Study of the Utilisation of Commercial Accommodations with Special Regard to Northern Hungary and Northern Great Plain

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SUMMARY

Increasing the accommodation supply is a top priority of tourism development at present. Tourism in Hungary has shown significant results since the 90s. Apart from several years' slight declines, the number of guest nights grew steadily; however, the increase of bed places came to a halt in 2004, and the data of the past several years have indicated a clear decrease. The differentiated appearance – also spatially – of the two phenomena raises the necessity of studying the utilisation of accommodations. This study examines the efficiency of operation of the various accommodation types in 2000 and 2008 using shift-share analysis.
Key words: tourism, utilisation of accommodations, shift-share analysis.
Journal of Economic Literature (JEL) code: L83

INTRODUCTION

Hungary's tourism has come a long way from the 1990s till now. The transition to a market economy, the obsolete supply relative to the standards, the global and international tourism trends all limited its development. The composition of tourists has changed: a significant decrease has been observed in the number of Central-Eastern European tourists, while remarkably more "western" tourists are coming to Hungary. Internal tourism has strengthened due to the purchasing power of the population: in 1990 less than 10% of the hotel guest nights were taken by domestic tourists, but this proportion had increased to approximately 50% by 2008. No positive processes could have taken place in the area of visitor turnover without the development of the supply. As a result of the development of attraction and accommodation supply, nowadays we already have a tourism supply that is high level in many ways. Despite the quality development of supply, the growth of Hungary's (especially foreign) tourism lags far behind the level of global growth. While the structure of the accommodation supply has improved, and the number and proportion of the facilities representing a higher accommodation category has grown as an effect of the regional development programs and private capital, an increase in the number of tourists did not follow the development of supply in every region.

This study seeks an answer to the question of what influence the changes in the regional distributions of visitor turnover and the improvement of the composition of accommodations – the degree of which differs by regions and counties – have exerted on the utilisation of accommodations, where efficiency-related surpluses and/or deficits may have occurred. In order to answer the question I used shift-share analysis, relatively rare in the tourism literature (Dávid et al., 2009). My findings are formulated on the basis of the data from 2000 and 2008.

METHODOLOGY APPLIED

Originally, shift-share analysis was used to separate the regional and sectoral factors of economic growth. Its relatively significant use took place in the United States in order to analyse long-term regional growth. In Hungary it began to be used in the 1970s. The method is based on double standardisation, and the calculations require data collected according to regional and sectoral dimensions. By "sector" we mean economic sectors, age groups and settlement size groups. The method helps analyse the components of the growth of incomes (Nemes et al. 2001).

Shift-share analysis classifies the factors of the growth of the analysed phenomena into three categories:

- The values of the "total effect" (Si) show, in the case of the regions, how much the actual number of guest nights differ from the value that would occur at average bed-space utilisation.
- The "regional effect" (Sr) can be interpreted as the difference from the national efficiency level

characteristic of each accommodation category (that is, it shows how much the actual number of guest nights differs in a given region assuming the national efficiency level characteristic of the given accommodation category). We can find the regional factor characteristic of a given territorial unit (region) by adding the "regional effect" values characteristic of all accommodation categories.

➢ The difference between "total effect" and "regional effect" is the "sectoral effect" (Sa), which can be seen as the structural advantage or disadvantage of the studied region (that is, whether the accommodation supply is more efficient than average or its composition is less favourable, in terms of the level of utilisation, in the given region).

The results of the shift-share analysis can be represented on a map for the better interpretation. Eight categories can be formed on the basis of the sign of the "total", "regional" and "sectoral" effects, as well as the size of the "regional" and "sectoral" factors, as included in Table 1.

Table 1. Categories of shift-share analysis

No.	Category	Total effect (Si)	Regional effect (Sr)	Sectoral effect (Sa)	Relationship between the size of variables
1.	Greater than average change Positive regional factor Positive structural factor	+	+	+	Sr>Sa
2.					Sr<Sa
3.	Greater than average change Negative regional factor Positive structural factor	+	–	+	|Sr|>|Sa|
4.	Greater than average change Positive regional factor Negative structural factor	+	+	–	|Sr|<|Sa|
5.	Smaller than average change Negative regional factor Positive structural factor	–	–	+	|Sr|>|Sa|
6.	Smaller than average change Positive regional factor Negative structural factor	–	+	–	|Sr|<|Sa|
7.	Smaller than average change Negative regional factor Negative structural factor	–	–	–	Sr>Sa
8.					Sr<Sa

Source: Nemes Nagy József (ed.): Methods of regional analysis, 2005.

The "total effect" values of the territorial units are positive in categories 1-4 and negative in categories 5-8. The "regional effect" is greater in absolute value in categories 1, 3, 5, and 7, whereas it is smaller in categories 2, 3, 6, and 8 than the "sectoral effect" representing structural factors (Nemes 2005).

The colour intensity of the maps is independent of the size of the effects' absolute values. The particular categories can be divided into four main groups on the basis of their favourable or unfavourable perceptions:

➢ in categories 1 and 2 all "sectoral", regional" and total effects are positive;

➢ in categories 3 and 4 the "sectoral" or the "regional" effect is positive and the "total" effect is also positive,

➢ in categories 5 and 6 the "sectoral" or the "regional" effect is positive but the "total" effect is negative,

➢ in categories 7 and 8 all "sectoral", "regional" and "total effects" are negative.

REGIONAL ASPECTS OF THE UTILISATION OF ACCOMMODATIONS

Tourism-related regional aspects are clarified by the exploration of the efficiency and territorial aspects of the accommodation provision, beyond the analysis of demand (number of guest nights) and supply (number of bed spaces) often found in the literature. I used a derived indicator for the analysis, namely the number of guest nights per the bed spaces of commercial accommodations.

The number of guest nights per bed space, which illustrates the efficiency of commercial accommodations in the regions, exceeded the national average (Si>0), which was 58.7 guest nights per bed place in 2000 (which means an occupancy rate of 16.1%) only in Central Hungary and Western Transdanubia. Compared to this level, 2,504,702 more guest nights were registered in Central Hungary (29.8% level of utilisation) and 737,992 more guest nights in Western Transdanubia (20.1% level of utilisation) (Table 2).

Table 2. Shift-share analysis according to the number of guest nights per bed space of commercial accommodations (2000)

Region	in hotels	in guest houses	in tourist hostels	in youth hostels	in resort houses	in campsites	Sr regional	Sa sectoral	Si total
Central Hungary	1081359	154810	38065	-23815	-4798	-82800	1162820	1341882	2504702
Western Transdanubia	393255	69435	31692	7220	274	100838	602714	135278	737992
Northern Hungary	-37018	-74642	41280	-6758	1855	-87041	-162325	-274463	-436788
Southern Great Plain	-174136	-19475	-47426	773	-15722	-68175	-324161	-147782	-471943
Northern Great Plain	23317	-101757	-25075	-5052	-14587	-27955	-151109	-325634	-476744
Central Transdanubia	-413032	-18293	-2704	69014	19420	180309	-165286	-629148	-794434
Southern Transdanubia	-873745	-10076	-35833	-41382	13558	-15176	-962653	-100133	-1062786

Source: own calculations on the basis of CSO[1] data

The rest of the regions considerably underperformed the national level (10.7-12.5%). Central Hungary has better than average indicators in each accommodation category apart from campsites. The same cannot be stated about Northern Hungary, which does not reach the national efficiency level in the case of any accommodation type except tourist hostels and resort houses. We can speak of more favourable indicators than the national level only in the case of hotels in Northern Great Plain.

Significant differences exist in the efficiency of the different accommodations at national and regional levels alike. In 2000 at national level there were 114.1 guest nights per bed space in hotels, 48 per bed space in guest houses, 33.7 in tourist hostels, 41.1 in youth hostels, 47.6 in resort houses and 1.2 in campsites (which means 31.2% utilisation in the case of hotels and 5.8% in the case of campsites).

In Northern Hungary the number of guest nights per bed space was 108 in hotels, for guest houses the figure was 39.4, for tourist hostels 40.8, for youth hostels 37.2, for resort houses 48.2 and for campsites the number was 10.5. In Northern Great Plain the number of guest nights per bed space was 117.4 in hotels, 34.9 in guest houses, 24.7 in tourist hostels, 36.9 in youth hostels , 42.8 in resort houses and 19.2 in campsites.

Table 3. Shift-share analysis according to the number of guest nights per bed space of commercial accommodations (2008)

Region	in hotels	in guest houses	in tourist hostels	in youth hostels	in resort houses	in campsites	Sr regional	Sa sectoral	Si total
Central Hungary	1396910	137546	27487	76031	5196	290	1643460	2059138	3702598
Western Transdanubia	393469	-3096	11267	2893	-2769	13820	415584	405719	821303
Southern Great Plain	-182389	7917	-59592	2482	25152	-6041	-212471	-361956	-574427
Northern Great Plain	-18001	15512	-10952	-26653	-2077	-6568	-48738	-590918	-639656
Northern Hungary	-183059	-60088	1915	-40226	-6161	-14387	-302007	-494308	-796315
South Transdanubia	-871704	-53237	24663	7110	-32639	-3921	-929727	-317393	-1247121
Central Transdanubia	-535226	-44554	5212	-21638	13299	16807	-566100	-700282	-1266383

Source: own calculations on the basis of CSO data

[1] *Central Statistical Office, Hungary*

The results of the shift-share analysis prepared on the basis of 2008 data are similar to the situation 8 years ago in many respects. Again the same regions shared the positive and negative values of the total effect; the only difference was the order among them: in 2008, similarly to the situation in 2000, only Central Hungary and Western Transdanubia produced efficiency levels above the national average (17%) (Table 3).

Unfortunately, Northern Hungary and the Northern Great Plain are among the laggard regions with their indicators of 11.1% and 11.6%, which primarily come from the below-average level of utilisation of hotels and guest houses in Northern Hungary, and from that of hotels and youth hostels in the Northern Great Plain.

The guest nights per bed space decreased in each accommodation type, apart from guest houses, both in Northern Hungary and the Northern Great Plain from 2000 to 2008. At the same time, the national trends indicate improving efficiency in the case of hotels, guest houses and campsites and a worsening efficiency in the rest of the cases.

Of the above-national average part of the "total" effect, 77.2% was realised in Central Hungary and 22.8% in Western Transdanubia in 2000, while below-average performances appeared in the other five regions (especially in Southern Transdanubia and Central Transdanubia) (Table 4).

Basically, the same regions appeared on the positive and negative side in the case of the "regional" component, with the difference that Western Transdanubia shares a greater proportion (34.1%) of the positive "regional effects", whereas Southern Transdanubia shares 54.5% of the negative values.

For "sectoral effects" 90.8% of the positive values occurred in Central Hungary and 9.2% in Western Transdanubia, while the negative values were mainly produced in Central Transdanubia (42.6%), the Northern Great Plain and Northern Hungary.

Overall, it can be stated that the majority of the above-average performances in terms of efficiency can be observed in Central Hungary, which is mainly due to the favourable distribution of bed spaces among accommodation categories, while Western Transdanubia can attribute its favourable position to "regional" factors. The negative "total effect" values are dominated by unfavourable structural factors in the rest of the regions, especially in Central Transdanubia.

Table 4: Values of the „total", „regional" and „sectoral" effects in the regions according to the number of guest nights per bed space of domestic commercial accommodations (2000)

Region	Si+	Si-	Sr+	Sr-	Sa+	Sa-
Central Hungary	77.2%		65.9%		90.8%	
Western Transdanubia	22.8%		34.1%		9.2%	
Northern Hungary		13.5%		9.2%		18.6%
Southern Great Plain		14.6%		18.4%		10.0%
Northern Great Plain		14.7%		8.6%		22.0%
Central Transdanubia		24.5%		9.4%		42.6%
Southern Transdanubia		32.8%		54.5%		6.8%
Country total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: own calculations on the basis of CSO data

The studies carried out in 2008 produced similar results, with the difference that the Northern Great Plain somewhat improved its position on the basis of the "regional effect", whereas the position of Northern Hungary worsened as compared to the values in 2000 (Table 4).

Southern Transdanubia keeps a significant share of the negative "regional" effects (45.2%), while Central Transdanubia somewhat improved its position in terms of the negative values of the "regional effects": in 2008 it had a 27.5% share as compared to the former 42.6%.

Table 5: Values of the „total", „regional" and „sectoral" effects in the regions according to the number of guest nights per bed space of domestic commercial accommodations (2008)

Region	Si+	Si-	Sr+	Sr-	Sa+	Sa-
Central Hungary	81.8%		79.8%		83.5%	
West Transdanubia	18.2%		20.2%		16.5%	
Southern Great Plain		12.7%		10.3%		14.7%
Northern Great Plain		14.1%		2.4%		24.0%
Northern Hungary		17.6%		14.7%		20.1%
Southern Transdanubia		27.6%		45.2%		12.9%
Central Transdanubia		28.0%		27.5%		28.4%
Country total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: own calculations on the basis of CSO data

The county data clarify the results of the county-level survey. It is typical in all counties of the regions that the number of registered guest nights is significantly below the value that would be expected at average bed space utilisation (58.7 guest nights/bed space in 2000, 61.9 guest nights/bed space in 2008) (Table 5).

In Borsod-Abaúj-Zemplén County the bed space utilisation exceeded the national level only in tourist hostels, resort houses and campsites, in Heves in hotels (+51,214 guest nights), guest houses and tourist hostels, in Nógrád exclusively in tourist hostels (9.2%), guest houses and resort houses, in Békés in guest houses and youth hostels and in Csongrád County in guest houses, youth hostels and resort houses. In Bács-Kiskun County there was no accommodation type the efficiency of which reached the national average (Table 6).

The situation had worsened everywhere, apart from Bács-Kiskun County, by 2008. We can speak of a higher than national average specific visitor turnover only in the case of tourist hostels in Borsod-Abaúj-Zemplén County. The efficiency advantage of hotels and tourist hostels significantly decreased in Heves, while the disadvantage of the other accommodation types further increased. The specific efficiency of no accommodation category reaches the national level in Nógrád; improvements could be observed only in the case of hotels and youth hostels from 2000 to 2008.

Table 6. Shift-share analysis according to the number of guest nights per bed space of commercial accommodations in the counties of the two regions (2000)

County	in hotels	in guest houses	in tourist hostels	in youth hostels	in resort houses	in campsites	Sr regional	Sa sectoral	Si total
Borsod	-68316	-72006	20501	-492	8092	-35471	-147692	-274295	-319227
Heves	51214	11416	18747	-4056	-3858	-33433	40030	-238335	-10339
Nógrád	-19917	-14052	2033	-2210	-2380	-18137	-54663	-87589	-107221
Hajdú-Bihar	114307	-30332	-6029	-1217	-1426	25531	-111591	32018	132853
Jász-Nagykun-Szolnok	-54446	2863	3862	-2983	-8972	-13150	100834	-245022	-317846
Szabolcs-Szatmár-Bereg	-36545	-74289	-22908	-852	-4189	-40336	-72824	-112631	-291751

Source: own calculations on the basis of CSO data

In Hajdú-Bihar County the utilisation level of bed spaces of hotels and guest houses, in Jász-Nagykun-Szolnok County that of hotels, guest houses, youth hostels and resort houses, whereas in Szabolcs-Szatmár-Bereg that of guest houses and tourist hostels improved, while the situation worsened in the case of all other categories (Tables 6 and 7).

Table 7. Shift-share analysis according to the number of guest nights per bed space of commercial accommodations in the counties of the two regions (2008)

County	in hotels	in guest houses	in tourist hostels	in youth hostels	in resort houses	in campsites	Sr regional	Sa sectoral	Si total
Borsod	-192514	-13888	257	-4098	-1945	-35513	-247702	-274295	-521997
Heves	10605	-7091	5614	-11393	2250	-88655	-88670	-238335	-327005
Nógrád	-8231	-24512	-1239	-2058	-3640	-21781	-61461	-87589	-149050
Hajdú-Bihar	135407	-939	-960	-8018	-3438	4264	126316	38169	164484
Jász-Nagykun-Szolnok	-85894	7886	-1326	-133	9119	-4613	-74961	-330606	-405568
Szabolcs-Szatmár-Bereg	-67514	8564	-8666	-18502	-7757	-6219	-100093	-298480	-398573

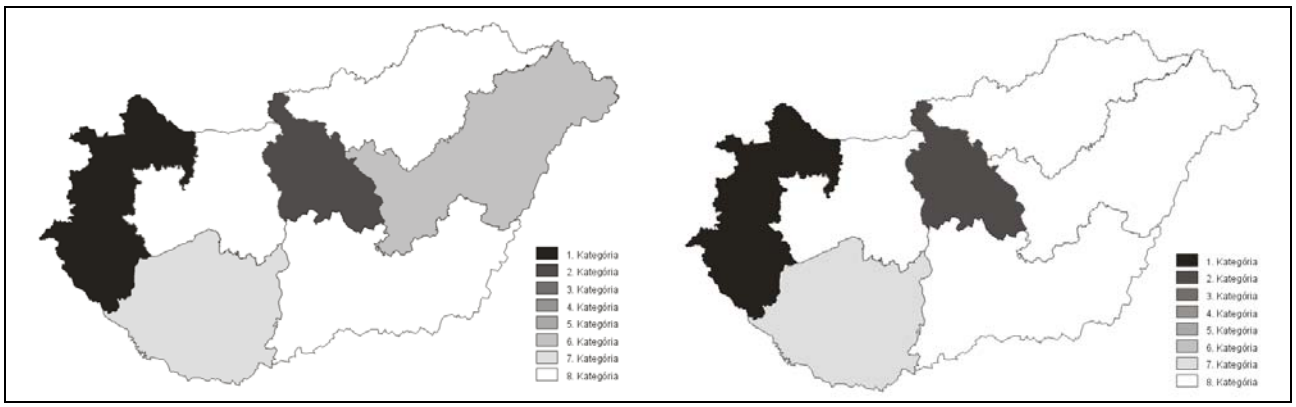
Source: own calculations on the basis of CSO data

As for other regions, 74.6% of the above-average part of the "total effect" was realised in Budapest, 13.9% in Zala County (the remaining 11.5% in Győr-Moson-Sopron, Hajdú-Bihar, Vas and Békés Counties); the negative values were observed in a spatially dispersed manner.

The positive values of the "regional effects" mainly concentrated in Budapest (62.6%) and Zala County; their negative values show a similar spatial distribution to the total effect, with a strong concentration in Somogy County (35.9%).

Similarly, 76.4% of the positive values of "sectoral effects" appear in Budapest; in Somogy County one can observe positive structural factors as well apart from the significant regional effects. The negative values of the

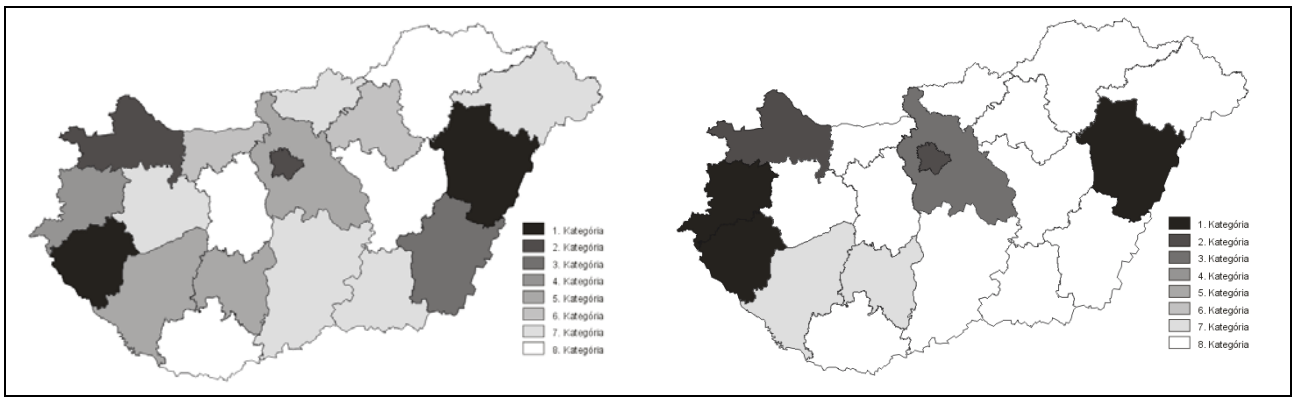
"sectoral effects" concentrate less in space (however, it has to be mentioned that the three counties of Central Transdanubia have a total share of 42.6%).
The county-level surveys of 2008 did not generate significant changes either, as 76.16% of the positive values of the "total effect" were concentrated in Budapest and 9.05% in Zala County (the remaining 14.8% were concentrated in Hajdú-Bihar, Győr-Moson-Sopron, Vas, and Pest Counties); while the below-average values appeared dispersed in space.
The largest proportion of the above-average part of the "regional effects" was concentrated in Budapest (75.3%) and Zala County (10.7%), and the distribution of the negative values show similar spatial characteristics to the total effects (Somogy County's share of 36.5% is significant).
Once again, 76.7% of the positive values of the "sectoral effects" occur in Budapest; their negative values did not concentrate significantly in 2008 either (it is worth highlighting that Central Transdanubia's three counties have a total share of 28% as opposed to the 42.6% of 2000).



Source: own calculations on the basis of CSO data

Figure 1. Regions on the basis of shift-share analysis according to the guest nights per bed space of commercial accommodations (2000, 2008)

The regional maps illustrating the results of the analysis indicate that no significant changes took place during the seven years; the efficiency of accommodations of none of the regions reached the national level with the exception of Central Hungary and Western Transdanubia (Figure 1).



Source: own calculations on the basis of CSO data

Figure 2: Counties on the basis of shift-share analysis according to the guest nights per bed space of commercial accommodations (2000, 2008)

The statements relating to the regions are made more sophisticated and also reinforced by the results of the counties. In 2000 Budapest, Békés and Hajdú-Bihar, and in 2008 Budapest, Pest, Csongrád and Hajdú-Bihar Counties could present efficiency exceeding the national level, apart from the counties of Western Transdanubia (Figure 2).
In 2008 the values of the "regional effects" exceeded the "sectoral effects" in absolute value, apart from Central Hungary, which means that in the case of the regions efficiency below the national average is primarily due to territorial factors, coupled with unfavourable structural trends. Favourable trends were be experienced in any of the counties of the regions, and the average level of utilisation decreased everywhere in such a way that the composition of the accommodation types could not keep pace with favourable national processes.

SUMMARY

A significant part of the resources devoted to tourism development in recent years have been spent on the modernisation of accommodations, the expansion of existing accommodations and building new establishments. As a result, accommodations meeting the international expectations can be found almost in every region of Hungary. The pace of investments is overly optimistic in specific regions (e.g. Northern Hungary, the Southern Great Plain) compared to the trend of indicators describing visitor turnover. The results of the shift-share analyses aimed at the utilisation of accommodations also underpin this statement. The significantly not expanding visitor turnover, coupled with the dynamic growth of bed spaces, lead to a worsening efficiency. Unfortunately, the increase in the proportion of higher-class accommodations is slower than the national level. Objectives aiming at developing higher-class accommodation and enhancing incoming tourism should receive more emphasis when determining the near future's development priorities.

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