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# **Regeneration of domestic and foreign tourism in selected European countries in COVID-19 pandemic time**

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**Abstract:** The COVID-19 pandemic and the measures taken to subdue it have led to the collapse of both domestic and foreign tourism. The article attempts to provide answers to the following questions: what was the occupancy rate of tourist accommodation facilities by domestic and foreign tourists in the European Union and in selected European countries? Does domestic tourism regenerate faster than foreign tourism? Which country has the greatest disproportions in the regeneration of domestic and foreign tourism? In order to answer the questions, it was decided to use the Excel program together with the R software, in which the analysis of the time series of the occupancy of tourist accommodation facilities throughout the European Union was performed. Based on the results of the research, it was found that, although in the initial phase of the pandemic, the decline in the occupancy of accommodation facilities was similar for both domestic and foreign tourists, in the following months the role of the former in the occupancy of accommodation facilities increased significantly. These differences were visible in all analyzed countries, which confirms the thesis that domestic tourism regenerates faster than foreign tourism. The largest disproportions among selected countries in the regeneration of domestic and foreign tourism were noticed in Malta.

**Keywords:** pandemic, COVID-19, domestic tourism, foreign tourism, accommodation, EU

## **1. Introduction**

COVID-19 spread has completely changed modern world's situation. The virus has become a phenomenon in the world of science, and the subject is being more often present in international literature. The most numerous group of articles focuses on pandemic's implications on world economy, indicating on, among other things, its recession (Barua, 2020), deglobalization and destabilization (Guan, et. al, 2020). A certain trend can be observed in publications of numerous articles analysing coronavirus' impact on tourism, as economy of many countries is based on this industry (Laing, 2020). Consequences of COVID-19 listed by those publications are, among other things, decrease of interest in international travels and increase of interest in national travels (Bakar, 2020). S. Gössling and others (2020) observe that in a wider perspective those consequences will be visible in the

whole socioeconomic chain between countries (e.g. in food production or international transport).

The outbreak of the pandemic and the risk associated with high numbers of infections have led to border closures, reduced mobility and the introduction of sanitary regimes. The tourism economy has become the most affected by restrictions component part of the economy of all countries in the world (Pana-siuk, 2020). From the economic point of view, this is important because tourism significantly increases the value of gross domestic product (GDP) and influences the growth of direct foreign investment (Khan, et al., 2020). According to World Travel & Tourism Council (2017), tourism, in 2016 alone, had a significant impact on global economic development, generating a total of USD 7.6 trillion, which constituted 10.2% of global GDP.

The situation in global tourism has been greatly changed by the COVID-19 pandemic and this issue has been widely discussed since the beginning of 2020. Disruptions in global economy related to the spread of the SARS-CoV-2 coronavirus have had a devastating effect on air travel, cruises and tourist accommodation (Gössling, et al., 2020). In the initial phase of the pandemic, foreign tourism suffered the most due to continuous introduction of new restrictions related to movement between countries. The interruption of international air connections in March 2020 resulted in a decrease in air traffic in Poland by approximately 80-90%, in comparison to the same period last year (Korinth and Ranasinghe, 2020). Similar declines have been recorded in most countries of the world, including those located in the Mediterranean basin (Kourgiantakis et al., 2021), which is one of the most important tourist destinations in Europe (Wendt, 2019). On the other hand, the analysis carried out by Rutynskyi and Kushniruk (2020) showed that the decrease in tourism in Lviv in the first quarter of 2020 oscillated around 40-60%, resulting in losses of EUR 135 million. The losses in revenues from global tourism are estimated at USD 935 billion, which was the effect of a decline in international tourist traffic by over 70% (UNWTO, 2020a).

The problem of the socio-cultural and economic impact of the COVID-19 pandemic on tourism has recently become one of the key issues discussed in world literature. Problems related to the consequences of the crisis that are analyzed most frequently include the pandemic's negative impact on income from domestic and foreign tourism. Haryanto (2020), supporting his views with various sources, concludes that the COVID-19 pandemic in the United States alone contributed to a decline in tourism income by almost 50% in 2020, resulting in an estimated loss of \$124 billion. Even more worrying data was announced in December by UNWTO (2020b), which, based on data from January to October 2020, stated that the decline in the number of foreign tourists in the world by 900 million contributed to losses of about 935 billion USD in revenues from international tourism export. A slightly smaller decrease in revenue i.e. at the level

of USD 820 billion, was estimated by Ozili and Arun (2020). Interestingly, the UNWTO (2020c) report from April 2020 initially estimated a decline of approximately USD 450 billion in revenues from international tourism. It can therefore be concluded that the pandemic critically affected the revenues from this type of tourism, and the initial forecasts were incorrect.

The negative impact of the pandemic is also evident in the changes that have taken place in hotel industry, which is one of the main sectors of the entire tourism economy (Susilawati et al., 2020). Feyisa (2020) indicates that, as a result of the introduction of numerous travel bans affecting both foreign and domestic travels, the pandemic contributed to a decline in employment in this industry by 459.000 in comparison to 2019. The decrease in employment was, in turn, the result of a decrease in the occupancy of the accommodation base, an issue extensively elaborated upon in the subject literature and analyzed also in the national context. Those analyses concern countries such as Bangladesh (Hafsa, 2020), India (Kumar, 2020), Poland (Korinth and Ranasinghe, 2020) or South Africa (Rogerson and Rogerson, 2020).

The aim of this article is to delve even deeper into changes in tourism that were caused by the COVID-19 pandemic. The key hypothesis for this study is the assumption that foreign tourism has suffered more than domestic tourism and its regeneration will take much longer. Additionally, questions regarding the following issues were elaborated upon: how global crisis affects the occupancy of tourist accommodation facilities and how it was developing over time in selected countries? For analysis purposes, data on the occupancy of the accommodation base was used. The above-mentioned base is regarded as one of the most important elements of spatial development, with key importance in servicing tourism (Sharpley 2000). It should also be noted that one of the motivations for this article was the publication on the Eurostat website (2020), which concerns the differences between the occupancy of accommodation facilities by domestic and foreign tourists.

## 2. Area descriptions, methods and material studied

In order to present changes in the accommodation occupancy by domestic and foreign tourists in selected countries, the R software and the Excel program were used. The choice of programs was mainly motivated by their large scope of possibilities in the field of time data analysis and their growing popularity among the scientific community, especially in the case of the former. The programs were used to analyze data regarding the occupancy of accommodation facilities (hotels, holiday and other short-stay accommodation, camping grounds, recreational vehicle parks and trailer parks) by domestic and foreign tourists from January to August 2020. All this data was collected from Eurostat i.e. the European Union Statistical Office.

Moreover, to describe the detailed dynamics of changes in the occupancy of the accommodation base, it was decided to select two countries from each region demarcated by the European Union, representing different cultural areas of different importance in international tourism and in tourism generally. Poland and Romania were selected from Eastern Europe, Sweden and Estonia from Northern Europe. Western Europe is represented by the Netherlands and Germany, and Southern Europe by Spain and Malta. All time data has been processed in Excel.

Additionally, to confirm the hypothesis put forward in the introduction, the changes

in the dynamics of accommodation occupancy by domestic and foreign tourists in the entire European Union were scrutinised (27 countries after UK withdrawal from the EU in 2020). Using the decomposition function in the R environment (time series analysis), long-term trends were distinguished and the seasonality of the studied phenomenon was identified. What is more, irregular random disruptions were also distinguished, however, it should be emphasized that they are dynamic in nature and cannot be explained solely on the basis of a substantive analysis of the issue. All the above-mentioned components are based on a moving average, which is one of the most popular methods used to extract patterns in a selected series.

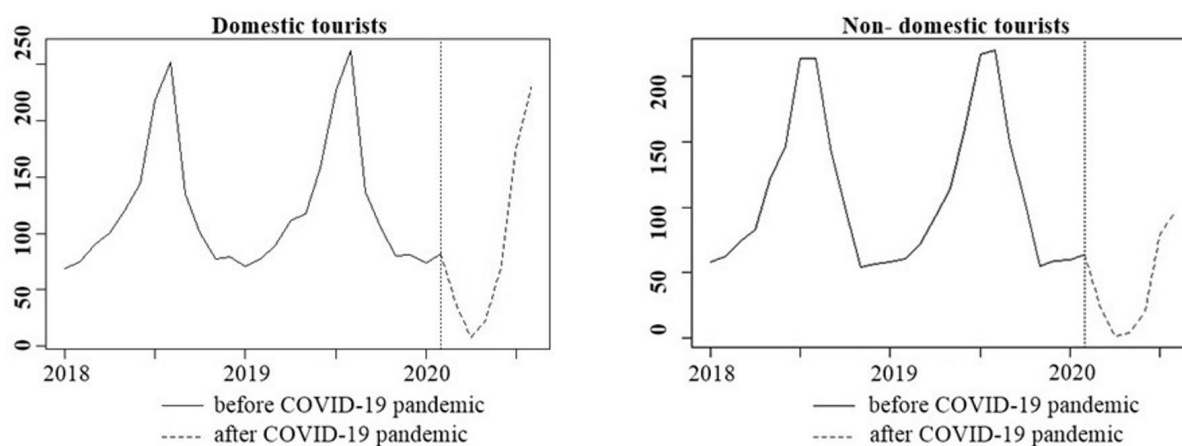
In order to visualize the differences in the occupancy of tourist accommodation facilities by domestic and foreign tourists in Europe, two cartograms were made. Class ranges for each of them were prepared by means of data covering the percentage of occupancy in tourist accommodation facilities by domestic tourists in August 2020, which was then compared to the values from the corresponding period of the previous year. To create choropleth maps, the criterion of division into four sets with limits with the following values was adopted: arithmetic mean minus standard deviation ( $\bar{x} - \sigma = -24.3\%$ ); arithmetic mean ( $\bar{x} = 17\%$ ); arithmetic mean plus standard deviation ( $\bar{x} + \sigma = 58.4\%$ ).

## 3. Results

Both in case of domestic and foreign tourism, a decrease in society's tourist activity was recorded in 2020. One of the main triggers of this change was the COVID-19 pandemic, which negatively affected the occupancy of tourist accommodation facilities in Europe (Fig. 1).

The data contained in Figure 1 shows that both domestic and foreign tourism experience the phenomenon of seasonality, which points to the uneven intensity of tourism on a yearly basis. In 2018-2019, the largest occupancy of accommodation base could be seen for the period between June and September, with

a marked increase in July and August. This situation occurred both in case of domestic and foreign tourism, although, in the above-mentioned months, the latter showed a relatively greater stability. The graph also shows quite a large discrepancy in case of the number of overnight stays per million inhabitants alone. The dominant type of tourism in Europe was the one associated with tourists from the country of residence. This difference was especially visible in the period from June to September, when it amounted to as much as 50 million people.



**Figure 1.** The occupancy of tourist accommodation facilities in Europe in the period from January 2018 to August 2020 (per million inhabitants) (source: prepared based on Eurostat, 2020)

The COVID-19 pandemic caused a global tourism regression, which became visible at the beginning of the second quarter of 2020. When it comes to both domestic and foreign tourism, a significant decrease in the number of tourists was noticeable, which in turn was reflected in the occupancy of the accommodation base in Europe. In case of domestic tourism in the period from March to August 2020, the occupancy rate decreased by over 40% if compared to the same period last year. Whereas in the case of foreign tourism, this decrease was even more visible and amounted to almost 75%. The data for the period from July and August deserves special attention as each month a growing disproportion between the occupancy of accommodation facilities by domestic and foreign tourists was noticeable, with the former constituting a vast majority (in August 2020 the difference was 150 million tourists per million inhabitants). Thus, the presented data confirm the thesis that in the era of a pandemic, domestic tourism recovers faster than foreign tourism.

Similar conclusions can be arrived at based on the analysis of changes in the occupancy of tourist accommodation facilities in selected countries. This analysis was possible by means of looking upon the percentage change compared to the same period last year (Fig. 2).

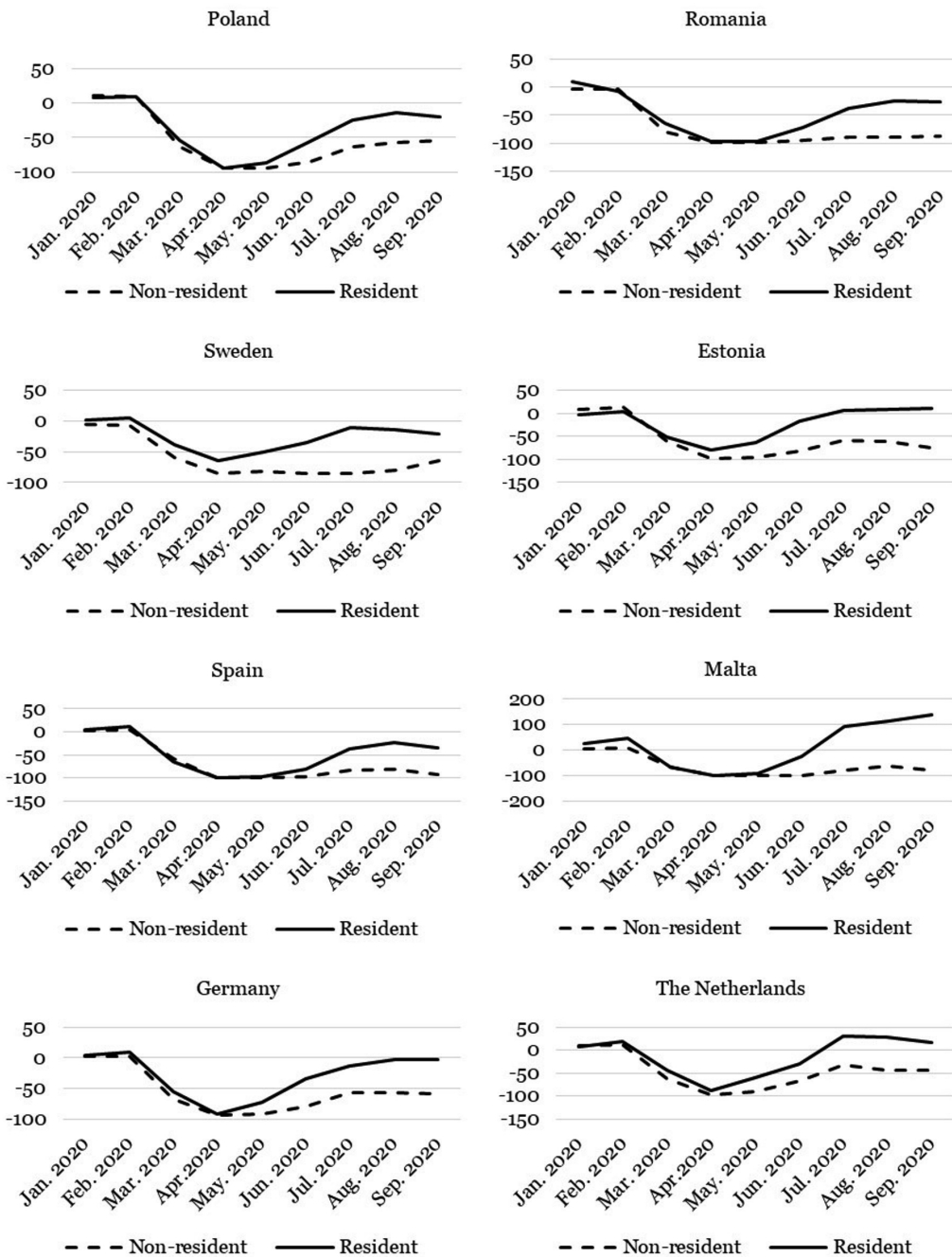
The presented data enables us to identify similarities between the two periods:

- in all countries, the beginning of the pandemic was characterized by a decrease in the occupancy of tourist accommodation facilities when compared to the corresponding period of the previous year,

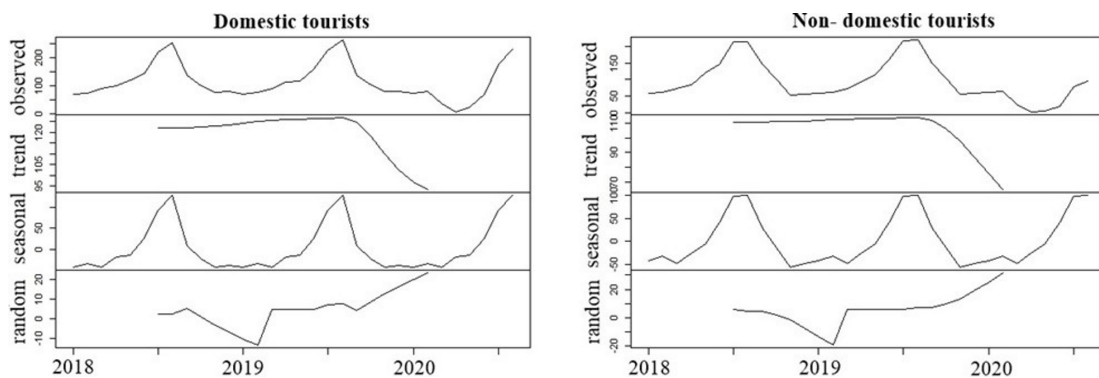
- both in the case of domestic and foreign tourism, an upward trend in the occupancy of tourist accommodation facilities was recorded after the second quarter of 2020,
- in each analyzed country, the occupancy of tourist accommodation facilities by domestic tourists was clearly higher than in the case of foreign tourists.

When analyzing the selected variable, one should also pay attention to the differences in its values in individual countries for the analyzed period. At the turn of the second and third quarter of 2020, the percentage change in the occupancy of tourist accommodation facilities was not the same in every country and the largest differences between the percentage change of the analyzed variable were recorded in Malta, and the smallest in western and central Europe (mainly in Germany, the Netherlands and Poland).

Figure 3, as in the previous part of the study, confirms the seasonality of the occupancy of tourist accommodation facilities, both for domestic and foreign tourists. When analyzing the data, however, special attention should be paid to seasonal trends, which, despite their upward nature in the initial period, have clearly been declining since the end of 2019, as a result of the COVID-19 pandemic. However, a larger downward trend was recorded in case of foreign tourism, which once again confirms the thesis that there are less possibilities of its regeneration as opposed to domestic tourism. At the same time, starting from 2020, strong random fluctuations (unpredictable deviations from the average value) related to the destabilization of the European tourism economy



**Figure 2.** The percentage change in the occupancy of tourist accommodation facilities in selected countries for the period from January 2020 to August 2020 compared to the corresponding period of the previous year (source: prepared based on Eurostat, 2020)

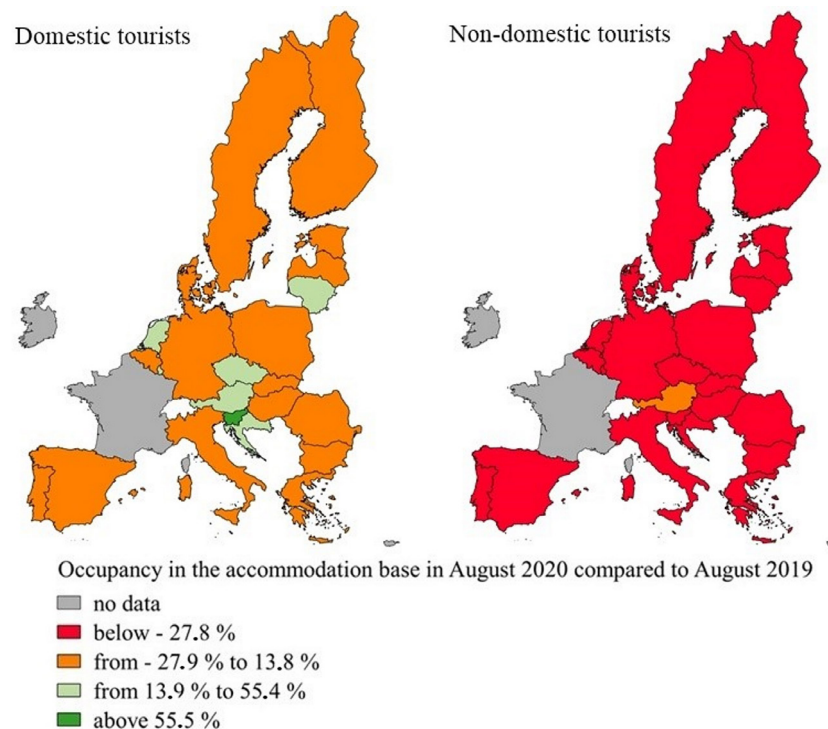


**Figure 3.** Additive decomposition of accommodation occupancy by domestic and foreign tourists in Europe for the period from January 2018 to August 2020, using a moving average (source: prepared based on Eurostat, 2020)

can be observed. In case of domestic tourism, however, it is linear, and in the case of foreign tourism, it is exponential, which may point at even greater disproportions between them.

The occupancy rate of tourist accommodation facilities in the entire European Union does not look very promising, which is well illustrated by the changes in spatial differentiation in time presented in Figure 4. One may notice clear declines in the selected variable, both in case of domestic and foreign tourists. However, by means of comparative analysis,

it also can be noted that the occupancy of the accommodation base by foreign tourists suffered greater losses. That is, the number of foreign tourists in almost the entire European Union fell by app. 30% in comparison to the same period last year. At the same time, domestic tourism was experiencing a certain stagnation as well as revival that was noticeable especially in the countries located on the Adriatic Sea (e.g. in Slovenia and Croatia) and in the central part of the continent (e.g. in the Czech Republic and Austria).



**Figure 4.** Additive decomposition of accommodation occupancy by domestic and foreign tourists in Europe for the period from January 2018 to August 2020, using a moving average (source: prepared based on Eurostat, 2020)

## 4. Discussion

The subject of the COVID-19 pandemic has been very popular since it began to affect all sectors of the global economy. Similarly, there are many studies analyzing changes in domestic and foreign tourism, where the latter type is analyzed more often. Li et al. (2010), analyzing the pandemic of 2009, similarly as in this study, noticed that foreign tourism regained slower than domestic tourism. They also indicated that domestic tourism, thanks to faster regeneration, may contribute to compensating for at least a partial decrease in income from foreign tourism. In turn, Volgger et al.

(2021) came to interesting conclusions, who indicated that the presence of international visitors and the increase in COVID cases was reducing the intentions of domestic tourists booking during the COVID-19 pandemic. This study is also confirmed by another one, carried out by Falk et al. (2021), who stated that the low economic activity related to the pandemic was conducive to the development of domestic tourism at the expense of foreign tourism. Among the reasons for the growing importance of domestic tourism, the introduction by some countries of subsidies for

domestic travel is also mentioned (Matsuura and Saito, 2022).

Research often indicates that the situation related to foreign tourism was different in different countries. For example, Korinth and Wendt (2021) indicated that in the case of European countries, the greatest economic losses were recorded by the recipient countries, i.e. those which generated the greatest intensity of tourist traffic before the pandemic. These studies refer to this work and are its supplement. This study

shows that the occupancy of tourist accommodation facilities recovered much faster in Western Europe (e.g. in Germany) and much slower in Spain, which is considered a destination country. Melnychenko and others (2021) indicated that the countries where tourism accounted for the highest share of GDP in 2020 are Croatia (10.2%), Greece (8.7%) and Portugal (8.1%). Thus, it confirms the research in this paper on a significant decline in the importance of Spain in European foreign tourism.

## 5. Conclusions

This article discusses the impact of the COVID-19 pandemic on domestic and foreign tourism. It was found that in times of crisis the foreign is much more susceptible to all kinds of adverse effects and, what is more, it regenerates much slower than domestic tourism. These results confirm the thesis proposed in the introduction. Therefore, we may assume that in the future the occupancy of tourist accommodation facilities by foreign tourists will be lower than in the case of domestic tourists, at least until the official end of the battle against the pandemic.

The largest differences between the percentage change of the foreign tourists number and domestic tourists number were recorded in Malta. One of the reasons for this state of affairs is the lower economic activity of Malta. The smallest differences between the number of domestic and foreign tourists were recorded

in western and central Europe (including the Netherlands and Poland). This is probably the result of the lower importance of international tourism in the total number of tourists in these countries. Compared to Malta, these countries are characterized by less interest among foreign tourists. This study shows that in times of a pandemic, heavy dependence on foreign tourism (eg. Malta) does not have a positive effect on the accommodation sector. In the long run, it would be advisable to create a type of accommodation that would be more resistant to the international situation, not only in the pandemic era, but also other geopolitical events that may adversely affect international tourist traffic. Perhaps it should move away from hotels and focus on the development of agritourism, which is in line with the idea of sustainable development.

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