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THE INFLUENCE OF EPIDEMICS ON TOURISM UNDER THE CONDITIONS OF GLOBALIZATION

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Abstract

Tourism is one of the most important sectors of the economy of a country, but any event with negative connotations such as the appearance of epidemics, terrorist attacks, economic or social instability influences the activity in this sector. In the context of the current crisis triggered by the onset of coronavirus (COVID - 19) and based on past experiences, in this paper we intend to analyse how in the last 20 years, different epidemics have contributed to reducing tourism in the affected areas and to economic losses important. The paper tests by empirical analyses based on the data published in different international databases, as well as by a quantitative analysis how the appearance of epidemics influences the tourism in both the affected areas, as well as worldwide.

Key words*: tourism, epidemics, COVID-19, revenues, tourist circulation.*

INTRODUCTION

A study by the World Travel & Tourism Council shows that various events that take place in the world negatively influence the tourism market, due to the consequences they have on the collective memory. If the return to the initial values takes place after 13 months in the case of terrorist attacks, in the case of an epidemic the decrease of the tourist circulation is maintained for a period of 21 months. Therefore, the recent coronavirus outbreak will certainly have negative effects on world tourism. Moreover, past experience demonstrates this, and in this article, we intend to analyse how the different epidemics that affected the globe after the 2000s influenced the tourism of the countries affected by these epidemics.

Thus, in 2000 there were about 200 deaths due to the epidemic with the H5N1 virus, the majority in Asia, which then reached Europe. The most affected countries were Indonesia, Vietnam, Thailand, China, but also Egypt. In Romania, the H5N1 virus appeared in 2005. In Turkey, the important tourist destination appeared in 2006. Both countries experienced decreases in the number of tourists and inseminated losses in terms of income from tourism. Also, Hungary, Czech Republic, Russia reported cases of H5N1, which in turn were economically affected. In 2001, foot-and-mouth disease or "cow disease" did not occur in the United Kingdom, and which only affected the cattle and was not transmissible to humans, causing great damage to tourism, but mainly to rural tourism in this country.

In November 2002, the first case of SARS (severe acute respiratory syndrome) appeared in China. The epidemic started in the Chinese province of Guangdong then spread throughout Southeast Asia, reaching Hong Kong, Taiwan, Vietnam and Singapore, and then spreading to 20 countries.

In 2012, another coronavirus, MERS, appeared in the Middle East and then expanded into several epidemic episodes.

As for COVID-19, it was reported in China, in Hubei Province, Wuhan City in December 2019, thus alerting the World Health Organization. In January 2020 it was identified as a new virus. To date, the virus has reached Europe, Italy being the European country with the most cases of infection and

deaths, but in many cases, it has also been reported by South Korea and Iran.
All these events had negative effects on the tourism market, one of the most developed markets globally and which has an important contribution in the formation of the gross domestic product worldwide (Popescu, 2015). Economic effects are important, considering that tourism is one of the most dynamic sectors of activity, which contributes to the creation of new jobs and to the economic development (Fintineru et al., 2014).
Tourism has benefited from all the advantages of technology, which has led to its development and to the increase of consumers' demands in this sector. The tourists of the 21st century are people who have access to information technology, who are dependent on communication, who want complex and individualized services, who are defenders of the environment, who are in search of new experiences, of quality, but at the same time of authenticity and original. This is possible in a world that is participating in a process of globalization that allows more and more people to travel, to visit, to explore. This is much easier in the conditions of the separation of the online booking services, in the conditions of the appearance of more and more low-cost airlines, now accessible to many travellers.
But it is precisely the fact that these trips are becoming more accessible, the fact that business has become international, contributing to the spread of epidemics with great ease and in a very short time.
And the tourist, being informed, is increasingly influenced by the decisions he makes to ensure his security, paying attention to events such as political instability, terrorism or the existence of epidemics.
Thus, in the field of tourism, globalization has contributed to the abolition of borders and the development of travel, but at the same time it has brought with it disadvantages that have negative effects on this sector (Dorobanțu et al., 2019).

MATERIALS AND METHODS

The objective of the present paper is to analyse how the occurrence of coronavirus (COVID - 19) at the beginning of 2020 will influence the tourist activity in Asia and Oceania, as well as in the other countries where the virus has spread, starting from the experiences of the last 20 years.
The working methods used are the review of the specialized literature, the empirical analysis of the information provided by the international databases, as well as the quantitative analysis which, through indicators such as the number of victims, the number of tourist arrivals, the value of the tourism receipts, etc. they will allow us to draw conclusions on how the events described will influence the tourism sector.
For the characterization of the dynamics of the studied phenomena, both absolute and fixed-base and chain-based indicators were used, as well as relative indicators, using the consecrated formulas (Danciulescu, 2020):

$$\Delta t_{/1} = y_t - y_1 \; ; \; \Delta t_{/t-1} = y_t - y_{t-1}$$

as well as:

$$I_{t/1} = \frac{yt}{y1}; \; I_{t/t-1} = \frac{yt}{yt-1},$$

where:
y1 - the value of the indicator in the reference period; yt - value of the indicator in period t;
yt-1 - the value of the indicator in period t-1.

RESULTS AND DISCUSSIONS

The analysis I made in this paper started from the way in which the epidemics of the 21st century influenced the tourist circulation and the incomes in tourism.
The study starts from the data referring to 1995, demonstrating that worldwide there have been increases in this sector of activity, both in terms of incomes obtained, as well as those regarding the number of tourists.
Thus, we watched how the SARS epidemic triggered in 2002 in China influenced the tourism of this country, as well as of the Asia-Oceania area.
It is noted that the most important tourist movement was registered in Europe, followed by America and Asia. In Europe, the increase was 34 percentage points in 2004 compared to 1995, in America by 16 percentage points, and in Asia by 79 percentage points.

Table 1. Evolution of the number of tourists in the period 1995-2004 (Million)

Year	1995	2000	2001	2002	2003	2004
Europe	309.30	384.10	383.70	394.60	396.60	414.40
Asia and Oceania	85.00	114.90	120.60	131.10	119.30	152.50
America	109.00	128.00	122.10	116.60	113.10	125.80
Africa	20.40	28.20	28.80	29.50	30.80	33.20
Middle East	14.30	35.20	25.00	29.20	30.00	35.40

Source: Own calculation

As for the receipts, they registered the same trend.

It is found that the first place is Europe, followed by America and Asia-Oceania.

Table 2. The evolution of the revenues from tourism in the period 1995-2004 (USD Billion)

Year	1995	2000	2001	2002	2003	2004
Europe	212.2	232.6	228.3	243.2	282.9	326.7
Asia and Oceania	82.0	89.1	91.8	100.4	94.9	125.0
America	98.5	131.0	120.1	113.8	114.1	131.7
Africa	8.5	10.7	11.6	12.1	15.5	18.33
Middle East	9.8	13.3	12.7	12.9	16.8	21.03

Source: Own calculation

Tourism revenue in Europe increased by 54 percentage points, in Asia and Oceania by 52 percentage points, in America by 34 percentage points, and in the Middle East by 114 percentage points.

In light of these increases, events related to the outbreak of epidemics have led to major imbalances.

Thus, SARS that appeared in China in 2002 and considered to be the first of the global epidemics of the 21st century, has negatively influenced tourism in the Asian area. According to the World Health Organization, the virus has reached 32 countries, leading to the death of 916 people and producing 8,422 illnesses. Of these, 5,327 cases, i.e. 63%, came from China.

As can be seen from Table 3, from 1995 to 2002 there has been a continuous increase in the number of arrivals in China. The increase from 2002 to the base year was about 84 percentage points. In 2003, the year in which SARS caused the epidemic, the decrease in the number of tourist arrivals compared to the previous year was 10 percentage points. And regarding the revenues from tourism, it can be seen that after a continuous increase in the analyzed period, there was a decrease of 3.1 million dollars in 2013.

What is noteworthy is the fact that although in 2000 mankind also faced the H5N1 epidemic, which again had the most victims in Asia, it did not have strong influence on the tourism activity in the analyzed area.

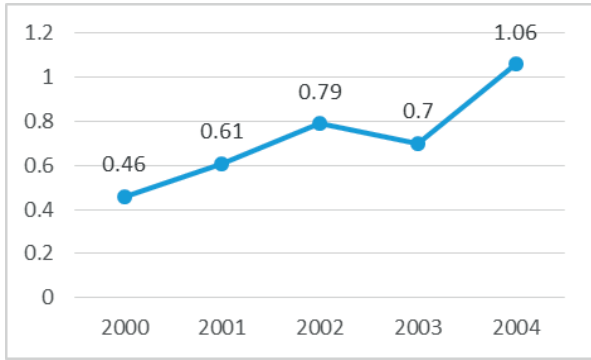

Figure 1. Evolution of the number of tourists in Cambodia.
Source: Own processing after (Elci, 2006)

One of the most affected countries was Cambodia, where the number of tourists did not decrease significantly (Figure 1), the losses being felt only in the production and marketing sectors.

Not the same can be said about how the H5N1 virus affected Romania's tourism in the Danube Delta, where the virus was discovered in a pelican species.

The data show how the number of tourists arriving in the Danube Delta fluctuated with the reporting of bird flu cases (Figure 2).

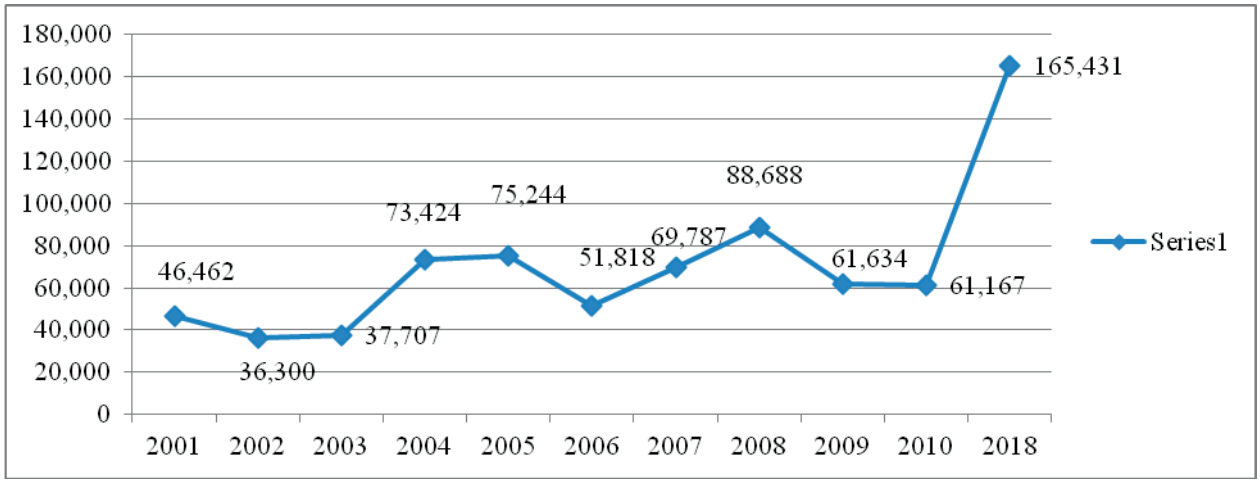

Figure 2. Arrivals situation in the tourist reception structures in the Danube Delta
Source: Own processing after (INS, 2019)

Next, we followed the evolution of annual visitor arrivals in China, because it is the country that constantly appears at the center of the epidemics, being the country that provides a large number of tourists to world tourism but also the country that receives tourists from all over the world.

Table 3. The situation of arrivals and incomes from tourism in China between 1995 and 2003

Year	Tourist arrivals		Tourism receipts	
	(thousand)	%	(millions $)	%
1995	20,034,00	100.0	8,733	100.0
1996	22,765.00	113.6	10,200	116.8
1997	23,770.00	118.6	12,074	138.2
1998	25,072.90	125.1	12,602	144.3
1999	27,046.60	135.0	14,099	161.4
2000	31,228.80	155.9	16,224	185.8
2001	33,166.70	165.5	17,792	203.7
2002	36,802.60	183.7	20,385	233.4
2003	32,970.50	164.6	17,406	199.3

Source: Own processing after (Lee et al., 2006)

Thus we find that during the analyzed period, there was an increase in the number of visitors until 2002. In 2003, their decrease is over 6 million visitors. Of these, foreign visitors represented between 11.2% in 1998 and 13.7% in 2002. The rest are represented by visitors from the Asian area (Hong Kong, Macao, Taiwan).

The number of people infected with MERS in 2012 was over 1,200 cases, the majority coming from Saudi Arabia, but then it reached other states, in the Asian area, South Korea being severely affected. According to the KTO, over 25,000 tourists have canceled their trips to South Korea, 85% of them coming from China, Hong Kong or Taiwan. For Saudi Arabia, it was estimated that religious tourism losses in the global economy were $ 16 billion.

Table 4. Evolution of Annual Visitor Arrivals in China (persons)

Year	Total	Foreigners
1995	46,386,511	5,886,716
1996	51,127,516	6,744,334
1997	57,587,923	7,428,006
1998	63,478,401	7,107,747
1999	72,795,594	8,432,296
2000	83,443,881	10,160,432
2001	89,012,924	11,226,384
2002	97,908,252	13,439,497
2003	91,662,100	11,402,900

Source: Own processing after (Lee et al., 2006).

Going forward, and going into 2020, although so far only estimates have appeared regarding how the coronavirus epidemic will affect China's economy, as well as other countries dependent on the Chinese economy, experts believe that in terms of tourism, the losses will be over $ 22 billion.

This will be due to the decrease in the number of Chinese tourists, who contributed 149.7 million worldwide trips in 2018, up 15% compared to 2017 and contributing to the development of tourism in areas of Thailand, Cambodia, Philippines, Macao or Hong Kong, but also in Europe, as well as in other countries of the world. According to the World Tourism Organization in 2018, the number of Chinese tourists reached almost 150 million, compared to 4.5 million in 2000. Chinese tourists spent $ 277.3 billion on vacations, which is $

1,850/tourist, which puts them in first place among tourists worldwide.
At the level of the entire Asian economy, losses are estimated to reach $ 115 billion in gross domestic product due to tourism.

The map by Johns Hopkins CSSE shows that on February 28, 2020, the number of coronavirus infections reached 83,867 cases, most of them in Asia and Oceania.

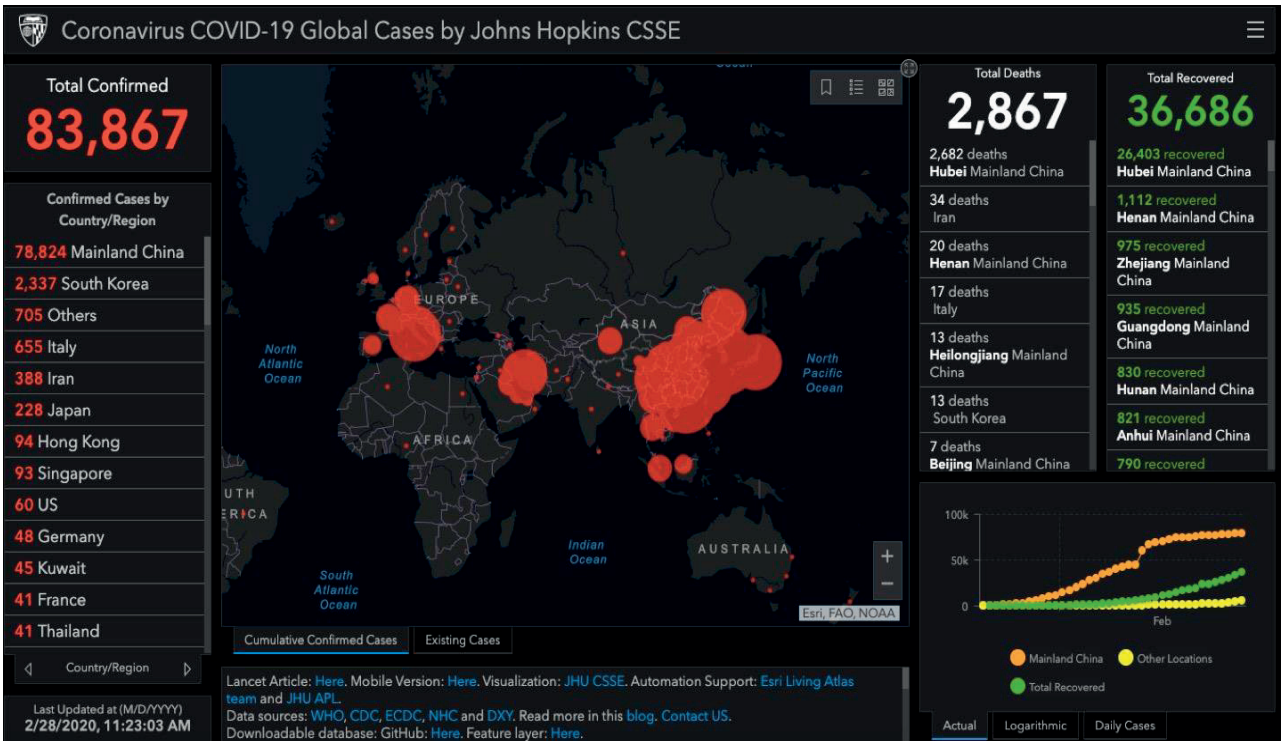

Figure 3. Situation of the areas carried out by COVID-19
Source: https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6, Accessed on 28.02.2020 (Gisanddata, 2020)

A study by UOB Global Economics & Markets Research on GDP forecast in Asia-Pacific countries shows that these drops will be between 0.5 and 1 percentage point, compared to initially projected values for 2020. Even though China is most affected by the epidemic with COVID-19, the losses of the other states are due to their dependence on Chinese tourists. Thus, in Singapore at the level of 2018, 20% of tourists came from China, in Malaysia they accounted for 11%, and in Thailand 28%.
From the published data it results that in Indonesia over 20,000 reservations of Chinese tourists were canceled, in Thailand it is estimated that their number will decrease by 2 million, representing the largest share of the total tourists from this country.
Also, in Macau, a favorite destination for gambling lovers, which ensures 70% of their total through Chinese tourists will incur significant losses.
Burma also states that the number of Chinese tourists has increased from 20% in 2018 to 38% in 2019, which at this time will influence the tourist economy.
In Europe, the number of Chinese tourists at the level of 2018 was 12.4 million, and the estimates for 2022 were 20.8 million. Under current conditions, their number is decreasing.

Table 5. Estimated GDP for 2020 in Asia

Country	2020 (baseline)	Estimated % point impact on baseline GDP
China	5.7	0.5-1.0
Hong Kong	1.2	0.7-1.5
Singapore	1.5	0.5-1.0
Taiwan	2.6	0.0-0.5
Thailand	2.8	0.5-1.0
Philippines	6.5	0.2-0.5
Malaysia	4.4	0.5-1.0
Indonesia	5.2	0.1-0.2
Vietnam	6.8	0.5-1.0

Source: Own processing after (Brodzicki, 2020)

Also from the scenarios that started to be made regarding the losses caused by the COVID

epidemic - 19 and which are based on the experience of SARS and MERS, it results in a decrease of the revenues of the registered airlines not only in the affected areas, but globally. At the level of the entire industry, the decrease will be almost 29%.

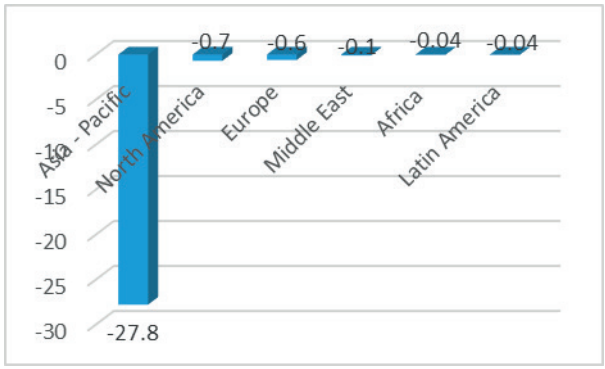

Figure 4. Decrease in airlines revenues in 2020 (estimate)
Source: Own processing after IATA
(IATA Economics, 2020)

And for Italy, the country strongly affected by the epidemic, the forecasts show decreases of GDP, given that it decreased in the last quarter of 2019.

This new crisis that appeared at the beginning of 2020 will contribute to the decrease of GDP, at least for the first period of the year, Italy being a country in which tourism contributes an important share to the formation of GDP.

CONCLUSIONS

Through this study we set out to show that both economic activity and tourism activity in the areas affected by the outbreak of epidemics are strongly influenced by them.

Although there is a high economic impact in the epicentre areas of their emergence, the fact that globalization has contributed to the regional and global integration of both tourism, trade, production, etc. causes the economic effects to be felt at the macroeconomic level.

The effects can have a long-term impact, being felt by the slowdown of economic growth, evidenced by the decrease of GDP in the affected regions due to the decrease of the production, the decrease of the investor confidence and of increasing the concern of the tourists.

It must be acknowledged that global tourism depends on Chinese tourists, and the decline of their number has important effects on the world economy.

Therefore, globalization, in addition to its advantages, also comes with risks that are amplified by its emergence and development. Their reduction, in the event of the occurrence of epidemics, can be achieved by implementing efficient public health policies, by correctly informing the population and by providing transparent and real-time information.

Regarding the forecasts made by specialists regarding the economic losses determined by the occurrence of COVID -19, they refer to an epidemic that will not exceed 6 months.

In the situation where this will extend the losses will be even higher, both in terms of economic losses, but also in terms of losses of human lives, which are ultimately the most important.

REFERENCES

Brodzicki, T. (2020). Impact of COVID-19 on the Chinese and global economy. https://ihsmarkit.com/research-analysis/impact-of-covid19-on-the-chinese-and-global-economy.html, Accessed on 26.02.2020.

Danciulescu, D. Statistica. Teorie si aplicatii, (Statistics. Theory and applications). http://inf.ucv.ro/documents/danciulescu/curs7.pdf, Accessed on 12.02.2020.

Dorobantu, D., Marcuta, A., Marcuta, L. (2019). Globalization and tourism. Case study – Romania, *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development*, Vol. 19(3): 197-202.

Elci, C. (2006). The Impact of HPAI of the H5N1 Strain on Economies of Affected Countries. International Conference on Human and Economic Resources, Izmir, 2006, https://www.researchgate.net/profile/Lotfali_Agheli/publication/23534259_A_Review_of_ECO_Performance_with_Emphasis_on_FDI/links/572879b408aee491cb444315/A-Review-of-ECO-Performance-with-Emphasis-on-FDI.pdf#page=102, Accessed on 15.02.2020.

Fintineru, A., Fintineru, G., Smedescu, D. (2014). Analysis of top destinations in tourism, according to volume of receipts during 2001-2011. *Scientific Papers Series. Management, Economic Engineering in Agriculture and Rural Development,* Vol. 14(2): 119-122.

Lee, G.O.M., Warner, M. (2006). The impact of SARS on China's human resources: implications for the labour market and level of unemployment in the service sector in Beijing, Guangzhou and Shanghai. Judge Business School, University of Cambridge, https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/workingpapers/wp0602.pdf, Accessed on 20.02.2020.

Popescu, A. (2015). Some considerations on the actual statement of the world trade in commercial services, 2015. *Scientific Papers. Series Management, Economic Engineering in Agriculture and Rural Development*, Vol. 15(4): 257-266.

***IATA Economics (2020). COVID-19 Initial impact* assessment of the novel Coronavirus. https://www.iata.org/en/iata-repository/publications/economic-reports/coronavirus-initial-impact-assessment/, Accessed on 28.02.2020.

***INSSE (2019). Frequency of tourist reception structures with accommodation functions. http://www.insse.ro/cms/sites/default/files/field/publicatii/frecventarea_structurilor_primire_turistica_cu_functiuni_de_cazare_in_anul_2018.pdf, Accessed on 26.02.2020.

***https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6, Accessed on 28.02.2020.