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TOURISM IN FUNCTION OF DEVELOPMENT OF THE REPUBLIC OF SERBIA

Tourism product as a factor of competitiveness of the Serbian economy and experiences of other countries

THEMATIC PROCEEDINGS

II

UNIVERSITY OF KRAGUJEVAC

FACULTY OF HOTEL MANAGEMENT AND TOURISM IN VRNJAČKA BANJA

THE IMPACT OF TOURISM ON THE EMPLOYMENT IN SERBIA

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Abstract

Tourism is a very important component of national economy. One of the main functions of tourism is that it directly and indirectly affects the growth of gross domestic product. Along with the strengthening of this economic aspect, tourism encourages the employment and it also affects job creation, which is reflected in the improvement of general living standards. Tourism is one of the industries that offer the best opportunities for economic growth and employment creation. However, the role and influence of tourism on employment, and thereby the development, varies greatly on the scope, character and level of development as well as on the relative importance of the tourism industry in a specific country or destination. The aim of this paper is to point out to the tourist sector impact on the total employment and on the employment in the sector of accommodation and food service activities in Serbia. For this purpose, statistical methods will be used to determine the strength and the direction of this relationship.

Key words: *tourism, employment, Serbia*
JEL: *J21, Z32*

Introduction

Tourism represents a huge potential of the national economy and plays a major role in reaching macroeconomic goals of growth, development, employment, sustainable development and social wealth. Generating role of tourism in the economic development, as well as the multiple effects created by this sector of economy, will contribute to a higher rate of

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employment; therefore, this sector is necessary to be included in the priority developing directions.

In the planning and implementation of investments in tourism, the extent to which factors such as technology and physical capital are related, should be explored, especially the extent they relate to human capital and which combination gives the best results for economic development of the country (Mušikić, 2015a). A significant number of empirical studies sought to establish a dual connection between the development of tourism and economic development. So, there are differences among countries in terms of whether tourism stimulates economic growth or economic development spurred the development of tourism (Marčetić, 2016a). Lee & Chang (2008) studied the relationship of economic growth and tourism development in the case of two groups of countries - OECD member and non-member of the same organization. The survey showed one-way causal relationship from tourism development to economic growth in OECD countries, a two-way in countries that are not OECD members. The effects of tourism on the economy have been the subject of academic research of numerous authors: Fletcher (1989); Johnson & Moore (1993); Fleming & Toeper (1990); Archerand & Fletcher (1996); Heng & Low (1990), mostly with a focus on GDP growth through the development of tourism.

A relevant conclusion of this work is that tourism generates income from consumption of goods and services by tourists as well as from taxes of businesses in the tourism industry; it provides employment in services related to tourism, and creates jobs in the tertiary sector; tourism also generates growth of primary and secondary sectors of the industry as a result of multiple effects of tourism consumption. Since tourism sector is a labor absorbing one, it is relatively more effective in creating jobs than other sectors. Tourists' consumption provides direct, indirect and induced employment opportunities in the receptive tourism countries.

The impact of tourism on the employment

Tourism is a labor intensive sector. Due to the services' features and the need of a direct contact with the customers while providing the services, it is impossible, as in some other sectors, to implement a significant amount of automatization. This primarily goes for those sectors which create its complex (heterogenic) structure. At the same time, higher employment rate appears in other sectors and activities in which the tourist market, so

called 'secondary' market, has the purpose of disposal of its own products and services. Broadly taking into consideration, the development of tourism in a certain area offers a significant possibility for direct employment in touristic sectors, as well as in other sectors which are indirectly involved in tourism, such as industry, civil engineering, agriculture etc. Likewise, some occupations in tourism, especially in the hotelier and restaurant orientations, are convenient for employing female labor. Therefore, in those sectors, in some developed touristy countries, the female work force goes up to 70% of the total number of the employed people. A huge number of positions in tourism is suitable for adolescents under 25 years of age, which is about a half of all the jobs in the touristic sector. This feature of employment highlights the importance of a constant professional training for young people in order to make them able to get long term jobs. Tourism also enables employment of people with different expertise level. It ought to be emphasized that the seasonal feature in the tourism entrepreneurship develops the need for hiring additional, so called 'seasonal' manpower which gets included in the reproduction process only during an active season, for instance – in the summer period.

Considering indirect macro-economic effects of touristic development, there is a fact that finances spent in a specific country cause consequential activities in the sectors which are indirectly connected with the tourism in that country. Thus, industry, civil engineering, agriculture and other sectors expand the market for disposing their products via tourism. For example, the economic importance that Serbia can have by development of tourism is huge. If only 10% of the population who live in rural areas engaged in rural tourism, it would bring from one to two billion dinars revenues (Mušikić, 2010b). In this way, tourism within a national territory expands the market and provides an opportunity for the whole national economy to dispose products inside this very attractive sector as well. This shows an indirect contribution of tourism to opening new job positions. But, this indirect contribution is smaller than the direct one in some countries. The indirect benefits of tourism are larger in countries where the touristic chain of supplies is directed towards production of local goods and services.

According to the World Travel & Tourism Council, Travel & Tourism generated 35,000 jobs directly in 2014 (2.6% of total employment). This includes employment by hotels, travel agents, airlines and other passenger transportation services (excluding commuter services). It also includes,

for example, the activities of the restaurant and leisure industries directly supported by tourists. By 2025, Travel & Tourism will account for 42,000 jobs directly, which will make an increase of 1.7% over the next ten years.

Table 1: *Contribution of Travel & Tourism to employment '000*

	2009	2010	2011	2012	2013	2014	2015	2015
Direct contribution of Travel & Tourism to employment	-17.4	-1.7	1.6	3.7	2.9	1.6	1	1.7
Total contribution of Travel & Tourism to employment	-7.6	-4.7	4.4	3	2.5	2	0.7	1.3

Source: *With the reference WTTC Travel & Tourism Economic Impact 2015*

Employment in the touristic sector in Serbia

Chart 2 shows the total number of employees in Serbia as well as the number of employees in the sector of accommodation and food service activities, their average annual growth rates and the share of tourism employees in the total employment in Serbia for the period 2002-2015.

Table 2: *Employment in the Republic of Serbia (2008-2015)*

	All sectors		Accommodation and food service activities		
	All sectors Employees '000	All sectors growth rate in %	Employees	Growth rate in %	Share in total employment in %
2015	1989	7.14	65368	230.29	3.29
2014	1698	-0.99	19791	-0.77	1.17
2013	1715	-0.69	19945	-1.78	1.16
2012	1727	-1.09	20306	-0.42	1.18
2011	1746	-2.78	20392	-2.26	1.17
2010	1796	-4.92	20863	-7.36	1.16
2009	1889	-5.5	22520	-4.75	1.19
2008	1999		23644		1.18

Source: *With the reference to State Statistical Office of the Republic of Serbia (2008-2015)*

The growth rates of total employment and of employment in the sector of accommodation and food service activities in Serbia are presented. It can be noted from the chart that the growth rate of the total employment in Serbia in the period from 2002 to 2015 is the lowest in period 2009-2011 and the higher growth rate from 7.14 % is noted in 2015. Analyzing the sector of accommodation and food service activities, we are noticing that the trend is the same.

In 2016, Serbia was visited by 2754 531 tourist. Domestic tourists booked 4794.741 nights out of 7533.739, 14% less compared to the year before, which is 63,6% of the total bookings; the foreign tourists booked 2738.998 nights, which is 36,4% of the total bookings.

Table 3: *Tourists' arrivals and nights, 2007–2016*

	Tourists (total)	Foreign tourists	Domestic tourists	Tourist nights spent '000	Foreign tourists nights spent '000	Domestic tourists nights spent '000
2007.	2,305	696	1,609	7,329	1,478	5,851
2008.	2,265	645	1,620	7,334	1,399	5,935
2009.	1,981	639	1,341	6,580	1,455	5,126
2010.	2,001	684	1,317	6,413	1,453	4,960
2011.	2,069	765	1,304	6,645	1,643	5,002
2012.	2,080	810	1,270	6,485	1,796	4,688
2013.	2,192	900	1,292	6,567	2,099	4,468
2014.	2,192	1,029	1,164	6,086	2,353	3,733
2015.	2,437	1,132	1,305	6,652	2,490	4,162
2016.	2,754	1,281	1,472	7,534	2,739	4,795

Source: *With the reference NBS (2017)*

It is noticeable in the recent years that domestic tourist income has been dropping due to the life standards getting lower. On the other side, there has been a rise of the number of foreign tourists, contributing to a significant increase of the foreign exchange inflow, based on tourism.

Figure 1: *Graphical presentation of the number of tourists in the Republicof Serbia 2002-2016 according to the data of Table 3*
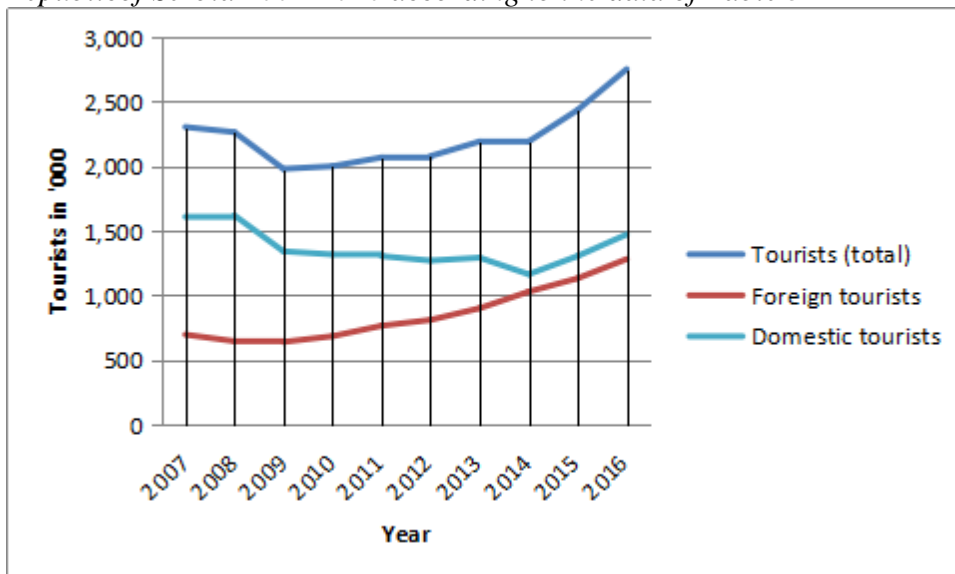
In Chart 2 the number of domestic tourists, the number of foreign tourists and the total number of tourists in Serbia from 2002 to 2016 are presented. The number of foreign tourists and the total number of tourists in Serbia continuously grow for the analyzed period 2002-2016, while the number of domestic tourists is almost invariant with periods of stagnation. Lower consuming power of the subjects directly influences the drop of the domestic touristic turnover. With a growing standard, the trend of importing touristic services will change the direction due to the limited touristic offer in Serbia (Marčetić, 2016b).

Statistical evaluation of the touristic impact on employment

To determine the impact of tourism on the total employment in Serbia, i.e. the strength and the direction of the relationship between the tourist arrivals and the total number of employees in Serbia, the method of linear regression, the correlation coefficient and the coefficient of determination will be used. The tourist arrivals in this case represent the independent variable and the total number of employees is the dependent variable.

Step 1 in this analysis is to construct the scatter diagram for the given data set to see any correlation between the two sets of data (the tourist arrivals and the total number of employees in Serbia). The scatter diagram is used

to graphically represent and compare these two sets of data. The independent variable (the tourist arrivals) is plotted on the X axis. The dependent variable (the total number of employees) is plotted on the Y axis. Looking at the scatter diagram, we can see whether there is any connection (correlation) between the two sets of data. A scatter plot is a useful summary of a set of bivariate data, usually drawn before working out a linear correlation coefficient or fitting a regression line. It gives a good visual picture of the relationship between the two variables, and aids the interpretation of the correlation coefficient or regression model (Mekić, 2006 et al.).

Figure 2: *Scatterplot for y=0.486x+785.9 according to the data of Table4*

Based on the scatter plot diagram, it can be seen that there is a positive correlation bond between two values, tourist arrivals and total number of employees in Serbia, and that with the increase of tourist arrivals, the number of employees increases accordingly. As for the correlation bond strength, it can't be said it is strong, as the spots are not grouped around the straight line interposed among the spots in the scatter plot diagram.

Step 2: Set out a table and calculate all required values $\sum x$, $\sum y$, $\sum x2$, $\sum xy$ and $\sum y2$ as it is done in the Table 4.

Table 4: *Calculation of $\sum x$, $\sum y$, $\sum x^2$, $\sum xy$, $\sum y^2$ and regression values for y=0.486x+785.9*

Year	Tourists in '000	Employees in '000	Regression values		
	X	y	Xy	x²	y²
2007	2305	2002	4614610	5313025	4008004
2008	2265	1999	4527735	5130225	3996001
2009	1981	1889	3741258.95	3922578.303	3568321
2010	2001	1796	3593618.196	4003604.812	3225616
2011	2069	1746	3612493.206	4280806.518	3048516
2012	2080	1727	3591536.553	4324898.37	2982529
2013	2192	1715	3760026.025	4806771.229	2941225
2014	2192	1698	3722471.064	4806038.984	2883204
2015	2437	1989	4847570.91	5939895.096	3956121
$\sum$	19522	16561	36011319.9	42527843	30609537

Step 3: Calculate the correlation coefficient using this equation:

$$r = \frac{N \sum xy - \sum x \sum y}{\sqrt{\{\sum x^2 - (\sum x)^2\} \times \{N \sum y^2 (\sum y)^2\}}} \qquad (1)$$

By calculating this formula, with substituting the values from Table 4, we obtain the value for the determination coefficient. The correlation coefficient in this case is: r = 0, 564058.

The value of r is such that $-1 \leq r \leq 1$. The strength of the correlation according to Evans (1996) is presented in Table 5. The value of correlation coefficient of -1.0 represents a perfect downhill (negative) linear relationship, 0 means no linear relationship and +1.0 means a perfect uphill (positive) linear relationship.

Table 5: *Interpretation of the value of correlation coefficient*

Value of r	Interpretation
-1.0	A perfect downhill (negative) linear relationship
(-0.80) - (-1.0)	A very strong downhill (negative) linear relationship
(-0.60) - (-0.79)	A strong downhill (negative) linear relationship
(-0.40) - (-0.59)	A moderate downhill (negative) linear relationship
(-0.20) - (-0.39)	A weak downhill (negative) linear relationship

(0.00) - (-0.19)	A very weak downhill (negative) linear relationship
0	No linear relationship
(0.00) - (0.19)	A very weak uphill (positive) linear relationship
(0.20) – (0.39)	A weak uphill (positive) linear relationship
(0.40) – (0.59)	A moderate uphill (positive) linear relationship
(0.60) - (0.79)	A strong uphill (positive) linear relationship
(0.80) – (1.0)	A very strong uphill (positive) linear relationship
+1.0	A perfect uphill (positive) linear relationship

The correlation coefficient in this example is in range from 0.40 - 0.59 (r = 0.564058) which means that there is a moderate uphill (positive) linear relationship between the tourist arrivals and the total employment in the Serbia for the analyzed period 2008-2015.

The coefficient of determination R^2 is the square of the correlation coefficient r. (2)

The coefficient of determination is a measure of how much variability in one variable (how much variability in the dependent variable y) can be "explained by" variation in the other (by variation in the independent variable x). The coefficient of determination represents the percent of the data closest to the line of best fit i.e. coefficient of determination is a measure of how well the regression line represents the data.

Table 6: *Interpretation of the value of coefficient of determination*

Value of R^2	Interpretation
0	No correlation
0.00 – 0.25	A weak correlation
0.25 – 0.64	A moderate correlation
0.64 – 1	A strong correlation
1	A perfect correlation

The coefficient of determination is $0 \leq r \leq 1$ (Table 6) and it may be defined either as a ratio or a percentage. A value of R^2 near 0 indicates no linear relationship between X and Y, while the value near 1 indicates a perfect linear fit, i.e. all of the data point and the line will be a perfect fit.

The coefficient in the example is: $R^2 = (0.564058)^2$

$$R^2 = 0.31816 \approx 0.318$$

The value R² of 0.318 indicates a moderate correlation between the tourist arrivals and the total employment in Serbia, which means that 31.8% of the variability in the total employment in Serbia is the result of the variation in the tourist arrivals.

Step 4: Now we want to use regression analysis to find the line of best fit to the data. The regression equation for Y on X is: y=a + bx (5) where:
 a = the intercept point of the regression line and the y axis;
b = the slope of the regression line;
N = number of values or elements; x = first score; y = second score.
We use the following equations to find a and b:

$$(3)\ b = \frac{\{(N\Sigma xy) - (\Sigma x)(\Sigma y)\}}{\{(N\Sigma x^2) - (\Sigma x)^2\}} \qquad (3)$$
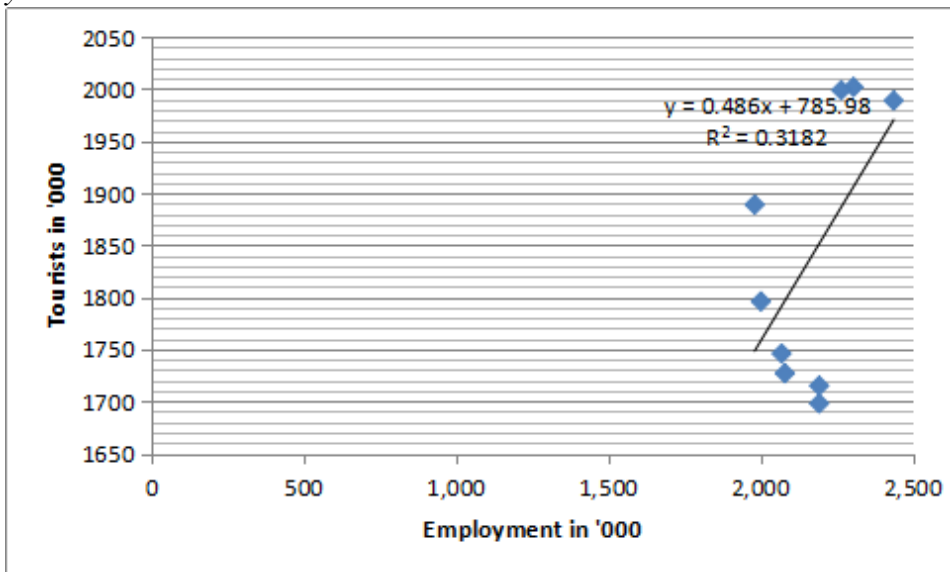
$$(4)\ a = \frac{\{(\Sigma xy)\} - b(\Sigma x)}{N} \qquad (4)$$

By calculating this formula with substitution of values, we obtain:

$$a = 785.977;$$
$$b = 0.485975174.$$

Figure 3. *Regression line and the coefficient of determination for y=0.486x+785.9*

Step 5: Substitute a and b in the regression equation formula y=a+bx (5).

$$y=0.486x+785.9$$

So, the equation of the regression line in the example is: y=0.486x+785.9
The graph of the regression line is: y=0.486x+785.9 x (Chart 3).

We can conclude that there is a moderate positive correlation between the tourist arrivals and the total employment in Serbia. When the scatter plot indicates that there is a strong linear relationship between these two variables (confirmed by high correlation coefficient and high coefficient of determination), we can fit a straight line to this data which may be used to predict a value of the dependent variable (the total number of employees in Serbia), with giving the value of the independent variable (the tourist arrivals in Serbia).

The impact of tourism on employment in the sector of accommodation and food service activities

When analyzing the impact of tourism on the employment in the sector of accommodation and food service activities in Serbia, using the same methodology, the calculations are as follows:

Figure 4: *Scatter plot for the y = 78.63x - 14262 according to the data of Table 7.*
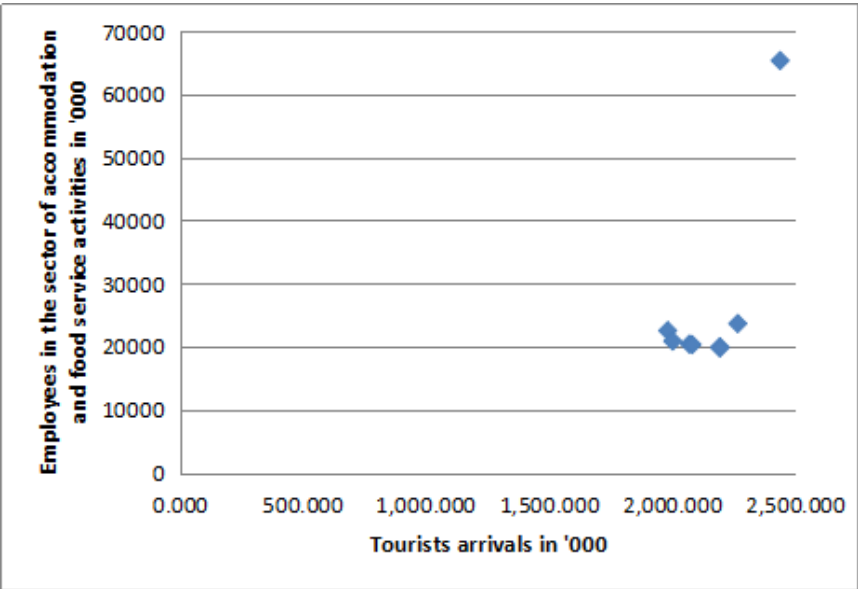
$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{\{\sum x^2 - (\sum x)^2\} \times \{n\sum y^2 (\sum y)^2\}}} \qquad (1)$$

Set out a table and calculate all required values $\sum x$, $\sum y$, $\sum x2$, $\sum xy$ and $\sum y2$ as it is done in the Table 7.

Table 7: *Calculation of   x,   y, x^2,   xy, y^2 and regression values for*
y = 78.63x-14262

	All sectors		Accommodation and food service activities		
	All sectors Employes '000	All sectors growth rate in %	Employees	Growth rate in %	Share in total employment in %
2015	1989	7.14	65368	230.29	3.29
2014	1698	-0.99	19791	-0.77	1.17
2013	1715	-0.69	19945	-1.78	1.16
2012	1727	-1.09	20306	-0.42	1.18
2011	1746	-2.78	20392	-2.26	1.17
2010	1796	-4.92	20863	-7.36	1.16
2009	1889	-5.5	22520	-4.75	1.19
2008	1999		23644		1.18

$$r = 0.760242 \approx 0.76$$

The correlation coefficient is: r = 0.76

$$R^2 = (760242)^2 \qquad (2)$$
$$R^2 = 0.577969 \approx 0.578$$

The coefficient of determination is: $R^2 = 0.578$

$$b = \frac{\{(N\sum xy) - (\sum x)(\sum y)\}}{\{(N\sum x^2) - (\sum x)^2\}} \qquad (3)$$

$$b = 78.6352$$

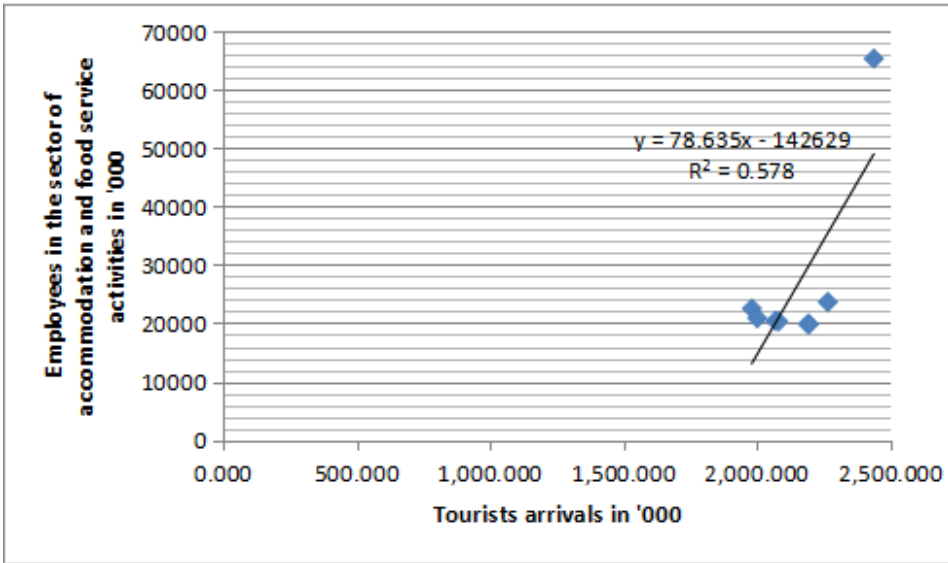$$a = \frac{\{(\sum xy)\} - b(\sum x)}{N} \quad (4)$$

$$a = -142629$$
$$y = a + bx \quad (5)$$
$$y = -142629 + 78.6352x$$
$$y = 78.63x - 14262$$

Figure 5: *Regression line and the coefficient of determination for* $y = 78.63x-14262$

According to the calculations: the correlation coefficient is: $r = 0, 93$. The coefficient of determination is: $R^2 = 0.578$ or 57.8%. The intercept point of the regression line and the y axis is: $a = -142629$. The slope of the regression line is: $b = 78.63$.

$$y = -142629 + 78.6352x$$
$$y = 78.63 \, x - 142629$$

The results of this calculation clearly show that the increase of the tourist arrivals in Serbia makes moderate contribution in increasing the total employment and in increasing the employment in the sector of accommodation and food service activities in Serbia.

Conclusion

To determine the impact of tourism on the total employment in Serbia, i.e. the strength and the direction of the relationship between the tourist arrivals and the total number of employees in Serbia, the method of linear regression, the correlation coefficient and the coefficient of determination will be used. The results of this project show that the increase of tourist visits in Serbia results in increased total employment as well as in increased employment in the sector of accommodation and food service activities. The correlation coefficients of 0.564 and 0.76 and the coefficients of determination of 0.318 and 0.578 show moderate and positive linear relationships between the tourist arrivals on one side and the total employment in Serbia, together with the employment in the sector of accommodation and food service activities on the other side.

Considering the fact that the tourism sector is a labor absorbing sector, it is relatively more effective in creating jobs than other sectors. It can be concluded that the tourism sector in Serbia does not have an adequate position in the national economy. The potentials of this sector for the employment growth in Serbia have not been fully used. Therefore, it is necessary to take measures and actions for further development of tourism industry such as: improve the awareness of Serbia as a tourism destination, improve the organizational structures in tourism, improve the investment climate for Serbian entrepreneurs regarding the development of additional accommodation facilities, improve the quantity and quality of available data in tourism, improve the framework conditions for tourism development, improve tourism know-how and service quality and improve the tourism awareness of the local people.

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