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AN ANALYSIS OF THE EFFICIENCY OF ACCOMMODATION CAPACITY IN OPERATION ON FLUVIAL AND MARITIME SHIPS IN ROMANIA

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Abstract: *The Romania's tourism supply includes the Danube River and Black Sea, forming the potential for tourism navigation. The study aims evaluation of the efficiency of accommodation capacity in operation, on inland waterway and maritime in Romania between 2000 and 2012 years. The paper begins with analysis of the number of these types of tourist accommodation, of the number of places they offer and accommodation capacity in operation. Amid presenting tourist supply (tourist accommodation), we study the annual evolution of the indice of accommodation capacity in operation. The analysis elaborated, according to the method applied to official statistics, aims to highlight specific aspects in order to establish management decisions for business continuity in tourism at odds as higher, compared with the standards set at European level and world level.*
Key-words: *touristic activity, fluvial and maritime ships, accommodation capacity, indices of net using the touristic accommodation capacity in operation*

1. THE NAVAL TOURISM

The touristic potential of the Danube and Black Sea in Romanian sector has an advantage in developing economic relations and thus tourism with world countries. In "Blue navigable area" of Romania, waterborne transport is a benchmark by which, develops also naval tourism activities.

As a way to move the customer to tourist destinations, naval truistic supply various services as:

- racing line;
- cruise or mini cruise;
- individual leisure craft trips.

Tourist transport, by moving them into "the blue touristic area", encourage the consumption of tourism products like accommodation, food, leisure and satisfying spiritual and material needs.

Given that the Danube is divided into a fluvial area and a sea area, as a whole, is evidence that inland navigation tourism is practiced both on the maritime Danube, with larger ships with a draft of 7m downstream of Braila and upstream of the small tonnage also draft of up to 2-2.5 m, while maritime touristic navigation allows the traffic of heavy ship.

Ship characteristics, distance, travel time, traffic flow also seasonal conditions are some elements that outlines to tourism naval activity, characteristics which can highlight its evolving trend.

Legislation and tourist navigation control, aimed at establishing the duties and their monitoring compliance, is implemented in practice of institutions such as Territorial Naval Authority, Tulcea and Danube Delta Biosphere Reserve Authority. Also, "Romanian inland ports Union" is an association which coordinates the Romanian inland ports: Galati, Braila, Tulcea, Giurgiu, Cernavoda, Calafat, Oltenia, Calarasi, Orsova, Drobeta Turnu Severin, Bechet, and Moldova Veche.

The most obvious touristic naval activity is cruise services; we believe that it can create a real "industry". Given the size, the comfort, the quality and type of entertainment offered, the touristic supply is materialized in holiday cruises, luxury or adventure. The most popular short cruise travel agencies in the Romanian sector of the Danube are "Prestige" and "Atbad" (Delta).

Individual trips can take place either their own craft or through rental services of vessels that can be have type: trip (return to a set destination), round trip charter (return trip, the route set containing multiple destinations), charter (no set destination, but only time of rental)

2. THE EVOLUTIONS OF INDICATORS OF TOURISM ACTIVITY IN ACCOMMODATION SPACES ON FLUVIAL AND MARITIME SHIPS IN ROMANIA

The main indicator for the evaluation of naval tourism is the number of accommodations on fluvial and maritime ships. Regardless of the objectives of such short or long trips, they involve at least one overnight accommodation on the ship.

The changes during the years 2000-2012, in terms of classification of ownership accommodation on fluvial and maritime ships, are shown in Figure 1. The graph shows the expansion of private enterprise, private property developing throughout the analyzed period. Thus, from the four ships fully state owned and private one, recorded in 2000, will reach 10 ships completely private in 2012, while in 2004 this form of property had a total of 9 ships.

After 2004 the number of ships with accommodation for tourist activities decreased by 50%, varying in 2005-2011 around an average of 5 ships. Significantly jump is recorded in 2012, when their number doubled. On the other hand, note that after 2008 are no ships with tourist accommodation spaces in the state propriety.

Of course, the number of ships with total capacity of accommodation affects existing accommodation. Evolution in the period 2000-2012 is presented in Figure 2. As shown, in this case, the year 2004 is the highest supply of accommodation capacity. After 2004, however, recorded a strong decline from the 594 seats in 2004 to only 395 seats in 2011 (a decrease of 35.2%). The year 2012 marks a return (504 beds), with 3.3% more than in 2000.

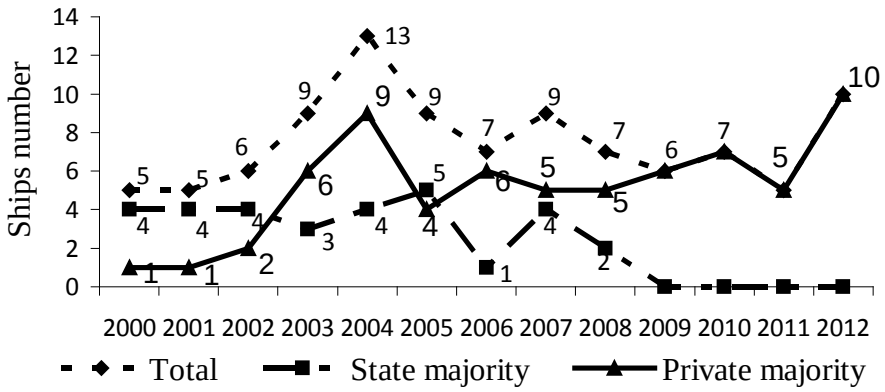

Figure 1 Evolution of number of fluvial and sea ships with accommodation for touristic activity, by ownership

As can be seen from Figure 2, the period is characterized by fluctuations (increases and decreases) significantly. To highlight general trends and trends of significant intervals, we tested several econometric models. Summary results are presented in Table 1.

Table 1 Characteristics of econometric models of the accommodation number

Model	Period	Type of model	Multiple R	R Square	Significance F
M1	2000-2012	linear	0,485	0,235	0,092
M2	2000-2012	polynomial g.3	0,824	0,671	<0,05
AB	2000-2011	linear	0,571	0,326	0,052
BC	2004-2011	linear	0,964	0,929	0,0001

For the entire period analyzed (2000-2012) were tested two models. The M1 can be considered valid for a significance level $\alpha = 0{,}1$ (probability 0, 9). Noting with N_{AP} the number of accommodation places, model M1 is:

$$N_{AP}(t) = 540{,}26 - 6{,}24 \cdot t \quad (1)$$

If we assume a significance level $\alpha = 0{,}1$ that, form the model (1), throughout the period under review the number of accommodation on ships decreased by about 6.24 places per year.

The M2 is a third degree polynomial model whose shape is coming pretty good shape evolution of the number of accommodation in the period. Although this model satisfies the theoretical validation conditions for a significance threshold (currently used value in this type of analysis), we consider that practically it can not be considered because the number of observations is very small (13 observations for a polynomial model of grade 3 is too few. As with the degree of a polynomial model approaches the number of observations, so the R squared has higher values, meaning better models, which are not always true in practice).

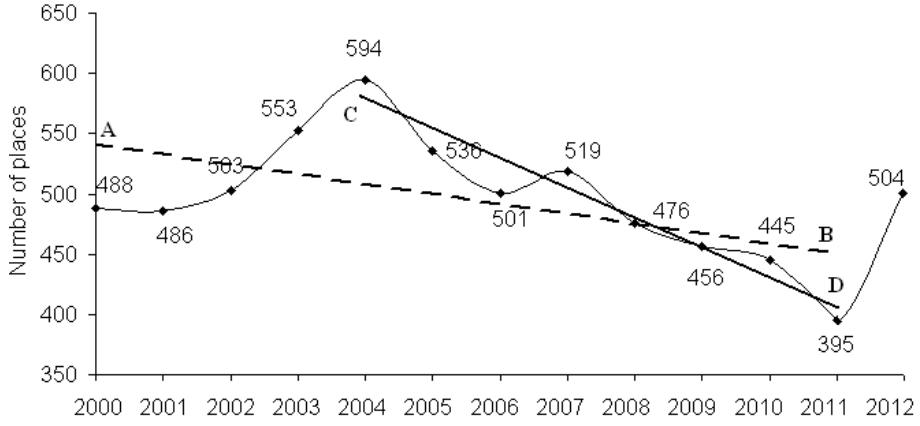

Figure 2 Evolution of touristic accommodation capacity

For a better assessment, we limited the period to 2000-2011, achieving AB model (represented in Figure 2). It has the form:

$$N_{AP}(t) = 541{,}5 - 8{,}273 \cdot t \quad (2)$$

In this case we have $SegnificanceF = 0,052$, providing an acceptable characterization of the evolution of the number of accommodation on ships in the period 2000-2011. In this period, the number of accommodation places has decreased by about 8.27 per year.

The CD model describes the evolution of accommodation on ships during 2004-2011, the period in which this indicator registered the largest decline. The model is valid not only for the $\alpha = 0,05$ and also $\alpha = 0,01$ (probability of more than 0.99). The CD is:

$$N_{AP}(t) = 671,14 - 24,119 \cdot t \quad (3)$$

The CD model shows that, during 2004-2011, the number of accommodation places on ships declined with approximately 24.12 places per year. Finally, it is worth mentioning the returning in 2012, to the amount recorded in 2004, 504 seats, which change the downward trend from 2004-2011. Increasing the supply of accommodation places on fluvial and maritime ships would be a good boost in the development of this type of tourism.

Linked to existing accommodation capacity, the other indicator is the touristic accommodation capacity in operation, whose evolution is shown in Figure 3.

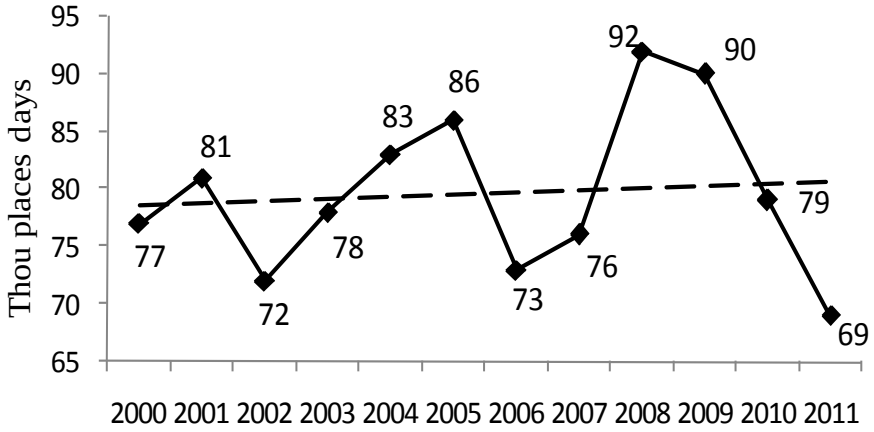

Figure 3 The evolution of touristic accommodation capacity in operation

During 2000 - 2011 accommodation capacity in operation is between 69 and 92 thousand places-days. These fluctuations are on the upward trend. Note that the amplitude of fluctuations increases continuously, that is a characteristics of an unstable system (divergent).

Data series analysis was performed with several types of models, but with none satisfactory results were obtained. Although data series seems to have an oscillating evolution, the hypothesis not confirmed, because the fluctuations of the three periods are different. Consequently, fluctuations in evolution of accommodation capacity in operation could be determined by government policies and by the department policies. For example, the reduction from 86,000 seats-days, recorded in 2005, to 73,000 seats-days in 2006, was due, among other things, to reduction of ships of state ownership from 5, in 2005 to one 1 (4 ships less) while the number of private ships (Figure 1) increased only by a ship.

Accommodation capacity in operation analyzed above, gives us an image only on supply. Accommodation space efficiency is obtained by confronting supply with demand. For this we used as an indicator of efficiency, the indices of net touristic accommodation capacity in operation, calculated as the ratio between the number of overnight stays and accommodation capacity in operation.

Figure 4 presents the evolution of fluctuations, with slight increase, of the indices of net using touristic accommodation capacity in operation, corresponding to accommodation spaces on ships in Romania in 2000-2011 periods. Percentage values that range between 56.8% in 2003 and 77% in 2004 indicate a relatively low of used of accommodation places on the ships, which means that the demand is significantly greater than the supply.

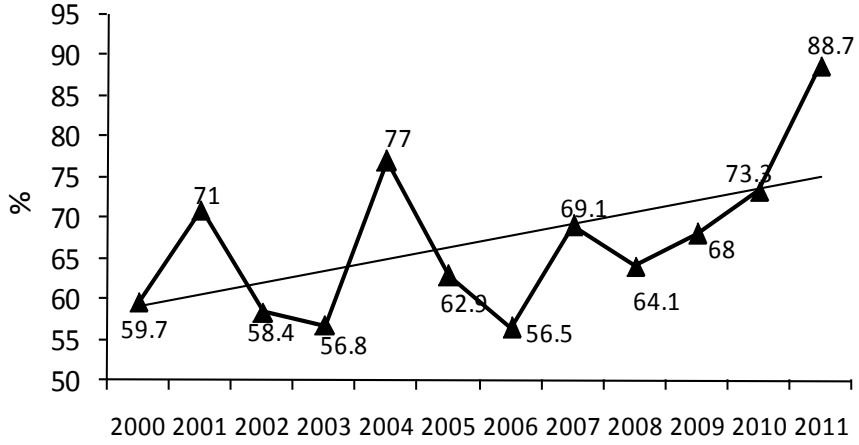

Figure 4 The evolution of the indices of net using touristic accommodation capacity in operation (%)

The graphical representation in Figure 4 we would suggest the linearity for the trend of this indicator. However, the application of statistical and econometric methods does not confirm this hypothesis and the small number of data not enables us looking for higher grade models.

It is noteworthy, however, that the general trend is upward. The regression coefficient indicates a slight average annual increase of the indices of net using accommodation capacity in operation with approximately 1.4451% per year.

If we analyze the indices of net using touristic accommodation capacity in operation on comfort categories (Figure 5) it can be seen that the four stars accommodation places on the ship are the most wanted, the indicator value ranging from 67.6% (2002 , 2005) and 104.4% in 2011. High values of the indices, f from 77.8% (2004) and 44.1% (2006), are recorded and for places of three stars, the difference of 33.7 percentage points highlighting the relatively small fluctuations from one year to year.

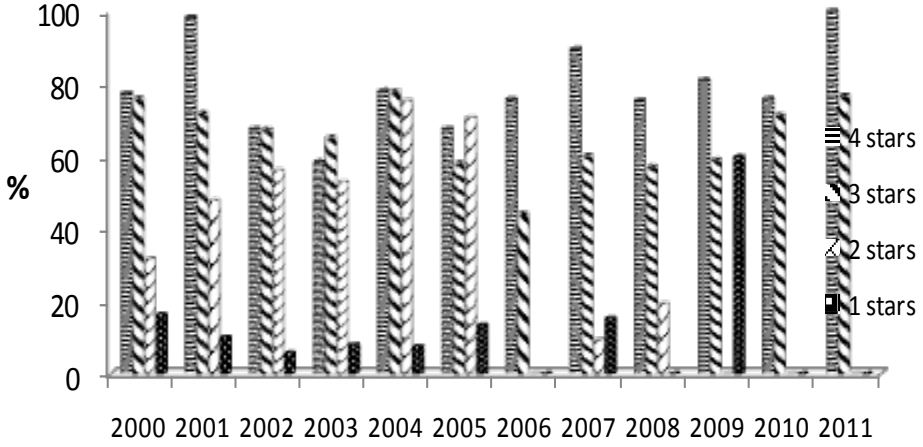

Figure 5 The evolution of net using touristic accommodation capacity in operation by category of confort

If the first two categories were pretty much required by tourists during the course of tourism activities, the situation is different for accommodation places of two stars and a star. Basic equipment for this two categories of comfort, lower than the accommodation spaces of three and four star , explains that, although elected, the situation does not allow them to remain long time on such ships, which leads to indices with very oscillating values. If two-star accommodation spaces, the maximum amplitude of fluctuations of indices is 65.8 percentage points (from 75.2% in 2004 to just 9.4% in 2007), while for a star is of 54 percentage points, from 5.8 in 2002 to 59.8% in 2009.

3. CONCLUSIONS

In the period 2000-2012 the activities of naval tourism recorded fluctuations on the whole period, settling in most analyzed indicators a slight increase.

The results showed that the privatization process has had a positive impact on naval tourism in Romania. This is a significant advantage for the transition, with consequences quite low, the global economic crisis started in 2008 and signalled in Romania in the next years. Also, the indices of net using touristic accommodation capacity in operation for total accommodation on fluvial and maritime ships in Romania might conclude that, given the percentage values after 2008, rising from one year to another, the touristic activity had not greatly suffered from the economic crisis which started in 2008.

Trends are outlined on the background of concerns, sweetening constants, both of managers, regarding the efficiency of accommodation capacity in operation, and also of customers, regarding the demand that is intended as met to international standards. Management process should include the coordination of naval tourism as a whole from the accommodation, food, entertainment, and transport by ship, both the internal environment and also the external environment with which is in contact.

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