

COMPARATIVE ECONOMETRIC ANALYSIS ON THE EVOLUTION OF TOURISM TRAFFIC IN PRAHOVA AND BRASOV COUNTIES

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Abstract:

The paper analyzes the comparative development of tourist traffic in the counties of Prahova and Brasov, the main indicators for assessing values, numbers of tourist arrivals and overnights number, being studied as econometric time series.

The economic crisis triggered worldwide began before 2009 also in travel industry, has important effects at national level in Romania territorial.

Studied in this context is the tendency of tourist movement in Prahova and Brasov counties, and recording developments oscillatory growing up in 2008 and a significant decrease in the year 2009.

Conclusions of the analyzed phenomena show that the results are the effects of the emergence of financial bottlenecks that led to a significant drop in income population and therefore in important reduction of the tourist arrivals and of the overnight stays in these counties.

However, it is expected a revival of tourist traffic in Prahova and Brasov counties, after economic recovery of Romania.

Key Words: regression, polynomial function, overnight stays, tourist arrivals.

JEL Classification: C10, L83

1. INTRODUCTION

Romania's economic growth in the last 10 years has led to significant positive developments in tourism. Thus, in this decade, tourist movement had significant developments at national, regional and county.

A particular impact in the tourist traffic and tourism activity is presented to counties Prahova and Brasov, which allow a comparison of this view. The two counties are the main tourist destinations for the habitants of the capital city where pollution and stress are highest. These two counties there are at a relatively small distance from Bucharest and offer a range of ways to spend the weekend. This context determines the inhabitants to escape out often from this city, weekend tourism being one of the forms of tourism, with significant impact on tourist traffic down in the two counties.

The main indicators characterizing the touristic flows are represented by the number of tourist arrivals and the number of overnight stays in establishments of tourist reception in the counties that are under examination.

The econometric approach of time series is formed from the empirical data provided by local departments of statistics from Prahova and Brasov, and it is based on an essential feature of the target in the analysis. This feature requires the explicit identification of the order of occurrence of all observations.

Meanwhile, application of econometric methods have envisage the determination of the trends of the phenomena analyzed by applying of mathematical functions which better reflect the trend of each indicator that characterize the tourist flows in the two counties.

Analytical methods for analyzing the evolution of economic phenomena and processes are based on chronogram of empirical dates series that allows choosing the best estimate of mathematical function of overall trend of tourist flows.

2. A COMPARATIVE ECONOMETRIC ANALYSIS OF THE EVOLUTION OF TOURIST ARRIVALS IN ESTABLISHMENTS OF TOURISTIC RECEPTION IN PRAHOVA AND BRASOV COUNTIES

Number of tourist arrivals in tourist reception is the main indicator for measuring the tourist traffic, outlining its evolution and to some extent impact of tourism on economic growth at regional or national.

Evolution of the number of arrivals in Prahova County during 2000-2009 period, presents an oscillatory trend with successive increases and decreases (Table 1).

Table no. 1: Tourist arrivals in establishments of touristic reception in Prahova county (Thousand persons)

2000	2001	2002	2003	2004	2005	2006	2007	2008
327	315	306	320	329	347	371	416	417

Source: Tourism Prahova, 1998-2008 Statistical Compendium, 2009 edition, pag.4

The overall trend is reflected as an increase in tourist arrivals in Prahova entire period of analysis. On average this increase is set at just 33,000 visitors annually, ie an average increase of 101.02% with an average rate of 1.02%.

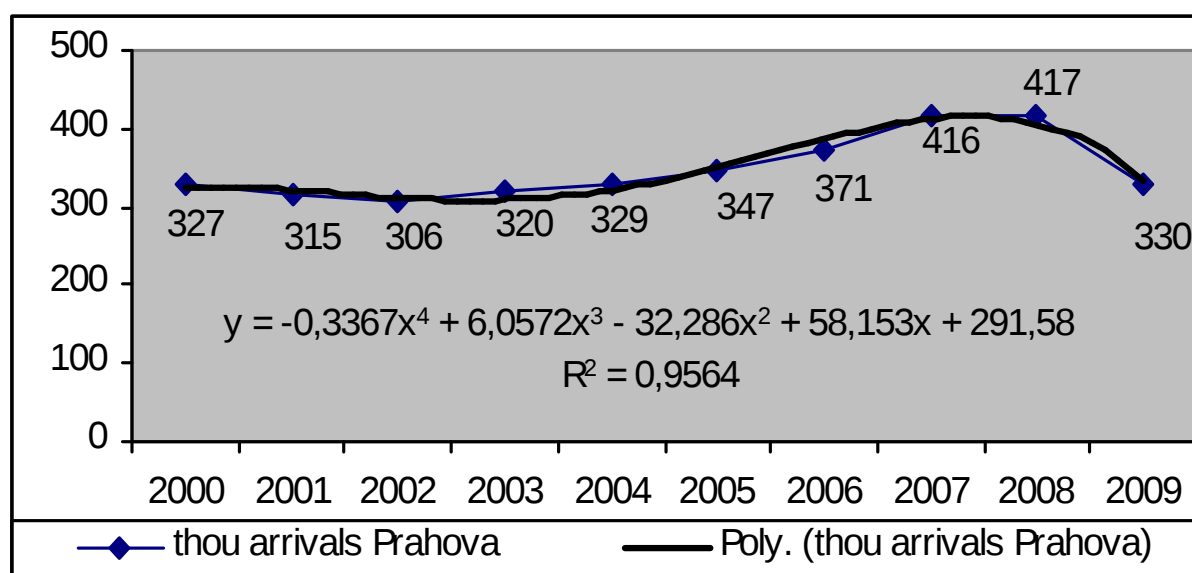


Figure no. 1. Evolution of tourist arrivals in Prahova County, in the period 2000-2009

A clearer picture of the evolution of the number of tourists arrivals in establishments of tourist reception is also presented in Prahova chronogram (Chart 1). Insignificant average increase is due to last set of values recorded in the year 2009 as a result of the economic crisis started in 2008.

Graph tourist arrivals in Prahova County, in the period 2000-2009 suggests Econometric development trend set by adjusting the numbers of arrivals of tourists arriving using the fourth degree polynomial, whose relationship is determined as:

$$y = -0,3367x^4 + 6,0572x^3 - 32,286x^2 + 58,153x + 291,58 \quad (1)$$

Value determined coefficient ($R^2 = 0,9564$) indicates that the adjustment on the fourth degree polynomial better reflect the evolution of tourist arrivals in establishments of tourist reception of Prahova county.

Evolution of the number of arrivals in Brașov County during 2000-2009 periods is presented in table 2.

Table no. 2. Tourist arrivals in establishments of touristic reception in Brasov County (Thousand persons)

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
326	328	290	325	422	448	484	557	582	426

Source: Statistical Yearbooks Brasov

From Table 2 is apparent that the evolution of the number of arrivals during the period 2000-2009, shows a similar trend to that recorded in Prahova County. Minimum value of 290 000 was registered in 2002, the maximum being recorded in the late period, 557,000 in 2007 and 582,000 in 2008. In 2009 was recorded a decline compared to 2008 the number of tourist arrivals in Brasov County with about 156,000.

The same trend is also reflected by corelograma of tourist arrivals in establishment of tourist reception of Brașov County (Figure 2). Compared to average growth set at the county Prahova, Brasov County register an average increase of 36,250 tourists, with 3250 visitors annually more than in Prahova County.

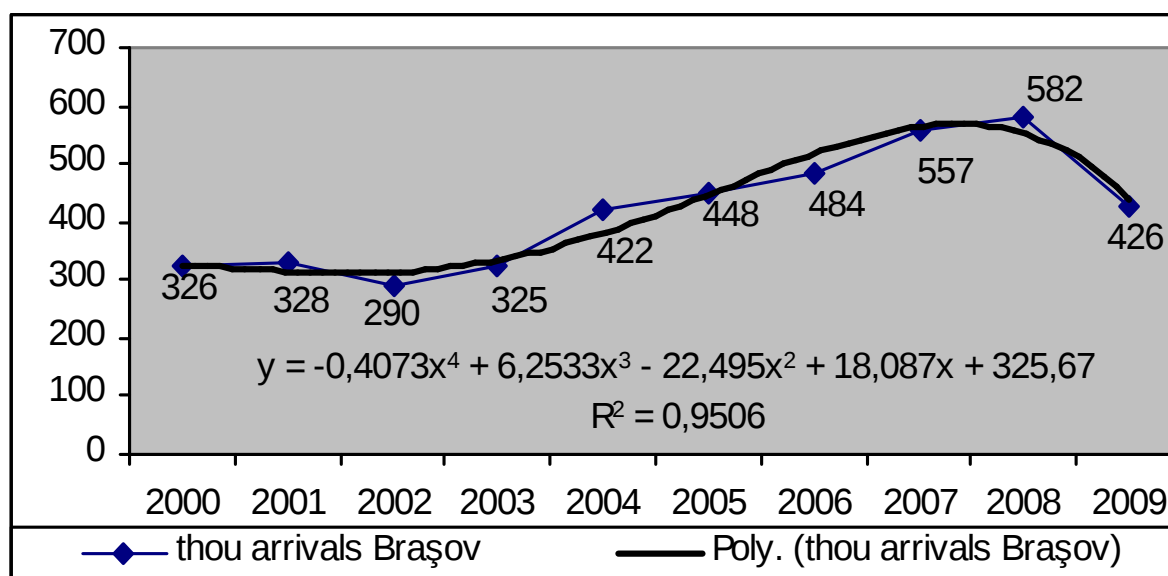


Figure no. 2. Evolution of tourist arrivals in Brasov County, in the period 2000-2009

From graphic analysis of tourist arrivals in Brasov county, in the period 2000-2009 (Figure 2) we conclude that, also for this county the evolution adjusted based on the fourth degree polynomial equation, reflects very well the tourist arrivals in tourist reception of Brașov County ($R^2 = 0,9506$).

$$y = -0,4073x^4 + 6,2533x^3 - 22,495x^2 + 18,087x + 325,67 \quad (2)$$

Studying the graphs we conclude that the trend of development is similar, a fact confirmed by adjusting polynomial functions whose coefficients have values very close.

As I said, the beginning of economic crisis has significant implications in Romania, fact reflected by the low number of tourist arrivals in 2009 establishments of tourist receptions of the two counties analyzed.

3. COMPARATIVE ECONOMETRIC ANALYSIS OF TOURIST OVERNIGHTS IN ESTABLISHMENTS OF TOURIST RECEPTION FROM COUNTIES PRAHOVA AND BRASOV

Number of tourist overnight stays in establishments of tourist reception is the second significant indicator for evaluation of tourist traffic and reflection of the impact of tourism on economic growth at regional or national.

For both counties, Prahova and Brasov, can be noted an evolution trend of overnight stays in a somewhat similar to the tourist arrivals.

Although still an oscillatory trend with successive increases and decreases is also registered for the number of overnights in Prahova County, however, the 1.017 million overnights in 2009 versus 1019 in 2000 rise to an average decrease of 0.02% annually.

Evolution of overnight stays recorded for this county is more clearly reflected by cronograma (Figure 3). In the period 2000-2003 was recorded a reduction in number of overnights, the minimum value of 803,000 nights spent being registered in 2003. Between 2004-2008 the demand is reviving, with the largest increase in 2007-2008 with 97,000 by innopetari. But in 2009 starts to feel economic crisis, overlapped with the political crisis in Romania.

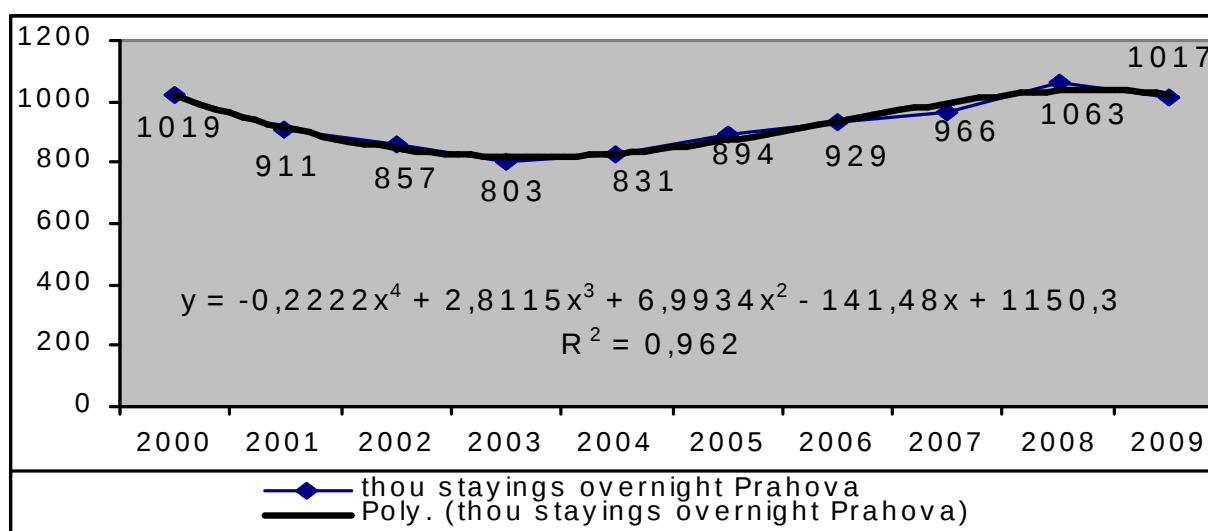


Figure no. 3. Evolution of the overnight stays in Prahova County, in the period 2000-2009

The evolution of this indicator for Brasov county has a slightly different look with a trend reflected by corelograma of overnight stays in establishments of tourist reception of Brașov County (Figure 4).

Brașov, compared with an average decrease of overnight stays in the Prahova county, is facing, the entire period of analysis, with a process of annual average increase of 0.52%, representing an average increase of 4 780 overnights per year.

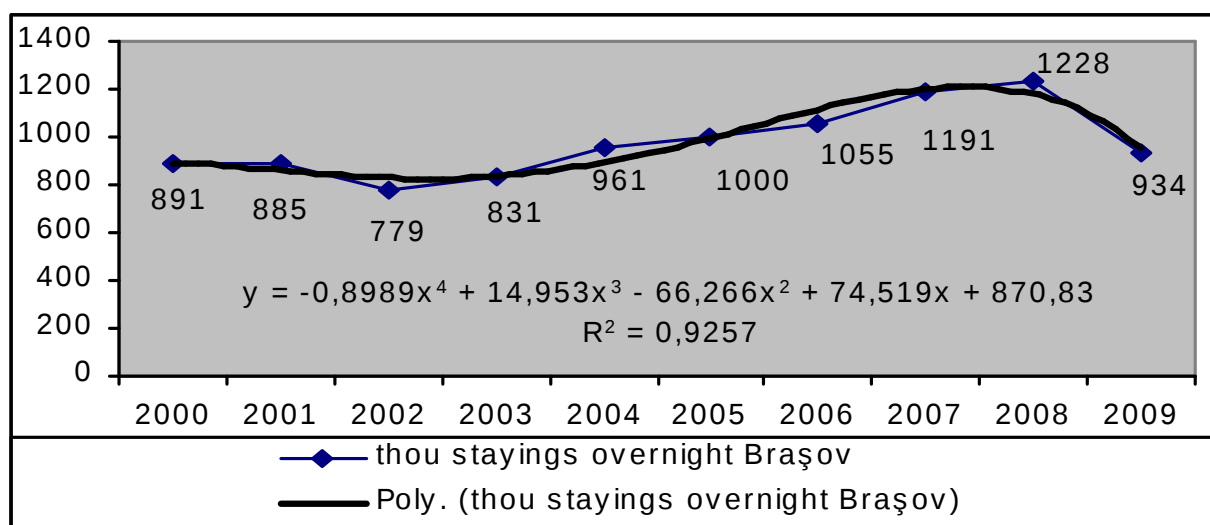


Figure no. 4. Evolution of the overnight stays in Brasov County, in the period 2000-2009

As tourist arrivals in the establishments of tourist reception presented in the previous subsection, for determine the trend of overnight stays we can used the method of adjusting with a polynomial function by four degree.

Thus, for the number of overnight stays in Prahova County, in the period 2000-2009, the econometric trend is set by adjusting by the following function:

$$y = -0,2222x^4 + 2,8115x^3 + 6,9934x^2 - 141,48x + 1150,3 \quad (3)$$

The adjustment based on this polynomial function, confirmed by the coefficient ($R^2 = 0,9257$) outlines very good the trend of overnight stays in the establishments of tourist reception of Prahova county.

Also, the graph of overnight stays in Brasov county, in the period 2000-2009 (Figure 4) is described by a fourth degree polynomial function, like:

$$y = -0,4073x^4 + 6,2533x^3 - 22,495x^2 + 18,087x + 325,67 \quad (4)$$

In this case the value determined coefficient ($R^2 = 0,9506$) is even better.

Careful analysis of evolving graphs lead us to conclude that the number of overnight stays for Prahova decreased compared to 2000 compared with that established for Brasov, which is explained either by the poor quality of services, either through reduced budget and limited who tourists had which prefer the Prahova destination resorts. One or more of them have led to reduce the period of stay in tourist establishments in Prahova versus Brasov. But, from 2009 the situation is reversed.

CONCLUSIONS

Outstanding tourism potential of the two counties and their advantage of location relatively near the Romanian capital, Bucharest, in which focuses the most of the national workforce with the highest financial potential, are two traits which enabled them to be compared in terms of tourist interest.

If arrivals and overnight stays by 2008 depended largely on the quality of service, once with the outbreak of the crisis, financial problems left their imprint not only on the establishment of holiday destination as well as the weekend party.

In this context it is notable decreases recorded in 2009 handed over in 2008 for both tourists arrivals and for their overnight stays in both counties that have undergone analysis and comparison. Econometric methods of adjusting and setting the trend of evolution by polynomials of degree four concluded that both the tourist arrivals and the overnight stays show their oscillatory increases till 2008 and a significant decrease since 2009.

Due to this decrease, overall, given only first and last years values were established in average increases or decreases with lower values, which would lead us to say that our attempts and efforts to align with European standards will be hampered by the economic crisis started in 2008. Only Romania's exit from the crisis can offer us the perspective of tourism traffic and of the tourism as a whole.

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