Higher Education Demand Factors and the Demand for Tourism Education in Slovenia

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This paper investigates the higher education demand in Slovenia, which is investigated in general and in the field of tourism, using regression analysis on selected time-series data. We find a positive and significant association between the higher education demand in general and the demographic and socio-economic circumstances. Demographic trends in general slow down or even decrease the demand for higher education, while socio-economic factors mostly encourage the demand for higher education. However, unfavourable demographic factors are already prevailing over the favourable socio-economic factors, meaning that growth rates of absolute demand for higher education are starting to decline. We analyze the movements of demand for higher education in the field of tourism in recent years and compare them to the movements of the demand for higher education in general and to the movements of the demand for tourism in Slovenia. The demand for tourist services is a factor that encourages demands for higher education in the field of tourism. Finally, we derive some conclusions about higher education demand determinants in Slovenia in general and in the field of tourism, and propose some recommendations for national educational policy.

Keywords: Higher education demand model, demography, tourism, human capital, Slovenia

1 Introduction

This paper investigates the higher education demand in Slovenia in general and specifically in the field of tourism education. After the initial literature review of education demand models, we develop a regression model of higher education demand in Slovenia in general and review the demand for higher education in the field of tourism. Explanatory variables of the general model are divided into two different groups. The first group of factors is the so-called "base group" and represents the potential number of students. The bigger this group each year, the bigger is the demand for higher education, assuming that the relative rate at which these potential students decide to study remains constant. This potential number of students depends mostly on demographic factors. The number of young strongly depends on the number of live births nineteen years ago. On the other hand in recent years, there is a growing demand for higher education by elderly people. This demand is caused by the faster economic growth and technological changes, which require constant updating and upgrading of the existing knowledge besides the increasing importance of lifelong learning and the increasing number of elderly people. The second group of factors affects the participation rate at which people from the "base group" actually decide to pursue university studies. Therefore this is a group of participation rate factors. These factors can be measured by the variables which are related to the social, cultural, econom-ic and other characteristics of a student's family (Institute for Employment Studies, 1996; Čepar and Bojnec, 2008). Some of such family related variables are the real income of a family, education of parents, number of children in a family, location of the family, and similar. Further on, these "participation rate" factors may be measured also by the variables that are related to the rate of return on the studies or to the costs and benefits of the studies. Such variables measure opportunity and direct costs of a study course and the expected earnings differential from the increased level of education. The third group of the "participation rate" factors includes variables related to the government social student policy, such as the number of student scholarships, the number of student residences, and the amount of subsidization of student transportation, health and nutrition costs. Finally, there are some other relative rate factors, which influence the demand for higher education in Slovenia, such as the quality of the studies, the number of foreign students and similar. The estimated regression model identifies some of the most important factors of demand for higher education in Slovenia among the potential factors presented and analysed in chapter 3. The estimated regression model also identifies the direction of influence of each particular factor and their significance for the dependant variable. Additionally we analyze the movements of the demand for higher education in the field of tourism and compare them to the movements of the demand for higher education in general. Finally, we derive main conclusions about the determinants of

demand for higher education in Slovenia and propose some recommendations for national educational policy.

2   Literature review on higher education demand

When we refer to the field of tourism we are thinking of numerous sub sectors of tourism, like accommodation and lodging, food and beverage services, travel and transportation, event management and similar. As the tourism industry is growing, the need for labour employed in the field of tourism and thus the demand for higher education (HE) in the field of tourism is growing too (Baum and Teixeira, 2001; Horng and Lee, 2006). There are some universal factors that impact the demand for HE in general as well as in the field of tourism. These are several economic factors, like perceived benefits from HE and cost of study (Borowec, 2007), and other social and family related factors, like education and the social position of parents. Demographic factors, factors related to the quality (in terms of accountability and transparency; Rodman and Trunk Širca 2008) and availability of supply of HE and the social role of government are also important for the demand for HE in the field of tourism as well as in any other field of education (Needham, 2006). We look closer at some of the factors of the demand for HE.

Most of the studies attempt to estimate the demand for university education by employing economic variables, such as tuition fees, graduate starting salaries and unemployment rates. Cambell and Siegal (1967) used time-series data for four-year duration education colleges in the United States to estimate the demand for HE. The equation for the undergraduate enrolment in four-year higher education institutions in a given year t (Nt) is explained as: $N_t = ft\,(Y_{ht}, P_t, E_t)$, where Y_{ht} is real household disposable income, P_t is the average cost of tuition and E_t is the total pool of eligibles aged 18–24 years in year t. According to this model, the demand for higher education is positively associated with household income, and negatively with tuition costs. In order to identify the drivers of the HE participation rate and not the absolute enrolment, the above equation can be transformed into: $Rt = f_t\,(Y_{ht}, P_t)$, where Rt is equal to Nt/Et and measures the HE participation rate. Cambell and Siegal (1967) estimated this model in logarithmic form: $logR_t = A + a\,logY_{ht} + b\,log\,P_t$.

Some other regression models explain university enrolments by independent explanatory variables, like real income, opportunity costs, rate of return on university education and an eligible population for higher education. The authors of these models found that cost variables were negatively correlated with enrolment demand, while the effect of youth unemployment on university demand was weak and insignificant in most cases. There is a strong relationship between additional earnings from completing a degree and enrolment, where enrolment rises by 20% due to the 10% increases in expected earnings (Handa and Skolnik, 1975).

Nicholls (1984) estimated aggregate demand for tertiary education in Victoria. The demand for tertiary education is explained by four explanatory variables. The first one was a dummy for government policy on tuition fees, where the value

1 indicates a year in which university fees were charged, and 0 otherwise. The sign of this coefficient of the variable was found negative. The second variable was the pool of eligible people who may have a demand for tertiary education, and the third one the real household disposable income. Regression coefficients of both variables had a positive sign. The last explanatory variable included in the regression was youth unemployment lagged for one calendar year, an association which was found to be negatively correlated with the aggregate demand for tertiary education. The weak labour market for youth was indicating declining employment prospects for university graduates and thus reducing the perceived expected return to a degree (Nicholls, 1984).

By contrast, according to some previous research, youth unemployment rate also represents the opportunity costs of the study course (Barceinas et al., 2000). If the youth unemployment rate is higher, then aggregate earnings foregone by those young students - who chose to study instead of working - are lower. As a result of lower opportunity costs, this causes the demand for HE to increases (Aungles et al., 2002).

Another attempt to analyze the demand for university education places is a study of the labour market for academics. Sloan et al. (1990) projected full-time student units for all study fields with high and low growth scenarios regarding three groups of students. The first group included school leavers, who move between the secondary and tertiary schools, the second group included overseas students, and the last group comprised mature age students. In general, the growth of the last and partially of the second group of students was expected, but the declining numbers of the 15-19 year old youth population of secondary school leavers was caused by demographic effects.

The Institute for Employment Studies (1996) projected demands for full-time HE in the United Kingdom (UK) from young people. These projections were based on datasets about the number of young people in the relevant age cohort, the likely numbers of young people who will gain the third level of qualification as the traditional threshold for entry to HE, and the current propensity of those with such qualifications to enter HE. As additional factors that were included in the projections of demand for HE, there were also: return on student's investment in HE, economic cycles, which affect graduate employment, funding and capacity constraints, demographic and social changes, d*emand from older age groups, part-time and postgraduate students,* and requirements for continuing professional development. The importance of demographic and other socio-economic factors is found also by Čepar and Bojnec (2008).

Some of the empirical studies of less developed countries show the evidence of the negative correlation between family size and relative participation of children from such families in HE. Larger families imply lower average income per family member, and therefore worse material conditions for the study in less developed countries (Hartog and Diaz-Serrano, 2004). On the other hand some studies show that larger family size is not necessarily negatively correlated with a relative demand for HE. Some empirical investigations reveal a negative impact of family size on high school attendance, however, the regression coefficient in the results is found not to be significantly

different from zero (Gonzales Rozada and Menendez, 2002). Age difference between siblings is also an important determinant of the sign of the coefficient (Pederzini Villarreal, 2001).

De Meulememeester and Rochat (1996) estimated a relationship between the rate of participation in university education and a set of explanatory variables, which are: the unemployment rate, the proportion of intellectual workers (white collar) in the working population, the average real fiscal revenue per capita, and supply variables, such as the number of universities by districts or the distance to the closest university (De Meulememeester and Rochat, 1996).

Neugart and Tuinstra (2003) believe that important determinants for HE demand are productivity shocks, beliefs about future wage differentials and accession costs to information on the returns on education. Their model is based on two different pairs of destabilizing backward-looking prediction rules: on rational expectations versus naive expectations in schooling choices and on steady state forecasters, which are agents who know the steady state wage differential between high-skill and low-skill jobs versus adaptive beliefs (Neugart and Tuinstra, 2003).

OECD (2005) finds that important determinants of the HE demand are the increasing proportion of people who meet the entry education requirements, the increasing awareness that a more educated population is an important asset for societies and economies, and education supply decisions made by governments. A new education demand is arising from groups of people close to and over 30 years old, who are already employed and who may have already finished some post secondary education, and from women.

In the literature we could also find some less common and more specific factors of demand for HE. One of them is the abolition of compulsory military service, which was introduced in France. A negative effect of abolition of compulsory military service on demand for HE was confirmed in France by Maurin and Xenogiani (2005). Before the abolition some young men simply entered HE only in order to delay or to avoid military service.

On the other hand there are some more specific factors of demand for HE, which refer particularly to certain economic sectors such as is the field of tourism. For instance psychological factors, like particular motivation or the interest of individuals in tourism (Borowec, 2007). The geographical condition of some countries, culture and tourism, the importance of tourism as an industry in the total economy of a specific country and the rate of growth of tourism and its quality level also determine a need for the quantity and quality of labour employed in the field of tourism (Christou, 1999). The increasing demand for tourist services is an important factor of demand for HE in the field of tourism. Even at the level of management only around 50% of those employed in the field of tourism in Slovenia possess the HE degree level (Gomezelj, 2006). Human resource development of managers is a key to the future healthy and economically sustainable tourism development (Littlejohn and Watson, 2004). In order to meet the increasing demand for tourist services in Slovenia, the level of education of those employed in tourism should also increase. Another specific HE demand factor might be the specific background of families with a long tradition of own-

ing or working in a certain tourist service. Moreover, relative changes in perceived benefits from HE in the field of tourism compared to other fields of education may play an important role (Ahimsa Putra, 2005). As different sub-sectors of tourism are getting more specialized, tourism education should also become more specialist in nature (Dale and Robinson, 2001).

3 Research question, data and methodology

3.1 Research question and data

There are three main research questions that we want to investigate in this paper. First, we want to find an answer to the question of which are some of the main factors of demand for HE in Slovenia. Second, to present the evolution of the demand for HE in the field of tourism. Third, we want to investigate the evolution of demand for HE in the field of tourism vis-à-vis the demand for HE in general, in order to identify similarities and differences in the specific developments in the demand for HE in the field of tourism and in general in Slovenia in the last decades.

The "base group" factor proxies

The absolute size of the "base group" of the potential students is determined by demographic and some other factors. Traditionally freshmen entering university education in Slovenia are young people aged 19 years. The bigger this group each year, the bigger the demand for HE, assuming that the relative rate at which these young people decide to study remains constant. We assume that the absolute size of this age group in Slovenia mostly depends on the number of live births nineteen years ago, which is the measure of the first explanatory variable. Therefore, we collected the data on live births by years and lagged them by nineteen years (LB_{-19}). On the other hand, during recent years, there is a growing demand for HE by elderly people. This demand is caused by the faster economic growth and technological changes, which require constant updating and upgrading of the existing knowledge. Moreover, this demand by elderly people is also caused by the growing popularity of lifelong learning and education of adults, as well as by the fact that the Slovenian population is growing older, meaning that the number of adults has also been increasing (Čepar and Bojnec, 2008). Therefore, we presume that the "base group" of people, who may require HE, is significantly affected not only by the decreasing fertility, but also by the growing number of adults, who are more than 30 years old, and who are increasingly demanding different HE programs. We decided to measure the size of this effect by the data on the absolute number of adults who are between 30 and 60 years old by calendar years (NA). In the rest of the paper, the word "adults" will refer to those who are between 30 and 60 years old.

The "participation rate" factor proxies

This group of factors affects the participation rate at which people from the "base group" actually decide for university studies. The "participation rate" factors can be

explained and thus measured by the variables that are related to the social, cultural, economic and other characteristics of the family in which potential students live. Some of such family related variables include the real income of the family, education of parents, number of children in the family, location of living place of the family, and similar. From this group of family related variables we include three explanatory variables: real income of the family, education of parents and number of children in the family. In order to measure the real income of families over the observed period, we collected the data on the fixed base index of real monthly average income per individual by years (IRI). In order to measure the education level of parents we collected the time-series data on the share of those who graduated in the whole population by calendar years lagged by 20 years (SG_{-20}). We presumed that on average approximately 20 years after graduation, parents have children who are old enough to go to university. In order to measure the size of families, we collected the data on total fertility rates by years as a proxy measure of the number of children per family (NC).

Further on, these "participation rate" factors may be measured also by the variables that are related to the rate of return on the studies or to the costs and benefits of the studies. Such variables measure opportunity and direct cost of a study course and the expected earnings differential from the increased level of education. In order to measure opportunity costs of the studies, we collected the time-series data on the unemployment rate of youth under 26 years of age by calendar years (RYU). We believe that a higher youth unemployment rate (lower opportunity cost) will encourage demand for HE. On the other hand, a higher youth unemployment rate also represents a warning to young people that getting a job will not be an easy task. So they are more encouraged to do their best to be well prepared for the labour market. Consequently, they are more motivated to improve their value on the labour market by increasing their education level. In order to measure the expected benefits differential due to the additional years of study, we collected the data on the relative difference between the earnings of those who have finished university studies and those who have not done so (ED). In order to measure the benefits of additional years of study from the perspective of the decreased unemployment of those who obtain HE, we also collected data on the relative unemployment differential (UD).

The third group of the "participation rate" factors includes variables related to the government social student policy, such as providing student scholarships, providing student residences and subsidization of student transportation, health and nutrition costs. In order to measure the social support of the government, we collected the data on the number of scholarships granted to students by years (NSC) and data on the number of student residences (SR).

Finally, there are some other factors which influence the demand for HE in Slovenia, such as the quality of the study course, the number of foreign students and similar. Initially we included into our analysis the abolition of compulsory military service, which happened in Slovenia on 16 October 2003. Some young people decided to continue their studies at university also to avoid or delay compulsory military service. Therefore we expect a negative effect of the abolition of compulsory military service on the demand for HE. The impact of this variable we measure by a dummy variable (ACC) equal to 1 in the years after the abolition of compulsory military service, and 0 otherwise. We also collected the data on the number of HE institutions by years (HEI) in order to measure the impact of availability of the HE study supply with respect to the number of study demands by those enrolled in HE.

As the dependant variable measuring HE demand in Slovenia we have used the absolute number of those enrolled in HE (NEH). The time series data for the dependent variable and the explanatory variables described above were collected for the period of 25 years from the year 1980 to 2004. The source of the time-series data for the variables described above is the database of the Statistical Office of the Republic of Slovenia (SORS). The time series data on the youth unemployment rate and unemployment differential are collected from the Employment Service of Slovenia. All the above presented variables were initially included in the regression analysis, however only a smaller number of them remained in the final regression model. Which of them were selected, and why, is presented in the results.

Tourism related variables

In order to analyze movement in the demand for HE in the field of tourism and movement of demand for tourism and tourist services, we collected the time series data on the number of enrolled students in vocational colleges and HE programs in the field of tourism, the number of scholars in the field of tourism and the time series data on the domestic and foreign tourist arrivals and overnight stays in Slovenia. The time series data for these variables were collected from the databases of SORS and the Slovenian Tourist Board (STB) for the time period from 1995/96 to 2006/07.

The selection of the data is generally based on the synthesis of theoretical findings of previous research, however we have to emphasise that we were limited by the availability of the necessary data. Some variables are better, some are less suitable representatives of the related factors. Data for some variables that might be very relevant for the regression analysis were not available for a sufficiently long time period or were not available at all. In some cases, there were enough data but the variable was a bad proxy of the related factor that it was supposed to measure. Regression analysis was not employed in the case of tourism related variables, since it was even more difficult to collect sufficiently long time series data, or in case of some necessary variable even any data, compared to the data related to the demand for HE in general. Because of that, and because of the different methodology used, the observed time periods for the data related to the regression analysis of the demand for HE in general, and for the data related to the tourism related variables, are not the same. The improvement of the relevant database - and thus the quality of the entry variables for the analysis - represents a challenge for our further investigation.

3.2 Methodology

Using the multiple regression function, we investigate the relationship between the absolute demand for HE as the depend-

ent variable and the described explanatory variables. As the dependent variable measuring the absolute demand for HE, we chose the number of enrolled students at HE institutions by individual years (NEH). The general form of the multiple linear regression model is specified as follows:

$$NEH = \beta_0 + \beta_1 * X_1 + \beta_2 * X_2 + \beta_3 * X_3 + \ldots + \beta_p * X_p + \varepsilon,$$

where X_1, X_2 up to X_p are explanatory variables explained above and ε is a normally distributed error term with expected value of 0 and variance σ_ε. p takes the maximum value of 12 as this is the initial number of all explanatory variables. In order to come to the best regression model describing the demand for HE in Slovenia, we estimated multiple regression models which differed by the type of the functional relations describing the relation between the NEH and the explanatory variables and by the number of explanatory variables included. Finally, we chose the regression model with the highest R-square, the lowest standard error of the regression model, the highest F-test result and the most statistically significant regression coefficients β_p.

In the empirical analysis of the evolution of the demand for HE in tourism, limited data were available to conduct a regression analysis. Instead of this, we have used simple analysis of dynamics in the time series datasets, correlation analysis between pairs of variables, and have graphically presented the empirical results, which were also compared with the results of the analysis of the demand for HE in general.

4   Empirical results

4.1 Demand for higher education

After running the regression models with different specifications of explanatory variables, we came to the form of the best fitting HE regression model, which best explained variations

in the demand for HE measured by the dependant variable NEH. Some of the variables, which initially entered regression analysis and which seemed to be very relevant at the first sight, were excluded from the final model, because they proved to be statistically insignificant, or else because they were too strongly correlated to each other (multicollinearity). The regression model includes seven out of eleven possible independent explanatory variables and is specified as follows (Table 1):

$$NEH = \beta_0 + \beta_1 * LB_{-19} + \beta_2 * NO + \beta_3 * IRI + \beta_4 * NC + \beta_5 * RYU + \beta_6 * NSC + \beta_7 * ACC + \varepsilon$$

T-tests and the corresponding two-tailed p-values confirm that our HE demand factors are statistically significant even at the two-tailed p values, except for the number of scholarships (*NSC*) and the fixed base index of real average monthly income (*IRI*). However, since the positive signs of beta coefficients are known in advance due to the context of the correlation between the relevant variables, we may conduct a one-tailed test instead of a two-tailed test. Technically, that means that we may divide the two-tailed p-values by two and thus obtain one-tailed p-values, which in the case of *NSC* and *IRI* are almost low enough to reject the null hypothesis of the t-test that beta coefficients in the case of *NSC* and *IRI* are zero. The adjusted R^2 indicates that the variations in the values of the explanatory variables included in the model explained 97.8% of variance of the demand for HE, meaning that the explanatory power of the model is very high. The number of observations for each variable is 25 and the F-test shows that the model as a whole is statistically highly significant.

4.2 Demand for higher education in tourism

As we can see from Figure 1, the demand for undergraduate HE, regardless of the field of education in Slovenia, had

Table 1: Regression results for HE demand in Slovenia, 1980-2004

Explanatory Variables	Regression coefficient	t-test	Two-tailed p-value	One-tailed p-value
Intercept	-796896.22	-6.44	0.00	0.000
LB_{-19}	5.61	4.43	0.00	0.000
NA	0.60	7.51	0.00	0.000
IRI	189.11	1.73	0.10	0.051
NC	64596.64	5.44	0.00	0.000
RYU	1094.83	2.95	0.01	0.004
NSC	1.37	1.73	0.10	0.051
ACC	-12601.54	-2.60	0.02	0.009
Model quality	$R^2 = 0.978$		SE = 3542	
ANOVA: F-test = 152			Number of observations = 25	

Note: LB_{-19} - live births lagged by nineteen years, NA - absolute number of adults aged between 30 and 60 years, IRI - fixed base index of real monthly average income per individual, NC - total fertility rate - number of children per family, RYU - unemployment rate of youth under 26 years of age, NSC - number of scholarships granted to students, and ACC - a dummy variable for the abolition of compulsory military service.
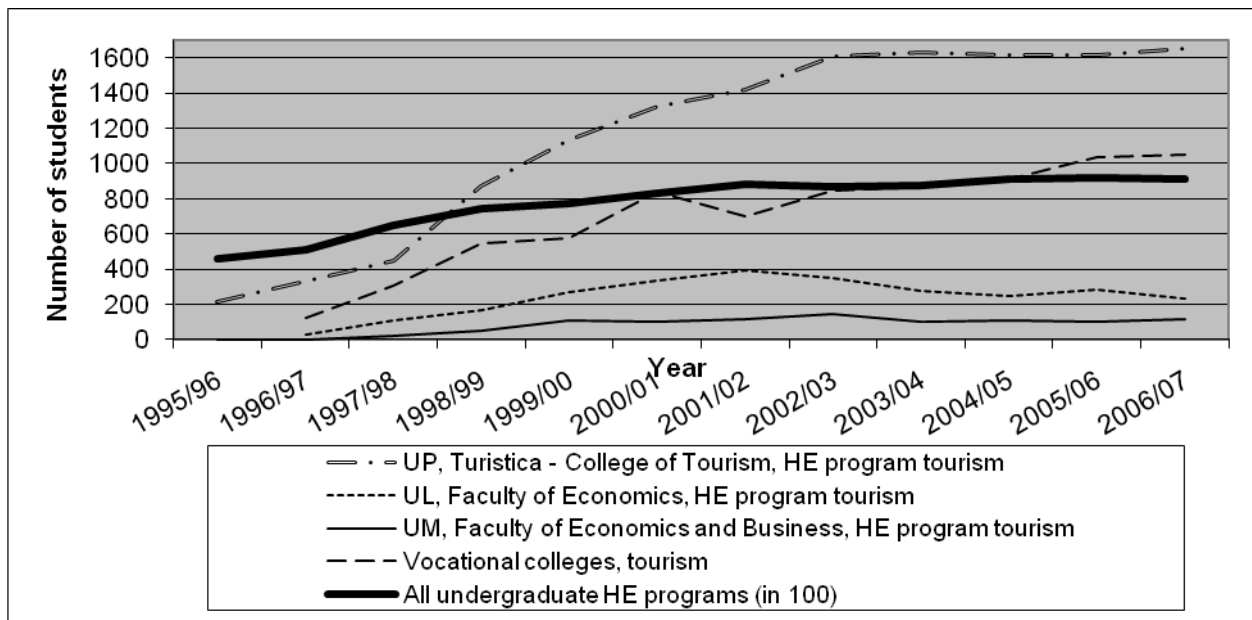
Figure 1: Student enrolment in vocational colleges and undergraduate HE programs in the field of tourism and in all undergraduate HE programs in Slovenia, 1995/96-2006/07. Source: Own calculations based on data obtained from SORS (SORS 2007, SORS 2006d, SORS 2005b, SORS 2004a, SORS 2004b and SORS 2003).

Note: UP – University of Primorska, UL – University of Ljubljana, UM – University of Maribor and HE – higher education.

mostly been increasing until the year 2006/07. It accounted for around 46,000 of enrolled students in 1995/96 and increased up to around 92,000 in 2005/06. However, in the year 2006/07, it had already dropped by slightly less than 1%. These HE movements are basically consistent with factors that are included in our HE demand model, which predicts that the absolute demand for HE in Slovenia is expected to slow down and even decline in the future. If we compare movements of demand for HE in the field of tourism with the movements of demand for HE in general we can observe some similar development patterns.

At the University of Ljubljana, the number of students enrolled at the Faculty of Economics, program tourism, had been increasing since 1995/96, but decreased in the year 2006/07 by 17%. At the University of Maribor, the number of students enrolled at the Faculty of Economics and Business, program tourism, had been increasing until 2002/03, but started to decline after that and decreased by around 20%. At the University of Primorska, the steeply increasing number of students enrolled at the Turistica-College of Tourism Portorož stabilized in the year 2003/04 and has been fluctuating since then. The number of students enrolled at the two-year vocational colleges in the field of tourism had been increasing quite steeply in the first eight to nine years. Since 1995/96, the annual growth rate of student enrolment amounts to 24% on average, taking into account the whole eleven-year period observed. However the growth rate of student enrolment in the last year 2006/07 amounts to only slightly more than 1%.

An important determinant of the dynamics of the demand for HE in the field of tourism might well be the dynamics of the demand for tourism. The demand for tourist offers and tourist services in Slovenia has been increasing over the last eleven years. After some fluctuations at the end of the 1980s and at the beginning of the 1990s, due to the Slovenian independency process and associated political and economical instabilities in the region, the overall number of tourist overnight stays and tourist arrivals has been increasing steadily as can be seen from Figure 2. The number of tourist overnight stays has increased by 31% and the number of tourist arrivals by 58%. This means that there are more tourists coming to Slovenia, but they stay for a shorter period on average.

The increase in tourist overnight stays has exclusively been due to the increase of foreign tourist overnight stays by 84%. The share of foreigners in all tourist overnight stays in Slovenia has also been increasing from 40% to 60%. However, the number of domestic tourist overnight stays has actually decreased by 6% in the last eleven years. There has been a similar pattern in the number of tourist arrivals in Slovenia. Its increase has mostly been due to the increase in foreign tourist arrivals by 120% over the last eleven years, while the number of domestic tourist arrivals has increased by only 3 %. The share of foreigners in all tourist arrivals has also been increasing from 45% to 65%. We can see that the increase in demand for tourist services in Slovenia has occurred mostly as a result of the increased demand of foreign tourists, an increase which is expected to continue also in the future.

Basically the reasons why the demand for tourism in Slovenia has been increasing are related to: its opening to the outside world and its entering European Union, potential tourists better informed about Slovenia and its tourist attractions, to a certain extent an increasing disposable income and disposable free time of potential tourists, lower prices of travel
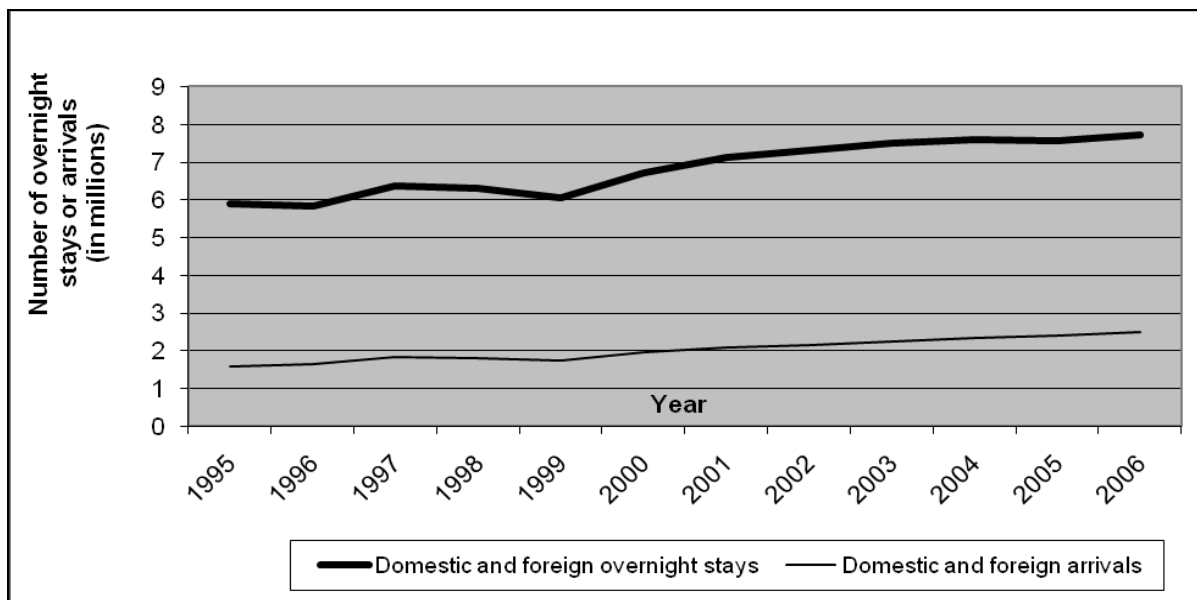
Figure 2: Number of tourist overnight stays and arrivals of domestic and foreign tourists in Slovenia, 1995-2006. Source: Own calculations based on data obtained from the Slovenian Tourist Board (STO 2006)

and staying in Slovenia compared to most other European countries, as well as an increase in general trends of fashion and habits, which are universally favourable to the tourism demand. (Gomezelj and Mihalič 2008).

Finally, we look closer at the development of the number of scholars enrolled at the Turistica-College of Tourism Portorož, which has become one of the most important sup-pliers of higher education in the field of tourism in Slovenia (Bojnec and Kribel 2004). We wanted to confirm that factors of demand for HE in general play a similar role also in the case of demand for HE in the field of tourism. We chose as an example a factor measuring social conditions, which is proxied by the amount of financial aid in the form of scholarships in the case of the Turistica-College of Tourism Portorož. In
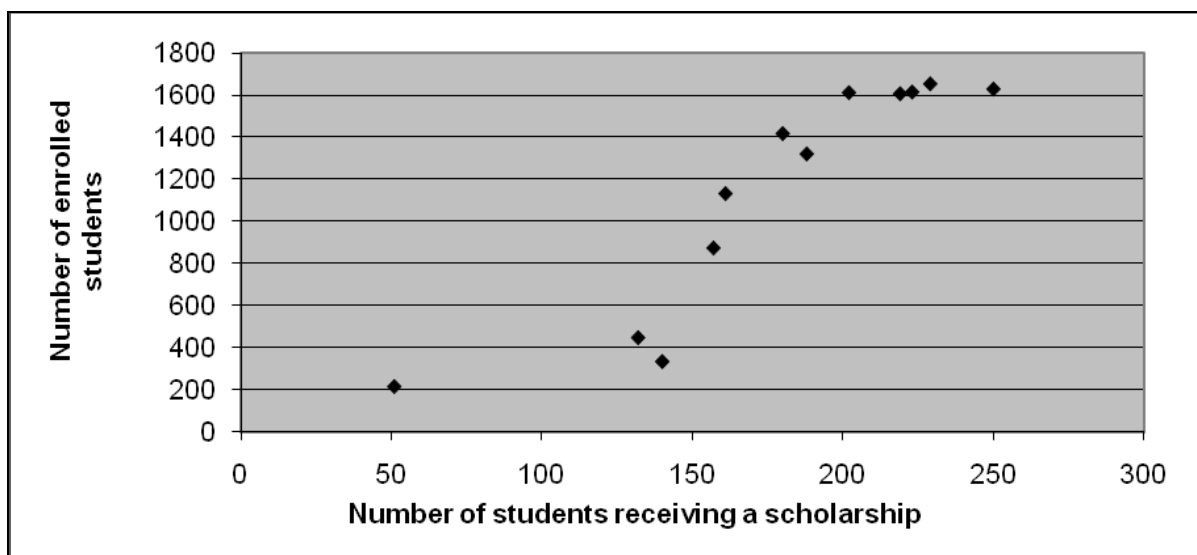

Figure 3: Scatter diagram for the number of students enrolled at the Turistica-College of Tourism Portorož and for the number of students receiving the scholarship at the Turistica-College of Tourism Portorož in Slovenia, 1995/96 – 2006/07

Spearman correlation coefficient ($r_{y,x}$) = 0.91
Source: Own calculations based on data obtained from SORS (SORS 2007, SORS 2006d, SORS 2005a, SORS 2005b, SORS 2004a, SORS 2004b and SORS 2003, SORS 1999, SORS 1998, and SORS 1997)

the observed period 1995/96-2006/07, the number of students enrolled at the Turistica-College of Tourism Portorož who have been receiving a scholarship has increased by 4.5 times and the number of students enrolled at the Turistica-College of Tourism Portorož by 7.8 times. As is evident from the scatter diagram in Figure 3, there is a strong association between the number of enrolled and the number of scholars at the Turistica-College of Tourism Portorož. The association is close to being linear. Therefore, we measured it with the Spearman correlation coefficient. Its value (r=0.91) confirms that the correlation is very strong and positive.

5   Conclusion and policy implications

In this paper we have investigated the demand for tourism and demand for HE in the field of tourism. We have tried to identify some general factors of demand for HE as well as some specific factors of the demand for HE in the field of tourism.

According to the first research question, we first developed and empirically tested the HE demand regression model for Slovenia. The data used in the regression analysis refer to the time period of Slovenian transition from a centrally-planned self-managed system to the market economy and to Slovenian independence, and further to Slovenia's rapid adjustments towards EU membership. Therefore some of the analysed socio-economic circumstances embedded in a regression model might well be affected by these economic and political changes, which might be separately analysed by factor analysis in our further investigation. However, there are some factors, e.g. demographic changes, which have their roots back in the 1950s, so they definitely cannot be a result of the changes at the end of the 1980s and early 1990s.

We showed that the importance of demographic changes, namely the importance of declining fertility and the increasing absolute number of adults is not negligible in the case of the demand for HE in Slovenia. Negative fertility trends in the long run decrease absolute demand for HE from the young. On the other hand, the increasing number of adults and their increasing participation in HE, due to the increasing popularity of the lifelong learning concept and also to the need for their further education, slightly increased the demand for HE.

There are many other socio-economic factors which mostly affect absolute demand for HE through the relative demand for HE. We found a positive association between the material or financial conditions of families and the relative demand for HE in Slovenia. Further on we found a positive association between the size of the family and demand for HE, not only in the long run but also in the short run . On the one hand, the literature on previous investigations indicates a negative immediate impact of higher fertility or the number of children in the family on relative participation in HE through worsening financial conditions of the family. However, this finding refers mostly to less developed countries. On the other hand, our research reveals a positive immediate impact of the number of children on the absolute demand for higher education through the absolute number of potential students and maybe through some other factors (like values or similar), which might be hidden in behind the bigger families in

Slovenia and which might increase even their participation rate in HE. Most probably the negative effect is not found in the case of Slovenia, because Slovenia is not among the less developed countries, where a higher number of children in the family would deteriorate the financial conditions of the family in such a way that they would be significantly less likely to enter higher education. Slovenia also has a social system that at least partly compensates for the potentially worse financial conditions of the students from bigger families.

We have proved that the opportunity cost has a negative impact on HE in Slovenia and that the social student policy has a positive impact on HE in Slovenia, which is also consistent with the results of the other previous investigations. Moreover, like in France, the abolition of compulsory military service in Slovenia partly decreased the speculative demand for HE from those who wanted to avoid or delay military service by entering HE.

Our second research question refers to the analysis of the demand for HE particularly in the field of tourism. There are several HE study programs in Slovenia, and we can conclude that demand for HE in the field of tourism had been increasing quite strongly until the beginning of this century. However in recent years that demand has gradually started to slow down or even to decrease in the case of many study programs in the field of tourism.

The third research question is focused on differences and specific features in the development of the demand for HE in the field of tourism compared to the demand for HE in general. It is evident that the pattern of the movements of demand for HE in the field of tourism in the observed period had been very similar to the pattern of the movements of demand for HE in general. We may believe that there are many common factors of demand for HE, which are general and which have a very similar impact on the demand for HE particularly in the field of tourism, just as they have in general, regardless of the study field. Demand for HE in the field of tourism had therefore been affected by the demographic factors, financial factors of families, opportunity costs of HE which students face, and the amount of available scholarships, as is evident from the correlation analysis of the number of scholarships and the number of enrolled students at the Turistica-College of Tourism Portorož, and similar.

However, there must be some specific factors which have an impact on the demand for HE particularly in the field of tourism, as already indicated in the literature review. One factor is definitely the dynamics of the demand for tourism in Slovenia. The demand for tourist services in Slovenia has been increasing and is expected to do so also in the future. That increase in demands for tourist services naturally boosts the demand for HE in the field of tourism. However the demand for more educated labour employed in the field of tourism as a factor of demand for HE in the field of tourism is not strong enough to sufficiently increase the demand for HE in the field of tourism. Consequently, there is a gap between the need for properly educated labour employed in the field of tourism and its supply. The need for more numerous and better educated tourist labour is only partly matched by the demand for HE education in the field of tourism.

Our recommendation to the government would be to influence demographic, social and economic circumstances of HE through its population and socio-economic policies. Public actions should be designed in such a way as to mitigate the negative structural changes in demand for HE in the field of tourism. The government might boost demand for HE in the field of tourism through a particular increase in the amount and the number of scholarships for students in the field of tourism and through other actions which have an impact on the living and study costs of students in the field of tourism. On the other hand, to adapt to the very negative demographic circumstances, the government should take actions which would encourage internationalisation of HE in the field of tourism and so compensate for the lack of domestic students by attracting foreign students. In this way the government might also contribute to the development of an advanced knowledge based society in Slovenia as well as to the economic growth and social cohesion, which also are important goals of the Bologna declaration and the EU.

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Dejavniki povpraševanja po visokošolskem izobraževanju in povpraševanje po izobraževanju na področju turizma v Sloveniji

Članek raziskuje povpraševanje po visokošolskem izobraževanju v Sloveniji in sicer v splošnem ter na področju turizma s pomočjo uporabe regresijske analize časovnih vrst. Ugotavljamo pozitivno in statistično značilno povezavo med visokošolskim izobraževanjem na splošno ter med demografskimi in socio-ekonomskimi okoliščinami. Demografski trendi v glavnem upočasnjujejo ali celo zmanjšujejo povpraševanje po visokošolskem izobraževanju, medtem ko socio-ekonomski dejavniki večinoma vzpodbujajo povpraševanje po visokošolskem izobraževanju. Vendar pa so ugodni demografski dejavniki že prevladali nad neugodnimi socio-ekonomskimi dejavniki, kar se kaže skozi upadanje stopenj rasti absolutnega povpraševanja po visokošolskem izobraževanju. Analizirali smo gibanje povpraševanja po visokošolskem izobraževanju na področju turizma v zadnjih letih ter ga primerjali z gibanjem povpraševanje po visokošolskem izobraževanju na splošno ter z gibanjem povpraševanja po turizmu v Sloveniji. Povpraševanje po turističnih storitvah je dejavnik, ki vzpodbuja povpraševanje po visokošolskem izobraževanju na področju turizma. Na koncu so izpeljani nekateri zaključki glede dejavnikov povpraševanja po visokošolskem izobraževanju v Sloveniji na splošno ter na področju turizma ter predlagana nekatera priporočila za nacionalno politiko izobraževanja.

Ključne besede: Model povpraševanja po visokošolskem izobraževanju, demografija, turizem, človeški kapital, Slovenija