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ENVIRONMENTAL ATTITUDES OF EUROPEAN TOURISTS: A MULTILEVEL ANALYSIS

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1. PURPOSE

Literature shows that heterogeneity in willingness to pay for traveling is explained by regional clusters because not all the tourists are equally sensitive to income and price adjustments. This paper demonstrated that such heterogeneity in tourist behavior is also shown in environmental considerations when they are making decisions about their holiday plans. Popular support for environmental protection among tourists from EU-27 countries were investigated. The findings are congruent with the hypothesis that environment support depends not only on individual characteristics of themselves but also of certain contextual variables related to their place of residence.

2. METODOLOGÍA

The methodology proposed represents a new way of analysing the impacts of contextual variables and individual characteristics on explaining tourist support for environmental protection. If the econometric model takes into account both effects simultaneously, then the linkage between GDP changes and tourists´ behaviour is enriched and it may be estimated more accurately. The econometric approach is a multilevel model, where the individual´s level of support for the environment, $y_{1,i}$ is modelled at different stages. Model 1 is a null model without explanatory variables, where the tourists are grouped at country level:

$$y_{1,i} = \beta_0 + \eta_j + \varepsilon_{ij} \qquad (1)$$

where, β_0 is the global mean of environmental support, and η_j is a country specific effect. So, model 1, which is a random intercept null model, let to investigate how much of the total variance can be attributed to country level and how much to individual level. In model 2, the mean environmental support for country j, β_{0j} also is a random intercept, but we include all the individual characteristics of the tourists, x_{ij}. This model try to investigate how much of the variance within and among countries can be explained by compositional effect, which is controlled by the individual attributes of the tourists belonging to each country. In this model, β_1 is fixed or "country independent".

$$y_{1,i} = \beta_{0j} + \beta_1 x_{ij} + \varepsilon_{ij} \quad where \quad \beta_{0j} = \beta_0 + \eta_j \qquad (2)$$

Finally, model 3, enrich the analysis adding contextual variables at country level, c_{ij}. In this way, we try to investigate whether differences in tourist environmental support among countries could be explained by either contextual effects, compositional effects or both of them. Again, and are fixed among countries.

$$y_{1,i} = \beta_{0j} + \beta_1 x_{ij} + \beta_2 c_{ij} + \varepsilon_{ij} \quad where \quad \beta_{0j} = \beta_0 + \eta_j \qquad (3)$$

3. DATA

The analysis comprises a joint dataset composed by microdata belong to the survey —Attitudes of Europeans Towards Tourism, which corresponds to Flash Eurobarometer 281, and macrodata from Eurostat (GDP in pps and GDP growth) and from the YCELP and World Economic Forum (indicators from the 2010 Environmental Performance Index).

4. RESULTS

The findings are congruent with the necessity of simultaneously assessing the effect of individual and contextual levels variables on environmental support across European countries. The estimates in Table 1 show that men and young people are less likely to take into account environmental consideration in their holiday plans. Higher levels of educational attainment are positively related to environmental supportiveness. Motivations for travelling play an expected role. For instance, price and value for money considerations are negatively related to environmental protection, whereas eco-friendliness, social and safety and security considerations affect positively. People visiting traditional destinations and those who visit foreing countries are less likely to proenvironmental attitudes. Regarding the contextual effect, estimates show that the higher the level of GDP, the lower the level of public support. These results could be explained because tourists of richer countries already have to pay more tax for environmental protection. Finally, the results prove that there is a direct relationship between several indicator of environmental problems in the place of residence and the tourism attitudes for environmental protection.

Tabla 1. Random Intercept Regression of Environmental Support of Tourists

Variables	*Model 1*	*Model 2*	*Model 3*
Individual-level variables			
Gender (male =1)		-.03780***	-.03787***
Age		.00602***	.00605***
Age2		-.00005***	-.00005***
Education		.00408***	.00405***
Employment(1)			
Non-manual workers		-.02796***	-.02772***
Manual workers		-.03183*	-.03175***
Motivations for travelling(1)			
Service quality		.03284***	.03183***
Price		-01499*	-.01633*
Eco-friendliness		.21092***	.20939***
Social considerations		.02532*	.02545*
Safety and security		.09055***	.08974***
Destination(1)			
Traditional		-.03359***	-.03313***
Destination(1)			
Domestic		.03895***	.03749***
Contextual-level variables			
GDP pc (PPS)			-.00165*
GDP growth			.00483***
Environmental indicators			
Water quality			-.01045***
Air pollution			3.07e-09**
Protected areas			.01041***
Intercept	.50023***	.28428***	1.1825***
Variance (among countries)	.01403	.01361	.00538
Variance (among	.23404	.22438	.22432
R^2 contextual-level	.0000	.02981	.61608
R^2 individual-level	.0000	.04127	.04152

* Level of significance 10%; ** Level of significance 5%; *** Level of significance 1%. (1) Omitted dummies variables are: "Self-employees", "Cultural attractiveness motivations", "A non-traditional or emerging destinations" and "abroad", in each case.

5. CONCLUSIONS

The heterogeneous pattern regarding environmental support of tourists when they plan their holidays is modelled using a multilevel analysis. The findings are congruent with the necessity of simultaneously assessing the effect of individual and contextual levels variables on environmental support across countries. The composition effect of the tourists under analysis differs with respect to the contextual-level contribution, which also causes differences across countries regarding environmental supportiveness.