

## DISCREPANCIES BETWEEN THE DEMAND AND OFFER ON THE SEASIDE TOURISM OF ROMANIA

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### Abstract

*The paper aimed to analyze the demand/offer ratio in the seaside tourism of Romania in the period 2007-2017 based on the official data provided by the National Institute of Statistics. The main indicators taken into account have been: number of units with function for tourist accommodation, number of places (beds), number of beds-days, number of tourist arrivals and overnight stays. The index method, structure index, correlation coefficient and regression analysis allowed to analyze the dynamics of these indicators and the relationships existing among them. The results pointed out an increase by 31.8 % of the arrivals, by 6.4 % of the overnight stays, but also a decrease by 16.7 % of the accommodation units and by 31.7 % of the number of beds. This unbalanced demand/offer ratio was confirmed by the weak correlation and regression analysis as well. The seaside tourism represents 9.8 % in the total accommodation tourism structures, 23.4% in the total number of places and 10.5 % in the total beds-days in Romania's tourism. About 77.7 % of tourism accommodation units and number of beds is represented by hotels, bungalows and tourist villas in Romania's tourism. For balancing the demand/offer ratio in the seaside area, the tourism strategy should be focused on investments in new accommodation units, creating jobs, increasing labour productivity, service quality, the comfort degree, diversifying the leisure and entertainment activities, managing the beaches, means of conveyance, parking places and access roads, and green spaces. In this way, the development of the tourism infrastructure and service quality could become important factors for increasing tourist arrivals and receipts on the Romanian seaside.*

**Key words:** seaside tourism, demand, offer, discrepancies, Romania

### INTRODUCTION

Tourism is an important activity for any country which could generate a competitive advantage by valorizing its natural and anthropic resources in proper landmarks and products. Tourism has a deep economic, cultural, social and environment impact as proved by the changes which have appeared during the last decades due to the "boom" of the international tourism [16].

Romania is recognized as a country with a high tourism potential grace to its natural resources such as the large variety of marvelous landscapes generated by the divers relief (mountains, hills, plateaus, plains, valleys arranged like an amphitheater), a favorable continental temperate climate with Mediterranean influences, a huge flora and fauna diversity, a hydrographic network, a

large variety of cure and treatment natural factors (thermal and mineralized waters, sludge etc) and to its anthropic resources represented by historical monuments, medieval castles and fortresses, religious architecture, archeological sites, museums, art galleries, memorial houses, villages with their folklore traditions and customs and people of high hospitality etc.

Tourism could be practiced in various forms such as: seaside tourism, mountain tourism, cultural tourism, spa and health tourism, religious and pilgrimage tourism, fishing and hunting tourism, rural tourism, business tourism, shopping tourism, tourism for taking part to various cultural, scientific and sport events etc [10].

Among the most attractive geographical items there are the Carpathians Mountains, the Danube river ending into the Danube Delta

and the charming seaside full of sunny beaches and warm waters of the Black Sea in the summer season [9].

The beginning of tourism on the Romanian seaside dates back in the 19th century, under the reign of his Royal Highness King Carl I, who sustained the development of seaside resorts as "urban improvisations, quasi-oriental flavor" with "natural mud, sunbathing, and hot bath treatments" and as affirmed himself had an "infrastructure which needs to be improved, and hotels and villas which must meet a better hygiene and comfort" [2].

The climate is favorable for tourism on the Romanian Black Sea Coast in the warm season, especially in the months are July, August and June, and in a less measure in May and September, when the sun brighten over 2,500 hours a year, an average identical to the one on the beaches of Croatia or other Mediterranean countries [8].

The seaside is situated in the top of tourism forms as in summer season a huge flow of tourist invade this part of Romania for enjoying laying in the sun, swimming, relaxation, leisure and entertainment to recover their forces during the holiday. However, since 2007, a new trend has appeared to spend vacations or week-ends on the seaside when the weather is fine even in May and September. Therefore, Romanians and even foreign tourists are aligned to the general trend in the world tourism to shorten the duration of stay but to make more travels a year [10, 11, 12].

Being situated in the Constanta County, the increased number of tourist arrivals had a positive impact on the development of the area. The growth and diversification of the tourism activities have created jobs and supported employment, incomes per family and the living standard of the local population raised, the turnover of the business men in the field of tourism and not only increased, stimulating investments and the modernization of buildings and infrastructure [15].

The increased number of tourist arrivals in the summer season and in week-ends has led to a sort of discomfort due to the crowded hotels,

beaches and restaurants in the top months on the seaside. For this reason, the question which arises is: "Is the tourism offer in the resorts of the Romanian seaside in terms of accommodation capacity able to cover the high tourist demand in terms of arrivals and overnight stays in summer season?"

In this context, the objectives of this study were:

- (i) to analyze the dynamics of the tourism offer in terms of accommodation units, places (beds), beds-days on the Romanian seaside;
- (ii) to analyze the dynamics of the tourism demand in terms of tourist arrivals and overnight stays on the Romanian seaside;
- (iii) to identify the connections existing between these indicators in order to evaluate if between tourism offer and demand it is a balanced relationship;
- (iv) to draw the right conclusions for tourism strategy for the development of tourism on the Romanian seaside in the future.

## MATERIALS AND METHODS

### Area of the study

Romania's Black Sea shore is 245 km length, lasting between the border with Ukraine in the North part and the frontier with Bulgaria in the South one. Of its total length, 163 km are occupied by the Danube Delta and the coastal lakes, and the remaining of 82 km, lasting between Midia Cape-Navodari and Vama Veche are represented by a beautiful chain of 16 resorts [19].

First of all it is about *Navodari*, the resort situated in the North part of the Romanian seaside, in a quiet place good for relaxation, with the longest beach (12-15 km) and also a large one (100-200 m), with fine sand and a wonderful sea water with a small depth (1-2 m) for a long distance entering the sea.

*Mamaia*, the pearl of the Romanian seaside has 8 km length of beach of over 250 m width, a fine sand, the most numerous hotels, villas etc, a large variety of entertainment places (clubs, disco, Aqua Magic Park, telegondola, "Ovidiu" Island, water fountains, double decked buses for tourists, Mamaia Holiday Village etc).

*Eforie Nord* is the spa and health resort, and also the children's resort.

*Eforie Sud* is characterized by the highest boardwalk, and Splendid Beach, one of the most beautiful beaches on the Romanian seaside

*Costinesti* is the youth resort full of opportunities for entertainment (concerts, clubs, disco) and terraces, and its important tourist objectives are the Shipwreck and the Obelisk.

*Olimp, Neptun, Jupiter, Venus, Saturn, Cap Aurora, and Jupiter* are important resorts at present under a continuous but slow modernization by investments in the competition to attract more tourists.

*Mangalia* has a narrow but pleasant beach and possibilities for treatment being considered another spa and health resort. Its tourist attractions are: the Byzantine edifice, Mangalia Stud farm which offer horse riding lessons, Esmahan Sultan Mosque, Callatis Museum of History and Archeology, the Marine Museum, the Mangalia Tourist Harbor.

*Vama Veche- 2 Mai* is a village-resort which offer quiet, discrete, nonconformist, isolated holidays in a "hippie" atmosphere with accommodation in rustic houses or even on the beach.

To all these resorts we have to add *Constanta Municipality* which also has a few beaches: the Modern Beach, The Three Slippers Beach and the North Boardwalk Beach and important tourist attractions such as: Aquarium, Dolphinarium, the Boardwalk and the Casino, the Roman edifice and mosaic, the Genoese Lighthouse, important Orthodox, Catholic, Greek, Turkish religious edifices, Gravity Park, Constanta Natural Micro-reservation, the Art Museum, the Museum of National History and Archeology Constanta, the "Ion Jalea" Sculpture Museum, the Romanian Marine Museum in Constanta, Tomis Tourist Harbor Constanta, Ovidiu's Statue, Mihai Eminescu's Statue, "Fantasio" Theater etc.

In the Constanta County, there are other important tourist attractions such as: "Histria" Citadel with its archeological site, "Tropaeum

Traiani" Museal Complex in Admaclisi [5, 6, 7, 12, 18].

The beaches of the Romanian seaside have in general 100-200 m width and a fine sand, the sea water is pleasant about 24<sup>0</sup> degrees in summer season, the salinity is low about 7-12 ‰, the tide is about 12 cm, the slope in the sea water is smooth and the sea currents are weak. The mild temperate continental climate and the sea breeze rich in aerosols offer wonderful conditions for laying in the sun, swimming and practicing nautical sports [3].

Besides all these, the Romanian seaside offers a large range of facilities. First of all a large variety of accommodation units like: hotels but also tourist villas, hostels, camping and bungalows, tourists guest houses and even accommodation to private houses of the local owners.

Also, on the seaside there are a lot of opportunities for leisure and entertainment, for spa and treatments based on mineralized waters and sludge, for eating in restaurants and terraces many of them being situated right on the beach, where tourists could enjoy tasting various meals from the traditional Romanian gastronomy and from the international one, for making sports (nautical sports, tennis, gulf, football, volleyball) [1].



Photo 1. The map of the Romanian Seaside including the main resorts.

Source:<http://forum.romeonet.ro/viewtopic.php?f=34&t=1159>, Accessed Feb.20th, 2019.

Seaside and spa tourism are among the most important forms of tourism which attract more and more tourists mainly in the summer months: June, July and August, and sometimes in extra season. This part of Romania is preferred by the visitors who love the sea and the seaside resorts offer a large range of opportunities and facilities to meet all the preferences and budgets.

**Data collection**

The data were collected from "Romanian Tourism Statistical Abstract, 2007-2018. These data are officially provided by the National Institute of Statistics for the resorts situated in the seaside area, excluding Constanta Municipality"[9].

The main indicators used in this study were the following ones:

(a) Indicators reflecting tourism offer regarding the accommodation capacity on the Romanian seaside: number of establishments with function for tourists' accommodation, the structure of these establishments, number of places (beds) in these accommodation units, number of beds-days reflecting the accommodation capacity in use;

(b) Indicators reflecting tourism demand on the Romanian seaside: tourist arrivals, total, Romanians and foreigners, tourist nights spent in establishments with function for tourist accommodation.

The applied methodology consisted of:

*Index method* used to analyze the evolution of each indicator during the period 2007-2017, and mainly to see in what measure in 2017 it was registered an increase or decrease of the indicators level. In this purpose, it was used the mathematical expression:  $I_{FB} = (X_i / X_0)100$ , where  $X_i$  = the analyzed variable with its values in the years  $i = 1, 2, \dots, 11$ .

The structural index,  $S\%$ , whose formula is:  $S\% = (X_i / X)100$ , where  $X_i$  = the value of  $i$  component of the indicator  $X$ .

The Bravais - Pearson correlation coefficient was used to identify the links existing between various pairs of indicators as follows: between tourist arrivals and accommodation units, tourist arrivals and number of places, between overnight stays and number of places. In this purpose it was utilized the mathematical well-known expression:

$$r_{xy} = \frac{n \sum xy - \sum x \sum y}{\sqrt{(n \sum x^2 - (\sum x)^2)(n \sum y^2 - (\sum y)^2)}}$$

For testing the significance of correlation coefficient it was applied "T" Test for  $\alpha = 0.05$  and degrees of freedom,  $df = n - 2 = 9$ . The formula of calculation was:

$$t = r \frac{\sqrt{n - 2}}{\sqrt{1 - (r)^2}}$$

Regression analysis, involving the equation  $Y = bX + a$  was utilized to check if there is any relationship between the pairs of indicators mentioned above.

The coefficient R square was determined to show how much of the variation of the independent variable influences the variation of the dependent variable.

The Excel facilities were used to make all the graphically illustrations and calculations.

**RESULTS AND DISCUSSIONS**

**Tourism offer regarding the accommodation capacity**

The number of establishments with function for tourist accommodation registered a general decreasing trend from 932 units in the year 2007 to 776 units in 2017, meaning -16.74%. However, in the period 2007-2011, it was noticed an ascending trend from 932 to 946 units in 2010 (+1.5%), but then in 2011, the number of accommodation units decreased to 625 (-33% compared to the 2007 level)(Fig.1.).

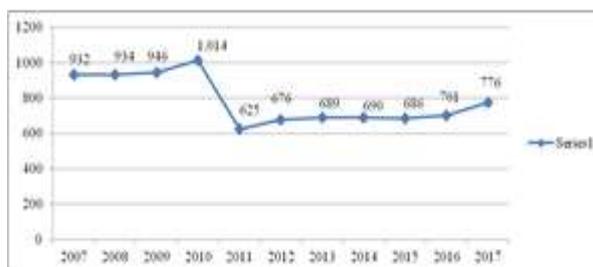


Fig.1. The dynamics of tourist accommodation units on Romania's seaside, 2007-2017.

Source: Own design based on the data from [9].

This was happened because the degree of degradation of the old buildings was enough high and they did not correspond to the

accommodation comfort standards and for this reason a part of them were closed.

The decline of the number of accommodation units in the seaside area is due to the fact that most of

investments were focused mainly to modernize the old accommodation structures and much less to built new constructions. More than this, the public investments in the seaside area represented just 4.3 % in total tourism investments [4].

But, since the year 2012, the accommodation units increased their number which reached the level of 776 units in 2017.

**The number of places (beds)** registered a reduction as a consequence of the dissolution of an important number of establishments. From 117,864 places in 2007, their number declined by -0.9 % in 2008 reaching 116,849 beds. Then, the number of beds increased so that in 2010 it accounted for 121,003, the highest level in the period 2007-2017. But, in 2011, the reduction of the number of accommodation units determined a decline in the number of places as well. In 2011, they accounted for 80,690 places, and then, their number increased till the year 2014, when they reached 83,625, meaning by 3.6 % more than in 2011. After 2014, the number of beds started to decrease again so that in 2017 there were 80,618 places, meaning by 0.1 % less than in 2011 and by -31.7 % less than in 2007(Fig.2).

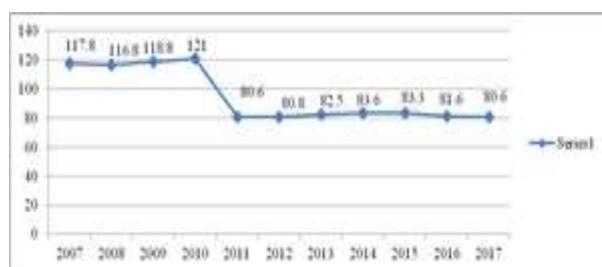


Fig.2.The dynamics of places in tourist accommodation units on Romania's seaside, 2007-2017 (Thousand)

Source: Own design based on the data from [9].

However, "in 2018, the chain of beautiful seaside resorts including Mamaia, Eforie Nord, Eforie Sud, Olimp, Neptun, Venus, Saturn, Cap Aurora, Costinesti, Mangalia, 2 Mai, and together with the Municipality of Constanta had a capacity of 56,595 units

providing over 121,280 places for tourists' accommodation and a large variety of offers to spend their holidays. About 64,987 places are in hotels (53.5%), and the remaining of 56,293 (46.5%) are in tourist villas, camping and hostels"[17]. Hotels are the main accommodation form preferred by tourists. "About 35 % of accommodation places in the hotels of three, four and five stars, and about 60 % places in the hotels of 1-2 stars were sold by tourism agencies and the remaining by other reservation systems" [17].

**The number of beds-days reflecting the accommodation capacity in use** varied between 8,872,433 in 2007 and 9,221,634 in 2017, when it was by 3.9 % higher than in the first year of the analyzed interval. The highest number of beds-days was registered was 10,284,146 in the year 2011, and the lowest level accounted for 8,571,021 in 2009. Analyzing the figures in the graphic below, one may notice a variation upward and downward almost from a year to another (Fig.3.).

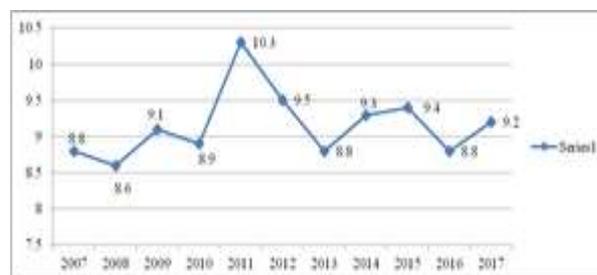


Fig.3.The dynamics of beds-days in tourist accommodation units on Romania's seaside, 2007-2017 (Million)

Source: Own design based on the data from [9].

**The weight of Romania's seaside tourism capacity in the total number of accommodation units, places and beds-days in the national tourism**

Based on the dynamics of the tourism offer on Romania's seaside and the situation of tourism offer at the country level, the contribution of the seaside tourism to the national tourism was the following one:

- On the seaside, the tourist accommodation units represented 9.8 % in 2017 compared to 19.8 % in 2007 in Romania's tourism accommodation units.

-On the seaside, the weight of the number of places for tourists decreased from 41.5% in 2007 to 23.4% in 2017 in the number of beds existing in the national tourism.

-In 2017, the weight of the number of beds-days on the seaside tourism in the number of beds-days in the national tourism decreased from 17.3% in 2007 to 10.5% in 2017 (Fig.3).

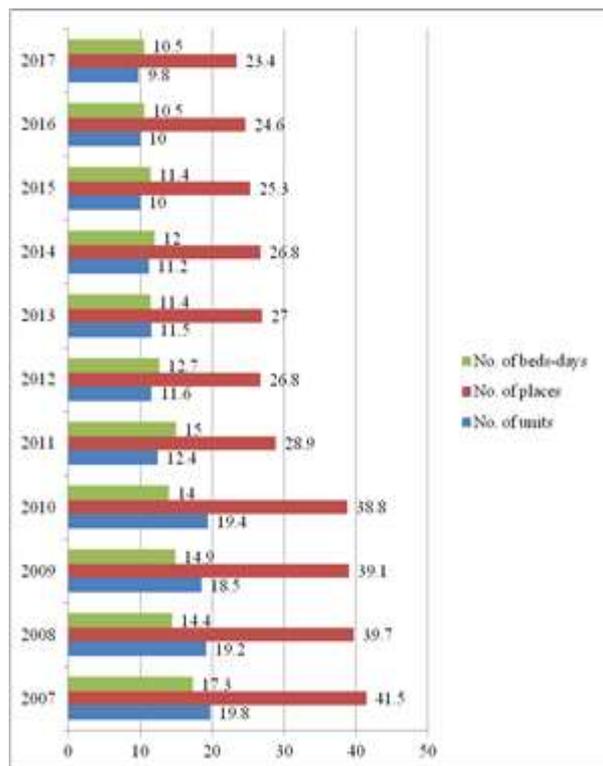


Fig.4.The dynamics of the share of seaside tourism offer in terms of accommodation units, places and beds-days in the national tourism offer, Romania, 2007-2017 (%)

Source: Own design and calculation.

**The structure of the accommodation capacity on the Romanian seaside tourism by category of unit**

Hotels represent the main form of accommodation establishments, being followed by bungalows, tourist villas and hostels. The structure of the accommodation units in 2007 was the following one: 302 hotels (32.4%), 296 tourist villas (31.7%), 206 bungalows (22%), 33 agro-tourism guest houses (3.5%), 30 tourist guest houses (3.2%), 27 tourist small houses (2.8%), 18 camping (1.9%), 13 scholars camps (1.4%), 6 hostels (0.6%), 1 motel (0.1%).

In 2017, the structure of accommodation units was as follows: the number of hotels declined to 287 (36.9%), the number of bungalows increased to 235 (30.2%), the number of tourist villas decreased to 160 (20.6%), the number of hostels increased to 52 (6.7%), the number of tourist pensions declined to 14 (1.8%), the number of camping declined to 10 (1.2%), the number of agro-tourist pensions decreased to 5 (0.6%), the camps for scholars declined to 3 (0.4%), and the motel remain 1 (0.1%).

Therefore, if in 2007, the highest share in the accommodation units' structure was kept by hotels, tourist villas and bungalows, in 2017, the decreasing order was: hotels, bungalows and tourist villas. The other forms of accommodation units had a lower weight during the analyzed period.

**The structure of the accommodation capacity in term of the number of places on the Romanian seaside tourism by category of establishment with function for tourist accommodation**

Compared to 2007 in 2017, the number of places declined in case of hotels by -16%, in bungalows by -54%, in camping by -77%, in camps for scholars by -88%, in tourist guest houses by -54%, in agro-tourist pensions by -76.5%, but the number of places increased in case of motels 6.9 times and hostels 13 times.

The distribution of the number of places by type of accommodation unit in 2007 was the following one: hotels 65%, camping 16%, camps for scholars 7%, tourist villas 5.5%, bungalows 3.2%, tourist small houses 2.5%, tourist pensions 0.7%, agro-tourist guest houses 0.6%, hostels 0.2%, and motels 0.03%.

In 2017, the highest share of the number of places by establishment category, in the decreasing order, was the following one: hotels 78.8%, tourist villas 5.6%, camping 5.4%, hostels 4.7%, bungalows 2.1% and the lowest share was registered by agro-tourist pensions 0.2%.(Table 1).

The share of the number of units by category and the weight of places by category of establishments with function for tourist accommodation is presented in Table 2.

Table 1. The evolution of the accommodation structure by establishment type in the Romanian seaside tourism in 2017 versus 2007

	Number of units			Number of places		
	2007	2017	2017/2007 %	2007	2017	2017/2007 %
Total	932	776	83.2	117,864	80,618	68.3
Hotels	302	287	95.0	75,488	63,535	84.1
Motels	1	1	100.0	42	291	692.8
Hostels	6	52	866.6	288	3,801	1,319.7
Tourist villas	296	160	54.0	6,561	4,534	69.1
Bungalows	206	235	114.1	3,804	1,763	46.3
Camping	18	10	55.5	18,894	4,366	23.1
Camps for scholars	13	3	23.0	8,200	1,012	12.3
Halting places	-	2	-	-	194	-
Tourist guest houses	30	14	46.6	810	372	45.9
Agro-tourist guest houses	33	5	15.1	781	184	23.5
Tourist small houses	27	-	-	2,996	506	16.8

Source: Own calculation based on the data from [9].

Table 2. The accommodation capacity structure in the Romanian seaside tourism in 2017 compared to 2007 (%)

	Number of units		Number of places	
	2007	2017	2007	2017
Hotels	32.4	36.9	64.0	78.8
Motels	0.1	0.1	0.03	0.4
Hostels	0.6	6.7	0.2	4.7
Tourist villas	31.7	20.6	5.6	5.6
Bungalows	22.0	30.2	3.2	2.2
Camping	1.9	1.2	16.0	5.4
Camps for scholars	1.4	0.4	6.9	1.2
Tourist guest houses	3.2	0.2	0.6	0.2
Agro-tourist guest houses	3.5	1.8	0.6	0.5
Tourist small houses	2.8	0.6	2.5	0.6
Halting places	-	0.2	-	0.2

Source: Own calculations.

**Tourism demand regarding the accommodation capacity on the seaside**

*The number of tourist arrivals* on the Romanian seaside increased in the analyzed period. In 2017, this growth accounted for 31.8 % in case of the total arrivals, and for 37.7% in case of arrivals of the Romanian tourists. In case of the foreign tourists' arrivals it was recorded a huge decline, - 42.2 %.

In 2017, the Romania seaside received 1,049,970 tourist arrivals, of which

Romanians 1,016,287 meaning 96.7 % and only 33,683 arrivals of foreigners representing 3.3 %.(Fig.5).

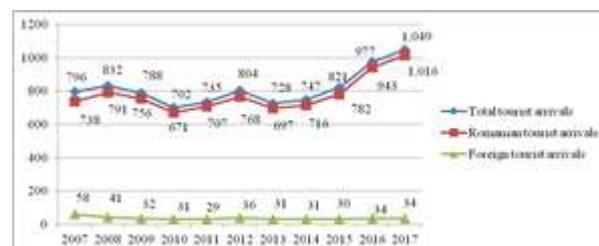


Fig.5.The dynamics of the number of tourist arrivals on the Romanian seaside, 2007-2017 ( Thousands). Source: Own design based on the data from [9].

The tourist arrivals fluctuated in the analyzed interval. The figures from Graphic 5 reflect that in 2009 and 2010 the number of tourists declined as an effect of the economic crises which increased unemployment, inflation, decreased income per households and demand for tourist services on the seashore and not only. In 2010, it was recorded the lowest number of arrivals, accounting for 702,566 tourists accommodated on the Romanian seaside. Then, the number of arrivals increased reaching 894,198 in the year 2012, but in the next year it was registered another decline to 728,798 arrivals. Since 2014 tourist arrivals recorded only a continuous increasing trend till 2017, when it reached 1,049,970 tourists.

Also, the figures from the Graphic 5 show that the number of Romanian tourists who spent their vacation on the Romanian seashore is dominant, and the evolution of this indicator was almost similar to the total number of arrivals.

Every year, the seaside season starts on May 1st when the first 28,000 tourists invade the hotels, mainly in Mamaia resort, where the net use of the accommodation capacity is 90 %.

The Romanian seaside is preferred first of all by Romanians. In 2018, the number of tourists was by 8.2 % higher than in 2017, due to the "Seaside for everyone" Programme and the early booking which led to a 50 % occupancy rate in the month of June. However, most of the tourists come to spend their holidays on the seaside mainly in July and August and even in September.

Despite of that, the low number of foreign tourist on the Romanian seashore and their decreasing trend in general, accounting for 33,683 tourists in 2017 by 46.2 % less than in 2007, reflect the weak promotion of the tourist offer on the seashore at the Black Sea, the weak service quality in relation to the high tariffs per night, as in the short period of the seaside season in Romania which usually lasts in June, July and August, the managers of tourist accommodation units and not only would like to recover their investments.

The foreign tourists spending their vacation on the Romanian seaside are from Germany, USA, Israel, France, Poland, United Kingdom, Italy, Belgium, Austria and Republic of Moldova [17].

**The share of tourists visiting the seashore of Romania in the total arrivals in Romania's tourism.** Of the total number of tourists visiting Romania and accommodated in tourist establishments, the share of the tourists spending their holidays on the Romanian seashore declined from 11.4 % in 2007 to 8.6 % in 2017. In 2017, the Romanians visiting the seashore represented 10.8 % compared to 13.6 % in 2007 in the total tourists in Romania. The weight of the foreigners spending their holidays on the Romanian seashore in Romania's visitors' number reached 1.2 % in 2017 in comparison with 3.7 % in 2007.

**The number of nights spent in the seaside accommodation units** went up by 6.4 % in the analyzed interval so that in 2017 they accounted for 4,316,379 versus 4,054,625 in 2007. The number of overnight stays belonging to the Romanian tourists increased by 12.8 % from 3,707,860 in 2007 to 4,183,458 in 2017. But, the nights spent by foreign tourists on the Romanian seaside declined by 61.67 % from 346,765 in 2007 to 132,921 in 2017 (Fig.6).

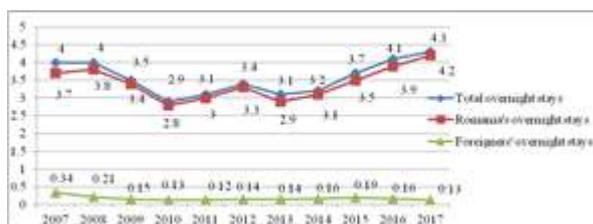


Fig.6. The dynamics of the number of the nights spent on the Romanian seaside, 2007-2017 (Million).

Source: Own design based on the data from [9].

The economic crisis determined an inflexion of the nights spent in their dynamics in the interval 2007-2017. And this happened due to the diminished income per family.

The decrease of foreigners' arrivals led to a reduction of their nights spent on the Romanian seashore.

**The weight of tourists' overnight stays on the seashore of Romania in the total nights spent by tourists in Romania**

The share of the number of overnight stays belonging to the tourists spending their holidays on the Romanian seaside in the total number of nights spent by tourists in Romania declined from 19.6 % in 2007 to 15.9 % in 2017.

Also, the share of the Romanians' nights spent on the seaside in the total overnight stays of the Romanians at the national level decreased from 21.8 % in 2007 to 19.2 % in 2017.

The highest decline was registered by foreign tourists' overnight stays on the seaside in the total number of nights spent by foreigners in Romania, as in 2017 they accounted for only 2.5 % compared to 9.6 % in 2007.

**The regression and correlation between the number of tourists and the number of accommodation units on Romania's seaside**

Between the number arrivals and the number of accommodation units on the seaside, it was found a weak relationship,  $r = 0.121$ . There is no significant connection between the number of tourist arrivals and the number of accommodation units as proved by the "T" Test for  $\alpha = 0.05$ . The two tailed T critical value = 2.262 for  $df = n - 2 = 9$  is higher than the calculated one. The  $T_{crit} > T_{calc} = 0.365$ .

Only 1.47 % of the variation in the tourists' arrivals is caused by the variation in the number of accommodation units as confirmed by the R square value ( $R^2 = 0.0147$ ).

An increase of the number of accommodation units determines a decline of -0.15 in the number of tourist arrivals as shown by b value in the regression equation  $y = -0.1583x + 917.29$  (Fig.7).

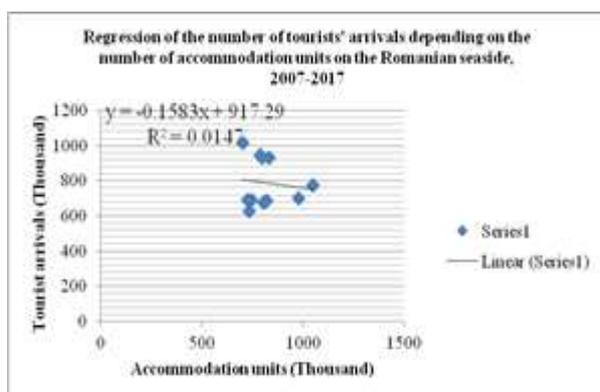


Fig.7. The regression of tourist arrivals in Romania's seaside depending on the number of accommodation establishments for tourists, 2007-2017.

Source: Own design.

### The regression and correlation between the number of tourist arrivals and the number of places in accommodation units for tourists

Between the number of tourist arrivals and the number of places in accommodation units on the Romanian seaside it is a weak and positive relationship as shown by the coefficient of correlation,  $r = 0.316$ . Applying the "T" Test for  $\alpha = 0.05$ , it was found the two tailed T critical value = 2.262 for  $df = n - 2 = 9$ . The critical value of T taken from tables,  $T_{crit} > T_{calc} = 0.999$ , reflecting that there is no significant relationship between the number of tourist arrivals and the number of places.

About 10 % of the variation in the tourists' arrivals is caused by the variation in tourism

capacity in terms of number of beds as  $R^2$  proved.

An increase of one place in accommodation units will determine a decline of 1.818 in the number of arrivals as shown by the regression equation  $y = -1.8189x + 0.9879$  (Fig.8).

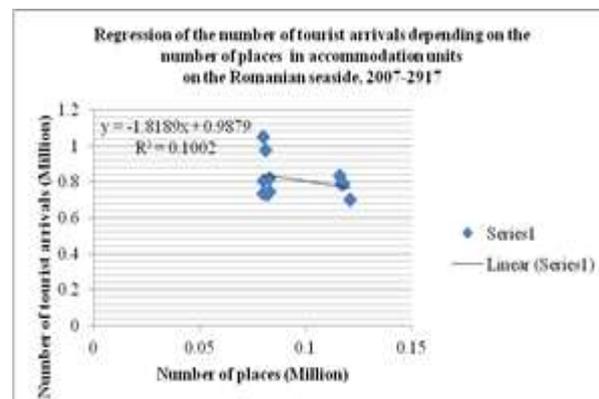


Fig.8. The regression of tourist arrivals in Romania's seaside accommodation structures depending on the number of places, 2007-2017.

Source: Own design.

### The regression and correlation between the number of overnight stays and the number of places in accommodation units for tourists

The coefficient of correlation,  $r = 0.0038$ , reflected a very weak, practically a non existing relationship between the number of overnight stays and the number of places in accommodation units for tourists on the seaside. For  $\alpha = 0.05$ , the two-tailed test proved that T critical value = 2.262 for  $df = n - 2 = 9$  is much higher than  $T_{calc} = 0.3162$ .

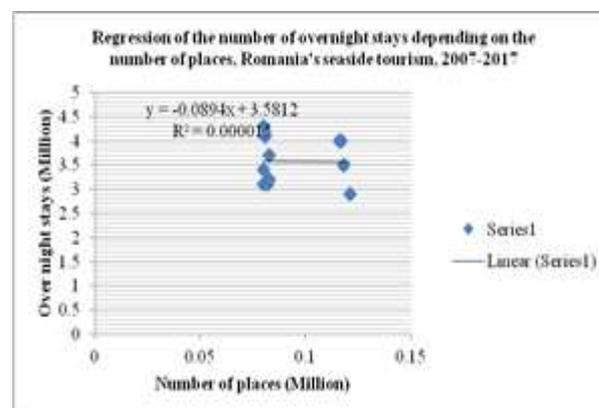


Fig.9. The regression of the nights spent by tourists on Romania's seaside accommodation structures depending on the number of places, 2007-2017.

Source: Own design.

There is no variation in the tourists' overnight stays determined by the variation in the number of beds as  $R^2 = 0.000015$ .

The growth of the capacity with one place in accommodation units will determine a decline of 0.0894 in the number of overnight stays as reflected by the equation of regression,  $y = -0.0894x + 3.5812$  (Fig.9).

The results found in this study do not compile with the achievements in other studies regarding the relationships existing at the country level and also in the South East part of Romania between the number of tourist arrivals and overnight stays and the number of places as found by [13, 14].

## CONCLUSIONS

While the number of tourist arrivals on the seaside increases in average by 2.7 % annually, its share in the total number of tourists visiting Romania decreases and at present is 8.9 %. This happens because the mountain area has become the most dynamic tourism form in Romania.

In 2017, the tourist arrivals on the seaside were by 31.8 % higher than in 2007, but they represented just 8.6 % in total arrivals in Romania. The Romanian tourists spending their vacation on the seaside represent 10.8 % in the total Romanian tourists in the country.

The number of foreign tourists has deeply declined in the seaside area and at present it represents just 1.2 % of the total foreigners visiting Romania.

The nights spent by tourists in accommodation structures in the seaside area increased by 6.4 %, but in case of the overnight stays of the Romanian tourists increased by 12.8%, while in case of the foreign tourists their number decreased by 61.6%.

At present, the nights spent on the seaside represent 15.9% of the total overnights in Romania's tourism, and this share has a descending trend.

At the same time, the accommodation capacity in the seaside tourism in terms of establishments and places declined year by year compared to the high average growth rate, + 6.2 %, of the number of

accommodation units and places in the mountain area.

In Romania's tourism, the seaside tourism represents 9.8 % in the total accommodation tourism structures, 23.4% in the total number of places and 10.5 % in the total beds-days, and these shares continue to decline.

On the seaside, the highest share among the accommodation units with tourist function is kept by hotels (36.9%), bungalows (30.2 %) and tourist villas (20.6%), and the highest number of places are in hotels (64%), camping (6%) and camps (7%).

The correlation and regression analysis proved that there is very weak relationship between the accommodation capacity and the number of tourists and overnight stays.

The main problems the seaside tourism is facing in Romania are:

- The low investments in accommodation structures both in the public sector and in the private one which focused especially on the modernization of the actual buildings than in building new constructions;

- The lack of labor force mainly in the summer season but also in the extra season due to the changes of climate which have extended the season in September during the last years.

- In the peak of the season and mainly in the week-ends it is a lack of the accommodation capacity in the seaside resorts, especially in Mamaia, and for this reason the tourists are obliged to look for accommodation in private houses or apartments. In this case, the exact number of tourists is not known, the competition between the private owners and the classified tourism accommodation structure is high. More than that, many times the beaches and restaurants are full of tourists and this creates a discomfort atmosphere and a frustration feeling among the seaside visitors.

- The mini and supermarkets built in the seaside resorts are important competitors for the restaurants and fast food owners.

These problems could be solved by setting up an efficient master plan and strategy focused on the development of the seaside area by investments, creating jobs, increasing employment and productivity in tourism, diversifying the offer of leisure and

entertainment activities, applying a better management of the actual accommodation structures to increase the comfort degree, assuring a good management of the beaches, means of conveyance, parking places and access roads among and through the resorts, keeping the green spaces and improving the service quality in close relationship with price level per service.

All these are destined to assure a balanced offer/demand ratio in the seaside tourism, to attract more tourists to this wonderful destination of Romania and increase the tourism receipts.

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