

ANALYSIS OF THE TURNOVER OF HUNGARIAN SPAS

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Abstract: In Hungary, spas have rich traditions and are one of the country's major tourist attractions. The research aims to analyze the turnover of one of the key supply elements of health tourism in Hungary, the baths, which, in addition to the impact of COVID, will also present factors that positively influence turnover data. In the study, in addition to presenting the importance of Hungarian spas, we also deal with the spa's guest turnover and income. Over time, we compare how turnover in the sector has evolved over the past decade. We conducted a regression analysis on the trends in revenue and the number of guests at Hungarian spas. The turnover data of spas are correlated with capacity data and economic indicators, which are quantified. This allows us to identify which factors are more or less important in the development of turnover and revenue.

Keywords: health tourism, spa services, sales revenue, number of guests, time series, correlation

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INTRODUCTION

Health tourism is an important part of the tourism industry in Hungary. Spas, thermal baths and wellness centres not only offer opportunities for recreation and relaxation, but also play an important role in health promotion and recovery (Czeglédi et al., 2020a; Csobán et al., 2022).

Nowadays, more and more people feel the importance of following a health-conscious lifestyle, or at least striving to do so, which has also generated a growing demand for health tourism, making this topic particularly actual. The concepts of health and wellness are associated with well-being and lifestyle, stress reduction, physical and mental balance and leisure activities for foreign tourists (Chen and Petrick, 2013). Accordingly, the range of health tourism services on offer extends from medical treatments and the use of medicinal waters to spa and wellness services. In this offer, the weight of each service is not independent from the traditions and the ideas that local people have about health and health promotion. In Central and Eastern Europe, there is a long tradition of medicine, while in Western and Southern Europe different concepts of wellness prevail.

In Hungary, spas have a rich tradition and are a major tourist attraction (Hojcska and Szabó, 2021). Czeglédi et al., (2020b) confirm that the availability of wet and spa services has a significant impact on tourists' choice of destination. Given that the diverse mineral composition and high temperature of the thermal waters in Hungary can satisfy the widest range of needs, and that the infrastructure and human resources of spa towns and cities offer European-standard services in many places, there is overall potential for further development of health tourism. As a result, health tourism is one of the most dynamically developing tourism products of our time, and Hungary has excellent natural resources in this market, even by international standards (Puczkó and Smith, 2010).

The performance and contribution of health tourism to the national economy depends on several factors, such as infrastructure development, tourist demand and government subsidies, but their effects can be reliably analysed, inter alia, based on tourism data. Number of visitors to spas have increased steadily in recent years and have remained attractive despite the crises. Although the pandemic period has seen a decline in visitor numbers and, with it, in revenues, the statistics show a return of hope and confidence. The future of spas and wellness centres points towards quality services and sustainable operation, thus contributing to the growth of Hungary's tourist attractiveness.

LITERATURE REVIEW

The importance of spas

There is no single sector that represents tourism, but only as part of several relevant sectors. According to the current international methodology (IRTS, 2008), the following activities are included in the tourism industry: accommodation and food service activities, passenger transport by rail, road, water and air, car rental, travel agencies, tour operators, cultural services, and sports and recreation activities and spa services (Tóth, 2018).

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Spa services are widely understood to include spa and well-being treatments, various methods of stress relief, and beauty and cosmetic surgery, but in Central and Eastern Europe the word health is more closely associated with physical and medical treatments. In Western Europe, thalassotherapy, or healing cures based on the beneficial effects of the sea, is well known. In southern Europe, there is a strong emphasis on beach wellness and afternoon siestas. In Scandinavia, Nordic walking and swimming, as well as saunas, are part of everyday life. Recently, there has been a growing emphasis on balanced living, selfness and mindness, which are the physical, emotional and psychological aspects of our lives (Lengyel, 2022). It can be seen that the concepts of health and wellness mean different things in different countries and cultures.

Cross-cultural differences in wellness tourism (Bočkus et al., 2023) was the focus of a study that focused on the differences in service preferences of wellness tourists. Based on the responses of wellness tourists (N=1562) from Finland, Russia and Lithuania, it was found that swimming pool, sauna, massage and body care were important services for all nationality groups, while services related to Eastern traditions were less important during wellness holidays. However, there were significant differences in the importance of services such as beauty care, spa wellness services, spa and wellness packages. The research highlighted that wellness tourists from different markets may have different motivations for choosing the same services. Datta (2022) studied wellness tourists visiting India, found that basic wellness services, i.e. yoga, Ayurveda, spirituality, meditation (Lengyel, 2016; 2019) have a stronger impact on the satisfaction level of wellness tourists. The baths (or the remains of old ones) that can still be visited in the 21st century bear witness to the fact that the territory of present-day Hungary was a flourishing bathing area in the Roman Empire, during the Turkish occupation and in the Austro-Hungarian Empire (Farkas et al., 1962). The Austro-Hungarian Monarchy, including the Hungarian Kingdom abounded in well-built spas offering advanced services (Törzsök et al., 2017). Nowadays many cases, the spa towns have become the region's number one tourist destination, as the spas and spa hotels built in their area meet international standards in every respect (Tóth and Dávid, 2010).

Thanks to the first Széchenyi Plan (2001-2006) and the subsequent EU funding opportunities, our thermal and spa baths have undoubtedly become the main players in the field of health tourism in Hungary. The health tourism product of our country is functioning well in most of the spa towns with a significant number of visitors, i.e. it is satisfactory in terms of both infrastructure (spa, hotels, restaurants, shops, other services, transport) and human resources, and in many places, it is of a particularly European standard (Ruszinkó et al., 2024). For example, if travellers to a tourist destination choose a higher category of accommodation, they also spend more on products and services of tourism sectors" (Tóth and Tóth, 2020).

The economic importance of spas is shown by the fact that nationally, almost 20 000 people work in spas, and the number of employees who provide related services in spas but do not work under the management of the spa (e.g. catering units of spas, outsourced jobs) is even higher. "Bathing is gradually becoming an integral part of everyday life, as it offers the opportunity to exercise regularly, to combine body care with relaxation and recreation. Spas are no longer just a regular annual holiday, but also a place for general well-being and for maintaining good physical and mental health (Müller et al., 2009). "The range of popular sporting activities should be extended, and popular programmes should be organised more frequently or a new series of events with a similar programme should be initiated. The satisfaction of sporting visitors could be increased, for example, by the creation of outdoor fitness parks" (Tóth and Müller, 2019). At the same time, other international research mentions that seasonality still characterizes the turnover of spas, which poses a challenge for the operation. The seasonal turnover of spas in Romania is similar to the seasonality of the country's tourism (Stupariu and Morar, 2018).

MATERIALS AND METHODS

The use of the term "recognised spa" is regulated by Decree 74/1999 (XII.25.) of the Ministry of Health (on natural medicinal factors). According to the Decree, establishments are those which carry out therapeutic or rehabilitation activities mainly using natural therapeutic factors.

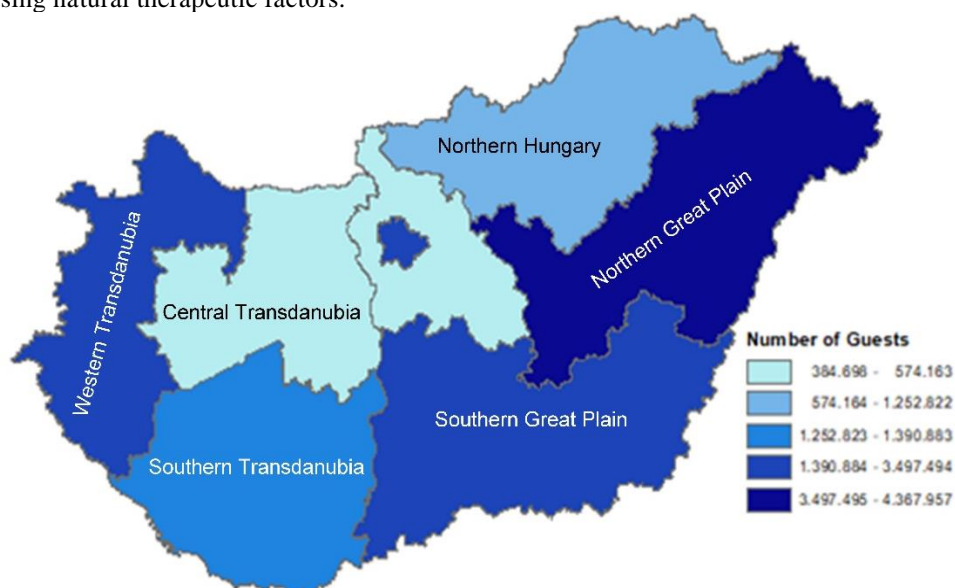


Figure 1. Number of guests of spas in Hungary by regions (NUTS2), 2022 (Source: Data of Hungarian Central Statistical Office, 2024)

They may be operated under the name "spa", which refers to the therapeutic character of the establishment, if, in addition to the official authorisations required by other legislation, the use of this name is authorised by the operator or the owner on request. In 2022, 104 spas were registered in the list of the Government Office of Budapest. The Hungarian Central Statistical Office collects data on the most important characteristics of these spas, their turnover of guests, the revenue or the services they provide, through the electronic questionnaire "Report on the turnover of spas" (questionnaire 1054), which is part of the national statistical data collection programme. This data is used to prepare the analyses presented below, focusing on guest turnover data (Figure 1).

The region with the highest number of visitors (4.4 million) in 2022 is the Northern Great Plain region. This includes major spa towns such as Hajdúszoboszló, Debrecen and Nyíregyháza. Southern Great Plain and Western Transdanubia will also attract a large number of guests, with 3.5 million arrivals each in the reference year.

In the Southern Great Plain, the most visited spas were Gyula and Szeged, while in Western Transdanubia the most visited spas were Hévíz, Bük, Sárvár and Zalakaros. The capital, Budapest, also attracted a large number of tourists (3.4 million), the most popular destinations being Széchenyi Spa and Gellért Spa.

The aim of the analysis is to examine the relationships that may influence the attendance of bathing facilities. As data collection is compulsory for all spa operators, the available data refer to the full reporting population and therefore descriptive statistical methods can be used. As the data collection has been carried out annually for quite a long time, the number of guests and the revenue of the baths can be analysed. A correlation analysis of the data for the indicators included in the data collection will show which factors interact and these effects can be quantified. The present study is based on the data for 2022 of the spas that are classified as spas according to the above-mentioned EÜM Regulation.

RESULTS AND DISCUSSION

The turnover of spas

The Hungarian spa towns play a prominent role in the country's domestic and international visitor flows, not only in terms of their historical past, but also in terms of their current performance and their expected future positions based on trends (Michalkó and Rátz, 2011).

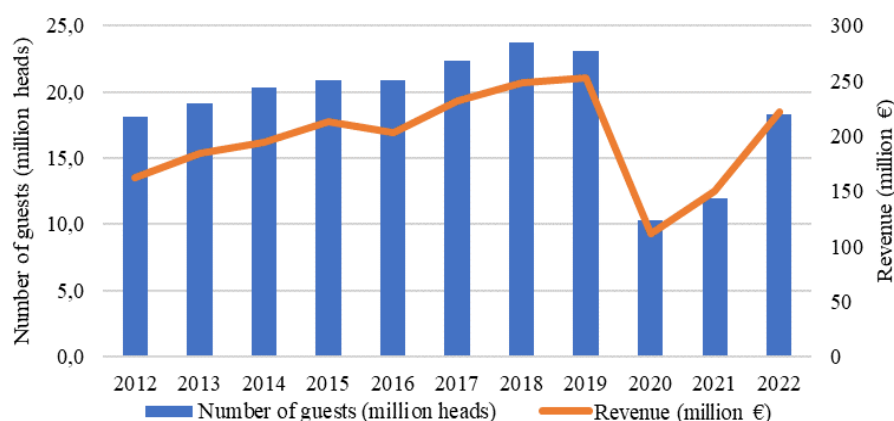


Figure 2. Time series of the number of guests and revenue of Hungarian spas
(Source: Data of Hungarian Central Statistical Office, 2024)

The last decade has seen a steady increase in the number of visitors to spas, which, after a temporary, slight decline in 2016, returned to the trend of previous years in the following year, reaching 23 million visitors by 2019 (Figure 2). The crisis had a significant impact on spa turnover, with guest numbers halving to around 10 million. With the end of the pandemic, hope and confidence began to return, and by 2022 the country's annual number of visitors to spas had reached 18 million, only a fifth less than the 2019 base figure. Spa revenues will grow steadily in line with visitor numbers until the end of the decade. In 2012, it was only 162 million EUR, but then grew steadily to reach 253 million EUR in 2019. However, the pandemic of 2020 halved the revenue due to a shortfall in visitors, bringing it down to 111 million EUR. With the return of spa visitors, the increase in turnover was also noticeable, reaching a high 221 million EUR in 2022. This picture is somewhat nuanced by the fact that the general price level increased significantly after the outbreak of the Russian-Ukrainian war, which also contributed to the rise in revenues. Figure 2 also suggests that the number of guests followed a very precise linear trend and there is no reason to believe that this would have changed significantly (at least until 2020) in the absence of the pandemic. However, in 2022 the Russian-Ukrainian conflict has created a new situation, so that year is not completely longer comparable to the previous one.

Figure 3 shows together the actual and estimated number of guests. Assuming that, in the absence of the COVID outbreak, the trend in guest numbers would have been the same as in 2012-2019, it can be calculated that the spas under study lost roughly 35 million guests over the three years. This is likely to be an upper estimate due to the uncertainty of 2022. In that year there was no pandemic, but inflation increased for other reasons. Of these, the Russian-Ukrainian war is only one reason, and it is likely that price levels would have risen faster even if no armed conflict had broken out. It is therefore likely that the number of visitors would have been lower, so the 35 million mentioned is more of an upper estimate. Nevertheless, it can be assumed that the number of bathers will return to close to the original trend by 2023.

A similar observation can be made for revenue, where there is also linear growth until 2019. Figure 4 shows the observed and estimated turnover together. On this basis, it can be calculated that the spas under study will lose about EUR 267 million in 2020, 2021 and '22 in total. Revenue is also expected to reach or exceed the trend in 2023.

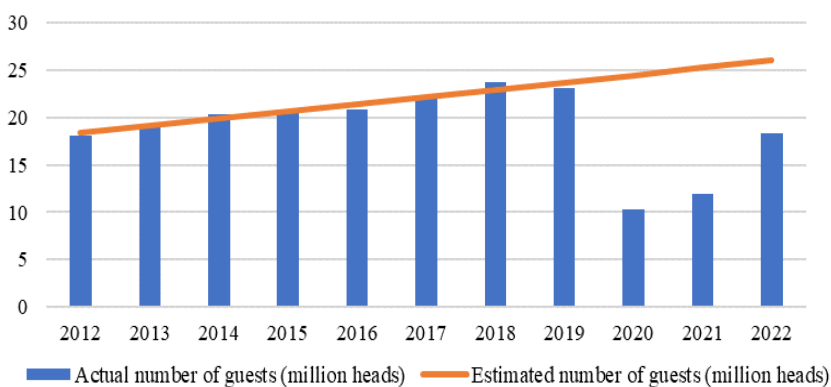


Figure 3. Time series of actual and estimated number of guests of Hungarian spas
(Source: Data of Hungarian Central Statistical Office, 2024)

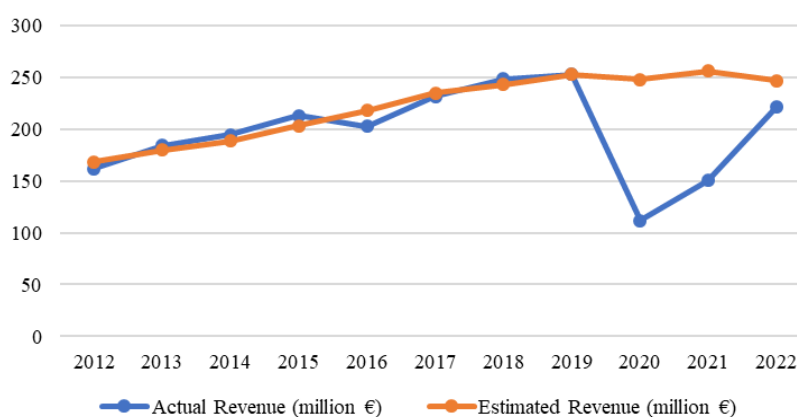


Figure 4. Time series of actual and estimated revenue of Hungarian spas
(Source: Data of Hungarian Central Statistical Office, 2024)

Similar trends were observed in Romania, where at peak time summer tourist numbers have normalized since 2021, there does not appear to have been a significant increase at a later stage. This indicates that the effects of the outbreak are still present (Cehan and Iațu, 2024). A decline in demand for spas in Slovakia has also been observed (Šenková et al., 2021). Other studies have reported that after Covid-19, spas attracted back guests with services to help them recover from coronavirus illnesses (Maccarone et al., 2021; Kardeş, 2021; Masiero et al., 2020; Moure and Saz-Peiro, 2021).

Further calculations have been made on several indicators of spas in the national data for 2022, looking at the relationship between them. Correlation shows whether there is a linear relationship between each indicator, indicating the strength and direction of a linear relationship between two variables. The values can take figures between -1 and 1.

Table 1. The value of the correlation coefficient according to the relationship between the annual number of guests and the characteristics of spas (Source: The authors, own compilation)

Main characteristics of the spa	Pearson correlation coefficient (number of guests, Hungarian spas, pcs)
Revenue of the public bath, in HUF	0.905
Payment with a SZEP card*, in HUF	0.800
How many services are available in the spa area, pieces	0.750
Number of operating days, in days (average)	0.658
Bathing (non-bathing) services, in pieces	0.563
Total installed water-use capacity of the spa, in m ³ /h (average)	0.550
Revenue from the sale of accommodation, in HUF	0.480
Water temperature, in degrees Celsius (average)	0.457
Maximum permitted simultaneous occupancy of the spa, persons	0.436
Turnover from medical and health care services, in HUF	0.334
Volume of the pool, m ³ (average)	0.242
Area of the spa, 1000 m ² (average)	0.163
Water surface area, m ² (average)	0.131
Green area, 1000 m ² (average)	0.106

* Széchenyi Recreation Card (also known as Szép Card) - employers can give it to employees for EUR 1,125 per year, free of tax and with favourable tax treatment. The cardholder can use it for accommodation, catering and leisure activities.

The data in Table 1 show that there is a strong relationship ($0.8 <$) between the evolution of the number of guests in spas and the number of SZÉP card payments, which is not surprising. There is also a strong correlation between spa services and guest turnover ($0.55-0.75$) and the number of days open (0.65).

The temperature of the water and the accommodation facilities are also important factors in the number of visitors ($0.45-0.48$). The turnover from spa and health services shows a weak correlation. The other technical factors (pool volume, water surface, green area) do not play a role in the evolution of the number of visitors.

Table 2. The value of the correlation coefficient according to the relationship between the annual number of visitors and the socio-economic indicators (Source: The authors, own compilation)

National socio-economic indicators by county	Pearson correlation coefficient (number of guests, Hungarian spas, pcs)
Percentage of urban population, %	0.713
Population density, head/km ²	0.630
Output value of investments by business organizations, in HUF	0.593
Direct investment in Hungary, net debt stock, in HUF	0.590
Number of vacancies, 2022, in pieces	0.560
GDP per capita at purchasing power parity, in PPS	0.519
Economic activity of the population aged 15-74, thousand persons	0.481
Number of guests per thousand inhabitants in commercial accommodation, in persons	0.345
Average gross earnings of full-time employees by place of employment, in HUF	0.247
Employment rate of the population aged 15-64, %	0.091
Number of retail outlets, 30 June 2022, in pieces	0.003

External economic and social factors also influence the development of visitor numbers, so it is worth examining what other indicators may also play a role in the visitor numbers of a spa. There is a strong relationship ($0.63-0.71$) with the population indicators of the county (urban population rate, population density). Economic indicators such as GDP, investment, investment in the area, vacancies and the activity of the population in the spa sector have a medium-strong relationship ($0.48-0.59$) with the number of visitors to the spa. Compared to average earnings and employment indicators, the number of bathers is weakly correlated and there is almost no dependence with the number of retail stores. Finally, a regression analysis was performed on the two main indicators with the highest correlation (turnover, guest turnover). The coefficient of determination: r^2 , can be between 0 and 1, including the bounds. It shows the proportion of the total variance of the independent variables that is explained by the sum of the squares of the total variance of the dependent variable.

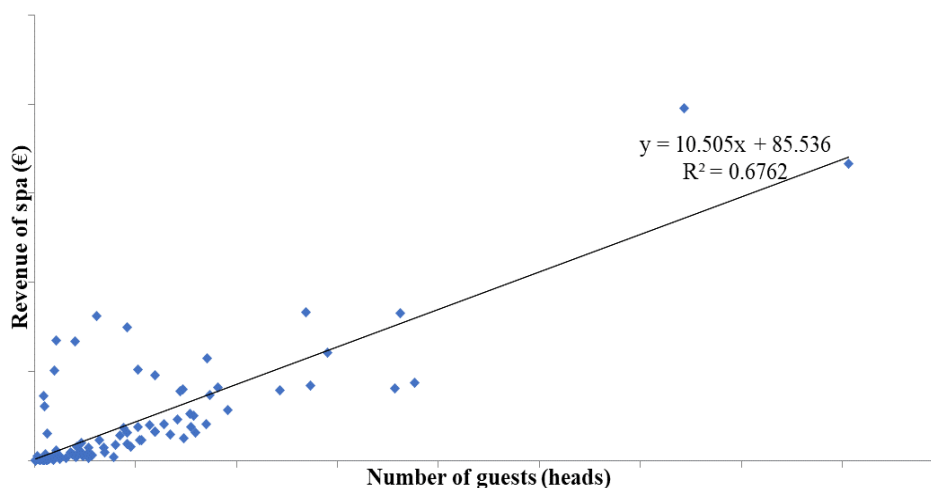


Figure 5. Regression analysis of number of guests and revenue of Hungarian spas ($n=101$)
(Source: the authors based on data of Hungarian Central Statistical Office, 2024)

If we compare the two main indicators (guest turnover, turnover) in a regression function (Figure 5), we expect a positive relationship between the two indicators. The apparent correlation does not imply a causal relationship but quantifies the strength of the relationship between the two indicators. Assuming a linear relationship, at a 95% confidence level the R squared value (0.67) and R value (0.82) suggests a close relationship despite the fact that quite a few outliers were detected. The outliers denote a real value, as does the set of scattered points along the centre line.

CONCLUSION

Based on the general presentation and analysis of health tourism and spas in Hungary, it is clear that these institutions and services play a prominent role in the development of tourism and the local economy. Spas not only offer medical and wellness services, but also provide a wide range of recreational and leisure facilities for their guests. An international research on the success factors of wellness destinations highlighted that the destination environment, the culture of wellness tourism, the spa culture and the health services are important elements (Phuthong et al., 2023).

Hungary's spas are good in these competitiveness elements and are well positioned not only in the domestic but also in the international health tourism market (Kiss, 2013; Jónás-Berki et al., 2015)

From the analysis it can be seen that the turnover of visitors to spas is highly dependent on their own and external ancillary services. A detailed list of spa services is included in their operating regulations, but the most popular ones include sauna, massage, fitness and swimming lessons. Operating hours and infrastructure are also important elements of attendance. In terms of territorial factors, urban character is also an attractive factor, and in terms of market-economic factors, the performance of economic organisations is a determining factor in the evolution of visitor numbers.

Despite the challenges posed by the Covid-19 pandemic, Hungarian spas and health tourism establishments have been able to adapt and rebound. The resilience of the sector and government support have helped to make spas attractive destinations again for both domestic and international tourists. Data show that bathing attendance and revenues have been steadily increasing, reaching high levels in 2022. This is partly due to investments and improvements in the sector, which make spas even more attractive to visitors. Overall, health tourism and spas in Hungary will continue to be important players in the tourism and economy, and their further development can be helped by a focus on sustainable tourism, innovation and continuous improvement of the guest experience.

Limitations of research

The data analysis is limited to a certain time period, i.e. 2012-2022, so the time limitation means that the analysis cannot reflect the latest developments or changes in the industry. This is particularly true in a fast-changing environment such as tourism. Individual spas and health tourism establishments operate in different cultural and regional contexts, which may affect the results and conclusions. Therefore, it is important to take into account the specificities of the local context and their impact on the results, which is limited to the Hungarian market characteristics. A distorting effect on the analyses may be that the spending of guests using some kind of social support (e.g. medical referral) cannot be compared with that of tourists seeking relaxation or regeneration and these two groups cannot be precisely distinguished on the basis of the available data. Thus, it is difficult to compare domestic and foreign guests with the "social" guests, in most cases there is no separation between public and tourism functions" (Magyar Turisztikai Ügynökség, 2021).

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