Domestic camping tourism and environmental awareness in the former socialist member states of the EU[1]

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Abstract

Issues related to the environment are of major global concern. Tourism, as an industry whose key resource is the natural landscape, will have to respond to environmental challenges, and action is expected not only from service providers, but from tourists, too. The paper assesses the relationship between concern for the environment and the preference of camping tourism as a form of nature-based tourism. The paper deals with the former socialist countries of the EU. and focuses on domestic tourism because we intend to reveal what tourists think about their own country and how it is reflected in their leisure behaviour. Results revealed, that higher preference for camping holidays among domestic tourists was negatively associated with the environmental concern of the population. Campers in the analysed countries are likely to assume a well maintained environment and environmentally responsible behaviour that puts less threat on the environment.

Key words

nature-based tourism, camping, environment, former socialist countries, Eurobarometer

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Introduction

Issues related to environmental degradation have become one of the leading global issues of our times. Global warming, rising sea levels, loss of forests and natural ecosystems, air and water pollution have become increasingly visible for the everyday citizen, but action to prevent further deterioration is far from being sufficient. The European Union regularly surveys its population by the Eurobarometer surveys, asking them, among other topics, about what they consider the most crucial issues for their country. Issues related to climate and the environment have been among the main concerns for European citizens, as survey data show (EC, 2012-2019).

Tourism, as an industry relies heavily on the natural landscape as a resource. Natural beauty or nature-based services are among its main appeals. Therefore environmentally conscious behaviour both by tourist service providers, and by tourists themselves, is crucial for the future sustainability of the tourism industry. Soft tourism is a form

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of tourism, that does not put too much load on the environment, and offers services and experiences that are sustainable compared to popular mass tourism activities (Bacsi & Tóth, 2019). Nature-based tourism includes such activities, and provides services that satisfy the requirements of environmentally sustainable tourism.

The offer and choice of campsites as tourist accommodation establishments fits to the concept of soft tourism, as tourists staying in campsites and caravan parks usually feel more attached to nature and pay more attention to environmental protection (Sandell & Öhman, 2010). Campsites are usually associated with lower environmental impact per tourist night than other types of accommodations. Indoor heated and cooled areas per number of guests are much smaller than in hostels, guest houses and hotels. Campgrounds are not directly involved in laundering bedclothes and towels, and if campers use on-site laundry machines these are typically small-scale ones. Camping holidays are usually classified as holidays with low environmental burdens, though they can be associated with habitat damage and increased fire risk (EC, 2013).

The present research focuses on the relationship between concern for the environment and choice of camping grounds as tourist accommodation places in the former socialist member states of the European Union, in the years 2012-2018.

The former socialist countries of the EU have much in common regarding their 20th century history associated with travel restrictions, which has considerably influenced their domestic tourism patterns. The research focuses on domestic tourism because we intend to reveal what tourists think about their own country and how it is reflected in their leisure behaviour and choice of travel destinations. The proportion of domestic tourist nights spent in camping grounds is compared to the proportion of people who look at environmental issues as major challenges that their countries face now and in the near future. Other control factors, such as the income levels, and availability of campsites as tourist accommodation are also included in the analysis.

Mass tourism, characterised by the presence of a large number of visitors at the same time and same place enjoying the same standardised experiences does not care for the tourist's individual preferences. It usually exploits the resources of the destination to a damaging level, risking the future availability of these very attractions themselves. Sustainable tourism, however, which is often called alternative tourism, caters for much smaller numbers of visitors at the same time, and often involves 'green', low impact activities (Weaver & Lawton, 2007).

The carrying capacity of a destination refers to the maximum number of tourists arriving at the same time to the destination without causing permanent, irreversible damage to the natural, economic, and socio-cultural environment, without an unacceptable decrease in visitor satisfaction. Sustainable tourism keeps the caused damages low, well below the carrying capacity of the destination area. During the past decades the popularity of sustainable tourism has been steadily growing, and is widely discussed in contemporary tourism research (see e.g. Weaver & Lawton, 2007). The idea of 'soft tourism' emerged in the first years of the 1980s, at first in Germany, Austria, Switzerland, in the Alpine tourism destinations (Pearce, 2004), and has gained ground during the past decades, mainly in Europe. According to the definition soft tourism, it is a form of tourism that creates mutual understanding between the local population and the visitors, and does not endanger the cultural identity of the host region nor the local natural and

built environment, using infrastructures destined for the local population and not requiring tourist facilities harmful to the environment (Broggi, 1985). The two main strands are nature-based activities (hiking, biking, ecotourism, water and ground sports), and cultural tourism based on local traditions and resources.

Camping tourism is fundamentally determined by the flexible, temporary and mobile nature of its accommodation facilities and by its inseparable relationship with the natural environment (Blichfeldt & Mikkelsen, 2015). In recent years, camping tourism is recognized as a growing segment of the broader tourism industry evolving from an inexpensive stay in a rural environment into a highly fragmented niche tourism sector (Brochado & Pereira, 2017; Brooker & Joppe, 2014). A study from campsite facilities in the coastal part of Croatia (Mikulic et al., 2017) revealed that safety and ecological standards are among the most important attributes for both campsite choice and for the camper's experience**.** A survey conducted in a camping area in Apulia, South Italy showed that local culture, and refreshment were positively related to tourist satisfaction in the camping area (Peluso et al., 2019). Nature, as a main appeal is equally important for more demanding tourists. Glamping – a combination of the words 'glamour' and 'camping' – is an emergent concept in camping that combines comfort and direct contact with nature, often with luxurious elements in its facilities, linking indoors and outdoor hospitality offers (Brochado & Pereira, 2017; Brooker & Joppe, 2014). Camping is an essential element of rural and wilderness recreation.

Camping is a part of the outdoor hospitality industry. Besides travelling with a tent, recreation vehicles and caravans have become an increasingly important area of focus. The demand for more luxurious and larger caravans is growing. Camping grounds must now deal with the new demands of their customers, who wish to have more comfortable and luxurious options. In 2020, during the Covid-19 crisis, tourists are likely to spend most of their holidays in their home countries, underlining the importance of domestic tourism for 2020. Camping, and in fact the outdoor hospitality has become a mainstream, versatile recreation experience. In Europe overnight stays on camping grounds are rising. There were about 28 thousand camping grounds registered in 2018, with a total of 397 million guest nights spent there. Camping holidays are becoming increasingly comfortable, most European campers use a caravan or recreation vehicle, tents are not anyone's favourite kind of camping (Sommer, 2020).

A study conducted in 81 wilderness campsites in the USA revealed that campers in the wilderness may have a considerable negative long-term impact on the environmental conditions in the campsite area (Eagleston & Marion, 2017). Camping facilities in wilderness and backcountry surroundings should be as simple as possible, all facilities should follow principles of environmentally sensitive design. Different types of campers use campsites in different ways. Residents live permanently in caravans or recreation vehicles staying at a camping grounds. Travellers also live permanently in a caravan or recreation vehicle, but they move around from site to site, and they have a home. They travel long distances with their vehicle for seeking out warmer weather or work, but always return to their home after a period of time. Short-term campers are vacationers, who enjoy outdoor want to spend their holiday time close to nature. Their main motivations ara social contact, freedom, reconnection with nature, fun and adventure, or stress reduction. Although campers and glampers are rather similar, there are differences in their main motivations. Both seek out authenticity by experiencing nature as a kind of escapism, but they do that in a different way. Campers like to interact with nature and

are looking for adventure, while glampers want to experience nature as a spectator watching a kind of fairy tale (Sommer, 2020).

The environmental awareness of the EU population has been regularly surveyed by the Eurobarometer surveys (EC 2012-2019). These surveys ask the population about the most important issues that their countries – and the EU as a whole – will have to face in the near future. As the published surveys reveal, the proportion of citizens considering the issues of environment, climate or energy the most important issue for their country has considerably increased from 2012 to 2019. Bacsi (2020) analysed the environmental awareness of the EU population, with regard to the cultural traits of various countries, and by country groups of Mediterranean, former socialist, Scandinavian and other Western countries of the EU. She found that countries being more long term oriented and indulgent are usually show more concern for their environment, but country groups, including former socialist countries, do not differ much in this regard.

Nature-based attractions have been increasingly important tourist motivators, as the Eurobarometer surveys underline. For the European tourist the main reasons for going on holiday are often related to environmental attractions: 'sun or beach' was the most important motivator (for 44.8 % of the inhabitants), while 'nature' (30% of the inhabitants) was the third in importance, following 'visiting friends or relatives' (35.8%), and followed by 'culture' (25.8%) and 'city trips' (24.26%). Natural features are main reasons for returning to a previously visited place. In comparison, cultural and historical attractions, though also important, are considered by about 10 % less tourists as attractions generating returning visits (EU, 2013; EU, 2016; EU, 2018).

The geographical area of the research is the post-socialist Central and Eastern Europe, that was created as the result of the separation of Western Europe from the Soviet sphere of influence after the Second World War, whose boundaries were marked by the influence of the USSR. The Eastern Bloc includes the Baltic States (Lithuania, Latvia and Estonia), today's Ukraine and Belarus, Poland, Czechoslovakia, Hungary, Bulgaria, Romania, and the successors of the Socialist Republic of Yugoslavia. The former East Germany, united with West Germany no longer belongs here. In these countries sovereignty was largely limited, but they were governed by quasi-independent authorities. The Eastern Bloc was largely heterogeneous: some countries enjoyed greater political or economic freedom (e.g. Hungary) others had more features of a totalitarian system. Travelling was constrained by political positioning and citizenship, rather than personal economic wealth. Within the socialist countries much of the domestic tourism was regularized as 'social tourism', holidays being assigned according to one's employment or Party position, rather than bought for their true price (Banaszkiewicz et al., 2017).

Between 1945 and 1991 due to lack of freedom of movement outside the Eastern Bloc, difficulty in obtaining a passport, visa restrictions and financial limitations, people of Central and Eastern Europe did not participate massively in foreign tourism. In the centrally planned economies the activities of travel organizers were controlled by the state, although in some countries the private sector developed, especially in mountain and seaside resorts (Banaszkiewicz et al., 2017). Strong domestic tourism was one of the outstanding features of tourism before the transition in 1989-1990. Citizens were encouraged to travel within their own country, and were supported in their domestic tourism activities. Most companies – being state-owned had their own holiday resorts where they offered their employees holidays with their families at affordable prices, and trade unions provided cheap domestic holiday offers, too. Youth camps, and educational

trips for children were organised. The tourism infrastructure was of mixed quality, often with very basic accommodation. Although the citizens of socialist countries were allowed to travel to the 'friendly' countries of the CMEA (Council for Mutual Economic Assistance), domestic tourism was the preferred choice of holiday-making. After the transition in 1990 social tourism collapsed, borders opened, and domestic tourism suffered a great loss (Horáková, 2010).

Following the political transformation there has been a dynamic development of the tourism industry, residents of post-socialist countries were traveling increasingly, foreign tourists started to increasingly visit these countries, especially after the enlargement of the European Union (Banaszkiewicz et al., 2017). After 1990, however, the Central and Eastern European countries quickly they lost their appeal for the 'Western' tourists and also for visitors from other socialist countries, as for the latter group it became possible to travel to countries outside Central and Eastern Europe. The social tourism schemes have been abandoned or changed. This lead to considerable decreases in domestic tourism. However, the revival of inbound tourism was helped by the EU accession and the introduction of low cost airlines opened new markets for the former socialist countries (Horáková, 2010). In line with the trends in European and worldwide tourism, sustainable tourism development has evolved, including the promotion of natural and cultural heritage. (Banaszkiewicz et al., 2017, Fodranová& Kubičková, 2016).

In the past, the rural areas were predominantly dominated by agriculture, animal husbandry, and minor industries in Central and Eastern Europe. Moreover, these areas were integral part and target of domestic tourism, which comprised individual ownership of second homes (cottages, weekend houses and cottages) or corporate establishments as holiday camps and recreational resorts during the socialist era. In most of the region the phenomenon of second home ownership was associated with the most common way of domestic leisure. Since the 1990s rural space has emerged as a significant element of incoming tourism, with new, alternative forms of tourism such as ecotourism, green tourism, or international nature-based tourism, together with the decline in farming, followed by population loss, lack of public services, economic deprivation, and environmental degradation. (Hanáková, 2010). Comparing the motivations of camping tourists, a research in Latvia showed that while campsites are very popular in Germany, Netherlands, France, and are associated with relaxing in nature and enjoying the contact with the landscape, in Latvia, though these traditions have started to develop, *the abundance of natural countryside and the relatively low population density make people less interested in the attractions of natural landscape and environmental endowments.* It is typical, that visitors coming in camper vans do not park in campsites by the train station, or somewhere else, where they don't have to pay to park overnight (Serdane, 2017).

1 Materials and Methods

Standard Eurobarometer surveys from 2012 to 2018 contain data about the importance that European citizens attribute to issues related to climate, environment and energy. Based on these surveys the following variable was created:

- *ENAW:* it measures the proportion of the population who consider, that environment, climate and energy are among the most important issues for their country countries (EC, 2012-2019).

Data on tourism accommodations were collected from the Eurostat database (Eurostat, 2019b), for 2012-2018, for the 28 EU-member states. The same database was used to collect data on tourist nights spent in each of the EU member states (Eurostat, 2019a; Eurostat, 2019c), for 2012-2018. Two variables were created from this database:

- *CampGrPct:* this variable measures the proportion of campsites within total commercial accommodation establishments available for tourists.
- *CampNiDoPct:* domestic tourist nights spent in campsites as a percentage of all domestic tourist nights in the analysed countries

The average income level of the countries was also used in the analysis as a control variable, for the same years collected from Eurostat (Eurostat, 2019d).

- *GDPperCa1000*: The control variable measures the GDP per capita value for the particular country and year measured on the purchasing parity basis.

The countries included in the analysis were: Bulgaria, Czechia, Croatia, Latvia, Lithuania, Hungary, Poland, Romania, Slovenia and Slovakia; Estonia was omitted from the analysis due to the high proportion of missing data about domestic campsite tourism. As the database contains panel data, multiple regression was done by statistical software developed for panel data analysis to account for spatial and temporal effects. The most appropriate package was the PLM package (Croissant & Millo, 2008) developed in „R" (R Core Team, 2013), dealing with fixed and random effects. The applied multiple regression model structure is the following:

$$Y = \alpha + \boldsymbol{\beta} \times X + \boldsymbol{\varepsilon},$$

where Y is the dependent variable (i.e. domestic campsite nights as % of total domestic nights), X is the set of variables describing the independent and control variables (year, environmental awareness, campsite percentage, and GDP per capita), α is the constant value, $\boldsymbol{\beta}$ is the vector of regression coefficients for the independent and control variables, respectively, and $\boldsymbol{\varepsilon}$ is the error term of the regression estimation.

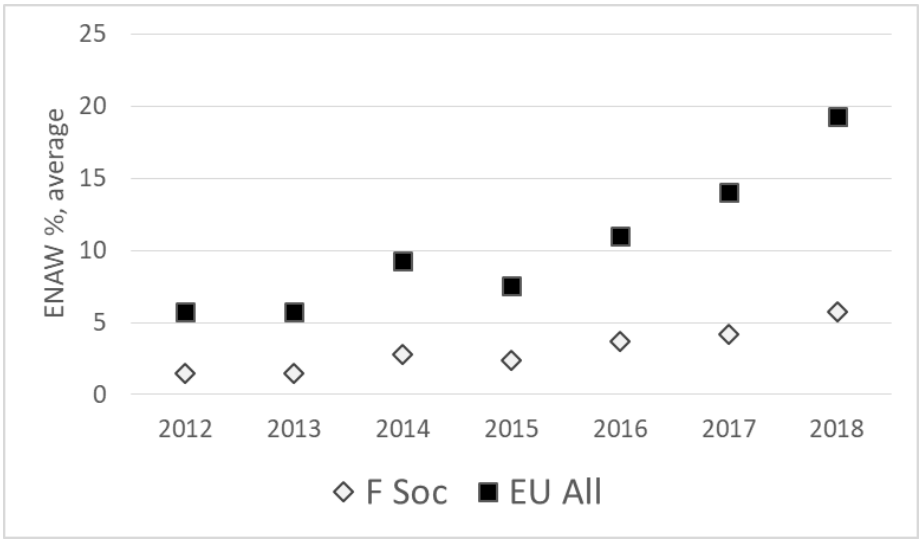
2 Results and Discussion

The climate and the environment are among the main concerns of the European citizens. In the Eurobarometer survey of 2018 (EU, 2018) respondents were asked about their concerns for the EU and their countries. Choosing from a list containing immigration, terrorism, public finances, the economic situation, climate change, unemployment, the EU's influence in the world, rising prices/inflation/cost of living, the environment, crime, pensions, energy supply, taxation, respondents were asked to choose the two most important issues.

Survey data indicate an increasing consciousness about environment, climate change and energy issues, which were mentioned among the most important issues by 4.27 % of the population in 2012 and 13.5% in 2018 for the whole of the EU, and 1.48% and 5.77% in the former socialist member states, respectively (Figure 1). The increase

is substantial, 316% in the whole EU, and 389% in the former socialist countries during the analysed 7 years.

Figure 1 The proportion of citizens considering the issues of environment, climate or energy the most important issue for their country (2012-2019)



Source: Author's own construction, data: EC, 2012-2019)

Table 1 Tourist nights in campsites/caravans/trailer parks and campsite establishments in the EU

Year	Domestic campsite nights, as % of total domestic nights	All campsite nights as % of total tourist nights-	Campsite establis-hments, as % of total tourist accommodation establishments
2012	14.8%	12.8%	4.90%
2013	14.4%	13.6%	5.03%
2014	13.3%	10.6%	5.06%
2015	13.3%	11.2%	4.94%
2016	12.3%	10.2%	4.66%
2017	11.6%	8.7%	4.33%
2018	14.0%	10.0%	4.08%

Source: Authors' own computation, data: EUROSTAT, 2019b; EUROSTAT, 2019c

As it was seen in the Literature review section, camping is a popular form of accommodation for nature-motivated tourists. In the seven years between 2012 and 2018

approximately 10% of the tourist nights by EU citizens in rented accommodation were spent in campsites, caravans or trailer parks. The proportion of this type of accommodation showed a slight decrease from 2012 to 2018, with the lowest share experienced in 2017. Campsites, caravans and trailer parks, however, represent a considerably higher proportion of tourist nights in domestic tourism (approximately 13-14 %). As Table 1 shows, the share of campsite establishments has slightly decreased in the European countries, being of 4 – 5% of total tourist accommodation establishments.

Multiple regression analysis was carried out to see if there exists any relationship between the domestic tourist nights spent in campsites and the environmental concern or the environment-related motivations of tourists in the 10 former socialist countries of the European Union. For the multiple regression analysis the following variable structure was used:

- **Dependent**: Campsite nights by domestic tourists as the percentage of total domestic tourist nights (*CampNiDoPct)*
- **Independent:** the percentage of the population who consider environmental issues among the first two most important issues of their countries (*ENAW*)
- Control:
  - Campground sites as the percentage of all tourist accommodation establishments (*CampGrPct*)
  - GDP per capita in thousand EUR, PPS (*GDPperCa1000*)
  - Year (from 2012 to 2016)

Table 2 Descriptive statistics for the variables in the multiple regression model

	ENAW	CampNiDoPct	GDPperCa1000	CampGrPct
Average	3.10	4.89	11.75	4.08
Std deviation	2.19	4.64	3.64	3.88
Min	0.09	0.29	5.35	0.25
Max	9.27	15.12	20.17	17.41
CV%	70.89	94.91	31.00	95.18
No. of observations	70	70	70	70

Source: Author's own computation

Table 2 presents the descriptive statistics for the model variables. Table 3 gives the pairwise correlation coefficients of the variables. The proportion of domestic camping nights shows a medium positive correlation with GDP per capita (0.661), suggesting that in countries of higher GDP values relatively more domestic tourist nights are spent in campsites. This contradicts to the image of camping holidays as cheap holidays preferred by the poorer segments of the population, and indicates the changing profile of camping tourism. The number of campsite grounds positively correlates with the number of domestic camping tourist nights, too, but not with the per capita GDP value (Table 3).

Table 3 Correlation coefficients for the model variables, 2012-2016

	Year	ENAW	CampNiDoPct	GDPperCa1000	CampGrPct
Year	1.000	0.627	-0.059	0.220	-0.142
ENAW	0.627	1.000	-0.136	0.262	-0.146
CampNiDoPct	-0.059	-0.136	1.000	0.661	0.314
GDPperCa1000	0.220	0.262	0.661	1.000	0.002
CampGrPct	-0.142	-0.146	0.314	0.002	1.000

Source: Author's own computation based on EUROSTAT, 2019b; EUROSTAT, 2019c

Turning our attention to the environmental awareness of the population, the proportion of people considering environmental issues among the most important issues in their countries only slightly correlates with the level of GDP (0.262), and there is practically no correlation with the share of camping grounds, and with the proportion of domestic camping nights. However, these pairwise correlations may be misleading, as they do not reflect the panel structure of the data – 10 countries and 7 years – but handle the observations as a pooled dataset. Therefore a multiple regression analysis was performed to reveal these more complex relationships.

Table 4 Result of the pooled OLS model, dependent variable: CampNiDoPct

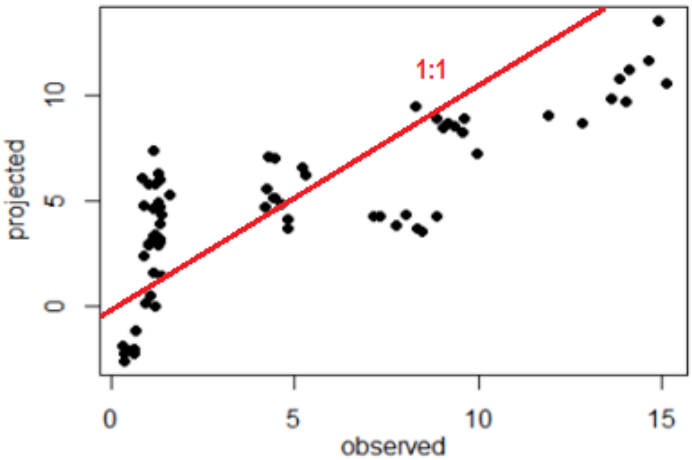
	Estimate	Std.Error	t-value	Pr(>|t|)	Sig level	VIF
(Intercept)	0.1190	462.4	0.000	0.9998		
Year	-0.0028	0.2297	-0.012	0.9903		1.665
ENAW	-0.6107	0.2133	-2.863	0.0057	**	1.704
GDPperCa1000	0.9374	0.1024	9.154	2.66e-13	***	1.082
CampGrPct	0.3218	0.0936	3.436	0.0010	**	1.028
Multiple R^2:	*0.6111*					
Adjusted R^2:	*0.5871*					
F (df: 4, 65)	*25.53*					
p-value:	*9.789e-13*					

Note: Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.'

Source:Author's own construction

First, a simple Ordinary Least Squares (OLS) multiple regression model was constructed, which handled the data as pooled data (Table 4). As these results show, the dependent variable is significantly, but negatively influenced by the environmental awareness, and positively by the GDP level and by the share of campsites among accommodation places – as is seen in the 'Estimate' column of Table 4. This means, that with larger income levels, and with more campsite accommodation places relative to all accommodation places, the proportion of camping nights is higher among domestic tourist nights, but where environmental concern is higher, relatively less domestic tourist nights are spent in camping sites. The expanatory power of the model is quite good, with adjusted R^2 being 0.5871. The model fit is illustrated by Figure 2.

Figure 2 The fit of the pooled OLS model of Table 4, with the 1:1 line.



Source:Author's own construction

However, as our data are panel data, OLS may not be appropriate, because it fails to take into account the common properties of the countries and of the years. Therefore the PLM (Croissant and Millo, 2008) model of panel data analysis was applied for multiple regression analysis to assess the relationship of the specified variables. The model used data of 10 countries and 7 years, where the fixed effects of the temporal variable (the year) and the spatial variable (the country) were taken into account.

Table 5 The PLM fixed-effects model, dependent: CampNiDoPct, fixed effects: Year

	Estimate	Std.Error	t-value	Pr(>|t|)	Sig level
ENAW	-0.6620	0.2287	-2.8940	0.0053	**
GDPperCa1000	0.9409	0.1059	8.8857	1.537e-12	***
CampGrPct	0.3197	0.0975	3.2784	0.0017	**
Fixed effects of Year					
2012	-0.0542	1.53989	-0.0352	0.9720	
2013	-0.1721	1.5858	-0.1085	0.9139	
2014	0.5271	1.6469	0.3200	0.7500	
2015	-0.4588	1.6297	-0.2815	0.7793	
2016	-0.0203	1.7475	-0.0116	0.9908	
2017	-0.3528	1.82756	-0.1930	0.8476	
2018	0.5310	2.0271	0.2619	0.7943	
Multiple R^2:	*0.6146*				
Adjusted R^2:	*0.5568*				
F (df: 3,60)	*31.898*				
p-value:	*1.8677e-12*				

Note: Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.',

Source:Author's own construction

The first PLM version considered the fixed effects of the Year variable. The regression coefficients of ENAW, GDPperCa1000, and CampGrPct are very similar to those in the pooled OLS model. The fixed effects of the model were tested, but none of the years showed any significant fixed effects (see Table 5). The second PLM version considered the fixed effects of the countries. The regression coefficients of ENAW, GDPperCa1000, and CampGrPct are again rather similar to those in the pooled OLS model, none of the countries resulted in any significant fixed effects (see Table 6).

Finally a random-effects PLM model was applied, with Year and country being the tested temporal and spatial effects. The results are shown in Table 7.

The coefficients of the multiple regreesion relationship are again rather similar to the pooled OLS model, and all the independent and control variables show significant relationship with the dependent variable. The model fit is the best of all the four model versions, with an adjusted R^2 value of 0.5933.

Table 6 The PLM fixed-effect model dependent: CampNiDoPct, fixed effects: Country

	Estimate	Std.Error	t-value	Pr(>|t|)	Sig level
ENAW	-0.5568	0.2306	-2.4143	0.0189	*
GDPperCa1000	0.9364	0.1067	8.7771	3.577e-12	***
CampGrPct	0.3235	0.0982	3.2940	0.0017	**
Fixed effects of Country					
Bulgaria	0.0076	1.6478	0.0046	0.9963	
Czechia	1.6562	1.6981	0.9753	0.3335	
Croatia	-1.1552	1.6812	-0.6871	0.4948	
Latvia	0.4998	1.7736	0.2818	0.7791	
Lithuania	0.4951	1.8205	0.2720	0.7866	
Hungary	-0.5432	1.8395	-0.2953	0.7689	
Poland	-0.0094	1.8463	-0.0051	0.9959	
Romania	-0.8221	1.8762	-0.4382	0.6629	
Slovenia	0.5129	2.1066	0.2435	0.8085	
Slovakia	-0.6418	2.2441	-0.2860	0.7759	
Multiple R^2:	*0.6255*				
Adjusted R^2:	*0.5466*				
F (df: 3,57)	*31.7301*				
p-value:	*3.4071e-12*				

Note: Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.',

Source:Author's own construction

The final step in our analysis is to decide whether one of the fixed effect models or the random effect model is more appropriate. The Hausman-test was used for this purpose, with the following results:

- Fixed-effect model with Year as fixed effect variable: *Chi-Square value = 0.14122, df = 3, p-value = 0.9865*
- Fixed-effect model with country as fixed effect variable: *Chi-Square value = 0.14709, df = 3, p-value = 0.9856*

Table 7 Result of the PLM random effects panel model, dependent: CampNiDoPct, random-effect variables: Year and Country

	Estimate	Std.Error	t-value	Pr(>|t|)	Sig level
(Intercept)	-5.5496	1.2858	-4.3162	1.587e-05	***
ENAW	-0.6123	0.1700	-3.6010	0.0003	***
GDPperCa1000	0.9372	0.1013	9.2505	<2.2e-16	***
CampGrPct	0.3218	0.0927	3.4716	0.0005	***
Multiple R^2:	*0.6111*				
Adjusted R^2:	*0.5933*				
Chi-Square (df: 3)	*103.688*				
p-value:	*<2.22e-16*				

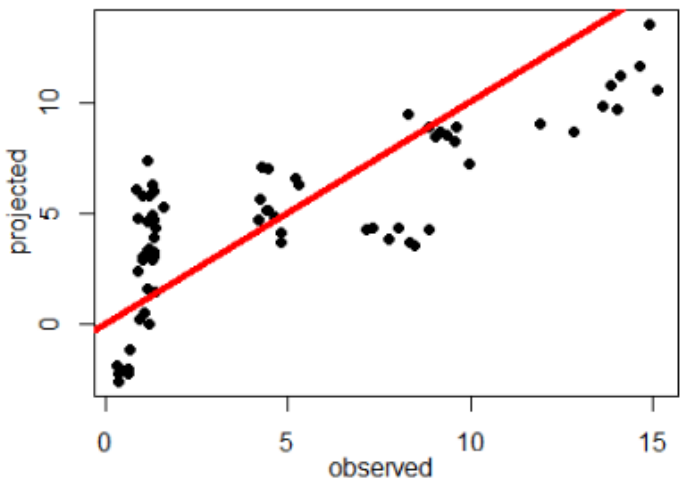
Note: Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.',

Source:Author's own construction

As the p-values are much larger than the preferred probability of 0.05, this means that both fixed-effect models are less appropriate than the random effect model. Therefore, our best model is the one presented in Table 7, and the resulting model equation is the following:

$$CampNiDoPct = -5.5496 - 0.6123\ ENAW + 0.9372 \times GDPperCa1000 + 0.3218 \times CampGrPct$$

Figure 3 The fit of the random-effect PLM panel model of Table 6



Source:Author's own construction

Figure 3 illustrates the fit of the random effects model. This figure is nearly identical to Figure 2 of the OLS model. These results show, that when year and country are used as temporal and spatial panel variables, the proportion of domestic tourist nights is positively influenced by the share of campsites and by the per capita income levels, and negatively impacted by the proportion of environmentally concerned citizens. In other

words, where the population is more affluent on average, and a relatively higher proportion of tourist accommodation places is available in campsites, then more domestic tourist nights are spent in campsites; while where the higher proportion of the population is concerned about the environmental conditions of the country, domestic tourists tend to spend less time in camping holidays. The impact of the year did not seem to be a significant influencing factor, and there are no significant differences among countries regarding this relationship.

Conclusions

Our research question was whether the concern for the environment is related to the preference for camping tourism within the tourism sector in the former socialist countries of the European Union. This question is interesting, because if such a relationship exists, then the importance of camping tourism within the tourism sector may change as concern for the environment increases.

The model versions presented in the former section underline that the importance of domestic camping tourism within the tourism industry of a country is related to the environmental sensitivity of the population, i.e., to the percentage of people who put the environmental issues among the most important concerns of the country. The supply of campsite tourism services, namely the propotion of campground establishments within tourism accommodation establishments was found to have a positive relationship to domestic campsite demand. This means that more more orientation of the tourism accommodation sector towards camping tourism goes together with higher preference of domestic tourists for camping holidays. Higher per capita incomes are also positively associated with higher preference for camping holidays. A 1% increase in the relative share of campsite establishments led to a 0.3% increase in the share of domestic tourist nights spent in campsites, while a 1000 EUR increase in the per capita GDP produced a 0.9% increase in the share of domestic tourist nights. While higher preference for camping holidays is positively associated with higher incomes and higher campground supply, surprisingly, higher environmental concern was negatively associated with camping holidays among domestic tourists. A 1% increase in the environmentally conscious proportion of the population goes together with a 0.6% decrease in the share of domestic tourist nights spent in campsites. The explanation for these results is rather complex.

The average per capita income level of the former socialist member states of the EU is rather low, in fact, this value was only about half of the EU average for the analysed countries and time period. The population, being relatively poor, is likely to consider economic and social issues more pressing than environmental ones, as is supported by Serdane (2017). As Bacsi (2020) showed, environmental concern in the former socialist countries was considered only by 3.1% of the population of major concern, while the same figure is 7.4% in the EU on average. Our correlation analysis showed that more affluent countries express more preference for domestic camping holidays. The multiple regression results revealed that more income is associated by relatively more domestic tourist nights spent in campsites, and domestic camping tourism is also encouraged by the existence of more campsite establisments. However, concern for the environment reduces the preference for camping among domestic tourists. As it was established in the literature survey (Peluso et al., 2019), the environmental beauty is a significant

component of the appeal of camping holidays. Therefore, where the environment is seen as being in good shape, domestic camping nights may be high, but in such conditions, there is no reason to worry about the environment. When the people are more concerned about environmental issues it is reasonable to assume that the natural conditions are rather bad, and then nature is not attractive enough to encourage camping among the domestic population.

All this has a special message for the tourism industry. With increasing incomes, and diminishing economic and social problems the environmental awareness will probably increase in these countries, too. The preference for camping, this sustainable nature-based holiday type, will probably rise, too. To be able to utilise this increasing preference the environmental conditions should be improved, not to frighten away potential tourists from the domestic campsites. Conscious efforts for protecting the environmental endowments cannot be neglected any longer.

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