	234	199	171,5	195	190
Riga	.	62,3	500,8	58,5	83	59	67,8	71,4	85,9	76,2
Rostock	52,6	92	171,5	214,8	385,8	509	485	553	641	700
St. Petersburg	149,3	252,6	394,8	427,5	452	512,5	505,4	487,6	581,4	624
Stockholm	157	210	365	415	470	470	500,6	474	562	576
Tallin	109,5	205,6	375,6	390	440,5	479	500,6	474	562	576
Visby	48,3	68,6	6,4	52,1	54,2	57,6	40	39	41,1	83

Source: Based on Cruise Baltic data. https://www.cruisebaltic.com/.



Ryc. 2. Cruise ships number of calls and traffic density in the Baltic Sea in 2014. Source: [10].

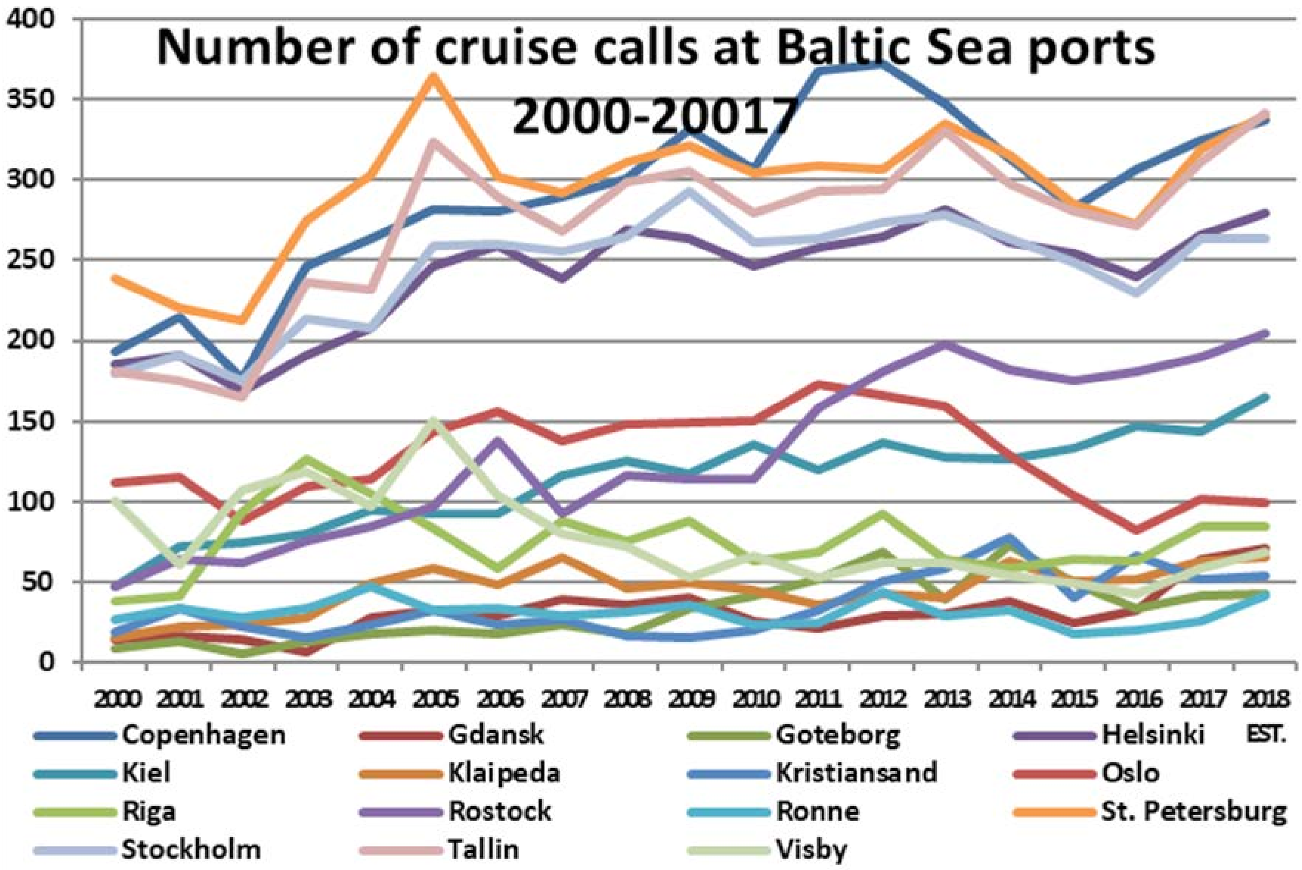
oil markets, from those for cruise ports. Different wastes are produced in the case of each shipping market [19].

CRUISE TRAFFIC ON THE BALTIC SEA

The Baltic Sea is one of the world's most densely operated marine areas. The Baltic Sea region records more than 350 cruise ships with over 2,100 port calls each year. The Baltic Sea is the 3rd cruise market by destination in the world and within the region it is continuously experiencing growth, with 13% more passengers expected in 2017 and 15% more cruise ship calls. In the Northern Europe cruise market, the Baltic Sea is the largest segment, generating a capacity of around 5.89 million passenger nights in 2017, which is about 10% for cruise passengers, and is expected to increase to 6.30 million in 2018. The Baltic Sea is a relatively small area with special environmental characteristics and business potential for ports. Cruising ports are also close to each other (see Fig. 2). Two competing trends have been observed in the maritime passenger transport sector within the past two decades. The cruise sector has seen significant growth in the last decade, whilst some ferry services have declined or ceased over time on routes where budget flights or high speed rail links have competed directly against the ferries [1].

In the period 2000-2017, the number of cruise passengers increased by an average annual rate of 9.7%, from 1.1 million in 2000 to 5 million in 2017 (table 3). The number of calls amounted to a total of 2.497. From 2000-2017, the number of calls increased by an average annual rate of 3.2%, from 1.453 in 2000 to 2.497 in 2017. In 2018, the number of calls is expected to increase by 6.4%. The number of cruise tourists per call continues to increase. In 2017, the average number of tourists per call was 2.024 and in 2018 is expected to increase to 2.045. In the period from 2007 to 2017, the average number of cruise passengers per call has increased from 1.176 to 2.024.

In 2017, the number of passengers visiting the Baltic Sea region amounted to 5,054,849 [6]. The total number of cruise passengers has increased by 16.6% and the total number of calls has increased by 15.4%. A further increase in the Baltic cruise market is expected in 2018: the total number of guests by 8.4% and the total number of calls by 6.4%. In comparison to 2016, the number of cruise tourists will grow by 1.2 million to nearly 5.5 million tourists.



Ryc. 3. Number of cruise calls at Baltic Sea ports 2000–2017;
Source: Based on Cruise Baltic data. https://www.cruisebaltic.com/

Tab. IV. Categories of ports of the Baltic Sea region, 2016.

Small (0-24 calls)	Mariehamn (19), Lübeck-Travemünde (14), Fredericia (8), Turku (7), Kalundborg (6), Elsinore (6), Karlskrona (6), Arendal (5), Helsingborg (5), Saaremaa (5), Kotka (4), Kalmar (1)
Medium (25-49 calls)	Gothenburg (41), Aarhus (36), Aalborg (35), Skagen (31), Rønne (26)
Large (50-199 calls)	Rostock (190), Kiel (143), Oslo (101), Riga (85), Kristiansand (52), Gdansk (64), Klaipeda (63), Visby (59)
X-Large (200+ calls)	Copenhagen (325), St. Petersburg (319), Tallinn (311), Helsinki (266), Stockholm (264)

Source: [6].

The principle the duration of a round trip voyage should take in most cases one week, created a strong position of Rostock, which in 2016 was ranked second in the volume of passenger traffic, recording as many as 107 passengers exchanges by 181 calls. For cruisers entering the Baltic Sea via Kiel or Danish straits, the shortest distance to the Bay of Finland is from Rostock.

In 2016, the main seven Baltic cruise ports concentrated 87.5% of passenger traffic, whereby the cruisers called at as many as 34 ports and harbours. Gdynia, which was visited by 82 thousand passengers in 2016, was ranked eight among the Baltic Sea ports, and port Helsinki was ranked seven in 2017, recording 410 thousand visitors. The main stream of passenger traffic flows between the Western Baltic ports comprising German ports and Copenhagen, where the majority of passengers are boarding or exchanged between other Baltic ports.Considering the number of cruise ships calls, ports of the Baltic Sea region can be divided into four categories: small, medium, large and extra-large, as illustrated in the table below:

The dynamics of individual categories of port visit numbers constitute an important factor in determining the port's place in the market and planning the prospects of its future development. Copenhagen, Tallinn, St. Petersburg, Stockholm and Helsinki have the leading position on the Baltic cruise market. This fact is not surprising considering that some of these ports are places of embarkation/disembarkation. As the largest Baltic cruise port in terms of cruise passengers, Copenhagen has experienced a 14.9% increase in 2017 compared to 2016. Stockholm had the highest growth rate of 20%, growing from 500,000 passengers in 2016 to 600,000 in 2017 (see Fig 3).

The number of cruise ship calls and cruise passengers will increase considerably in the Baltic Sea region [20]. Scenarios for shipping in the Baltic Sea for the years 2030 and 2040 developed in the SHEBA (BONUS) project were developed after a literature survey and consultations with stakeholder, mainly during direct discussions. Scenarios are based on current trends in cruise shipping. Forecasts are developed from data

Ryc. 3. Sankt Petersburg – cruise ships docked at Marine Facade; Source: [11]

for shipping in the Baltic Sea for the period 2006 to 2014 from AIS data combined with an analysis from literature sources.[1]

The Baltic and Northern European ports are ports that mostly handle freight traffic. Handling passengers traveling on board of passenger/freight or freight/passenger ferries usually takes place at ferry terminals located at dedicated wharves, equipped with appropriate infrastructure to ensure smooth and safe handling of cargo and passenger operations. Cruise services are provided at selected ports interested in passenger traffic and with varying degrees of infrastructural adaptation to the special needs of cruisers and their passengers. A broader range of services is provided by ports where passenger embarkation and disembarkation takes place, with adequately equipped terminals. In this case, plane and local transport (taxis, buses), restaurants and other services bring additional revenues also before boarding and after the cruise. Cruisers, like most of the commercial fleet, are flying foreign flags, which significantly diminishes their ability to generate tax revenues. Sankt Petersburg in Russia is a major cruise destination of the Baltic Sea, with cruise ships touring Northern Europe, Scandinavia, and the Baltics (Fig. 4). It is Russia's most popular cruise port, and the only one with a dedicated passenger port.

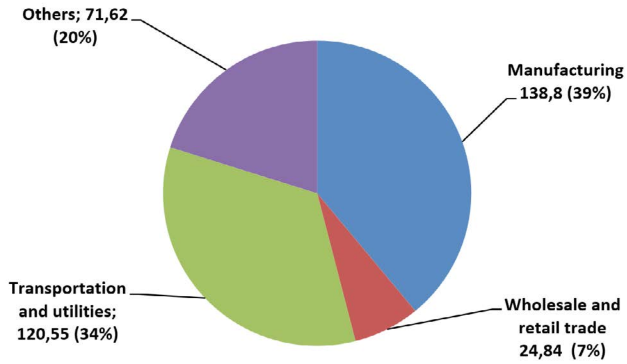
In 2015, the passenger port of Saint Petersburg recorded 223 cruises and 6 ferry calls, which brought a total of 491,507 visitors to the city. The Port can handle vessels of length up to 320 meters, beam 42 meters beam, and draught of up to 11 meters. Larger vessels must hold written permission to enter or exit the Port of St. Petersburg. The port can handle up to 18,000 passengers per day and up to 2 million passengers per year.

The Port of Helsinki receives over 360,000 cruise passengers and 270 cruise calls a year. Helsinki Cruise Terminal offers spacious accommodation and a very smooth passenger service in reliable surroundings.

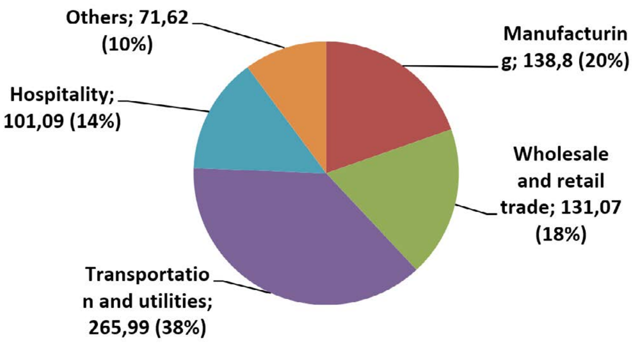
Norway is the leading nature-based cruise destination in Europe. The coastline spreads over 1,300 nautical miles. Most of the cruises that visit Oslo continue on to other destinations after a day or two in the capital. A popular route is the Northern European route, where ships sail on to the Baltic Sea and visit cities such as Tallinn and St. Petersburg. Another popular route runs along the Norwegian west coast, visiting the Norwegian fjords.

In 2016, Polish sea ports were visited by 100.5 thousand cruise passengers, which was 12.4% more than a year before. In the seasons before 2017, the port of Gdansk used to be visited by around 30 cruisers on average. In the 2017 season, terminals in the port of Gdansk were visited by 64 cruisers with around 31 thousand passengers on board. The largest cruiser calling at the port of Gdansk was Viking Star with 228.3m in length. In 2017, the Port Gdansk recorded over 1 million PLN of income sourced from serving cruise passengers. Moreover, maritime cruise passenger traffic is becoming a more and more valuable source of income for the Gdansk/Gdynia area, since the estimated calculations indicate that an average cruise passenger spends around 80 Euro in the city, using services such as sightseeing, transport, souvenirs and other minor shipping. Cruisers usually berth at the port for just a few hours. The development plans of Central Port construction in the port of Gdansk also include construction of a new passenger terminal. In the

[1] The data is analysed so that the shipping activities are obtained for different ship types and sizes. In this way the change in transport work and trends in ship sizes are analysed. (W analizie danych uwzględniane są informacje uzyskiwane ze statków różnych typów i wielkości. Umożliwia to analize zmian w wielkości przewozów i tendencji zmian parametrów statków).



Ryc. 5. Cruise line expenditures at Baltic in 2015; Source: Based on [14].



Ryc. 6. Cruise industry expenditures at Baltic in 2015; Source: [14]

2017 season, the port of Gdynia was visited by 41 cruisers. Some recovery of cruise traffic was also expected for 2017 [19]. Polish ports handling cruise ships face lack of activity focused on adequate promotion of the region. Visits of cruisers in the ports of Gdansk and Gdynia are limited mostly to just a few hours. Ports obtain their profit almost exclusively from port dues, not from economic activity focused on ship services. Gdansk/Gdynia lack a dedicated terminal for maritime tourism as cruise tourists consider these places to be merely a stopover on their way towards Sankt Petersburg, Riga or Helsinki.

It is estimated that in 2017, the number of cruise passengers visiting the Baltic Sea ports might reach nearly 5 million tourists, providing that an average passenger visits five ports during his voyage. The estimation (based on extrapolation trends) of vessel calls in main Baltic Sea ports [1] expects the number of cruise ships to increase from 4,942 in 2015 to 6,810 in 2030 and 9,590 in 2050, while the number of passengers is expected to increase from 14,153 to 23771 and 37,726 accordingly [18]. The anticipated increase in leisure traffic will also demand more space ensuring expansion of safety distances to keep the commercial shipping traffic undisturbed.

THE ECONOMIC IMPACT OF THE BALTIC CRUISE INDUSTRY

Cruise ships introduce a significant economic impact into port areas. A ship spends money on port and handling fees and it brings in large groups of tourists that visit the area around the port and its cultural or historical attractions.

Tab. V. Categories of ports of the Baltic Sea region, 2016.

CATEGORY	TURNAROUN	TRANSIT	CREW
Food, beverages and entertainment	55.17	6.32	8.09
Tours and ground transportation	18.57	44.94	2.71
Retail goods	13.36	17.98	9.90
Other purchases	10.92	9.98	3.54
Accommodations	68.61		
Total	166.63	79.22	24.24

Source: [14]

The analysis of transit passengers and crew visiting Cruise Baltic ports during the 2015 cruise season showed the following [12]:

- Transit passengers visiting Baltic ports spent an average of 79.22 euro/passenger in each port with tours and retail shopping accounting for 79% of their expenditures
- Crews visiting these ports spent an average of 24.24 euro/passenger with food and beverages, entertainment and retail shopping accounting for 74% of their expenditures
- The average expenditures by turnaround passengers stood at 167 euro/passenger per visit
- The average turnaround passenger spent 123.78 euro on lodging and food and beverages, 74% of their total expenditures

In total, passengers and the crew spent an estimated 353 million euro during 2015. Passengers and the crew spent 145 million euro on tours and other ground transportation, accounting for 41% of total expenditures. Expenditures for lodging and food and beverages totaled 101.1 million euro. Purchases of retail goods totaled 67.8 million euro and accounted for 19% of total spending by passengers and the crew (table 5).

Cruise lines spent an estimated 355.8 million euro throughout the region as a result of cruise calls at Cruise Baltic ports (fig. 5). These included spending for provisions, hotel supplies, fuel and equipment used onboard the cruise ships. Spending in the manufacturing sector amounted to 138.8 million, 39% of the total. These expenditures were concentrated in the food processing, petroleum and machinery industries. Another 120.6 million euro, 34% of the total, was spent in the transportation and utilities sectors. These expenditures comprised primarily port fees.

Expenditures of cruise lines and their passengers and the crew totaled 708.6 million euro in 2015 throughout the Cruise Baltic region (fig. 6).

Cruising in the Baltic Sea faces challenges from outside and inside of the region. The growth of cruises participates in the regional dynamic and therefore constitutes some constraints but also opportunities for coastal ports. For example, the increase of hosting capacities is often associated to urban renewal projects [16]. The specificity of the Baltics sea cruise market is its seasonality. Due to specific nature of climate in the region, the cruising season stretches from April to September with a

Ryc. 7. Port of Stockholm; Source: [12]

peak in mid-summer. In the wintertime, there is hardly any offer of cruising in the Baltic Sea area.

There are still only a few towns in the region which benefit substantially from the cruise business. For instance, five ports: St. Petersburg, Tallinn, Helsinki, Copenhagen and Stockholm (Fig. 7) attract visitors originating both in the BSR as well as in some foreign port. Copenhagen is a gateway port to the Baltic Sea. Thus, there is a substantial cruise passenger number in Copenhagen and Kiel.

The cruise industry in the Baltic Sea has changed in recent years. Currently, it continues to diversify in order to capture and retain new customers.[2] The geographical design of the cruise itinerary varies, but consists of mostly short triangular cruises or longer loop cruises. The longer cruises can vary in length, from one to two weeks. They usually start and end at the same destination and visits more ports.

CONCLUSIONS

1. In recent years, the cruise ship industry has been the fastest-growing segment in the overall tourism worldwide. The environmental, social and economic impacts of cruising are growing in scale also in the Baltic sea region. Recently, the Baltic Sea has been gaining more attention as a cruise destination. The growth rate of the Baltic Sea cruise market has been faster than the average for the whole Europe. The major reason for the Baltic Sea being an attractive cruise destination is the fact that it is the sole region in northern Europe with six capital cities situated on the coasts and within overnight sailing distances.
2. There are several potential benefits of cruise tourism for a port. Possibly, this is the reason why destinations may be interested in being part of the selected group of ports chosen by major cruise lines. The first impression of cruise passengers of a port destination is often the port and its facilities. In ports with lesser cruise traffic, larger investments in handling ships and passengers are not anticipated. Nevertheless, the use of existing berths by cruise ships provides a source of additional revenue for the port by making better use of the existing infrastructure, especially the berth providing the necessary potential for a better competitive position. Communities and destination authorities need sufficient infrastructure.
3. The regional economic impact of tourism expenditure is generally greater than the direct spend of tourists. The cruise industry has in many cases become an engine of economic acceleration for many local economies. According to surveys elaborated for Baltic Cruise, every 1 million euro in cruise-related spending generated 17.5 jobs throughout the Baltic Sea Region in 2013. On average each of these jobs paid 25,500 in employee compensation. Every 100 direct jobs generated by passenger and crew spending resulted in another 95 jobs elsewhere in the Baltic Sea Region [14].
4. The substantial part of income generated by the cruise activities remains to the cruise companies, but ports have still some profits. However, they also have to face costs and problems associated with the arrivals of ships, cruise passengers and crews. Per capita revenue are significant source of income for port and coast services. Every cruise ship calling the port has to pay for docking fees, pilot services and other kinds of services. Most studies and developing scenarios and assessments of future changes describe the growth of maritime activities, concluding that growth will increase demand for investments of ports and port cities.

[2] short itineraries, therefore more affordable in terms of price, thematic trips, "floating universities", or sailing vessels registered as training or historic ships, etc.

References:

[1] Baltic LINes: Baltic Shipping scenario development, Czermański Ernest, Baltic LINes WP 2 internal report. Gdańsk 2017

[2] Brida J. G., Pulina M., Riaño E., Zapata-Aguirre S.:Cruise passengers' experience embarking in a Caribbean home port. The case study of Cartagena de Indias. Ocean & Coastal Management no 55, 2012

[3] Cağlak S. B. and others: The Impact of Seaport Investments on Regional Economics and developments. International Journal of Business and Management Studies vol 3, no 2, 2011 issn: 1309-8047

[4] CLIA 2017 and 2018 Annual Report

[5] CLIA Europe. Contribution of Cruise Tourism to the Economies of Europe 2017. Published 2018

[6] Cruise Baltic. Market Review 2018

[7] Cruise tourism: economic, socio-cultural and environmental impacts, Int. J. Leisure and Tourism Marketing, Vol. 1, No. 3, 2010

[8] Fact Sheet. The cruise industry's economic impact. Cruiseforward.org

[9] Green Cruise Port: Sustainable Development of Cruise Port Locations. Project within Interreg Batic Sea Region Programme 2016–2019

[10] HELCOM 2015: Baltic Sea Sewage Port Reception Facilities http://www.helcom.fi/ (accessed Nov. 4 2016)

[11] http://www.portspb.ru/en/. (accessed Sept. 6 2017)

[12] https://www.google.com/search?q=port+of+stockholm+cruise,+photos&client (accessed Sept. 6 2017)

[13] Managing Cruise Ship Impacts: Guidelines for Current and Potential Destination Communities A Backgrounder for Prospective Destination Communities by Ted Manning, President Tourisk Inc. 2006

[14] Moody A. J.: OverviewCruise Industry Spending and Satisfaction. Cruise Baltic Region. BREA and G. P. Wild (International) Ltd. 2016

[15] Organization and development of cruise shipping in the Baltic Sea https://www.researchgate.net/publication/263655756. [accessed Jul. 10 2018].

[16] Pallis A. A., Aimilia A. Papachristoua and Charalampos Platias: Environmental policies and practices in Cruise Ports: Waste reception facilities in the Med, SPOUDAI Journal of Economics and Business, Vol.67, 2017, Issue 1, pp. 54–70.

[17] Port Monitor, Polish Ports in 2017. Actia Forum, Gdynia 2018

[18] Procedia – Social and Behavioral Sciences 195 (2015) 438–445. https://ac.els-cdn.com. (accessed Mar. 20 2018).

[19] Rekordowa liczba statków pasażerskich i ponad 31 tysięcy turystów w Porcie Gdańsk. https://www.portgdansk.pl/wydarzenia/rekordowa-liczba-statkow-pasazerskich. (accessed Nov. 12)

[20] SHEBA 2016: Sustainable Shipping and Environment of the Baltic Sea region. Future Scenarios. Authors: Erik Fridell, Hulda Winnes, Rasmus Parsmo (IVL), Benjamin Boteler, Jenny Troeltzsch (Ecologic), Urszula Kowalczyk, Jakub Piotrowicz (MIG), Jukka-Pekka Jalkanen, Lasse Johansson (FMI), Volker Matthias (HZG), Erik Ytterberg (Chalmers).

[21] The contribution of the international cruise industry to the global economy in 2016. Business Research & Economic Advisors for CLIA, December 2017

[22] The Impacts of the Cruise Industry on Tourism Destinations https://www.researchgate.net/profile/Juan_Gabriel_Brida/publication/228268563. (accessed Apr. 4 2018)

[23] Tourist facilities in ports Growth opportunities for the European maritime economy: economic and environmentally sustainable development of tourist facilities in ports. Study report. Directorate-General for Maritime Affairs and Fisheries, European Communities, 2009

[24] Tourist facilities in ports. The economic factor. Policy Research Corporation. EC DG for Maritime Affairs and Fisheries, 2009.

[25] Travel & Tourism. Global Economic Impact& Issues 2017. World Travel and tourism Council

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Corresponding author: Urszula Kowalczyk; Maritime Institute in Gdańsk, e-mail: urszulakowalczyk1948@gmail.com

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