

ASERS

Journal of Environmental Management and Tourism

Quarterly

Volume XIII

Issue 1 (57)

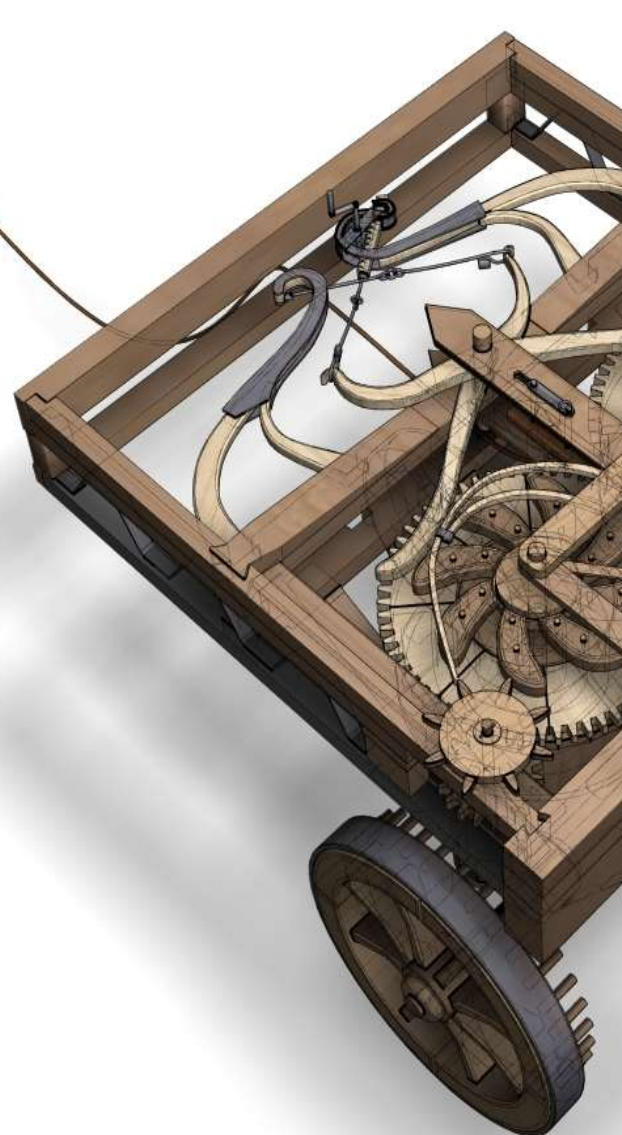
Spring 2022

ISSN 2068 – 7729

Journal DOI

<https://doi.org/10.14505/jemt>

 **ASERS**
Publishing



Editor in Chief

Ramona PÎRVU

University of Craiova, Romania

Editorial Advisory Board

Omran Abdelnaser

University Sains Malaysia, Malaysia

Huong Ha

University of Newcastle, Singapore,
Australia

Harjeet Kaur

HELP University College, Malaysia

Janusz Grabara

Czestochowa University of Technology,
Poland

Vicky Katsoni

Techonological Educational Institute of
Athens, Greece

Sebastian Kot

Czestochowa University of Technology,
The Institute of Logistics and International
Management, Poland

Nodar Lekishvili

Tbilisi State University, Georgia

Andreea Marin-Pantelescu

Academy of Economic Studies Bucharest,
Romania

Piotr Misztal

The Jan Kochanowski University in
Kielce, Faculty of Management and
Administration, Poland

Agnieszka Mrozik

Faculty of Biology and Environmental
protection, University of Silesia, Katowice,
Poland

Chuen-Chee Pek

Nottingham University Business School,
Malaysia

Roberta De Santis

LUISS University, Italy

Fabio Gaetano Santeramo

University of Foggia, Italy

Dan Seligsteanu

University of Craiova, Romania

Laura Ungureanu

Spiru Haret University, Romania

ASERS Publishing

<http://www.asers.eu/asers-publishing>

ISSN 2068 – 7729

Journal DOI: <https://doi.org/10.14505/jemt>

Table of Contents:

1	Stakeholder Perceptions of Socio-Ecological System Improvements: A Place-Based Study of Stream Habitat Enhancements	5
	Josh SMITH, Paul J KINDER Jr., Steven SELIN, Jamie HOFFMANN	
2	Innovations – the Basis Tools of Development of Agricultural and Ecological Management	19
	Olena V. MORAVSKA, Taras R. LEVYTSKY, Volodymyr O. VELYCHKO, Olena M. ORLOVA, Yurii A. SHULZHYK, Svitlana SENYSHYN	
3	Developing a Conceptual Model of Employee Ecological Behavior using an Integrative Approach	29
	Khalid FAROOQ, Mohd Yusoff YUSLIZA, Zikri MUHAMMAD, Jumadil SAPUTRA	
4	Priority Areas for Increasing the Competitiveness of the Agro-Industrial Complex and Environmental Sustainability	39
	Arailym NURMANBETOVA, Yerzhan ZHUSSUPOV, Galiya AKIMBEKOVA, Yelena GRIDNEVA, Gulnar KALIAKPAROVA, Yury KHAN	
5	The Impact of Sustainable Development and Social Responsibility on Quality Education	51
	Ana Cecilia CHUMACEIRO HERNANDEZ, Judith Josefina HERNÁNDEZ GARCÍA, Jovana Cristina VELAZCO HERNÁNDEZ, Yuriy Mikhailovich LAGUSEV, Anna Pavlovna ROGOZHINA	
6	Cluster Analysis of the Expenditures for Environmental and Technological Innovations in Sustainable Development Policy Formation	63
	Ekaterina V. TSENINA, Tamara P. DANKO, Vladimir M. KISELEV, Lyubov A. CHAYKOVSKAYA, Nikita D. EPSTEIN, Ona RAUSKIENE, Vladimir D. SEKERIN	
7	Interrelationship between Three Dimensions of Sustainable Performance Measurement among Malaysian Manufacturing Companies	75
	Boon Heng TEH, Abdul Aziz ABDUL RAHMAN, Tze San ONG, Sin Huei NG, Hussain Bakhsh MAGSI	
8	Water Resources as the Material Basis for Further Strategic Development of the Republic of Kazakhstan	99
	Kuanysh KUSMAMBETOV, Saule SULEIMENOVA	
9	Do Fishers Need Enough Insurance to Guarantee Their Business Continuity? Evidence from Vulnerable Small-Scale Fishers	107
	SUHARNO, Agus ARIFIN, Ary YUNANTO	
10	Digitalization of Environmental Information in the Republic of Kazakhstan: Issues of Legal Regulation	115
	Lazzat YERKINBAYEVA, Daniya NURMUKHANKYZY, Bakhytzhan KALYMBEK, Aigerim OZENBAYEVA, Zhanna KALYMBEKOVA	
11	Determination of Dissolved Pesticide Leachates in the West Africa's Largest Natural Lake	128
	Amina GARIBA, Jonathan OSEI-OWUSU, Albert ANIAGYEI, Boniface Yeboah ANTWI, Ralph KWAKYE, George ADUSEI, Aboagye Kwarteng DOFUOR, Bright VIGBEDOR	

Editor in Chief

Ramona PÎRVU

University of Craiova, Romania

Editorial Advisory Board

Omran Abdelnaser

University Sains Malaysia, Malaysia

Huong Ha

University of Newcastle, Singapore,
Australia

Harjeet Kaur

HELP University College, Malaysia

Janusz Grabara

Czestochowa University of Technology,
Poland

Vicky Katsoni

Techonological Educational Institute of
Athens, Greece

Sebastian Kot

Czestochowa University of Technology,
The Institute of Logistics and International
Management, Poland

Nodar Lekishvili

Tbilisi State University, Georgia

Andreea Marin-Pantelescu

Academy of Economic Studies Bucharest,
Romania

Piotr Misztal

The Jan Kochanowski University in
Kielce, Faculty of Management and
Administration, Poland

Agnieszka Mrozik

Faculty of Biology and Environmental
protection, University of Silesia, Katowice,
Poland

Chuen-Chee Pek

Nottingham University Business School,
Malaysia

Roberta De Santis

LUISS University, Italy

Fabio Gaetano Santeramo

University of Foggia, Italy

Dan Selişteanu

University of Craiova, Romania

Laura Ungureanu

Spiru Haret University, Romania

ASERS Publishing

<http://www.asers.eu/asers-publishing>

ISSN 2068 – 7729

Journal DOI: <https://doi.org/10.14505/jemt>

12	Management of Unemployment and Employment of Youth in the Labor Market as a Factor of the Key Direction of Sustainable Development of Kazakhstan Bibinur KORGAN, Rysty SABIROVA, Saule KUNYAZOVA, Elmira ADIYETOVA, Zuhra TURDIYEVA, Zhanargul BISSEMBIYEVA	135
13	Productivity Loss Due to Deaths Caused by Cardiovascular Diseases Associated with Exposure to Air Pollutants in Sorocaba, Brazil in the Years of 2015 to 2017 Pedro Rachid DA COSTA, Luiz Fernando C. NASCIMENTO	143
14	Economic Valuation of Ayutthaya Historical Park, Thailand Areeya KHAMRUANG, Sakkarin NONTAPOT	153
15	Food Safety Control as a Guarantee of Consumer Protection: Institutional Component Aliesia MYTNYK, Viktoriia LATYSHEVA, Lyudmyla VASECHKO, Nataliia SHCHERBAKOVA, Nataliia SEROHINA	162
16	The Role of International Legislation in Protecting the Environment Noor ALHENDI	174
17	Achievement of Value Markers of the Harmonious Development of Agrarian Territories in the Volga Federal District in the Context of Russia's National Security Alexey Vladimirovich YASHKIN, Galina Mikhailovna ZINCHUK, Alena Igorevna ILYINA, Svetlana Vladimirovna BALANDINA	181
18	Interrelationships of Air Canal Adaptation in the Leaves of Water Lilies and Water Depth of Lebak Swamp in Kalimantan Selatan Bakti Nur ISMUHAJAROH, Didik INDRADEWA, Budiastuti KURNIASIH, Sri Nuryani Hidayah UTAMI	197
19	Analysis of Sustainable Development of SMEs and Factors Influencing to the Ecotourism Industry Dametken TUREKULOVA, Berik BEISENGALIYEV, Saltanat VALIYEVA, Nurzhamal KURMANKULOVA, Gaukhar SAIMAGAMBETOVA	211
20	Human Talent and Its Impact on the Quality of Service in the Rural Community-Based Tourism Sector. Analysis and Theoretical Perspectives Magda Francisca CEJAS MARTÍNEZ, Mercedes Carolina NAVARRO CEJAS, Silvia Marieta ALDAZ HERNÁNDEZ, Carlos Alban YÁNEZ, Derling José MENDOZA VELAZCO	223
21	Funding Research Certification Programs in the Sphere of Tourism on the Example of Developed and Developing Countries Nurkhodzha AKBULAEV	232
22	Information Accessibility of Restaurant Companies in Moravian-Silesian Region Milena BOTLÍKOVÁ, Josef BOTLÍK, Jana STUCHLÍKOVÁ	242
23	Tourist Satisfaction in Lombok Island as the World's Best Halal Tourism Destination Riduan MAS'UD, Muhammad Muhajir AMINY, Lalu Ahmad RAMADANI, Baiq ELBADRIATI, Muhamad YUSUP	252
24	COVID-19 Anchor for Cruise Tourism: An analysis of Gdańsk's and Gdynia's Cruise Tourism in the 2017-2020 Period Joanna PIOCH, Mariusz CHMIELEWSKI, Renata PŁOSKA, Karol ŚLEDZIK	264
25	Revival and Development of Tunpu Villages within the Context of Rural Revitalization in China: The Contrasting Perspectives of Cultural Heritage and Tourism Industry Heng WU, Fung Chiat LOO, Cheong Jan CHAN	273
26	The Impact of Growth in Tourism on Economic and Human Development – Incorporating a Systematic Literature Review Hoang Thi Phuong THAO, Márta BAKUCZ	287

Call for Papers Summer Issues 2022 Journal of Environmental Management and Tourism

Journal of Environmental Management and Tourism is an interdisciplinary research journal, aimed to publish articles and original research papers that should contribute to the development of both experimental and theoretical nature in the field of Environmental Management and Tourism Sciences.

Journal will publish original research and seeks to cover a wide range of topics regarding environmental management and engineering, environmental management and health, environmental chemistry, environmental protection technologies (water, air, soil), pollution reduction at source and waste minimization, energy and environment, modeling, simulation and optimization for environmental protection; environmental biotechnology, environmental education and sustainable development, environmental strategies and policies, etc. This topic may include the fields indicated above, but are not limited to these.

Authors are encouraged to submit high quality, original works that discuss the latest developments in environmental management research and application with the certain scope to share experiences and research findings and to stimulate more ideas and useful insights regarding current best-practices and future directions in environmental management.

Journal of Environmental Management and Tourism is indexed in SCOPUS, RePEC, CEEOL, ProQuest, EBSCO and Cabell Directory databases.

All the papers will be first considered by the Editors for general relevance, originality and significance. If accepted for review, papers will then be subject to double blind peer review.

Deadline for submission:	1 st May 2022
Expected publication date:	June 2022
Website:	https://journals.aserspublishing.eu/jemt
E-mail:	jemt@aserspublishing.eu

To prepare your paper for submission, please see full author guidelines in the following file: [JEMT_Full_Paper_Template.docx](#), then send it via email at jemt@aserspublishing.eu.

COVID-19 Anchor for Cruise Tourism. An analysis of Gdańsk's and Gdynia's Cruise Tourism in the 2017-2020 Period

Joanna PIOCH
Sopot University of Applied Sciences, Poland
joanna.pioch@ssw-sopot.pl

Mariusz CHMIELEWSKI
University of Gdansk, Poland
mariusz.chmielewski@ug.edu.pl

Renata PŁOSKA
University of Gdansk, Poland
renata.ploska@ug.edu.pl

Karol ŚLEDZIK
University of Gdansk, Poland
karol.sledzik@ug.edu.pl

Suggested Citation:

Pioch, J., Chmielewski, M., Płoska, R., Śledzik, K. (2022). COVID-19 Anchor for Cruise Tourism. An analysis of Gdańsk's and Gdynia's Cruise Tourism in the 2017-2020 Period. *Journal of Environmental Management and Tourism*, (Volume XIII, Spring), 1(57): 264 - 272. DOI: [10.14505/jemt.v13.1\(57\).24](https://doi.org/10.14505/jemt.v13.1(57).24)

Article's History:

Received 15th of November 2021; Received in revised form 6th of December 2021; Accepted 2nd of February 2022; Published 4th of March 2022. Copyright ©2022 by ASERS® Publishing. All rights reserved.

Abstract

In many Member States, European regions and cities, tourism is a key factor in the economic and social structure. The COVID-19 pandemic that broke out in 2020 caused significant losses in the tourism sector area in all European Union (EU) countries. This applies in particular to one of the elements of the tourism sector of any economy with access to the sea - the possibility of accepting cruise ships. This cruise tourism sector has also been hit hard by the COVID-19 pandemic.

The aim of this paper is to estimate the number of selected expenditures of passengers and cruise ship crews entering the ports of Gdańsk and Gdynia, which are a source of revenue for the region, as well as the impact of the COVID-19 pandemic on limiting the growth of this tourism segment. Our study takes a holistic approach by estimating the amount of revenue generated by tourists arriving in the two ports in the Gulf of Gdańsk capable of handling large cruise ships. Based on the number of arriving tourists in 2017-2020, the study estimates the income of tourism enterprises that receive a direct cash inflow from offering services to arriving tourists.

The tourism sector that was particularly affected by the pandemic was cruise tourism. In 2020, this sector recorded an over 5-fold decrease in the number of cruise ship passengers. The conclusions of the study show that the number of cruise ships arriving in the analysed ports in 2020 decreased significantly compared to the previous year, similarly to other ports in the region. At the same time, the number of passengers visiting the analysed ports decreased substantially. Nevertheless, the dynamic growth of cruise tourism in the Baltic Sea basin, which began before the COVID-19 pandemic, allows for conclusions about further development of this tourism segment and its potential impact on the region's economy after the crisis which occurred in 2020.

Keywords: COVID-19; cruise tourism; regional economy impact; cruise ship tourist expenses.

JEL Classification: O11; Z31; Z32.

Introduction

Europe's dynamic tourism ecosystem, encompassing a wide range of sectors such as travel, transport, accommodation, nutrition, recreation on land and water, culture or nature has been affected by the COVID-19 pandemic. It caused significant losses in the economic area in all European Union (EU) countries. In many Member States, European regions and cities, tourism is a key factor in the economic and social structure (European Commission 2021). Moreover, it provides much-needed jobs and income often concentrated in regions without alternative sources of employment and enables the employment of low-income qualified workers. However, this ecosystem has been participating in economic losses for the past two years. The average decrease in GDP across the European Union in 2020 is estimated at 6,4% (Eurostat 2021b). The number of international arrivals at EU-27 tourist accommodation was 87% lower in March and April 2020 (combined) than a year earlier, while for domestic arrivals there was a fall of 81%. When studied by type of accommodation, arrivals at hotels and similar accommodation were down by 83% during the same period, with slightly larger falls for holiday and other short-stay accommodation (down 84%) and for camping grounds, recreational vehicle parks and trailer parks (down 89%) (Eurostat 2021a). According to the UNWTO resident in Madrid, global losses of the entire sector amounted to as much as USD 1,3 trillion last year. This is as much as 11 times more than the losses in 2009, when the previous financial crisis broke out. For this reason, 100-120 million people almost all over the world were to lose their jobs. Data presented by the UNWTO shows that the second half of 2020 was even worse for world tourism than the first, when losses were still USD 460 billion (UNWTO 2021).

In Poland, according to the estimates of the Department of Tourism of the Ministry of Development, Labour and Technology (regarding tourism in 2020 in connection with the COVID-19 pandemic): the number of foreigners' arrivals to Poland decreased by 42,3% compared to 2019; the number of foreign tourist arrivals decreased by 60,2% compared to 2019; foreign tourists' expenses related to the stay in Poland decreased by 64,3% compared to 2019. As a result of the reduced tourist activity of both non-residents and residents of Poland (trips in Poland and abroad), a decrease by 26,5% in total expenditure in the tourism economy was recorded, as well as a decrease by 4,7% in the share of the tourism economy in generating GDP (Ministry of Development, Labour and Technology 2021).

One of the elements of the tourism sector of any economy with access to the sea is the possibility of accepting cruise ships. The cruise ship sector has been devastated by a pandemic that has proved disastrous for the industry, resulting in multi-billion dollar financial losses, the loss of hundreds of thousands of jobs, the sale or scrapping of many ships. Some tourist regions are dependent on cruise lines, which causes them to struggle and suffer severe economic repercussions from the lack of cruises. Ports and the port-related business convert cruise ship visits into tonnage and wharf fees, revenues from supplies and services provided to ships and for their passengers and crews. Besides ports this conversion also applies to inbound tourism operators, guides, taxi drivers, restaurateurs, and shop owners.

In the 21st century, the cruise industry has needed to cope with the consequences of the 2001 terrorist attacks on 9/11, the 2002 SARS epidemic, the 2008 global financial crisis, the H1N1 2009 Influenza pandemic, and the unprecedented worldwide COVID-19 crisis. This pandemic has been the largest crisis faced by the cruise industry to date; there are no precedents, neither in size nor in consequences. The first quarter of 2020 saw 54 infected ships with 2.592 ill crew members and passengers around the world (Miami Herald 2020; Rodrigues da Silva 2021). The cruise industry plays an innovative and important role in the world economy, as well as many local economies. This industry has also made large contributions to different communities and stakeholders around the world. The shutdown of the cruise industry due to COVID-19 impacts every country where it plays an important role (Rodrigues da Silva 2021).

The aim of this paper is to estimate the amount of selected expenditures of passengers and cruise ship crews entering the ports of Gdańsk and Gdynia, which are a source of revenue for the region, as well as the impact of the COVID-19 pandemic on limiting the growth of this tourism segment.

1. Cruise Tourism

Introducing the specifics of cruise tourism should begin with the characterisation of the concept of maritime tourism, which is a broad term meaning "activities related to the maritime space, involving the organisation of sea excursions on cruise ships, yachts, and other means of maritime transport, as well as the use of tourism assets along the coastline" (Gostomski and Nowosielski 2019, 129). Maritime tourism is a complex phenomenon, described in various ways in the literature on the subject. W. W. Gaworecki (2007, 41-42) points to several criteria of division that help understand this complexity. These are:

- duration (short-term and long-term maritime tourism),

- distance to destinations (short- and long-distance maritime tourism),
- number of participants (individual, group, and mass maritime tourism),
- place of origin of tourists (domestic and foreign maritime tourism),
- way of practising (qualified and unqualified maritime tourism; organised and unorganised maritime tourism).

Another way to describe maritime tourism is to refer to its various forms (Gaworecki 2007, 42; Gostomski and Nowosielski 2019, 131-137). One of these forms is cruising. It is defined as sailing for tourist (recreational and cognitive) purposes on specifically built vessels called cruise ships. A cruise ship is a vessel regularly used for cruises lasting more than 1 day (Urbanyi-Popiolek 2020, 398).

In the early 1970s, the number of people travelling on board of large cruise ships was around 0,5 million worldwide, and by the end of the 20th century, it was close to 10 million (Palmowski and Korneevets 2018, 96). According to the Cruise Lines International Association (CLIA), this upward trend continued throughout the first two decades of the 21st century, reaching a number of 29,7 million in 2019 (table 1). There were no significant changes until 2020, when, largely as a result of the pandemic caused by the spread of the SARS-CoV-2 virus, there was a major market crash. Revenues of the cruise ship sector fell from nearly USD 27,5 billion in 2019 to just USD 3,36 billion in 2020. In the same year, the number of cruise ship passengers was only 5,8 million. After the crisis year of 2020, the situation is slowly returning to normal with forecasts for 2021 predicting over USD 6,6 billion in revenue, but this is still very distant from what it was before the COVID-19 pandemic (Statista 2021a; Statista 2021c).

Table 1. Number of cruise ship passengers (in millions)

Year	Number of passengers
2009	17,8
2010	19,1
2011	20,5
2012	20,9
2013	21,3
2014	22,3
2015	23,1
2016	25,2
2017	26,7
2018	28,5
2019	29,7
2020	5,8

Source: CLIA (2021); Statista (2021a).

According to the data for 2019, the most popular destinations include: the Caribbean region (almost 12 million visitors), Asia and China (almost 4 million visitors), and the Central and Western Mediterranean (over 3,2 million visitors). The Baltic Sea region came in ninth place with almost 600.000 visitors (CLIA 2021).

The impact of cruise tourism development is complex and, in many cases, ambiguous. There are economic, social, and environmental impacts, each of which can be either positive or negative. The economic impact, including expenses incurred by tourists during cruises, as well as jobs created to operate them, is mentioned in various scientific publications (e.g.: Brida and Zapata 2010, 214-218; Dwyer and Forsyth 1998; Gouveia and Eusebio 2019), as well as reports of institutions dealing with tourism, including maritime tourism (e.g.: CLIA 2021; International Transport Forum 2017; Vaya *et al.* 2016). There are also numerous studies addressing both positive and negative impacts of cruise tourism development on local communities and the environment (e.g.: Brida and Zapata 2010, 218-222; Carić and Mackelworth 2014; Kovačić and Silveira 2020, 44-46; Pasgaard *et al.* 2021, 18-19). It appears that certain dysfunctions of this type of tourism are more often mentioned in this context.

Venice is often cited as an example of the negative impact of cruise tourism, especially in the environmental dimension. This popular cruise destination is visited by millions of tourists each year – 2019 figures show 5,5 million visitors; even in the pandemic year of 2020, the city had over 1,34 million visitors (Statista 2021b). A large proportion of tourists are day tourists, arriving aboard massive cruise ships. This way, cruise tourism contributes to the phenomenon known as overtourism. One of its effects is, besides the negative impact on the daily lives of local people, damage to infrastructure and the environment. Large cruise ships come close to buildings, cause vibrations, create waves, as well as generate noise and emit pollutants into the air (Asero and Skonieczny 2018, 99-102; Trancoso Gonzales 2018, 43-45).

The impact of cruise tourism is multidimensional and not always positive, but it is hard to deny that it contributes to the increase of tourist traffic, as well as the development and functioning of coastal tourist regions. In the further part of this paper, it is this economic contribution of cruise tourism, or more precisely – its selected elements, that will be analysed.

2. Methodology

In previous studies on the impact of cruise ships on regional and global development, the most frequently mentioned methods of analysing the effects of cruise tourism are (e.g.: CLIA 2013; CLIA 2020; CLIA 2021; Rodrigues da Silva 2021, Quan-Novelo *et al.* 2007):

1. spending for the construction of new cruise ships and the maintenance and refurbishment of existing ships with European shipyards,
2. spending by cruise lines with European businesses for goods and services in support of their cruise operations,
3. direct spending by cruise ships and cruise visitors and crew,
4. distribution of direct spending (cruise passenger head tax, port fees, visitors expenditure, tour spending, shopping and other miscellaneous expenditures),
5. direct employment from cruise tourism (in European administrative staff and crew of the cruise lines and other businesses).

Unfortunately, some of the methods used in earlier studies cannot be taken into account in this study. This is mainly due to the fact that Poland and the main Polish ports are located in the Baltic Sea basin, which makes it significantly less reasonable to carry out construction or repair works (distance from the main European sea routes), as well as establish corporate headquarters of cruise lines here.

This study takes a holistic approach by estimating the amount of revenue generated by tourists arriving in the two ports in the Gulf of Gdańsk capable of handling large cruise ships. Based on the number of arriving tourists in 2017-2019, the study estimates the income of tourism enterprises that receive a direct cash inflow from offering services to arriving tourists. However, it should be remembered that the impact of tourism is much greater due to the multiplier effect, which generates two types of effects:

- supply type – related to the development of enterprises manufacturing goods or providing services to entities in the tourism industry. This effect results from additional investment demand, which is generated by newly established entities operating in the supply chain,
- income type – related to the development of trade and services for the general population. This effect is connected with the increased purchasing power of the local population due to the jobs created to provide tourist services.

In the tourism economy, assessing the total impact of any tourism industry requires an estimation of the total multiplier effect of tourism, which involves the direct impact (for entities directly serving tourists), the indirect impact (purchases of tourism enterprises from their suppliers), as well as the induced impact connected with the growth of the local economy resulting from serving tourism enterprises. This study estimates the magnitude and change in the revenue generated between 2017 and 2020 by tourists arriving in the ports in the Gulf of Gdańsk – Gdańsk and Gdynia, along with an indication of which industries providing tourist services in the region have benefited the most as a result of the ongoing changes. For the purpose of this study, three main industries serving tourism enterprises were identified:

- transport – related to the transport of tourists to particular destinations; presumed to account for 35% of expenditures incurred by tourists,
- catering – related to providing catering services to tourists arriving in a given region; presumed to account for 20% of expenditures incurred by tourists,

- other services provided to arriving tourists related to the purchase of general admission tickets and local souvenirs, presumed to account for 45% of expenditures incurred by tourists arriving in the region (CLIA 2019, 24).

In addition to the direct spending by cruise visitors and crew – on the consumption of services in the visited region, the estimation also takes into account port fees incurred by passengers in the analysed ports.

3. Findings

The analysis of the data on the number of cruise ships entering various ports showed that, as was the case throughout Europe, since 2010 there has been a steady increase in the number of cruise ships entering the 2 ports in the Gulf of Gdańsk – Gdańsk and Gdynia. Only in 2014, there was a slight decrease in the number of ships entering European ports. Due to the weather conditions, the largest cruise ship market in Europe is the Mediterranean Basin (60% of the total cruise ship market in Europe). In 2012, Poland was the destination of 10.000 cruise ship passengers, amounting to approximately 0,3% of the entire cruise ship market (CLIA 2013, 17). The cruise ship market in the Baltic Sea basin represents only over a dozen percent of the entire European market. The table below presents changes in the number of cruise ships handled in the ports of the entire Baltic Sea basin and in the ports of the Gulf of Gdańsk.

Table 2. Number of cruise ships entering the Gulf of Gdańsk ports – Gdańsk and Gdynia, and all ports in the Baltic Sea basin in 2017-2020

Baltic Sea ports	2017	2018	2019	2020
Gdańsk (number)	64	67	60	5
Gdynia (number)	41	50	54	1
Gdańsk and Gdynia - total (number)	105	117	114	6
Dynamics of change (%)	X	11,43%	-2,56%	-94,74%
The Baltic Sea basin (number)	2.497	2.687	2.768	109
Dynamics of change (%)	X	7,61%	3,01%	-96,06%
Share of Gdańsk and Gdynia in the number of cruise ship calls to the Baltic ports (%)	4,21%	4,35%	4,12%	5,50%

Source: <https://api.cruisebaltic.com/media/6773/passengers-calls-turnarounds-2021.pdf>

Analysing the changes in the number of arriving cruise ships in the observed period, we can see that the reduction in the number of calls to the Gulf of Gdańsk ports already took place in 2019. However, it should be noted that according to the forecasts made on the basis of the arrival plans, 2020 was to be a record year in terms of the number of cruise ships entering the Gulf of Gdańsk ports. Unfortunately, the pandemic caused a drastic (more than 90%) decrease in the number of cruise ships calling to the ports in the Gulf of Gdańsk.

Table 3. Number of passengers arriving in the ports in the Gulf of Gdańsk compared to the Baltic Sea basin in 2017-2020

Baltic Sea ports	2017	2018	2019	2020
Gdańsk	31.790	30.260	22.411	616
Gdynia	88.600	102.400	117.900	72
Gdańsk and Gdynia - total	120.390	132.660	140.311	688
Dynamics of change (%)	X	10,19%	5,77%	-99,51%
The Baltic Sea basin	5.054.849	5.416.451	5.909.704	58.580
Dynamics of change (%)	X	7,15%	9,11%	-99,01%
Share of Gdańsk and Gdynia (%)	2,38%	2,45%	2,37%	1,17%

Source: <https://api.cruisebaltic.com/media/6773/passengers-calls-turnarounds-2021.pdf>

It is also worth noting that the decrease in cruise ship calls to other Baltic ports was slightly higher – therefore, the share of the Gulf of Gdańsk ports in the total traffic in the Baltic Sea basin increased by over 1%. Analysing the number of passengers arriving in the ports in the Gulf of Gdańsk and comparing it with the number of passengers in the Baltic Sea basin, we can observe the differences between the two ports under analysis – Gdańsk and Gdynia.

Considering the changes in the number of foreign tourists handled over the studied period in the two ports under analysis, one should notice a steady increase in the number of arriving passengers until the beginning of the pandemic. However, in terms of the number of arriving tourists, the Gulf of Gdańsk ports are lagging behind other ports in the basin – while the number of arrivals in the Gulf of Gdańsk ports represents just over 4% of all arrivals, the number of passengers accounts for just over 2% of all cruise ship passengers on the Baltic Sea – this is due to the type of cruise ships arriving in the Gulf of Gdańsk ports.

Table 4. Average number of passengers on cruise ships entering the Gulf of Gdańsk ports in 2017-2020

Port	2017	2018	2019	2020
Gdańsk	497	452	374	123
Gdynia	2.161	2.048	2.183	72
Gdańsk and Gdynia - total	1.147	1.134	1.231	115
The Baltic Sea basin	2.024	2.016	2.135	537

Source: Authors' own calculations based on data from tables 2 and 3, <https://api.cruisebaltic.com/media/6773/passengers-calls-turnarounds-2021.pdf>

As can be seen from the presented data, both analysed ports handle different types of cruise ships – while Gdańsk receives smaller vessels (with the number of passengers more than 5 times lower than in Gdynia), Gdynia receives vessels that are comparable to those in other Baltic Sea ports. Assuming that 75% of arriving tourists use the services offered in individual Baltic Sea ports (including the ports of the Gulf of Gdańsk), and that each of them spends EUR 80 (based on CLIA 2020, p.20, CLIA 2021, p.25), the table below presents a forecast of expenditures incurred by tourists arriving in the ports in the Gulf of Gdańsk which constituted a source of revenue for the local tourism enterprises.

Table 5. Direct expenditures of tourists arriving in the ports in the Gulf of Gdańsk and the Baltic Sea basin in 2017-2020 (in EUR)

Port	2017	2018	2019	2020
Gdańsk	1.907.400	1.815.600	1.344.660	36.960
Gdynia	5.316.000	6.144.000	7.074.000	4.320
Gdańsk and Gdynia - total	7.223.400	7.959.600	8.418.660	41.280
The Baltic Sea basin	303.290.940	324.987.060	354.582.240	3.514.800

Source: Authors' own work based on <https://api.cruisebaltic.com/media/6773/passengers-calls-turnarounds-2021.pdf>

Revenues from the expenditures of tourists coming to Gdańsk and Gdynia grew steadily until 2019 – 2020 was forecast to be another year of growth for the industry. However, the pandemic that broke out in Europe at the beginning of 2020 halted revenues from maritime tourism for the region, which had been systematically increasing for over 10 years. The pandemic practically shut down this type of tourism in the Gulf of Gdańsk ports – in 2020, only 6 ships with less than 700 tourists arrived in Gdańsk and Gdynia. During the pandemic, cruise ships became a place where the virus could spread very easily and this type of tourism was essentially suspended. It should be noted that this situation meant massive losses not only for the individual regions in which the cruise ships arrived, but also for the shipowners who have a huge fleet of cruise ships around the world.

Taking into account the direct expenditures incurred by tourists, the biggest beneficiary were the entities providing services to arriving tourists – in 2019, the revenues of these entities from serving tourists amounted to almost EUR 3,8 million in Gdańsk and Gdynia alone, and in the ports of the entire Baltic Sea basin, the expenditures for this type of services were estimated at EUR 141,8 million.

Table 6. Spending by industry in the ports of the Gulf of Gdańsk and the whole Baltic Sea basin generated in 2017-2020 (in EUR)

Spending by industry		2017	2018	2019	2020
Gdańsk and Gdynia	Transport	2.528.190	2.785.860	2.946.531	14.448
	Catering	1.444.680	1.591.920	1.683.732	8.256
	Other services	3.250.530	3.581.820	3.788.397	18.576
The Baltic Sea basin	Transport	106.151.829	113.745.471	124.103.784	1.230.180
	Catering	60.658.188	64.997.412	70.916.448	702.960
	Other services	121.316.376	129.994.824	141.832.896	1.405.920

Source: Authors' own calculations based on <https://api.cruisebaltic.com/media/6773/passengers-calls-turnarounds-2021.pdf>

The outbreak of the COVID-19 pandemic in 2020 meant that the entities that had up to that point been beneficiaries became the biggest victims of the crisis that broke out that year. Across the entire Baltic Sea, tourist spending decreased by over EUR 350 million, which has undoubtedly had an impact on individual regions that had up to that point benefited from the systematic development of the cruise ship industry. In the case of the entire Baltic Sea basin, there was an almost 10-fold decrease in tourist spending, and thus a decrease in revenues for individual industries within maritime tourism.

In order to estimate revenues related to passenger fees, a fee of EUR 1,1 per each passenger arriving in the analysed ports was applied – the same amount was applied for both ports (Gdańsk and Gdynia). The results are presented in the table below.

Table 7. Revenues of the ports of Gdańsk and Gdynia from passenger fees in 2017-2020 (in EUR)

Port	2017	2018	2019	2020
Gdańsk	34.969	33.286	24.652	678
Gdynia	97.460	112.640	129.690	79
Total	132.429	145.926	154.342	757

Source: Authors' own calculations based on <https://api.cruisebaltic.com/media/6773/passengers-calls-turnarounds-2021.pdf>

As the number of arriving tourists increased, there was a steady increase in passenger fees. The highest revenue was recorded in 2009, a record-breaking year in terms of the number of tourists – it was nearly EUR 155.000. It should be noted that there is a significant disproportion between the fees in Gdańsk and Gdynia – due to the higher number of tourists in Gdynia, the fees paid were more than 5 times higher. The pandemic caused a sharp decline in passenger fees – their value was less than EUR 1.000.

Conclusion

The COVID-19 pandemic had a significant impact on the global tourism industry (e.g.: Śledzik *et al.* 2021). The tourism sector that was particularly affected by the pandemic was cruise tourism. In 2020, this sector recorded an over 5-fold decrease in the number of cruise ship passengers. The analysis of data for 2017-2019 for the ports of Gdańsk and Gdynia shows that:

- the number of cruise ships arriving in the analysed ports in 2020 decreased by almost 95% compared to the previous year, similarly to other ports in the region,
- at the same time, the number of passengers visiting the analysed ports decreased by 99,5%. The difference in relation to the data on the number of cruise ships results not only from the low number of calls, but also from lower cruise ship occupancy rates (the average number of cruise ship passengers in the analysed ports fell from 1.231 in 2019 to 115 in 2020),
- the decrease in the number of tourists contributed to lower direct (consumption) spending of tourists in the region – estimated at EUR 8.418.660 in 2019, and only EUR 41.280 in 2020,

- regarding the structure of expenditures of tourists arriving on cruise ships, the largest decrease in volume occurred in terms of spending on other services offered to tourists, but in terms of catering and transport the decrease was drastic as well,

- the decrease in the number of cruise ship passengers also practically halted revenues from passenger fees for the ports of Gdańsk and Gdynia – in 2020, it was just EUR 757 compared to EUR 154.342 the year before.

Nevertheless, the dynamic growth of cruise tourism in the Baltic Sea basin, which began before the COVID-19 pandemic, allows for conclusions about further development of this tourism segment and its potential impact on the region's economy after the crisis which occurred in 2020.

Limitations

The limitations resulted mainly from the incompleteness and unavailability of data concerning the analysed sector. In order to take into account, the total impact of the COVID-19 pandemic on the cruise industry, it would be necessary to include data from 2021 and beyond, depending on possible changes in the pandemic situation.

The study was based solely on an analysis of changes in the region's revenues from cruise ship passengers' spending, assuming that these are most pronounced in the short term. A longer time horizon is needed to estimate other economic impacts of the pandemic.

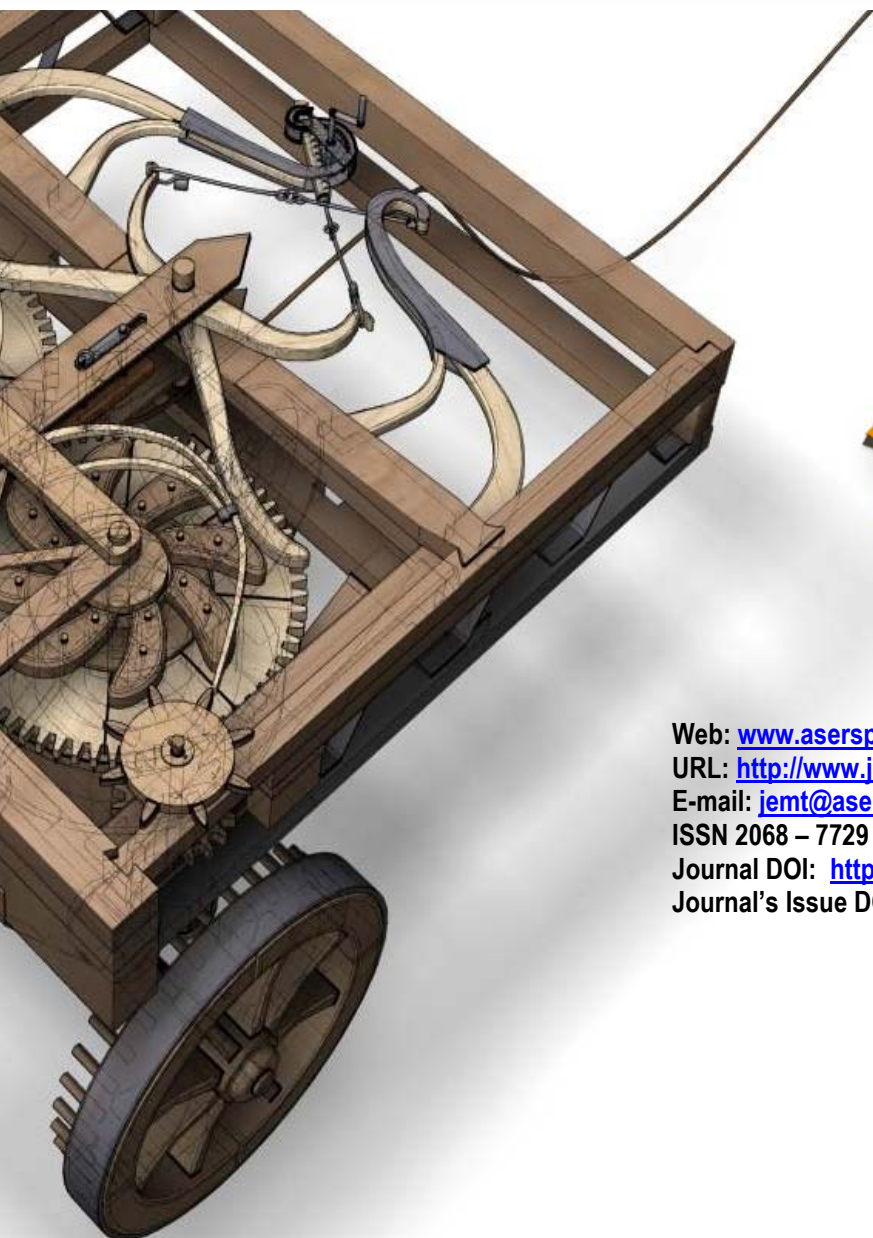
The fact that the analysis includes only 2 ports located in the Baltic Sea basin, relatively rarely visited by cruise ships, also has an impact on the inability to extend the conclusions to other ports and cruise tourism areas. As this area of tourism in the analysed ports had only just started to develop dynamically a few years before the outbreak of the COVID-19 pandemic, it is uncertain whether the actual extent of the decline and lost benefits should be greater. Data on this type of tourism in the Baltic Sea basin had previously only been collected to a limited extent due to its low importance, so there are no studies directly relevant to the ports under analysis and all assumptions were made on the basis of studies conducted in other geographical regions.

References

- [1] Asero, V. and Skonieczny, S. 2018. Cruise Tourism and Sustainability in the Mediterranean. Destination Venice. [in] Butowski, L. (ed.), *Mobilities, Tourism and Travel Behavior - Contexts and Boundaries*: 93-106. DOI: [10.5772/intechopen.71459](https://doi.org/10.5772/intechopen.71459)
- [2] Brida, J.G., and Zapata, S. 2010. Cruise tourism: economic, socio-cultural and environmental impacts. *International Journal of Leisure and Tourism Marketing*, 1(3): 205-226. DOI: [10.1504/IJLTM.2010.029585](https://doi.org/10.1504/IJLTM.2010.029585)
- [3] Carić, H. and Mackelworth, P. 2014. Cruise tourism environmental impacts. The perspective from the Adriatic Sea. *Ocean & Coastal Management*, 102: 350-363. DOI: [10.1016/j.ocecoaman.2014.09.008](https://doi.org/10.1016/j.ocecoaman.2014.09.008)
- [4] Dwyer, L. and Forsyth, P. 1998. Economic Significance of Cruise Tourism. *Annals of Tourism Research*, 25(2): 393-415. DOI: [10.1016/S0160-7383\(97\)00098-4](https://doi.org/10.1016/S0160-7383(97)00098-4)
- [5] Gaworecki, W. 2007. *Turystyka*, Polskie Wydawnictwo Ekonomiczne (in Polish).
- [6] Gostomski, E. and Nowosielski, T. 2019. *Rozwój turystyki międzynarodowej i morskiej. Aspekty ekonomiczne*, Wydawnictwo Uniwersytetu Gdańskiego (in Polish).
- [7] Gouveia, A.X. S., and Eusebio, C. 2019. Assessing the direct economic value of cruise tourism in a port of call: The case of Funchal on the island of Madeira. *Tourism and Hospitality Research*, 19(4): 422-438. DOI: [10.1177/1467358418768666](https://doi.org/10.1177/1467358418768666)
- [8] International Transport Forum 2017. Cruise Shipping and Urban Development. The Case of Piraeus. Available at: <https://www.itf-oecd.org/cruise-shipping-and-urban-development-case-piraeus>
- [9] Kovačić, M. and Silveira, L. 2020. Cruise tourism: Implications and impacts on the destinations of Croatia and Portugal. *Scientific Journal of Maritime Research*, 34: 40-47. DOI: [10.31217/p.34.1.5](https://doi.org/10.31217/p.34.1.5)
- [10] Palmowski, T. and Korneevets, V.S. 2018. Cruising ships in the ports of Gdynia and Gdansk. *Economic Problems of Tourism*, 43(3): 95-104. DOI: [10.18276/ept.2018.3.43-09](https://doi.org/10.18276/ept.2018.3.43-09)
- [11] Pasgaard, M., Fold, N., Meilby, H. and Kalvig, P. 2021. Reviewing tourism and natural resource research in the Arctic: towards a local understanding of sustainable tourism in the case of South Greenland. *Geografisk Tidsskrift*, 121(1): 15-29. DOI: [10.1080/00167223.2020.1869574](https://doi.org/10.1080/00167223.2020.1869574)
- [12] Quan-Novelo, A., Santoya, J. and Velloso, R. 2007. Assessing the Direct Economic Impact of Cruise Tourism on the Belizean Economy. Central Bank of Belize. Available at: <https://www.centralbank.org.bz>

- [13] Rodrigues da Silva, A. L. 2021. An overview of the impact of COVID-19 on the cruise industry with considerations for Florida. *Transportation Research Interdisciplinary Perspectives*, 10(100391). DOI:<https://doi.org/10.1016/j.trip.2021.100391>
- [14] Śledzik, K., Płoska, R., Chmielewski, M. and Barembuch, A. 2021. *Journal of Environmental Management and Tourism*, 12(6): 1676-1686. DOI: [https://doi.org/10.14505/jemt.v12.6\(54\).23](https://doi.org/10.14505/jemt.v12.6(54).23)
- [15] Trancoso Gonzales, A. 2018. Venice: the problem of overtourism and the impact of cruises. *Journal of Regional Research*, 42: 35-51. Available at: <https://investigacionesregionales.org/es/article/venice-the-problem-of-overtourism-and-the-impact-of-cruises/>
- [16] Urbanyi-Popiolek, I. 2020. Maritime tourism in the time of Covid-19 pandemic in Baltic Sea Regions – challenges for ferry and cruise operators [in] Burilovic, L., Rados, T. and Recker, N. (eds.). *Economic and Social Development*. 63rd International Scientific Conference on Economic and Social Development – "Building Resilient Society": 397-405. Available at: https://www.esd-conference.com/upload/book_of_proceedings/Book_of_Proceedings_esdZagreb2020_Online.pdf
- [17] Vayá, E., et al. 2016. Economic Impact of Cruise Activity: The Port of Barcelona. Institut de Recerca en Economia Aplicada Regional i Pública. Grup de Recerca Anàlisi Quantitativa Regional. Working Paper 2016/13. Available at: https://www.ub.edu/irea/working_papers/2016/201613.pdf
- [18] CLIA 2013. Contribution of Cruise Tourism to the Economies of Europe 2013 Edition. Available at: https://www.senato.it/application/xmanager/projects/leg17/attachments/documento_evento_procedura_commissione/files/000/000/632/Documentazione_Clia_Europe.pdf
- [19] CLIA 2019. The Economic Contribution of the International Cruise Industry Globally in 2019. Available at: <https://cruising.org/en-gb/news-and-research/research/2021/february/the-economic-contribution-of-the-international-cruise-industry-globally-in-2019>
- [20] CLIA 2020. State of the Cruise Industry Outlook. Cruise Lines International Association. Available at: <https://cruising.org/en-gb/news-and-research/research/2019/december/state-of-the-cruise-industry-outlook-2020>
- [21] CLIA 2021. State of the Cruise Industry Outlook. Cruise Lines International Association. Available at: <https://cruising.org/en-gb/news-and-research/research/2020/december/state-of-the-cruise-industry-outlook-2021>
- [22] European Commission 2021. *European Regional Competitiveness Index*. Available at: https://ec.europa.eu/regional_policy/en/information/maps/regional_competitiveness/
- [23] Eurostat 2021b. Newsrelease – euroindicators. Available at: https://ec.europa.eu/eurostat/documents/portlet_file_entry/2995521/2-02022021-AP-EN.pdf/0e84de9c-0462-6868-df3e-dbacaad9f49f
- [24] Eurostat. 2021a. Key figures on European business — 2021 edition. Available at: <https://ec.europa.eu/eurostat/web/products-statistical-books/-/ks-ei-21-001>
- [25] Miami Herald 2020. Cruise ships sailed on despite the coronavirus. Thousands of people paid the price. Available at: <https://www.miamiherald.com/news/business/tourism-cruises/article241640166.html>
- [26] Ministry of Development, Labour and Technology 2021. Podstawowe dane statystyczne – turystyka w roku 2020 i ich zmiana w porównaniu do roku poprzedniego.
- [27] Statista 2021a. Number of ocean cruise passengers worldwide from 2009 to 2020. Available at: <https://www.statista.com/statistics/385445/number-of-passengers-of-the-cruise-industry-worldwide/>
- [28] Statista 2021b. Number of tourist arrivals in the Italian municipality of Venice from 2003 to 2020. Available at: <https://www.statista.com/statistics/732406/overnight-tourist-arrivals-in-venice-italy/>
- [29] Statista 2021c. Revenue of the cruise industry worldwide from 2018-2025. Available at: <https://www.statista.com/forecasts/1258061/revenue-cruises-worldwide>
- [30] UNWTO 2021. International tourism and COVID. Available at: <https://www.unwto.org/international-tourism-and-covid-19>

ASERS



 **ASERS**
Publishing

Web: www.aserspublishing.eu

URL: <http://www.journals.aserspublishing.eu/jemt>

E-mail: jemt@aserspublishing.eu

ISSN 2068 – 7729

Journal DOI: <https://doi.org/10.14505/jemt>

Journal's Issue DOI: [https://doi.org/10.14505/jemt.v13.1\(57\).00](https://doi.org/10.14505/jemt.v13.1(57).00)