

ANALYSIS OF MUTUAL INFLUENCES OF SINGLE VARIABLES ON CROATIAN TOURISM RESULTS

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Abstract: The contribution of this paper is the analysis of economic influences of tourism and hotel industry on the economic growth of the Republic of Croatia. The aim of the paper is to analyze the problems of Croatian tourism in the period from 1985 to 2005. In order for the guidelines to be better determined, a statistical analysis of mutual influences of tourism variables will be performed. The statistical analysis in this paper includes average annual growth rates, the elasticity of tourist demand on anthropogenic events in the destination, the cyclic component of the GDP, and the influence of the GDP of hotels and restaurants on the overall GDP. Authors also presented the elasticity of single activities on the overall GDP and the influence of overnights and tourist arrivals on the total employment and employment in hotels and restaurants. The foundation for the acceptance of obtained results and their accuracy, as well as the justification of the set hypothesis, are the models of economical time series. The analyzed period is used into the focus because of the different and very strong influences on the Croatian tourism flows in above mentioned period.

JEL classification: O1, O47

Keywords: Tourism, Croatia, Influences, Forecasting.

Introduction

The prevailing trends on the European and world tourist market determine trends in hotel industry and tourism. It can be summed up to the following: modified needs, conditions of life and work, higher life expectancy, better informedness and informatization, greater need for safety and health, higher demand for adventure and innovative amenities, congressional contents, incentive offer and great events, as well as new traveling motives. Business hotels, wellness, boutiques, clubs, eco and bio hotels, historical and family hotels, all inclusive offer and brand hotels are only part of the leading trends in creating hotel offer. It is believed that they are going to differentiate further. Successful entrepreneurs have to follow trends and develop an action plan in keeping with the new demands, ways of thinking and need of the new global market. The speed with which the changes occur requires a constant evaluation in order to be able to keep up with the constantly changing market.

In suggesting a more efficient influence of entrepreneurship development on the whole Croatian economy, authors used methods of synthesis, analysis, abstraction, concretization, generalization, proving and disproving.

The methods of time series analysis and forecasting (endogenous and exogenous variables) will be used to mathematically formulate and determine quantitative relations between single economic variables and real information on economic variables using statistical methods.

The set economic hypothesis will be tested in order to help designing concrete measures of economic policy and forecast the future values of economic measures.

This paper did not analyze the whole tourism multipliers theory. It is difficult to determine the whole range tourism encompasses. It is not observed in the national economic activities classification but is a part of the theory of hotels and restaurants multipliers (encompassing the group NKD-55), which was last calculated for Croatia in 1987.

The development of entrepreneurship in Croatian tourism and hotel industry can and has to show stronger effects on Croatian economy. Entrepreneurship in tourism and hotel industry represents a driving force for Croatian economy. It stimulates employment, attracts foreign investments, increases the GDP and affects the growth of domestic production.

Analysis of mutual influences of single tourism variables

The statistical analysis will be founded on tables numbered as enclosures at the end of this text³⁶: number of tourists, foreign overnights, domestic overnights, total overnights, investments³⁷, tourist income³⁸, total GDP.

The variables have been studied in three periods. The first period goes from 1985 to 1990, the second encompasses 1990-1991, and the third period goes from 1992 to 2005.

Table 1. Average annual growth rate and the standard deviation of observed variables for the period from 1985 to 2005.

VARIABLE	1st PERIOD		2nd PERIOD	3rd PERIOD	
	Growth rate in %	Stand. Deviation	Growth rate in %	Growth rate in %	Stand. Deviation
	1985-1990		1990-1991	1992-2005	
Number of	-3,50	6,40	-74,74	10,98	21,83

³⁶cf. enclosures

³⁷Investments – represent foreign long-term direct investments (FDI – Federal Direct Investment) which are the fastest way to increase competitiveness. Made of capital, patents, knowledge, technology, know-how and greenfield investments.

³⁸Tourism income – total income from tourist consumption. The structure of direct tourist income is made of income realized in hotels and tourist villages (ensuring around 78% of the total income), catering income (around 20% of income) and income from marinas (around 2% of income). The data represent the forecast of the Croatian National Bank (www.hnb.hr) made on the basis of overnights in commercial accommodation capacities and an estimate of the remaining tourist turnover.

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VARIABLE	1st PERIOD		2nd PERIOD	3rd PERIOD	
	Growth rate in %	Stand. Deviation	Growth rate in %	Growth rate in %	Stand. Deviation
	1985-1990		1990-1991	1992-2005	
tourists					
Foreign overnights	-5,03	7,90	-85,22	13,70	31,20
Domestic overnights	-5,30	3,60	-68,70	3,43	11,00
Total overnights	-5,06	7,30	-80,66	11,58	24,80
Investments	-	-	-	21,50	53,80
Income from tourism	-	-	-	14,73	21,26
GDP	-	-	-	5,40	21,30

Source: Author's own calculation

The variables analyzed in the first observed period from 1985 to 1990 point to negative trends. The cause of such trends was the economy of shortages, disinvestment process in the 80ies, a high inflation rate (especially in the late 80es) in the conditions of long-term economic stabilization programme.

The analysis took into consideration only the total number of arrivals because of a small influence of domestic tourists on the overall arrivals number. The total arrivals were stagnating from 1985 to 1987, while in 1988 and 1989 they drop, contributing to the average annual drop by -3.50% in the observed period. In the observed variable regarding the number of tourists the annual drop in 1989 was -6% compared to the previous year, while in 1988 it was -1% compared to the previous year. The average drop in the number of tourists in the said years was less than the drop of the overall overnights number, as is confirmed by the smallest standard deviation for the observed number of tourists variable. The average deviation from the arithmetic mean is 6.40%.

The lower number of arrivals in the observed period was accompanied by a lower number of overnights in the same period. Both domestic and foreign tourists contributed to the decrease in the number of total overnights. Due to a relatively smaller share of domestic overnights in the total number of overnights (1:6), the decrease of foreign overnights, especially in the period from 1987 to 1990, contributed to a higher standard deviation. The dispersion of value in the period from 1985 to 1990 was mostly felt in 1989 when the number of total overnights dropped by -8.10%. It was followed by the years 1987 and 1988 with a yearly drop of -1.26% and -0.08% compared to the previous two years.³⁹

The information on foreign direct investments in the observed period are not available since social ownership without any private initiative was dominating in that period. Hotel managers could not freely dispose of foreign currency, which, along with

³⁹Cf. enclosures, table no.6.

the process of disinvestment, did not contribute to the construction of new tourist capacities or the improvement of their quality. The gross domestic product as a standardized category it is today did not exist at the time and was therefore not analyzed in the observed period.

Income from tourism was also not monitored in the first observed period. As a matter of fact, these data are not easy to obtain since only the Institute for Tourism analyses this indicator. The second observed period is 1990 – 1991. It was the beginning of the War of Independence in Croatia when there was a steep drop in all the observed variables and was therefore considered separately.

The second period (1990-1991) saw huge average annual drop rates, which were most visible in foreign overnights. Under the influence of war and a high inflation the foreign overnights in Croatia saw an average annual reduction by -85.22% . These were followed by domestic overnights which registered an average annual drop by -68.7% , and tourist arrivals which went down by -74.74% . The year 1991 was even more significant than 1990 in marking these negative figures because it registered some drastic drops in absolute values. Variables thus proving that tourist demand is an elastic category and that it reacted to price market instability and the war as a factor of unsafety. The standard deviation for that period was not calculated because it was a series of only two years.

Just as in the first observed period, because of inexistent data, investments, GDP and tourism income were not calculated.

In the third period (1992 – 2005) all observed variables show growth. It is the result of the end of the war and the recovery of Croatian economy.

The growth rate of total tourist arrivals in the period from 1992 to 1994 was very low. In 1995, because of the military action “*Oluja*” there was a drop of around -30% . A notable growth did not appear before 1996 when there was an increase of 60% compared to the previous year. In the period from 1996 to 2005 there was a constant growth of tourist arrivals by 6.7% , except for a reaction of demand elasticity in 1999 when NATO forces attacked Serbia. The largest growth in the second half of the third observed period (1996-2005) was registered in 2000, with a growth of about 50% compared to 1999. Due to such oscillations, regardless of constant growth, except the mentioned 1995 and 1999, the average annual growth rate was 10.98% . The war years and the NATO attack caused a deviation from the arithmetic mean by 21.83% .

The total overnights in the period from 1992 to 1994 had a higher growth rate than that of the tourist arrivals, owing to the growth or arrivals and their longer stay in the destination. Just like the arrivals, the overnights did also decrease in 1995 because of “*Oluja*”. The factor that most influenced this decrease was the lower number of foreign overnights, by about -56% , while the domestic overnights dropped by only -2% . From 1996 to 2005, the total overnights were constantly increasing, with the only drop in 1999 due to NATO attacking Serbia. The movements of the variables of foreign and domestic overnights were differing in the third observed period. While foreign overnights followed the trends of the total overnights, the domestic overnights grew in 1996 and 1997, and gradually decreased in the period from 1998 to 2003. This was the result of the process of privatization and restructuring of Croatian economy and a very low standard of living of the population. Because of a smaller absolute share of domestic overnights in the total overnights, the standard deviation is small, around 11% . The average domestic overnights growth rate was the smallest in the third observed period, 3.43% . As opposed to the domestic overnights, foreign overnights had

an average annual growth rate of 13.70%, with a standard deviation of 31.20%. Contributed to such a standard deviation was in the year 1995 which registered a drop of -56% compared to the previous year, and the year 1999 with a drop of -18% compared to the previous year. The most significant growth of foreign overnights was registered in 1997, 51% compared to the previous year and in the year 2000 with a growth of 44% compared to the previous year.

The most important average annual growth in the third observed period was registered in foreign direct investments (21.50%), but with the highest standard deviation (53.80%). The reason for such high deviations from the arithmetic mean is in the sharp drops and growths of foreign direct investments in the observed period, which were dependent on the economic growth of the world powers⁴⁰ and on the political and economic situation in Croatia at the time.

Due to the transition to market economy in Croatia, and in spite of negative global trends, foreign direct investments were constantly growing. The growth is constant from 2001, with the only drop in 1995 caused by the war in Croatia. The year when NATO forces attacked Serbia (1999) did not have a negative impact on foreign direct investments which saw an increase that year by 37.5%. In the period from 2002 to 2005, a drop of -21% was registered in 2002, and -45% in 2004. What contributed to the decrease in foreign direct investments in that period was the slowdown of economic development of the world powers towards the end of the 90ies. The most significant growth of foreign direct investments was registered in 2003 with a growth of Greenfield investments and foreign takeover of domestic tourist companies.

The movements of income from international tourism depend on the realized overnights, especially foreign, as well as on tourist arrivals. For that reason, in the period from 1992 to 2005, this variable registered a constant growth, with drops in 1995 (*Oluja*) and 1999 (NATO attack on Serbia). *Oluja* had greater impact on income, with a registered drop of -26%, while the attack of NATO forces on Serbia caused a drop by -9% (table 2). In 2001 and 2002 there was a stagnation in income from tourism because of the terrorist attacks on the USA and some European countries, the war in Iraq, the SARS epidemic and the Tsunami. In that period, income from tourism was less dependent on the number of realized overnights (less overnights and more income). The reason for that was a change in the structure of tourists, with more tourists coming from Great Britain and USA, which have better purchasing power and spend more. Income from tourism had an average annual growth of 14.73% in the observed period (1992-2005), with a deviation from the arithmetic mean of 21.26%. The standard deviation was not high because there were no sharp oscillations in the observed period, except in 1995 and 1999 when there was a drop compared to the previous years.

The movements of the GDP in the third observed period registered an average growth rate of 5.40%, with a standard deviation of 21.30%. Since the independence of the Republic of Croatia, there were several periods regarding the movements of the GDP. These are:

- the period from 1992 to 1993, with a significant GDP drop and an average drop rate of -13.6%,
- the period of after-war recovery from 1994 to 1997, with an average growth rate of 6.4%, and 1998 and 1999 when we felt the consequences of a badly implemented privatization and restructuring of the economy. As a matter of

⁴⁰USA, Japan and some European countries

fact, the growth rate in 1998 was only 2.5%, followed by a real drop of the GDP by -0.9% in 1999,

- the period from 2001 to 2005, with an average growth rate of 4.7%, can be considered a period of a certain economic recovery.

Cyclical components of the variables – foreign and domestic overnights, income from tourism, investments and GDP, were obtained with Hodric-Prescott filter ($\lambda = 400$) because these are annual indicators. The regressions of these cyclical components on DUMMI variables = *Oluja* and NATO attack on Serbia. In that way we obtained the effect of these two phenomena on all shown variables with levels of significance, i.e. elasticity coefficients, for the periods from 1991 to 2005, showing to what extent dependant variables (foreign and domestic overnights, income from tourism, investments, GDP) can change if independent variables (*Oluja*, NATO attack on Serbia) change by 1%.

Variables were observed on the basis of the previously mentioned tables for the period from 1991 to 2005. The shown variables were tested taking into consideration the possibility to make a mistake in 5 percent of cases.

Oluja had a more significant impact on the observed variables than the NATO forces attack on Serbia. The foreign overnights dropped in 1995 by -56% compared to the previous year, while the domestic overnights only dropped by -2%. *Oluja* had a stronger impact on foreign overnights. In 1999 domestic overnights dropped by -1.3%, while foreign overnights dropped by -17.89%. From the previous table we can conclude that the NATO forces attack had less impact on foreign overnights than *Oluja*.

Table No. 2 Influence of *Oluja* and NATO forces attack on Serbia on the observed variables with a significance level (p – probability) for the period 1991 – 2005.

INDEPENDENT VARIABLES	DEPENDENT VARIABLES			
	Foreign overnights	Domestic overnights	Income from tourism	Investments In tourism
<i>Oluja</i> 1995	-0,470 (0,120)	0,036 (0,742)	-0,214 (0,166)	-0,917 (0,047)
NATO FORCES ATTACK IN 1999	-0,145 (0,385)	0,065 (0,559)	-0,158 (0,295)	0,789 (0,080)

Source: Author's own calculation

Income from tourism dropped by -26% in 1995 compared to the previous year, while in 1999 it dropped by -8.78% compared to the previous year. *Oluja* had greater impact on income as can be seen in the table.

Foreign direct investments dropped by -11% in 1995 compared to the previous year, but in 1999 there was a growth of 63% compared to the previous year. As shown by the table, *Oluja* had a significant impact on income but not so the NATO forces attack, when we actually registered a growth.

The following graph was chosen as an interesting source of information from which we make the following conclusions.⁴¹

Authors follow four periods in the graph:

1993 – 1995 - foreign overnights grow, domestic overnights and investments drop;

1995 – 1999 - all observed variables grow;

1999 – 2002 - foreign overnights grow, domestic overnights and investments drop;

2002 – 2005 - domestic and foreign overnights grow, as well as the investments which have a somewhat more moderate growth rate (there is no dependence from domestic overnights).

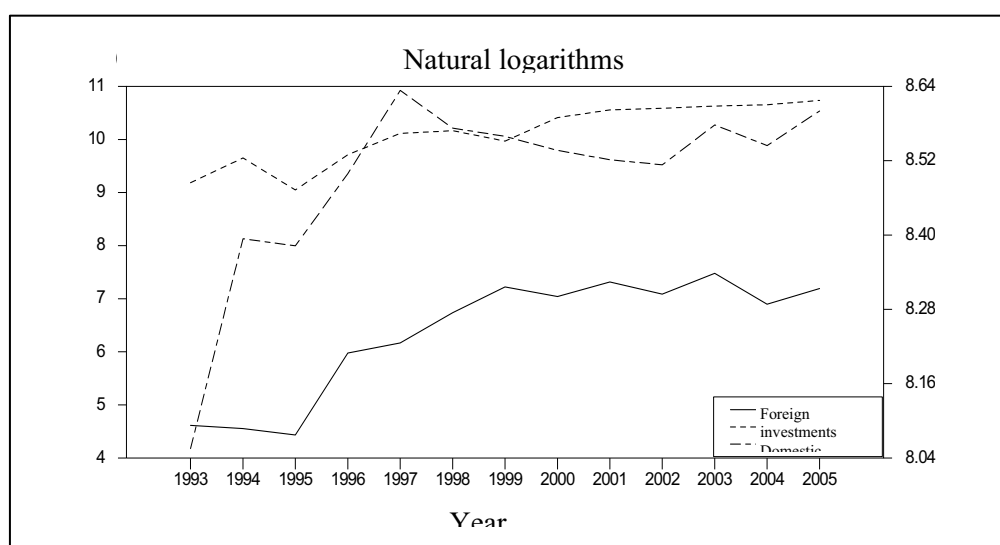


Figure no. 1 Relationship between foreign investments and domestic and foreign overnights

Conclusion is that there is an interdependence of investments and domestic overnights because with a growth in investments in a growing economy, GDP grows together with the living standard, which then encourages domestic tourists to travel. The future growth of Croatian economy will stimulate consumption and business traveling. Domestic tourism can generate a growth of income and a growth of employment in less developed parts of the country. The domestic market is important because it would encourage a development of the destinations and redistribute income.

Analysis of influence of tourism and hotel industry development on GDP

The GDP of hotels and restaurants in the overall GDP realizes a share of around 3%. The data show that the hotels and restaurants sector has a trend of faster average annual growth than the growth of total production in the Republic of Croatia.

⁴¹natural logarithms (\log_e or \ln) which represent the number which exponentiates the base of the natural logarithm ($e=2,718282$) in order to get a number x . $\log(2,718282) = 1,0$

However, it still does not satisfy the relatively low share of hotels and restaurants and their influence on the overall GDP.

The influence of the GDP of hotels and restaurants on the total GDP is shown in the following table.

Table 3. The influence of the GDP of hotels and restaurants on the total GDP in the period from 1990 to 2002 with a significance level (p – probability)

INDEPENDENT VARIABLE	DEPENDENT VARIABLE
	GDP
GDP of hotels and restaurants	0,148 (0,02)

Source: Author's own calculation

In the period from 1990 to 2002, the growth of GDP of hotels and restaurants by 1% did influence the growth of the overall GDP by 0.148%.

The following table shows to what extent economic activities (agriculture, hotels and restaurants, processing industry and trade) influence the total GDP, i.e. we present the elasticity coefficients for the period 1995 – 2002. In that period the economic activities were classified in the same way, and the data were taken from the Statistical Yearbooks.

The overall GDP and per individual economic activity is presented in current prices which had to be reduced to base prices. With the aid of chain CPIs (Consumer Price Indexes) found on the web page of the Croatian National Bank, we calculated the base indexes for the period from 1995 to 2002. We used a formula: $(x_1 - x_0) / x_0 \times 100 + 100$ where:

x_1 – chain index

x_0 – base index

The greatest impact on the growth of the overall GDP is that of agriculture. It is followed by the processing industry, trade and in the end, hotels and restaurants. The 1% growth of the hotels and restaurants sectors increases the overall GDP by 0.507%, which is only 30% of the impact of agriculture. In the trade sector we see a somewhat higher dispersion (0.024), but the hypothesis is tested with a 5% error margin and is, therefore, acceptable.

Table No. 4 Elasticity coefficients of individual economic activity on the overall GDP in the period from 1995 to 2002 with significance levels (p-probability)

INDEPENDENT VARIABLES	DEPENDENT VARIABLE
	GDP
Hotels and restaurants	0,507 (0,00)
Agriculture	1,635 (0,00)
Processing industry	1,524 (0,00)
Trade	0,645 (0,024)

Source: Author's own calculation

Results show, and the hotels and restaurants multiplier proves, that hotels and restaurants can contribute more to the growth of the overall GDP. Consumption in hotels and restaurants, as well as out-of-board consumption, have to be increased in order to have a multiplicative effect on GDP growth.

Analysis of the influence of tourism and hotel industry development on employment

The influence of tourist arrivals and overnights on the total employment and employment in hotels and restaurants was analyzed using the data from the table 5. The arrivals and overnights of tourists influence employment in hotels and restaurants just as they automatically influence the total employment. While an increase of tourist arrivals by 1% increases the employment in hotels and restaurants by 0.301%, the increase of tourist overnights by 1% influences the increase of employment in hotels and restaurants by 0.270%.

Table No. 5 Elasticity coefficients of the total arrivals and overnights on the total employment and employment in hotels and restaurants

(Year: 1985. – 2005.)

INDEPENDENT VARIABLES	DEPENDENT	VARIABLES
	TOTAL EMPLOYMENT	EMPLOYMENT IN HOTELS AND RESTAURANTS
NUMBER OF TOURISTS - ARRIVALS	0,065 (0,00)	0,301 (0,00)
TOURIST OVERNIGHTS	0,067 (0,00)	0,270 (0,00)

Source: Author's own calculation of significance levels (p-probability)

Tourist arrivals have more influence on the employment of hotels and restaurants than tourist overnights, while the arrivals and overnights have an equal influence on the total employment (tourist overnights have a slightly higher impact by 0.002%).

The arrivals have a greater impact on the employment of hotels and restaurants because hotels have to be ready for a number of arrivals in offering a high quality service, which can only be ensured with good employees.

Conclusion

Economic policy measures that should ensure a faster development of tourism and stimulate a growth of entrepreneurial activity in hotel industry and tourism do not have the expected positive impact.

Tourist consumption revives the whole economy and is a common denominator of various economic functions of tourism. From the point of view of potential, tourist consumption in Croatia is not high so that its effect on the overall economy is not so great. A higher tourist consumption in Croatia, on the grounds of its multiplicative

activity, would open new markets to most part of the national economy. The same would create the prerequisites for the growth of production, application of higher technology, better economizing and higher productivity. The main importance of the multiplicative effect of tourist consumption is that it stimulates the growth of national production and employment and thus forms new, higher income for the national economy in proportion to the increase of production. However, the multiplicative effects of tourism cannot be felt with such a poor and underdeveloped tourist consumption in the Republic of Croatia.

By including the overall economy in the tourist offer there is a whole new additional market as well as become part of the international market. The placement of goods and services is insufficient on the tourist market although it offers great possibilities to the economy, in other words, such kind of immaterial exports is a huge neglected foreign currency potential. Entrepreneurship affects the growth of investments and the structure of capital investments. Large capital investments in the development and modernization of infrastructure are important for the development of the economy in general and tourism and hotel industry in particular. Investments in hotels and other hospitality capacities directly affecting activities in construction business, industry, employment and therefore, the complete economy, are also of crucial importance. They strongly affect the engagement of private households in tourist destinations, which again has a strong effect on the reviving of economy.

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Enclosures

Table No. 6 Number of tourists and overnights in thousands in the period Year 1985 to 2007.

YEAR	NO. OF TOURISTS	OVERNIGHTS	average number of overnights
1	2	3	3/2
1985.	10,125	67,665	6.7
1986.	10,151	68,216	6.7
1987.	10,487	68,160	6.5
1988.	10,354	67,298	6.5
1989.	9,670	61,849	6.4
1990.	8,497	52,523	6.2
1991.	2,146	10,158	4.7
1992.	2,010	10,725	5.3
1993.	2,363	12,908	5.5
1994.	3,402	19,977	5.9
1995.	2,438	12,885	5.3
1996.	3,899	21,456	5.5
1997.	5,206	30,314	5.8
1998.	5,450	31,288	5.7
1999.	4,751	26,564	5.6
2000.	7,137	39,183	5.5
2001.	7,860	43,405	5.5
2002.	8,320	44,692	5.4
2003.	8,878	46,635	5.3

Source: Ministry of Tourism of the Republic of Croatia, <http://www.mint.hr/UserDocsImages/Podaci%20za%202007.%20godinu.pdf> - 17.05.2008.)

Table No. 7 Tourist turnover of foreign tourists - Year 2003 to 2007.

COUNTRIES	NUMBER OF TOURISTS					INDEX 07./03.
	2003.	2004.	2005.	2006.	2007.	
Germany	1.551.844	1.580.244	1.572.090	1.544.801	1.544.794	99,55
Italy	1.205.532	1.231.901	1.252.684	1.235.413	1.249.343	103,63
Slovenia	918.462	884.273	878.882	913.072	1.015.379	110,55
Czech Rep.	699.473	663.794	615.535	593.276	669.132	95,66
Austria	708.506	740.960	742.498	790.083	839.717	118,52
Hungary	356.139	403.443	453.395	402.782	381.202	107,04
France	220.636	392.911	591.098	505.139	473.806	214,75
Holland	299.345	212.090	243.651	241.856	264.664	88,41
Poland	237.968	240.654	241.868	275.845	322.890	135,69
Other	1.058.166	1.353.245	1.619.685	1.938.623	2.255.178	213,12

Source: Ministry of Tourism of the Republic of Croatia, <http://www.mint.hr/UserDocsImages/Podaci%20za%202007.%20godinu.pdf> - 17.08.2008.)

Table No. 8 Share of international tourism income in the overall services export/import Year 1993 to 2007.

INTERNATIONAL TOURISM INCOME	Share in GDP (%)	Share in tot. exports (%)	Share in services exports (%)
1993.	12,0	33,6	57,3
1994.	12,4	42,3	63,1
1995.	7,2	29,1	55,0
1996.	10,1	43,4	61,1
1997.	12,5	63,4	63,3
1998.	12,6	60,5	69,0
1999.	12,5	45,5	67,0
2000.	14,9	30,1	67,5
2001.	16,8	43,4	-
2002.	17,0	36,1	68,7
2003.	22,5	42,8	74,0
2004.	19,9	58,9	-
2005.	19,4	87,2	86,2
2006.	18,4		
2007.	17,9		

Source: Yearbook of Tourism Statistics, 2001. World Economic Outlook, 2002.; p.149 and author's own calculation.

Table No. 9 Foreign investments in the Republic of Croatia (in 000 kn) in the period Year 2000 to 2006.

YEAR	Investments in Croatia	Index	Investments hotel and restaurant	Index	Share
1	2	3	4	5	4/2
2000.	59.079.556	-	1.343.357	-	2,27
2001.	63.528.075	107,5	1.627.033	121,1	2,56
2002.	77.404.401	121,8	3.576.339	219,8	4,62
2003.	103.904.537	134,2	4.410.665	123,3	4,24
2004.	106.348.060	102,4	4.789.824	108,6	4,50
2005.	111.942.940	105,3	4.634.972	96,8	4,14
2006.	133.152.513	118,9	8.053.881	173,8	6,05

Source: Statistical Yearbook of the Republic of Croatia 2007, State Bureau of Statistics, 2008, p.167

Table No. 10 Annual needs for some foodstuffs in tourism

PRODUCT	TOURISM NEEDS	DOMESTIC PRODUCTION 2002	SHARE (%)
Fresh meat	10,000 t	105,031	9,5%
Cold cuts	4,000 t	43,735	9,1%
Concentrated soups	300 t	5,503	5,5%
Cheese	3,500 t	22,395	15,6%
Milk	8,000,000 l	694,000	1,2%
Eggs	65,000,000 kom	761,000	8,5%
Sugar	2,800 t	171,613	1,6%
Pasta	1,100 t	7,674	14,3%

Source: Statistical Yearbook 2003 for domestic production 2002, State Bureau of Statistics ⁴², Zagreb, 2003.

⁴² Estimate of the Ministry of Sea, Tourism, Transport and Development for the needs in tourism on the grounds of data on the consumption of several large hotel companies and on the basis of 55 million overnights